

# Product Catalog

The Promatch® Parts Program



**PROMATCH®**

**PROMATCH<sup>®</sup>**

Part Number: A000044432

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# Accessories

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## Smart Alarms®

Ecco's range of Smart Alarms are the world's first self-adjusting back up alarms. The alarms constantly measure ambient noise and adjust their sound level, creating a volume that is safe without being annoying or contributing to noise pollution. Smart Alarms eliminate the need for constant manual adjustment and help prevent intentional alarm disconnection. 100% solid state electronic circuit boards are epoxy sealed to protect against dust, moisture and vibration. Smart Alarm maintains 5 dB(A) above ambient noise level.

### Light Duty Smart Alarms

- Compact size and universal mounting pattern maximizes location options
- Self-grounding

Voltage	Alarm Level	Decibels	Dimensions	Ecco No.	Part No.
12-24	Variable	82-102	2.8" x 4.0" x 1.6"	SA950	A000029437
12-48	Variable	77-97	2.8" x 4.0" x 1.6"	SA951	2I6629



### Medium Duty Smart Alarms

- Robust design ideal for demanding applications in medium noise environments
- Reverse mounted speaker design ensures longer alarm life

Voltage	Alarm Level	Decibels	Dimensions	Ecco No.	Part No.
12-24	Variable	82-107	3.0" x 5.0" x 2.8"	SA901N	A000049519
12-48	Variable	82-102	3.0" x 5.0" x 2.8"	SA931N	A000049560
36-80	Variable	82-102	3.0" x 5.0" x 2.8"	SA980	A000028453



### 500 Series Light Duty Alarms

- Compact size and universal mounting bracket maximizes location options
- Sealed in epoxy for protection against dust, moisture and vibration
- Self-grounding

Voltage	Alarm Level	Decibels	Dimensions	Ecco No.	Part No.
12	Single	97	2.8" x 4.0" x 1.6"	510	A000032539
12-80	Single	87	2.8" x 4.0" x 1.6"	580	2I5407
12-48	Single	97	2.8" x 4.0" x 1.6"	585	2I5408



### 600 Series Medium Duty Alarms

- Reverse mounted speaker enhances sound and protects alarm from dust and moisture
- Compact housing and rugged construction designed for demanding applications
- Sealed in epoxy for protection against dust, moisture and vibration

Voltage	Alarm Level	Decibels	Dimensions	Ecco No.	Part No.
12-36	Single	107	3.0" x 5.0" x 2.8"	630	2I5411



### 800 Series Heavy Duty Alarm

- Steel housing and rugged construction for demanding applications
- Sealed in epoxy for protection against dust, moisture and vibration
- Reverse mounted speaker enhances sound and protects alarm from dust and moisture

Voltage	Alarm Level	Decibels	Dimensions	Ecco No.	Part No.
12-36	Single	112	4.0" x 5.8" x 3.2"	850	A000009333





**Light Duty Alarm**

Low sound level alarm specifically designed for electric powered vehicles. Includes #8-32 UNC terminal studs.

Voltage	Alarm Level	Decibels	Dimensions	Preco No.	Part No.
12-48	Single	97	4.0" x 2.6"	ELT248	A000054975

**Mini Alarm**

The mini alarm is a cost effective alternative for light duty work. Universal mounting bracket (2.12"-2.25" centers).

Voltage	Alarm Level	Decibels	Dimensions	Ecco No.	Part No.
12	Single	90	2.0" x 2.9" x 1.5"	MS90	2I5363

**Field Selectable Warning Alarm**

This compact light duty back up alarm operates from 12-48 VDC and provides three level warnings of 97 dB(A), 87 dB(A), and 77 dB(A) that is selectable at the time of installation. The unique one ground and three input wires design allows the alarm to switch volume by manually changing the high input on any one of these three wires. The glass filled nylon housing provides rugged durability and the epoxy encapsulated circuit board protects it from vibration and moisture. The unique grill design meets the requirements for high pressure wash. It works on positive or negative ground systems and is protected from reverse polarity and voltage transients.

Voltage	Decibels	Dimensions	Ecco No.	Part No.
12-48	77, 87, 97	2.8" x 4.0" x 1.6"	500V3	A000025740

**Multi-Frequency Alarm**

This multi-frequency back up alarm provides a solution to potential noise pollution created by back up alarms in confined or densely populated work areas. The alarm maintains a safe warning signal for those in the danger zone of backing vehicles while minimizing disturbance to work site neighbors. The multi-frequency alarm operates by emitting sound at multiple frequencies attenuated above 4000Hz.

Voltage	Decibels	Dimensions	Ecco No.	Part No.
12-48	87	2.8" x 4.0" x 1.6"	EA5050	A000044248
12-48	97	2.8" x 4.0" x 1.6"	EA5200	A000044249
12-48	82	2.8" x 4.0" x 1.6"	EA5820	A000044247

**Mini Alarm**

The mini alarm is a cost effective alternative for light duty work. Universal mounting bracket (2.12"-2.25" centers).

Voltage	Alarm Level	Decibels	Dimensions	Ecco No.	Part No.
12	Single	90	2.0" x 2.9" x 1.5"	MS90	2I5363



### Universal Warning Signals

Our convenient panel mount, piezo based audible signal devices are the perfect warning device for in-cab applications, including oil pressure and hydraulic equipment warnings. These devices produce audible tones via a piezo ceramic transducer mounted in a plastic housing.

- Panel mount 1.25" hole
- Polarity protected
- Piezo electric design offers low amp draw
- Fully encapsulated power supply

Voltage	Description	Decibels	Connection	Ecco No.	Part No.
12-48	Fast Pulse	80	40 x 40 Screw	201120	A000020911
12-48	Slow Pulse	80	1/4" Male Spade	202110	A000020912
12-48	Slow Pulse	80	40 x 40 Screw	202120	A000020913
12-48	Dual Mode	80	40 x 40 Screw	204120	A000020914
12-48	Loud Continuous	80	40 x 40 Screw	208120	A000020915
12-48	Continuous	68	40 x 40 Screw	209120	A000020916



### Back Up Alert® Warning Systems

Back Up Alert helps notify pedestrians and other traffic when a truck is backing up. The warning system uses a bright halogen back up light and 87 db warning alarm that is activated when a truck is shifted into reverse. This easy-to-install system provides simple plug-in installation with no wiring required.

Bulb	Decibels	Ecco No.	Part No.
3156, 2356, 2456, 3057, 3157	87	111-000	A000017824
1156, 199, 1057, 1073, 1141, 3497, 7506	87	110-000	A000017823



### Mechanical Alarms

Offers top quality zinc plated steel construction. Totally mechanical and automatic—no wires or switches needed. As the vehicle moves, one of two gravity actuated hammers ring. Easy installation using standard tools.

Diameter	Depth	Tri-Lite No.	Part No.
6"	3-5/8"	BKA	A000017324
8"	3"	CVA	A000017325



### Heavy Duty Switch

Part Number: A000009332

Switches are designed for use with back up alarms on vehicles not equipped with back up lights. Metal housing, field selectable, 360° movement, water and dust tight; includes mounting bracket and cable grip connector.



### Light Duty Switch

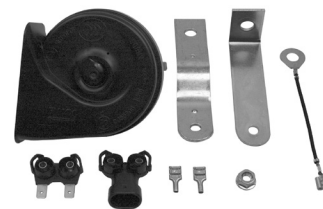
Part Number: 2I5410

Switches are designed for use with back up alarms on vehicles not equipped with back up lights. Moves in one direction only; rubber-coated for moisture resistance.



### Clamshell Horn Kits

Available in low or high tone, these horn kits include an “offset” style bracket and “L” style bracket to fit almost every application. A 250 series Packard connector or 2-terminal blade connector can be used, eliminating the need to alter the vehicle’s wire harness during connection. Whether your vehicle has a 1-wire, 2-wire or sealed connector, this kit fits them all.



Voltage	Tone	Decibels	Terminals	Diameter	Depth	Max Amp Draw	Part No.
12	Low	113	1 or 2	3-1/2"	2-4/5"	6	A000031341
12	High	113	1 or 2	3-1/2"	2-4/5"	6	A000031342

### Mechanical Disc Horns

Large diameter resonating disc horns are available in a variety of configurations. Please note frequencies, voltages and sizes.

Voltage	Tone	Decibels	Terminals	Diameter	Depth	Max Amp Draw	Bracket Type	Part No.
12	High	108	2	3-5/8"	2-5/8"	5.0	A	0973970
12	Low	112	2	3-5/8"	2-5/8"	5.0	A	0971283
24	Low	134	2	4-1/2"	2-5/8"	3.0	A and C	A000002130
36-48	Low	115	2	4-7/8"	2-5/8"	1.0	B	A000005800

### Electronic Disc Horns

Electronic resonating disc horns are available in a variety of configurations. Please note frequencies, voltages and sizes.

Voltage	Tone	Decibels	Terminals	Diameter	Depth	Max Amp Draw	Bracket Type	Part No.
12-24	High	105	2	3-3/4"	2-5/8"	2.2	A	A000036759
24	Low	112	2 or 3*	3-3/4"	2-5/8"	0.9	B	A000015821
36	Low	112	2 or 3*	3-3/4"	2-5/8"	0.9	B	A000012768
48	Low	112	2 or 3*	3-3/4"	2-5/8"	0.8	B	A000015822
24-48	High	105	2	3-3/4"	2-5/8"	1.0	B	A000016368
72-80	High	112	2	3-35/64"	2-5/8"	0.6	A	A000017708

\*To convert our three-terminal horns to two-terminal applications, use wire kit (MCFA Part Number: GS0001773).



Type A



Type B

**Forward Electronic Horns by Ecco**

Bracket	Voltage	Decibels	Terminals	Max Amp Draw	Dimensions	Part No.
Straight	12	107	2	0.7	4.0" x 2.8" x 1.7"	A000017493
90 Degree	24-48	107	2	0.8	4.0" x 2.8" x 1.7"	A000003063
Straight	24-48	107	2	0.8	4.0" x 2.8" x 1.7"	A000017508
None	24-48	107	2	0.8	4.0" x 2.8" x 1.7"	A000037045

**Forward Electronic Horns by Preco**

Tone	Voltage	Decibels	Terminals	Connection	Dimensions	Part No.
Constant	12-60	112	2	Studs	5" x 3-1/16" x 3-3/4"	A000002865
Constant	12-48	107	2	Blade	2-1/4" x 4-1/2" x 4-5/8"	A000006273

**Specialty Warning Alarms by Ecco**

Available in constant or dual tone, these cost effective warning alarms feature a compact housing and leadwire connection. Not intended for use as a back up alarm.

Tone	Voltage	Decibels	Max Amp Draw	Part No.
Constant	12-24	102	0.5	A000031698
Dual	12-24	97	0.5	A000033174

**Universal Horn Buttons**

Description	Part No.
Dash-Mounted	0973024
Steering Column-Mounted	2I5589



## Halogen Head Lamp Bulbs

Bulb #	Description	Part No.
H1	12v 55w	A000028952
H3	12v 35w	A000007946
H3	12v 55w	A000014709
H3	24v 55w	A000025206
H3	24v 70w	A000011812
H3	36v 35w	A000016065
H3	48v 35w	A000015654
H7	12v 55w	A000028954
H11	12v 55w	A000028953
862	12v 37.5w	A000002709
880	12v 27w	A000028955
881	12v 27w	A000028956
894	12v 37.5w	9I0493
896	12v 37.5w	A000028958
9004	12v 65w/45w	A000028947
9006	12v 55w	A000028949
9007	12v 65w/55w	A000028950
9008	12v 60w/55w	A000028951

## Miniature Lamp Bulbs

Bulb #	Description	Part No.
CE2	48v 25/10w	A000002963
57	14v 3.36w	2I3595
67	13.5v	A000011363
73	14v 0.08a	2I5957
93	12.8v 13.3w	A000037114
97	13.5v 9.32w	A000015776
152	28v 1.96w	A000027728
194	14.27v 3.78a	A000031968
199	12.8v 28.8w	A000031970
386	14v 0.08a	2I6328
1034	12v 23/8.3w	2I8640
1062	36v 33w	A000003462
1073	12.8v	2I8735
1141	12v	A000002200
1152	12.8v	2I4612
1156	12.8v 26.88w	9I2532
1157	12v 26.9/8.3w	2I6952
1229	40v	2I4611
1638	28v 1.02a	2I7955
2233	28v 21.59w	A000037853
1662	24v	A000002198
1683	24v	9I2534
3011	28v 1.29a	2I7958
3057	12.8v/14v 26.88w/6.72w	A000016413
3155	12.8v 20.48w	A000016414
3156	12.8v 26.88w	A000016415
3157	12.8v/14v 26.88w/8.26w	A000016416

## Speaker Style Bulbs

*Speaker Part No.	Description	Part No.
SP1	36v	A000002284
SP2	48v	A000002368
SP5	36v	A000002572
SP6	48v	A000002676
SP7	36v	9I2536
SP8	48v	9I2538
SP14	36v	A000002195
SP15	48v	A000002196

## Sealed Beam Replacement Bulbs

*GE Number	Description	Part No.
4340	48v 80w	2I5454
4350	36v 60w	2I5453
4411	12v 35w	2I5451
4571	24v 150w	A000017123
4578	28v 60w	A000017995
4589	24v 50w	2I5452
H4651	12v 50w Halogen	A000028961
H4656	12v 35w 35w Halogen	A000028962
H4703	12v 55w Halogen	A000028964
H6054	12v 35w 65w Halogen	A000016417
H6545	12v 45w 65w Halogen	A000028965
H7610	12v Halogen	2I3063
-	Par 36, LED 12-48v (Trapezoid beam)	A000037198
-	Par 36, Polycarbonate LED 12-48v (Flood beam)	A000042864

## LED Bulbs

*GE Number	Description	Part No.
1156	12v	A000025884
1156 Pirana	12v	A000034820
1157	12v	A000025885
-	Par 36, Glass LED 12-48v (Trapezoid beam)	A000037198
-	Par 36, Polycarbonate LED 12-48v (Flood beam)	A000042864

## Back Up Alert Warning System

Bulb	Part No.
3156, 2356, 2456, 3057, 3157	A000017824
1156, 199, 1057, 1073, 1141, 3497, 7506	A000017823

\*GE and Speaker names are used only for reference purposes. Our source of supply varies.

### Low Profile Variable LED Strobes

This mini strobe is perfect for compact spaces. It is less than 4" tall to suit a wide range of applications, particularly where space constraints are a concern.

This model has four different modes: quadruple, fast, double, and burst. This light-weight LED strobe light is also sealed to protect against exposure to water and other harsh environmental conditions, making it extremely durable. Meets SAE J845 Class II, ECE Reg 10, and sealed to IP67.

- J.W. Speaker Model 406
- Diameter: 4.83"
- Height: 3.80"
- Outer Lens Material: Polycarbonate
- Housing Material: Polycarbonate



Voltage	Description	Mounting	Part No.
12-80	Amber Strobe	4-Hole Bolt Pattern	A000050804

### Standard LED Strobes

Multi-voltage strobe light features durable nylon housing and scratch-resistant acrylic lens. Sealed against water, dust, and corrosion. UL Recognized.

- J.W. Speaker Models 538 and 539
- 60 flashes per minute
- Base: 2.84" x 3.88"
- Height: 4.25"



Voltage	Description	Mounting	Part No.
12-80	Amber Strobe	Flange Mount	A000015170
12-80	Amber Strobe	Pipe Mount	A000028135

### Low Profile LED Strobes

This maintenance-free LED beacon features an attention getting Pulse8 flash pattern (8 flashes per cycle, 75 FPM) producing a warning signal that is ideal for industrial type applications. This cost effective light features a wide 12-80V operating range that also makes it perfect for use on electrically powered vehicles and equipment. Meets SAE J845 Class III, CE, and R10.

- Ecco Model 6465
- 75 flashes per minute
- Pulse8 (8 flashes per cycle) flash pattern
- Diameter: 5.60"
- Height: 3.90"



Voltage	Description	Mounting	Part No.
12-80	Amber Strobe	3-Bolt Flange	A000044023
12-80	Amber Strobe	Magnet	A000044024
-	Amber Lens, Replacement	-	215361
-	Clear Lens, Replacement	-	A000003342
-	Blue Lens, Replacement	-	214383
-	Guard, Strobe Mount*	-	A000001488

\*See page 1.12 for picture.

### Low Profile Strobes

This light duty strobe operates from 12-80 VDC to produce 1.5 joules to cover all low intensity applications. The UV stabilized thread-on lens allows bulb field replacement without tools. The fiberglass filled nylon base resists vibration. It is also protected from reverse polarity and voltage transients. This strobe is designed to meet SAE J1455 (transient protection), SAE J1318 (vibration and corrosion protection) and is tested in accordance with UL 583 safety standard for Type E, ES and EE industrial trucks.

- Ecco Models 6410 and 6411
- 1.50 joules
- Single flash
- Diameter: 5.60"
- Height: 3.90"



Voltage	Description	Part No. (Std. Flash Tube)	Part No. (Linear Flash Tube)
12-80	Amber Strobe	A000002697	2I5358
12-80	Amber Strobe with Magnetic Base	A000009646	-
12-80	Red Strobe	A000002696	2I5359
12-80	Clear Strobe	A000003335	-
12-80	Blue Strobe	-	A000006218
-	Flash Tube, Replacement	A000002707	2I5360
-	Amber Lens, Replacement	2I5361	2I5361
-	Blue Lens, Replacement	2I4383	2I4383
-	Clear Lens, Replacement	A000003342	A000003342
-	Guard, Strobe Mount*	A000001488	A000001488

\*See page 1.12 for picture.

### Medium Profile LED Strobes

This maintenance-free beacon features three of the latest LEDs and Pulse8 flash operation, producing a warning signal ideally suited to industrial applications. This cost effective unit has a wide operating range of 12-80V, making it the perfect light for use on electric vehicles. The long, trouble-free service life and low amp draw characteristics of LED technology make this an ideal replacement solution for rotating or strobe beacons.

- Ecco Model 6262
- 70 flashes per minute
- Pulse8 flash pattern (8 flashes per cycle)
- Base: 3.90" x 2.80"
- Diameter: 2.83"
- Height: 4.90"



Voltage	Description	Mount	Part No.
12-80	Amber Strobe, LED	2-Bolt	A000034826
12-80	Red Strobe, LED	2-Bolt	A000034871
12-80	Clear Strobe, LED	2-Bolt	A000034827
12-80	Blue Strobe, LED	2-Bolt	A000034872
-	Amber Lens, Replacement	-	A000002193
-	Red Lens, Replacement	-	A000002191
-	Clear Lens, Replacement	-	A000034520
-	Blue Lens, Replacement	-	A000002192
-	Green Lens, Replacement	-	A000036249
-	Strobe Guard*	-	A000006043
-	Lens Blackout Sticker	-	A000037090

\*See page 1.12 for picture.



### Medium Profile, Low Intensity Strobes

This low intensity strobe offers a high quality yet economical lighting solution specifically intended for use in the materials handling industry. These lights are ideal for use in a broad range of industrial applications. Featuring a twist-on lens and field replaceable snap-fit flashtube for easy maintenance, the rugged reinforced nylon base and polycarbonate lens, epoxy encapsulated circuit board protects internal electronics against moisture, dust and vibration. Meets R10, CE, UL and IP66/67 requirements.

- Ecco Models 6220, 6225 and 6226
- 1.50 or 2.00 joules
- 85 flashes per minute
- Base: 3.90" x 2.80"
- Diameter: 2.83"
- Height: 5.50"

Voltage	Joules	Description	Mount	Part No.
12-80	1.5	Amber Strobe	2-Bolt	2I7875
12-80	2.0	Amber Strobe	2-Bolt	A000002729
12-80	2.0	Amber Strobe	1/2" Pipe	A000028074
12-80	1.5	Red Strobe	2-Bolt	2I7876
12-80	2.0	Red Strobe	2-Bolt	A000002730
12-80	2.0	Red Strobe	1/2" Pipe	A000028076
12-80	1.5	Blue Strobe	2-Bolt	2I3447
12-80	2.0	Blue Strobe	1/2" Pipe	A000028075
12-80	1.5	Green Strobe	2-Bolt	A000036251
-	-	Flash Tube, Replacement	-	2I8924
-	-	Amber Lens, Replacement	-	A000002193
-	-	Blue Lens, Replacement	-	A000002192
-	-	Clear Lens, Replacement	-	A000034520
-	-	Green Lens, Replacement	-	A000036249
-	-	Red Lens, Replacement	-	A000002191
-	-	Strobe Guard*	-	A000006043
-	-	Lens Blackout Sticker	-	A000037090

\*See page 1.12 for picture.



### Mini Strobes

Features efficient performance and superb versatility. Designed for inside use. Lens and case are molded from tough polycarbonate resin. Unique size is perfect for industrial trucks. UL Recognized. Two-hole flange mount.

- J.W. Speaker Model 537
- 2.50 joules
- 60 flashes per minute
- Base: 3.00" x 4.75"
- Height: 3.90"

Voltage	Description	Part No.
12-80	Amber Strobe	2I5364
-	Flash Tube, Replacement	2I5368



### Adjustable Flash Strobes

This medium profile, heavy duty strobe operates from 12 to 24 VDC to produce between 8 and 17 joules. User can field select high or low intensity and double (8 or 13 joules) or quad (12 or 17 joules) flash. The base is die cast for durability from vibration/heat. Seven support points provide a shock-resistant mounting of the power supply. Mounting options include one inch pipe and 3-point flange. The polycarbonate fresnel lens is thread-on. Field flash tube replacement is trouble free with a snap out connector. This strobe features a conformal coated circuit board to further prevent corrosion.

- Ecco Model 6670
- 8.00-17.00 joules
- Adjustable flash rate
- Diameter: 6.50"
- Height: 6.90"

Voltage	Description	Part No.
12-24	Amber Strobe	A000014136
-	Flash Tube, Replacement	A000014138



### RotoLED™ Hybrid Beacons

The RotoLED beacon combines all of the major benefits of the latest LEDs with the unmistakable warning signal of a rotator, all without compromising reliability. LED hybrid technology uses a brushless magnetic drive system to spin the reflector disk, reducing noise and eliminating the typical motor/gear drawbacks associated with conventional rotors. Features eight 3-watt LEDs and a TIR optic to provide SAE Class I light output. Meets SAE J845 Class I requirements. Optional 1" pipe mount and 3-bolt flange available on request.

- Ecco Model 7660
- Diameter: 6.30"
- Height: 6.20"

Voltage	Description	Part No.
12-24	Amber LED Strobe	A000034549
12-24	Red LED Strobe	A000034819
n/a	Pipe Mount Kit	A000047808



Heavy Duty Microstrobes

The Microstrobe features a power supply which operates over a wide input voltage range of 12-80 VDC. The supply has a regulated output so that the lamp brightness and flash remain constant when operated over the rated input voltage range. The power supply is potted in polyurethane for the ultimate in protection from moisture, vibration and exposure to high voltage. The enclosure is all Lexan®, and the plug-in lamp is field replaceable. All units are polarity protected and have built-in filters to protect against radio interference and spike voltages. The Microstrobe is UL Recognized for Type E, EE, and ES.

- Maxi-Signal Model 470S
- 1.90 joules
- 60 to 80 flashes per minute
- Diameter: 3.00"
- Height: 5.00"

Voltage	Description	Part No.
12-80	Amber Strobe	A000032061
-	Amber Lens, Replacement	A000033029
-	Blue Lens, Replacement	A000033030
-	Clear Lens, Replacement	A000033031
-	Red Lens, Replacement	A000033032
-	Flash Tube, Replacement	2I8924
-	Lens Blackout Sticker	A000037090



Rotating Beacons

Single-point shock-resistant mounting. Quiet belt drive for simplified maintenance.

- Anodized aluminum base
- Tri-Lite Model MV-2-IND
- Diameter: 6.00"
- Height: 7.50"

Voltage	Description	Part No.
12	Amber Strobe	2I3012
24	Amber Strobe	A000002178
36	Amber Strobe	2I3949
48	Amber Strobe	2I3950
-	12 VDC Bulb, Replacement	9I2532
-	24 VDC Bulb, Replacement	A000013871
-	36 VDC Bulb, Replacement	A000003462
-	48 VDC Bulb, Replacement	A000005520



**Low Profile Rectangular Strobes**  
This low profile strobe operates from 12-80 VDC to produce 3.00 joules to cover all low intensity applications. O-ring sealed for maximum weatherproofing.

- 3.00 joules
- 60 flashes per minute
- Base: 5.125" x 2.280"
- Height: 2.60"

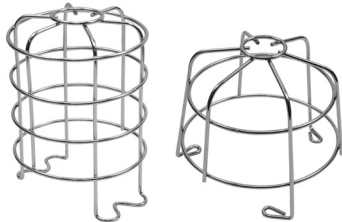
Voltage	Description	Part No.
12-80	Amber Strobe	A000028210
12-80	Red Strobe	A000028209
-	Amber Lens, Replacement	A000028207
-	Flash Tube, Replacement	A000028208



**Strobe Guards**

Part No.	Fits the following strobes:
A000006043	217875, A000002729, 213447, 217876, A000002730, A000028074, A000028075, A000028076, A000034826, A000034871, A000034827, A000034872
A000001488	Most 5" strobes: 215358, 215359, A000002696, A000002697, A00006218, A000003335, A000009646

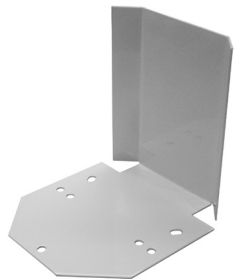
Color may vary.



A000006043

A000001488

**Universal Side Mount Shield Bracket**  
Part Number: 216918



**LED Stop and Tail Lamps**

This rugged solid state LED is built to withstand shock and vibration.

- J.W. Speaker Model 230
- 24-48 VDC
- Acrylic Lens

Voltage	Dimensions	Part No.
24-48	4.0" Diameter	A000033265

**LED Turn Signal Lamps**

This rugged solid state LED is built to withstand shock and vibration.

- J.W. Speaker Model 270
- 12 VDC
- Acrylic Lens
- DOT/ECE Approved

Voltage	Dimensions	Part No.
12	6.73" x 3.19"	A000034596

**LED Turn/Stop/Back Up Lights**

This LED rear combination light is built to last. It features a scratch-resistant acrylic lens and impact-resistant polycarbonate back plate. The unit is sealed against water, dust, and corrosion. LED technology provides extremely long life and low power consumption, as well as high resistance to shock, vibration, and the elements. LED lighting reduces costly bulb replacement, maintenance calls, and downtime.

- J.W. Speaker Model 281
- 12-48 VDC
- Acrylic Lens

Voltage	Dimensions	Part No.
12	8-1/2" x 2" x 1-1/8"	A000037209
12	10-1/4" x 2" x 1-1/8"	A000016219*
24-36	8-1/2" x 2" x 1-1/8"	A000037207
48	8-1/2" x 2" x 1-1/8"	A000037208

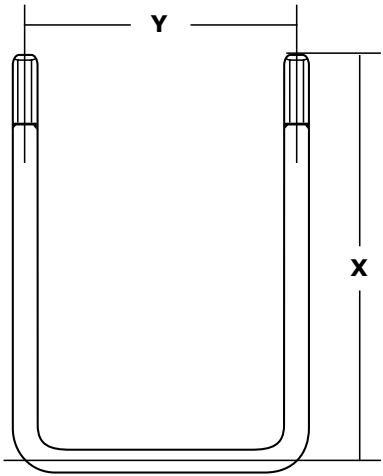


\*A000016219 is the direct replacement for MCFA part numbers 9130501800, 9130501801, and 0515309501. Please refer to the parts search section for model information.

U-Bolts

Because welding and/or drilling of the overhead guard are not permitted, attaching miscellaneous items requires the use of a u-bolt and an appropriate bracket. If needed, the bracket itself can then be drilled, or additional hardware can be welded to it. Includes two nuts, one plate, and one u-bolt. In addition to u-bolts, a Z bracket (A000013954) is required for mounting universal turn, stop, and back up lights to the overhead guard.

Width (Y)	Height (X)	Part No.
37 mm	79 mm	A000012185
37 mm	110 mm	A000012183
47 mm	79 mm	A000012186
47 mm	120 mm	A000012182
52 mm	100 mm	A000012184
52 mm	130 mm	A000012190
67 mm	50 mm	A000012189
97 mm	50 mm	A000012181
107 mm	60 mm	A000012187
109 mm	56 mm	A000030375



**3" x 5" Oval LED Work Light**

- J.W. Speaker Models 770 and 771
- 900 Raw Lumens; 700 Effective Lumens
- 12 or 24-48 VDC
- Dimensions: 3.85" x 5.68"
- UV-resistant polycarbonate lens
- Tough polycarbonate housing prevents rust
- Universal mount
- Current Draw: 1.00 amps @ 12 volts; 0.48 amps @ 24 volts; 0.33 amps @ 36 volts; 0.25 amps @ 48 volts

Mount	Voltage	Lens Pattern	Part No.
Vertical	12-48	Flood	A000037843
Horizontal	12-48	Spot	A000040273
Horizontal	12	Trapezoid	A000040692
12" Wire Assy. with Deutsch DT06-2S Connector			A000028692

**3" x 5" Oval LED Work Light**

- Ecco Models EW2340 and EW2341
- 12-24 VDC
- Four 10-watt LEDs
- Lens Pattern: Flood or Spot
- Dimensions: 3.16" x 5.30"
- 80,000+ hours of maintenance-free life expectancy
- ABS reflector and polycarbonate lens
- Aluminum heatsink housing
- Steel mounting bracket
- Current Draw: 1.9 amps

Voltage	Lens Pattern	Lumens	Part No.
12-24	Flood	2050 Raw, 1550 Effective	A000048774
12-24	Spot	2200 Raw, 1700 Effective	A000048772

**4.5" Round (PAR36) LED Work Light**

- J.W. Speaker Model 670 XD
- 1,080 Raw Lumens; 780 Effective Lumens
- 12-110 VDC
- Lens Pattern: Flood, Spot or Trapezoid
- Diameter: 4.88"
- UV-resistant polycarbonate lens
- Tough polycarbonate housing
- Universal pedestal mount
- Current Draw: 1.30 amps @ 12 volts; 0.60 amps @ 24 volts; 0.20 amps @ 110 volts

Voltage	Lens Pattern	Part No.
12-110	Flood	A000046337
12-110	Spot	A000046338
12-110	Trapezoid	A000046339
12" Wire Assy. with Deutsch DT06-2S Connector		A000028692





**4.5" Round (PAR36) LED Work Light**

- J.W. Speaker Model G5523
- 960 Raw Lumens; 520 Effective Lumens
- 12-48 VDC
- Lens Pattern: Trapezoid or Flood
- Diameter: 5.50"
- Durable glass lens
- Heavy-duty steel housing
- Universal mount
- Current Draw: 1.04 amps @ 12 volts; 0.50 amps @ 24 volts; 0.33 amps @ 36 volts; 0.26 amps @ 48 volts

Description	Lens Pattern	Part No.
Glass LED PAR36 Bulb	Trapezoid	A000037198
Polycarbonate LED PAR36 Bulb	Flood	A000042864

**Economy LED Work Light**

- 12-24 or 12-110 VDC
- Lens Pattern: Flood
- 30,000 hours of operation
- Die cast aluminum housing
- Poly (methyl methacrylate) lens
- Weatherproof Rating: IP67
- Universal mount

Voltage	Description	Lumens	Dimensions	Part No.
12-24	Round	750	4.56" Dia.	A000046318
12-110	Round	700	4.56" Dia.	A000050039
12-24	Square	750	4.33" x 4.33"	A000046317
12-110	Square	680	4.33" x 4.33"	A000050133

**3" x 5" Rectangular LED Work Light**

- J.W. Speaker Model 850
- 420 Raw Lumens; 250 Effective Lumens
- 12 or 24-48 VDC
- Lens Pattern: Flood
- Dimensions: 3.50" x 5.35"
- UV-resistant polycarbonate lens
- Heavy-duty rubber housing
- Universal mount

Voltage	Part No.
12	A000036220
24-48	A000036221



**2" x 6" Rectangular LED Mast Light**

- J.W. Speaker Models 783 XD and 783
- 12-48 VDC
- Lens Pattern: Vertical Flood
- UV-resistant polycarbonate lens
- Die-cast aluminum housing
- Universal mount
- 783 XD Current Draw: 1.00 amps @ 12 volts; 0.55 amps @ 24 volts; 0.38 amps @ 36 volts; 0.25 amps @ 48 volts
- 783 Current Draw: 1.00 amps @ 12 volts; 0.50 amps @ 24 volts; 0.30 amps @ 36 volts; 0.25 amps @ 48 volts

Model	Lumens	Dimensions	Mount	Part No.
783 XD	600 Raw, 430 Effective	2.12" x 6.11"	3/8-16 x 1" Mounting Bolt	A000033744
783 XD	600 Raw, 430 Effective	2.12" x 6.11"	Magnetic	A000033747
783	675 Raw, 485 Effective	2.13" x 6.68"	3/8-16 x 1" Mounting Bolt	A000050839
783	675 Raw, 485 Effective	2.13" x 6.68"	Magnetic	A000050846

**4" x 4" Square LED Work Light**

- Ecco Model E92006
- 1300 Raw Lumens; 1200 Effective Lumens
- 12-24 VDC
- Lens Pattern: Flood
- Dimensions: 4.33" x 4.33"
- Acrylic lens
- Aluminum heatsink housing
- Universal mount
- Current Draw: 1.3 amps

Voltage	Part No.
12-24	A000054742

**Magnetic Rechargeable LED Work Light**

- Ecco Model EW2461
- 650 Raw Lumens; 600 Effective Lumens
- 12-24 VDC
- Lens Pattern: Flood
- Five 3-watt LEDs
- Three operating modes: 100% intensity, 30% intensity, & SOS flashing
- Rechargeable lithium battery
- Charge time is less than 7 hours
- Run time on battery is 3 to 4 hours
- Aluminum heatsink housing
- Stainless steel mounting bracket
- Polycarbonate lens

Description	Part No.
Lamp with Wall and Cigarette Plug Chargers	A000048319
Camouflage Lamp with Wall and Cigarette Plug Chargers	A000049474
Wall Charger Only (without lamp)	A000048320



**3" x 5" Oval Halogen Work Light**

- J.W. Speaker Model 700
- 12 VDC
- Lens Pattern: Vertical Flood
- Dimensions: 3.75" x 5.50"
- Halogen light
- UV-resistant polycarbonate lens
- Tough polycarbonate housing
- Universal mount

Description	Lens Pattern	Part No.
12V Vertical	Vertical Flood	A000009643
2-Pin Harness (Packard 12020818)	-	A000037365
12V Halogen Bulb-37.5W	-	A000002709

**3" x 5" Rectangular Rubber Work Light**

- J.W. Speaker Model 850
- 12 or 48 VDC
- Lens Pattern: Vertical or Wide Flood
- Dimensions: 3.50" x 5.35"
- UV-resistant polycarbonate lens
- Heavy-duty rubber housing
- Universal mount

Description	Lens Pattern	Part No.
12V Vertical	Vertical Flood	9I2813
48V Vertical	Wide Flood	9I2537
Clear Wide Flood Lens	Wide Flood	A000011639

**3" x 5" Rectangular Work Light**

- J.W. Speaker Model 871
- 12, 24 or 36 VDC
- Lens Pattern: Wide or Vertical Flood
- Dimensions: 3.38" x 5.35"
- UV-resistant polycarbonate lens
- Heavy-duty one-piece housing
- Universal mount

Description	Lens Pattern	Bulb	Part No.
12V Horizontal	Wide Flood	9I2532	A000002641
12V Halogen Horizontal	Wide Flood	9I0493	A000002403
24V Horizontal	Wide Flood	9I2534	A000002882
36V Horizontal	Wide Flood	9I2536	A000002642
12V Vertical	Vertical Flood	9I2532	A000002640
12V Halogen Vertical	Vertical Flood	9I0493	A000002485
24V Vertical	Vertical Flood	9I2534	A000002883
Clear Horizontal Wide Flood Lens	Wide Flood	-	A000011639



**4" x 6" Halogen Rectangular Work Lamp**

- J.W. Speaker Model 900
- 12 VDC Halogen
- Lens Pattern: Trapezoid or Wide Flood
- Dimensions: 4.40" x 6.80"
- Polypropylene housing
- Glass lens
- Hollow stud mounting

Voltage	Lens Pattern	Bulb	Part No.
12	Trapezoid	A000002241	A000002242
12	Wide Flood	-	A000006028

**4" x 6" Halogen Rectangular Work Lamp**

- 24 VDC Halogen
- Lens Pattern: Flood
- Dimensions: 4.00" x 6.00"
- Hollow stud mounting

Voltage	Lens Pattern	Bulb	Part No.
24	Flood	A000011822	A000011821

**4.5" Round Work Light**

- J.W. Speaker Model 6700
- 12, 24, 36 or 48 VDC
- Lens Pattern: Trapezoid
- Diameter: 4.75"
- Glass lens
- Heavy-duty rubber housing
- Universal mount



Voltage	Single Lamp	Single Lamp Kit*	Dual Lamp Kit**	Bulb	LED Bulb (Glass Lens, Trap. Beam)	LED Bulb (PC Lens, Flood Beam)	Guard	Switch	Rubber Housing
12	2I5370	2I6196	A000012879	2I5451	A000037198	A000042864	2I7382	0972277	A000009653
24	2I5371	2I6197	A000012878	2I5452	A000037198	A000042864	2I7382	0972277	A000009653
36	2I5372	2I6198	A000012877	2I5453	A000037198	A000042864	2I7382	0972277	A000009653
48	2I5373	2I6199	A000012876	2I5454	A000037198	A000042864	2I7382	0972277	A000009653

\*Single lamp kits include: lamp, bulb, guard, fuse, fuse holder, switch and wire.

\*\*Dual lamp kits include: 2 lamps, 2 bulbs, 2 guards, 2 fuses, 2 fuse holders, 1 switch and wire.

### Halogen Lamp

This lamp is configured to provide dependable long life performance, whether it is used as a fixed position general-purpose light or as an extreme service high vibration/high shock resistant light.

- 12 VDC (H3 Halogen 55W)
- Lens: Borosilicate glass
- Housing: Nylon
- Vibration damped
- Built-in Deutsch connector
- Aluminum connectors
- Zinc dichromate plated brackets
- UL recognized

Description	Voltage	Bulb	Part No.
Right Hand Front Lamp	12	A000014709	A000029523
Left Hand Front Lamp	12	A000014709	A000029524
Rear Lamp	12	A000014709	A000029522
12" Wire Assembly with Deutsch DT06-2S Connector			A000028692



### Utility Lamp (Round)

Diameter	Housing	Voltage	Bulb	Part No.
5.13"	Steel	12	-	A000003279
5.00"	Steel	12	9I2532	A000002674



### Utility Lamp (Square)

Dimensions	Voltage	Bulb	Part No.
6.25" x 6.25" x 4.50"	12	2I3392	2I7019
6.25" x 6.25" x 4.50"	24	-	2I7020



### Universal Mounting Bracket

Description	Dimensions	Part No.
L-Shaped Metal Bracket	4.56" x 4.38"	2I5497



### Universal Switch

Description	Part No.
Two-terminal switch. Mounts easily onto a forklift/truck through any 3/8" hole in the dash. Push/pull action makes operation simple.	0972277



**LED Light Kits**

Outfit your forklifts with LED technology and save. Kit pricing is less expensive than purchasing each component individually.

**MCFA 12 VDC LED Kit**

Part Number: A000034452

Part No.	Description	Quantity
A000016219*	12 VDC, LED Tail Lamp	2
A000040273	12-48 VDC, LED Horizontal Lamp	1
A000037843	12-48 VDC, LED Vertical Lamp	2

\*A000016219 is the direct replacement for MCFA part numbers 9130501800, 9130501801 and 0515309501.

**Universal 12 VDC LED Kit**

Part Number: A000034449

Part No.	Description	Quantity
A000037209	12 VDC, LED Tail Lamp	2
A000040273	12-48 VDC, LED Horizontal Lamp	1
A000037843	12-48 VDC, LED Vertical Lamp	2

**Universal 24-36 VDC LED Kit**

Part Number: A000034450

Part No.	Description	Quantity
A000037207	24-36 VDC, LED Tail Lamp	2
A000040273	12-48 VDC, LED Horizontal Lamp	1
A000037843	12-48 VDC, LED Vertical Lamp	2

**Universal 48 VDC LED Kit**

Part Number: A000034451

Part No.	Description	Quantity
A000037208	48 VDC, LED Tail Lamp	2
A000040273	12-48 VDC, LED Horizontal Lamp	1
A000037843	12-48 VDC, LED Vertical Lamp	2

**3" x 5" Blue/Red Oval LED Warning Light**

Projects bright blue or red spot beam pattern projects onto the ground.

- J.W. Speaker Model 770
- 12-110 VDC
- Dimensions: 3.85" x 5.68"
- UV-resistant polycarbonate lens
- Die-cast aluminum housing
- Universal mount

Bulb Color	Part No.
Blue	A000047730
Red	A000047806

**3" x 5" Blue/Red Oval LED Warning Light**

Projects bright blue or red spot beam pattern onto the ground.

- Ecco Model EW2000
- 12-60 VDC
- Dimensions: 3.6" x 5.6"
- 300 Lumens
- Four 3-watt LEDs
- Polycarbonate lens
- Die-cast aluminum housing
- Universal mount

Bulb Color	Part No.
Blue	A000054026
Red	A000054027

**Oval Blue LED Pedestrian Warning Light**

Projects a bright blue dot onto the ground.

- Ecco Model EW2002
- 12-80 VDC
- Dimensions: 2.6" x 4.7"
- Two 3-watt LEDs
- Polycarbonate lens
- Die cast aluminum housing
- Universal mount

Bulb Color	Part No.
Blue	A000055070

**Blue/Red Arrow LED Warning Light**

Projects a bright blue or red arrow onto the ground.

- Ecco Model EW2010
- 12-60 VDC
- Diameter: 3.6"
- Three 3-watt LEDs
- Rugged solid state LEDs
- Polycarbonate lens
- Aluminum heatsink housing
- Universal mount

Bulb Color	Part No.
Blue	A000047614
Red	A000047805

**BluePoint LED Warning Light**

Projects a bright blue square onto the ground.

- 12-48 VDC
- Dimensions: 4.19" x 4.19"
- Four 3.75-watt LEDs
- Plastic lens
- Die cast aluminum housing
- Deutsch connector (includes 2-wire harness)

Bulb Color	Part No.
Blue	A000053835





**Economy Blue Oval LED Warning Light**

Projects a bright blue beam pattern onto the ground.

- 12-80 VDC
- Dimensions: 2.44" x 2.56"
- 30,000 hours of operation
- Poly (methyl methacrylate) lens
- Die cast aluminum housing
- Weatherproof Rating: IP67
- Universal mount

Bulb Color	Part No.
Blue	A000046652

**LED Pedestrian Boundary Light**

The Pedestrian Boundary Line is designed specifically for material handling applications to provide a visual warning for pedestrians in the vicinity of mobile equipment. This light is intended to supplement a 360° warning light by projecting a red boundary line onto the ground on each side of the vehicle. This additional safety feature is especially useful where blind corners are present (i.e. warehouse racking) and is likely to be seen by pedestrians who are not looking up or paying close attention to their surroundings.

- Ecco Model EW2015
- 12-80 VDC
- Dimensions: 2.9" x 2.6" x 2.5"
- Three 3-watt LEDs
- Polycarbonate lens
- Aluminum Heatsink housing
- Universal mount

Bulb Color	Part No.
Red	A000054809

**Red-Zone LED Warning Light**

Projects a red line onto the ground to create a visual safety boundary around the forklift.

- 9-64 VDC
- Dimensions: 6" x 2.25" x 2.75"
- Three 6-watt LEDs, 1200 lumens
- 100,000 hours of operation
- Polycarbonate lens
- Weatherproof Rating: IP67
- Universal mount

Bulb Color	Part No.
Red	A000052404

**Blue/Red Zone LED Warning Light**

Projects a large blue "Keep Out" zone of light onto the ground to alert pedestrians and vehicles to stay out of potentially hazardous work areas.

- JW Speaker Model 6150
- Dimensions: 4.77" x 3.95"
- Rugged solid state LEDs
- Hard-coated polycarbonate lens
- Die-cast aluminum housing
- Universal mount

Bulb Color	Part No.
Red	A000054686
Blue	A000054687



### Stick-A-LED™ Self-Adhesive LED

Stick-A-LED™ warning lights are compact, high intensity auxiliary LEDs designed to provide a powerful warning signal with fast and easy installation. The Stick-A-LED™ requires only a single (wiring) hole and simple two wire connection to install, no fasteners are needed. The self-adhesive, peel and stick backing allows placement on any flat surface. Available in three shapes; Oval (3 LEDs), Triangle (3 LEDs) and Rectangle (6 LEDs), each model features a tough polycarbonate base and lens with integrated optics that provide enhanced light dispersion.

- Ecco Model ED0002
- Three (triangle and oval) or six (rectangle) 1-watt LEDs
- Features quad flash pattern
- No fasteners needed, only a single wiring hole and simple two wire connection
- Colorless when not illuminated



Voltage	Description	Amber	Clear	Blue	Red
12-24	Oval	A000044011	A000044012	A000044013	A000044014
12-24	Triangle	A000044015	A000044016	A000044017	A000044018
12-24	Rectangle	A000044019	A000044020	A000044021	A000044022

### Standard Duty Two-Speed Fan

- Heavy duty die cast base
- 6-1/2" fan, 4 blades, 250 CFM
- 2-speed motor
- Swivel base
- 3-hole mounting

Voltage	Base/Guard	Switch	Part No.
12	Black/Black	3-Position, Toggle	2I7627
24	Black/Black	3-Position, Toggle	2I7628
36	Black/Black	3-Position, Toggle	9I2320
48	Black/Black	3-Position, Toggle	9I2321



### Standard Duty Variable Speed Fan

- 6-1/2" fan, 4 blades, 250 CFM
- Swivel base
- 4-hole mounting

Voltage	Base/Guard	Switch	Part No.
12	Chrome/Chrome	Variable Speed	A000034020



**Heavy Duty Two-Speed Fan Model 2001**

- Heavy duty die cast base
- 6-1/2" fan, 4 blades, 250 CFM
- 2-speed motor
- Swivel base
- 3-hole mounting

Voltage	Base/Guard	Switch	Part No.
12	Black/Chrome	3-Position, Toggle	A000030124
24	Black/Chrome	3-Position, Toggle	A000030125
Replacement Toggle Switch			A000010474

**Heavy Duty Variable Speed Fan Model 3000**

- Heavy duty die cast base
- 6-1/2" fan, 4 blades, 250 CFM
- Ball joint swivel base
- 4-hole mounting

Voltage	Base/Guard	Switch	Part No.
12	Black/Chrome	Variable Speed, Rheostat Switch	A000034580
24	Black/Chrome	Variable Speed, Rheostat Switch	A000034581
36	Black/Chrome	Variable Speed, Rheostat Switch	A000034583

Replacement Parts	Part No.
Black Guard	A000044317
Chrome Guard	A000044318
Black Blade	A000010473
Chrome Guard	A000044319
Rheostat Switch	A000044321

**Heavy Duty Variable Speed Fan Model 3200**

- Heavy duty die cast base
- 6-1/2" fan, 4 blades, 250 CFM
- Ball joint swivel base
- 2-speed motor
- 4-hole mounting

Voltage	Base/Guard	Switch	Part No.
12 VDC	Black/Black	3-Position, Toggle	A000034579
24 VDC	Black/Black	3-Position, Toggle	A000034582
36 VDC	Black/Black	3-Position, Toggle	A000044295
48 VDC	Black/Black	None	A000036231
48 VDC	Black/Chrome	3-Position, Toggle	A000034584

Replacement Parts	Part No.
Black Guard	A000044317
Chrome Guard	A000044318
Black Blade	A000010473
Chrome Guard	A000044319
Toggle Switch	A000010474



## Rain Cap

Rain Cap is a rugged and well designed roof cover for current and late model lift trucks. Made of a high impact, non-yellowing polycarbonate, Rain Cap has you covered rain or shine with clear and tinted versions.

## Engineered Forklift Roofs

Rain Cap features a unique dome design that diverts rain and small particulates away from the operator. Channels and gutters eliminate cascading water. This alternative to shrink-wrap, plywood and cardboard provides greater comfort and safety.

OSHA standard 1917.43 (e) (1) (ii) clearly states, "Overhead guards shall not obstruct the operator's view."

## Easy to Install, Reasonably Priced

Rain Cap is quick and easy to install. No drilling or tapping is required; eliminating expensive shop time. Phone or fax us your overhead guard dimensions and lift truck model. We'll help you find a Rain Cap model that fits your forklift.

Dimensions (W x L)	Clear	Tinted
31" x 38.50"	A000044657	A000044676
31" x 43.50"	A000044658	A000044677
33" x 43.50"	A000044659	A000044678
35" x 38.50"	A000044660	A000044679
35" x 43.50"	A000044661	A000044680
36" x 38.50"	A000044662	A000044681
37" x 43.50"	A000044663	A000044682
39" x 38.50"	A000044664	A000044683
39" x 43.50"	A000044665	A000044684
39" x 52"	A000044666	A000044685
42" x 42"	A000044667	A000044686
42" x 45.50"	A000044668	A000044687
44.50" x 51.50"	A000044671	A000044690
45" x 38.50"	A000044669	A000044688
45.50" x 43.50"	A000044670	A000044689
47" x 38.50"	A000044672	A000044691
48.25" x 45"	A000044673	A000044692
50.50" x 45"	A000044674	A000044693
53.25" x 45"	A000044675	A000044694
Replacement Strap	A000046320	

Additional sizes are available for all OEMs and models. Please contact us with your overhead guard dimensions for pricing and sizing information (outside top edges-width x length).

To ensure that the correct Rain Cap size is ordered, please measure the actual lift truck that the Rain Cap will be used on prior to placing your order. Basic dimensions of an overhead guard are not guaranteed to be accurate measurements, as lighting and other accessories can interfere with the proper fit.

Rain Cap is not eligible for free freight. Rain Cap is returnable, but the protective film must be intact. If the film is peeled back, it is no longer returnable.



### CoolCab Windshield Panel Cabs

CoolCab Windshield Panel Cabs are a durable alternative to vinyl cab enclosures and other forklift caps. Complete windshields, roofs and rear panels can be purchased and installed individually or in sets. They are simple, easy to install and cost effective—with no drilling, tapping or welding.

CoolCabs are constructed of durable heavy gauge steel and tempered safety glass construction. Windshields include a 12-volt wiper. They offer excellent visibility with a large roof view and rear window panel for backup protection. They are specifically designed to fit select Cat® lift trucks, Mitsubishi forklift trucks, Hyster® forklifts and Yale® lift trucks.

Fits Models:	*Complete Kit	Front Windshield Panel with Wiper	Roof Panel	Partial Rear Window	Wiper Arm	Wiper Blade	Wiper Motor
<b>Cat Lift Trucks:</b> DP40N1-DP55N1, DP40NM1-DP55NM1, GP40N1-GP55N1, P8000-P12000, PD8000-PD12000 <b>Mitsubishi Forklift Trucks:</b> FD40N-FD55N, FD40N1-FD55N1, FD40NM1-FD55NM1, FG40N-FG55N, FG40N1-FG55N1	A000049335	A000049334	A000049337	A000049336	A000049343	A000049345	A000049346
<b>Cat Lift Trucks:</b> 2P3000-2P7000, 2P3000A4-2P7000A4, 2PD4000-2PD7000, 2PD4000A4-2PD7000A4, DP20N-DP35N, DP25N5-DP30N5, GP15N5-GP35N5, GP15NM3-GP35NM3 <b>Mitsubishi Forklift Trucks:</b> FD20N4-FD35N4, FD20N3-FD35N3, FG15N3-FG35N3, FG15N4-FG35N4, FG15N5-FG35N5, FG15NM3-FG35NM3	A000049331	A000049330	A000049333	A000049332	A000049342	A000049344	A000049346
<b>Hyster Fortis:</b> H40-H70FT <b>Yale Veracitor:</b> GP040-GP070VX	A000049327	A000049326	A000049329	A000049328	A000049342	A000049344	A000049346
<b>Hyster Fortis:</b> H80-H120FT <b>Yale Veracitor:</b> GP080-GP120VX	A000049339	A000049338	A000049341	A000049340	A000049343	A000049345	A000049346

\*Kit includes: Front windshield with wiper, roof panel, and partial rear window



Front Windshield Panel with Wiper



Partial Rear Window



Roof Panel

Lift Truck Cabs

Our cabs are constructed of quality vinyl and may be ordered with or without safety glass and electric wipers. Heaters are also available and may be connected directly to your forklift's wiring. The two-way zipper, which can be opened from the inside or outside, will not rust, freeze, or corrode. This is a custom fit product and must be ordered through Customer Service. Please have your truck's make and model number, and inform customer service if an elevated exhaust is present.



Lift Truck Solar Cap

This extra long, universal tinted overhead sun guard can be stretched to form a front visor to help increase visibility in directly sunlight.

Part No.	Dimensions
A000016100	45" x 50"



The Forkshield

Use as a front and rear windshield or canopy. Universal for forklifts, utility, and security carts/heavy equipment. Attaches in seconds with bungee cords. Clear, impact resistant vinyl.

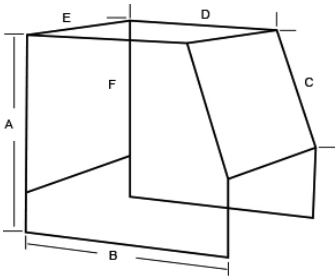
Part No.	Dimensions
A000011395	40" x 48"



Atrium Full Forklift Cab Enclosures

The Atrium attaches in seconds to any forklift. Zippered doors can be shut or unzipped and folded back into place while working. Perfect for those rainy days so you can still work warm and dry. Constructed of super clear 18 mil double-polished vinyl material.

Part No.	Description	A	B	C	D	E	F
A000013372	Up to 6,000 lbs	52"	57"	40"	45"	47"	44"
A000013371	6,000-12,000 lbs	52"	60"	40"	48"	53"	44"
A000046332	Over 12,000 lbs	74"	60"	54"	48"	60"	48"



Forklift Storage Cover

Storage cover easily slips over the forklift in seconds. Fits most lifts trucks up to 8,000 pounds. Constructed of strong Durapel non-rip fabric.

Part No.	Dimensions
A000046333	100"L x 45"W x 80"H



Handy-Mag Trio Magnetized Forklift Utility Kit

The Handy-Mag Trio keeps important items close with a powerful 100 pound test magnet. The set includes a tape gun, clipboard, and utility box. Each of the items can be mounted on a forklift, pallet jack, work station, warehouse racking or on any metal surface.

Part No.	Description	Notes
A000049812	Magnetic Trio Kit	Includes tape gun, clipboard, and utility box.
A000049813	Magnetic Tape Gun	Uses 2" tape rolls and is equipped with a blade cover flap to prevent injury.
A000049814	Magnetic Clip Board	Durable, aluminum clip-board. Measures 9" x 12.5".
A000049815	Magnetic Utility Box	Carries pens, box cutters, markers, drinks, and other tools. Measures 4" x 3.5" x 5.25".



Magnetic Utility Tray

Part Number: A000016400

Dimensions: 20.25" x 5.00" x 7.50"

Offer operator-convenient rental trucks by adding magnetic utility trays. This transferable utility tray includes multiple storage compartments and a clip board holder. Permanent mounting is not required. Four heavy-duty magnets are included to ensure stability.

Utility Tray Conversion Kit

Part Number: A000017998

Convert your bolted utility tray into a transferable magnetic unit (Part Number: A000016400) for flexibility. Tray can be moved from left side to right side and forklift to forklift for user convenience. Four magnets and mounting hardware are included.



Magnetic Caddy

Part Number: A000018780

Our magnetic caddy is constructed of steel for extreme holding power. It is designed to mount to the overhead guard.



Anti-Vibration Seat Cushion

Part Number: A000044228

Hard shocks and vibrations can cause stress on forklift operators. An anti-vibration seat cushion absorbs shocks with a dense foam pad, giving the operator added protection and comfort. Made of cambril inner and vinyl outer covering with elastic Velcro straps.



Back Up Handles

Reduce back strain and injury with an ergonomic back up handle.

Description	Part No.
Back Up Handle	A000025798
Back Up Handle with Horn Button	A000025799
Replacement Horn Button	A000037680



Wiper Blades

Length	Rain-X Latitude Part No.	ANCO Part No.
16"	A000042373	A000028941
18"	A000042375	A000028942
19"	A000042376	A000028943
20"	A000042377	A000028944
21"	A000042378	A000033435
22"	A000042379	A000028945
24"	A000042380	A000028946
26"	A000072381	A000040136
28"	A000042382	A000033436



Wiper Motors

- 1-speed
- Touch and go
- Integral switch
- One inch pivot shaft
- 110° sweep

Voltage	Part No.
12	A000009660
24	A000009659

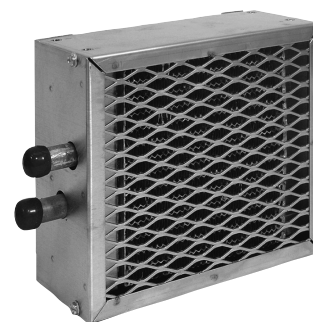




**Model 512H**

Floor/under dash mount heater.

- Air enters rear; warm air exits through the front
- Top and bottom weld nuts with side hose connections
- Three-speed motor with fan control switch
- Mounting hardware included



Dim. (H x L x D)	Heating BTU/Hr	Airflow Heating	Max Power Req.	Case Material	Core Material	Fan Material	Hose Fitting	Part No.
7" x 8" x 7.125"	15,000	150 CFM	2.9 Amps @ 12V	22 Ga. Steel	Ribbon Cell	Aluminum	5/8" Bead	A000045374
7" x 8" x 7.125"	15,000	150 CFM	1.5 Amps @ 24V	22 Ga. Steel	Ribbon Cell	Aluminum	5/8" Bead	A000045375

Optional Installation Kits				Part No.
Installation Kit				A000030354
Switch Kit with 3' Harness				A000030356
Switch				A000030355

**Model 5030**

Wall/floor mount heater.

- Compact design
- Directional airflow doors
- Three-speed motor with fan control switch
- Mounting studs and water hose connections at rear
- Mounting hardware included



Dim. (H x L x D)	Heating BTU/Hr	Airflow Heating	Max Power Req.	Case Material	Core Material	Fan Material	Hose Fitting	Part No.
7.062" x 7.387" x 7.325"	12,500	200 CFM	2.9 Amps @ 12V	18 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000045376
7.062" x 7.387" x 7.325"	12,500	200 CFM	2.9 Amps @ 12V	18 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000052939*
7.062" x 7.387" x 7.325"	12,500	200 CFM	1.5 Amps @ 24V	18 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000045377
7.062" x 7.387" x 7.325"	12,500	200 CFM	1.5 Amps @ 24V	18 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000052940*

\*Includes mounting bracket.

Optional Installation Kits				Part No.
Installation Kit				A000030354
Switch Kit with 3' Harness				A000030356
Switch				A000030355

**Model 5110**

Wall/floor mount heater.

- Compact design
- Three-speed motor with fan control switch
- Mounting studs and water hose connections at rear
- Mounting hardware and bracket included



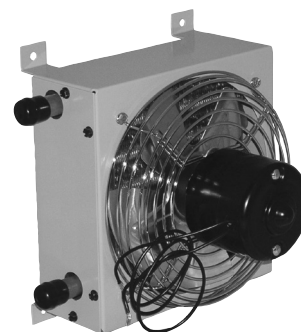
Dim. (H x L x D)	Heating BTU/Hr	Airflow Heating	Max Power Req.	Case Material	Core Material	Fan Material	Hose Fitting	Part No.
7.062" x 7.387" x 7.325"	12,500	150 CFM	1.5 Amps @ 24V	18 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000044046

Optional Installation Kits		Part No.
Installation Kit		A000030354
Switch Kit with 3' Harness		A000030356
Switch		A000030355

**Model 6030**

Wall mount heater.

- Three-speed motor with fan control switch
- Rigid steel case with gray finish
- Mounting hardware included



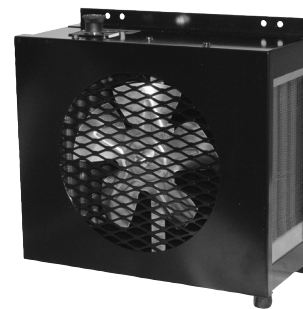
Dim. (H x L x D)	Heating BTU/Hr	Airflow Heating	Max Power Req.	Case Material	Core Material	Fan Material	Hose Fitting	Part No.
7.062" x 7.387" x 7.325"	15,000	140 CFM	1.5 Amps @ 12V	22 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000045378
7.062" x 7.387" x 7.325"	15,000	140 CFM	.75 Amps @ 24V	22 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000045379

Optional Installation Kits		Part No.
Installation Kit		A000030354

**Model 6500**

Wall mount heater.

- Air enters from grill; warm air exits through each side
- Top and bottom rear mounting flanges with side hose connections
- Three-speed motor with rotary fan switch
- Mounting hardware included



Dim. (H x L x D)	Heating BTU/Hr	Airflow Heating	Max Power Req.	Case Material	Core Material	Fan Material	Hose Fitting	Part No.
10" x 11.625" x 5"	20,000	170 CFM	5.0 Amps @ 12V	20 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000045380
10" x 11.625" x 5"	20,000	170 CFM	2.5 Amps @ 24V	20 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000045381

Optional Installation Kits	Part No.
Installation Kit	A000030354

**Model 8030**

Wall/floor mount heater.

- Rigid steel case with black finish
- Three-speed motor with fan control switch
- Mounting hardware included



Dim. (H x L x D)	Heating BTU/Hr	Airflow Heating	Max Power Req.	Case Material	Core Material	Fan Material	Hose Fitting	Part No.
8.125" x 8.125" x 8.5"	25,000	250 CFM	5.0 Amps @ 12V	18 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000045382
8.125" x 8.125" x 8.5"	25,000	250 CFM	2.5 Amps @ 24V	18 Ga. Steel	Tube & Fin	Aluminum	5/8" Bead	A000045383

Optional Installation Kits	Part No.
Installation Kit	A000030354
Switch Kit with 3' Harness	A000030356
Switch	A000030355

**Model 9000**

Floor mount heater.

- Built-in three-position toggle switch
- Choice of side or bottom hose hook-up
- Twin fan blades
- Two-speed motor
- Mounting hardware included



Dim. (H x L x D)	Heating BTU/Hr	Airflow Heating	Max Power Req.	Case Material	Core Material	Fan Material	Hose Fitting	Part No.
6.75" x 16.5" x 8.625"	33,000	205 CFM	8.50 Amps @ 12V	14 Ga. Steel	Tube & Fin	Aluminum	1/2" PT	A000045384
6.75" x 16.5" x 8.625"	33,000	205 CFM	4.25 Amps @ 24V	14 Ga. Steel	Tube & Fin	Aluminum	1/2" PT	A000045385
6.75" x 16.5" x 8.625"	33,000	205 CFM	2.75 Amps @ 24V	14 Ga. Steel	Tube & Fin	Aluminum	1/2" PT	A000045386

**Fire Classes**

- Class A Fires involve ordinary combustible materials such as paper and cardboard.
- Class B Fires involve flammable or combustible liquids such as gasoline, grease, and oil.
- Class C Fires involve electrical equipment such as wiring and circuits.

**Multi-Purpose Dry Chemical Fire Extinguishers**

Ammonium phosphate blended with flow promoters and anti-caking chemicals help to give a long range and smooth, uninterrupted flow. For use on class A, B, and C fires.

U/L Rating	Capacity	Valve	Discharge Range (ft.)	Discharge Time (sec.)	Bracket	Part No.
1A-10B:C	2.5 lbs	Zytel-Nylon	6-8	8-12	Vehicle-Marine-Nylon	2I7534*
1A-10B:C	2.5 lbs	Metal	9-15	10	Wall/Vehicle-Marine-Steel	9I4908
2A-10B:C	5.0 lbs	Metal w/Hose	12-18	14	Wall/Vehicle-Marine-Steel	A000013244
3A-40B:C	5.0 lbs	Metal w/Hose	12-18	14	Wall/Vehicle-Marine-Steel	2I2378
4A-60B:C	10.0 lbs	Metal w/Hose	20	19-21	Wall	2I2379
10A-80B:C	20.0 lbs	Metal w/Hose	20	19-22	Wall	2I2381

\*Metal strap available (Part No. A000007719)

**Fire Extinguishers for Use in Canada**

U/L Rating	Capacity	Valve	Discharge Range (feet)	Discharge Time (second)	Bracket	Part No.
1A-10B:C	2.5 lbs	Metal	9-15	10	Wall/Vehicle Marine Steel	A000037121
2A-10B:C	5 lbs	Metal with Hose	12-18	14	Wall/Vehicle Marine Steel	A000037122

**Limited-Purpose Dry Chemical Fire Extinguishers**

Sodium bicarbonate based. Can be used on Class B and C fires. Excellent for use in garages, service bays and on forklifts.

U/L Rating	Capacity	Valve	Discharge Range (feet)	Discharge Time (second)	Bracket	Recharge-able	Part No.
5B:C	2.0 lbs	Zytel-Nylon	4-6	8-12	Vehicle-Marine-Nylon (No Metal Strap)	N	A000000116
10B:C	2.9 lbs	Zytel-Nylon	6-8	8-12	Vehicle-Marine-Nylon	N	2I7535*
10B:C	2.9 lbs	Metal	8-12	8-12	Vehicle-Marine-Steel	Y	2I7536
10B:C	2.5 lbs	Metal	9-15	10	Vehicle-Marine-Steel	Y	9I4910

\*Metal strap available (Part No. A000007719)

**Brackets**

Part No.	Description
A000037840	For use with 2-2.75 lbs fire extinguishers

**Heavy Duty Brackets**

Part No.	Fits
A000019039	2.75"-4.25" diameter
A000019040	4.25"-6.25" diameter



**Flex-Tred® Safety Matting**

Flex-Tred heavy-duty safety surface is easy to install and provides durable pedestrian safety on slippery surfaces. It is a self-adhesive, non-slip matting available in cut-to-length sections (up to 60 feet) or in pre-cut sizes (ordered in multiples of 50). The standard color is flat black, but other colors are available through our customer service department for an extra fee.

**Cut-to-Length** (per foot)

Width	Part No.
3/4"	A000011741
1"	A000011740
2"	A000011739
3"	A000011738
4"	A000011737
6"	A000011736
8"	A000011735
12"	A000011734
18"	A000011733
24"	A000011732

**Pre-Cut Pieces** (ordered in multiples of 50)

Width	Part No.
3/4" x 24"	A000011742
1" x 24"	A000011743
2" x 24"	A000011744
3" x 24"	A000011745
6" x 24"	A000011746
5-1/2" x 5-1/2"	A000011747
3" x 36"	A000011748
3-1/2" x 7-1/2"	A000011749
5-1/2" Round	A000011750

**Convex Mirrors**

Shape	Size	Description	Replacement Bracket	Part No.
Round	5" Diameter	Glass	N/A	2I7390
Round	5" Diameter	Acrylic	A000035421	A000002902
Round	6" Diameter	Glass	N/A	2I6914
Round	8" Diameter	Acrylic	A000035421	9I2308
Rectangle	4" x 8"	Acrylic	A000035421	9I2309
Oval	4" x 7-3/4"	Glass; pivot mount only	N/A	2I8314
Rectangle	4-3/4" x 8"	Glass	N/A	A000002744

**Magnetic Convex Mirror**

Eliminate drilling with our magnetic convex mirror. A high power magnet allows the mirror to be positioned at virtually any angle on any ferrous metal surface.

Shape	Size	Description	Part No.
Round	7" Diameter	Acrylic Mirror	A000018778

**Anti-Blind Spot Dome Mirror**

Lift truck operators need to know what is going on all around the truck. This mirror gives a complete 180 degree view, allowing the operator to give a quick safety check before traveling in reverse. Installs on any lift truck in seconds with an adjustable magnetic arm.

Shape	Size	Part No.
Round	9"	A000036234



## Orlaco Camera System

Height, depth, low lighting and even forklift attachments will no longer impede the vision of countless forklift operators. The Orlaco camera system gives operators another set of eyes for optimal visibility. It's like superhuman vision or x-ray specs, only better!

The operator's view of the fork position, load, and immediate surroundings can be optimized with an Orlaco camera. Forklift attachments, such as forklift clamps, rotators, and paper clamps limit visibility along with shelf height, depth and low lighting conditions. The Orlaco camera system removes these obstacles to help operators work more safely, quickly and comfortably. Orlaco is the preferred camera system provider for MCFE, Jungheinrich, and several other OEMs for all sorts of industries, including forklifts, cranes, on- and off-road vehicles, etc.



### Reach Truck Kit – Fork View Camera (Mid-Mast Mount)

Part Number: A000054668

Positioning a load with a forklift can be a tricky operation. The extreme height at which reach and narrow-aisle trucks are working makes positioning of the load more or less a guessing game. However, when a camera system is used, operators are able to work safer, faster and more efficient. This kit is suitable for single- and double-reach trucks.

Kit includes the following:

Part No.	Description
A000053842	CPH Camera 51°
A000041709	RLED Monitor 7"
A000036056	Pulley
A000036058	Spring Set
A000036055*	Mast Cable, 11,2 meters (36.75 feet)
A000036057	Bolt M8 x 40
N/A	Manual Jungheinrich ETR



A mounting bracket is required for Mid-Mast Mounting Kit installation and will need to be manufactured locally.

\*Mast cable part number A000037841 is required in place of A000036055 for all Jungheinrich ETV Reach Trucks.

### Counterbalance Truck Kit Fork View Camera (Fork Carriage Mount)

Part Number: A000053757

In order to avoid damage to goods and reduce accidents, an Orlaco camera allows the operator to see where the forks are entering a pallet for accurate fork placement. It is ideal for storage spaces where visibility is extremely limited due to height, shelving depth or lighting.

Kit includes the following:

Part No.	Description
A000053794	Camera 102°
A000041554	RLED Monitor 7" R4
A000036056	Pulley
A000036058	Spring Set
A000036055	Mast Cable, 11,2 meters (36.75 feet)
A000036060	Rubber Mounts for Camera



A mounting bracket is required for installation and will need to be added locally.

**Counterbalance Truck Kit – Rear View Camera**

Part Number: A000048732

In confined areas or unclear situations it is often difficult to estimate the space behind the forklift truck accurately. Also, frequent driving in reverse can cause unnecessary strain on the driver's neck and shoulder muscles. Orlaco's rear view system ensures a safe environment in which the physical strain for the driver is minimal. With a rear view system, the camera is mounted on the back of the truck. The sturdy monitor comes with a fully adjustable clamp bracket that is mounted in the truck's cabin.

**Kit includes the following:**

Part No.	Description
A000041552	Camera AMOS (118°)
A000041554	RLED Monitor 7" R4
A000036062	Multicable, 5 meters (16.4 feet)

**Optional Equipment and Accessories****Parts Needed for 2nd Camera Installation:**

Part No.	Description
A000041552	Camera 118°
A000036062	Multicable, 5 meters (16.4 feet)
A000036063	Switcher IP54
A000037625	MultiView Box (up to 4 cameras)

**Parts Needed to Install Camera on:**

- Carriage of Reach Truck
- Counterbalance Truck with 3-Stage Mast

Part No.	Description
A000036056	Pulley
A000036058	Spring Set

Rosco Waterproof and Heated Backup Camera System

Give your forklift drivers an edge with a waterproof monitor and heated backup camera system. Rear-view camera systems for help reduce forklift work place accidents.

Rosco’s heavy-duty heated camera functions optimally to provide the clearest view in the wettest and coldest conditions. The unique forklift mounting system allows the 7” multi-view monitor, and camera, to be easily and securely attached to a forklift cage structure without drilling. The backup cameras provide rear and mast/side views for greater all-around visibility during operations.

Features:

- 7” waterproof monitor with membrane touchpad
- Heavy-duty, heated camera provides 120° field of vision
- Multiple Camera Views–System can accept up to four camera inputs
- Night-Vision–6 high-output infrared LEDs provide up to 30 ft. range
- Integrated Audio–Built-in camera mic and powerful monitor speakers
- High Resolution–LCD monitor with ultra sharp display and LED-backlit panel
- Versatile Mount–Dashboard, windshield or overhead location

Kit Includes (Part No. A000049686):

- Waterproof, 7” LCD monitor
- Heavy-duty, heated camera
- Distribution harness for power and video
- Heavy-duty 16.5’ extension cable with weatherproof twist-lock connectors
- Camera microphone
- Universal forklift plate and mounting bracket

Specifications:

- Voltage: 12 VDC
- Dust/Water Rating: IP67
- Operating Temperature: -22° to 158° F (-30° to +70° C)

Part No.	Description
A000049686	Camera Kit
A000039196	Standard Heated Camera
A000050122	7” Waterproof Replacement Monitor
A000039197	16.5 ft Harness with Twist Lock Connectors (6-pin)
A000050054	60 ft Harness with Twist Lock Connectors (6-pin)





## Rosco Cyl-V™ Single Camera HD Video Recorder

Part Number: A000049685

Cyl-V™ is a single outward facing camera offering incredible HD video and optional audio recording, which is saved to a 16 GB micro SD card. Cyl-V is secured with a unique lock so that it can't be removed, tampered with, or have the SD card removed. It is hardwired for automatic startup and shutdown with vehicle ignition (or even record after ignition shut-off by option). Recording time varies with video quality selected, but a minimum of 3.5 continuous hours recording at HD 720 and 30 frames per second is possible.

The video works in a loop format and runs infinitely, replacing oldest video footage with newest. Unlike most SD card recording devices, Cyl-V never requires SD card reformatting. A built in accelerometer precisely calculates G-force events and highlights this video footage so that risky, distracted, or concerning behavior can be spotted immediately upon video review. Drivers are also notified of G-force or speeding event occurrences with a friendly chime and reminder that they are to avoid such actions. This real time, self-training feature is like having a safety professional sit side by side with your driver at all times, and helps all fleets comply with distracted driving laws.

Every Cyl-V HD Video Recorder comes with the Cyl-V Player Software. The software is used to review and organize data collected from the micro SD card. The Cyl-V Player is also used to adjust and set the parameters for the X, Y, and Z sensor levels, time zones and speed settings.

### Features:

- Full HD Video Recording
- 3 Megapixel CMOS Camera
- Continuous Recording
- Event Logging
- Audio Recording (Adjustable On/Off)
- Parking Surveillance
- G-Force Sensor
- Photo Capture
- Driver Event Button
- Security Lock with 2 Keys
- Date and Time Stamp
- Micro SD Card (16 gb)
- Optional GPS and/or Wi-Fi models available

### Specifications:

- Sensor: 3 Megapixel 1/3" CMOS
- Lens: Fixed Focus Lens/Angles
- Camera DFOV: 170 degrees
- Shutter: Electronic
- Video Compression: H.264
- G-Sensor: Built-in 3-axis G-sensor adjustable by 1.0G
- Power: 12 VDC
- Dimensions:
  - Recorder only: 1.7" W x 3.7" L x 1.5" H
  - Recorder with Mount: 2.4" W x 4.1" L x 2.5" H



SenseStat Wireless Obstacle Detection Sensor System

SenseStat is a unique obstacle detection system. Available with wired or wireless options, this back-up alert/reverse-sensing system uses the latest ultrasound technology to detect objects that are up to eight feet from the rear of the forklift or vehicle.

The system uses a unique sensor-scanning algorithm that reads each of four separate sensors, displaying the distance to the one that is closest to an object. This offers the ability to monitor four zones simultaneously across the width of the forklift or vehicle. The result is a greater degree of “blind spot” coverage.

The SenseStat Wireless Obstacle Detection Sensor System provides the same solution as the wired version, but comes with the ability to swap trailers with the push of a button. Please note: The monitor and display are the only wireless components.

Features and Benefits:

- Dual Warning Indicators – SenseStat offers both active (audible @ 80 decibels) and passive (inaudible) warning indicators, providing a greater means to avoid backing accidents. The audible alarm has three adjustable sound levels, and the visible display consists of a bright LED monitor that simultaneously shows all four zones, along with the actual distance to the closest object.
- Ease of Installation – The waterproof sensors and Electronic Control Unit (ECU) mount easily on the rear of the forklift/vehicle. The dash mounted warning display unit connects to the ECU via a single waterproof cable that installs under the vehicle. There is only one 2-wire connection required to complete the installation. Most vehicle installations are completed in 1–2 hours. The wireless option is even simpler. The waterproof sensors and wireless ECU mount easily on the rear of the truck or trailer and transmit a digitally-encoded signal to the dash mounted LED monitor.
- Stop-line Adjustment – Rear overhang distance adjusts allowing the user to set the “zero-point” for overhanging objects from 0 to 32 inches.
- Electronic Control Unit (ECU) – Fully-potted, ruggedized ECU is designed to mount on the vehicle and works in all weather conditions with operating temperatures from -30 degrees celsius to +80 degrees celsius.

Kit Includes	
LED Display Warning Unit	
Waterproof ECU	
Rugged Waterproof Ultrasonic Sensors	
Installation Manual, Mounting Hardware and In-vehicle Users Guide	

Part No.	Description
A000037092	Wired Camera System
A000046592	Wireless Camera System



RAM Lift Truck Mounts

RAM Mounting Systems are the perfect choice for securing electronics and other accessories onto lift trucks. The unique ability of RAM to absorb damaging shock and vibration, plus it's fully adjustable positioning features, can't be matched by any other mounting method. Most of RAM's product lines feature a patented rubber ball and socket system designed to withstand more than 50 Gs of shock and hold any device even in the harshest conditions.

RAM's non-destructive mounting bases quickly attach and fit all lift truck makes and models. Three size options are available, designed to accommodate a variety of accessories and devices.

- Size C—1.50" diameter ball, rated for 10 pounds
- Size D—2.25" diameter ball, rated for 15 pounds
- Size E—3.38" diameter ball, rated for 20 pounds



Mounting Bases "C" Size

**Mounting Plate with Base**  
Part Number: A000035327



**Clamp Base with Ball 4"**  
Part Number: A000035328

4" square rail clamp base with 1.50" ball.



**Clamp Base with Ball 5"**  
Part Number: A000035329

5" square rail clamp base with 1.50" ball.



Adjustable Arms for 1.5" Ball Bases "C" Size

**Short Double Socket Arm**  
Part Number: A000035332

This short, double socket arm has a socket at both ends that accommodates 1.5" ball bases. A single spring inside the arm opens the end sockets, allowing you to pivot the ball and socket connection. This technology allows for almost infinite adjustment and perfect viewing angles.

- Overall Length: 3.50"
- Socket-To-Socket Length: 2.25"



**Double Socket Arm**  
Part Number: A000035330

This standard, double socket arm has a socket at both ends that accommodates 1.5" ball bases. A single spring inside the arm opens the end sockets, allowing you to pivot the ball and socket connection. This technology allows for almost infinite adjustment and perfect viewing angles.

- Overall Length: 5.625"
- Socket-To-Socket Length: 4.50"



**Long Double Socket Arm**  
Part Number: A000035331

This long, double socket arm has a socket at both ends that accommodates 1.5" ball bases. A single spring inside the arm opens the end sockets, allowing you to pivot the ball and socket connection. This technology allows for almost infinite adjustment and perfect viewing angles.

- Overall Length: 9.125"
- Socket-To-Socket Length: 8.75"



Adaptors with 1.5" Diameter Balls "C" Size

**2.50" Round Base with AMPs Hole Pattern**

Part Number: A000035333

1.50" diameter rubber ball is connected to a flat 2.50" diameter base. This mount has pre-drilled holes, including the universal AMPs hole pattern.



**VESA 3.625" Plate with 75 mm and 75 mm Hole Pattern**

Part Number: A000035334

1.50" diameter rubber ball is connected to a 3.625" sq. plate with a 75 mm x 75 mm VESA hole pattern. The ball is positioned 0.88" from the center of one edge.



**VESA 4.75" Plate with 75 mm and 100 mm Hole Pattern**

Part Number: A000035335

1.50" diameter rubber ball is connected to a 4.75" sq. plate with four 100 mm holes and four 75 mm holes in each corner.



Accessories "C" Size

All accessories require the purchase of the following components:

- Round Base with AMPs Hole Pattern (Part Number: A000035333)
- Any "C" Size Adjusting Arm
- Any Mounting Base

**Universal Scanner Gun Holder**

Part Number: A000035352

The RAM universal scanner gun holder is a specially designed cradle that will hold most types of gun scanner handles. On the side of the cradle, a spring loaded lever is positioned to securely hold the gun scanner in the cradle.



**Quick Draw Scanner Gun Holder**

Part Number: A000035353

The RAM quick draw scanner gun holder is an adjustable, universal hand-held scanner and computer mount.



**Triple Magnetic Base (2.50" Diameter)**

Part Number: A000035362

Ideally suited for many applications, this simple adapter mates to your new or existing mount with ball. Once attached, the mount will hold firm to ferrous metals and support items without having to drill any holes to attach your mounting base. The unit contains three rare earth magnets, and the composite adapter is manufactured of durable composite to prevent scratching of the mounting surface.



## Accessories “C” Size

### Spring Loaded Powered Dock for Motorola/Symbol MC70, MC75 and MC75A0-HC

Part Number: A000035354

This spring loaded docking station, with cigarette plug and external power (bare wire version), can be attached to a variety of RAM mounting systems allowing the Motorola Handheld Mobile Computer to be mounted in virtually any application. This mount is designed to hold the Motorola MC70, MC75 and MC75A0-HC.

#### Powered Dock Features:

- Output through male DB9 connector can be configured for both serial and USB devices
- Accepts between 12-28 VDC input
- Works with both standard and long-life batteries
- Spring tension provides constant secured docking connector contact
- Quick release design makes insertion and removal quick and easy
- 2 Styluses provided

### Cradle Holder for Motorola/Symbol MC70, MC75, and MC75A0

Part Number: A000035355

RAM passive cradle can be used with several Motorola Handheld Mobile Computers. This spring loaded docking station can be attached to a variety of RAM mounting systems allowing the Motorola MC70, MC75 and MC75A0 to be mounted in virtually any application.



### Spring Loaded Powered Dock for Motorola/Symbol MC5574, MC5590, MC55A0 and MC65

Part Number: A000035357

RAM powered docking station, with cigarette plug and external power (bare wire version), can be used with Motorola MC55 and MC65 Series Handheld Mobile Computers. This spring loaded docking station can be attached to a variety of RAM mounting systems allowing the Motorola Handheld Mobile Computer to be mounted in virtually any application.

#### Powered Dock Features:

- Output through male DB9 connector can be configured for both serial and USB devices
- Accepts between 12-28 VDC input
- Works with both standard and long life batteries
- Spring tension provides constant secured docking connector contact
- Quick release design makes insertion and removal quick and easy

### Cradle Holder for Motorola/Symbol MC5574, MC5590, MC55A0 and MC65

Part Number: A000035356

This RAM high strength composite cradle is designed to hold the Motorola MC5574, MC5590, MC55A0 and MC65.



## Accessories “C” Size

### Spring Loaded Powered Dock for the Intermec CN3, CN3e, CN4 and CN4e

Part Number: A000035359

RAM powered docking station, with cigarette plug and external power (bare wire version), can be used with Intermec CN3, CN3e, CN4 and CN4e Handheld Mobile Computers. This spring loaded docking station can be attached to a variety of RAM mounting systems allowing the Intermec Handheld Mobile Computer to be mounted in virtually any application.

#### Powered Dock Features:

- Accepts between 12-28 VDC input
- Spring tension provides constant secured docking connector contact
- Works with both standard and long life batteries
- Includes a power cord to adapt to a cigarette lighter
- Includes a power cord with bare + and - leads that can be wire directly to the battery through a fuse block
- Vehicle dock offers USB connectivity for PC sync
- Quick release design makes insertion and removal of Intermec device quick and easy



### Cradle Holder for the Intermec CN3, CN3e, CN4 and CN4e

Part Number: A000035358

This RAM high strength composite cradle is designed to hold the Intermec CN3e and CN4e.

## Complete Accessory Kits “C” Size

### Cup Holder Mount

Part Number: A000035361

The self-leveling drink cup holder is the perfect accessory for any application. Easily installs and positions to keep beverages within reach. The holder even includes a RAM can insulator. Take a corner as hard as you like, this holder is ready to ride.



Mounting Bases “D” Size

Lift Truck Mounting Plate  
with Base

Part Number: A000035336



Clamp Base with Ball  
4” Max Width

Part Number: A000035337

4” square rail clamp base with a 2.25” diameter ball.



Clamp Base with Ball  
5” Max Width

Part Number: A000035338

5” square rail clamp base with a 2.25” diameter ball.



Adjustable Arms for 2.25” Ball Bases “D” Size

Short Double Socket Arm

Part Number: A000035339

This short, double socket arm has a socket at both ends that accommodates 2.25” diameter ball bases. A single spring inside the arm opens the end sockets, allowing you to pivot the ball and socket connection. This socket technology allows for almost infinite adjustment and perfect viewing angles.

- Overall Length: 5.0625”
- Socket-To-Socket Length: 3.1875”



Double Socket Arm

Part Number: A000035340

This double socket arm allows for connection to a 2.25” diameter ball. Socket technology allows for almost infinite adjustment and perfect viewing angles.

- Overall Length: 8.375”
- Socket-To-Socket Length: 6.5625”



Long Double Socket Arm

Part Number: A000035341

This long, double socket arm allows for connection to a 2.25” diameter ball. Socket technology allows for almost infinite adjustment and perfect viewing angles.

- Overall Length: 12.875”
- Socket-To-Socket Length: 11.1875”



**Adaptors with 2.25" Diameter Balls "D" Size**

**3.68" Diameter Round Base**

Part Number: A000035342

2.25" diameter rubber ball is connected at right angles to a 3.68" diameter round plate. The plate has pre-drilled holes in the base plate, including two holes at 180° and three holes at 120°.



**3.68" Diameter Round Base with 1" Diameter Post Holes**

Part Number: A000035343

2.25" diameter rubber ball is connected at right angles to a 3.68" diameter round plate. The plate has six pre-drilled holes in the base plate.



**VESA 3.625" Square Base with 75 mm Post Holes**

Part Number: A000035344

2.25" diameter rubber ball is connected to a 3.625" square plate with four 75mm holes at each corner. The rubber ball is positioned 0.88" from the center of one edge.



**VESA 4.75" Square Base with 75 mm and 100 mm Bolt Pattern**

Part Number: A000035345

2.25" diameter rubber ball is connected to a 4.75" square plate with four 100mm holes and four 75mm holes in each corner.





# Mounting Bases “E” Size

## Complete 20 lb. Mounting Solution

Part Number: A000035346

Includes bracket, arm and 3.68” diameter adapter base (3.38” diameter ball).



## Clamp Base with 3.38” Ball

Part Number: A000035349

2.50” maximum width.



# Adjustable Arms “E” Size

## Short Double Socket E Size Arm for 3.38” Ball Base

Part Number: A000035350

This short, double socket arm has a socket at either end to allow 3.68” diameter ball accessories to be connected.

- Overall Length: 7.25”
- Socket-To-Socket Length: 4.375”



## Double Socket E Size Arm for 3.38” Ball Base

Part Number: A000035351

This standard, double socket arm has a socket at either end to allow 3.68” diameter ball accessories to be connected.

- Overall Length: 12.625”
- Socket-To-Socket Length: 9.875”



# Adaptors “E” Size

## VESA 4.75” Square Base with 75 mm and 100 mm Bolt Pattern

Part Number: A000035347

3.38” diameter rubber ball is connected to a 4.75” square plate with four 100mm holes and four 75mm holes in each corner.



## 3.68” Diameter Round Base with 3.38” Ball

Part Number: A000035348

3.38” diameter rubber ball is connected at right angles to a 3.68” diameter round plate. The plate has pre-drilled holes in the base plate, including two holes at 180° and three holes at 120°.



## Side Bumper

Part Number: A000016346

Dimensions: 38.25" x 3.00" x 1.00"

Reduce damage to your forklifts by installing a high-wear plastic bumper. This strong bumper contains two half inch diameter (35" apart) pre-drilled holes for mounting to each side of the forklift.

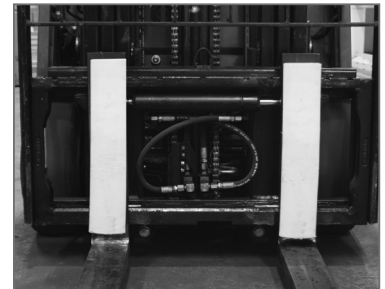


## Safe-Bump Forklift Protectors

Part Number: A000036175

Add to some padding to your forklift with Safe-Bump Forklift Protectors. Designed to reduce product and forklift damage, Safe-Bump is constructed of a soft PVC plastic that will absorb energy upon impact. The soft bumpers attach anywhere on the forklift, including the forks, with magnets and two-way tape to absorb impacts. The bumpers can easily bend 90° to fit around corners.

Each bumper includes 2 magnets, 3M VHB two-way tape and fork brackets.



Fork Kushions®

Fork-Kushions offer a resilient, yet durable solution by equipping a forklift with specially engineered polyurethane bumpers that are mounted to the upright of the fork. These highly engineered bumpers provide cushioning protection from marring, denting, and other forms of damage. The unique structure offers excellent wear properties and vibration deadening without compromising the load capacity. Fork Kushions are mounted directly to the face of the fork utilizing a permanent mounting bracket. The bracket is equipped with a high performance quick adhesion system, providing easy installation and maximum bond strength. By eliminating the need to weld or rivet the brackets, there is no compromise to the OSHA regulated safety ratings of the forks. The brackets will not move or shift and will withstand constant use and force. They are sold in sets of two and are made to a standard length of 24 inches. Custom sizes and lengths are available as special orders.

Size	Description	Part No.
4" x 24"	Ultra Soft, Black	A000025805
5" x 24"	Ultra Soft, Black	A000025806
4" x 24"	Soft, Red	A000025807
5" x 24"	Soft, Red	A000025808
4" x 24"	General Purpose, Yellow	A000025809
5" x 24"	General Purpose, Yellow	A000025810
4" x 24"	Cut Resistant	A000025811
5" x 24"	Cut Resistant	A000025812
4" x 24"	Max Impact	A000025813
5" x 24"	Max Impact	A000025814



Static Straps

Prevent static electricity from building up in your forklifts with a static strap. Our straps measures 1-1/16 inches wide and 3/16 inches thick with a half inch brass grommet in one end.

Length	Part No.
25.00"	A000003401
14.33"	A000030256



Pure Sine Wave DC/AC Battery Inverter

- 12v DC to 120v AC
- Low battery alarm
- Reverse polarity protected
- Overload protection
- High temperature protection
- Output short circuit protection
- Precision power supply

Description	Wattage	Part No.
Inverter	300	A000035585



Modified Sine Wave DC/AC Battery Inverter

- 12v DC to 120v AC
- Low battery alarm
- Reverse polarity protected
- Overload protection
- High temperature protection
- Output short circuit protection
- Precision power supply

Description	Wattage	Part No.
Inverter in Clamshell	150	A000035586
Inverter in Clamshell	300	A000035587
Inverter in Clamshell	600	A000035588
Inverter	1000	A000035589
Inverter	1500	A000035590
Inverter	2500	A000035591



A000035587



A000035590

Battery Inverter Installation Kits

- Quick and easy installation of inverters
- All parts required for installation are included
- Includes inline fuse for safety



1000 Watt Kit

Part Number: A000035593

Includes
3’ 4 Ga. Red Cable
10’ 4 Ga. Red Cable
10’ 4 Ga. Black Cable
10’ 8 Ga. Green Cable
Deluxe Clearview Fuse Holder
150 Amp Safety Fuses
4 Ga. Wire Connectors, Std. 3/8” Hole
4 Ga. Wire Connectors, Std. 5/16” Hole
8 Ga. Wire Connectors, Std. 1/4” Hole
Instructions

1500 Watt Kit

Part Number: A000035595

Includes
3’ 2 Ga. Red Cable
10’ 2 Ga. Red Cable
10’ 2 Ga. Black Cable
10’ 8 Ga. Green Cable
Deluxe Clearview Fuse Holder
200 Amp Safety Fuses
2 Ga. Wire Connectors, Std. 3/8” Hole
2 Ga. Wire Connectors, Std. 5/16” Hole
8 Ga. Wire Connectors, Std. 1/4” Hole
2 Ga. Grommets
Instructions

2500 Watt Kit

Part Number: A000035594

Includes
3’ 1/0 Ga. Red Cable
10’ 1/0 Ga. Red Cable
10’ 1/0 Ga. Black Cable
10’ 8 Ga. Green Cable
Deluxe Clearview Fuse Holder
250 Amp Safety Fuses
1/0 Ga. Wire Connectors, Std. 3/8” Hole
1/0 Ga. Wire Connectors, Std. 5/16” Hole
8 Ga. Wire Connectors , Std. 1/4” Hole
1/0 Grommets
Instructions

Universal Kit

Part Number: A000035592

Includes
3’ 2 Ga. Red Cable
10’ 2 Ga. Red Cable
10’ 2 Ga. Black Cable
10’ 8 Ga. Green Cable
Deluxe Clearview Fuse Holder
150 Amp Safety Fuses
250 Amp Safety Fuses
2 Ga. Wire Connectors, Std. 3/8” Hole
2 Ga. Wire Connectors, Std. 5/16” Hole
8 Ga. Wire Connectors, Std. 1/4” Hole
Cable Ties
Instructions

**Light Duty DC/DC Converter**

This solid-state high-density DC/DC converter reduces truck battery volts to a 12 VDC output to supply vehicle lighting and accessories, including head lights, warning lights, blowers, windshield wipers and horns. Lift trucks must have a nominal input of 24 to 48 VDC. Includes compact environmentally-sealed surface mounts. It delivers up to 115 watts. Please note: Recommended for accessories with less than 6 amp draw. For higher amp draw, please use medium or heavy duty converters.

Input Voltage	Output Voltage	Max Amp	Frame	Part No.
12-48	12	6	Non-Isolated	A000013163

**Medium Duty DC/DC Converter**

This environmentally sealed DC/DC converter reduces truck battery volts to a 12 VDC output to supply power. The converter is designed to work with an electric vehicle with a traction battery supply between 72 VDC and 80 VDC. The converter output is normally energized when the key switch is closed and will cease to operate when the key switch is opened. All terminals and circuitry are isolated from the converter cover. The converter output terminals are not isolated from battery input.

Input Voltage	Output Voltage	Max Amp	Frame	Part No.
24-48	12	16	Isolated	A000036372
72-80	12	16	Isolated	A000034018

**Heavy Duty DC/DC Converter**

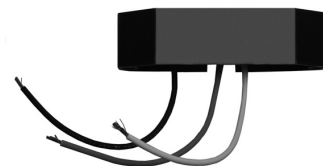
This heavy duty DC/DC converter has an extended input range and is designed for use on 24 VDC, 36 VDC, and 48 VDC equipment to enable use of standard 12 VDC lights, radios, cell phones, two-way radios, and computers. Features include weatherproof, vibration resistant, switched voltage regulation, high efficiency, short circuit protected, input and output filtering, and reverse voltage protection. UL Recognized.

Input VDC	Output VDC	Max Amp	Frame	Part No.
24-48	12	25	Isolated	A000016952

**Electronic Filter**

Network solid-state filter for voltage spike protection and electrical noise. For use between vehicle and accessories, such as lighting, horns, and alarms.

Voltage	Amps	Part No.
12-48	10	A000009651
4-60	20	A000016953



G-Force Impact Monitors

Many accidents in the material handling industry can be attributed to careless operation and operator abuse. To help you address these problems, the G-Force Impact Monitor can help reduce personal injuries and impact damage to forklifts, equipment, and racking.

The system continuously measures acceleration and detects potentially damaging impacts while ignoring low energy bumps and jolts of normal operation. Excessive forklift impact activates an alarm (horn) and/or lift-interrupt. The alarm condition remains engaged until disarmed with a disarm key. The remote key switch is a durable panel-mounted cylinder embedded with two electrical contacts. The impact sensor is located separately, allowing the G-Force logics to be installed in a convenient location inside the forklift.

G-Force mounts on almost any material handling vehicle, IC or electric. Depending on the needs of your customer, the G-Force has the capability to run several management reports using a Windows-based PC. There are four G-Force models, each building on the technology of the previous model.

G-Force 1 Basic Impact Monitoring

When an impact takes place, an alarm and/or lift interrupt occurs. A supervisor uses the “Disarm Key” to shut off the alarm and reset the unit. The G-Force 1 is recommended for companies running five trucks or less and one shift.

Features:

- Impact monitors are mounted to vehicles
- Impact thresholds programmed on a per-vehicle basis
- “Alarm” state and optional lift interrupt for threshold-exceeding impacts
- Supervisor “disarming” of vehicles in “alarm” state

Benefits:

- Improved driver accountability
- Improved driver performance and workplace safety
- Reduced costs associated with unsafe vehicle operation (i.e. vehicle damage, product damage, racking and facility damage, down time, operator injury)
- Accident report completion at time of impact
- Field-upgradeable to a G-Force 2 and G-Force 3 systems

G-Force 1 Checklist:

- Impact Monitor—One per vehicle
- Disarm Key—One per supervisor
- Threshold Programming Keys—All units are preset to 0.5G, additional keys are required to change the threshold setting

Some suggested impact threshold settings are:

- Pallet Jacks—0.8 to 1.5G
- Reach Trucks—0.4 to 0.8G
- Vehicles 10,000 lbs and larger—0.3 to 0.4G

Part No.	Description
A000021134	Impact Monitor
A000024290	Waterproof Impact Monitor
A000001588	Disarm Key



### G-Force 2 Operator Accountability

Each driver has an 'Operator ID Key' assigned to them, allowing access to only those trucks they have been authorized to use. Every time a key is used to access a truck, the log-in time, date, and operator ID number are stored in the G-Force unit's memory; therefore all impacts can be tracked. Data is instantly gathered when a supervisor uses the 'Disarm Key' to reset a truck after impact. The data on the disarm key is downloaded into the PC using the Interface Module. Working in conjunction with the software, information related to each driver and truck is stored and processed. The G-Force 2 is recommended for companies running 6-19 trucks and multiple shifts.

G-Force 2 is a vehicle safety and driver accountability system that offers the same features as G-Force 1 plus the following:

#### Features:

- Assignment of authorization levels to operators and vehicles
- Mandatory operator login prior to vehicle use
- Computer software to maintain vehicle and operator information
- Impact data collection, storage and searching
- Vehicle maintenance data collection, storage and searching
- Excel exportability of impact and maintenance data

#### Benefits:

- Limited operator access to vehicles
- Greater operator accountability, performance and workplace safety due to login
- Computerized impact and maintenance data storage and retrieval
- Management information tool
- Fleet management tool limiting vehicle use to specific areas or for specific functions

(Note: Not field-upgradeable to a G-Force 3 system)

#### The software allows management to run the following reports:

- Vehicle authorization report
- Impacts by vehicle
- Impacts by shift
- Maintenance by vehicle
- Maintenance report
- Operator authorization report
- Impacts by operator
- Impacts by supervisor
- Maintenance by technician

#### G-Force 2 Checklist:

- Impact Monitor—One per vehicle required
- Interface Module with Software—One per location required
- Disarm Keys—One per supervisor recommended
- Operator ID Keys—At least one per operator recommended
- Threshold Programming Keys—All units are preset to 0.5G, additional keys are required to change the threshold setting

#### Some suggested impact threshold settings are:

- Pallet Jacks—0.8 to 1.5G
- Reach Trucks—0.4 to 0.8G
- Vehicles 10,000 lbs and larger—0.3 to 0.4G

Part No.	Description
A000024291	Impact Monitor (Includes 1 operator key)
A000024292	Waterproof Impact Monitor (Includes 1 operator key)
A000040280	Interface Module with Software (Includes 1 disarm key, 1 0.5G programming key, 1 configuration key, 1 data collection key)
A000024295	G-Force 2 Update Kit (This conversion kit is required when adding new style G-Force 2 monitors to an existing fleet purchased prior to 2007. Only one (1) kit per location is required. Includes software update, manual and configuration kit. Software 4.0.11 and earlier will not work with the "new style" G-Force. 4.0.16 software is needed for the "new style" G-Force.)



### G-Force 3 Supervisor Accountability

In addition to all the functions and reporting capabilities of the G-Force 2, the G-Force 3 allows you to identify which supervisor used their “Disarm Key” to reset the truck after an impact. Just as each operator has their own key, each supervisor is issued their own “Disarm Key.” The G-Force 3 is recommended for companies running 20 or more trucks and multiple shifts. G-Force 3 is a fleet safety and management information monitoring system that offers the same features and benefits as the G-Force 2 system plus the following:

#### Features:

- Optional double login for performance of vehicle safety inspections by operators
- Programmable expiry period for supervisor DISARM keys
- Operator login data collection, storage and searching
- Operator and vehicle timekeeping
- Excel exportability of login data

#### Benefits:

- Computerized login and timekeeping data storage and retrieval
- Enhanced management information tool with safety and timekeeping reporting

#### Additional reports G-Force 3 offers:

- Logins by operator
- Logins by vehicle
- Accumulated hours by operator
- Accumulated hours by vehicle

#### G-Force 3 Checklist:

- Impact Monitor—One per vehicle required
- Interface Module with Software—One per location required
- Data Collection Keys
- Disarm Keys—One per supervisor recommended
- Operator ID Keys—At least one per operator recommended
- Threshold Programming Keys—All units are preset to 0.5G, additional keys are required to change the threshold setting

#### Some suggested impact threshold settings are:

- Pallet Jacks—0.8 to 1.5G
- Reach Trucks—0.4 to 0.8G
- Vehicles 10,000 lbs and larger—0.3 to 0.4G

Part No.	Description
A000024293	Impact Monitor (Includes 1 operator key)
A000024294	Waterproof Impact Monitor (Includes 1 operator key)
A000040280	Interface Module with Software (Includes 1 disarm key, 1 0.5G programming key, 1 configuration key, 1 data collection key)

## Keys

Part No.	Description	G-Force Unit
A000001588	Disarm Key (1 per supervisor recommended)	1, 2 and 3
A000001587	Operator Key (1 per operator recommended)	2 and 3
A000009092	Data Collection Key (At least 1 per site recommended)	3
A000031484	Configuration Key (1 per site recommended)	2 and 3
A000005931	Black Box Key	2 and 3
A000031185	Programming Key Set (0.3 to 1.0 Gs)	1, 2 and 3
A000002167	Programming Key 0.3G	1, 2 and 3
A000002168	Programming Key 0.4G	1, 2 and 3
A000002169	Programming Key 0.5G	1, 2 and 3
A000002170	Programming Key 0.6G	1, 2 and 3
A000002171	Programming Key 0.7G	1, 2 and 3
A000002172	Programming Key 0.8G	1, 2 and 3
A000002173	Programming Key 0.9G	1, 2 and 3
A000002174	Programming Key 1.0G	1, 2 and 3
A000002176	Programming Key 1.3G	1, 2 and 3



## Replacement Parts and Accessories

Part No.	Description	G-Force Unit
A000005930	Remote Key Switch	1, 2 and 3
A000031135	Waterproof Remote Key Switch	1, 2 and 3
A000004051	Electronic Horn	1, 2 and 3
A000031150	Key Holder (Blue)	1, 2 and 3
A000031151	Key Holder (Green)	1, 2 and 3
A000040282	G-Force 2 Interface Module	2
A000040283	G-Force 3 Interface Manual	3

G-Force 3 RF Wireless Fleet Management

G-Force 3 RF is the newest offering in the G-Force line of fleet management systems designed to create a safer work environment and reduce the overall cost associated with your mobile fleet. The speed and convenience of radio frequency communication allows you more time to manage your operation.

Data received via RF communications updates the software Fleet Status screen to display the important details you need. Outfit your fleet with the G-Force3 RF impact monitoring system and install at least one RF Host Transceiver and you are on your way to a more hands-off approach to management while improving the efficiency and precision of your data collection. Add more RF Transceivers (Zone Transceiver) for greater facility coverage and efficiency.

Easily upgrade to the G-Force Plus RF system should your future requirements change.

Features:

- Vehicle access control and vehicle utilization
- Impact monitoring
- User-friendly vehicle interface
- Maintenance lockout, PM scheduling and work order entry
- G-Force 3 RF fleet manager software

Reports:

- Impact report
- Login history report
- Productivity report
- Vehicle maintenance report
- Vehicle maintenance summary
- Fleet summary report

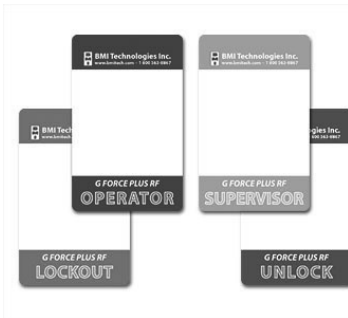
System Requirements (Individual requirements may vary):

- IBM PC or compatible
- Microsoft® Windows® Vista / Windows 7 / Windows 8
- CD-ROM drive
- USB port

G-Force 3 RF requires the purchase of:

- 1 G-Force 3 RF unit per lift truck (includes 3 RF operator cards and 1 electronic horn/alarm)
- 1 software per facility (includes 1 transceiver, 1 unlock card, 1 lockout card, 1 supervisor card, and 1 card reader)
- 1 operator card for each operator
- 1 supervisor card for each supervisor
- 1 lockout and 1 unlock card for each maintenance person

Additional transceivers (p/n-A000031344) may be required, depending on building size, layout, design, other RF-emitting sources within the facility, IT infrastructure, etc. End-users are responsible for the installation of the Fleet Manager Software and Card Reader along with all transceivers. Implementation services are available for an extra charge.



Part No.	Description	Notes
A000044089	G-Force RF 3	One unit per lift truck is required. Includes three RF operator cards and one electronic horn/alarm.
A000044088	Software	One software unit per facility is recommended. Includes the following: 1 transceiver, 1 card reader, 1 lockout card, 1 unlock card, 1 supervisor card

## G-Force Plus RF Wireless Fleet Management

G-Force Plus RF is also designed to create a safer workplace, with more cost saving features, greater end-user flexibility, and the convenience of radio frequency communications.

### Radio Frequency

The speed of radio communication allows more time to manage operations. Data received via RF communications updates the software Fleet Status screen to display detailed reports. Outfitting a fleet with RF Vehicle Monitors and at least one RF Transceiver (Host Transceiver) will provide a more hands-off approach to management while improving the efficiency and precision of data collection. More RF Transceivers (Zone Transceiver) can be added for greater facility coverage and efficiency. Installation time is approximately 2.0-2.5 hours.

### Features and Benefits:

- Vehicle access control and vehicle utilization data
- Electronic vehicle inspection checklist
- Impact monitoring
- Battery monitoring for electric vehicles
- Maintenance lockout, PM scheduling and work order entry
- User-friendly vehicle interface
- G-Force Plus RF fleet manager software with near real-time reporting



### Reports:

- Impact
- Login History
- Productivity
- Vehicle Maintenance by Technician or Vehicle
- Vehicle Maintenance Summary
- Card Status Report
- Fleet Summary Report

### G-Force Plus RF requires the purchase of:

- 1 G-Force Plus RF unit per lift truck (includes 3 RF operator cards and 1 electronic horn/alarm)
- 1 software per facility (includes 1 transceiver, 1 unlock card, 1 lockout card, 1 supervisor card, and 1 card reader)
- 1 operator card for each operator
- 1 supervisor card for each supervisor
- 1 lockout and 1 unlock card for each maintenance person

Additional transceivers (p/n-A000031344) may be required, depending on building size, layout, design, other RF-emitting sources within the facility, IT infrastructure, etc. End-users are responsible for the installation of the Fleet Manager Software and Card Reader along with all transceivers. Implementation services are available for an extra charge.

Part No.	Description	Notes
A000021113	Complete Waterproof Unit	One unit per lift truck is required. Includes three RF operator cards and one electronic horn/alarm.
A000021114	Software	One software unit per facility is recommended. Includes the following: 1 transceiver, 1 card reader, 1 lockout card, 1 unlock card, 1 supervisor card

## G-Force 3 RF and RF Plus Replacement Parts and Accessories

Part No.	Description
A000031798	Vehicle Monitor
A000031799	Vehicle Interface
A000031800	Software Interface (Includes Cable)
A000031801	Remote Sensor 6'
A000031802	Remote Sensor 15'
A000031806	Antenna (No Cable)
A000031807	Antenna Bracket
A000031808	Antenna Cable
A000031810	Software CD
A000021115	Operator Card
A000034030	RF Interface Cable

Part No.	Description
A000021116	Supervisor Card
A000021117	Lockout Card
A000021118	Unlock Card
A000031344	Network Transceiver
A000031150	Key Holder (Blue)
A000031151	Key Holder (Green)
A000004051	Electronic Horn

**PSL+™ (Programmable Security Lock+)**

Part Number: A000035404

The PSL+™ Programmable Security Lock is an enhanced version of the PSL with several additional features. This version is designed for use with all forklifts, including diesel, to prevent unauthorized operation of the vehicle.

**Features and Benefits:**

- Expanded Voltage Range: Rated for nominal input voltages from 12-90 VDC.
- Expanded User Capability: Programmable for up to 99 unique users. Once installed, the PSL+ requires entry of a two-digit user number and valid four-digit access code before the vehicle or equipment can be operated. All user codes can be reprogrammed and unused user numbers can be temporarily disabled for additional security.
- Last User Identification: Identifies the user number of the last user of a vehicle to the supervisor.
- Automatic Shut-Off: Incorporates a feature that detects vehicle activity. If the vehicle has been inactive beyond a specified period of time, the PSL+ will deactivate, securing the vehicle. This is optional and can be activated or deactivated as desired.
- Maintenance Alert: Accumulates vehicle usage time and provides audible and visible signals indicating when vehicle maintenance is due. After maintenance is performed, the cycle can be reset as desired. This is optional and can be activated or deactivated.
- Accumulated Time: Accumulates vehicle usage time and is accessed through the supervisor code.

**PSL™ (Programmable Security Lock)**

Part Number: A000035403

The original PSL. Prevent unauthorized forklift usage by controlling access with a four-digit code. The code can be changed by a supervisor. Designed for use on both battery and IC powered trucks (cannot be used on diesel trucks). 12-48 VDC.



**DOT-Lok™ MPE Transmission Shift Inhibitor**

DOT-Lok MPE is a programmable speed sensitive shifting system that prevents operators from changing vehicle direction when traveling above selected shift speeds and/or engine RPM levels. The transmission engages a gear when the throttle is low enough and the delay time has elapsed. The delay allows RPMs to reduce before shifting occurs. By enabling the optional engine braking feature, the transmission remains in the gear and the engine automatically idles down. By enabling the optional auxiliary switch lockout, the transmission shifts into neutral when the lockout switch activates and a pre-programmed period of time lapses. The most common lockout switches are the seat and the inching pedal. Available for forklifts using electric shift solenoids only. For engine braking, the forklift must be electronically governed. A uCal programming kit is required for setup and changes.

**Features:**

- User programmable settings
- Shift light (optional)
- Direct interface to vehicle APPS sensor (adaptability on older model trucks)
- Utilizes existing vehicle speed sensor (sensor must be inductive or NPN style)
- Engine braking (optional)
- Auxiliary switch lockout
- Visual LED indicators

**Benefits:**

- Reduce transmission abuse, overheating, and damage
- Decrease drive axle and torque convertor failure
- Increased tire life
- Limit operator tampering
- Reduce facility damage



Part No.	Use on Models:
A000047770	Cat Lift Trucks P3000-P7000 and C3000-C7000/Mitsubishi Forklift Trucks FG15-35N and FGC15-33N (brown/black connector located on the back of ignition switch)
A000047771	Cat Lift Trucks 2P3000-2P7000 and 2C3000-2C6500/Mitsubishi Forklift Trucks FG15-35N3 and FGC15-33N3 (white connector located on the back of ignition switch)
A000047769	Cat Lift Trucks P17500 - P36000
A000047795	Cat Lift Trucks GP15-35K/Mitsubishi Forklift Trucks FG15-35K
A000047797	Cat Lift Trucks GC15-30K/Mitsubishi Forklift Trucks FGC15-30K
A000047782	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 00001-10230)
A000047784	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 10231-30290)
A000047785	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 30291+)
A000047789	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 10231-30290), 24V
A000047790	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 30291+), 24V
A000048317	Cat Lift Trucks GC35-70K5 and GP40-50K5/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT88 & AT89 00001+), 12V
A000044113	Cat Lift Trucks GC35-70K5 and GP40-50K5/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT88 & AT89 00001+), 24V
A000042276	Cat Lift Trucks GC40-55K with single-speed transmission, DOT-Lok wire harness with auxiliary input wire
A000042963	Cat Lift Trucks GC40-55K with single-speed transmission, DOT-Lok wire harness with auxiliary input wire with inching lock out
A000042964	Cat Lift Trucks GC40-55K with single-speed transmission, DOT-Lok wire harness with auxiliary input wire inching lock out module. (If A000042276 is already installed, use this to make A000042963.)
A000047786	Cat Lift Trucks GC70K-STR
A000047799	Hyster/Yale with single weatherpack shift solenoid connector
A000047801	Hyster/Yale with 2-pin connector (small blades) at shift solenoids
A000042271	Komatsu FG25ST-16 with gray 2-way flat connector on the shift solenoid
A000042272	Komatsu FG25ST-16 with black 4-way barrel connector on the shift solenoid
A000047774	Nissan CL30-80 and PL30-70
A000047776	Nissan G04 Series with 2-speed transmission
A000047778	Nissan Platinum II Series with single-speed transmission
A000035526	Toyota 7FGCU15, 7FGCU18 and 7FGCSU20
A000035524	Toyota 7FGCU20-32, 7FDU15-32 and 7FGU15-32
A000035520	Toyota D700, 7FGCU45-70, 7FDU35-80 and 7FGU35-80
A000035522	Toyota 7FGCU35
A000035528	Toyota 8 Series with single-speed aluminum transmission
A000035530	Toyota 8 Series with single-speed cast iron transmission

**DOT-Lok™ MPE with Traction Control**

DOT-Lok MPE is available as a stand-alone product or can be purchased with Traction Control. DOT-Lok Traction Control gives you all the features of the standard Smart Shift system unit plus traction control. Traction control prevents the drive tires from free spinning when a forklift operates on slick surfaces such as ice, oil, water, dust and ash covered surfaces. The system further limits tire spinning when the inching pedal is dumped at high engine RPMs **A uCal programming kit is required for setup and changes.**

Part No.	Use on Models:
A000047772	Cat Lift Trucks P3000-P7000 and C3000-C7000/Mitsubishi Forklift Trucks FG15-35N and FGC15-33N (brown/black connector located on the back of ignition switch)
A000047773	Cat Lift Trucks 2P3000-2P7000 and 2C3000-2C6500/Mitsubishi Forklift Trucks FG15-35N3 and FGC15-33N3 (white connector located on the back of ignition switch)
A000047796	Cat Lift Trucks GP15-35K/Mitsubishi Forklift Trucks FG15-35K
A000047798	Cat Lift Trucks GC15-30K/Mitsubishi Forklift Trucks FGC15-30K
A000047783	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 00001-10230)
A000047787	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 10231-30290)
A000047788	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 30291+)
A000047791	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 10231-30290), 24V
A000047792	Cat Lift Trucks GC35-70K and GP40-50K/Mitsubishi Forklift Trucks FGC35-70 and FG40-50 (Serial #AT87 30291+), 24V
A000047800	Hyster/Yale with single weatherpack shift solenoid connector
A000047802	Hyster/Yale with 2-pin connector (small blades) at shift solenoids
A000047775	Nissan CL30-80 and PL30-70
A000047777	Nissan G04 Series with 2-speed transmission
A000047779	Nissan Platinum II Series with single-speed transmission
A000035521	Toyota D700, 7FGCU45-70, 7FDU35-80, and 7FGU35-80
A000035523	Toyota 7FGCU35
A000035525	Toyota 7FGCU20-32, 7FDU15-32 and 7FGU15-32
A000035527	Toyota 7FGCU15, 7FGCU18 and 7FGCSU20
A000035529	Toyota 8 Series with single-speed aluminum transmission
A000035531	Toyota 8 Series with single-speed cast iron transmission

**DOT-Lok MPE Accessories (Optional)**

Part No.	Description	For Use On:
A000031510	uCal Programmer	DOT-Lok MPE, Pace-One, and Combo
A000028545	uCal Cable	DOT-Lok MPE, Pace-One, and Combo
A000017556	Green Pilot MPE Light	DOT-Lok MPE and Combo
A000017481	Proximity Inductive Sensor, Prior to July 2004	DOT-Lok MPE, Pace-One, and Combo
A000017482	Proximity LED Sensor, Post July 2004	DOT-Lok MPE, Pace-One, and Combo
A000017557	PTAC Sensor Holder	DOT-Lok MPE, PACE-One, and Combo
A000017558	SICC Sensor Holder	DOT-Lok MPE, PACE-One, and Combo

**uCal Programming Kit**

Part Number: A000031510

The uCal programmer is the interface between a computer and SSC control module. Via uCal, programming parameters can be imported or tweaked to meet a customer's needs. In addition to programming SSC control modules, a new data logging feature has been added to uCal which aids in any troubleshooting.

**Programmable Values:**

- Shift Speeds—Go/No go shift speeds
- Shift Delays—Time between shift parameters are “go” to when transmission shifts
- Throttle Control Option—Transmission will not shift when engine RPM is above set limits
- Throttle Delays—Engine mass returns to idle before shifting
- Engine Braking—When shifting above accepted set travel speed, forklift remains in the gear for which it is traveling and automatically reduces engine speed to selected settings
- Auxiliary Switch Lockout—Automatically defaults transmission in neutral when operator vacates driver's seat with engine running and transmission engaged or the inching pedal is depressed for an extended period of time

## PACE-One G2 Forklift Speed Limiter

PACE-One™ G2 is an easy to install electronic control system that when fully enabled limits a vehicle's top travel speeds and modifies acceleration rates. PACE-One G2 ensures safer travel speed(s), reduces fuel consumption and tire wear. PACE-One G2 is composed of an Electronic Control Module and wiring harness.

### Speed Limiter

The unit operates similar to cruise control on a vehicle, using a control scheme called proportional-integral-derivative (PID) control. A PID controller attempts to correct the error between a measured process variable and a desired set point by calculating and outputting a corrective action that can adjust the process accordingly, to keep the error minimal—providing a smooth and accurate ride. To simplify the data gathering process, G2 allows the uCal programmer to capture and record voltage and hertz readings while the forklift is travelling. G2 also includes pedal position diagnostic information and data logging.

### Throttle Ramp

G2 provides a method for controlling the throttle ramp or acceleration rate. Throttle ramp operates by controlling the time it takes to go from idle to full throttle. For example, when a driver steps on the accelerator pedal abruptly, throttle voltage may jump from .7 to 4.5 volts. Throttle ramp allows the acceleration rate to be programmed in seconds and provide an even acceleration rate, reducing fuel consumption and tire wear.

### Benefits:

- Monitoring of speed is not required
- Reduced transmission overheating and product damage
- Increased safety
- Insurance savings

Part No.	Use on Models:	Engine Module
A000046800	Cat Lift Trucks GP15-35K/Mitsubishi Forklift Trucks FG15-35 with electronic accelerator pedal	12V
A000046802	Cat Lift Trucks GC15-30K/Mitsubishi Forklift Trucks FGC15-30 with electronic accelerator pedal	12V
A000046778	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70 with electronic accelerator pedal (Serial #AT87 00001-10230)	12V
A000046780	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70 with electronic accelerator pedal (Serial #AT87 10231-30290)	12V
A000046782	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70 (Serial #AT87 30291 and up)	12V
A000046786	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70 (Serial #AT87 10231-30290)	24V
A000046788	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70 (Serial #AT87 30291 and up)	24V
A000046792	Cat Lift Trucks P3000-7000 and C3000-6500/Mitsubishi Forklift Trucks FG15-35N and FGC15-33N (brown/black connector located on the back of the ignition switch)	12V
A000047407	Cat Lift Trucks 2P3000-2P7000 with electronic accelerator pedal, Plug APPS Connection (white connector located on the back of the ignition switch)	12V
A000046768	Clark CGC40, CGC50, and CGC55	12V
A000046770	Clark CGC60 and CGC70	12V
A000046772	Hyster H40-70FT and S40-70FT	12V
A000046774	Hyster H155FT	12V
A000046804	Hyster/Yale single weather-pack shift solenoid connectors with barrel-style terminals	12V
A000046806	Hyster/Yale shift solenoid connector with two small blades and steel lock ring	12V
A000046776	Komatsu 16-Series	12V
A000046796	Nissan Platinum II Series with single-speed transmission, cushion tires	12V
A000046798	Nissan Platinum II Series with single-speed transmission, pneumatic tires	12V
A000046794	Nissan CL30-80 and PL30-70	12V
A000046760	Toyota 7FGCU20-32, 7FDU15-32 and 7FGU15-32	12V
A000046762	Toyota 7FGCU15-18 and 7FGCSU20	12V
A000046756	Toyota D700, 7FGCU45-70, 7FDU35-80 and 7FGU35-80	12V
A000046758	Toyota 7FGCU35	12V
A000046764	Toyota 8-Series with single-speed aluminum transmission	12V
A000046766	Toyota 8-Series with single-speed cast iron transmission	12V



### PACE-One G2 Forklift Speed Limiter with Traction Control

PACE-One Speed Limiter is available as a stand-alone product or can be purchased with Traction Control. PACE-One Traction Control has all the features of the standard Speed Limiter unit plus traction control. Traction Control prevents the drive tires from free spinning when a forklift operates on slick surfaces such as ice, oil, water, dust and ash covered surfaces. The system further limits tire spinning when the inching pedal is dumped at high engine RPMs **A uCal programming kit is required for initial setup and changes.**

Part No.	Use on Models:	Engine Module
A000046801	Cat Lift Trucks GP15-35K/Mitsubishi Forklift Trucks FG15-35 with electronic accelerator pedal	12V
A000046803	Cat Lift Trucks GC15-30K/Mitsubishi Forklift Trucks FGC15-30 with electronic accelerator pedal	12V
A000046779	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70 with electronic accelerator pedal (Serial #AT87 00001-10230)	12V
A000046781	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70 with electronic accelerator pedal (Serial #AT87 10231-30290)	12V
A000046783	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70 (Serial #AT87 30291 and up)	12V
A000046787	Cat Lift Trucks GC35-70K (24V)/Mitsubishi Forklift Trucks FGC35-70 (24V) (Serial #AT87 10231-30290)	24V
A000046789	Cat Lift Trucks GC35-70K (24V)/Mitsubishi Forklift Trucks FGC35-70 (24V) (Serial #AT87 30291 and up)	24V
A000046793	Cat Lift Trucks P3000-7000 and C3000-6500/Mitsubishi Forklift Trucks FG15-35N and FGC15-33N (brown/black connector located on the back of the ignition switch)	12V
A000047408	Cat Lift Trucks 2P3000-2P7000 with electronic accelerator pedal, Plug APPS Connection (white connector located on the back of the ignition switch)	12V
A000046769	Clark CGC40, CGC50, and CGC55	12V
A000046771	Clark CGC60 and CGC70	12V
A000046773	Hyster H40-70FT and S40-70FT	12V
A000046775	Hyster H155FT	12V
A000046805	Hyster/Yale single weather-pack shift solenoid connectors with barrel-style terminals	12V
A000046807	Hyster/Yale shift solenoid connector with two small blades and steel lock ring	12V
A000046777	Komatsu 16-Series	12V
A000046797	Nissan Platinum II Series with single-speed transmission, cushion tires	12V
A000046799	Nissan Platinum II Series with single-speed transmission, pneumatic tires	12V
A000046795	Nissan CL30-80 and PL30-70	12V
A000046761	Toyota 7FGCU20-32, 7FDU15-32 and 7FGU15-32	12V
A000046763	Toyota 7FGCU15-18 and 7FGCSU20	12V
A000046757	Toyota D700, 7FGCU45-70, 7FDU35-80 and 7FGU35-80	12V
A000046759	Toyota 7FGCU35	12V
A000046765	Toyota 8-Series with single-speed aluminum transmission	12V
A000046767	Toyota 8-Series with single-speed cast iron transmission	12V

### uCal Programming Kit

Part Number: A000031510

The uCal programmer is the interface between a computer and SSC control module. Via uCal, programming parameters can be imported or tweaked to meet a customer's needs. In addition to programming SSC control modules, a new data logging feature has been added to uCal which aids in any troubleshooting.

#### Programmable Values:

- Speed Limits—Value in volts for top travel speeds
- SpeedWhiz Help Screen—Programming guide for setting accelerator responsiveness
- Throttle Ramp—Programmable acceleration rate
- APPS Capture—Captures and records voltage and hertz readings on a moving truck
- Inching—Enable/Disable
- Output Fault Voltage—Voltage fault level where output voltage is clamped

### DOT-Lok MPE and PACE-One G2 Combo

The combo system combines all the features of the DOT-Lok MPE and PACE-One G2 Speed Limiter into one unit. Installation is identical to the DOT-Lok MPE. **A uCal programming kit is required for initial setup and changes.**

Part No.	Use on Models:
A000047191	Cat Lift Trucks P3000-P7000 and C3000-C6500/Mitsubishi Forklift Trucks FG15-35N and FGC15-33N (brown/black connector located on the back of ignition switch)
A000047193	Cat Lift Trucks 2P3000-2P7000 and 2C3000-2C6500/Mitsubishi Forklift Trucks FG15-35N3 and FGC15-33N3 (white connector located on the back of ignition switch)
A000047214	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70K
A000047220	Cat Lift Trucks GP15-35K/Mitsubishi Forklift Trucks FG15-35K
A000047222	Cat Lift Trucks GC15-30K/Mitsubishi Forklift Trucks FGC15-30K
A000047216	Cat Lift Trucks GC60K2, GC70K2, GC70KS2, GC70KPR1, GC70SPR1/Mitsubishi Forklift Trucks FGC60K2, FGC70K2 and FGC70KS2
A000047224	Hyster/Yale single weatherpack shift solenoid connectors with barrel-style terminals
A000047226	Hyster/Yale shift solenoid connectors with two small blades and steel lock ring
A000047212	Komatsu FG25ST-16 with black 4-way barrel connector on the shift solenoid
A000047195	Nissan CL30-80 and PL30-70
A000047200	Toyota 7FGCU35
A000047197	Toyota 7FGCU45-70, 7FDU35-80, 7FGU35-80 and D700
A000047202	Toyota 7FGCU20-32, 7FDU15-32 and 7FGU15-32
A000047204	Toyota 7FGCU15, 7FGCU18 and 7FGCSU20
A000047206	Toyota 8-Series with single-speed aluminum transmission
A000047208	Toyota 8-Series with single-speed cast iron transmission

### DOT-Lok MPE and PACE-One G2 Combo with Traction Control

DOT-Lok MPE and PACE-One G2 Combo with Traction Control gives you all the features of the standard unit plus traction control. Traction control prevents the drive tires from free spinning when a forklift operates on slick surfaces such as ice, oil, water, dust and ash covered surfaces. The system further limits tire spinning when the inching pedal is dumped at high engine RPMs. **A uCal programming kit is required for initial setup and changes.**

Part No.	Use on Models:
A000047192	Cat Lift Trucks P3000-P7000 and C3000-C6500/Mitsubishi Forklift Trucks FG15-35N and FGC15-33N (brown/black connector located on the back of ignition switch)
A000047194	Cat Lift Trucks 2P3000-2P7000 and 2C3000-2C6500/Mitsubishi Forklift Trucks FG15-35N3 and FGC15-33N3 (white connector located on the back of ignition switch)
A000047215	Cat Lift Trucks GC35-70K/Mitsubishi Forklift Trucks FGC35-70K
A000047221	Cat Lift Trucks GP15-35K/Mitsubishi Forklift Trucks FG15-35K
A000047223	Cat Lift Trucks GC15-30K/Mitsubishi Forklift Trucks FGC15-30K
A000047217	Cat Lift Trucks GC60K2, GC70K2, GC70KS2, GC70KPR1, GC70SPR1/Mitsubishi Forklift Trucks FGC60K2, FGC70K2 and FGC70KS2
A000047225	Hyster/Yale single weather-pack shift solenoid connectors with barrel-style terminals
A000047227	Hyster/Yale shift solenoid connectors with two small blades and steel lock ring
A000047213	Komatsu FG25ST-16 with black 4-way barrel connector on the shift solenoid
A000047196	Nissan CL30-80 and PL30-70
A000047201	Toyota 7FGCU35
A000047198	Toyota 7FGCU45-70, 7FDU35-80, 7FGU35-80 and D700
A000047203	Toyota 7FGCU20-32, 7FDU15-32 and 7FGU15-32
A000047205	Toyota 7FGCU15, 7FGCU18 and 7FGCSU20
A000047207	Toyota 8-Series with single-speed aluminum transmission
A000047209	Toyota 8-Series with single-speed cast iron transmission

## Accessories (Optional)

Part No.	Description	For Use On:
A000031510	uCal Programmer	DOT-Lok MPE, PACE-One and Combo
A000028545	uCal Cable	DOT-Lok MPE, Pace-One and Combo
A000017556	Green Pilot Light	DOT-Lok MPE and Combo
A000017481	Proximity Inductive Sensor, Prior to July 2004	DOT-Lok MPE, Pace-One and Combo
A000017482	Proximity LED Sensor, Post July 2004	DOT-Lok MPE, Pace-One and Combo
A000017557	PTAC Sensor Holder	DOT-Lok MPE, PACE-One and Combo
A000017558	SICC Sensor Holder	DOT-Lok MPE, PACE-One and Combo

### uCal Programming Kit

Part Number: A000031510

The uCal programmer is the interface between a computer and SSC control module. Via uCal, programming parameters can be imported or tweaked to meet a customer's needs. In addition to programming SSC control modules, a new data logging feature has been added to uCal which aids in any troubleshooting.

#### Programmable Values for PACE-One G2 Programming Kit:

- Speed Limits—Value in volts for top travel speeds
- Speed On/Off Thresholds—Sets limits for land speed of activation/deactivation
- Turn On/Off Delays—Time between speed limit detection and activation/deactivation
- Output Fault Voltage—Voltage fault level where output voltage is clamped
- Inching—Enable/Disable

#### Programmable Values for DOT-Lok MPE Programming Kit:

- Shift Speeds—Go/No go shift speeds
- Shift Delays—Time between shift parameters are 'go' to when transmission shifts
- Throttle Control Option—Transmission will not shift when engine RPM is above set limits
- Throttle Delays—Allows engine mass to return to idle before shifting
- Engine Braking—When shifting above accepted set travel speed, vehicle remains in the gear for which it is traveling and automatically reduces engine speed to selected settings
- Auxiliary Switch Lockout—Automatically defaults transmission in neutral when operator vacates driver's seat with engine running and transmission engaged or the inching pedal is depressed for an extended period of time



### Idle-Lok™ Idle Control

Part Number: A000034810

Idle-Lok is designed to limit the idling times of non-working equipment, reducing fuel consumption and air pollution. It can be set up to turn off the engine or sound an alarm/beeper.



**SpeedZone G2™ (Mechanical Governor Conversion)**

SpeedZone G2 is a top speed limiter that is designed specifically for mechanical governor trucks. In addition to enhanced safety, equipment lifespan is extended by protecting the drive-line from operator abuse.

SpeedZone G2 converts a mechanical governor truck to drive-by-wire, thus enabling you to have all the features of a DOT-Lok G2 Shift Inhibitor and PACE-One G2 Speed Limiter system. The speed sensitive shifting portion of the system reduces repair expenses associated with transmission abuse, torque converter failure, drive axle failure, flex plate damage, planetary shock load and tire wear. The speed limiter portion gives you two top travel speeds. Like the combo system, travel speeds, shift speeds, engine braking, traction control, etc. are all set via computer and uCal programmer interface.

The system is comprised of a control module with sealed connectors, a potentiometer, stepper motor, brackets, cable and wiring harnesses. Most connections are plug and play. **A uCal programming kit is required for initial setup and changes.**

**Cat Lift Trucks**

Part No.	Use on Models	Notes
A000049525	DP15-35NM-5, DP15-35NMA-5, 2PD4000-2PD7000	MCFA part no. 91B51-12030 accelerator assembly required
A000034840	DP40-45K3, DP40KL3, DP40KLQ1, DP40-45KQ1	1-speed transmission. Kit includes the following MCFA part numbers: 9743301100 (generator, pulse), 9192405300 (spacer), F315002000 (o-ring), F420216000 (gasket)
A000034843	DP40-50K3, DP40KL3, DP50KQ1	2-speed transmission
A000049524	GP15-35NM, GP15-35NM-5, GP15-35NMA-5	MCFA part no. 91B51-12030 accelerator assembly required
A000054013	PD8000-PD12000	MCFA part no. SE000321 accelerator assembly required

**Mitsubishi Forklift Trucks**

Part No.	Use on Models	Notes
A000034843	FD40-50K3, FD40KL3, FD50KQ1	2-speed transmission
A000034840	FD40-45K3, FD40KL3, FD40KLQ1, FD40-45KQ1	1-speed transmission. Kit includes the following MCFA part numbers: 9743301100 (generator, pulse), 9192405300 (spacer), F315002000 (o-ring), F420216000 (gasket)
A000049525	FD15-35NM-5, FD15-35NMA-5, FD15N-FD35N	MCFA part no. 91B51-12030 accelerator assembly required
A000049524	FG15-35NM, FG15-35NM-5, FG15-35NMA-5	MCFA part no. 91B51-12030 accelerator assembly required
A000054013	FD40N-FD55N	MCFA part no. SE000321 accelerator assembly required

**Toyota 7-Series**

Part No.	Use on Models:
A000034838	7FGCU20-32, 7FDU15-32, 7FGU15-32
A000034846	7FGCU15, 7FGCU18, 7FGCUSU20
A000034836	D700, 7FGCU45-70, 7FDU35-80, 7FGU35-80
A000034837	7FGCU35

**SpeedZone G2 Accessories (Optional)**

Part No.	Description
A000031510	uCal Programmer
A000028545	uCal Cable
A000017556	Green Pilot Light

**uCal Programming Kit**

Part Number: A000031510

The uCal Programming Kit provides an intuitive user interface where programming parameters can be stored and retrieved for later use. Programming parameters can also be printed on paper. The programming kit includes all necessary cables and software.

## Lever Lock

Part Number: 0973123

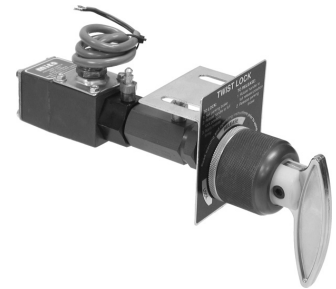
Lever Locks are designed to supplement your standard parking brake by utilizing the hydraulic service brakes. They are manually operated one-way check valves which lock fluid under pressure in the selected brakes. Hand operation leaves the operator's feet free for clutch and gas pedal operation. All Lever Locks include a low pressure warning switch. Used for brake fluid applications only.



## Twist Lock

Part Number: A000011540

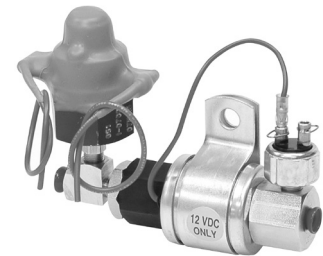
Twist Locks are functionally the same as Lever Locks. The differences being a Twist Lock has a rotary action handle and the push rod is sealed and lubricated in silicone grease for tough environmental applications. All Twist Locks include a low pressure warning switch. Used for brake fluid applications only.



## Electric Activated Brake Lock

Part Number: 0972149

The MICO Electric Activated Brake Lock supplements the standard parking brake by using a portion of the hydraulic service brake system. The brake lock is installed directly into the forklift service brake system. It is activated by the flip of a toggle switch located within reach of the operator. When the operator applies the brake pedal, the brake lock acts as a one-way check valve and holds pressure to the brakes until the lock is released. Service brake operation is not affected by the use of the brake lock.



### SkidWeigh Lift Truck Scales

SkidWeigh is a general application, fully automatic microprocessor electronic device that measures the load weight on any type of forklift truck or loader. The system can be installed on any forklift, regardless of the vehicle, make, model or operating voltage. Every time a skid load is picked up, the increase in hydraulic pressure on the vehicle will automatically activate the “weighing cycle” and convert it to a load weight measurement. The weight is displayed up to 50,000 kg or lbs via a five-digit LED display. This is not a “Legal for Trade” weighing scale, but an economical onboard check weighing system that allows the operator to determine load weight.

- Voltage: 12-55 VDC
- Water, dust, and corrosion resistant
- +/- .5% to 1% accuracy rate of forklift truck lifting capacity
- Adjustable mounting bracket included
- Optional onboard printer capability

Part No.	Description
A000032774	Standard Scale
A000032775	Scale: Two independent weighing channels. For quick disconnect attachments.
A000054390	Scale: Accumulative load weight option
A000054391	Scale: Audio or visual overload warning (specify at time of order)
A000054392	Scale: Load weight displayed in % of capacity
A000054393	Scale: Includes RS-232 cable and printer bracket (printer not included)
A000054374	Mobile Dot Matrix Printer: 2” paper width
A000054373	Pressure Transducer with snubber



### SkidWeigh Electric Pallet Truck Scales

The ED2-EP and ED3-EP SkidWeigh Plus Series systems are general application, heavy duty fully automatic electronic weighing systems that will accurately measure the load weight on any type of electric pallet truck regardless of the vehicle model, type, lifting capacity or forks configuration and forks length. Automatic lift cycle of the load lift motion control and measured increase of hydraulic pressure in the lifting cylinder will activate the specific “weighing cycle” algorithm. The final calculation of the readings taken during the measurement cycle will be converted into a load weight measurement that is visually presented to the operator via LCD or LED display.



Feature	ED2-EP	ED3-EP
Part No.	A000044324	A000044325
Display	LED	LCD
Voltage	12 to 55 VDC	12 to 55 VDC
Operating Current	60mA	80mA
Weight Capacity	Up to 50,000 kg or lb	Up to 50,000 kg or lb
Accuracy Rate	+/- 1% of electric pallet truck lifting capacity	+/- 1% of electric pallet truck lifting capacity
Operating Temperature	-4 F to +131 F (-20 C to +55 C)	-4 F to +131 F (-20 C to +55 C)
Port Connection	Male thread 1/4", 18 NPT	Male thread 1/4", 18 NPT
Pressure Transducer	Swiss made	Swiss made
Reverse Polarity Protected	Yes	Yes
Over Voltage Protected	Yes	Yes
Short Circuit Protected	Yes	Yes
Optional Features	Total load weight, on-board printer, Bluetooth connectivity	Wi-Fi, total load weight, on-board printer, under-utilization monitoring, impact detection, safety check monitoring, dimensioning, Bluetooth connectivity, parts count, operator ID function, wireless web-based reports

**Datcon Ammeter**

This 12 VDC ammeter measures from -60 to +60 amps. Mounting bracket and all necessary hardware are included. For an optional light kit to illuminate the gauge, there is a 5/8 inch cut out in the rear of the gauge.

Voltage	Part No.
12	A000002810
Light Kit for Meter (12 VDC)	A000009647



**Curtis 2100 Series Voltmeter**

Ten bar LED voltmeter for IC trucks. Not to be used as battery discharge indicator.

Curtis Model No.	Voltage	Part No.
#2114R24-000500	24	A000007743
Curtis Meterguard (Polycarbonate Lens)		A000009099



**Datcon Voltmeter**

Datcon voltmeters have a black face and a color-coded dial. These units have a 5/8 inch cut out in the rear of the gauge for an optional light kit to illuminate the gauge. Mounting bracket and all necessary hardware are included.

Voltage	Part No.
12	A000000176
24	0972835
36-48	2I2701
Light Kit for Meter (12 VDC)	A000009647



**Curtis 2200 Series Voltmeter and Hour Meter**

Curtis Model No.	Voltage	Part No.
#2214R12-000100	12	A000007744
Curtis Meterguard (Polycarbonate Lens)		A000009099



Curtis 933/3D Series Battery Controller

The Curtis 933/3D series of battery controllers prolong battery life and protect vehicle components from the effects of deep discharge in material handling and other battery-powered industrial vehicles. Battery ‘fuel’ gauge and controller includes lift lockout and adjustable reset and discharge settings. Available in single voltage and auto-ranging dual voltage models.

Curtis Model No.	Voltage	Description	Part No.
#933/3 Indicator	-	Standard Analog Indicator (Includes Hardware Kit)	A000007760
#933/3D24	24	Battery Controller only	A000007761
#933/3D36	36	Battery Controller only	A000007762
#933/3D48	48	Battery Controller only	A000007763
#933/3D2436	24-36	Battery Controller only	A000007764
#933/3D3648	36-48	Battery Controller only	A000007765
#933/3D24, Kit	24	Battery Controller with Standard Indicator	A000009207
#933/3D36, Kit	36	Battery Controller with Standard Indicator	A000009208
#933/3D48, Kit	48	Battery Controller with Standard Indicator	A000009209
#933/3D2436, Kit	24-36	Battery Controller with Standard Indicator	A000009210
Curtis Meterguard for Round Indicators (Polycarbonate Lens)			A000009099



Replacement Controllers

Aftermarket replacements for Curtis 933/3D Series. Please note these are not original Curtis products.

Description	Part No.
Replacement Analog Gauge	217956



Unigage Series

The Curtis Unigage represents the new generation of Curtis 933/1 “Fuel” gauge and Battery Controller combination. In addition to the “state of charge” displayed on a multicolored, ten-bar LED, the Unigage features an hour meter to monitor operating hours for the forklift. Sold as a replacement for vehicles already equipped with the Unigage.

Curtis Model No.	Voltage	Description	Part No.
#933/1C243648J0010	24/36/48	Unigage	A000007758
Curtis Meterguard (Polycarbonate Lens)			A000009099



Curtis enGage™ II Series

The Curtis enGage II Series is a dual function, microprocessor based instrument that can be factory or user defined to monitor various functions including fuel, temperature, pressure, voltage, battery state of charge and maintenance/status.



Curtis Model No.	Description	Voltage	Notes	Part No.
3003R-67X-0001	Maintenance Monitor/Hour Meter	12-48	Field programmable monitor allows users to program maintenance intervals, while displaying total hours. Does not include harness connector (A000016530).	A000016529
3003R-58X-0001	BDI/Settable Hour Meter	12-48	Provides reliable state-of-charge information. The settable hour meter can be set between 0 and 99999. Harness connector included.	A000036200
Harness Amp Connector				A000016530

900R Series Battery Discharge Indicator

Ideally suited for lead acid battery-powered vehicles that require a display function only.

Curtis Model No.	Voltage	Part No.
#900RB12BN	12	A000007749
#900RB24BN	24	A000007750
#900RB36BN	36	A000007751
#900RB48BN	48	A000007752
Curtis Meterguard (Polycarbonate Lens)		A000009099



906T Series Battery Capacity Indicator

An inexpensive, one-piece, easy to install battery fuel gauge. It is completely solid state and provides a reliable, accurate and easy to read display of battery state-of-charge.

Curtis Model No.	Voltage	Part No.
#906T12BNMAO	12	A000007753
#906T24BNMAO	24	A000007754
#906T36BNMAO	36	A000007756
#906T48BNMAO	48	A000007755



Economy Battery Discharge Indicator

Designed to assure the extended life of the vehicle battery and electrical components by indicating the level of charge with a tricolored LED display. On models equipped with lift lockout, the lockout indicator begins to flash when the battery reaches the 80% depth of discharge level. After five minutes, the indicator light stops flashing and the lift lockout function is activated.

Voltage	BDI with Lock Out	BDI without Lock Out
12	A000002897	A000002892
24	A000002898	A000002893
36	A000002899	A000002894
48	A000002900	A000002895
72	-	A000002896



## Unimeter Battery Monitor by BMI

Part Number: A000009439

The Unimeter features battery monitoring, an hour meter, and programmable maintenance scheduling.

### Features

- Multi-voltage—12 to 48 volts
- Adjustable for flooded or no-maintenance batteries
- “Zero drift technology” ensures Unimeter never requires recalibration, once set
- Two piece unit—Lexan Specific Instruction Display and Relay Box
- One 12” harness lead included

### Battery Monitoring

#### Green = DO NOT CHARGE

Charging in the green range is destructive charging. Destructive charging wastes energy, reduces battery life, and increases water consumption. When the green DO NOT CHARGE indicator is illuminated, the battery is charged for a full shift.

#### Yellow = OK TO CHARGE

Yellow indicates the battery has sufficient capacity remaining to complete the present shift. This setting is programmable to enforce maximum discharge policies or to allow batteries to be charged without interrupting work flow. Charging in this range is constructive charging and produces good lifetime battery capacity.

The OK TO CHARGE is backed up with an optional five minute variable alarm.

#### Red = MUST CHARGE

Operating the battery until the red MUST CHARGE instruction is illuminated produces maximum lifetime capacity, greatest number of shifts per charge, and lowest per ampere charging costs. Charging in the MUST CHARGE range is used when mid-shift battery changes do not adversely affect work flow. The MUST CHARGE indicator is programmable to maximize battery use to the specific requirements of the work flow. Once the red light is illuminated, a warning beep sounds every 5 seconds advising the operators that in 10 minutes the “lift lockout” feature will engage. Lift lockout cannot be bypassed or defeated. NOTE: Lift lockout is normally programmed to engage at 80% discharge.

### Battery Fault Indicator

The battery fault indicator advises the operator a problem is developing with the battery. Problems detected may include: cell failure, problems with an inter cell connector, a broken battery post, bad SB type connector, etc.

### Hour Meter

The HOUR METER can be programmed in two different ways: record time based on the number of hours the ignition key is on or the run time when the forklift is actually being used.

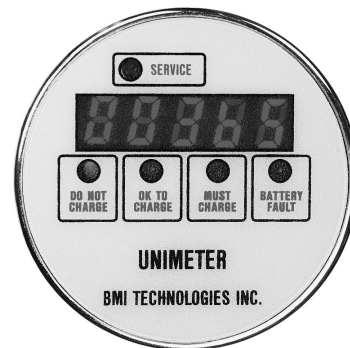
## Unimeter Programmer

Part Number: A000025924

The hand-held Unimeter Programmer is used to field calibrate the Unimeter to your charging and preventative maintenance policies. Exclusive microprocessor technology eliminates guesswork and allows settings to be quickly and precisely raised or lowered, regardless of the battery’s state of charge, facility temperature, or load conditions.

The Unimeter Programmer is used to program the following:

- Battery voltage
- Specific gravity for the OK TO CHARGE and MUST CHARGE battery states
- Method of recording time
- Preventative maintenance schedule
- Lift lockout option

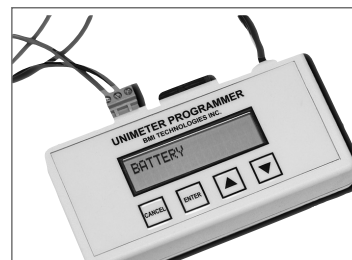


### Service

The red SERVICE light is programmed for number of hours of run time before the forklift is due for a PM. Optional “lift lockout” can be programmed to ensure that maintenance is performed.

### Programmable Maintenance Schedule

The Unimeter can be programmed with the number of hours before preventative maintenance is required for the vehicle. The number of hours is based on the method of recording time selected when programming the hour meter. When the preventative maintenance threshold is reached, the service indicator illuminates. An optional “lift lockout”, which cannot be bypassed or defeated, can be programmed to ensure the required preventative maintenance does take place at some predetermined time after the service indicator illuminates. The Unimeter Programmer is used to program the Unimeter’s preventative maintenance settings.



Datcon Fuel Gauge

Voltage	Part No.
12	A000011800



Low Propane Fuel Warning Device

This easy to use instrument signals low propane fuel by measuring LP pressure. Includes pressure switch, horn or buzzer, wire, terminal end, and a “T” fitting.

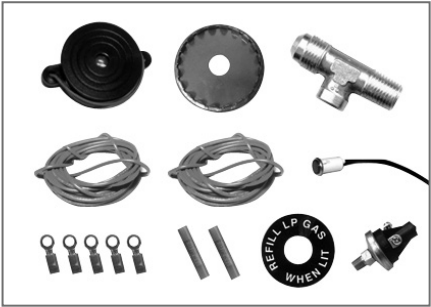
Description	Part No.
Warning Light	A000038671
Warning Buzzer	A000038672
Warning Light and Buzzer	A000038673
Red Light Assembly (12 VDC)	9I2338
Pressure Switch	2I3271



Warning Light



Warning Buzzer



Warning Light and Buzzer

### Curtis 700 Series Hour Meter

These 12-48 volt hour meters are highly reliable solid-state units that offer unprecedented coordination of patented technology, performance, reliability, and value.

Curtis Model No.	Voltage (DC)	Voltage (AC)	Description	Part No.
#700FN001O1248VDC	12-48	20-60	4-Terminal, Rectangular*	A000007766
#701TN001O1248VDC	12-48	20-60	4-Terminal, Rectangular*	A000032531
#700QN001O1248VDC	12-48	20-60	2-Terminal, Round	A000007768
#701RN001O1248VDC	12-48	20-60	3-Terminal, Round	A000007769
Curtis Meterguard for Round Meters (Polycarbonate Lens)				A000009099

\*To determine which hour meter fits your application, please refer to the Curtis part number. A000032531 uses 3 out of 4 terminals.



### Electromechanical Hour Meter

All hour meters include the necessary mounting hardware and wire with terminal ends attached.

Voltage	Mount	Required Cut Out	Part No.
6-80	3-Screw	2" Round	A000037863
12-80	Bezel	2" Round	A000037859
6-80	2-Screw	1-7/16" x 15/16" Rectangular	A000037864



### Curtis 2200 Series Voltmeter and Hour Meter

Curtis Model No.	Voltage	Part No.
#2214R12-000100	12	A000007744
Curtis Meterguard (Polycarbonate Lens)		A000009099



### 802 Series BDI and Hour Meter

A completely solid state battery discharge indicator without lift lockout and an LCD hour meter in one 52 mm instrument.

Curtis Model No.	Voltage	Part No.
#802RB12BN	12	A000009212
#802RB2436BN	24-36	A000009213
#802RB2448BN	24-48	A000009215
#802RB3648BN	36-48	A000009214
Curtis Meterguard (Polycarbonate Lens)		A000009099



### 803 Series BDI and Hour Meter

A completely solid state battery discharge indicator with lift lockout and an LCD hour meter in one 52 mm instrument.

Curtis Model No.	Voltage	Part No.
#803RB12BCJ	12	A000007746
#803RB2436BCJ	24-36	A000007747
#803RB3648BCJ	36-48	A000007748
Model 803 Installation Kit (Wire Harness)		A000009583
Curtis Meterguard (Polycarbonate Lens)		A000009099



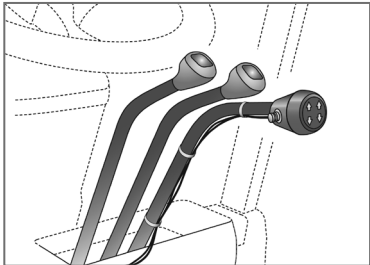
Solenoid Adaptation and Switch Kits

Two-handle switches are available for operator control. Use the switch design best suited for the forklift handle configuration. Knob kits are for use on forklifts featuring cowl-mounted handles spread sufficiently for the knob. Switch kits are for use on forklifts featuring closely nested control handles with no room for a knob or when the knob is not easily adapted to the handle configuration.

Control Knob Kit

In conjunction with the solenoid adaptation, provides controlling for two or three function attachments with one auxiliary valve. Button type is "normally open."

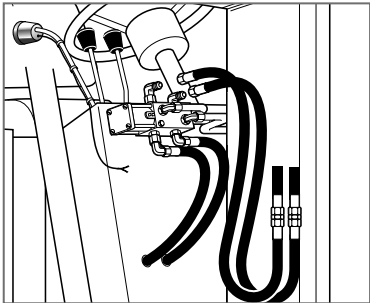
Attachment	Part No.
Any Two-Function Attachment	A000021015
Any Three-Function Attachment	A000021014



Truck Mounted Knob Kit

Permits the use of a single function auxiliary valve to control multiple function attachments. Mounts on forklift cowl. Solenoid valve, control knob with push button, wiring, and fittings are included. Important: Solenoid voltage must match forklift voltage.

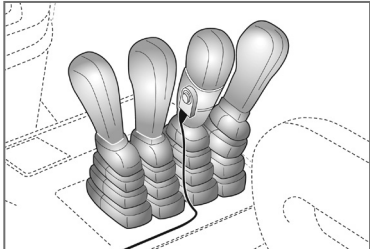
Forklift Voltage	Part No.
12	A000021004
24	A000021005
36	A000021006
48	A000021007



Low Profile Switch Kit

In conjunction with the solenoid adaptation, provides controlling for two function attachments with one auxiliary valve. Switch type is "normally open."

Attachment	Part No.
Any Two-Function Attachment	A000021012



## Nett Technologies BlueCAT 300

Effective April 1, 2009, the California Air Resources Board (CARB) has passed a fleet requirement regulation that requires that all existing fleets consisting of more than four pieces of Large Spark Ignition (LSI) equipment take steps to reduce emissions. All equipment or retrofit kits must be ordered on or before March 31, 2009 and installed prior to the end of 2009. This includes forklifts, sweepers, scrubbers, tow tractors and airport ground support equipment.

Initial reductions for fleet average emissions for large forklift fleets, medium forklift fleets and non-forklift fleets must be met either by retrofitting or replacing the exhaust system to be compliant or to retire the vehicle.

The BlueCAT 300 Emission Control System, by Nett Technologies, has been approved by CARB for retrofit on propane fueled LSI engines that are 3.0L and under for model years 1990-2001 and non-complying engines for phase-in model years 2001-2003. The system consists of a 3-way catalytic converter/muffler, and a digital air-fuel ratio controller. With over 5,000 muffler designs for virtually any application, BlueCAT 300 is designed to help you become 100% complaint and avoid costly fines.

The BlueCAT 300 ECU (electronic control unit) is packaged in a rugged metal enclosure suitable for dash or engine compartment installation. Included on the control unit are self-diagnostic LED indicators which allow for monitoring of its operation. This feature provides a powerful tool for engine operators and service technicians, which minimizes the chances of system malfunction and/or the release of excessive emissions. The entire system, designed for quick and easy installation, includes the following:

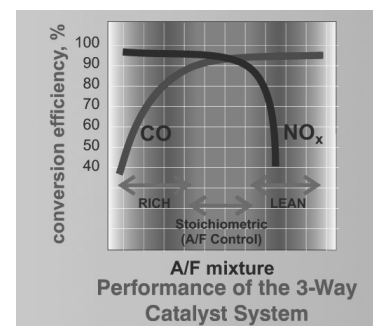
- Oxygen sensor port built into the converter/muffler
- Self-diagnostic ECU with all wiring and connectors
- Comprehensive instructions

### How It Works

The BlueCAT 300 air-fuel ratio controller is a closed-loop system and includes a zirconium oxygen (O<sub>2</sub>) sensor, fuel system control solenoid and an ECU. The ECU receives a feedback signal from the O<sub>2</sub> sensor and modulates the solenoid to maintain the engine A/F ratio at the stoichiometric point, thereby maximizing catalyst performance. The fundamental reactions in a 3-way catalyst are between CO (carbon monoxide) and HC (hydrocarbons) on one side and NO<sub>x</sub> (oxides of nitrogen) on the other. To achieve high conversions of all three emissions simultaneously, the air/fuel ratio must be at the stoichiometric ratio. Simply, this means the amount of CO and HC are in proportion with the amount of NO<sub>x</sub> present in the exhaust—these gases combine to form water, nitrogen and carbon dioxide.

### Finding Your BlueCAT Part Number

Enter the OEM muffler part number into DealerNet competitive search or use the cross reference to locate the appropriate emission control system part number for your model. Please contact our customer service department if you need help finding your OEM muffler part number or if your OEM part number does not cross.



OEM	OEM Number	Part No.	OEM	OEM Number	Part No.	OEM	OEM Number	Part No.
Clark	2383939	A000030674	Hyster	1329087	A000030698	Komatsu	3EB0311112	A000030757
Clark	2399967	A000030673	Hyster	1338282	A000030730	Komatsu	3EB0311311	A000030741
Clark	2770653	A000030676	Hyster	1356526	A000030730	Komatsu	3EB0311312	A000030741
Clark	2775639	A000030675	Hyster	1356527	A000030730	Komatsu	3EB0321112	A000030756
Clark	2776724	A000030675	Hyster	1375576	A000030759	Komatsu	3EB03A2110	A000030761
Clark	2795799	A000030748	Hyster	1375577	A000030759	Komatsu	3EB03A2111	A000030761
Clark	2795800	A000030749	Hyster	1385098	A000030759	Komatsu	3EB03A2160	A000030704
Clark	2798776	A000030749	Hyster	2021354	A000030776	Komatsu	3EB03A5111	A000030769
Clark	2798781	A000030748	Hyster	2021355	A000030776	Komatsu	3EB03A5611	A000030765
Clark	2808060	A000030748	Hyster	2023445	A000030776	Komatsu	78761201	A000030769
Clark	2812617	A000030748	Hyster	2048772	A000030856	Komatsu	8761201	A000030769
Clark	2812618	A000030749	Hyster	2048773	A000030856	Linde	L3315810106	A000030777
Clark	2816649	A000030811	Hyster	3032104	A000030776	Linde	L3505860111	A000030848
Clark	2817114	A000030809	Hyster	305993	A000030699	Linde	L3515800801	A000030793
Clark	2817361	A000030811	Hyster	335513	A000030697	Linde	L3515800802	A000030793
Clark	2817362	A000030811	Hyster	339540	A000030700	Linde	L3515810107	A000030840
Clark	4343569	A000030748	Hyster	355072	A000030694	Linde	L3515810138	A000030793
Clark	8000162	A000030863	Hyster	377220	A000030693	Linde	L3515810151	A000030847
Clark	8000568	A000030849	Hyster	377221	A000030693	Manitou	223658	A000030845
Clark	8000813	A000030850	Hyundai	11FU40010	A000030868	MCFA	1015863	A000030706
Clark	8000891	A000030855	Hyundai	F21220100	A000030869	MCFA	1040360	A000030731
Clark	8000892	A000030855	Hyundai	F53220010	A000030866	MCFA	1112744	A000030760
Clark	8000897	A000030850	Kalmar AC	4949210	A000030726	MCFA	4W2055	A000030677
Clark	8021181	A000030853	Kalmar AC	74940752	A000030757	MCFA	4W2056	A000030678
Clark	8021183	A000030852	Kalmar AC	74940754	A000030742	MCFA	7E7329	A000030679
Clark	8033182	A000030850	Kalmar AC	78626180	A000030789	MCFA	9116300700	A000030760
Clark	925344	A000030813	Kalmar AC	78761205	A000030765	MCFA	9116310100	A000030760
Clark	926096	A000030832	Kalmar AC	8619447	A000030871	MCFA	9116310700	A000030760
Clark	930249	A000030823	Kalmar AC	8626180	A000030789	MCFA	9126236100	A000030731
Daewoo	7331190	A000030867	Komatsu	34B0311117	A000030758	MCFA	9126256100	A000030731
Daewoo	A218517	A000030827	Komatsu	34B0311515	A000030802	MCFA	9126300500	A000030819
Daewoo	A218874	A000030867	Komatsu	3EA0311112	A000030702	MCFA	9126300600	A000030819
Daewoo	A219217	A000030821	Komatsu	3EA0311114	A000030702	MCFA	9126301500	A000030731
Daewoo	A223195	A000030821	Komatsu	3EA0311413	A000030745	MCFA	9126302500	A000030731
Daewoo	A223209	A000030839	Komatsu	3EA03A2110	A000030763	MCFA	9126306400	A000030731
Daewoo	A252058	A000030837	Komatsu	3EA03A2111	A000030763	MCFA	9129311810	A000030731
Daewoo	D141103	A000030740	Komatsu	3EA03A2210	A000030755	MCFA	9136200100	A000030731
Daewoo	D141161	A000030738	Komatsu	3EA03A5110	A000030791	MCFA	9146230100	A000030701
Daewoo	D490093	A000030822	Komatsu	3EA03A5111	A000030791	MCFA	9316206900	A000030760
Daewoo	D810290	A000030839	Komatsu	3EA03A5611	A000030790	MCFA	9316212901	A000030706
Heli	A14F260201	A000030864	Komatsu	3EA03F2110	A000030755	MCFA	9316217200	A000030810
Heli	A24F260201	A000030842	Komatsu	3EA03F5360	A000030790	MCFA	9316220100	A000030706
Heli	A24F60201	A000030842	Komatsu	3EB0225220	A000030704	MCFA	9376201700	A000030828



OEM	OEM Number	Part No.	OEM	OEM Number	Part No.	OEM	OEM Number	Part No.
MCFA	9376201900	A000030828	Nissan	20100L6801	A000030778	Toyota	175101380071	A000030680
MCFA	9376210100	A000030812	Nissan	2010247602	A000030717	Toyota	175102054171	A000030744
Nissan	2010000H00	A000030716	Nissan	20102L0102	A000030795	Toyota	175102054271	A000030744
Nissan	2010003H03	A000030716	Tailift	32510501	A000030831	Toyota	175102054371	A000030744
Nissan	2010005H00	A000030752	TCM	2123230201A	A000030797	Toyota	175102180071	A000030684
Nissan	2010005H01	A000030752	TCM	212R230301	A000030859	Toyota	175102200071	A000030782
Nissan	2010005H60	A000030708	TCM	212T230301	A000030805	Toyota	175102200171	A000030685
Nissan	2010005H63	A000030708	TCM	214A230111	A000030781	Toyota	175102275071	A000030688
Nissan	201000K001	A000030796	TCM	215E230201	A000030751	Toyota	175102300071	A000030687
Nissan	201000K002	A000030796	TCM	215W230101	A000030762	Toyota	175102332071	A000030808
Nissan	201000K200	A000030788	TCM	216G230201	A000030785	Toyota	175102360071	A000030728
Nissan	201000K201	A000030788	TCM	222A230101	A000030764	Toyota	175102380071	A000030687
Nissan	201000K202	A000030788	TCM	222A230102	A000030764	Toyota	175103196071	A000030691
Nissan	201000K460(4cyl)	A000030768	TCM	2257232001	A000030750	Toyota	175104220071	A000030861
Nissan	201000K461(4cyl)	A000030768	TCM	227A230101	A000030773	Toyota	17510U100071	A000030680
Nissan	2010010H00	A000030707	TCM	2320230201	A000030725	Toyota	17510U110071	A000030733
Nissan	2010010H05	A000030719	TCM	2320230202	A000030725	Toyota	17510U113171	A000030746
Nissan	2010010H60	A000030713	TCM	232L230401	A000030774	Toyota	17510U200071	A000030687
Nissan	2010011H00	A000030707	TCM	2345230201	A000030722	Toyota	17510U204071	A000030688
Nissan	2010014H00	A000030711	TCM	2365230201	A000030723	Toyota	17510U210071	A000030735
Nissan	2010014H60	A000030711	TCM	2374230201	A000030860	Toyota	17510U217071	A000030825
Nissan	2010015H00	A000030711	TCM	237A230101	A000030862	Toyota	17510U220071	A000030817
Nissan	2010020H05	A000030715	TCM	2391232002	A000030787	Toyota	175502200071	A000030737
Nissan	2010021H00	A000030715	TCM	2460230201	A000030779	Toyota	175502200171	A000030737
Nissan	2010021H05	A000030715	TCM	2484230201	A000030753	Toyota	17550U120071	A000030838
Nissan	2010023H05	A000030714	TCM	250A230201	A000030841	Toyota	175602202071	A000030684
Nissan	2010023H60	A000030714	TCM	2559230101	A000030724	Toyota	175602334071	A000030817
Nissan	2010025H60	A000030714	TCM	2584230201	A000030806	Toyota	175602347071	A000030817
Nissan	2010055K01	A000030800	TCM	512R270501	A000030859	Toyota	175801280071	A000030733
Nissan	2010055K02	A000030800	TCM	512T270501	A000030805	Toyota	175801280171	A000030733
Nissan	201006G000	A000030796	TCM	516G270351	A000030785	Toyota	175801281071	A000030746
Nissan	201006G200	A000030788	TCM	533A080101	A000030794	Toyota	175801281171	A000030746
Nissan	201006G300	A000030800	TCM	FA12T30301	A000030805	Toyota	175801300071	A000030680
Nissan	201006G460(4cyl)	A000030768	Toyota	175072332071	A000030838	Toyota	175802275071	A000030688
Nissan	2010091K00	A000030721	Toyota	175101066071	A000030815	Toyota	175802280071	A000030735
Nissan	2010091K10	A000030720	Toyota	175101112271	A000030784	Toyota	175802280171	A000030735
Nissan	20100L1101	A000030710	Toyota	175101163071	A000030682	Toyota	175802347071	A000030825
Nissan	20100L1102	A000030710	Toyota	175101200271	A000030689	Toyota	17580U120071	A000030838
Nissan	20100L1600	A000030775	Toyota	175101216071	A000030681	Toyota	231501027071	A000030783
Nissan	20100L3001	A000030718	Toyota	175101260271	A000030732	Toyota	231501027171	A000030783
Nissan	20100L3200	A000030709	Toyota	175101262071	A000030686	Yale	505973538	A000030766
Nissan	20100L6201	A000030743	Toyota	175101300071	A000030680	Yale	505973596	A000030766
Nissan	20100L6202	A000030743	Toyota	175101360271	A000030732	Yale	518802609	A000030799

OEM	OEM Number	Part No.
Yale	901084400	A000030770
Yale	901683600	A000030772
Yale	905194600	A000030729
Yale	907077400	A000030727
Yale	907290600	A000030771
Yale	907290622	A000030771
Yale	907465600	A000030692
Yale	911560400	A000030692

**ZeroStart® Freeze Plug Heaters**

Ensure quick winter starts and reduce engine wear with ZeroStart® freeze plug heaters. Heaters include a die-cast aluminum mounting flange and copper heating element for maximum life and efficiency and are a direct OEM replacement in many applications. All freeze plug heaters include an electrical cord and installation instructions. Heaters attach to the engine by threading into the block or by using ZeroStart's V-Loc™ system.

**Cat® Engine**

Engine Name	ZS Number	Part No.	Hole Size
1404 (163 CID)	3100088	A000011088	2.135"
3003 (3 Cyl.)	3100016	A000011071	35 mm
3013 (3 Cyl.)	3100049	A000011078	40 mm
3024 (4 Cyl.)	3100049	A000011078	40 mm
3914 (4 Cyl.)	3100049	A000011078	40 mm

**Continental**

Engine Name	ZS Number	Part No.	Hole Size
F162 (1981 and Newer 4 Cyl.)	3100053	A000011079	1-5/8"
F163 (1981 and Newer 4 Cyl.)	3100053	A000011079	1-5/8"
F227 (1979 and Newer)	3100053	A000011079	1-5/8"
F227 (1979 and Newer-Alternate Wattage)	3100057	A000011080	1-5/8"
F245 (1979 and Newer)	3100053	A000011079	1-5/8"
F245 (1979 and Newer-Alternate Wattage)	3100057	A000011080	1-5/8"
Y112 (1981 and Newer 4 Cyl.)	3100053	A000011079	1-5/8"

**Cummins**

Engine Name	ZS Number	Part No.	Hole Size
ISB Series (3.9L)	3500022	A000015348	3/4" NPT
QSB Series (5.9L 6 Cyl.)	3500022	A000015348	3/4" NPT

**Detroit Diesel**

Engine Name	ZS Number	Part No.	Hole Size
3-53 (With Water Cooled Compressor)	8601291	A000011092	Plate
3-71 (With Water Cooled Compressor)	8601291	A000011092	Plate
4-53 (With Water Cooled Compressor)	8601291	A000011092	Plate
4-71 (With Water Cooled Compressor)	8601291	A000011092	Plate

**Ford**

Engine Name	ZS Number	Part No.	Hole Size
KSG411 (67 CID, 4 Cyl.) Engines with Distributor	3100053	A000011079	1-5/8"
KSG416 (98 CID, 4 Cyl.) Engines with Distributor	3100053	A000011079	1-5/8"

## GM

Engine Name	ZS Number	Part No.	Hole Size
(4.3L, 6 Cyl.)	3100057	A000011080	1-5/8"

## Mitsubishi Engine

Engine Name	ZS Number	Part No.	Hole Size
4G32 (4 Cyl.)	3100016	A000011071	35 mm
4G33 (4 Cyl.)	3100016	A000011071	35 mm
4G52 (4 Cyl.)	3100071	A000011084	50 mm
4G53 (4 Cyl.)	3100071	A000011084	50 mm
4G54 (4 Cyl.)	3100071	A000011084	50 mm
4G63 (2.0L, 4 Cyl.) and 4G64	3100021	A000011126	35 mm
Fuso 4D31 (201 CID), 6D14 (400 CID), 6D31 (302 CID), 6D16 (460 CID) 4M40 (2835cc SOHC), 4D36 (3567cc)	8604967	A000011127	3/4" NPT
L3A (3 Cyl.)	3100049	A000011078	40 mm
S4L2 (4 Cyl.)	3100078	A000011085	35 mm
S4S (4 Cyl.)	3100078	A000011085	35 mm
S6E (6 Cyl.)	3100078	A000011085	35 mm
S6E (6 Cyl.)	3100078	A000011085	35 mm
S6E2 (6 Cyl.)	3100078	A000011085	35 mm
S6S (6 Cyl.)	3100078	A000011085	35 mm

## Nissan

Engine Name	ZS Number	Part No.	Hole Size
A12 (1.2L)	3100016	A000011071	35 mm
A15 (1.5L)	3100016	A000011071	35 mm
FD6 (5.6L, 6 Cyl.)	3100049	A000011078	40 mm
H20 (2.0L, 4 Cyl.)	3100016	A000011071	35 mm
H20-II (2.0L, 4 Cyl.)	3100019	A000011072	35 mm
H25 (2.5L, 4 Cyl.)	3100019	A000011072	35 mm
K21 (2.0L, 4 Cyl.)	3100019	A000016383	35 mm
K25 (2.5L, 4 Cyl.)	3100019	A000016383	35 mm
LD-28 (2.8L, 6 Cyl.)	3100016	A000011071	35 mm
P Series (4.0L, 6 Cyl.)	3100049	A000011078	40 mm
SD22 (2.2L)	3100016	A000011071	35 mm
SD25 (4 Cyl.)	3100016	A000011071	35 mm
SD33 (3.2L, 6 Cyl.)	3100023	A000011073	35 mm
SD4-47 (2.2L)	3100016	A000011071	35 mm
SD6-72 (3.2L, 6 Cyl.)	3100023	A000011073	35 mm
TB45 (6 Cyl.)	3100019	A000016383	35 mm

## Perkins

Engine Name	ZS Number	Part No.	Hole Size
1004 (A Series 4 Cyl.)	3100045	A000011075	1-1/2"
1006 (Y Series 6 Cyl.)	3100045	A000011075	1-1/2"
103.06 (KB 3 Cyl.)	3100016	A000011071	35 mm
103.07 (KL 3 Cyl.)	3100016	A000011071	35 mm
103.09 (KC 3 Cyl.)	3100016	A000011071	35 mm
103.10 (KD 3 Cyl.)	3100016	A000011071	35 mm
400 Series (4.41, T4.40) 4.0L	3100045	A000011075	1-1/2"
4-135 (GB Series 4 Cyl.)	3100023	A000011073	35 mm
4-203 (J Series 4 Cyl.)	3100093	A000011090	3/4" NPT
4-236 LD (4 Cyl.)	3100013	A000011471	1-1/4"
4-236 (4 Cyl.)	3100027	A000011074	35 mm
854 Series	3100117	A000050881	40 mm

## Toyota

Engine Name	ZS Number	Part No.	Hole Size
2F (4.2L, 6 Cyl.)	3100071	A000011084	50 mm
2J (2.5L, Diesel)	3100071	A000011084	50 mm
4Y (2.2L, 4 Cyl.)	3100019	A000011072	35 mm
5R (1.9L, 4 Cyl.)	3100071	A000011084	50 mm
GM6-262 (GM6-262 6 Cyl.) (GM 4.3L)	3100057	A000011080	1-5/8"

## Weatherproof Cord

Part Number: A000028441

One-piece molded cord with frost plug connector. Molded connector end snaps into receptacle housing, screws into heater—forming a positive weatherproof seal at both ends.

- Voltage: 120 VDC
- Cord Length: 6 feet (1.8 meters)
- Wire Gauge: 18 GA

## Lower Radiator Hose Heaters

Efficient engine heating from this die-cast aluminum design. Thermostatically protected (245°F/118°C maximum heater temperature). Please Note: All dimensions reflect approximate installation space requirements, not exact product measurements. Dimension "A" includes cord.



Part No.	Fits Hose Size	Watt	Voltage	DIM A	DIM B	DIM C
A000031253	1.25" (3.10 cm)	375	120	3.50" (8.60 cm)	3.00" (7.50 cm)	2.50" (6.40 cm)
A000017458	1.50" (3.70 cm)	600	120	4.00" (10.00 cm)	3.00" (7.50 cm)	3.00" (7.50 cm)
A000017461	1.75" (4.30 cm)	600	120	4.00" (10.00 cm)	3.00" (7.50 cm)	3.00" (7.50 cm)

Circulation Heater

Our circulation engine heater offers dependable engine starts in all temperatures. By circulating warmed coolant through an engine, it assures a quick start, reduces time to reach operating speed and enhances immediate full-load acceptance.

- Rugged die-cast aluminum construction is corrosion and impact resistant
- Low watt density copper heating element provides optimum performance
- Temperature sensing thermostat provides overheat protection
- Regulating thermostats included in three heat ranges
- Includes a temperature and oil-resistant, permanently connected five foot power cord with strain relief that is flame retardant
- Water resistant terminal end cap protects against harsh chemicals
- Unique mounting system protects against road vibration
- Lead-free heater utilizes recyclable aluminum, plastic and copper to help protect the environment

Specifications

- Watts: 750
- Temperature Range: 100-120 degrees
- Plug: Male
- Voltage: 120 VDC
- Amps: 6.30
- Inlet/Outlet: 5/8"

Part No.	Description
A000028128	Circulation Heater, Small Body Tank
A000045335	Coolant Hose, 5/8"



Oil Gauge and Sender Kit

This universal oil sender kit contains a gauge that reads from 0-80 PSI and fits into a 2" diameter panel hole. An additional bracket allows for mounting in a 2-1/8" hole. This gauge is suitable for 12 VDC and negative ground applications and has a 5/8" opening for an optional light kit to illuminate the gauge.

Description	Part No.
Oil Gauge and Sender Kit	0971243
Oil Gauge Only	A000002816
Sender Only 0-80 PSI (1/8" NPT)	A000009390
Light Kit for Meter (12 VDC)	A000009647



Pressure Switches

- Direct action blade contact
- Silver alloy contacts
- Connector: 1/8", 27 NPTF thread

Factory set, sealed and pretested to ensure reliability. Designed to handle shock and vibration, the set point integrity is excellent when operating in extreme temperatures. Compatible for a variety of applications: actuating indicator lights, engine cutoff devices, alarms and more.



Factory Setting (PSI)	Contact Setting Range (PSI)	+/- (PSI)	Maximum Operating Pressure (PSI)	Burst Pressure (PSI)	Proof Pressure (PSI)	Normally Open/Closed	Terminals	Circuit	Part No.
3	1.1-3	0.5	150	750	500	Open/Closed	2	Dual	0973336
4	1.1-7	0.5	150	750	500	Open	2	Single	0972313
4	3.1-7	1	150	750	500	Open	2	Single	A000005519
40	25-50	4	250	1250	500	Closed	2	Single	2I3271
60	51-90	7	250	1250	500	Closed	2	Single	2I5519

Datcon Temperature Gauge

Voltage	Part No.
12	A000007282



Water Temperature Gauge and Sender Kit

These kits include a 2" diameter gauge that measures temperature from 100 degrees to 280 degrees and is available with either a standard or metric sender. The kit also includes a mounting bracket, allowing installation in a 2-18" hole. The gauge is suitable for a 12 VDC and negative ground applications. A 5/8" opening in the back of the standard gauge allows for installation of an optional light kit to illuminate the gauge.

Description	Part No.
Standard Kit (1/8" NPT Sender and 1/4", 3/8" and 1/2" NPT Adapters)	0971239
Metric Kit (16 x 1.5 mm Sender)	0971854
Metric Kit (14 x 1.5 mm Sender)	0972383
Water Temperature Gauge, Replacement	2I6215
1/8" NPT Sender, Replacement	2I7870
1/4" NPT Sender, Replacement	A000009387
3/8" NPT Sender, Replacement	A000009388
1/2" NPT Sender, Replacement	A000009389
16 x 1.5 mm Sender, Replacement	2I6214
14 x 1.5 mm Sender, Replacement	A000009386
Light Kit for Gauge (12 VDC)	A000009647



Metric



Standard



# Industrial and Starter Batteries

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## GNB Industrial Power

The Promatch® parts program has partnered with GNB® Industrial Power, a division of Exide® Technologies, to offer a full line of batteries and chargers. GNB is a global leader in motive power battery and charger systems for electric forklifts and other material handling equipment. In addition to a broad product offering, GNB's network of representatives offers comprehensive support and product expertise. Local service facilities let you work with people you know and trust.

### GNB® Flooded Classic® Batteries

Economical flooded flat-plate batteries designed to deliver consistent and reliable power.



### GNB Flooded Classic Platinum™ Batteries

GNB Flooded Classic Platinum™ flooded industrial batteries are designed to deliver consistent, reliable power. They are engineered to increase your efficiency and productivity.



### GNB Fusion™ Fast Charge Batteries

Rugged flooded flat-plate batteries designed especially for use with GNB Fusion Fast Chargers.



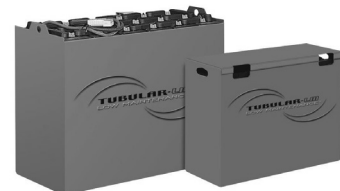
### Tubular-HP® High Performance Batteries

These high performance flooded tubular-plate batteries are designed to deliver more power than the equivalent dimension flooded flat-plate batteries.



### Tubular-LM™ Low Maintenance Batteries

Low maintenance flooded tubular-plate batteries with extended watering intervals and maintenance contract options.



### Element® Valve-Regulated Lead-Acid Batteries

Element® valve-regulated lead-acid batteries never need watering and are designed for light retail and medium warehouse material handling applications.



## GNB® FER50 Charger

The FER50 charger has the power in a compact, convenient package. A single shift charger with 120 VAC input, the FER50 is the easy charger for simple operations, just plug-in and go! The FER50 is perfect for batteries used in light duty applications like walkie trucks, sweepers and scrubbers, personnel carriers and narrow aisle.



## GNB® EF Series Ferroresonant Charger

The EF Series Ferroresonant charger is rated to fully recharge a 100% discharged battery within eight hours. Industry-proven ferroresonant circuitry protects against battery overcharge and incorrect battery connections.



## GNB® SCR200 Charger

The SCR200 8-hour charger is the ideal charger for all battery types. The SCR200 charger uses precise electronic control to maximize battery life and minimize the battery recharge time required. Designed to provide flexibility, the SCR200 charger has the capability to charge GNB® Flooded Classic® Flat Plate, GNB® Flooded Classic Platinum™ Heavy Duty Flooded Flat Plate, Element® VRLA, Tubular-LM™ Low Maintenance Flooded Tubular Plate, and Tubular-HP® High Performance Flooded Tubular Plate batteries with simple setting adjustments.



## Element EiHF® Charger

Element® EiHF ChargerThe Element® series of high frequency chargers are ideal for conventional or opportunity charging, but are flexible enough to be used as a fast charger. The charger utilizes IGBT/MOSFET technologies resulting in improved efficiency, smaller size and a lighter packaging.



## GNB® Fusion™ Fast Charger

The GNB® Fusion™ series of high frequency fast chargers are ideal for fast charging industrial electric lift truck batteries, but is also flexible enough to be used as a conventional or opportunity charger.



## EHF Series™ High Frequency Charger

The EHF Series™ provide a multi-curve range for standard flooded, low maintenance flooded and low maintenance valve regulated batteries. This smart charger includes multiple algorithms appropriate for our Element®, Tubular-LM™, GNB Flooded Classic®, Titan®, and Tubular-HP® batteries. The small, light-weight, quiet packaging enables an easy installation for rack or wall mounting.



## Element® Pallet Pro™ On-Board Power System

**Application**—The Pallet Pro is an integrated valve regulated lead acid battery and charging system designed for 24-volt electric walkie pallet trucks with loading capacities of up to 4,000 pounds.

**System Design**—Exide Technologies Industrial Energy's Pallet Pro houses a "smart" SCR charger complete with auto stop/start capabilities and four, 6-volt Element deep cycle bloc batteries connected in series to provide a 24-volt system with up to 25% more capacity, at the 6 hour rate, than competitively published rates.

**Less Maintenance**—Element batteries mean reduced maintenance. Most of the expense, time and safety concerns typically associated with conventional flooded battery maintenance are reduced under normal operating conditions, including cell watering, acid equalization, acid spills, corrosion and waste treatment systems.

**Pallet Pro Design**—The Element deep cycle bloc batteries used in the Pallet Pro incorporate the proven Absolyte® technology used in larger industrial Element cells for just a fraction of the cost. Element batteries have a more robust design with lower internal resistance than traditional flooded batteries, providing higher voltage.

**\*Freight**—Free within the 48 contiguous states with the purchase of six or more.

## Specifications

- Output Voltage: 24 VDC
- Input Voltage: 110 VAC
- Ah: 195
- kWh: 4.6
- Plug: SB175 Grey



### Part Number: A000014271

Fits	Length	Width	Height	Height to Top of Ears	Weight	Replacement Charger	Replacement Battery
Most Raymond, Cat lift truck, Crown, Mitsubishi forklift truck, Toyota, Nissan, Barrett	27.30"	8.69"	24.45"	26.45"	375 lbs	A000051474	A000031797

### Part Number: A000040592

Fits	Length	Width	Height	Height to Top of Ears	Weight	Replacement Charger	Replacement Battery
Most Hyster and Yale	27.30"	7.50"	24.45"	26.45"	375 lbs	A000051474	A000031797

### Part Number: A000017163

Fits	Length	Width	Height	Height to Top of Ears	Weight	Replacement Charger	Replacement Battery
Cat lift truck WP4500/Mitsubishi forklift truck PMW23N/Jungheinrich EJE120 (Old Series) walkie pallet trucks	25.25"	8.50"	25.26"	No Ears	375 lbs	*See Below	A000031797

### Part Number: A000050861

Fits	Length	Width	Height	Height to Top of Ears	Weight	Replacement Charger	Replacement Battery
Toyota 6HBW23, 7HBW23, 7BWS10, 7BWS13	26.50"	7.50"	26.57"	28.57"	400 lbs	A000028479	A000031797

\*Please note: For (Part Number: A000017163) Pallet Pro systems designed for Cat lift truck WP4500/Mitsubishi forklift truck PMW23N Walkie Pallet Trucks, there are two Pallet Pro models that require different charger sizes. Refer to the chart below for charger information. Model numbers can be located on the data sticker located on the top of each Pallet Pro and the side of each charger.

Pallet Pro Model	Charger Model	Replacement Charger
M90004S24CHPTM	SVR24251206TM	A000028480
M90004S24CHPJH	SPPMP7501225G	Not Available
M90004S24ELETM	IC0650-04	A000051474

## SB® Type Battery Connectors

### Features

- Spring loaded, highly conductive ETP copper contacts with silver plating
- Lexan polycarbonate housings
- Individually replaceable contacts
- Single piece housing
- Mechanically keyed and color identified

### Voltage Key Color Code

Connectors of different colors may be selected to identify voltages. Only connectors of the same color will engage with each other to help prevent mismatched voltages. Following are recommended voltage color codes:

Color	Voltage Recommended
Yellow	12 VDC
Orange	18 VDC
Red	24 VDC
Gray	36 VDC
Blue	48 VDC
Green	72 VDC
Black	80 VDC



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### SB50 Type Connectors

Color	Wire Gauge	Housing and Contacts	Housing	Contact Set
Gray	6	2I5337	2I5339	2I5340
Gray	10-12	2I5338	2I5339	2I5341
Blue	6	A000010405	A000010410	2I5340
Blue	10-12	A000010407	A000010410	2I5341
Red	6	A000003205	A000010409	2I5340
Red	10-12	A000003204	A000010409	2I5341
Yellow	6	A000010404	A000010408	2I5340
Yellow	10-12	-	A000010408	2I5341

### SB120 Type Connectors

Color	Wire Gauge	Housing and Contacts	Housing	Contact Set
Gray	2	A000025400	A000025408	A000037892
Gray	4	A000025403	A000025408	A000037893
Gray	6	A000025406	A000025408	A000037894
Blue	2	A000025401	A000025409	A000037892
Blue	4	A000025404	A000025409	A000037893
Blue	6	A000025407	A000025409	A000037894
Red	2	A000025402	A000025410	A000037892
Red	4	A000025405	A000025410	A000037893
Red	6	A000042425	A000025410	A000037894

## SB175 Type Connectors

Color	Wire Gauge	Housing and Contacts	Housing	Contact Set
Gray	1/0	2I5326	2I5331	2I5336
Gray	1/0	2I9059*	2I5331	-
Gray	2	A000031878	2I5331	A000013411
Gray	4	A000031879	2I5331	A000031862
Blue	1/0	2I5327	2I5332	2I5336
Orange	1/0	2I5328	2I5333	2I5336
Red	1/0	2I5330	2I5335	2I5336
Yellow	1/0	2I5329	2I5334	2I5336

\*Three-pole connector with springs and contacts for Clark 773299.

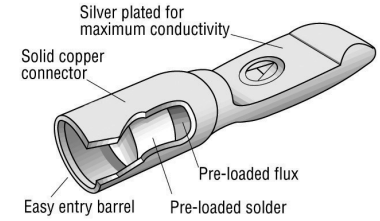
## SB350 Type Connectors

Color	Wire Gauge	Housing and Contacts	Housing	Contact Set
Gray	1/0	A000046695	2I5315	A000013410
Gray	2/0	2I5300	2I5315	2I5320
Gray	3/0	2I5301	2I5315	2I5321
Gray	4/0	2I5302	2I5315	2I5322
Blue	1/0	A000046697	2I5316	A000013410
Blue	2/0	2I5303	2I5316	2I5320
Blue	3/0	2I5304	2I5316	2I5321
Blue	4/0	2I5305	2I5316	2I5322
Green	1/0	A000046700	2I5319	A000013410
Green	2/0	2I5312	2I5319	2I5320
Green	3/0	2I5313	2I5319	2I5321
Green	4/0	2I5314	2I5319	2I5322
Orange	1/0	A000046701	A000010413	A000013410
Orange	2/0	A000003195	A000010413	2I5320
Orange	3/0	A000010411	A000010413	2I5321
Orange	4/0	A000010412	A000010413	2I5322
Red	1/0	A000046698	2I5317	A000013410
Red	2/0	2I5306	2I5317	2I5320
Red	3/0	2I5307	2I5317	2I5321
Red	4/0	2I5308	2I5317	2I5322
Yellow	1/0	A000046699	2I5318	A000013410
Yellow	2/0	2I5309	2I5318	2I5320
Yellow	3/0	2I5310	2I5318	2I5321
Yellow	4/0	2I5311	2I5318	2I5322

### SB® Type Battery Connectors with Pre-Soldered Contacts

#### Connectors with Pre-Soldered Contacts

Eliminates the hassle of typical soldering methods, while providing a more effective connection than crimping. To connect simply strip the cable insulation, apply slight pressure while inserting the cable into the barrel of the contact and add heat to the barrel of the contact.



#### SB175 Type Connectors with Pre-Soldered Contacts

Color	Wire Gauge	Housing and Contacts	Housing	Contact Set
Gray	1/0	A000007337	2I5331	A000007336
Blue	1/0	A000007338	2I5332	A000007336
Orange	1/0	A000007339	2I5333	A000007336
Red	1/0	A000007341	2I5335	A000007336
Yellow	1/0	A000007340	2I5334	A000007336

#### SB350 Type Connectors with Pre-Soldered Contacts

Color	Wire Gauge	Housing and Contacts	Housing	Contact Set
Gray	2/0	A000007345	2I5315	A000007344
Gray	3/0	A000007351	2I5315	A000007343
Gray	4/0	A000007357	2I5315	A000007342
Blue	2/0	A000007346	2I5316	A000007344
Blue	3/0	A000007352	2I5316	A000007343
Blue	4/0	A000007358	2I5316	A000007342
Green	2/0	A000007349	2I5319	A000007344
Green	3/0	A000007355	2I5319	A000007343
Green	4/0	A000007361	2I5319	A000007342
Orange	2/0	A000007350	A000010413	A000007344
Orange	3/0	A000007356	A000010413	A000007343
Orange	4/0	A000007362	A000010413	A000007342
Red	2/0	A000007347	2I5317	A000007344
Red	3/0	A000007353	2I5317	A000007343
Red	4/0	A000007359	2I5317	A000007342
Yellow	2/0	A000007348	2I5318	A000007344
Yellow	3/0	A000007354	2I5318	A000007343
Yellow	4/0	A000007360	2I5318	A000007342
Black	2/0	-	A000044890	A000007344
Black	3/0	-	A000044890	A000007343
Black	4/0	-	A000044890	A000007342

## SBE® Type Connectors

### SBE160 Type Connectors

Color	Wire Gauge	Housing and Contacts	Housing	Contact Set
Red	1/0	A000043063	A000043064	-

### SBE320 Type Connectors

Color	Wire Gauge	Housing and Contacts	Housing	Contact Set
Blue	2/0	A000034095	A000034544	A000003247
Black	2/0	A000034094	A000034543	A000003247

## SBX® Type Battery Connectors

Provides cost-effective reliability, design flexibility and safety for your products. Two pole connectors are available in 175 or 350 amp ratings to use with 600 volts continuous AC or DC operation. Mechanical keys ensure connectors will only mate with connectors of the same color. Different color housings are selected to identify voltages, thus preventing mismatching of the power supply system. The housings are interchangeable, genderless interconnects. Insert contacts into housings and plug together for a clever, simple and low-cost solution to power interconnection.

### SBX175 Type Connectors

Color	Wire Gauge	Connector with Auxiliary Contacts	Connector without Auxiliary Contacts	Housing	Contact Set	Auxiliary Contact Kit
Gray	1/0	2I6322	2I5800	A000010420	A000010458	2I5850
Blue	1/0	A000010416	2I5802	A000010421	A000010458	2I5850
Red	1/0	A000010415	2I5803	A000010419	A000010458	2I5850
Yellow	1/0	A000010414	-	A000010418	A000010458	2I5850

### SBX350 Type Connectors

Color	Wire Gauge	Connector with Auxiliary Contacts	Connector without Auxiliary Contacts	Housing	Contact Set	Auxiliary Contact Kit
Gray	2/0	2I5796	2I5797	A000010455	A000003247	2I5850
Gray	3/0	A000010432	A000010438	A000010455	A000010428	2I5850
Gray	4/0	A000010444	A000010450	A000010455	A000009367	2I5850
Black	2/0	A000009472	A000009471	-	A000003247	2I5850
Blue	2/0	2I6594	A000010427	A000010456	A000003247	2I5850
Blue	3/0	A000010433	A000010439	A000010456	A000010428	2I5850
Blue	4/0	A000010445	A000010451	A000010456	A000009367	2I5850
Green	2/0	-	2I5799	A000010457	A000003247	2I5850
Green	3/0	A000010434	-	A000010457	A000010428	2I5850
Green	4/0	A000010446	A000010841	A000010457	A000009367	2I5850
Orange	2/0	A000009095	A000010426	A000010453	A000003247	2I5850
Orange	3/0	A000010430	A000010436	A000010453	A000010428	2I5850
Orange	4/0	A000010442	A000010448	A000010453	A000009367	2I5850
Red	2/0	A000010423	2I5798	A000010454	A000003247	2I5850
Red	3/0	A000010431	-	A000010454	A000010428	2I5850
Red	4/0	A000010443	A000010449	A000010454	A000009367	2I5850
Yellow	2/0	A000010422	A000010425	A000010452	A000003247	2I5850
Yellow	3/0	-	A000010435	A000010452	A000010428	2I5850
Yellow	4/0	A000010441	A000010447	A000010452	A000009367	2I5850



### Fast Charge Connectors

Fast charge connectors have been specially configured for fast battery charging systems. The connector design incorporates an advanced, cost effective contact carrier for ease of assembly and fewer components.

Part No.	Description	UL Current	UL Voltage	Wire Range
A000028080	Plug with Female Pins	320 amps	600 VDC	3/0
A000028081	Socket with Male Pins	320 amps	600 VDC	3/0
A000042647	Plug with Female Pins	320 amps	600 VDC	4/0
A000042708	Socket with Male Pins	320 amps	600 VDC	4/0



### Euroconnectors

Euroconnectors are fully compatible with connectors complying with DIN43589-1, 150V/80A. These connectors have places for two main contacts and two auxiliary contacts. All contacts are fixed by a snap in action in the contact holder. Cables are secured with the cable clamps. The handle is locked with screws. These connectors can be coded for 24, 36, 48, 72, 80, and 96 volts (in accordance with DIN43589-1).

#### 80A

Part No.	Description	Wire Gauge
A000025414	Male, 16 mm <sup>2</sup>	6 AWG
A000025416	Male, 25 mm <sup>2</sup>	4 AWG
A000025415	Female, 16 mm <sup>2</sup>	6 AWG
A000025417	Female, 25 mm <sup>2</sup>	4 AWG
A000025418	Handle (hardware included)	-



#### 160A

Part No.	Description	Wire Gauge
A000025419	Male, 35 mm <sup>2</sup>	2 AWG
A000025421	Male, 50 mm <sup>2</sup>	1/0
A000025420	Female, 35 mm <sup>2</sup>	2 AWG
A000025422	Female, 50 mm <sup>2</sup>	1/0
A000025423	Handle (hardware included)	-

#### 320A

Part No.	Description	Wire Gauge
A000025424	Male, 50 mm <sup>2</sup>	1/0
A000025426	Male, 70 mm <sup>2</sup>	2/0
A000025428	Male, 95 mm <sup>2</sup>	3/0
A000025425	Female, 50 mm <sup>2</sup>	1/0
A000025427	Female, 70 mm <sup>2</sup>	2/0
A000025429	Female, 95 mm <sup>2</sup>	3/0
A000025430	Handle (hardware included)	-

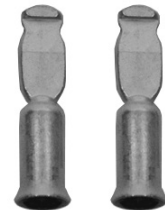
## Euroconnector Contact Kits 320A

Part No.	Description
A000026557	Male 1/0 Contact Kit, 50 mm <sup>2</sup>
A000026559	Male 2/0 Contact Kit, 70 mm <sup>2</sup>
A000026561	Male 3/0 Contact Kit, 95 mm <sup>2</sup>
A000026563	Pilot Male Contact Kit, 4 mm <sup>2</sup>
A000026564	Twin Air Male Tube Set
A000026558	Female 1/0 Contact Kit, 50 mm <sup>2</sup>
A000026560	Female 2/0 Contact Kit, 70 mm <sup>2</sup>
A000026562	Female 3/0 Contact Kit, 95 mm <sup>2</sup>
A000026565	Pilot Female Contact Kit, 4 mm <sup>2</sup>
A000026566	Twin Air Female Tube Set

## Replacement Contact Kits

Connector Type	Wire Gauge	Part No.
SB50	6	2I5340
SB50	10-12	2I5341
SB175	1/0	2I5336
SB175	2	A000013411
SB350	1/0	A000013410
SB350	2/0	2I5320
SB350	3/0	2I5321
SB350	4/0	2I5322
SB175 (Pre-Soldered)	1/0	A000007336
SB350 (Pre-Soldered)	2/0	A000007344
SB350 (Pre-Soldered)	3/0	A000007343
SB350 (Pre-Soldered)	4/0	A000007342
SBX175	1/0	A000010458
SBX350	2/0	A000003247
SBX350	3/0	A000010428
SBX350	4/0	A000009367

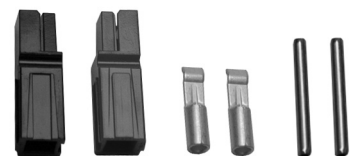
All sets contain two contacts.



## SBX® Type (6344) Auxiliary Contact Kit

Part Number: 2I5850

For SBX175 and SBX350 type connectors.



### Cable Clamp Kits

Part No.	SB Series Type	Description
2I5342	SB175	Use with single conductor cable (metal, two piece) hardware included
2I8059	SB350	Use with single conductor cable and the "A" frame handle
2I5825	SB350	Use with twin conductor cable and the "A" frame handle



### Handle Kits

Kit includes 1 handle, 4 screws, 4 nuts, and 4 lock washers.

SB175 Type	SB350 Type	Color
2I5343	2I5344	Gray
A000029867	A000029866	Red



### Manual Releases

Part No.	SB Series Type	Description
2I5324	SB350 for Truck or Charger	Mounting Half 2 screws, 2 nuts, 2 lock washers
2I5323	SB350 for Battery	Locking Half 2 screws, 2 nuts, 2 lock washers
2I6022	SB350 for Battery	Locking Half w/Cable Clamp 3 screws, 3 nuts, 3 lock washers
A000010825	SB175 for Truck or Charger	Mounting Half 2 screws, 2 nuts, 2 lock washers
A000010824	SB175 for Battery	Locking Half 3 screws, 3 nuts, 3 lock washers
A000025889	SBX175 for Battery	Mounting Half 2 screws, 2 nuts, 2 lock washers
A000025886	SBX175 for Truck or Charger	Locking Half 2 screws, 2 nuts, 2 lock washers
A000025887	SBX350 for Battery	Mounting Half 2 screws, 2 nuts, 2 lock washers
A000025888	SBX350 for Truck or Charger	Mounting Half 2 screws, 2 nuts, 2 lock washers



### Extraction Tools

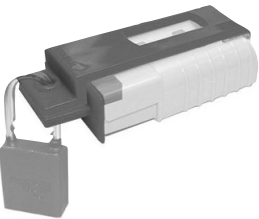
Part No.	Use with Connector Type	Anderson Part No.
A000024371	SBX350	970P1



### Lockouts

Lockouts are important when working on large equipment and provide the necessary safety protection for power lockout.

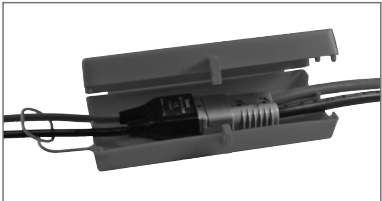
Part No.	Connector Type
A000011417	SB175
A000011254	SB350



### Connector Lock Box

Part Number: A000018908

Lockout the charger, forklift, or battery. Lock together to complete charging cycle, battery cool down, proper battery rotation, etc. Fits SB, SBX, and DIN type connectors. Fits 50, 175, and 350 amp connectors.



### Charger Key Kits

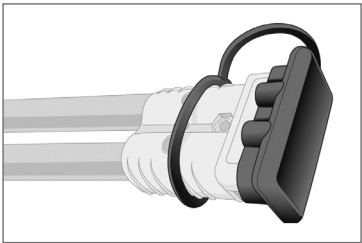
Prevents the charger from being able to be plugged into the truck. Includes four each-screws, lock washers, and nuts with the keys.

Part No.	Connector Type
A000054006	SB175
A000054007	SB350

### Dust Covers

The rubber cap covers the end of unplugged SB type battery connectors. Keeps dust and other foreign objects out of the connector when not in use.

Part No.	Connector Type
A000009360	SB50
A000009361	SB175
A000009362	SB350



### Quick SB/Safety Boots

Keep terminals clean when equipment is disconnected with safety boots. The boots protect SB® connectors from impact damage, provide strain relief for the cables, help prevent accidental arcing, seal out acid, dirt, and moisture, and fit all major brands of connectors

Amps	Cable Ga. Range	Part No.	Quantity
50	12-6	A000027418	25
175	4-1/0	A000027419	5
175	4-1/0	A000027420	25
350	2/0-4/0	A000027421	5
350	2/0-4/0	A000027422	15



Cone Leadheads

- 6% antimonial lead for durability
- Post hole 15/16" (.937", 24 mm)
- Fits all major brands of thimbles

Standard Lead Cones

Fits all gauge sizes.

Style	Center-to-Center	1/Bag	5/Box
1 Hole	-	A000019756	A000019757
2 Hole	3"	A000019758	A000019759
2 Hole	3-3/4"	A000019760	A000019761
3 Hole	3-3/4"	A000019762	A000019763



Maintenance-Free Cones

Fits all gauge sizes. Solid lead with reinforcing sleeve.

Style	Center-to-Center	1/Bag	5/Box
1 Hole	-	A000019764	A000019765
2 Hole	3"	A000019766	A000019767
2 Hole	3-3/4"	A000019768	A000019769
3 Hole	3-3/4"	A000019770	A000019771

Thimble Leadheads

- 100% copper alloy tin plated for corrosion resistance and solderability
- Fits all major brands of cones
- Fasteners sold separately (Part Number: A000034046)

Crimp/Solder Thimbles

- Tin plated
- Crimp with HexCrimp tool or solderable
- Fasteners sold separately

Fusion/Solder Thimbles

- Same as crimp thimble, only with pre-loaded flux and solder
- Perfect solder connection every time
- Fasteners sold separately

Thimbles-10 Per Bag

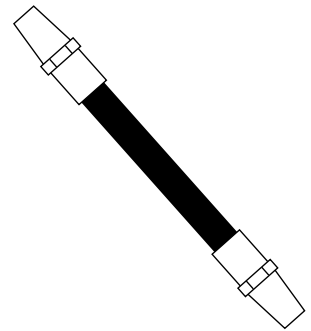
Gauge	Crimp/Solder	Fusion/Solder
2 ga.	A000019772	A000019773
1 ga.	A000019774	A000019775
1/0	A000019776	A000019777
2/0	A000019778	A000019779
3/0	A000019780	A000019781
4/0	A000019782	A000019783



## 10' Cable with Thimbles at Each End

Fits all gauge sizes. Solid lead with reinforcing sleeve.

Gauge	Color	1/Bag	5/Box
2 ga.	Red	A000019784	A000019785
2 ga.	Black	A000019786	A000019787
1 ga.	Red	A000019788	A000019789
1 ga.	Black	A000019790	A000019791
1/0	Red	A000019792	A000019793
1/0	Black	A000019794	A000019795
2/0	Red	A000019796	A000019797
2/0	Black	A000019798	A000019799
3/0	Red	A000019800	A000019801
3/0	Black	A000019802	A000019803
4/0	Red	A000019804	A000019805
4/0	Black	A000019806	A000019807



## Standard Bore Leadheads

- 15/16" post hole (.937", 60 mm)
- Pre-made lengths
- Color-coded for easy polarity identification
- Custom cables available

### Straight

Gauge	Length (inches)	Length (m)	Ends Terminated	Black	Red
1 ga.	60"	1.5	1	A000019636	A000019637
1 ga.	120"	3.1	2	A000019638	A000019639
1/0	60"	1.5	1	A000019640	A000019641
1/0	120"	3.1	2	A000019642	A000019643
2/0	60"	1.5	1	A000019644	A000019645
2/0	120"	3.1	2	A000019646	A000019647
3/0	60"	1.5	1	A000032763	A000032764
4/0	60"	1.5	1	A000032765	A000032766



### Offset One Post Hole

Gauge	Length (inches)	Length (m)	Ends Terminated	Black	Red
1 ga.	60"	1.5	1	A000019648	A000019649
1 ga.	120"	3.1	2	A000019650	A000019651
1/0	60"	1.5	1	A000019652	A000019653
1/0	120"	3.1	2	A000019654	A000019655
2/0	60"	1.5	1	A000019656	A000019657
2/0	120"	3.1	2	A000019658	A000019659
3/0	60"	1.5	1	A000032759	A000032760
4/0	60"	1.5	1	A000032761	A000032762



## Offset Two Post Hole

Gauge	Length (inches)	Length (m)	Ends Terminated	3" Center (Black)	3" Center (Red)	3.75" Center (Black)	3.75" Center (Red)
1/0	60"	1.5	1	A000019660	A000019661	A000019662	A000019663
1/0	120"	3.1	2	A000019664	A000019665	A000019666	A000019667
2/0	60"	1.5	1	A000019668	A000019669	A000019670	A000019671
2/0	120"	3.1	2	A000019672	A000019673	A000019674	A000019675
3/0	60"	1.5	1	A000019676	A000019677	A000019678	A000019679
3/0	120"	3.1	2	A000019680	A000019681	A000019682	A000019683
4/0	60	1.5	1	A000032767	A000032768	A000032769	A000032770

## Offset Three Post Hole

Gauge	Length (inches)	Length (m)	Ends Terminated	3" Center (Black)	3" Center (Red)	3.75" Center (Black)	3.75" Center (Red)
2/0	60"	1.5	1	A000019684	A000019685	A000019686	A000019687
2/0	120"	3.1	2	A000019688	A000019689	A000019690	A000019691
3/0	60"	1.5	1	A000019692	A000019693	A000019694	A000019695
3/0	120"	3.1	2	A000019696	A000019697	A000019698	A000019699
4/0	60"	1.5	1	A000019700	A000019701	A000019702	A000019703
4/0	120"	3.1	2	A000019704	A000019705	A000019706	A000019707

## Small Bore Leadheads

- 3/4" post hole (.75", 19 mm)
- Designed for SAE posts on deep cycle batteries
- Silicone Seal™ seals out moisture and acid
- Same construction as standard leadheads

## Offset-One Post Hole

Gauge	Length (inches)	Length (m)	Ends Terminated	Black	Red
2 ga.	60"	1.5	1	A000019708	A000019709
2 ga.	120"	3.1	2	A000019710	A000019711



## Intercell Connectors

- Safe-burning, high-conductivity lead QuickLink® intercell connectors
- Available in two thicknesses: High Capacity Intercells, same thickness as standard, and Ultra Capacity Intercells, which are double the thickness of our High Capacity
- Easier to identify—part number and center-to-center size molded in to each intercell
- Branded for quality assurance
- 3% antimonial lead, free of voids and porosity, greater electrical conductivity
- Ultra Capacity Intercells have thicker strap and burn rings ideal for "fast charge" batteries
- Shrouds fit easily

High Capacity	Ultra	Center-to-Center
A000031705	A000031710	3"
A000031706	A000031711	3-1/8"
A000031707	-	3-1/2"
A000031708	-	3-3/4"
A000031709	-	5"
A000035368	-	6"



## Leadhead Shrouds

- Protects system from electrical shorts between battery cells
- Reduces the risk of battery explosion caused by sparks
- High temperature MDPE construction
- Color-coded for easy polarity identification
- Meets OSHA and USCG requirements

### Straight

Color	5/Bag	25/Bag
Black	A000019720	A000019721
Red	A000019722	A000019723



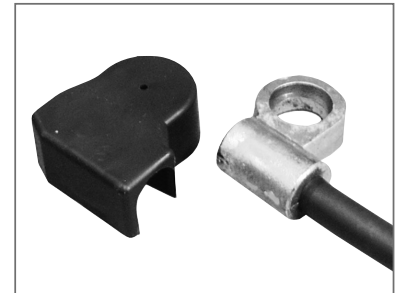
### Intercell

Color	Length	Holes	5/Bag	25/Bag
Black	4.59"	2	A000019712	A000019713
Black	5.43"	2	A000019714	-
Black	12.20"	4	A000019716	A000019717
Black	14.21"	4	A000019718	A000019719



### Offset

Color	5/Bag	25/Bag
Black/Right	A000019724	A000019725
Red/Right	A000019726	A000019727
Black/Left	A000019728	A000019729
Red/Left	A000019730	A000019731



### Offset 2-Hole

Color	Length	5/Bag	25/Bag
Black/Right	3.75"	A000019732	A000019733
Red/Right	3.75"	A000019734	A000019735
Black/Left	3.75"	A000019736	A000019737
Red/Left	3.75"	A000019738	A000019739
Black/Right	3.00"	A000019740	A000019741
Red/Right	3.00"	A000019742	A000019743
Black/Left	3.00"	A000019744	A000019745
Red/Left	3.00"	A000019746	A000019747



### Offset 3-Hole

Color	Length	5/Bag	25/Bag
Black/Right	3.00"-3.75"	A000019748	A000019749
Red/Right	3.00"-3.75"	A000019750	A000019751
Black/Left	3.00"-3.75"	A000019752	A000019753
Red/Left	3.00"-3.75"	A000019754	A000019755





Small Bore “L” Terminals

- 3/4” post hole (.75”, 19 mm)
- Converts SAE post to “L” terminal

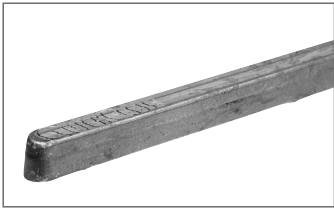
Stud Hole Size	10/Box	50/Box
1/4” and 5/16” (5 and 6 mm)	A000019808	A000019809
3/8” (8 mm)	A000019810	A000019811



Leadhead Sticks/Burn Bars

- Constructed of 6% antimonial lead
- Clean melting alloy, free of foreign material, voids and porosity
- 12” long sticks weighing one pound

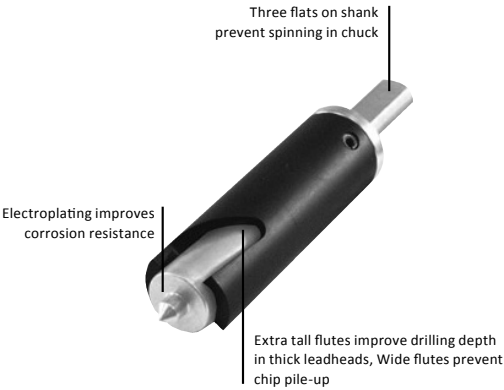
1 Stick	5 Sticks	35 Sticks
A000019812	A000019813	A000019814



Leadhead Drill

Part Number: A000027636

- Designed for Leadheads, FastCharge Leadheads and Intercells
- Two flutes
- Extra tall flutes allow drilling depth of up to 1”
- 1” OD leaves a .70” post
- Tool length 5”
- Center pin to guide drill straight
- Can be resharpened



## Curtis Battery Discharge Indicators

### 802 Series

A completely solid state battery discharge indicator without lift lockout and an LCD hour meter in one 52 mm instrument. Void of moving parts, this instrument is exceptionally reliable.

Curtis Model No.	Voltage	Description	Part No.
#802RB12BN	12	BDI and Hour Meter	A000009212
#802RB2436BN	24-36	BDI and Hour Meter	A000009213
#802RB2448BN	24-48	BDI and Hour Meter	A000009215
#802RB3648BN	36-48	BDI and Hour Meter	A000009214
Curtis Meterguard (Polycarbonate Lens)			A000009099



### 803 Series

A completely solid state battery discharge indicator with lift lockout and an LCD hour meter in one 52 mm instrument. Void of moving parts, this combination instrument is exceptionally reliable. Includes hardware kit.

Curtis Model No.	Voltage	Description	Part No.
#803RB12BCJ	12	BDI and Hour Meter	A000007746
#803RB2436BCJ	24-36	BDI and Hour Meter	A000007747
#803RB3648BCJ	36-48	BDI and Hour Meter	A000007748
Model 803 Installation Kit (Wire Harness)			A000009583
Curtis Meterguard (Polycarbonate Lens)			A000009099



### 900R Series

Ideally suited for lead acid battery-powered vehicles that require a display function only.

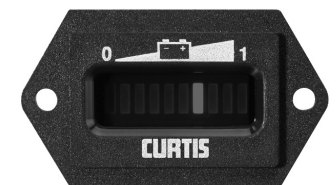
Curtis Model No.	Voltage	Description	Part No.
#900RB12BN	12	Battery Discharge Indicator	A000007749
#900RB24BN	24	Battery Discharge Indicator	A000007750
#900RB36BN	36	Battery Discharge Indicator	A000007751
#900RB48BN	48	Battery Discharge Indicator	A000007752
Curtis Meterguard (Polycarbonate Lens)			A000009099



### 906T Series

Model 906T is an inexpensive, one piece, easy to install battery fuel gauge. It is completely solid state and provides a reliable, accurate and easy to read display of battery state-of-charge.

Curtis Model No.	Voltage	Description	Part No.
#906T12BNMAO	12	Battery Capacity Indicator	A000007753
#906T24BNMAO	24	Battery Capacity Indicator	A000007754
#906T36BNMAO	36	Battery Capacity Indicator	A000007756
#906T48BNMAO	48	Battery Capacity Indicator	A000007755



Curtis Battery Controllers 933/3D Series

Prolongs battery life and protects vehicle components from the effects of deep discharge in material handling and other battery powered industrial vehicles. Battery “fuel” gauge and controller includes lift lockout and adjustable reset and discharge settings. These proven instruments feature a rugged aluminum controller for reliable operation.

Curtis Model No.	Voltage	Description	Part No.
#933/3 Indicator	-	Standard Analog Indicator (Includes Hardware Kit)	A000007760
#933/3D24	24	Battery Controller only	A000007761
#933/3D36	36	Battery Controller only	A000007762
#933/3D48	48	Battery Controller only	A000007763
#933/3D2436	24/36	Battery Controller only	A000007764
#933/3D3648	36/48	Battery Controller only	A000007765
#933/3D24 (Kit)	24	Battery Controller with Standard Indicator	A000009207
#933/3D36 (Kit)	36	Battery Controller with Standard Indicator	A000009208
#933/3D48 (Kit)	48	Battery Controller with Standard Indicator	A000009209
#933/3D2436 (Kit)	24/36	Battery Controller with Standard Indicator	A000009210
Curtis Meterguard for Round Indicators (Polycarbonate Lens)			A000009099



933/3D Controller



933/3 Indicator



LED Indicator

Replacement Gauge

Replacements for Curtis 933/3D Series (not an original Curtis product.)

Part No.	Description
217956	Replacement Analog Gauge

## Unigage Series

The Curtis Unigage represents the new generation of Curtis 933/1 “Fuel” gauge and Battery Controller combination. In addition to the “state of charge” displayed on a multicolored, ten-bar LED, the Unigage features an hour meter to monitor operating hours for the forklift. Sold as a replacement for vehicles already equipped with the Unigage.

Curtis Model No.	Voltage	Description	Part No.
#933/1C243648J0010	24/36/48	Unigage	A000007758
Curtis Meterguard (Polycarbonate Lens)			A000009099



## Curtis enGage® II Series

The Curtis enGage II Series is a dual function, microprocessor based instrument that can be factory or user defined to monitor various functions including fuel, temperature, pressure, voltage, battery state of charge and maintenance/status.



Curtis Model No.	Description	Voltage	Notes	Part No.
3003R-67X-0001	Maintenance Monitor/Hour Meter	12-48	Field programmable monitor allows users to program maintenance intervals, while displaying total hours. Does not include harness connector (A000016530).	A000016529
3003R-58X-0001	BDI/Settable Hour Meter	12-48	Provides reliable state-of-charge information. The settable hour meter can be set between 0 and 99999. Harness connector included.	A000036200
Harness Amp Connector				A000016530

## Economy Battery Discharge Indicators

The Charge Guard is designed to assure the extended life of the vehicle battery and electrical components by indicating the level of charge with a tricolored LED display. On models equipped with lift lockout, the lockout indicator begins to flash when the battery reaches the 80% depth of discharge level. After five minutes, the indicator light stops flashing, and the lift lockout function is activated.

Part No.	Voltage	Description
A000002897	12	BDI with Lock Out
A000002898	24	BDI with Lock Out
A000002899	36	BDI with Lock Out
A000002900	48	BDI with Lock Out
A000002892	12	BDI without Lock Out
A000002893	24	BDI without Lock Out
A000002894	36	BDI without Lock Out
A000002895	48	BDI without Lock Out
A000002896	72	BDI without Lock Out



## Unimeter Battery Monitor by BMI

Part Number: A000009439

The Unimeter features battery monitoring, an hour meter, and programmable maintenance scheduling.

### Features

- Multi-voltage 12 to 48 volts
- Adjustable for flooded or no-maintenance batteries
- “Zero drift technology” ensures Unimeter never requires recalibration, once set
- Two piece unit—Lexan Specific Instruction Display and Relay Box
- One 12” harness lead included

### Battery Monitoring

#### Green = DO NOT CHARGE

Charging in the green or DO NOT CHARGE range is destructive charging. Destructive charging wastes energy, reduces battery life, and increases water consumption. When the green DO NOT CHARGE indicator is illuminated, the battery is charged for a full shift.

#### Yellow = OK TO CHARGE

The yellow OK TO CHARGE indicates the battery has sufficient capacity remaining to complete the present shift. This setting is programmable to enforce maximum discharge policies or to allow batteries to be charged without interrupting work flow. Charging in this range is constructive charging and produces good lifetime battery capacity. The OK TO CHARGE is backed up with an optional five minute variable alarm.

#### Red = MUST CHARGE

Operating the battery until the red MUST CHARGE instruction is illuminated produces maximum lifetime capacity, greatest number of shifts per charge, and lowest per ampere charging costs. Charging in the MUST CHARGE range is used when mid-shift battery changes do not adversely affect work flow. The MUST CHARGE indicator is programmable to maximize battery use to the specific requirements of the work flow. Once the red light is illuminated, a warning beep sounds every 5 seconds advising the operators that in 10 minutes the “lift lockout” feature will engage. Lift lockout cannot be bypassed or defeated. NOTE: Lift lockout is normally programmed to engage at 80% discharge.

#### Battery Fault Indicator

The battery fault indicator advises the operator a problem is developing with the battery. Problems detected may include: cell failure, problems with an inter cell connector, a broken battery post, bad SB type connector, etc.

#### Hour Meter

The HOUR METER can be programmed in two different ways; To record time based on the number of hours the ignition key is on, or the run time when the forklift is actually being used.

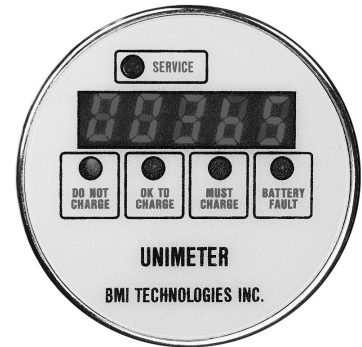
## Unimeter Programmer

Part Number: A000025924

The hand-held Unimeter Programmer is used to field calibrate the Unimeter to your charging and preventative maintenance policies. Exclusive microprocessor technology eliminates guesswork and allows settings to be quickly and precisely raised or lowered, regardless of the battery’s state of charge, facility temperature, or load conditions.

The Unimeter Programmer is used to program the Unimeter’s:

- Battery voltage
- Specific gravity for the OK TO CHARGE and MUST CHARGE battery states
- Method of recording time
- Preventative maintenance schedule
- Lift lockout option

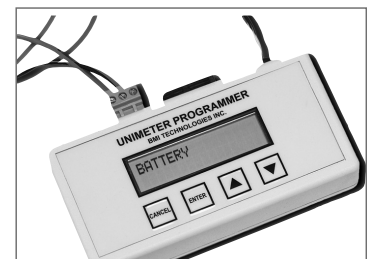


### Service

The red SERVICE light is programmed for number of hours of run time before the forklift is due for a PM. Optional “lift lockout” can be programmed to ensure that maintenance is performed.

### Programmable Maintenance Schedule

The Unimeter can be programmed with the number of hours before preventative maintenance is required for the vehicle. The number of hours is based on the method of recording time selected when programming the hour meter. When the preventative maintenance threshold is reached, the service indicator illuminates. An optional “lift lockout”, which cannot be bypassed or defeated, can be programmed to ensure the required preventative maintenance does take place at some predetermined time after the service indicator illuminates. The Unimeter Programmer is used to program the Unimeter’s preventative maintenance settings.



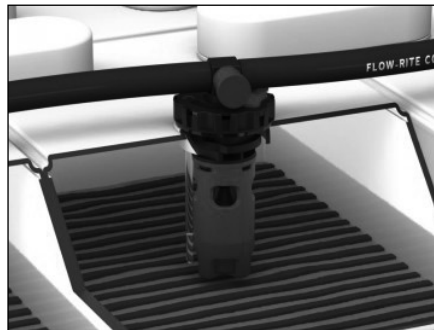
## Millennium EVO™ Battery Watering System by Flow-Rite™

Flow-Rite offers the most complete range of water supplies including regulated hose supplies, AC/DC powered carts, portable units, gravity tanks, deionizers, and hand pumps. The Millennium Evo™ Battery Watering System makes the difficult task of watering industrial batteries elementary. It consists of automatic shut-off valves, interconnected with tubing, that replace the existing vent caps. A quick coupling allows the system to be connected to a water supply. Once connected, water flows into each cell until it reaches the correct level. A flow indicator built into the water supply tells the operator when filling has been completed. The entire process takes just 30 seconds per battery.

### The Millennium EVO Advantage

Millennium Evo is the most innovative, advanced, versatile, and user friendly system on the market today. Advanced materials and design produce the most robust and the best performing valve. At a glance, you can see many of the superior features listed below. What's more impressive is the structure inside the valve that allows the Millennium Evo valve of working independently of water pressure (3-35 psi), allowing you to use a variety of water supply options.

- **Optical Level Indicator**—Check your electrolyte levels without having to remove your watering system. The built-in indicator is white when the cell is low on water and black when full. Since it operates independently from the valve, it is the only built-in indicator on the market that can truly be used to accurately verify cell electrolyte levels. (not available on all valve configurations)
- **Color Coded Flip-Top Cell Access**—Check specific gravity levels with ease. Flip-Top access port gives direct cell access without the need for drilling cell covers or removing the watering system. New color coding allows for easy verification of valve length after the valves have been installed.
- **Clampless Polypropylene Tubing**—Patented clampless tubing installs in half the time of tubing that requires clamps and holds twice as well. Unlike clear PVC tubing, our patented tubing will not break down and cause system failure.
- **3-Port Swivel Tee**—Patented Three-Port Swivel Tee rotates a full 360 degrees, allowing for a more versatile installation. Eliminates kinked tubing, the need for additional plumbing pieces and allows you to place the feed tube wherever it's most convenient, not just at the end.
- **Low Profile**—The patented low profile design keeps all components of the watering system out of harm's way by making sure that they all sit below the intercell connectors.
- **Wide Pressure Range**—Millennium's patented technology eliminates the need to buy expensive water supplies to generate high pressure and flow. Our variable pressure system will work from 3 to 35 PSI, with minimum flow rate of 2 GPM (measured through the purger).



### Energysys

General 55GL/75GL, Loadhog E55L/E75L, and E100. Workhog E85 and Superhog E110. Battery Builder, Bulldog C and D, Crown, Deka, Hawker, Power Flow, and Reaco Specific Kits Specific Kits.

Flow-Rite No.	Part Number	Description
BK-1C0-201-506	A000015991	6 Cell Kit
BK-1C0-201-512	A000015990	12 Cell Kit
BK-1C0-201-518	A000015992	18 Cell Kit
BK-1C0-201-524	A000015993	24 Cell Kit
BK-1C0-201-536	A000033782	36 Cell Kit
BK-1C0-201-540	A000033783	40 Cell Kit
BA-C10-21-6P	A000017814	Valve-Clampless-Flip Top



## GNB/Exide Specific Kits

Fits flat plate batteries manufactured after May 1, 2012 and all tubular batteries.

Flow-Rite No.	Part Number	Description
BK-1C0-G00-506	A000037785	6 Cell Kit
BK-1C0-G00-512	A000037786	12 Cell Kit
BK-1C0-G00-518	A000037787	18 Cell Kit
BK-1C0-G00-524	A000037788	24 Cell Kit
BK-1C0-G00-536	A000037789	36 Cell Kit
BK-1C0-G00-540	A000037790	40 Cell Kit
BA-C15-G0-6P	A000037744	Bayonet Valve



## GNB/Exide Specific Kits

Fits flat plate batteries manufactured before May 1, 2012.

Flow-Rite No.	Part Number	Description
BK-GNBSH-506	A000037779	6 Cell Kit
BK-GNBSH-512	A000037782	12 Cell Kit
BK-GNBSH-518	A000037781	12 Cell Kit
BK-GNBSH-524	A000037782	12 Cell Kit
BK-GNBSH-536	A000037783	12 Cell Kit
BK-GNBSH-540	A000037784	12 Cell Kit
BA-C10-G0-6P	A000017818	Bayonet Valve



## Energys

Loadhog E140 and Superhog E155 Specific Kits

Flow-Rite No.	Part Number	Description
BK-1C0-301-512	A000012985	12 Cell Kit-Clampless
BK-1C0-301-518	A000012986	18 Cell Kit-Clampless
BK-1C0-301-524	A000012987	24 Cell Kit-Clampless
BK-1C0-301-536	A000033780	36 Cell Kit-Clampless
BK-1C0-301-540	A000033781	40 Cell Kit-Clampless
BA-C10-31-6P	A000017816	Valve-Clampless-Flip Top



## Energys

Workhog E75/E125, Deserthog E85D/E100D/E125D, and General 75G Specific Kits

Flow-Rite No.	Part Number	Description
BK-1C0-401-512	A000033769	12 Cell Kit-Clampless
BK-1C0-401-518	A000033770	18 Cell Kit-Clampless
BK-1C0-401-524	A000033771	24 Cell Kit-Clampless
BK-1C0-401-536	A000033772	36 Cell Kit-Clampless
BK-1C0-401-540	A000033773	40 Cell Kit-Clampless
BA-C10-41-6P	A000017817	Valve-Clampless-Flip Top



## Douglas, GNB/Exide Classic-European Style Specific Kits

Flow-Rite No.	Part Number	Description
BK-2C0-201-506	A000012988	6 Cell Kit
BK-2C0-201-512	A000012989	12 Cell Kit
BK-2C0-201-518	A000012990	18 Cell Kit
BK-2C0-201-524	A000012991	24 Cell Kit
BK-2C0-201-536	A000033776	36 Cell Kit
BK-2C0-201-540	A000033777	40 Cell Kit
BA-C20-21-6P	A000033775	Valve-Clampless-Flip Top



Water Supplies

A full line of Millennium water supplies are available for Millennium SPW valves. Each of the Millennium water supplies has been engineered for use with Millennium SPW valves and requires a Millennium style quick coupler (Part No. A000007636 or A000017810).

Regulated Hose Supply

Our most popular water supply, the Regulated Hose Supply provides an inexpensive option to pump operated units yet still allows for fast filling. Installation couldn't be easier, simply attach to any garden hose bib.

- No bulky components to mount
- No valves to open or close
- No waiting for drain back
- No tools, just screw the hose onto a standard hose bib

Flow-Rite No.	Part No.	Description
BA-MS-320-05	A000040127	5 Foot Hose
BA-MS-320-20	A000002994	20 Foot Hose
BA-019	A000039732	Replacement Inline Filter for Hose



Portable Watering Carts

The AC/DC portable watering cart is ruggedly constructed of lightweight, yet strong polyethylene plastic, and has a large 22 gallon holding capacity. The new cart automatically shuts down when the battery becomes low on charge, and features LED message lights to alert you to the state of the cart's battery. The cart also features a large refill hole with flip-top lid to keep out particles. A 12-volt sealed battery, with its own on-board charger, powers the watering cart's variable speed pump, or it can be plugged in and run on AC power. All components are DI water compatible. For use with batteries equipped with Millennium Evo or Pro-Fill systems. \*SPW system must have a quick coupler (Part No. A000017810).

- New variable speed pump with built-in pressure switch (CE Marked)
- Quick coupler with flow-indicator
- 22 gallon capacity
- Automatically shuts off when filling is complete
- Battery status light—green, yellow, red light displays battery status
- Large refill hole with flip top lid
- Nine foot supply hose

Flow-Rite No.	Part No.	Description
BA-MS-110	A000049694	AC/DC Cart
BA-QDV-505	A000017810	Quick Coupler



Deionized Water Supply

Maximizes battery life by removing dissolved solids that are present in tap water and can lead to shortened battery life. The separate bed deionizer uses an ion exchange cartridge filled with non-toxic synthetic resins to remove impurities from tap water before it enters the battery.

- Red/Green water quality light notifies when cartridges need to be replaced
- The low pressure bypass ensures that the deionizer will provide enough pressure and flow to operate your SPW system, even if you forget to change out an old cartridge
- Mounting bracket has built-in hose storage bracket
- 20 foot supply hose

Flow-Rite No.	Part No.	Description
BA-MS-341	A000025369	Deionized Water Supply
BA-221	A000025368	Deionized Cartridge





## Gravity Tanks

Simply set on a shelf or use the included rugged steel mounting bracket. Connect the water supply hose to a 3/4 inch hose bib and the tank keeps itself filled to the top. A great solution for areas where the facility water supply is inadequate. The bottom of the gravity tank must be a minimum of six feet above the top of the batteries being filled. Five gallon capacity.

- 5 gallon water capacity
- Available with or without automatic refill valve
- Includes rugged 14 gauge steel mounting bracket

Flow-Rite No.	Part No.	Description
BS-MS-700	A000017802	Gravity Water Supply with Automatic Refill
BS-MS-702	A000017803	Gravity Water Supply without Automatic Refill



## Water Supply Components

Flow-Rite No.	Part No.	Description
BA-005	A000016888	Inline Pressure Regulator
BA-032	A000017808	Back Flow Preventer
BA-051	A000017497	Purger
BA-FLW-20	A000003175	Flow Indicator with Female CPC Quick Disconnect
BA-MS-320-00	A000003174	Hose End Assembly without Hose
BD-326	A000018609	Rocker Switch, Amber for DC Cart
BD-327	A000018607	Rocker Switch, Red for AC Cart
BD-003-23	A000018618	DC Watering Cart Pump



## Millennium EVO/SnapFill “Clampless Style” Quick Coupler

Flow-Rite No.	Part No.	Description
BA-QDV-505	A000017810	Flow-Rite standard male coupler with 1/4” barb used on Millennium and Pro-Fill systems.
BA-QDV-405	A000040126	Coupler, Battery Watering Technologies, 1/4 inch barb
BA-QDV-705	A000017812	Coupler, BFS/Walther, 1/4 inch barb
BA-QDV-805	A000017813	Coupler, Philadelphia Scientific (injector), 1/4 inch barb



## Millennium EVO “Clampless Style” Parts

Flow-Rite No.	Part No.	Description
BD-010	A000011484	Gasket for Bayonet Cap without Flip Top
BA-142	A000017799	Swivel T Connector with O-Ring
BD-202	A000011483	O-Ring for T Swivel
BD-203	A000011804	O-Ring for 35P Cap
BD-204	A000036353	BD-204 O-Ring for BA-QDV-505 and BA-QDV-500 Quick Couplers
BD-280	A000017800	Swivel T Plug
BD-T14	A000017801	Tubing (Per Foot)



Millennium EVO/Snap Fill “Clamp Style” Quick Coupler

Flow-Rite No.	Part No.	Description
BA-QDV-500	A000007636	Millennium EVO/Snap Fill Quick Coupler (Clamp-Style)



Millennium EVO “Clamp Style” Parts

Flow-Rite No.	Part No.	Description
BD-204	A000036353	BD-204 O-Ring for BA-QDV-505 and BA-QDV-500 Quick Couplers

Tools

Flow-Rite No.	Part No.	Description
BA-007	A000012997	Tube Cutter
BA-047	A000012996	Hydrometer
BA-107	A000003176	Cell Inspection Plug Drill Bit



Level Indicators

Eagle Eye Level Indicator

Eagle Eye monitors and displays the status of cell electrolyte levels with a solid green or blinking red light. Unlike previous indicators, the new Eagle Eye measures electrolyte levels without using a conductive metal probe. A plastic probe measures levels via the patent pending Capacitive Sensing Technology, designed to be acid resistant and exempt from corrosion and sulfating. Calibration is also no longer required with the new line of Eagle Eye Indicators.

There are two models available that include a “local” version for mounting in the center cell and a remote version. The remote version allows the user to place the measuring probe in the center cell and locate the light on the edge of the battery or on the dashboard of the vehicle.

Features and Benefits

- Probe may be trimmed to size
- Nickel ring terminals are epoxy sealed to wires to prevent corrosion
- Sealed polypropylene lens protects the LED and electronics from impacts and acid migration
- Contains three self-resetting fuses
- Reverse polarity protected

Specifications

- Temperature Range: 0°-180° F
- Voltage: 12 VDC
- Construction: Polypropylene
- Current Draw: Less than 20mA
- Red Power Wire Length: 26”

Flow-Rite No.	Part No.	Length	Description
BA-491	A000037659	Standard (1.95”)	Eagle Eye
BA-492	A000037660	Extended (2.91”)	Eagle Eye
BA-494	A000037661	Standard (1.95”)	Remote Eagle Eye
BA-490	A000037662	Extended (2.91”)	Remote Eagle Eye



Eagle Eye



Remote Eagle Eye

Level Lite

The perfect solution to the age old problem of wondering when to water your batteries. When the green light goes out, it's time to water.

Flow-Rite No.	Part No.	Description
BA-434	A000003179	Level Lite



Hydrometer

Part Number: A000012996

Measures specific gravity of battery cells. Centered aerometer for no swinging and lateral contact. Fast accurate reading with a colored and numerical scale. Sturdy straight plastic cylinder design. Dimensions: 1.81" x 1.97" x 10.43" (46 mm x 50 mm x 265 mm)

- Overall length: 10.43" (265 mm)
- Graduations: .01 gram
- Suction volume: 18 ccm
- Suction hose length: 1.77" (45 mm)
- Weight: 100 grams
- Density measuring range: 1.10-1.30 g/ml



## Pro-Fill™ On-Board Battery Watering System by Flow-Rite™

The Pro-Fill™ On-Board Battery Watering System is specifically designed for use with “golf car” style batteries commonly found in golf cars, sweepers, scrubbers, RVs, pallet jacks, and small solar systems. Based on the same technology as our industrial Millennium Plus+ valves, our Pro-Fill system is compatible with all of our Millennium water supplies. The Pro-Fill on-board battery watering system works by replacing the battery’s existing vent caps with valves that are interconnected with tubing, allowing the user to fill all cells of the battery from a single remote location. Each valve independently shuts off water flow to the cell when the proper electrolyte level is reached, allowing the batteries to be filled perfectly every time without having to look at the batteries.



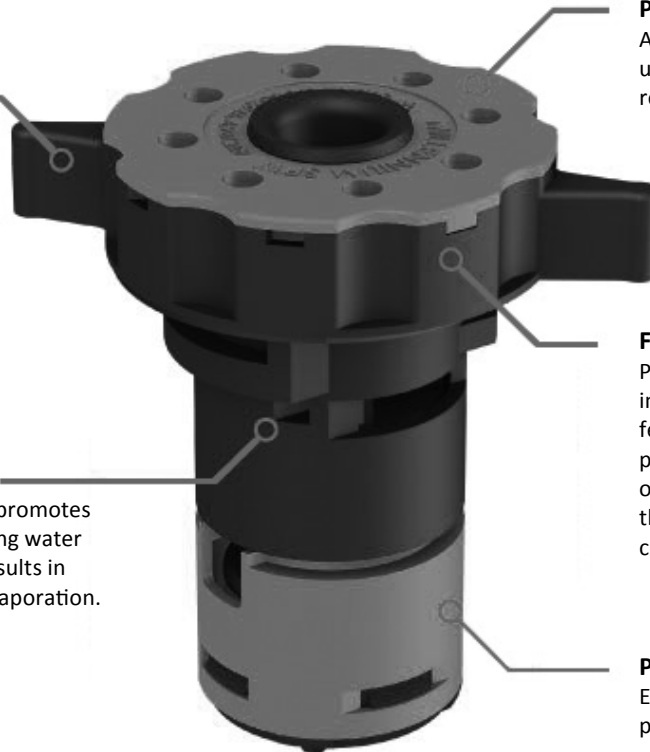
### The Pro-Fill Valve

#### Winged Valves

Our latest development provides for the quickest, easiest installation-eliminating the need for tools.

#### New Larger De-Gas Chamber

The large volume De-Gas chamber promotes condensation inside the cap, allowing water to return to the battery cell. This results in cleaner battery tips and reduced evaporation.



#### Polypropylene

All valve components are constructed using acid, temperature, and impact resistant polypropylene plastic.

#### Flame Arrestor

Pro-Fill is the first watering system to include a flame arrestor as a standard feature. The external flame arrestor prevents any outside spark, flame or the like from entering the battery through the de-gas chamber and causing an explosion.

#### Protective Shroud

Ensures the displacer is fully protected from any outside danger.

### Pro-Fill Universal Kits

**Kit Components: Manifolds, Coupler with Dust Cover, Clampless Tubing, Red End Caps**

Description	Cell Spacing	Flow-Rite No.	Part Number
12V Kit for (2) 6V Batteries	2.7"	BG-U12V-1G	A000037933
12V Kit Non-Standard Cell Spacing	NA	BG-U12V-4G	A000047810
24V Kit for (4) 6V Batteries	2.7"	BG-U24V-1G	A000037936
24V Kit Non-Standard Cell Spacing	NA	BG-U24V-4G	A000047811
36V Kit for (6) 6V Batteries	2.7"	BG-U36V-1G	A000037939
36V Kit Non-Standard Cell Spacing	NA	BG-U36V-4G	A000047812
48V Kit for (6) 6V Batteries	2.3"	BG-U48V-5G	A000037942
48V Kit for (6) 6V Batteries	2.5"	BG-U48V-6G	A000037943
48V Kit for (8) 6V Batteries	2.7"	BG-U48V-1G	A000037944
48V Kit Non-Standard Cell Spacing	NA	BG-U48V-4G	A000047813

## Pro-Fill Kits for Trojan Plus Batteries

**Kit Components: Manifolds, Coupler with Dust Cover, Clampless Tubing, Red End Caps**

Flow-Rite No.	Part No.	Description
BG-U12V-7A	A000037935	12V Kit for (2) 6V Trojan Plus Batteries
BG-U24V-7A	A000037938	24V Kit for (4) 6V Trojan Plus Batteries
BG-U36V-7A	A000037941	36V Kit for (6) 6V Trojan Plus Batteries
BG-U48V-7A	A000037946	48V Kit for (8) 6V Trojan Plus Batteries
BG-U48V-8A	A000037947	48V Kit for (4) 12V Trojan 1275 Plus Batteries

## Water Supplies

The versatility of our Pro-Fill valves has allowed us to work with our full line of existing Millennium water supplies. Each of our Millennium water supplies has been engineered for use with our Pro-Fill and Millennium SPW valves and mate with our standard quick coupler.

### Regulated Hose Supply

Our most popular water supply, the Regulated Hose Supply provides an inexpensive option to pump operated units yet still allows for fast filling. Installation couldn't be easier, simply attach to any garden hose bib.

- No bulky components to mount
- No valves to open or close
- No waiting for drain back
- No tools, just screw the hose onto a standard hose bib



Flow-Rite No.	Part No.	Description
BA-MS-320-05	A000040127	5 Foot Hose
BA-MS-320-20	A000002994	20 Foot Hose
BA-019	A000039732	Replacement Inline Filter for Hose

### Handy Pump Water Supply

The hand pump water supply is perfect for the user who has 1 or 2 vehicles, (golf car, pallet jack, etc.) and would like to use distilled water. To operate, simply connect the hand pump to your Pro-Fill system and place the other end in a gallon of distilled water. Begin to fill by squeezing the pump. When all of your batteries are filled, the bulb will become firm, not allowing you to add any more water.



Flow-Rite No.	Part No.	Description
BA-MS-630	A000017807	Handy Pump Water Supply

## Deionized Water Supply

Maximizes battery life by removing dissolved solids that are present in tap water and can lead to shortened battery life. The separate bed deionizer uses an ion exchange cartridge filled with non-toxic synthetic resins to remove impurities from tap water before it enters the battery.

- Red/Green water quality light notifies when cartridges need to be replaced
- The low pressure bypass ensures that the deionizer will provide enough pressure and flow to operate your SPW system, even if you forget to change out an old cartridge
- Mounting bracket has built-in hose storage bracket
- 20 foot supply hose

Flow-Rite No.	Part No.	Description
BA-MS-341	A000025369	Deionized Water Supply
BA-221	A000025368	Deionized Cartridge



## Portable Watering Carts

The AC / DC portable watering cart is ruggedly constructed of lightweight, yet strong polyethylene plastic, and has a large 22 gallon holding capacity. The new cart automatically shuts down when the battery becomes low on charge, and features LED message lights to alert you to the state of the cart's battery. The cart also features a large refill hole with flip-top lid to keep out particles. A 12-volt sealed battery, with its own on-board charger, powers the watering cart's variable speed pump, or it can be plugged in and run on AC power. All components are DI water compatible. For use with batteries equipped with Millennium Evo or Pro-Fill systems. \*SPW system must have a quick coupler (Part Number: A000017810).

- New variable speed pump with built-in pressure switch (CE Marked)
- Quick coupler with flow-indicator
- 22 gallon capacity
- Automatically shuts off when filling is complete
- Battery status light-green, yellow, red light displays battery status
- Large refill hole with flip top lid
- Nine foot supply hose

Flow-Rite No.	Part No.	Description
BA-MS-110	A000049694	AC/DC Cart
BA-QDV-505	A000017810	Quick Coupler



## Water Supply Components

Flow-Rite No.	Part No.	Description
BA-005	A000016888	Inline Pressure Regulator
BA-032	A000017808	Back Flow Preventer
BA-051	A000017497	Purger
BA-FLW-20	A000003175	Flow Indicator with Female CPC Quick Disconnect
BA-MS-320-00	A000003174	Hose End Assembly without Hose
BD-280	A000017800	Red Swivel-T End Plug
BD-326	A000018609	Rocker Switch, Amber for DC Cart
BD-327	A000018607	Rocker Switch, Red for AC Cart
BD-003-23	A000018618	DC Watering Cart Pump
BD-T14	A000017801	Clampless Tubing (per foot)



Stealth Watering System™ by Philadelphia Scientific

The Stealth Watering System™ is a float-based, single-point watering system that precisely fills all battery cells to the same level simultaneously. Watering batteries with the Stealth Watering System is safe, easy and affordable—and takes one tenth the time of hand watering. It is perfect for installations of 5 to 25 batteries and is best used with conventional charging applications.

The standard Stealth Watering System will fit most any battery in the world—except Crown Battery’s MAX-HAUL battery and GNB Industrial Power’s flat-plate battery. The Stealth Slim Valve is designed to fit in the narrow spacing between the straps these batteries.

The Stealth Watering System incorporates many unique features that make it the best in its class and the most convenient to install:

- One Size Fits All:** Fits all cells to appropriate level. Multiple float sizes are not needed.
- Push-Fit Tubing Ports:** Secure tubing by pushing into ports. No barbed fittings to break.
- Low Profile:** The top of the unit is only 0.60” high. When installed on a battery, the system sits lower than the intercell connectors, reducing the possibility of damage from the battery’s cables as they move over the battery.
- Highly Visible Fill Level Indicator:** Viewable from top and side.
- Snap Fit Base:** Simply remove vent cap from the cell and push in the float body. No separate adapters are needed.
- Fast Tubing Installation:** Push-fit tubing ports allow for easy and secure installation.
- Abuse Resistant Tubing:** Tubing is kink- and crush-resistant. The tubing’s small bend radius enables the Stealth Watering System to fit even the smallest batteries easily, including 5- and 7-plate batteries.



- Each Float Kit includes:**
- 1 Stealth float valve per cell
  - 1 water input and filter assembly
  - 2 end plugs
  - 1 coil of clear PVC tubing--one foot/cell
  - 5 black polyurethane cable ties

Battery Voltage	No. of Cells	Standard Valve (Fits Flow-Rite Systems)	BFS Compatible	Slim Valve (Fits Crown MAX-HAUL and GNB Flat-Plate Batteries)
24	12	A000030921	A000030931	A000054118
36	18	A000030922	A000030932	A000054119
48	24	A000030923	A000030933	A000054120
72	36	A000030924	A000030934	-
80	40	A000030925	A000030935	-

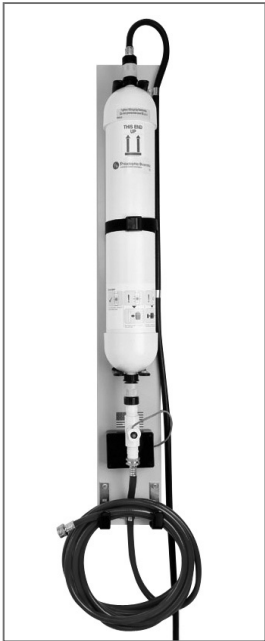
Note: Kits used for Douglas and GNB/Exide Classic-European Style batteries require a DIN adapter (p/n-A000030951) for each valve.

Stealth Watering System Supplies

Water Deionizer System™

Hard water in your water supply may be causing poor battery performance. Metallic impurities in water can poison the battery, affect cell voltages and increase self-discharge, all of which can result in shortened battery run time and reduced battery life. Not only does this waste money in your operation, but time as well. The traditional method to avoid water impurities is to use distilled water, an expensive and inconvenient proposition. Using deionized water is a simple and effective way to maximize battery life.

- Easy Installation:** Includes a mounting plate with hose hanger for a professional installation.
- Pressurized System:** Takes full line pressure up to 80 PSI.
- Purity Light:** A conductivity meter continuously monitors the output water and signals when it’s time to change the cartridge.
- Giant Capacity:** Produces between 1,500 and 250 gallons of purified water.
- Battery Operated:** Includes 2 D-cell batteries that will last for 2 years.
- Watering Gun Available:** An optional battery watering gun is available to fill the deionizer.



Description	Part No.
Water Deionizer System	A000027716
Replacement Deionizer Cartridge	A000030926

**Mobile Watering Cart**  
Part Number: A000030946

- Specifications**
- Capacity: 10 gallon polypropylene tank
  - Battery operated
  - Charger included: 120 VAC
  - Nine foot hose attaches with CPC connector



**Gravity Tank**  
Part Number: A000030948

- Specifications**
- Capacity: 5 gallon polypropylene tank
  - Flow indicator
  - 25 foot hose attaches with CPC connector

Note: Unit must be at least 5 feet above the top of the battery.



**Direct Link System for Stealth Watering Systems**  
Part Number: A000030947

- Specifications**
- 20 foot rugged industrial hose
  - Sediment filter allows for use with facility water
  - Pressure regulator
  - Flow indicator
  - CPC connector



**Stealth Watering System Replacement Parts**

Description	Quantity	Part No.
Input Coupling and Filter Assembly	1	A000034034
End Plug	6	A000030952
DIN Vent Adapter	6	A000030951
Deionizer Cartridge	1	A000030926
Float System Tubing	100 feet	A000030949
Stealth Valve	1	A000030950
Stealth Slim Valve	1	A000054117
Adapter (Connects watering supplies and/or deionizer to Stealth Watering System)	1	A000040888



Philadelphia Scientific Watering Guns

- Automatic Shut-off: Fills cells to precisely the correct level. Patented shut-off mechanism has been tested to 1 million cycles in tough applications. Powered by water, the gun has no solenoids, electronics, or wiring.
- Safe: Keeps eyes and face away from battery hazards and reduces backache from bending over batteries. The gun is insulated to prevent sparking on connectors.
- Fast, Gentle Flow Rate: Keeps eyes and face away from battery hazards and reduces backache from bending over batteries. The gun is insulated to prevent sparking on connectors.
- No Installation Costs: Attaches to any standard hose for a fully operating battery filling system. A built-in regulator automatically reduces high water pressure. The minimum water pressure required is 15 psi (1.0 bar).

Model: GUN-X

- Superior Strength: Built from rugged, engineered ABS plastic. Structural weak points have been eliminated by incorporating the pressure regulator into the nozzle.
- Integrated Flow Indicator: This unique feature shows you when filling has stopped.
- Ergonomically Designed: The easy-squeeze, rugged handle and 45 degree nozzle angle make this gun very comfortable to use.
- Nozzle diameter: 0.67 inch (17 mm)
- Secure Level Control: The greatly improved level control will not move over time, yet is adjustable or removable and is beveled to conform to vent wells at many angles.
- Flow Diffuser: Converts the rapid flow to a gentle spray while protecting the nozzle from damage.

Description	Part No.
GUN-X	A000034576
24" Extension Wand (to fill railroad batteries)	A000035546
9" Extension Wand (to fill railroad batteries)	A000035512



Model: GUN-S

- Special gun developed for watering transparent type stationary batteries only.
- Operates outside of the cell and does not have automatic shutoff.
- Cone shaped nozzle injects water through funnels of the flame arrestor vents, allowing service without removal of vent caps.
- Manually adjustable flow throttle.
- Includes quick connect fittings.

Description	Part No.
GUN-S	A000025934
Replacement End for GUN-S	A000025939



Watering Carts for Guns by Philadelphia Scientific

12-Volt Watering Cart  
Part Number: A000025945

This rechargeable watering cart is easy to use and transport. The unit can be charged from a standard electrical outlet with the provided charger. Unlimited range. Includes a nine foot hose that attaches to all watering guns. Sturdy ten gallon polypropylene tank. Robust pump delivers water to your system.



Mobile Pressure Watering Cart  
Part Number: A000025946

Uses water pressure to deliver water to batteries. Fill the heavy duty steel tank by connecting the input hose up to the water supply with the quick connect provided. Using pressure memory, water is stored in the tank at the same pressure entered. The output flow rate is set to be appropriate for the water injector system. Since this unit is powered by water pressure, a pump is not required. A PVC bladder is used to store the pressure. A 5/8 inch high-output industrial hose is used for the output, and a ball valve and flow indicator (spinner) is attached to the end. The maximum capacity is 10 gallons and is achieved when the tank is pressurized to 80 PSI. There is a capacity gauge on the top of the tank.



**Smart Blinky™**  
The Smart Blinky improves battery maintenance by intelligently alerting personnel when a battery needs water. No schedule is needed and less time is wasted. The Smart Blinky eliminates confusion with red and green indication, ensuring that mistakes are not made by the operator and batteries are not drying out due to false signals. Using microprocessor technology, the Smart Blinky is the most advanced and safest level indicator available. While drawing the lowest amount of current of any watering monitor, this indicator is the brightest and most unlikely to give false indication. The indicator LED is remotely mounted from the probe, making this an extremely flexible and visible maintenance tool.



- Easy to See and Easy to Use**
- Blinking green light means water level is okay
  - Blinking red light means water is needed
  - Light can be edge mounted for best visibility

- Protect Your People and Your Bottom Line**
- Never waste time checking batteries that don't need water
  - Reduces employees' exposure to acid
  - Prolong battery life—never let a battery dry out

- Technologically Advanced**
- The largest, brightest light in the industry
  - No flickering between green and red (smart-sensing technology)
  - Remote probe is small enough to fit even the smallest cells
  - UL Classified



Probe Length	Part No.
2.35" (59.6 mm)	A000035279
5" (127 mm)	A000040650

Quick Disconnect Set

Part No.	Description
A000025944	Male and Female

Push-In Vent Cap

Part Number: A000009100

Push-in type flip top vent cap. Fits Douglas batteries or European industrial batteries without 1/4 turn vent cap openings (DIN).



Standard Vent Cap

Part Number: A000031653

Standard 1/4 turn vent cap fits most industrial and automotive type batteries.



Flip Top Vent Cap

Flip top vent caps are designed to reduce your watering time. Three interchangeable sizes are available.

Description	Cap Height	Battery Plates	Part No.
Short	.955"	17+ Plates	A000037837
Medium	1.275"	5-7, 9-15 Plates	A000037838
Extended	1.455"	5-7 Plates	A000037839



## Battery Protection Kit

Part Number: A000021089

Part No.	Description
A000016890	Hard Hat (Yellow)
A000021050	Polyester/PVC Apron
A000021049	Capshield Mount
A000018784	Goggles, Chemical
A000034719	Gloves, Neoprene (17")
A000013341	Earplugs, Rad Band (23 dB)
A000013336	Face Shield, Clear Acetate



## Battery Acid Spill Kit

Part Number: A000025763

Ideal for quickly cleaning up battery acid. Also effective for clean up of dry cell batteries.

Description	Quantity
Liquid Acid Neutralizer	2-1 quart bottles
Nitrile Gloves	1 pair
Poly Apron	1
Scoop with Detachable Scraper	1
Hazmat Pads	1
Polymer	1 oz.
Splash Goggles	1 pair
Trigger Spray	1
Disposal Bag and Tie	1



## Battery Filling Jug

Part Number: A000036665

Two-quart jug fills batteries with removable caps.



## Liquid Acid Neutralizer

Many aggressive liquid spills involve hazardous acids that require a way to render them safe for final clean-up and disposal in accordance with local, state and federal regulations. KOLOR-SAFE® Acid Neutralizers meet this requirement. KOLOR-SAFE products provide a unique 3-color change during the neutralization process to indicate when an acid has reached its "neutral" state.

Part No.	Container Size	Quantity
A000030975	1 quart bottle	12/case



## Battery Wipes

Part Number: A000025762

Formulated to clean and neutralize battery acid. The color changes to let you know when the acid is neutralized.



## Battery Chemicals

Part No.	Name	Net Weight	Container Size	Qty.	Description and Use
A000025762	Battery Acid Wipes	-	20/canister	1	Formulated to clean and neutralize battery acid. The color changes when the acid is neutralized.
A000049535	Battery Cleaner (Quick Cable)	-	1 quart	1	Excellent for dissolving corrosion and neutralizing acid. Color change formula turns bright red when acid is present and back to yellow when acid is neutralized.
A000049536			1 quart	4	
A000049537			1 quart	12	
A000049538			5 gallon	1	
A000020003	Battery Cleaner (Deka)	15 oz.	-	12	Neutralizes acid, dissolves and removes corrosion from terminals, cables, hold-down, and battery boxes.
A000031559	Battery Corrosion Preventative (Noco®)	12.25 oz.	-	12	Formulated to make all surfaces impenetrable to corrosion-causing acid fumes which reduce battery life and cranking ability. This product is applied to battery terminals, cables, hold-downs, enclosures, boxes, carriers and is guaranteed for the life of your battery.
A000027249	Battery Corrosion Preventative (Quick Cable)	9.75 oz.	12 oz.	6	Seals out acid fumes, road salt, moisture, and dirt. Sprays on red, showing presence of protective coating. Does not dry out or evaporate. Improved non-running, no-drip formula-use less per application.
A000027639	Battery Electrolyte (East Penn)	-	6 quart	1	Sulfuric acid solution. Electrolyte for industrial/commercial electric storage batteries.
A000027640	Battery Electrolyte (East Penn)	-	5 gallon	1	Sulfuric acid solution. Electrolyte for industrial/commercial electric storage batteries.
A000021151	Battery Terminal Protector (CRC)	7.5 oz.	10 oz. aerosol	12	Designed to protect battery terminals from corrosion, a leading cause of hard starting and battery failure.
A000029144	Black Battery Reconditioner (Quick Cable)	12 oz.	16 oz. aerosol	6	Restores battery to original look. Formulated to adhere to battery plastics and metal. Industrial grade, high solids for single coat coverage, outstanding hardness and durability; resists abrasion and heat. Fast drying.
A000030975	Liquid Acid Neutralizer	-	1 quart	12	Many aggressive liquid spills involve hazardous acids that require a way to render them safe for final clean-up and disposal in accordance with local, state and federal regulations. KOLOR-SAFE® Acid Neutralizers meet this requirement. KOLOR-SAFE products provide a unique 3-color change during the neutralization process to indicate when an acid has reached its "neutral" state.

Hydrogen Gas Detectors

This detector has a built-in 80 db(A) warning alarm that activates at a 2% concentration of hydrogen. Used in lead-acid battery charging rooms and other areas where hydrogen is present. The single-relay model activates a relay at a 1% concentration of hydrogen. The relay dry-contacts can be used to turn on an exhaust fan, alarm, or whatever you wish. This usually is sufficient for open, motive power traction battery charging areas. The dual-relay model operates the same way as the single-relay model, except it has a second relay that activates at a 2% concentration of hydrogen. This is useful for closed, unattended stationary battery rooms. The first relay can be used to turn on an exhaust fan. The second relay can be used to turn on an alarm in another area should the hydrogen concentration reach 2%.

Part No.	Description
A000025950	Single Relay
A000025951	Dual Relay



Pogo Stick Cable Retractor

Part Number: A000052938

Heavy-duty spring with safety chain restraint. Use with mounting bracket (Part Number: A000025949).



Cable Tower

Part Number: A000025947

Offers longer cable life, less damage to connector plugs, and safer working conditions.

Charger Cable Retractor

Part Number: A000025948

Adjustable, light-weight, holds larger cables, and bolts directly to charger.



Battery Lifting Beam

Lifting beams are made of hardwood construction, yet are light enough for one-person operation. The lifting beams have natural spark-proof insulation and safety rubber hook retainers. Various hook sizes available. Rubber straps keep hooks in place. A fork attachment hook can be used to help lift batteries with a lifting beam (Part Number: A000025832).

Part No.	Capacity	Clear Span	Length
A000025831	6,000 lbs	27 1/2"–42 1/2"	45"
A000046842	6,000 lbs	35 1/2"–50 1/2"	52"



Battery Lifting Hook

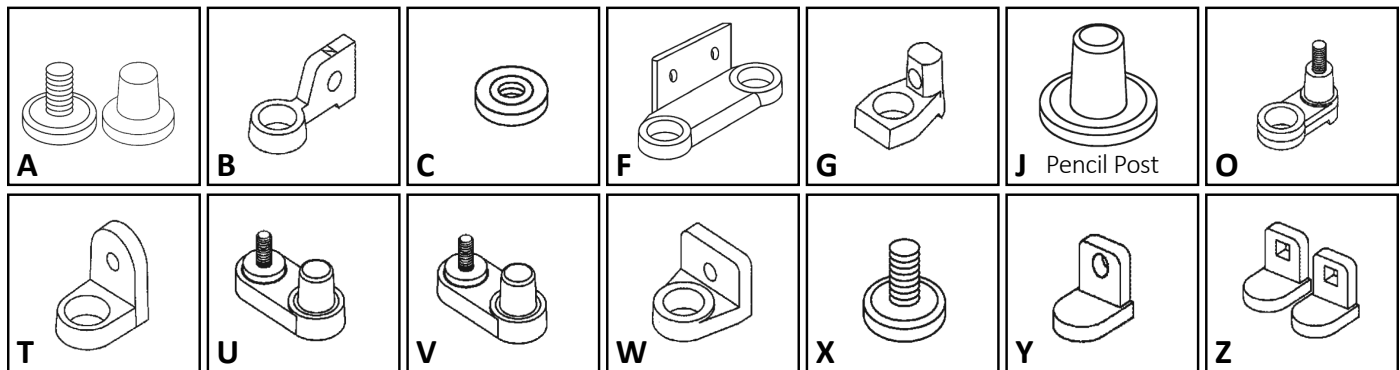
Part Number: A000025832

Slides easily onto lift truck forks. 6,000 lbs capacity. Swivel hook. 48" securing chain. For operations with two to five lift trucks.

## HiTech Starter Batteries by East Penn Manufacturing Company

East Penn Manufacturing makes thousands of different sizes and types of lead-acid batteries, battery accessories, and wire and cable products for virtually any application. Since 1946, they have developed an enviable reputation for world-class quality products made in their state-of-the-art manufacturing facilities. These facilities include a modern U.S. EPA “Part B”-permitted lead smelter and refinery and recycling center where virtually 100% of every used lead-acid battery returned is recycled.

East Penn’s innovative manufacturing techniques, combined with more than 250 quality assurance checks, ensure every battery meets their rigid quality and performance standards. The company’s Quality System is certified to ISO 9001 for its entire plant site and all divisions. East Penn is dedicated to producing world-class products, delivered on time when and where they’re needed for complete customer satisfaction.



- |  |  |  |
|--|--|--|
| A. Flush combination terminal with 3/8" stud and SAE Post, hex nuts included       | J. JIS Terminal "pencil post"  | V. Molded-in offset SAE post and vertical 5/16" NEG., 5/16" POS. stainless steel studs |
| B. Flag terminal with 3/8" diameter hole (T876)                                    | O. Offset post with vertical stainless steel 5/16" stud and hex nut (T872)                         | W. "L" type terminal with 5/16" diameter hole (T882)                                   |
| C. 1/4" x 20 Copper Insert Terminal  | T. Heavy Duty L terminal with 3/8" diameter hole (T975)  | X. 3/8" x 16 stainless steel stud posts  |
| F. Double Wide L Terminal with two 3/8" holes (T230)                               | U. Molded-in offset SAE post and vertical 5/16" NEG. 5/16" POS. stainless steel studs and hex nuts | Y. Small L terminal with round holes   |
| G. Offset post with horizontal hole, stainless steel 5/16" bolt and hex nut (T881) |  | Z. Small L terminal with square holes  |

- All batteries are maintenance-free calcium grids except where noted
- All batteries manufactured in polypropylene cases and covers except where noted
- All batteries manufactured in black case and black cover except where noted
- All batteries, except Power Sports, have SAE automotive post unless noted
- All weights are approximate weight
- MCA and CA ratings @ 32°F for comparison only
- All ratings except CCA and RC are "nominal"
- Ratings conform to B.C.I. specifications

### FOOTNOTES

2. Black cover/Gray case
4. Gray cover/Gray case
6. Black cover/Brown case
8. Dry charged batteries have black covers and white cases
11. Low maintenance-low antimony grids
12. Hybrid construction
13. Absorbed Glass Mat technology
14. Centerline terminal posts
15. Hard rubber, one-piece cover construction

16. Dual terminal universal design
17. Includes handle
18. Includes top adapter
19. Includes lifting ledges
20. Hard rubber, multi-cell cover construction
21. Anchor locked elements
22. Flush manifold vented cover
23. Up to 10% reduced capacity
25. With individual vent caps
26. Venting Elbow Supplied
32. Available dry charged only
34. Ratings after 15 cycles
35. Deduct 15% from CCA and CA rating shown to allow for double insulation (glass mat)
36. Peak performance capacity
37. For height with adapter add 7/8" (22 mm)
38. "Non-spillable" defined by DOT (Department of Transportation) definitions
39. "Non-spillable" defined by ICAO (International Civil Aviation Organization) and IATA (International Air Transport Association) definitions
42. Height without adapter
74. Shipped with 20 mm adapter
75. Shipped with two (2) 17mm adapters
76. Shipped with 10 mm adapter
78. Shipped with 22 mm height adapter

## 12-Volt Ultimate® Advanced Generation/A3™ Technology

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
34/78	778DT	A000017264	850	115	1020	41	10-3/4	273	6-7/8	175	8	203	14,16,17,18,22,37
75/86	775DT	A000017280	690	90	820	35	9-3/4	248	7	178	8-1/8	206	14,16,17,18,22,37

## 12-Volt Premium/A3™ Technology

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
34/78	678DT	A000017263	690	110	820	37	10-3/4	273	6-7/8	175	8	203	14,16,17,18,22,37
34/78	578DT	A000017262	550	90	660	34.5	10-3/4	273	6-7/8	175	8	203	14,16,17,18,22,37
75/86	675DT	A000017279	650	85	800	34	9-3/4	248	7	178	8-1/8	206	14,16,17,18,22,37

## 12-Volt Passenger Car/Light Truck/Van/Calcium/Silver Maintenance-Free

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
U1	10U1L	A000017299	300	-	365	17	7-3/4	197	5-1/8	130	7-1/4	184	22,Z
U1	7U1L	A000035414	195	-	235	15	7-3/4	197	5-1/8	130	7-1/4	184	22,Z
U1R	10U1R	A000017305	300	-	365	17	7-3/4	197	5-1/8	130	7-1/4	184	22,Y
U1R	7U1R	A000035416	195	-	235	15	7-3/4	197	5-1/8	130	7-1/4	184	22,Y
22F	522FMF	A000017244	425	65	540	31.5	9-3/8	238	6-3/4	171	8-1/4	210	-
24	624MF	A000017188	675	115	850	40	10-3/4	273	6-3/4	171	9	229	17,22
24	524MF	A000017186	550	90	650	35.5	10-3/4	273	6-3/4	171	9	229	17,22
24	424MF	A000017184	440	70	550	32	10-3/4	273	6-3/4	171	9	229	17,22
24F	624FMF	A000017252	675	115	850	40	10-3/4	273	6-3/4	171	9	229	17,22
24F	524FMF	A000017251	550	90	650	35.5	10-3/4	273	6-3/4	171	9	229	17,22
24F	424FMF	A000017250	460	70	575	34.5	10-3/4	273	6-3/4	171	9	229	17,22
25	525MF	A000017193	550	90	675	33.5	9-3/4	248	6-7/8	175	8-7/8	225	17,22
26	426MF	A000033637	450	55	560	27	8-3/4	222	6-3/4	171	8	203	17,18,22,37
26	526MF	A000033638	540	80	665	29.5	8-3/4	222	6-3/4	171	8	203	17,18,22,37
26R	526RMF	A000037205	540	80	665	29.5	8-3/4	222	6-3/4	171	8	203	17,18,22,37
27	727MF	A000017196	840	140	1010	51	12-5/8	321	6-3/4	171	9	229	17,21
27	627MF	A000017194	710	120	860	45.5	12	305	6-3/4	171	9	229	21
27F	627FMF	A000017254	710	120	860	45.5	12-3/8	314	6-3/4	171	9	229	21
34R	634RMF	A000017265	690	110	820	36.5	10-3/4	273	6-7/8	175	8	203	17,18,22,37
34/24	734MF	A000017261	850	115	1020	38.5	10-3/4	273	6-7/8	175	8	203	17,18,22,37
34/24	634MF	A000017260	690	110	820	36.5	10-3/4	273	6-7/8	175	8	203	17,18,22,37
34/24	534MF	A000017259	550	90	690	33.5	10-3/4	273	6-7/8	175	8	203	17,18,22,37
35	535MF	A000017206	550	90	675	33.5	9-3/4	248	6-7/8	175	8-7/8	225	17,22
36R	636RMF	A000017266	650	120	800	42	10-1/4	260	7-1/4	184	8	203	
40R	640RMF	A000017270	650	105	810	37	11	278	6-7/8	175	6-7/8	175	17,22,26
45	545MF	A000017209	485	65	600	30.5	9-3/8	238	5-1/2	140	9	229	
50	650MF	A000017212	600	108	750	43	13-3/8	340	5-3/8	136	8-7/8	225	17



## 12-Volt Passenger Car/Light Truck/Van/Calcium/Silver Maintenance-Free (continued)

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
51	551MF	A000017213	450	70	560	28.5	9-3/8	238	5	127	8-3/4	222	22
51R	551RMF	A000017276	450	70	560	28.5	9-3/8	238	5	127	8-3/4	222	22
58	558MF	A000017217	500	75	630	30	10	254	7-1/4	184	7	178	17,22
64	664MF	A000017220	620	100	770	41.5	11-3/4	298	6-1/4	159	8-7/8	225	
65	665MF	A000017222	875	150	1035	46.5	12	305	7-3/8	187	7-5/8	194	17,22
65	565MF	A000017221	675	130	890	41.5	12	305	7-3/8	187	7-5/8	194	17,22
70	570MF	A000017224	540	80	665	30	8-3/4	222	7	178	7-1/8	181	17,18,22,37
75	775MF	A000017228	690	90	820	34.5	9-3/4	248	7	178	7-1/4	184	17,22
75	675MF	A000017227	650	85	800	33.5	9-3/4	248	7	178	7-1/4	184	17,22
75	575MF	A000017226	540	85	675	33	9-3/4	248	7	178	7-1/4	184	17,22
75/86	575DT	A000017590	540	85	670	32	9-3/4	248	7	178	8-1/8	206	14,16,17,18,22,37
78	778MF	A000017231	850	115	1020	39	10-3/4	273	6-7/8	175	7-1/4	184	17,22
78	678MF	A000017230	690	110	820	36.5	10-3/4	273	6-7/8	175	7-1/4	184	17,22
78	578MF	A000017229	550	90	690	34	10-3/4	273	6-7/8	175	7-1/4	184	17,22
85	685MF	A000017232	650	110	775	36	9	229	6-7/8	175	8-1/8	206	22
86	586MF	A000017233	540	85	675	33	9	229	6-7/8	175	8-1/8	206	22

## 12-Volt Passenger Car/Light Truck/Van/Calcium/Silver Maintenance-Free (European Cars)

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
40R	640RMF	A000017270	650	105	810	37	11	278	6-7/8	175	6-7/8	175	17,22,26
41	641MF	A000017207	650	100	800	38	11-9/16	293	6-7/8	175	6-7/8	175	22
42	642MF	A000017208	475	70	590	30	9-9/16	242	6-7/8	175	6-7/8	175	
47	647MF	A000017996	600	95	750	38	9-9/16	242	6-7/8	175	7-1/2	190	17,22,26
48	9AGM48	A000017592	760	120	875	45.5	11	278	6-7/8	175	7-1/2	190	13,17,22
48	648MF	A000017210	680	120	850	42	11	278	6-7/8	175	7-1/2	190	17,22,26
49	649MF	A000017211	900	185	1080	55	13-15/16	354	6-7/8	175	7-1/2	190	17,22,26
90	690MF	A000017997	600	90	745	32.5	9-9/16	242	6-7/8	175	6-7/8	175	17,22,26
91	691MF	A000017235	700	100	875	38.5	11	278	6-7/8	175	6-7/8	175	17,22,26
93	693MF	A000017236	800	130	960	46.5	13-15/16	354	6-7/8	175	6-7/8	175	17,22,26
94R	694RMF	A000017286	765	135	910	48	12-7/16	315	6-7/8	175	7-1/2	190	17,22,26

## 12-Volt Vintage Vehicles and Light Commercial

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
3EE	403E	A000017267	400	95	485	42	19-1/4	489	4-1/4	108	9	229	11,25
29NF	429NF	A000017255	390	90	465	40.5	12-7/8	327	5-1/2	140	9	229	11,15,25

## 6-Volt Heavy-Duty Commercial Service

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
2	902	A000017182	675	185	840	36.5	10-3/8	264	6-7/8	175	8-3/4	222	12,25
3EH	93EH	A000017268	875	250	1035	47.5	19-1/4	489	4-1/4	108	10	254	12,25
1	901MF	A000032828	640	130	800	30	9	229	6-7/8	175	8-3/4	222	21,25
4	904MF	A000017183	975	250	1170	47	12-1/2	318	6-7/8	175	9-1/2	241	21,25

## 12-Volt Heavy-Duty Commercial Service

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
3ET	93ET	A000017269	500	120	625	50	19-1/4	489	4-1/4	108	9-7/8	251	12,25
4D	904D	A000017272	1050	290	1280	99.5	20-3/4	527	8-1/2	216	10-1/8	258	12,17,21,22
4DLT	94DLT	A000017275	850	240	1005	83.5	20	508	8-1/8	206	8-1/8	206	12,19,25
8D	708D	A000017282	1100	325	1340	115.5	20-3/4	527	11	279	10	254	12,17,25
8D	908D	A000017283	1400	430	1700	130	20-3/4	527	11	279	10	254	12,17,25
30H	930H	A000033642	650	150	800	50.5	13	330	6-3/4	171	9-1/2	241	19,21,22
31	931MF	A000017200	650	150	810	52	13	330	6-3/4	171	9-1/2	241	19,21,22,X
31	1031MF	A000017201	760	170	910	54.5	13	330	6-3/4	171	9-1/2	241	19,21,22,X
31	1131MF	A000033635	950	175	1140	56.5	13	330	6-3/4	171	9-1/2	241	17,19,21,22,X
31	1231MF	A000035406	1000	185	1190	58.5	13	330	6-3/4	171	9-1/2	241	17,19,21,22,X
31P	1231PMF	A000033636	1000	185	1190	58	13	330	6-3/4	171	9-1/2	241	17,19,21,22
31P	931PMF	A000017256	650	150	810	52	13	330	6-3/4	171	9-1/2	241	19,21,22
31P	1031PMF	A000017257	760	170	910	55	13	330	6-3/4	171	9-1/2	241	19,21,22

## 12-Volt Marine/RV Starting Calcium Maintenance-Free

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
24	24M7	A000017190	800	130	1000	44	10-3/4	273	6-3/4	171	9-3/8	238	17,22,U
24	24M5	A000017187	550	90	650	37	10-3/4	273	6-3/4	171	9-3/8	238	17,22,U
24	24M4	A000017185	460	70	575	35	10-3/4	273	6-3/4	171	9-3/8	238	17,22,U

## 12-Volt Marine/RV Dual Purpose Starting/Cycle Service

Group No.	East Penn No.	Part No.	Performance Level				Weight Wet lbs	Length		Width		Height		Notes
			CCA	REF. MCA	MINS @ 23 A	MINS @ 25 A		in	mm	in	mm	in	mm	
27	DP27	A000017195	650	810	175	150	50	12-1/2	318	6-3/4	171	9-3/8	238	12,17,U

## 12-Volt Marine/RV Deep Cycle Service

Group No.	East Penn No.	Part No.	Performance Level				Weight Wet lbs	Length		Width		Height		Notes
			Cca	Ref. Mca	Mins @ 23 A	Mins @ 25 A		in	mm	in	mm	in	mm	
24	DC24	A000017189	500	625	150	130	45.5	10-3/4	273	6-3/4	171	9-3/8	238	11,17,35,U
27	DC27	A000017197	575	715	200	175	53.5	12-1/2	318	6-3/4	171	9-3/8	238	11,17,35,U
31	DC31DT	A000017203	650	810	225	185	59.5	13	330	6-3/4	171	9-1/2	241	11,17,21,22,35,A

## 8-Volt Marine and Industrial

Group No.	East Penn No.	Part No.	Performance Level				Weight Wet lbs	Length		Width		Height		Notes
			CCA	REF. MCA	8 AH RATE	6 AH RATE		in	mm	in	mm	in	mm	
981	8V195	A000017242	980	1170	170	166	90	20-3/4	527	7-1/4	184	10-5/8	270	11,15,17,25
983	819	A000017243	510	610	167	158	119	24-1/2	622	7-1/2	191	10-1/2	267	11,17,20,25,35,T

## Ordinance

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet	Length		Width		Height		Notes
			CCA	REF. CA	20 AH RATE	lbs	in	mm	in	mm	in	mm	
6TL	6TMF	A000017278	750	230	120	73	11-1/4	286	10-1/2	267	9	229	6,17,21,25

## 6-Volt Floor Scrubber and Sweeper

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			20 AH RATE	6 AH RATE	75 A		in	mm	in	mm	in	mm	
901	9C11	A000017237	250	210	130	73	11-3/4	298	7	178	11-1/2	292	4,11,17,19,25,34,V
902	8C6V	A000017238	330	270	170	97.5	11-3/4	298	7	178	14-3/8	365	4,11,17,19,25,34,V
903	8L16	A000017239	370	295	190	113	11-3/4	298	7	178	16-1/2	419	4,11,17,19,25,34,W
901	8C11	A000033640	235	190	120	66.5	11-3/4	298	7	178	11-1/2	292	4,11,17,19,25,34,V

## 12-Volt Floor Scrubber and Sweeper

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet	Length		Width		Height		NOTES
			20 AH RATE	6 AH RATE	75 A	lbs	in	mm	in	mm	in	mm	
921	8C12	A000017240	195	160	90	116	83	15-1/2	394	7	178	14-1/4	11,17,25,34,V
921	9C12	A000017241	228	180	115	127	95-1/2	15-1/2	394	7	178	14-1/4	11,17,25,34,V

### Golf Car-EV-Motive Power-Deep Cycle Service

Group No.	East Penn No.	Part No.	Performance Level					Weight Wet lbs	Length		Width		Height		Notes
			20 AH RATE	5 AH RATE	75 A	56 A	25 A		in	mm	in	mm	in	mm	
GC2	GC15	A000017287	230	174	120	-	448	64	10-1/4	260	7-1/8	181	11-3/8	289	4,11,36,U
GC2	GC25	A000017289	235	188	132	-	488	68	10-1/4	260	7-1/8	181	11-1/8	283	4,11,36,U
GC8	GC8V	A000017296	165	130	85	121	318	68	10-1/4	260	7-1/8	181	11-1/8	283	4,11,36,G
	GC12V	A000033643	155	-	77	110	292	90	13-1/8	333	7-1/16	179	11-3/8	289	11,O
GC2H	GC45	A000033644	255	203	145	-	530	77	10-1/4	260	7-1/8	181	11-7/8	302	4,11,36,U

### Gel Valve Regulated

Group No.	East Penn No.	Part No.	Performance Level					Weight Wet lbs	Length		Width		Height		Notes
			CCA	REF. MCA	RES. CAP.	25 A	20 HR CAP		in	mm	in	mm	in	mm	
GC2	8GGC2	A000017291	585	850	345	375	180	68	10-1/4	260	7-1/8	181	10-7/8	276	4,38,39,U
22NF	8G22NF	A000017248	210	300	77	82	51	37	9-3/8	238	5-1/2	140	9-1/4	235	4,38,39,G
24	8G24NH	A000017192	335	470	132	140	73.6	52	10-1/4	260	6-3/4	171	9-7/8	251	4,38,39,G
27	8G27	A000017199	400	550	160	170	88	63	12-3/4	324	6-3/4	171	9-7/8	251	4,17,38,39,U
U1	8GU1	A000017302	200	290	44	47	31.6	23	8-1/4	211	5-1/8	130	7-1/4	184	4,38,39,Y
4D	8G4D	A000017294	970	1245	375	395	183	137	20-3/4	527	8-1/2	216	10	254	4,17
8D	8G8D	A000017295	1150	1470	475	500	225	166	20-3/4	527	11	279	10	254	4,17
31M	8G31DTM	A000033641	550	780	180	190	97.6	70	12-15/16	329	6-3/4	171	9-3/8	238	4,16,17,38,39,A

### AGM (Absorbed Glass Mat) Maintenance-Free

Group No.	East Penn No.	Part No.	Performance Level					Weight Wet lbs	Length		Width		Height		Notes
			CCA	REF. MCA	RES. CAP.	25 A	20 HR CAP		in	mm	in	mm	in	mm	
GC2	8AGC2	A000017293	680	900	380	409	190	70	10-1/4	260	7-1/8	181	10-7/8	276	2,U
U1	8AU1	A000017301	200	240	45	54	32	24	8-1/4	211	5-1/8	130	7-1/4	184	2,38,39,Y
22NF	8A22NF	A000017247	350	420	85	95	55	39	9-3/8	238	5-1/2	140	9-1/4	235	2,38,39,G
27	8A27	A000017198	580	900	175	185	92	63	12-3/4	324	6-3/4	171	9-7/8	251	2,17,38,39,A
4D	8A4D	A000017273	1110	1420	380	413	198	131	20-3/4	527	8-1/2	216	10	254	2,17
8D	8A8D	A000017285	1450	1800	480	517	245	158	20-3/4	527	11	279	10	254	2,17
31M	8A31DTM	A000035418	800	1000	200	210	105	69	12-15/16	329	6-3/4	171	9-3/8	238	2,16,17,38,39,A
24	8A24NH	A000033639	525	800	135	145	79	53	10-1/4	260	6-3/4	171	9-7/8	251	2,38,39,G

12-Volt Value Line Maintenance-Free

Group No.	East Penn No.	Part No.	Performance Level			Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA		in	mm	in	mm	in	mm	
75/86	VL75DT	A000035409	475	60	590	30	9-3/4	248	7	178	8-1/8	206	14,16,17,22

12-Volt Intimidator®-AGM-Valve Regulated

Group No.	East Penn No.	Part No.	Performance Level				Weight Wet lbs	Length		Width		Height		Notes
			CCA	R.C.	REF. CA	20 HR CAP		in	mm	in	mm	in	mm	
34	9A34	A000033634	775	120	955	55	41	10-3/4	273	6-7/8	175	8	203	2,13,17,78

### Blanket Style Battery Heaters

Part Number: A000021055

Boost battery power by as much as 75% with our blanket style battery heaters.

- Length: 36" (91.5 cm)
- Wattage: 80
- 125-volt AC operation
- Warms battery core to 60°-70° above ambient temperature for quick starts
- Thinsulate thermal insulation helps maintain battery temperature in warm or cold weather
- Complete with 30" (76 cm) grounded cord
- Measures 5" tall, 1/2" thick



### Fast Charge Battery Charger 12V 10 Amp

Part Number: A000020074

This state-of-the-art charger is circuit-controlled and fully automatic. Never worry about overcharging.

- 10 amp fast charge
- Fully automatic—will not overcharge batteries
- Manual operation
- Maintains charge
- LED Full Charge indicator
- Reverse hookup safeguard
- Convenient carrying handle



### Portable Battery Chargers

Part Number: 2I7762

These portable battery chargers include a quick-disconnect DC plug that is inserted into a matching female receptacle on the machine to be charged.

- 36-volts
- 25 Amps
- Manufacturer: Lester
- Connector: Rubber Molded Plug, Gray
- Type Timer: Manual



Rescue™ Booster Packs

Model 900 12-Volt  
Part Number: A000027423

- 1000 peak amps
- 12-volt 18AH AGM battery
- 6 gauge 27" 100% copper cables
- Reverse polarity alarm
- 12-volt power outlet
- Built-in charger
- LED battery charging status
- CEC compliant charger

Gauge	Length	Capacity	Peak Current
6	27"	18 Amp Hour	1000 Amp



Model 950 12-Volt/Starting and Accessory Power Plus an Air Compressor  
Part Number: A000027424

- 1000 peak amps
- 12-volt 18AH AGM battery
- 6 gauge 55" 100% copper cables
- Reverse polarity alarm
- 12-volt power outlet
- Work light and flasher
- Air compressor with gauge and adapters—0.45 CFM @ 120 PSI
- Built-in charger
- LED battery charging status
- LED clamp lights
- Battery status gauge
- CEC compliant charger

Gauge	Length	Capacity	Peak Current
6	55"	18 Amp Hour	1000 Amp



Model 1060 12-Volt/Air Compressor and Inverter  
Part Number: A000042368

- 2000 peak amps
- 12-volt 20AH AGM battery
- 6 gauge 55" 100% copper cables
- Reverse polarity alarm
- 12-volt power outlet
- 300W 120-Volt inverter with 2 outlets and 5 volt USB connection
- Work light and flasher
- Air compressor with gauge and adapters—0.45 CFM @ 120 PSI
- Built-in charger
- LED battery charging status
- DC power source
- LED clamp lights
- USB outlet
- CEC compliant charger

Gauge	Length	Capacity	Peak Current
6	55"	20 Amp Hour	2000 Amp



## Model 1800 12-Volt Dual Battery

Part Number: A000027426

- 4000 peak amps
- Dual 12-volt 20AH AGM batteries
- 2 gauge 62" 100% copper cables
- Reverse polarity alarm
- 12-volt power outlet
- High quality copper clamps are shunted, so power is delivered to both jaws
- LED battery charging status
- Internal battery status gauge
- Work light and flasher
- Built-in charger
- CEC compliant charger

Gauge	Length	Capacity	Peak Current
2	62"	2 Batteries at 20 Amp Hour	4000 Amp



## Model 2100 12V/24V Dual Voltage/Commercial with Polarity and Voltage Protection

Part Number: A000047637

- 12/24V power
- Dual 12-volt 20AH high output AGM batteries
- 4000 12V peak amps
- 1800 24V peak amps
- Built-in, 1 amp internal charger
- 2 gauge 62" 100% copper cables
- Digital battery voltage gauge reads internal and external
- 12V power outlet
- Work light and flasher
- Battery charging status
- Unit will not operate if polarity or voltage is set incorrectly
- USB power outlet
- CEC compliant charger

Gauge	Length	Capacity	Peak Current
2	62"	2 Batteries at 20 Amp Hour	4000 Amp (12V), 1800 Amp (24V)



## Model 3000 12-Volt Commercial 4 Gauge Cables

Part Number: A000027428

- You choose and add your own battery
- Provides room for most "U1" sealed batteries measuring no more than 7.56" width x 6.42" height x 5" deep
- Jumpstarts 12-volt vehicles
- Built-in work light and flasher
- Extra long, 55" cables
- Safeguard audible signal and light
- LED clamp lights
- Battery status gauge
- DC power source
- CEC compliant charger

Gauge	Length
4	55"





## LiFePO4 Portable Power Pack

Part Number: A000049566

The Rescue LiFePO4 portable power pack uses a lithium iron phosphate battery, which has a flat voltage discharge curve and is one of the safest Li-Ion batteries on the market. LiFePO4 batteries tend to be slightly lower in voltage but are more tolerant in maintaining heavy current loads, over long periods of time.

### Features and Benefits:

- 58 Wh lithium iron phosphate battery
- 600A peak/400A cranking
- Overload/overheat, reverse polarity, alternator surge, and overcharge/overdischarge protection
- Outperforms small sealed lead acid (SLA) units



## Rescue™ Booster Clamp Style Cables

### All Rescue clamp style cables include:

- 100% copper welding type cable for maximum conductivity and flexibility
- Tangle proof construction
- Stays flexible in subzero temperatures

### Medium Duty

Part No.	Package	Gauge	Length	Amps	Style
A000027465	Vinyl Bag	4	12'	400	Mechanic
A000027466	Vinyl Bag	4	12'	500	Parrot
A000027467	Vinyl Bag	4	16'	500	Parrot
A000027468	Vinyl Bag	4	16'	400	Mechanic
A000027469	Vinyl Bag	4	16'	500	Coated Parrot
A000027470	Vinyl Bag	4	20'	400	Mechanic
A000027471	Vinyl Bag	4	20'	500	Parrot
A000027472	Vinyl Bag	4	25'	400	Mechanic
A000027473	Vinyl Bag	2	12'	400	Mechanic
A000027474	Vinyl Bag	2	16'	500	Mechanic
A000027475	Vinyl Bag	2	16'	500	Parrot
A000027476	Vinyl Bag	2	20'	500	Mechanic



### Heavy Duty

Part No.	Package	Gauge	Length	Amps	Style
A000027453	Vinyl Bag	1	12'	500	Mechanic
A000027454	Vinyl Bag	1	16'	500	Mechanic
A000027455	Vinyl Bag	1	20'	500	Mechanic
A000027456	Vinyl Bag	1	20'	500	Parrot
A000027457	Bucket	1	25'	500	Parrot
A000027458	Bucket	1	25'	500	Mechanic
A000027459	Bucket	1	30'	800	Mechanic
A000027460	Bucket	1/0	20'	800	Parrot
A000027461	Bucket	1/0	25'	800	Parrot
A000027462	Bucket	2/0	20'	800	Parrot
A000027463	Bucket	2/0	25'	800	Parrot
A000027464	Bucket	2/0	30'	800	Parrot



Plug-In Cables

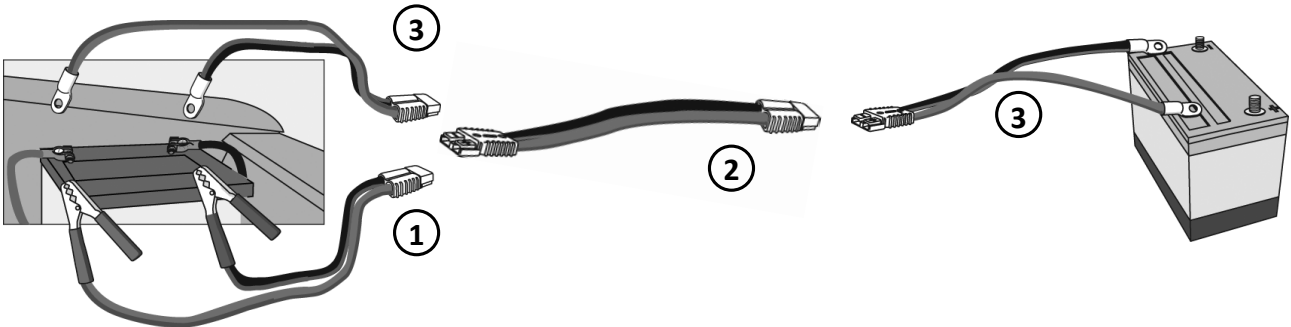
All Rescue plug-in cables include:

- 100% copper conductors for maximum conductivity
- Parallel bonded cables resist tangling
- Heavy duty construction
- Stays flexible in subzero temperatures

Two ways to use plug-in booster cables:

Two-Part Booster Set: Permanently install plug-to-lug cable (3) in service vehicle. Use clamp-to-plug cable (1) to jump dead battery.

System Using Plugs Only: Permanently install plug-to-plug cable (3) in service vehicle. Use plug-to-plug cable (2) between service vehicle and fleet vehicle battery.



Clamp-to-Plug

Part No.	Gauge	Length	Rating Amps
A000027477	4	15'	400
A000027478	4	25'	400
A000027479	2	15'	500
A000027480	2	25'	500
A000027481	1/0	25'	800



Plug-to-Plug

Part No.	Gauge	Length	Rating Amps
A000027482	4	12'	175
A000027483	2	12'	175
A000027484	1/0	12'	175



Plug-to-Lug

Part No.	Gauge	Length	Rating Amps
A000027485	4	5'	175
A000027486	2	5'	175
A000027487	1/0	5'	175



Bulk Cable (100 Foot Spool)

Part No.	Color	Gauge
9I2249	Black	6
9I1700	Black	4
9I1702	Black	2
9I1705	Black	1
9I1707	Black	1/0
9I1709	Black	2/0
A000012178	Red	6
9I1701	Red	4
9I1703	Red	2
9I1704	Red	1
9I1706	Red	1/0
9I1708	Red	2/0

High Flex Welding Cable (100 Foot Spool)

Part No.	Color	Gauge
A000044371	Black	6
A000011430	Black	4
A000011428	Black	2
A000011426	Black	1
9I2527	Black	1/0
A000009616	Black	2/0
A000037252	Black	3/0
A000040278	Black	4/0
A000044372	Red	6
A000011431	Red	4
A000011429	Red	2
A000011427	Red	1
9I2526	Red	1/0
A000009617	Red	2/0
A000037253	Red	3/0
A000040279	Red	4/0

Pre-Cut Top Post Cable

Part No.	Color	Gauge	Size
A000017907	Black	2	48"
A000017908	Black	2	65"
2I6001	Black	4	15"
2I3322	Black	4	25"
2I5167	Red	1	65"
2I3321	Red	4	32"
2I3323	Red	4	34"
0972280	Red	4	43"



QuickStrip LS Linear Cable Stripper

Bare copper wire has a higher scrap value than insulated cable. The QuickStrip LS industrial quality stripper has the ability to strip over 1,000 feet of cable per hour.

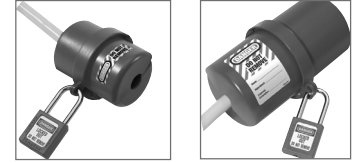
- Strips insulation from copper cable 8 to 4/0 gauge and 250 mcm
- Designed for braided copper cable insulated with plastic or rubber
- Includes one cutting blade constructed of hardened M2 tool steel and one 5/32" hex key for installation of cable guides and the cutting blade
- Cable guides must be ordered separately

Part No.	Description
A000021039	QuickStrip LS Cable Stripper
A000021033	Cable Guide 8-6 Gauge
A000021034	Cable Guide 4-1/0 Gauge
A000021035	Cable Guide 1/0 Gauge-250 mcm
A000021037	Cutter Blade



### Battery Cable Lockouts

- Outward/inward rotation for easier application and storage
- Surrounds electrical plug; protects against accidental reconnecting
- Unique, patent-pending rotation allows for easier installation in confined space applications
- Each size rotates into itself for compact storage
- Tough, lightweight, dielectric thermoplastic bodies withstand chemicals; perform effectively in extreme conditions



Part No.	Fits Electrical Plug Sizes Up To:
A000016854	2-1/4" diameter x 3-1/4" with cord diameter up to 3/4" (Most 110- and many 220-volt plugs)
A000016855	3" diameter x 6" with cord diameter up to 3/4" (Most 220- and 550-volt plugs)

### Copper Lugs - Straight Tin Plated

Made from seamless, tin-plated, copper tube. Ideal for general wiring (crimp or solder).

Wire Gauge	1/4"	5/16"	3/8"	1/2"
4	9I1720	9I1723	9I1728	9I1733
2	9I1721	9I1724	9I1729	9I1734
1	9I1722	9I1725	9I1730	9I1735
1/0	-	9I1726	9I1731	9I1736
2/0	-	9I1727	9I1732	9I1737



### Copper Lugs - Straight Unplated

Made from seamless, copper tube. Ideal for general wiring (crimp or solder).

Wire Gauge	1/4"	5/16"	3/8"
4	A000054325	-	-
2	-	-	A000054323
1/0	-	A000054326	A000054324
2/0	-	-	A000054327



### Terminal End Side Post (3/8" Stud Hole)

Constructed of tin plated copper. Replacement bolt and nut (Part Number: 9I2301).

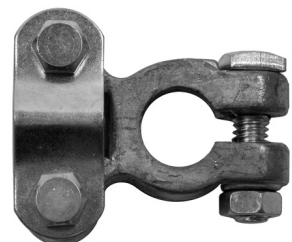
Wire Gauge	Post Type	Part No.
4	Universal	9I2294
1/0	Universal	9I2297
2/0	Universal	9I2298



### Quick Connect Battery Terminals

Universal polarity lead construction. Easy bolt down attachment that is corrosion resistant. Includes a smooth yoke for better contact. Replacement bolt and nut (Part Number: 9I2301).

Wire Gauge	Style	Part No.
6-2/0	Standard	2I5220
1-4/0	Heavy Duty	A000009363
6-2/0	Side Terminals	A000009364

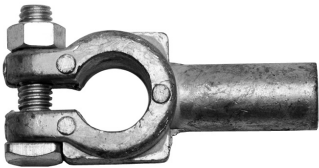


Crimp Battery Terminals

All clamps include 5/16" battery bolts and shoulder nuts. Constructed of tin plated copper. Terminals are packed individually. Replacement bolt and nut (Part Number: 9I2301).

Post Top Straight

Wire Gauge	Post Type	Part No.
4	Universal	9I1681
2	Universal	9I1682
1/0	Positive	9I1684
1/0	Negative	9I1688
2/0	Positive	9I1692
2/0	Negative	9I1697
1	Negative	A000002202
1	Positive	A000002203
4	Positive	A000002204
4	Negative	A000002205
2	Negative	A000036239
2	Positive	A000036240



Flag Connectors

Constructed of tin plated copper. Replacement bolt and nut (Part Number: 9I2301).

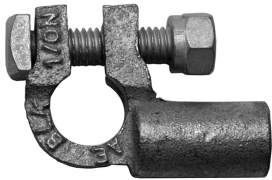
Wire Gauge	Post Type	Part No.
1/0	Negative	9I1689
1/0	Positive	9I1687
2/0	Negative	9I1696
2/0	Positive	9I1695



Post Top Right Elbows

Constructed of tin plated copper. Replacement bolt and nut (Part Number: 9I2301).

Wire Gauge	Post Type	Part No.
1/0	Negative	9I1686
1/0	Positive	9I1685
2/0	Negative	9I1694
2/0	Positive	9I1693



Post Top Left Elbows

Constructed of tin plated copper. Replacement bolt and nut (Part Number: 9I2301).

Wire Gauge	Post Type	Part No.
1/0	Negative	9I1691
1/0	Positive	9I1690
2/0	Negative	9I1698



### Marine Terminals

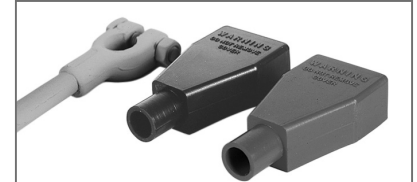
- Converts battery post to stud connector
- Permits quick disconnection from battery
- Brass or lead construction, fasteners included

Stud Size	Post Type	Material	Part No.	Quantity
3/8"	Positive	Brass, tin plated steel fasteners	A000027429	5
3/8"	Positive	Brass, tin plated	A000027430	50
5/16"	Negative	Brass, tin plated	A000027431	5
5/16"	Negative	Brass, tin plated	A000027432	50
3/8"	Positive	Lead, zinc plated	A000027433	5
3/8"	Positive	Lead, zinc plated	A000027434	50
5/16"	Negative	Lead, zinc plated	A000027435	5
5/16"	Negative	Lead, zinc plated	A000027436	50
3/8"	Positive	Lead w/epoxy pain, zinc plated	A000027437	5
3/8"	Positive	Lead w/epoxy pain, zinc plated	A000027438	50
5/16"	Negative	Lead w/epoxy pain, zinc plated	A000027439	5
5/16"	Negative	Lead w/epoxy pain, zinc plated	A000027440	50
5/16"	Universal	Lead, zinc plated	A000017825	1



### Battery Terminal Protectors

- Protects alternator and electrical system from shorts
- Reduces the risk of battery explosion caused by sparks
- High temperature PVC construction rated at 190°F
- Color coded for easy polarity identification
- Conforms to SAE J1128 dielectric specifications—meets USCG requirements



### Straight Clamp

Fits	Black	Quantity	Red	Quantity
4	-	-	A000027312	1
4	A000027310	1	A000027313	25
4	A000027311	50	A000027314	50
1 and 2	A000027316	1	A000027319	1
1 and 2	A000027317	20	A000027320	20
1/0 and 2/0	A000027324	5	A000027321	5
1/0 and 2/0	A000027325	25	A000027322	25
1/0 and 2/0	A000027326	50	A000027323	50
3/0 and 4/0	A000027329	5	A000027327	5
3/0 and 4/0	A000027330	25	A000027328	25

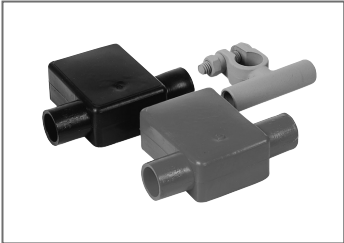
Elbow Terminal

Fits	Right Black	Right Red	Left Black	Left Red	Quantity
1 and 2	A000027331	A000027334	A000027343	A000027346	5
1 and 2	A000027332	A000027335	A000027344	A000027347	25
1 and 2	A000027333	A000027336	A000027345	A000027348	50
1/0-3/0	A000027337	A000027340	A000027349	A000027352	5
1/0-3/0	A000027338	A000027341	A000027350	A000027353	25
1/0-3/0	A000027339	A000027342	A000027351	A000027354	50



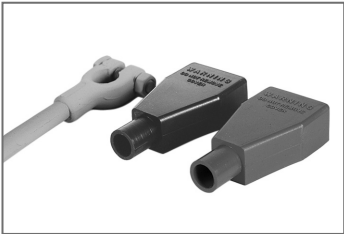
Flag Clamp

Fits	Black	Red	Quantity
1 and 2	A000027355	A000027358	5
1 and 2	A000027356	A000027359	25
1 and 2	A000027357	A000027360	50
1/0-2/0	A000027361	A000027364	5
1/0-2/0	A000027362	A000027365	25
1/0-2/0	A000027363	A000027366	50
3/0-4/0	A000027367	A000027369	5
3/0-4/0	A000027368	A000027370	25



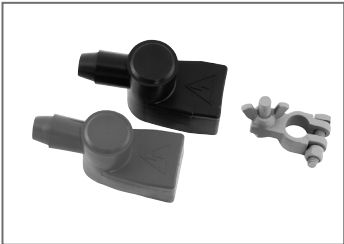
Straight Clamp Snap On

Fits	Black	Red	Quantity
6 and 4	A000027372	A000027375	25
6 and 4	A000027373	A000027376	50
1 and 2	A000027377	A000027380	5
1 and 2	A000027378	A000027381	25
1 and 2	A000027379	A000027382	50



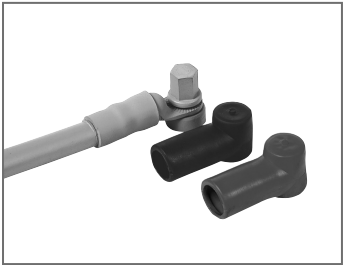
Marine Terminal Fixed

Fits	Black	Red	Quantity
1 and 2	A000027441	A000027444	5
1 and 2	A000027442	A000027445	25
1 and 2	A000027443	A000027446	50
1/0-2/0	A000027447	A000027450	5
1/0-2/0	A000027448	A000027451	25
1/0-2/0	A000027449	A000027452	50



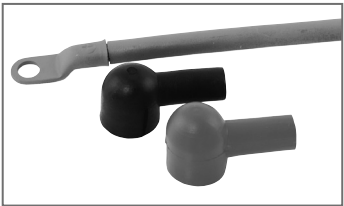
Automotive Lug

Fits	Black	Red	Quantity
1 and 2	A000027300	A000027397	5
1 and 2	A000027301	A000027398	25
1 and 2	A000027302	A000027399	50
1/0-2/0	A000027306	A000027303	5
1/0-2/0	A000027307	A000027304	25
1/0-2/0	A000027308	A000027305	50



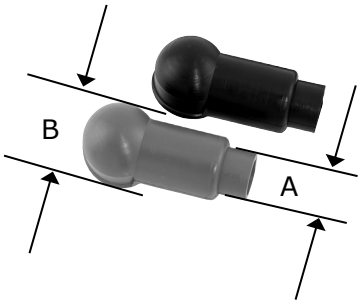
Medium Duty Starter

Fits	Black	Quantity	Red	Quantity
4 and 6	A000027383	1	A000027386	1
4 and 6	A000027384	25	A000027387	25
4 and 6	A000027385	50	A000027388	50



Heavy Duty Starter

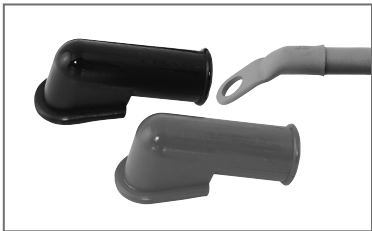
Fits	Dimensions A	Dimensions B	Black	Red	Quantity
4	11/32"	1-7/32"	A000027389	A000027392	5
4	11/32"	1-7/32"	A000027390	A000027393	25
4	11/32"	1-7/32"	A000027391	A000027394	50
1 and 2	1/2"	1-7/32"	A000027395	A000027398	5
1 and 2	1/2"	1-7/32"	A000027396	A000027399	25
1 and 2	1/2"	1-7/32"	A000027397	A000027400	50
1/0-2/0	19/32"	1-9/16"	A000027401	A000027404	5
1/0-2/0	19/32"	1-9/16"	A000027402	A000027405	25
1/0-2/0	19/32"	1-9/16"	A000027403	A000027406	50
3/0	5/8"	1-9/16"	A000027407	A000027409	5
3/0	5/8"	1-9/16"	A000027408	A000027410	25





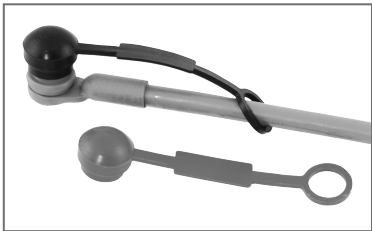
Straight or Angle Lug

Fits	Black	Red	Quantity
4	A000027411	A000027609	5
4	A000027412	A000027610	25
4	A000027413	A000027611	20



Side Terminal Cover

Fits	Black	Red	Quantity
8-1	A000027414	A000027612	5
8-1	A000027415	A000027613	25
8-1	A000027416	A000027614	50



Battery Terminal End Bolt with Nut

Description	Part No.
5/16"-18 thread x 1-1/4"	9I2301



Protective Battery Washers

Extend battery life, connectors, and hardware. Washers are impregnated with long-lasting corrosion inhibitors. Fits any post, side, or stud side terminal battery.

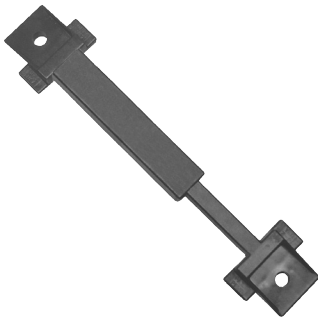
Color	Part No.	Quantity
Black	A000003193	100
Red	A000003194	100



QuickHold Adjustable Battery Hold-Downs

- Infinitely adjustable and lockable
- Fiberglass reinforced polypropylene, rust/corrosion-proof
- Non-conductive, eliminates hold down as source of shorts

Description	Min/Max Extension	Part No.	Quantity
Offset Hold-Down	4"-6-1/8"	A000027493	10
Offset Hold-Down	4"-6-1/8"	A000027494	25
Offset Hold-Down	4"-6-1/8"	A000027495	100
Offset Hold-Down	5-1/2"-9"	A000027496	10
Offset Hold-Down	5-1/2"-9"	A000027497	25
Offset Hold-Down	5-1/2"-9"	A000027498	100
Flush Hold-Down	8-5/8"-14-3/4"	A000027499	10
Flush Hold-Down	8-5/8"-14-3/4"	A000027500	25
Flush Hold-Down	8-5/8"-14-3/4"	A000027501	100



Cross Bar Battery Hold-Downs

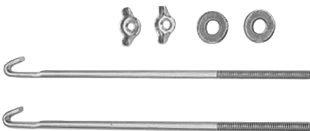
Description	Dimensions	Part No.	Quantity
Adjustable Cross Bar Hold-Down	6-7/8"	A000027502	1
Adjustable Cross Bar Hold-Down	6-7/8"	A000027503	25
Center Mount Cross Bar Hold-Down	6-7/8"	A000027504	1
Center Mount Cross Bar Hold-Down	6-7/8"	A000027505	25



"J" Bolt Sets

- Long thread accommodates all cross-bar/frame designs
- Use with battery trays
- Sold as a pair-hardware included

Description	Dimensions	Part No.	Quantity
Hold-Down Bolt Set	8" x 1/4"	A000027507	25
Hold-Down Bolt Set	10" x 1/4"	A000027508	1
Hold-Down Bolt Set	10" x 1/4"	A000027509	25
Hold-Down Bolt Set	12" x 1/4"	9I2304	1
Hold-Down Bolt Set	12" x 1/4"	A000027510	25



"J" Bolt

Description	Dimensions	Part No.
Universal "J" Bolt with Nut	12"x 5/16"	9I2305



Solder Accessories

Description	Notes	Part No.
Solder	16 oz., 1/8" diameter on convenient spool, 40/60 tin/lead	A000031713
Solder Flux	4 oz., zinc chloride solder paste flux	A000031714



## Heat Shrink Tubes

Protects battery cables and terminals from corrosive acid fumes near batteries, while protecting against oil, fuel, water, salt, grease and other chemicals.

### Heavy Duty Heat Shrink Tubes

- Packaged in one foot sections
- Extra thick material
- Adhesive sealant lining melts when heated to form a permanent seal
- Use for battery terminals and primary wire

Wire Gauge	Expanded Diameter	Shrunk Diameter	Black	Red
6-2	1/2"	3/16"	9I1710	9I1712
4-2/0	3/4"	1/4"	9I1711	9I1713

### Standard Duty Heat Shrink Tube

- Packaged in one hundred foot rolls
- Use for primary wire connections

Wire Gauge	Expanded Diameter	Shrink Diameter	Black
20-16	1/8"	1/16"	9I1714
16-14	3/16"	3/32"	9I1715
12-10	1/4"	1/8"	9I1716
8-6	3/8"	3/16"	9I1717
4-2	1/2"	1/4"	9I1718
1-1/0	3/4"	3/8"	9I1719

### Black Dual Wall Kit (50 Pieces)

Part Number: A000027292

Wire Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
24-18	1/8"	3/16"	Black	12
20-12	3/16"	1/16"	Black	12
18-10	1/4"	3/32"	Black	12
8-6	3/8"	1/8"	Black	6
6-2	1/2"	3/16"	Black	6
4-2/0	3/4"	1/4"	Black	2

### Red and Black Dual Wall Kit (50 pieces)

Part Number: A000027293

Wire Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
24-18	1/8"	3/16"	Black	6
24-18	1/8"	3/16"	Red	6
20-12	3/16"	1/16"	Black	6
20-12	3/16"	1/16"	Red	6
18-10	1/4"	3/32"	Black	6
18-10	1/4"	3/32"	Red	6
8-6	3/8"	1/8"	Black	3
8-6	3/8"	1/8"	Red	3
6-2	1/2"	3/16"	Black	3
6-2	1/2"	3/16"	Red	3
4-2/0	3/4"	1/4"	Black	1
4-2/0	3/4"	1/4"	Red	1

## Single Wall Tubes

- Economical tubing is ideal for general purpose applications
- Six inches in length

### Black Single Wall Kit (50 pieces)

Part Number: A000027295

Wire Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
18-14	1/8"	1/16"	Black	12
14-10	3/16"	3/32"	Black	12
12-8	1/4"	1/8"	Black	12
10-6	3/8"	3/16"	Black	6
8-2	1/2"	1/4"	Black	6
1-2/0	3/4"	3/8"	Black	6

### 6 Color Single Wall Kit (100 pieces)

Part Number: A000027296

Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
18-14	1/8"	1/16"	Black	6
18-14	1/8"	1/16"	Blue	3
18-14	1/8"	1/16"	Green	3
18-14	1/8"	1/16"	Red	3
18-14	1/8"	1/16"	White	3
18-14	1/8"	1/16"	Yellow	3
14-10	3/16"	3/32"	Black	6
14-10	3/16"	3/32"	Blue	3
14-10	3/16"	3/32"	Green	3
14-10	3/16"	3/32"	Red	3
14-10	3/16"	3/32"	White	3
14-10	3/16"	3/32"	Yellow	3
12-8	1/4"	1/8"	Black	6
12-8	1/4"	1/8"	Blue	3
12-8	1/4"	1/8"	Green	3
12-8	1/4"	1/8"	Red	3
12-8	1/4"	1/8"	White	3
12-8	1/4"	1/8"	Yellow	3

Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
10-6	3/8"	3/8"	Black	4
10-6	3/8"	3/8"	Blue	2
10-6	3/8"	3/8"	Green	2
10-6	3/8"	3/8"	Red	2
10-6	3/8"	3/8"	White	2
10-6	3/8"	3/8"	Yellow	2
8-2	1/2"	1/4"	Black	4
8-2	1/2"	1/4"	Blue	2
8-2	1/2"	1/4"	Green	2
8-2	1/2"	1/4"	Red	2
8-2	1/2"	1/4"	White	2
8-2	1/2"	1/4"	Yellow	2
1-2/0	3/4"	3/8"	Black	2
1-2/0	3/4"	3/8"	Blue	1
1-2/0	3/4"	3/8"	Green	1
1-2/0	3/4"	3/8"	Red	2
1-2/0	3/4"	3/8"	White	1
1-2/0	3/4"	3/8"	Yellow	1

## Heat Shrink Tube Gun

Part Number: 9I1742

Commercial grade heat gun with shrink tube deflector. Dual temperatures (750°F or 1,000°F), durable high-impact plastic housing. Stand included for hands-free operation. 120 volts, 1,200 watts, UL and CSA approved.



**Heavy Duty Cable Cutter**  
Part Number: A000021224

- Cuts cable up to 250 MCM
- 22" handles for easier cutting
- Blades made of 1075 carbon steel, hardened for long life, can be resharpened



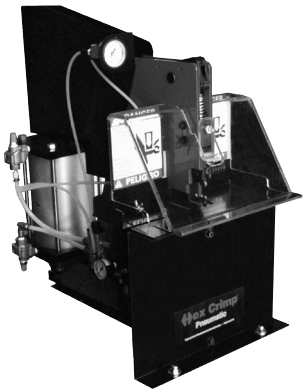
**Heavy Duty Cable Cutter**  
Part Number: 9I1743

- Cuts cable up to 2/0 gauge
- Length: 9" long (23 cm)
- Made of forged steel with insulated grips



**HexCrimp™ Universal Pneumatic Crimper**  
Part Number: A000027291

- Easy single air inlet connection, no electrical power required
- Recommended air pressure 80 to 100 PSI
- Develops over 20,000 pounds of crimp force
- Crimp dies adjust for 8 crimp positions, for gauges 8 to 4/0
- Includes air filter, air regulator, crimp dies, guarded foot pedal control, safety guard, manual and safety information



**Heavy Duty Crimper**  
Part Number: 9I1739

- Crimps terminals 8 to 4/0 gauge cable
- Adjustable crimp dies permanently attached
- Crimps all major brands of battery terminals, copper lugs, and splices
- Length: 26" long (66 cm)



Part No.	Dies
A000029691	Two color coded hex dies 8 to 250 MCM
A000029692	Two color coded hex dies, two conical springs, four snap rings, and two hardened hex pins 8 to 250 MCM

Light/Medium Duty Crimper

Part Number: 9I1738

- Designed for light and medium duty applications
- Crimps terminals 10 to 1 gauge cable
- Adjustable crimp dies permanently attached
- Crimps all major brands of battery terminals, copper lugs, and splices
- Insulated grips for comfort and safety
- Length: 15" long (38 cm)



Heavy Duty Bench Style Crimper

Part Number: 9I1740

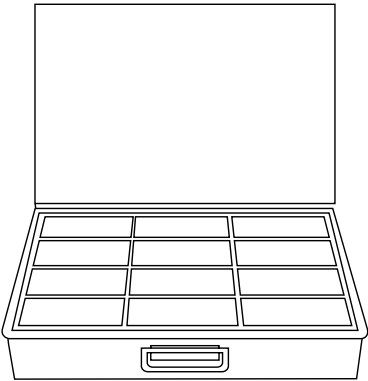
- Inexpensive, simple crimping tool
- Use with a hammer or a vise
- Spring loaded pin locks in "up" position for loading terminal and cable
- Crimps 8 to 4/0 gauge terminals



Metal Drawers

Organizes your terminals, fasteners, and accessories into separate compartments. Plastic liners have rounded bottoms for easy parts removal. Steel box is finished in rust and acid resistant baked grey enamel paint.

Part No.	Description
9I1744	12 Compartment Metal Drawer
A000001194	16 Compartment Metal Drawer
A000001193	24 Compartment Metal Drawer
A000009699	16 Adjustable Compartment Metal Drawer



Battery Testers SLA and Electrical Systems

Battery Tester  
Part Number: A000027288

- Tests 200 to 1600 cold cranking amp range
- Stores previous 50 tests



SLA Power Port Battery Tester  
Part Number: A000027289

- Tests 4ah to 50ah batteries
- Fast results



Battery and Electrical System Tester  
Part Number: A000027290

- Tests 12- to 24-volt systems
- Stores previous 50 tests



Optional Accessories

The optional accessories are compatible with all of the tester models above.

Description	Part No.
Infrared Printer	A000027557
PC Cord	A000027556
Carry Case (Holds Printer and Tester)	A000027555

## Digital Battery Resistance Tester

Part Number: A000009631

- 12 VDC digital resistance (no heat, sparks, or load)
- Fast test results in seconds
- New patented Dynamic Resistance Technology
- Accurate digital read outs
- Compact size, easy to use, handle, and store
- International multi-rating system: SAE, DIN, ENc2
- Flexible on/off vehicle testing
- Automatic shut off for extended battery life
- Tests discharged batteries to 9 VDC



## Analog Battery Load Tester

Part Number: A000009629

- Preset load
- 100 amp (6 VDC) and 50 amp (12 VDC) rating
- Voltmeter for state-of-charge, cranking, charging, and starter tests



## Battery Tester

Part Number: A000013205

Indicates battery's level of charge by simply observing the number of floating balls.





Datcon Voltmeter

This Datcon voltmeter has a black face with a color-coded dial. These units have a 5/8" cut out in the rear of the gauge for an optional light kit to illuminate the gauge. Unit includes mounting bracket and all necessary hardware.

Part No.	Voltage
A000000176	12 VDC
A000009647	Light Kit for Datcon Voltmeter (12 VDC)



Curtis 2200 Series Voltmeter and Hour Meter

Curtis Model No.	Voltage	Part No.
#2214R12-000100	12 VDC	A000007744*
Curtis Meterguard (Polycarbonate Lens)		A000009099

\*12 VDC Curtis Relay (Part Number: A000007737)



Energizer Industrial Alkaline Batteries

Part No.	Description
1U9533	AA
1U9535	AAA
1U9531	C
1U9532	D
1U9534	9-volt

# Chain

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**Chain and Inspection Tools**

Chain Wear Gauge..... 3.1

Troubleshooting Guide..... 3.2

General Cautions..... 3.4

Chain and Mast Lubricants..... 3.4

Roller Chain ..... 3.5

Roller Chain Connecting Link ..... 3.6

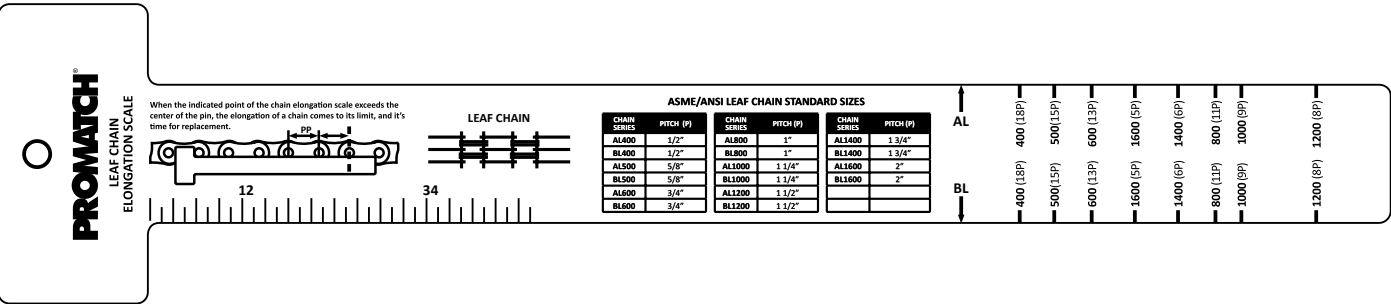
Leaf Chain..... 3.7

Leaf Chain Connecting Links ..... 3.11

Chain Wear Gauge

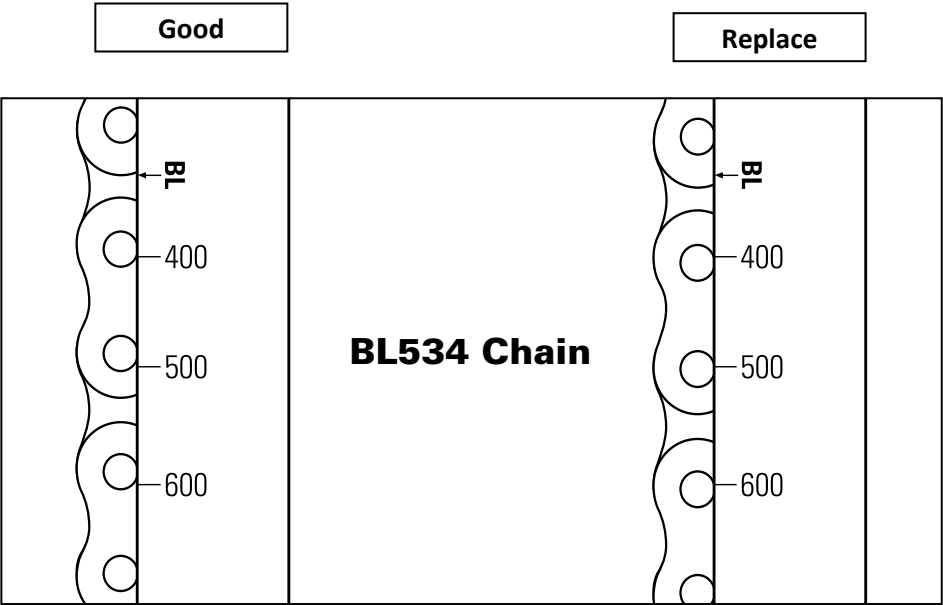
Part Number: A000013600

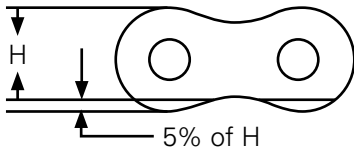
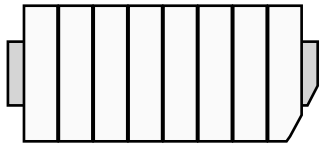
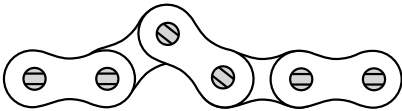
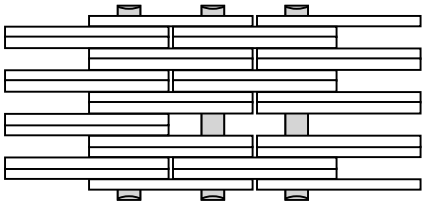
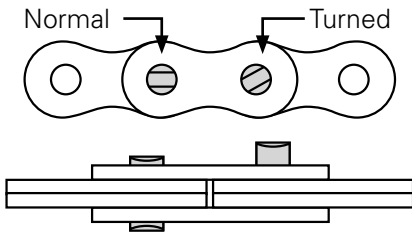
Lift applications demand the frequent transmission of high lifting power at relatively low speeds. A chain’s normal life expectancy depends on wear and elongation. As the chain flexes back and forth, the joints gradually incur wear due to articulation and load weight. Over time, the pin holes elongate, lengthening the chain. Chain should be replaced when it has elongated 3%. Leaf and roller chain elongation can be measured using a chain wear gauge. Chain life is affected by environmental conditions, lubrication, and frequency in which it is used. Chain should be inspected, cleaned, and lubricated after every 100 hours of operation, or 50 hours in a corrosive or cold environment.

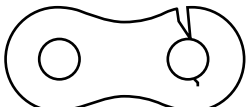
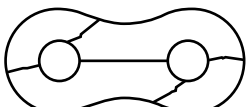
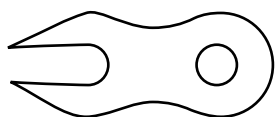
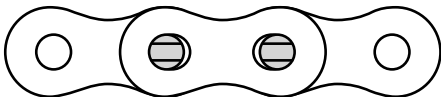


Measuring Elongation

- Determine if the chain is roller or leaf and locate the correct side of the gauge. Most leaf chain has the chain series imprinted on the side of the leaf, designating it as AL (light duty) or BL (heavy duty) which is the most common. If the series is not imprinted, it can be determined by measuring the pitch (distance from one pin center to the next pin center). Pitch is measured in 1/8" increments and the nominator, multiplied by 100, is the series number. For example a pitch of 5/8" is a 500 series and a pitch of 1/2" is a 400 series ( $1/2 = 4/8 = 400$  series).
- To measure chain wear, place a pin in the corner of the scale (as depicted on the gauge).
- Locate the correct series number (400 to 1200 on leaf, 40-200 on roller chain, and 08 to 40 on BS roller chain).
- If the line by the series number on the chain gauge is at or is above the center of the pin, the chain is elongated and must be replaced.
- If the line is in the lower half of the pin, the chain is in good condition. Ideally, the line will be at the bottom of the pin.



Appearance/Symptom	Probable Cause	Correction
<b>Worn Contour</b> 	<ul style="list-style-type: none"> <li>• Normal wear on sheave bearing</li> <li>• Abnormal wear rubbing guides</li> </ul>	<ul style="list-style-type: none"> <li>• Replace chain when 5%</li> <li>• Check alignment</li> <li>• Increase clearance</li> </ul>
<b>Worn Surfaces on Outside Links or Pins</b> 	<ul style="list-style-type: none"> <li>• Misalignment rubbing on guides</li> </ul>	<ul style="list-style-type: none"> <li>• Check alignment to correct clearance</li> </ul>
<b>Tight Joints</b> 	<ul style="list-style-type: none"> <li>• Dirt or foreign substance is packed in the joints</li> <li>• Corrosion and rust</li> <li>• Bent pins</li> </ul>	<ul style="list-style-type: none"> <li>• Clean and lubricate chain</li> <li>• Replace chain</li> <li>• Replace chain</li> </ul>
<b>Missing Parts</b> 	<ul style="list-style-type: none"> <li>• Missing at original assembly</li> </ul>	<ul style="list-style-type: none"> <li>• Replace chain</li> </ul>
<b>Abnormal Protrusion or Turn Pins</b> 	<ul style="list-style-type: none"> <li>• Excessive friction by high loading and inadequate lubrication</li> </ul>	<ul style="list-style-type: none"> <li>• Replace chain</li> <li>• Improve lubrication</li> <li>• Eliminate overloading conditions</li> </ul>

Appearance/Symptom	Probable Cause	Correction
<b>Cracked Plates (Fatigue)</b>  <p>Crack – from aperture toward edge of link plate 90° to line of pull.</p>	<ul style="list-style-type: none"> <li>Loading beyond chain's dynamic capacity</li> </ul>	<ul style="list-style-type: none"> <li>Replace chain with a larger dynamic capacity chain</li> <li>Eliminate high load condition or dynamic (impulse) overloading</li> </ul>
<b>Arc-like Cracked Plates (Stress Corrosion)</b> 	<ul style="list-style-type: none"> <li>Severe rusting</li> <li>Exposure to acidic or caustic medium</li> <li>Static press at press-fit (between pin and plate) no cyclic stress necessary</li> </ul>	<ul style="list-style-type: none"> <li>Replace chain</li> <li>Protect from hostile environment</li> </ul>
<b>Fractured Plates (Tensions Mode)</b> 	<ul style="list-style-type: none"> <li>High overload</li> </ul>	<ul style="list-style-type: none"> <li>Replace chain</li> <li>Correct cause of overload</li> </ul>
<b>Enlarged Holes</b> 	<ul style="list-style-type: none"> <li>High overload</li> </ul>	<ul style="list-style-type: none"> <li>Replace chain</li> <li>Correct cause of overload</li> </ul>
<b>Corrosion Pitting</b>	<ul style="list-style-type: none"> <li>Exposure to corrosive environment</li> </ul>	<ul style="list-style-type: none"> <li>Replace chain</li> <li>Protect from hostile environment</li> </ul>
<b>Worn Connecting Clevis Pins</b>	<ul style="list-style-type: none"> <li>Normal wear</li> </ul>	<ul style="list-style-type: none"> <li>Replace worn components</li> </ul>

### General Cautions

- Use lengths of factory assembled chain. Do not build lengths from individual components.
- Do not attempt to rework damaged chains by replacing only the faulty components. The entire chain should be discarded.
- Never electroplate assembled chain or its components. Plating will result in failure from hydrogen embrittlement.
- Welding should not be performed on chain or component. Welding spatter should never be allowed to come in contact with chain or components.
- Chains are manufactured exclusively from heat treated steels and therefore must not be heated.
- The practice of joining chain lengths is not recommended.
- **Minimum Ultimate Strength** means the minimum load at which it will break when subjected to a destructive tensile test. **It does not mean working load.**

### Chain and Mast Lubricants

Part No.	Name	Net Weight	Container Size	Qty.	Description and Use
A000033187	Chain and Cable Lubricant (Steel Brand™)	15 oz.	20 oz. aerosol	12	This premium chain lube reduces friction and wear for longer chain life. Ideal for exposed chains—this lubricant penetrates rapidly into hard to reach places. Adheres and forms a lubricating film that cannot be wiped away.
A000002944	Chain and Wire Rope Lube (CRC)	10 oz.	16 oz. aerosol	12	Penetrates deeply and leaves a tough film that lubricates and protects. Extends the working life of chains and cables and reduces wear caused by friction and corrosion.
214265	Chain Lube (Permatex)	5 oz.	6 oz. aerosol	12	Cleans, lubricates, and protects all types of roller chains and cables that operate under exposed conditions. Easy to apply foaming action assures effective application.
A000012607	Chain Lube, Food Grade (CRC)	12 oz.	16 oz. aerosol	12	Blend of synthetic lubricants and mineral oil to keep roller drive and conveyor chains lubricated. Penetrates, lubricates and protects moving parts by reducing friction and wear. NSF H1 rated for incidental food contact.
A000034083	Heavy Duty Chain and Cable Lubricant (JAX)	11 oz.	16 oz. aerosol	12	This heavy duty, multi-purpose lubricant is formulated for rigorous industrial applications. The lubricant reaches deep inside to the inner strands of cables and wire rope, as well as chain pins and rollers, where lubrication is critical. With proper application, internal friction is reduced and chain and cable life is extended.
A000010368	Lift Truck and Sliding Tandem Lube (JAX)	11 oz.	16 oz. aerosol	12	A combination of two premium greases with Moly. Helps eliminate oil drippage, prevents wear and reduces friction, rust and freeze-ups to -60°F.
A000030265	Lift Truck and Boom Lube White Food Grade (JAX)	11 oz.	11 oz. aerosol	12	For forklifts that operate in food, beverage, or pharmaceutical processing areas. Use on telescoping boom cranes where a white grease is required. Meets food grade H1 incidental contact requirements. Excellent: rust and corrosion control. E.P. and anti-wear properties, high-temperature performance, water washout and chemical resistance.

Roller and rollerless chains can be used for lifting and moving purposes and have the advantage over leaf chain in that they may be geared into a suitable driving sprocket.

## Roller Chain

Roller chain consists of parallel pairs of flat links joined by pins covered with rollers and engages with the teeth of sprockets. Roller chain has a better wear resistance than leaf chain and may be used at higher speeds.

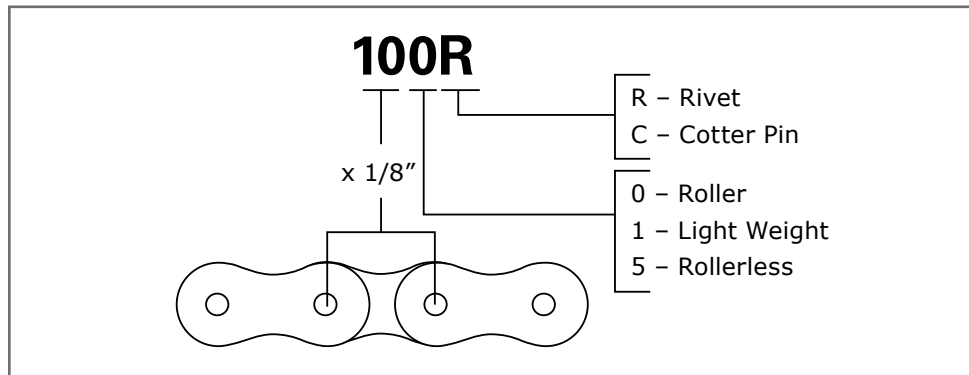
## Rollerless Chain

Rollerless chain is simply roller chain without a roller and is the only design configuration possible on very small pitch chain, such as 4 mm and ANSI 25 or 1/4 inch pitch. Rollerless chain is used for lightly loaded applications or those requiring only direct pull.

## Operating Speed

Applications should not normally exceed a maximum chain speed of 148 feet/min (45 meters/min).

Standards organizations (such as ANSI) maintain standards for design, dimensions, and interchangeability of transmission chains. For example, the following Table shows data from ANSI standard B29.1-2011 (Precision Power Transmission Roller Chains, Attachments, and Sprockets) developed by the American Society of Mechanical Engineers (ASME).



## The ANSI numbering system works as follows:

1. The pitch is the distance between roller centers. The width is the distance between the link plates (i.e. slightly more than the roller width to allow for clearance).
2. The right-hand digit of the standard denotes 0 = normal chain, 1 = lightweight chain, 5 = rollerless bushing chain.
3. The left-hand digit denotes the number of eighths of an inch that make up the pitch.
4. An "H" following the standard number denotes heavyweight chain. A hyphenated number following the standard number denotes double-strand (2), triple-strand (3), and so on. Thus 60H-3 denotes number 60 heavyweight triple-strand chain.



Roller Chain

Industry Number	Part No.	Strand Type	Pitch		Roller Diameter		Width		Tensile Strength Minimum	Weight lbs/feet
			inches	mm	inches	mm	inches	mm		
25R	2I6543	Single	0.250"	6.350	0.130"	3.300	0.312"	7.920	780	0.090
35R	2I6544	Single	0.375"	9.520	0.200"	5.080	0.466"	11.93	1760	0.240
40R	2I6545	Single	0.500"	12.70	0.312"	7.920	0.630"	16.00	3125	0.400
41R	2I6546	Single	0.500"	12.70	0.306"	7.770	0.512"	13.00	1500	0.280
50R	2I6547	Single	0.625"	15.80	0.400"	10.16	0.790"	20.06	4880	0.670
50-2R	2I6548	Double	0.625"	15.80	0.400"	10.16	1.512"	38.27	9760	1.410
60C	2I6549	Single	0.750"	19.05	0.468"	11.88	0.990"	25.14	7030	0.99
60R	A000001241	Single	0.750"	19.05	0.469"	11.91	1.049"	26.65	7030	0.99
65R	2I6550	Single	0.750"	19.05	0.344"	8.730	0.990"	25.14	7030	0.820
80R	2I6551	Single	1.000"	25.40	0.625"	15.87	1.274"	32.35	12500	1.860
85R	2I6552	Single	1.000"	25.40	0.460"	11.68	1.274"	32.35	12500	1.460
100R	2I6553	Single	1.250"	31.75	0.750"	19.05	1.555"	39.50	19530	2.820
105R	2I6554	Single	1.250"	31.75	0.554"	14.07	1.550"	39.50	19530	2.710
120R	2I6555	Single	1.500"	38.10	0.875"	22.22	1.960"	49.78	28125	3.830
140R	2I6807	Single	1.750"	44.41	1.000"	25.40	2.117"	53.72	38280	5.240
160R	2I6808	Single	2.000"	50.76	1.125"	28.55	2.522"	64.00	50000	6.990
180R	A000001274	Single	2.250"	57.15	1.406"	35.71	3.550"	90.17	63280	9.34
200R	2I6809	Single	2.500"	63.45	1.652"	39.64	3.120"	79.18	78125	11.59

Note: All roller chain is ordered by the foot.

Roller Chain Connecting Links

Chain Size	Part No.
25	9I4556
35	2I3884
40	2I3409
50	A000001062
60	A000000635
80, 85	2I3832
100, 105	9I0017
120	A000045194
05B-1	9I4557
C2040	A000009344



Leaf chain is generally used for load-balancing lifting applications including hoist chain, forklift mast chain, and counter balance chain. Generally, leaf chain has greater strength than roller chain and runs over sheaves.

**AL Series Leaf Chain**

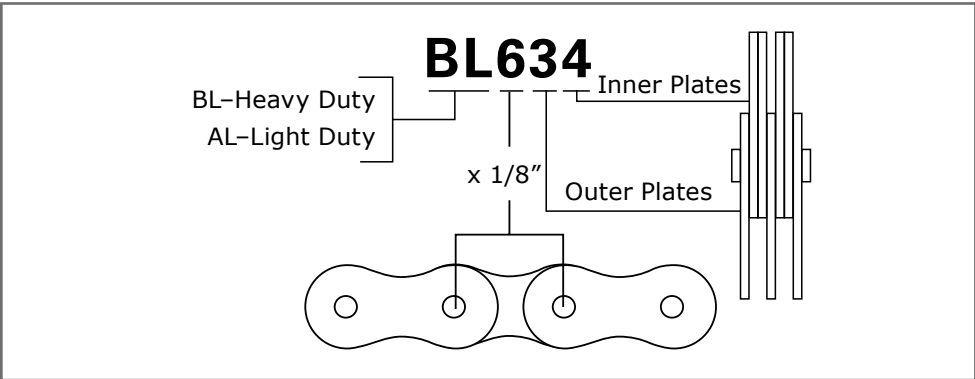
AL Series Leaf Chain is made for light-duty applications. The ANSI standard organization discontinued the AL series and thus these chains may become more difficult to obtain in the future.

**BL Series Leaf Chain**

BL Series Leaf Chain is crafted for moderate- to heavy-duty lifting applications and conforms to the ASME B29.8 Leaf Chain Standard. Pins and link plates of the BL series are made one size larger than the corresponding ANSI chain to allow for operation in moderate- to heavyload applications.

**Operating Speed**

Applications should not exceed a maximum chain speed of 98 feet/min (30 meters/min).



Leaf Chain Lacing	
2 x 2	
2 x 3	
3 x 4	
4 x 4	

Leaf Chain Lacing	
4 x 6	
6 x 6	
8 x 8	

**AL Series 4 x 4**

Industry Number	Package Quantity	Part No.	Pitch inches	Pitch mm	Minimum Tensile Strength
AL544	per foot	A000001262	5/8"	15.875 mm	13038
AL644	per foot	2I6501	3/4"	19.05 mm	17984
AL844	per foot	A000001266	1"	25.40 mm	32596
AL1044	per foot	A000001268	1-1/4"	31.75 mm	44960

**AL Series 6 x 6**

Industry Number	Package Quantity	Part No.	Pitch inches	Pitch mm	Minimum Tensile Strength
AL466	per foot	2I6500	1/2"	12.70 mm	11465
AL566	per foot	A000001263	5/8"	15.875 mm	20232
AL666	per foot	A000001264	3/4"	19.05 mm	26976
AL866	per foot	2I6502	1"	25.40 mm	44960
AL1066	per foot	2I6503	1-1/4"	31.75 mm	67440
AL1266	per foot	A000001271	1-1/2"	38.10 mm	82726

**AL Series 8 x 8**

Industry Number	Package Quantity	Part No.	Pitch inches	Pitch mm	Minimum Tensile Strength
AL688	per foot	A000001265	3/4"	19.05 mm	40690
AL888	per foot	A000001267	1"	25.40 mm	60696
AL1088	per foot	A000001269	1-1/4"	31.75 mm	98466

**BL Series 2 x 2**

Industry Number	Package Quantity	Part No.	Pitch inches	Pitch mm	ANSI Min. Tensile Strength
BL822	per foot	2I6515	1"	25.40 mm	19000

**BL Series 2 x 3**

Industry Number	Package Quantity	Part No.	Pitch inches	Pitch mm	ANSI Min. Tensile Strength
BL423	per foot	2I6504	1/2"	12.70 mm	5000
BL523	per foot	2I6507	5/8"	15.875 mm	7500
BL623	per foot	2I6510	3/4"	19.05 mm	11000
BL823	per foot	2I6516	1"	25.40 mm	19000
BL1023	per foot	2I6522	1-1/4"	31.75 mm	26000

**BL Series 3 x 4**

Industry Number	Package Quantity	Part No.	Pitch inches	Pitch mm	ANSI Min. Tensile Strength
BL434	per foot	2I6505	1/2"	12.70 mm	7500
BL534	per foot	2I6508	5/8"	15.875 mm	11250
	10 foot box	2I6597	5/8"	15.875 mm	11250
	100 foot spool	A000007453	5/8"	15.875 mm	11250
	250 foot spool	A000013476	5/8"	15.875 mm	11250
BL634	per foot	2I6511	3/4"	19.05 mm	16500
	10 foot box	2I6598	3/4"	19.05 mm	16500
	100 foot spool	A000007456	3/4"	19.05 mm	16500
	250 foot spool	A000013477	3/4"	19.05 mm	16500
BL834	per foot	2I6517	1"	25.40 mm	28500
	10 foot box	2I6600	1"	25.40 mm	28500
	50 foot spool	A000007459	1"	25.40 mm	28500
	250 foot spool	A000013479	1"	25.40 mm	28500
BL834SP (Hyster)	per foot	2I6518	1"	25.40 mm	28500
BL1034	per foot	2I6523	1-1/4"	31.75 mm	39000
	100 foot spool	A000013480	1-1/4"	31.75 mm	39000
BL1234	per foot	2I6528	1-1/2"	38.10 mm	51000
BL1434	per foot	2I6534	1-3/4"	44.45 mm	64500
BL1634	per foot	2I6539	2"	50.80 mm	97500

**BL Series 4 x 4**

Industry Number	Package Quantity	Part No.	Pitch (A) inches	Pitch (A) mm	ANSI Min. Tensile Strength
BL544	per foot	2I3408	5/8"	15.875 mm	15000
	10 foot box	2I3318	5/8"	15.875 mm	15000
	100 foot spool	A000007454	5/8"	15.875 mm	15000
BL644	per foot	2I6512	3/4"	19.05 mm	22000
	10 foot box	2I6599	3/4"	19.05 mm	22000
	100 foot spool	A000007457	3/4"	19.05 mm	22000
	250 foot spool	A000013478	3/4"	19.05 mm	22000
BL844	per foot	2I6519	1"	25.40 mm	38000
BL1044	per foot	2I6524	1-1/4"	31.75 mm	52000
BL1244	per foot	2I6529	1-1/2"	38.10 mm	68000

**BL Series 4 x 6**

Industry Number	Package Quantity	Part No.	Pitch (A) inches	Pitch (A) mm	ANSI Min. Tensile Strength
BL446	per foot	2I6506	1/2"	12.70 mm	10000
BL546	per foot	2I6509	5/8"	15.80 mm	15000
	100 foot spool	A000007455	5/8"	15.80 mm	15000
BL646	per foot	2I6513	3/4"	19.05 mm	22000
	10 foot box	2I6603	3/4"	19.05 mm	22000
	100 foot spool	A000007458	3/4"	19.05 mm	22000
BL846	per foot	2I6520	1"	25.40 mm	38000
BL1046	per foot	2I6525	1-1/4"	31.75 mm	52000
BL1246	per foot	2I6530	1-1/2"	38.10 mm	68000
BL1446	per foot	2I6536	1-3/4"	44.45 mm	86000
BL1646	per foot	2I6540	2"	50.80 mm	130000

**BL Series 6 x 6**

Industry Number	Package Quantity	Part No.	Pitch (A) inches	Pitch (A) mm	ANSI Min. Tensile Strength
BL466	per foot	A000001272	1/2"	12.70 mm	15000
BL566	per foot	A000001273	5/8"	15.80 mm	22500
BL666	per foot	2I6514	3/4"	19.05 mm	33000
BL866	per foot	2I6521	1"	25.40 mm	57000
	10 foot box	2I6601	1"	25.40 mm	57000
	50 foot spool	A000007460	1"	25.40 mm	57000
BL1066	per foot	2I6526	1-1/4"	31.75 mm	78000
BL1266	per foot	2I6531	1-1/2"	38.10 mm	102000

**BL Series 8 x 8**

Industry Number	Package Quantity	Part No.	Pitch (A) inches	Pitch (A) mm	ANSI Min. Tensile Strength
BL588	per foot	A000027213	5/8"	15.80 mm	35900
BL1288	per foot	2I6532	1-1/2"	38.10 mm	136000
BL1688	per foot	2I6541	2"	50.80 mm	260000

## Leaf Chain Box Bulk Quantities

Industry No.	Length	Part No.
BL534	10 Feet	2I6597
BL634	10 Feet	2I6598
BL834	10 Feet	2I6600
BL544	10 Feet	2I3318
BL644	10 Feet	2I6599
BL646	10 Feet	2I6603
BL866	10 Feet	2I6601

## Leaf Chain Spool Bulk Quantities

Industry No.	Length	Part No.
BL834	50 Feet	A000007459
BL866	50 Feet	A000007460
BL534	100 Feet	A000007453
BL544	100 Feet	A000007454
BL546	100 Feet	A000007455
BL634	100 Feet	A000007456
BL644	100 Feet	A000007457
BL646	100 Feet	A000007458
BL1034	100 Feet	A000013480
BL534	250 Feet	A000013476
BL634	250 Feet	A000013477
BL644	250 Feet	A000013478
BL834	250 Feet	A000013479

## Leaf Chain Connecting Links

Chain Size	Part No.
AL644	A000039606
AL844	A000054983
AL1044	A000038983
AL666	A000044895
AL866	A000048734
AL1066	A000028198
AL888	A000050121
BL423	A000037697
BL434	A000037698
BL446	A000037699
BL534	A000028195
BL544	A000028201
BL546	A000028196
BL566	A000037700
BL588	A000037701
BL623	A000031657
BL634	A000028197
BL644	A000028204
BL646	A000037702
BL666	A000028202
BL822	A000037703
BL823	A000028205
BL834	A000028203
BL844	A000037704
BL846	A000037705
BL866	A000037706
BL1023	A000028199
BL1034	A000028200
BL1044	A000037707
BL1046	A000037708
BL1066	A000037709
BL1234	A000040270
BL1244	A000037710
BL1246	A000037711
BL1266	A000037712
BL1288	A000052948
BL1434	A000037713
BL1446	A000037714
BL1634	A000037715
BL1688	A000037716

# Chemicals and Paint

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## Chemicals and Paint

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**Touch-Up Spray Paint**

Touch-up scratches and scrapes with our spray paint. Available in 11 oz. environmentally safe cans.

OEM	Description	One Can	Case (12 Cans)
Cat Lift Trucks	Cat Yellow (Pallet Jacks Only)	A000024988	A000002144
Clark	White Blanc	A000024977	A000024978
Clark	Hot Yellow Green II	A000024979	A000024980
Clark	Matte Black	A000026335	A000026336
Crown	Beige	A000030295	A000030296
Crown	Dark Gray	A000033164	A000033163
Genie	Genie Blue	A000029671	N/A
Hyster	Nugget Yellow	A000024986	A000024987
MR-5500 Pallet Jack	Gray	A000033739	A000033737
Mitsubishi Forklift Trucks	Jewel Green (Old Style GS Model Pallet Jacks Only)	A000024981	A000002145
Mitsubishi Forklift Trucks	Jewel Green (New Style A4 Model Pallet Jacks Only)	A000039003	A000038540
Nissan	Platinum	A000024991	A000024992
Raymond	Red Orange	A000024982	A000024983
Raymond	Black	A000024989	A000024990
Toyota	New Orange	A000024984	A000024985
Toyota	Black	A000030362	A000030363
Yale	Bright Gold	A000024975	A000024976
General Purpose	Black Flat	A000028914	A000028915
General Purpose	Black Gloss	A000028143	A000028144
General Purpose	White Gloss	A000028141	A000028142
Primer	Gray Primer	A000028139	A000028140



## Battery Chemicals

Part No.	Name	Net Weight	Container Size	Qty.	Description and Use
A000025762	Battery Acid Wipes	-	20/canister	1	Formulated to clean and neutralize battery acid. The color changes when the acid is neutralized.
A000049535	Battery Cleaner (Quick Cable)	-	1 quart	1	Excellent for dissolving corrosion and neutralizes acid. Color change formula turns bright red when acid is present and back to yellow when acid is neutralized.
A000049536			1 quart	4	
A000049537			1 quart	12	
A000049538			5 gallon	1	
A000020003	Battery Cleaner (Deka)	15 oz.	-	12	Neutralizes acid, dissolves and removes corrosion from terminals, cables, hold-down, and battery boxes.
A000031559	Battery Corrosion Preventative (Noco®)	12.25 oz.	-	12	Formulated to make all surfaces impenetrable to corrosion-causing acid fumes which reduce battery life and cranking ability. This product is applied to battery terminals, cables, hold-downs, enclosures, boxes, carriers and is guaranteed for the life of your battery.
A000027249	Battery Corrosion Preventative (Quick Cable)	9.75 oz.	12 oz.	6	Seals out acid fumes, road salt, moisture, and dirt. Sprays on red, showing presence of protective coating. Does not dry out or evaporate. Improved non-running, no-drip formula-use less per application.
A000027639	Battery Electrolyte (East Penn)	-	6 quart	1	Sulfuric acid solution. Electrolyte for industrial/commercial electric storage batteries.
A000027640	Battery Electrolyte (East Penn)	-	5 gallon	1	Sulfuric acid solution. Electrolyte for industrial/commercial electric storage batteries.
A000021151	Battery Terminal Protector (CRC)	7.5 oz.	10 oz. aerosol	12	Designed to protect battery terminals from corrosion, a leading cause of hard starting and battery failure.
A000029144	Black Battery Reconditioner (Quick Cable)	12 oz.	16 oz. aerosol	6	Restores battery to original look. Formulated to adhere to battery plastics and metal. Industrial grade, high solids for single coat coverage, outstanding hardness and durability; resists abrasion and heat. Fast drying.
A000030975	Liquid Acid Neutralizer	-	1 quart	12	Many aggressive liquid spills involve hazardous acids that require a way to render them safe for final clean-up and disposal in accordance with local, state and federal regulations. KOLOR-SAFE® Acid Neutralizers meet this requirement. KOLOR-SAFE products provide a unique 3-color change during the neutralization process to indicate when an acid has reached its "neutral" state.



## Brake Chemicals

p/n	Name	Net Weight	Size	Qty.	Description
A000027730	Air Brake Anti-Freeze (CRC)	-	32 oz. bottle	12	Complete winter protection for all brake systems. Will eliminate and prevent moisture accumulation and icing.
A000037552	Brake Fluid (Spectrum)		12 oz. bottle	12	DOT 3
2I6557	Brake Fluid (Johnsen's)	-	12 oz. bottle	12	DOT 3
A000018073	Brake Fluid (Johnsen's)	-	12 oz. bottle	12	DOT 4
2I3574	Brake Fluid (Johnsen's)	-	12 oz. bottle	6	DOT 5
A000002888	Chlorinated Brake Parts Cleaner Non-Flammable, Brakleen® (CRC)	19 oz.	20 oz. aerosol	12	Quickly removes brake fluid, grease, oil, and other contaminants from brake linings and pads. Helps brakes last longer and perform more efficiently. Non-flammable.
9I2922	Chlorinated Brake Parts Cleaner Pro-Strength (Permatex)	19 oz.	20 oz. aerosol	12	Aggressively penetrates, dissolves, and removes oil, grease, and other brake fluids. For use on all brake systems, CV joints, machinery, tools, and farm equipment.
A000046682	Chlorinated Brake Cleaner Non-Flammable (Johnsen's)	18 oz.	18.95 oz.	864	Johnsen's Non-Flammable Brake Parts Cleaner is a fast-drying formula that leaves no residue. For use on ABS, disc and drum brakes. Not for use in California or New Jersey.
A000042341	Ceramic Extreme Brake Lubricant (Permatex)		5 oz. tube	12	Synthetic lubricant with ceramic solids. Resistant to corrosion. Use with disc brake caliper hardware and drum backing plates, bushings, pistons, rubber sleeves and seals.
A000002889	Non-Chlorinated Brake Parts Cleaner, Brakleen® (CRC)	15 oz.	20 oz. aerosol	12	Quickly removes brake fluid, grease, oil, and other contaminants from brake linings and pads.
A000047189	Non-Chlorinated Brake Parts Cleaner Ultra Low VOC, Brakleen® (CRC)	14 oz.	20 oz. aerosol	12	The brake cleaner to use where compliance calls for a chlorine-free product. Formulated to quickly remove brake fluid, grease, oil, and other contaminants from brake linings and pads. 2.7% VOC. SCAQMD #1171 compliant.
A000031292	Non-Chlorinated Brake Parts Cleaner Low VOC, Brakleen® (CRC)	14 oz.	20 oz. aerosol	12	Non-chlorinated formula meets VOC regulations in all 50 states. POWERJET technology provides a powerful spray that blasts away contaminants like grease, oil, and dirt from brake part components. Use less product and take less time with BRAKLEEN POWERJET. Less than 10% VOC.
A000002890	Non-Chlorinated Brake and Parts Cleaner (Permatex)	14.50 oz.	20 oz. aerosol	12	Penetrates, dissolves and removes dirt and oil from brake systems and metal parts. Safer for aluminum. Leaves no contaminant-attracting residue or chlorinated solvent run-off. Helps manage EPA halide limits. *NFPA Fire Code 30B. Not for sale or use in the state of California.
A000040223	Non-Chlorinated Brake and Parts Cleaner 50 State Formula (Permatex)	14.50 oz.	20 oz. aerosol	12	Penetrates, dissolves and removes dirt and oil from brake systems and metal parts. Safer for aluminum. Leaves no contaminant-attracting residue or chlorinated solvent run-off. Helps manage EPA halide limits. **NFPA Fire Code 30B. VOC compliant in all 50 states.
A000046681	Non-Chlorinated Brake Parts Cleaner VOC Compliant (Johnsen's)	18 oz.	18.95 oz.	864	Johnsen's VOC Compliant Non-Chlorinated Brake Parts Cleaner removes oil, grease, brake fluid and contaminants. For use on all ABS, disc and drum brakes. For sale in areas that restrict the VOC content of consumer products to 45%.
A000025738	Hi-Temp Disc Brake Bearing Grease (CRC)	-	14 oz. can	12	A very stable resistant aluminum complex grease. Contains rust and oxidation inhibitors, anti-wear and extreme pressure additives and fortified with "moly" and graphite. For use in disc/drum brakes, chassis and suspension systems.

## Carburetor/Throttle Body Care

p/n	Name	Net Weight	Size	Qty.	Description
A000002887	Clean-R-Carb™ Spray Carburetor Cleaner (CRC)	16 oz.	20 oz. aerosol	12	Designed to maximize carburetor performance, improve fuel system performance, and ensure maximum fuel economy.
A000034050	Clean-R-Carb™ Carburetor Cleaner 50 State Formula (CRC)	16 oz.	20 oz. aerosol	12	Automatic chokes, carburetor components, crankcase breather element, exhaust gas recycling valve, general cleaner for non-painted surfaces, heat risers, intake parts, positive crankcase ventilating system including PCV valve.
A000025920	Throttle Body and Air-Intake Cleaner Low VOC (CRC)	12 oz.	16 oz. aerosol	12	Cleans gum and varnish from the throttle valves and body for easier starting and smoother engine performance. This product meets VOC standards for CA and OTC.

## Chain and Mast Lubricants

p/n	Name	Net Weight	Size	Qty.	Description
A000033187	Chain and Cable Lubricant (Steel Brand™)	15 oz.	20 oz. aerosol	12	This premium chain lube reduces friction and wear for longer chain life. Ideal for exposed chains—this lubricant penetrates rapidly into hard to reach places. Adheres and forms a lubricating film that cannot be wiped away.
A000002944	Chain and Wire Rope Lube (CRC)	10 oz.	16 oz. aerosol	12	Penetrates deeply and leaves a tough film that lubricates and protects. Extends the working life of chains and cables and reduces wear caused by friction and corrosion.
2I4265	Chain Lube (Permatex)	5 oz.	6 oz. aerosol	12	Cleans, lubricates, and protects all types of roller chains and cables that operate under exposed conditions. Easy to apply foaming action assures effective application.
A000012607	Chain Lube, Food Grade (CRC)	12 oz.	16 oz. aerosol	12	Blend of synthetic lubricants and mineral oil to keep roller drive and conveyor chains lubricated. Penetrates, lubricates and protects moving parts by reducing friction and wear. NSF H1 rated for incidental food contact.
A000034083	Heavy Duty Chain and Cable Lubricant (JAX)	11 oz.	16 oz. aerosol	12	This heavy duty, multi-purpose lubricant is formulated for rigorous industrial applications. The lubricant reaches deep inside to the inner strands of cables and wire rope, as well as chain pins and rollers, where lubrication is critical. With proper application, internal friction is reduced and chain and cable life is extended.
A000010368	Lift Truck and Sliding Tandem Lube (JAX)	11 oz.	16 oz. aerosol	12	A combination of two premium greases with Moly. Helps eliminate oil drippage, prevents wear and reduces friction, rust and freeze-ups to -60°F.
A000030265	Lift Truck and Boom Lube White Food Grade (JAX)	11 oz.	11 oz. aerosol	12	For forklifts that operate in food, beverage, or pharmaceutical processing areas. Use on telescoping boom cranes where a white grease is required. Meets food grade H1 incidental contact requirements. Excellent: rust and corrosion control. E.P. and anti-wear properties, high-temperature performance, water washout and chemical resistance.

## Cleaners

p/n	Name	Net Weight	Size	Qty.	Description
A000024418	Earth Soap Concentrated Cleaner/Degreaser Low VOC	-	1 gallon	4	Formulated with the environment in mind, Earth Soap is a powerful, non-solvent cleaning fluid that is biodegradable, VOC compliant and corrosion inhibiting. Ideal for use in automated cleaning equipment, traditional and heated parts washers, pressure washers and manual cleaning applications. Provides a green alternative to heavy solvent cleaners without sacrificing performance. This product meets VOC standards for CA and OTC.
A000002945	Hydroforce™ Butyl Free All-Purpose Cleaner Low VOC (CRC)	18 oz.	20 oz. aerosol	12	Versatile enough for all of your daily cleaning tasks, but strong enough to attack and remove tough dirt, dust, and grime deposits. Butyl free and biodegradable. This product meets VOC standards for CA and OTC.
A000040131	Spray Nine Glass and Stainless Steel Cleaner	19 oz.	19 oz. aerosol	12	Cuts through soils that ordinary glass cleaners can't touch! Just spray on with the foaming nozzle and wipe away unsightly soils with ease. The premium blend of ammonia and surfactants powers off dirt, smudges, light grease and oil, fingerprints, smoke haze, water spots, dust and road film.
A000014133 A000014134	Spray Nine Cleaner/Disinfectant	-	32 oz. spray 1 gallon	12 4	This tough task cleaner tackles your worst cleaning job. Water based formula contains no petroleum solvents, bleach, or acids.
A000047727	Spray Nine Citrus Blaster Bug and Tar Remover	17.5 oz.	17.5 oz. aerosol	12	This formula instantly dissolves and lifts away stubborn soils and contains no petroleum solvents. Fresh orange scent.
A000028546 A000028547	Original Simple Green Concentrated All-Purpose Cleaner/Degreaser	-	24 oz. spray 1 gallon	12 6	Simple Green is one of the most versatile all-purpose cleaners. It's non-toxic and biodegradable, without harmful bleach. Because it is a concentrate, you can custom dilute Simple Green to clean just about anything dirty. It replaces most cleaners, detergents, and degreasers you're using now.
A000005442	Windshield Washer Solvent (Spectrum)	-	1 gallon	6	Effectively cleans windshields. Does not freeze down to -20°F.

**SCOTT Hand Cleanser**

SCOTT Hand Cleansers are formulated to clean the toughest dirt, including grease and tar. Rounded polymer beads provide scrubbing action without the abrasion associated with pumice or walnut shell grits found in other products.

Part No.	Description	Size	Package Quantity
213232	Super Duty Skin Cleanser with Grit	3.5 liter refill	2
A000011034	Super Duty Skin Cleanser with Grit	8.0 liter refill	2
A000011036	Naturally Tuff Orange Skin Cleanser with Grit	8.0 liter refill	2
A000011039	Dispenser, Wall-mounted	3.5/8.0 liter	1

**GOJO® ORIGINAL FORMULA™ Hand Cleaner**

GOJO® ORIGINAL FORMULA™ crème contains soothing emollients. For removing heavy grease, tar and oil. Rub, then wipe clean with a towel or rinse off.

Part No.	Description	Package Quantity
A000045336	4.5 lb. plastic canister	1

**Permatex® Fast Orange® Professional Hand Cleaner**

The leading citrus hand cleaner brand, Fast Orange, is now bringing you the latest in hand cleaner technology—a heavy duty hand cleaner infused with odor eliminator technology. Fast Orange Professional contains premium skin conditioners, including lanolin, aloe vera and jojoba.

Part No.	Description	Quantity
A000044316	1 gallon pump	4

**Permatex® Fast Orange® Waterless Hand Cleaner**

The #1 selling, biodegradable, waterless, petroleum solvent-free hand cleaner that contains no harsh chemicals, mineral oils or ammonia that can sting cuts and abrasions. Fortified with aloe, lanolin, glycerin, and other skin conditioners. Fine pumice formula gently cleans the toughest dirt.

Part No.	Description	Quantity
A000034091	Low Profile, 1 gallon pump (pumice)	4
914644	Low Profile, 1 gallon pump (smooth)	4
A000049401	15 oz. squeeze bottle (pumice)	12
A000049400	15 oz. squeeze bottle (smooth)	12
A000013219	Hand Cleaner Wipes - 25/pack	8

**Permatex® Ultra Cherry™ Waterless Hand Scrub**

Tackles the toughest grease, while conditioning hands. This premium fine pumice lotion acts quickly to power out the harshest soils without leaving hands feeling greasy or irritated. Its light cherry clean scent is refreshing and contains no petroleum odors. No Kerosene. No Phosphates.

Part No.	Description	Quantity
A000029367	102.4 oz. pump bottle	4

**E-Z Clean Multi-Purpose Hand Cleaner with Pumice**

E-Z Clean is formulated without harsh caustics or solvents, just safe and effective ingredients. Its non-toxic formula does not contain kerosene or mineral spirits, so it is not drying to the skin. E-Z Clean, used with or without water, removes grease, tar, oil, graphite, grime, carbon, lubricants, stains, adhesives, obnoxious odors and much more without leaving a residue.

Part No.	Description	Quantity
A000041020	16 oz. bottle	6



## Degreasers

p/n	Name	Net Weight	Size	Qty.	Description
A000024425	Engine Degreaser Low VOC (CRC)	15 oz.	20 oz. aerosol	12	Quickly lifts grease and grime off engines for cooler more efficient running. Easy to use—just spray on and rinse off. Leaves no residue. This product meets VOC standards for CA and OTC.
A000026609	Engine Degreaser Eliminator® II (Permatex)	15 oz.	20 oz. aerosol	12	Quickly dissolves and removes grease, oil and dirt from all types of equipment. Cleans iron, steel, aluminum, magnesium and copper. Not harmful to metal, rubber, plastic, or concrete. Rinses off easily with water.
A000031459	Heavy Duty Degreaser II Zero VOC (CRC)	15 oz.	20 oz. aerosol	12	Non-chlorinated, zero VOC formula for cleaning where chlorinated solvents are not acceptable. High flash point of 180°F. Effectively removes soils with no residue build-up. Use caution on plastics.
A000053769	Spray Nine® Grez-Off® Heavy-Duty Degreaser (Permatex)	-	32 oz. spray bottle	12	A biodegradable, water-based cleaner that effectively removes heavy duty grease, dirt, fifth wheel grease, lubricants, oil, hydraulic fluid, grime, heavy molly grease, tar and more! Nonflammable, no fumes, no abrasives, no acids. USDA approved and VOC compliant in all 50 states.
A000047727	Spray Nine® Citrus Blaster Bug and Tar Remover	17.5 oz.	17.5 oz. aerosol	12	This formula instantly dissolves and lifts away stubborn soils and contains no petroleum solvents. Fresh orange scent.

## Electrical Cleaners and Chemicals

p/n	Name	Net Weight	Size	Qty.	Description
A000042343	Bulb Grease (Permatex)	-	0.5 oz. tube	6	Protects bulb connections from corrosion. Extends bulb operation life. Minimizes voltage leakage. Works with LED replacement bulbs. For use on automotive and marine bulbs, trailer plug wiring, instrument panel and courtesy lighting, electrical connections, etc.
A000042337	DeoxIT D5 Contact Cleaner and Rejuvenator (Caig)	5 oz.	-	1	Unique contact cleaner, rejuvenator, conductivity enhancer and lubricant; dissolves oxidation and corrosion on metal surfaces, fills in microscopic gaps and reseals surface for better contact to enhance flow of electricity. Improves connector performance/reliability.
A000011016	Dielectric Tune-Up Grease (Permatex)	-	3 oz. tube	1	Protects electrical connections and wiring from salt, dirt and corrosion. Extends the life of bulb sockets. Prevents voltage leakage around any electrical connection. Prevents spark plugs from fusing to boots. Required for modern high energy ignition systems.
A000028883			3 oz. powercan	1	
A000002891	Lectra-Motive® Electric Parts Cleaner (CRC)	19 oz.	20 oz. aerosol	12	Provides fast, thorough cleaning for non-sensitive electrical equipment. Dissolves grease, oil, dirt and wax. Leaves no residue and is non-flammable.
A000049828	Liquid Electrical Tape (Permatex)	-	4 oz.	1	Weatherproof protectant for wiring and electrical connections. Goes on as a liquid and dries to a vinyl polymer that resists dirt, dust, chemicals, moisture, ensuring that connections stay intact. Brush-top applicator allows coverage without gaps and enables access to tight spaces that roll tape and shrink tubing can't get to.
A000049830	NYK-77 Compound	-	2 oz. tube	1	Corrosion preventative compound for electrical contacts, switches, and junction boxes.
A000049831			5 oz. tube	1	
2I3264	QD™ Contact Cleaner (CRC)	11 oz.	16 oz. aerosol	12	Cost effective precision cleaner suitable for sensitive electronics and electrical equipment. Evaporates quickly, leaves no residue and is safe to use on all plastics.
A000048788	QD™ Electronic Cleaner (CRC)	11 oz.	16 oz. aerosol	12	A petroleum distillate / alcohol based precision cleaner designed as an alternative to CFC based cleaners. Ideal for apps where lower flash point materials can be tolerated. Cost effective, plastic safe and residue free.
A000050144	Seal Coat® Clear Urethane Coating	11 oz.	16 oz. aerosol	12	It provides a conformal polyurethane coating that insulates electrical equipment and seals out water and moisture. This product allows clear visualization of whatever it is sprayed upon. It is an excellent insulator of PC boards, since it allows visualization of circuit paths. It dries quickly to a hard, durable, flexible film.
A000024421	Silicone Heat Sink Compound (Super Lube)	-	3 oz. tube	12	This compound has thermally conductive, fine metal oxide powders. Facilitates the transfer of heat from an electrical device to heat sink or chassis. Extends the life of heat sensitive electrical parts.
2I3806	Thermal Joint Compound	-	2 oz. jar	1	This heat sink compound fills the minute air gap between mating surfaces with a grease-like material containing zinc oxide in a silicone oil carrier.

## Engine and Transmission Chemicals

p/n	Name	Net Weight	Size	Qty.	Description
A000045396	Diesel 911® for Winter Emergencies (Power Service)	-	32 oz. bottle	12	Winter Rescue Formula designed to solve your diesel fuel emergencies during the cold months. Diesel 9•1•1 does not prevent fuel gelling. Diesel 911 and Diesel Fuel Supplement +Cetane Boost are compatible in diesel fuel and may be used at the same time.
A000031691	Diesel Cold Flow™ Anti-Gel with Lubricity (CRC)	-	12 oz. bottle	12	A highly concentrated formula that inhibits gelling and improves flowability of diesel fuel in cold weather. Lowers the pour point by as much as 40°F when used in the proper ratios.
A000045395	Diesel Fuel Supplement® +Cetane Boost (Power Service)	-	32 oz. bottle	12	Antigel/winterizer used in the cold winter months to keep fuel-filters from plugging with wax and to prevent fuel gelling. This Arctic Formula effectively treats all diesel fuels to keep equipment running trouble-free. Diesel Fuel Supplement is intended for use only during cold winter months when temperatures drop below + 30°F.
A000045397	Diesel Kleen® +Cetane Boost (Power Service)	-	32 oz. bottle	12	Technologically advanced diesel engine performance improver that cleans injectors, boosts cetane and lubricates fuel injection components. This Max HP Formula restores lost power, smooths rough-running engines and improves fuel economy up to 8%. Diesel Kleen can be used year-around.
A000036052	TerraCair® Ultrapure Diesel Exhaust Fluid (CF Industries)	-	2.5 gallon container	2	Diesel exhaust fluid is an aqueous urea solution made with 32.5% high-purity urea (AUS 32) and 67.5% deionized water. DEF is used as a consumable in Selective Catalytic Reduction to lower NOx concentration in the diesel exhaust emissions from diesel engines.
A000010983	Engine Assembly Lube (CRC)	-	10 oz. tube	6	Adheres to metal surfaces to prevent destructive metal to metal contact. Prevents friction, galling, and wear on all types of engines.
A000024425	Engine Degreaser Low VOC (CRC)	15 oz.	20 oz. aerosol	12	Quickly lifts grease and grime off engines for cooler more efficient running. Easy to use—just spray on and rinse off. Leaves no residue. This product meets VOC standards for CA and OTC.
A000026609	Engine Degreaser Eliminator® II (Permatex)	15 oz.	20 oz. aerosol	12	Dissolves grease, oil and dirt from all types of equipment. Cleans iron, steel, aluminum, magnesium and copper. Not harmful to metal, rubber, plastic, or concrete. Rinses off easily with water.
A000054868	RevitaCool™ Coolant Boost (K & W/CRC)	15 oz.	16 oz. bottle	6	Improves heat transfer, protects against cavitation and pitting, extends antifreeze life, and suppresses electrolysis. Compatible with all types of new or used antifreeze.
A000046259	EQUA-TORQUE® Differential Friction Modifier (CRC)	-	1 oz. tube	12	EQUA-TORQUE is a special friction modifier concentrate designed to be added to the differential. Reduces the coefficient of friction, therefore improving the performance of limited-slip differentials.
A000046393	Fuel Injector Cleaner, Premium (CRC)	12 oz.	12 oz. bottle	12	Maintains “like-new” performance in today’s fuel injected engines. Helps provide total engine cleanliness.
A000034797	Gear Oil RTV Sealant (Permatex)	-	3 oz. tube	1	Specially formulated to withstand gear oil found in differentials and transfer cases. Because gear oil has friction modifiers that break down normal RTV and cause leaking, this silicone has been tested to OEM specifications to ensure complete sealing. As a gasket maker, it seeks and seals leak paths that cut gaskets cannot.
A000025398	Mass Air Flow Sensor Cleaner (CRC)	11 oz.	16 oz. aerosol	12	Formulated to clean mass air flow sensors. Increases horsepower and improves air/fuel ratio and MPG. Plastic safe—dries in seconds.
A000031650	Prussian Blue (Permatex)	-	.75 fl. oz.	1	Aids precision-fitting of machined surfaces. Locates high spots on bearings, valves, gears and other close-to-tolerance components. Non-drying. Easy clean-up.
A000033734	Sea Foam Motor Treatment	-	16 oz. container	1	Sea Foam Motor Treatment is a 100% pure petroleum product that safely and effectively cleans internal fuel and oil system components, helping gasoline and diesel engines run cleaner and more efficiently.
A000049627			1 gallon container		
A000002942	Jump Start® Starting Fluid with Lubricity (CRC)	11 oz.	16 oz. aerosol	12	Assures fast, economical starts in cold or humid climates. Contains an upper cylinder lubricant to minimize wear during cold starts.
A000012774	Transmission Cooler Flush	18 oz.	20 oz. aerosol	12	Formulated to prevent automatic transmission cooler contamination by propelling a biodegradable cleaner through the transmission cooler and line with 90 pounds of pressure.
A000045389	TRANS-X POSI TRAC Limited Slip Gear Oil Additive (CRC)	-	7 oz. tube	12	TRANS-X POSI-TRAC Limited Slip Gear Oil Additive is designed to quiet chattering differentials and improve gear oil performance. Use with conventional GL-5 or synthetic gear oils.
A000054990	Water Finding Paste (Kolor Kut®)	-	3 oz. tube	1	Tests for the presence of water in the bottom of oil, diesel, petrol, gasoline, fuel oil, and kerosene tanks. The brown paste is applied to a weighted string or rod, and dipped to the bottom of the tank. The section of the paste that touches water, will immediately turn a brilliant red upon contact.

## Adhesives, Epoxies and Glues

p/n	Name	Net Weight	Size	Qty.	Description
A000032064	3M Super Trim Adhesive	19 oz.	19 oz.	6	Aerosol contact adhesive designed for bonding vinyl tops, heavyweight liners and hood silencer pads where high strength and heat resistance are needed.
A000034817	3M Hi-Strength 90 Spray Adhesive Clear	17.6 oz.	24 oz.	12	Creates a high strength fast tack bond to concrete, wood, MDF, laminates, or polyethylene. Excellent moisture resistance.
2I7853	Cold Weld Bonding Compound (Permatex)	-	1 oz. tube	2	A 15-minute, two-part adhesive and filler system that eliminates the need for welding and brazing. Once cured, it can be drilled, sanded, painted, or filed. Withstands heat to 300°F intermittently. Use on aluminum, steel, castings, brass, bronze, and stampings.
A000016689	Fast Cure Epoxy (Permatex)	-	4 g mixing cups	10 cups	Convenient premeasured epoxy mixer cups. No mess, no guess, no waste. Ideal for bonding glass, hard plastics, rubber and metal. Bonds in 5-15 minutes. Grey adhesive has excellent chemical resistance. Fills porosities and can be used to build up worn parts.
A000049828	Liquid Electrical Tape (Permatex)	-	4 oz.	1	Weatherproof protectant for wiring and electrical connections. Goes on as a liquid and dries to a vinyl polymer that resists dirt, dust, chemicals, moisture, ensuring that connections stay intact. Brush-top applicator allows coverage without gaps and enables access to tight spaces that roll tape and shrink tubing can't get to.
A000026319	PermaPoxy™ 5 Minute General Purpose Epoxy (Permatex)	-	.84 oz. dual syringe	1	Versatile, easy-to-use, general purpose epoxy adhesive is two-part adhesive and filler system that eliminates the need for welding or brazing. Sets in five minutes, no clamping needed. Clear appearance. Fills gaps and will not shrink. Resistant to water and solvents. Temperature range of -60°F to 180°F (-51°C to 82°C). Permanent strength up to 3,400 PSI.
A000048740	Self-Infusing Silicone Tape (Permatex)	-	1" x 10'	1	An all purpose repair tape that is made out of specially formulated silicone rubber. Contains no adhesives; yet chemically bonds to itself upon contact. Simply stretch and wrap for an airtight, waterproof seal in seconds. Replaces duct tape and electrical tape. Use to seal, insulate and stop vibration on just about anything you are able to get a couple of wraps around. Seal electrical connections, make emergency fuel or water hose repairs, insulate wiring and hoses, repair leaking pipes and hoses, repair damaged wires and wrap hand tools and grips.
A000031696	Super Glue Gel (Permatex)	-	2 g tube	1	This gel formula "stays put" for precise application on hard-to-reach, overhead, or vertical surfaces. This permanent, transparent bond works on both porous and nonporous materials including metal, plastics, rubber, vinyl, paper, wood, textiles, and cork gaskets.

## Gasket Makers

p/n	Name	Size	Qty.	Description
A000044059	Aisin Form-In-Place Gasket	2 oz. tube	1	Highly resistant to engine oil, coolants, high temperatures, and high pressure. Temperature range of -40°F to 302°F. Tack free and ready for installation within five minutes.
912292 A000001055	Anaerobic Gasket Maker (Permatex)	6 ml tube 50 ml tube	1 1	Non-corrosive gasket material designed for use on aluminum, iron, and steel flanged mating surfaces. Ideal for emergency repairs, or when a conventional gasket is unavailable. Fills gaps up to .015" and cures to a solvent resistant seal that will not tear or decay. Parts disassemble easily after service and old gasket material can be removed in minutes.
A000034797	Gear Oil RTV Gasket Maker (Permatex)	3 oz. tube	1	Specially formulated to withstand the harsh gear oil found in differentials and transfer cases. Because gear oil has friction modifiers that break down normal RTV and cause leaking, this silicone has been tested to OEM specifications to ensure complete sealing. As a gasket maker, it seeks and seals leak paths that cut gaskets cannot.
214252 A000011699	High-Temp Red RTV Silicone Gasket Maker (Permatex)	3 oz. tube 7.25 oz. powerbead	1 6	Formulated for hi-temp applications or heavy duty use. Replaces almost any cut gasket by making reliable "formed-in-place" gaskets that resist cracking, shrinking, and migrating. Temperature range of -65°F to 650°F intermittent.
214271	Sensor-Safe Blue RTV Silicone Gasket Maker (Permatex)	3 oz. tube	1	Will not foul oxygen sensors. Replaces almost any cut gasket. Makes reliable "formed-in-place" gaskets that resist cracking, shrinking, and migrating. Temperature range of -65°F to 500°F intermittent; resists auto and shop fluids.
A000000165	The Right Stuff® Gasket Maker (Permatex)	7 oz. pressurized can	1	Blowout resistant and outperforms precut gaskets. Temperature range of -75°F to 450°F; 550°F intermittent; resists auto and shop fluids. Protects against leaks caused by vibration and thermal expansion.
A000031122 214269 A000011695	Ultra Black® Maximum Oil Resistance Gasket Maker (Permatex)	.5 oz. tube 13 oz. cartridge 9.5 oz. powerbead	1 1 6	OEM specified. For dealer warranty requirements, ensures extended drivetrain warranty compliance. Fast-curing formula. Sensor safe, low odor, noncorrosive. Meets performance specs of OE silicone gaskets. Retains high flexibility, oil resistance properties through use of a patented adhesion system. Temperature range -65°F to 500°F (-54°C to 260°C) intermittent; resists auto and shop fluids and vibration.
A000011696	Ultra Blue® Multipurpose RTV Silicone Gasket Maker (Permatex)	9.5 oz. powerbead	6	OEM specified. Designed specially for high-torque and high vibration applications, like those common in import engines, this premium RTV gasket maker exceeds manufacturers' performance requirements. Sensorsafe, low odor, and noncorrosive. Maximum vibration resistance, with outstanding resistance to oils, cooling and shop fluids. Guaranteed not to leak. Temperature range -65°F to 500°F (-54°C to 260°C) intermittent.
A000048738	Ultra Copper® Maximum Temperature RTV Silicone Gasket Maker (Permatex)	3 oz. tube	12	OEM specified. For high operating temperatures common in 4-cylinder, turbocharged or high-performance engines. The most advanced, high temp RTV silicone gasket available. Sensor-safe, low odor, noncorrosive. Superior adhesion. Three times more oil resistant than conventional silicones; eight times more flexible than cut gaskets. Temperature range -65°F to 700°F (-54°C to 371°C) intermittent; resists auto and shop fluids and vibration.
A000035462	Ultra Grey® Rigid High-Torque RTV Silicone Gasket Maker (Permatex)	0.5 oz. tube	1	OEM specified. Ultra silicones were developed to meet today's technology changes. Sensor-safe, low odor, noncorrosive. Outstanding oil resistance and joint movement tolerance. Eight times more flexible than cork/composite gaskets; three times more oil resistant than conventional silicones. Temperature range -65°F to 500°F (-54°C to 260°C) intermittent; resists auto and shop fluids and vibration.
A000035461	Water Pump and Thermostat RTV Silicone Gasket Maker (Permatex)	0.5 oz. tube	1	A noncorrosive, sensor-safe RTV silicone gasket material formulated specifically for water pumps and thermostat housings. Highest water-glycol resistance available in an RTV silicone. Temperature range of -65°F to 500°F (-54°C to 260°C) intermittent.

## Gasket Removers

p/n	Name	Size	Qty.	Description
A000031192	Low VOC Gasket Remover (Permatex)	4 oz. powercan with brush tip nozzle	6	Quickly removes all solvent-based gasketing adhesives and sealants, even baked-on gaskets. Use to remove gasket from any flange material in 15-20 minutes. Prepares flanges for new gasket. Reduces scraping and grinding, eliminating flange damage. Use for solvent-based gasketing, anaerobic gasketing and gasket sealant products.
A000040225	RTV Silicone Dissolver (Permatex)	2.7 oz. tube	12	OEM approved. This patented gel formula dissolves and completely removes RTV silicone residue in only a matter of minutes—letting the powerful chemical do the work for you. No grinding required. It's also safe for use on aluminum and other surfaces such as metal or plastic.

## Gasket Sealants

p/n	Name	Net Weight	Size	Qty.	Description
A000020892	Anaerobic Flange Sealant (Permatex)	-	50 ml tube	1	Flexible, gasketing material for use on rigid machined flanges with less than .015" gap. OEM approved. Use where "anaerobic" gasket (cures in the absence of air) is specified. Withstands temperatures to 300°F (149°C). Eliminates preformed, pre-cut, paper, rubber and cork gaskets. Flexes with flanges that move in service. Use on water pumps, thermostat housings, transmission pans, transmission cases and timing covers, transaxle casings, engine cases, and o-ring replacements.
9I2288	Aviation Form-A-Gasket® No. 3 Sealant (Permatex)	-	16 oz. bottle	1	Slow drying, non-hardening brush-top sealant. Temperature range of -65°F to 400°F; resists gasoline, oil, and grease. Use on close-fitting machined surfaces, sealing hoses, and solid gasket dressing.
9I2290	Black Silicone Adhesive Sealant (Permatex)	-	3 oz. tube	1	Seals, bonds, and mends glass, metal, plastic, fabric, vinyl, and weather-stripping. Protects and repairs electrical wiring. Waterproof and flexible. Temperature range of -75°F to 450°F. Resists oil, water, weather, vibration, grease.
A000011698	Clear RTV Silicone Adhesive Sealant (Permatex)	-	7.25 oz. powerbead	6	General purpose, clear RTV indoor/outdoor sealant. Seals, bonds, repairs, mends and secures glass, metal, plastic, fabric, vinyl, and weather stripping. Protects and repairs electrical wiring. Temperature range of -75°F to 400°F; resists oil, water, weather, vibration, and grease.
9I2291	Clear Silicone Adhesive Sealant (Permatex)	-	3 oz. tube	1	Seals, bonds, and mends glass, metal, plastic, fabric, vinyl, and weather-stripping. Protects and repairs electrical wiring. Waterproof and flexible. Temperature range of -75°F to 400°F. Resists oil, water, weather, vibration, grease.
2I4255	Copper Spray-A-Gasket® Hi-Temp Adhesive Sealant (Permatex)	9 oz.	12 oz. aerosol	12	Fast drying, metallic copper sealant helps dissipate heat, prevents gasket burnout, and improves heat transfer. Temperature range of -50°F to 500°F; resists all types of automotive fluids, especially gasoline. Use on cylinder head gaskets, carburetor gaskets, exhaust manifold gaskets, and other high temperature applications.
9I2286	Form-A-Gasket® No. 1 Sealant (Permatex)	-	3 oz. tube	1	Fast drying, hard setting sealant designed for sealing rigid materials and flanges or patching holes and joints where permanent assembly is desired. Temperature range of -65°F to 400°F; resists common shop fluids and fuels. Use on freeze plugs, threaded connections, and manifold gaskets.
9I2287	Form-A-Gasket® No. 2 Sealant (Permatex)	-	3 oz. tube	1	Slow drying, non-hardening sealant designed for sealing cut gaskets and stamped parts. Allows for easy disassembly. Temperature range of -65°F to 400°F; resists common shop fluids and fuels. Use on valve covers, gaskets, and oil pan gaskets.
2I4253	High Tack™ Spray-A-Gasket® Sealant (Permatex)	9 oz.	12 oz. aerosol	12	Fast drying all-purpose sealant dries to a high tacky, non-brittle film. Temperature range of -65°F to 500°F. Resists gasoline, oil, antifreeze, axle lube, kerosene, propane, and butane. Use on valve covers, fuel aumps, carburetors, and manifold gaskets. Seals all felt, cork, metal, paper, rubber, and asbestos gaskets.
2I4254		4.75 oz.	6 oz. aerosol	12	
A000044353		-	6 oz. brush-top	1	
A000040227	PermaShield™ Fuel Resistant Gasket Dressing and Flange Sealant (Permatex)	-	2 oz. tube	6	Specially formulated for superior fluid resistance, this polyester urethane based gasketing compound withstands extreme temperature changes without hardening. Its non-setting, non-hardening character remains tacky even with rapid changes in temperature, enabling repeated assembly and disassembly of parts. Suitable as either a gasket maker or dressing, PermaShield™ seals surface imperfections between metal parts and is ideal in high performance applications. With an operating temperature range of -60° to 500°F (-50° to 260°C), this compound resists common engine fluids, including oil, gasoline, ethanol, water and antifreeze and prevents contamination from moisture and dust.



## Lubricants

p/n	Name	Net Weight	Size	Qty.	Description
A000042342	Aluminum Anti-Seize Lubricant Stick (Permatex)	-	5 oz. tube	12	Aluminum stick provides for neater application. For use on spark plug threads, cylinder and exhaust head bolts, anchor pins, u-bolts, spring bolts, gears, chain, etc.
2I4266	Anti-Seize Lubricant (Permatex)	-	1 oz. tube	1	Highly refined blend of aluminum, copper, and graphite lubricants. Use during assembly to prevent galling, corrosion, seizing, and to assure easier disassembly. Temperature range of -60°F to 1,600°F. Salt, corrosion, and moisture resistant. For easy removal of spark plugs, cylinder, and exhaust head bolts.
2I4267		-	8 oz. brush top bottle	1	
A000034861		-	12 oz. aerosol	12	
A000041661	B'Laster Garage Door Lube	9.3 oz.	12 oz.		Formulated to replace messy aerosol grease products typically used on overhead doors, rollers & tracks, wires, rope, etc. It incorporates the lubrication and lasting protection of silicone with an extreme pressure agent. This combination provides Blaster's Garage Door Lube with superior lubrication, protection & cleanliness.
A000029732	B'Laster PB Penetrating Catalyst	11 oz.	11 oz. aerosol	12	Quickly breaks loose the surface tension of frozen parts and protects against further rust and corrosion.
A000042343	Bulb Grease (Permatex)	-	0.5 oz. tube	6	Protects bulb connections from corrosion. Extends bulb operation life. Minimizes voltage leakage. Works with LED replacement bulbs. For use on automotive and marine bulbs, trailer plug wiring, instrument panel and courtesy lighting, electrical connections, etc.
A000033187	Chain and Cable Lubricant (Steel Brand)	15 oz.	20 oz. aerosol	12	This premium chain lube reduces friction and wear for longer chain life. Ideal for exposed chains—this lubricant penetrates rapidly into hard to reach places. Adheres and forms a lubricating film that cannot be wiped away.
A000014132	Compressor Oil SAE 30 (CRC)	32 oz.	1 quart bottle	12	Helps promote longer life in all types of rotary screw, rotary vane, and single and multi-stage compressors.
A000028138	Dry Graphite Lube (CRC)	10 oz.	16 oz. aerosol	12	Ideal where a dry lubricant is required or petroleum products must be avoided. Resists dirt, dust, and oil build-up. Wide effective temperature range up to 850°F constant. Use on gaskets, transfer belts, conveyor belts, motors, plant machinery and handling equipment, rollers, wheels, gears, chains and hoists.
A000013611	Extreme Duty Silicone Multi-Use Lubricant (CRC)	10 oz.	16 oz. aerosol	12	Silicone fluid with superior lubrication and temperature viscosity characteristics. Use on metallic and non-metallic surfaces. Reduces friction and galling even on metal-to-metal contact areas.
A000031812	Fluid Film Rust and Corrosion Protection	11.75 oz.	12 oz. aerosol	12	Fluid Film® is the worldwide standard for corrosion control and equipment maintenance. Its unique lanolin formula contains no solvents to evaporate. Always active, it will not become tacky, providing long-term protection to all metal and superior lubrication to all moving parts.
A000015947	Food Grade Penetrating Oil (JAX)	11 oz.	11 oz. aerosol	12	A USDA/NSF H1 food-grade oil.
A000034860	Food Grade Grease (CRC)	14 oz.	14 oz. cartridge	10	An aluminum complex premium grade USDA H1 grease for use in food production and processing industries. This NLGI Grade 2 multi-purpose lubricant is white in color and has a smooth buttery texture.
A000055053	Food Grade Silicone (CRC)	10 oz.	16 oz. aerosol	12	Multi-purpose silicone spray for food processing and handling applications. Forms a colorless, odorless, non-staining film. Eliminates binding and sticking in most metal to non-metal applications.
A000025385	Freeze Off™ Penetrant Low VOC (CRC)	11.5 oz.	20 oz. aerosol	12	A unique formula that immediately drops the temperature of the area in direct contact with the spray. The freezing effect cracks rusted surfaces, allowing Freeze-Off™ to reach deeper and work more effectively than other penetrants. This product meets VOC standards for CA and OTC.
A000002938	Heavy Duty Silicone Multi-Use Lubricant (CRC)	7.5 oz.	10 oz. aerosol	12	Heavy duty silicone lubricant is clean, odorless, and highly water resistant. Eliminates squeaking and binding, while fighting rust and corrosion.
A000030265	Lift Truck and Boom Lube White Food Grade (JAX)	11 oz.	11 oz. aerosol	12	For use in food, beverage, or pharmaceutical processing areas. Use on telescoping boom cranes where a white grease is required. Meets food grade H1 incidental contact requirements. Excellent rust and corrosion control, E.P. and anti-wear properties, high-temperature performance, water washout and chemical resistance.
A000010368	Lift Truck and Sliding Tandem Lube (JAX)	11 oz.	16 oz. aerosol	12	A combination of two premium greases with Moly. Helps eliminate oil drip-page, prevents wear and reduces friction, rust and freeze-ups to -60°F.
A000028928	Red Grease (CRC)	11 oz.	16 oz. aerosol	12	Heavy-duty lubricant that withstands high temperature and high pressure. Red color allows for easy visual inspection of film coverage.

## Lubricants

p/n	Name	Net Weight	Size	Qty.	Description
9I2528	Super Lube® Multi-Purpose Aerosol (Synco)	11 oz.	15 oz. aerosol	12	Multi-purpose lubricant contains PTFE. Safe to use on anything that slides, swivels, rolls, or squeaks. Temperature range of -40°F to 450°F. A USDA listed food grade lubricant, rated H-1 for incidental food contact. Clean, non-toxic, non-staining; Prevents rust and corrosion.
9I4817	Super Lube® Multi-Purpose Synthetic Grease (Synco)	-	400 g can	12	Patented synthetic NLGI grade 2 heavy-duty, multi-purpose lubricant with PTFE. Provides longer life protection against friction, wear, rust, and corrosion. USDA and NSF registered H-1 safe for incidental food contact.
A000013166	Synthetic Open Gear Lube (JAX)	11 oz.	11 oz. aerosol	12	Formulated to be the most water-resistant, supply the best film adhesion, and provide the most wear protection.
A000002937	Ultra Screwloose® Super Penetrant Low VOC (CRC)	11 oz.	16 oz. aerosol	12	Penetrates, loosens, and lubricates to free bolts, lug nuts, and fasteners. Squeaks are noticeably reduced. This product meets VOC standards for CA and OTC.
A000044291	WD-40 California	8 oz.	8 oz. aerosol	12	Protects metal from rust and corrosion, penetrates stuck parts, displaces moisture, and lubricates. Cleans grease, grime, and marks from most surfaces.
A000002940 A000027214	White Lithium Grease (CRC)	10 oz. 10 oz.	16 oz. aerosol 10 oz. tube	12 6	High-purity, high-quality NLGI, Grade 2 white lithium-based aerosol grease that provides superior lubrication and durability in any weather or temperature. Excellent as a break-in lubricant for bearings and for general purpose lubrication and corrosion protection of machinery, tools, and equipment.

## Radiator, Coolant and Antifreeze Chemicals

p/n	Name	Net Weight	Size	Qty.	Description
EXXN102879 EXXN102880	Permazone Antifreeze (ExxonMobil)	-	1 gallon 55 gallon drum	6 1	A conventional green colored antifreeze containing inhibitors providing protection from freezing, overheating, rust and corrosion when used as recommended. Features a universal low silicate formula for use in all conventional automobiles and light duty trucks and protects all cooling system metal surfaces, including aluminum.
EXXN103139 EXXN102882	Permazone Antifreeze 50/50 (ExxonMobil)	-	1 gallon 55 gallon drum	6 1	A conventional green colored antifreeze containing inhibitors providing protection from freezing, overheating, rust and corrosion when used as recommended. Features a universal low silicate formula for use in all conventional automobiles and light duty trucks and protects all cooling system metal surfaces, including aluminum.
EXXN103122	Permazone Antifreeze Extended Life (ExxonMobil)	-	1 gallon	6	A patented Organic Acid Technology (OAT) formula that protects cooling systems for six years or 12,000 hours of off-highway use without the use of Supplemental Coolant Additives (SCAs).
EXXN103125 EXXN103126	Permazone Antifreeze Extended Life 50/50 (ExxonMobil)	-	1 gallon 55 gallon drum	6 1	A 50/50 mix of Mobil Delvac Extended Life Coolant/Antifreeze and deionized water. Use when topping-off cooling systems filled with Mobil Delvac Extended Life Coolant/Antifreeze to ensure proper inhibitor levels are maintained.
EXXN103119	Heavy Duty SCA Pre-Charged 50/50 Coolant/Antifreeze (ExxonMobil)	-	1 gallon	6	A diesel specific coolant, formulated to provide exceptional engine protection for all heavy-duty cooling systems. It is a 50/50 mix of Mobil Heavy Duty fully formulated coolant and deionized water. Since Mobil Heavy Duty is pre-charged with a high quality SCA and premixed with deionized water, the addition of SCAs and water when topping off is not needed to compensate for SCA dilution.
A000000776 A000000777	Antifreeze and Summer Coolant (Spectrum)	-	1 gallon 55 gallons	6 1	At 50% dilution, coolant will protect down to -34°F and has a boil temperature of 226°F. Concentrate. For best performance dilute with water (1:1).
A000014470	DexCool Antifreeze and Summer Coolant (Spectrum)	-	1 gallon	6	Extended life antifreeze.
A000054868	RevitaCool™ Coolant Boost (K & W/CRC)	15 oz.	16 oz. bottle	12	Improves heat transfer, protects against cavitation and pitting, extends antifreeze life, and suppresses electrolysis. Compatible with all types of new or used antifreeze.
A000054115	7 Minute Rapid Flush Cooling System Cleaner (K & W/CRC)	15 oz.	16 oz. bottle	6	Works in seven minutes. Revitalizes cooling efficiency, removes harmful rust scum, oil, and hard water scale. Acid-free cooling system scrub.

## Sealants

p/n	Name	Size	Qty.	Description
A000020442	High Performance Thread Sealant (Permatex)	50 ml tube	1	OEM specified. Formulated specifically for metal, tapered pipe thread fittings, it replaces Teflon® tape and pipe dopes. Cures rapidly to withstand 10,000 PSI. Prevents galling and protects mated threaded areas from rust and corrosion. Contains PTFE.
2I4262	High Temperature Thread Sealant (Permatex)	6 ml tube	1	OEM specified. Locks and seals threaded fittings. Resists leakage, vibration loosening, moisture, hydraulic fluids and diesel fuels. Lubricates threads for easy assembly and disassembly. Won't shred or wear like Teflon® tape. Parts may be repositioned up to 4 hours after application. Temperature range of -65°F to 400°F.
2I4263		50 ml tube	1	
A000005888	Pneumatic/Hydraulic Thread Sealant (Permatex)	36 ml bottle	1	Designed for sealing high pressure hydraulic and pneumatic systems. Reliably cures on "as received" fasteners. Use on hydraulic line fittings, brake fittings, transmission fluid fittings, and PTO fittings.

## Threadlockers and Retaining Compounds

p/n	Name	Size	Qty.	Description
2I4256	Medium Strength Threadlocker Blue (Permatex)	6 ml tube	1	All-purpose, medium strength threadlocker. Ideal for all nut and bolt applications 1/4" to 3/4". Protects threads from corrosion. Removable with hand tools. Use on valve cover bolts, water pump bolts, oil pan bolts, drive shaft bolts, rocker arm adjustment nuts, and carburetor studs.
2I4257		36 ml bottle	1	
2I4258		90 ml bottle	1	
A000026317	Medium Strength Threadlocker Blue Gel Squeeze (Permatex)	5 g tube	1	All-purpose medium strength blue threadlocker gel that secures nut and bolt applications 1/4" to 1". Seals threaded assemblies while preventing parts from loosening due to vibration or thermal differential expansion. Use on valve cover bolts, rocker arm adjustment nuts, and carburetor studs.
A000014548	Medium Strength Threadlocker Blue Gel Twist (Permatex)	10 g tube	1	
A000003069	Surface Insensitive Threadlocker Blue (Permatex)	10 ml bottle	1	Medium/high strength thread-locker for general-purpose applications. Especially well-suited for 1/4" to 3/4" (6mm to 20mm) fasteners that have a slight oil film. Prevents vibration loosening. Oil resistant. Removable with hand tools for easy disassembly.
2I4259	High Strength Threadlocker Red (Permatex)	6 ml tube	1	For heavy duty applications 3/8" to 1". For permanently locking studs and press fits. Adds 3,000 PSI holding power on slip and press fit assemblies. Replaces set screws and snap rings. Requires heat or special tools for removal. Use on cylinder block, rocker arm studs, ring gear bolts, frame bolts and shock absorber bolts.
2I4260		36 ml bottle	1	
2I4261		90 ml bottle	1	
A000026316	High Strength Threadlocker Red Gel Squeeze (Permatex)	5 g tube	1	A high strength red threadlocker gel for heavy-duty applications. Ideal for reliably securing all permanent nut and bolt applications 3/8" to 1" and greater. Seals while preventing parts from loosening due to vibration. Use on locks studs for applications such as ring gear bolts, frame bolts, and cylinder block and rocker arm studs.
A000014549	High Strength Threadlocker Red Gel Twist (Permatex)	10 g tube	1	
A000016708	Large Diameter Threadlocker Red (Permatex)	36 ml bottle	1	High strength adhesive locks and seals large bolts and studs 1" or larger in diameter. Heat may be required to weaken bond before parts can be disassembled. Use on frame brackets, suspension fasteners, shock absorber mounts, and wheel studs.
A000014720	Penetrating Grade Threadlocker Green (Permatex)	6 ml tube	1	A low viscosity threadlocking liquid that wicks along the threads of pre-assembled fasteners to secure them in place. Use on bolts on alternators, air conditioning belts and distributor clamps, carburetor adjustment screw, and hairline cracks.
A000033530	Bearing Mount For Close Fits (Permatex)	50 ml bottle	1	A low viscosity, rapid-curing anaerobic adhesive that augments the strength of press fit assemblies or slip fit assemblies up to .005" in diameter. Adds up to 3,000 PSI holding power. Use on bushings, bearings, oil seals, ring gear bolts, and differential lock pins.
A000015696	Surface Prep™ Activator for Anaerobics (Permatex)	6 oz. aerosol/ 4.5 oz. net weight	6	Speeds cure of threadlockers by 50%. Increases threadlocker strength. Recommended during cold weather. Solvent for cleaning and preparing parts and surfaces. Use on nut and bolt applications.

## Miscellaneous Chemicals

p/n	Name	Net Weight	Size	Qty.	Description
A000037278	AC Refrigerant	12 oz.	15.5 oz. aerosol	12	For use in factory installed and/or retrofitted R-134a air conditioning systems. Comes with standard ACME threaded cap.
A000038696	AC Leak Stop (Johnsen's)	3 oz.	4.25 oz. aerosol	12	Johnsen's Leak Stop helps to seal and detect most common A/C leaks in R-134a systems. For use in factory installed and/or retrofitted R-134a auto a/c systems. Comes with standard ACME threaded cap.
A000033530	Bearing Mount For Close Fits (Permatex)	-	50 ml bottle	1	A low viscosity, rapid-curing anaerobic adhesive that augments the strength of press fit assemblies or slip fit assemblies up to .005" in diameter. Adds up to 3,000 PSI holding power. Use on bushings, bearings, oil seals, ring gear bolts, and differential lock pins.
A000025399	Bee Blast, Wasp & Hornet Spray Low VOC (CRC)	14 oz.	20 oz. aerosol	12	Instantly saturates insects and their nests with a 22' jet blast. Knocks down and kills on contact. Now with residual action that kills wasps and hornets returning to the nest. This product meets VOC standards for CA and OTC.
A000002943	Belt Dressing (CRC)	7.5 oz.	12 oz. aerosol	12	Provides a temporary, synthetic treatment for worn belts. Extends belt life by reducing slippage, hardening, glazing, dirt build-up and friction.
2I6564	Hydraulic Jack Oil (Johnsen's)	-	32 oz. bottle	12	Performs at a wide range of temperatures. Contains anti-foam additives and rust inhibitors.
A000046353	Muffler and Tailpipe Bandage	-	84 sq. in. bandage, carded	12	Epoxy-impregnated fiberglass bandage chemically welds mufflers and tailpipes. Permanently repairs holes and leaks in exhaust systems saving costly part replacement. Seals out poisonous fumes to temperatures of 800°F (426°C).
A000019255	No Touch® Wet 'N' Protect™ Tire Finish (Permatex)	15 oz.	-	6	This clear liquid "wet look" tire finish easily sprays on clean tires for an ultra high-gloss finish.
2I6563	Power Steering Fluid (Johnsen's)	-	12 oz. bottle	12	High quality power steering fluid, conditioner, and sealer. Non-foaming, non-corrosive, and mixes with most factory fluids.
A000031650	Prussian Blue (Permatex)	-	.75 oz. tube	1	Aids precision-fitting of machined surfaces. Locates high spots on bearings, valves, gears and other close-to-tolerance components. Non-drying. Easy clean-up.
A000013218	Undercoating (Permatex)	16 oz.	20 oz. aerosol	12	Protects fenders, frames, fuel tanks, door panels, rocker panels, hoods and fire-walls against moisture, salt, and corrosion. Won't sag or drip. Sound-proofs and insulates.
A000054990	Water Finding Paste (Kolor Kut®)	-	3 oz. tube	1	Tests for the presence of water in the bottom of oil, diesel, petrol, gasoline, fuel oil, and kerosene tanks. The brown paste is applied to a weighted string or rod, and dipped to the bottom of the tank. The section of the paste that touches water, will immediately turn a brilliant red upon contact.
A000024372	Windshield Spray De-Icer (CRC)	12 oz.	16 oz. aerosol	12	Melts ice, snow, and frost on contact. Harmless to paint finish. Thaws frozen locks and is effective to sub-zero temperatures.
A000005442	Windshield Washer Solvent (Spectrum)	-	1 gallon	6	Effectively cleans windshields. Does not freeze down to -20°F.

## Low VOC Chemicals

Volatile Organic Compounds (VOCs) are organic chemicals that easily evaporate at normal temperature and pressure. In order to meet the federal standards, several states have created regulations that limit the amount of VOCs in consumer products.

p/n	Name	Net Weight	Size	Qty.	Description
A000025399	Bee Blast, Wasp and Hornet Spray (CRC)	14 oz.	20 oz. aerosol	12	Instantly saturates insects and their nests with a 22' jet blast. Knocks down and kills on contact. Now with residual action that kills wasps and hornets returning to the nest. This product meets VOC standards for CA and OTC.
A000046681	Non-Chlorinated Brake Parts Cleaner VOC Compliant (Johnsen's)	18 oz.	18.95 oz. aerosol	864	Johnsen's VOC Compliant Non-Chlorinated Brake Parts Cleaner removes oil, grease, brake fluid and contaminants quickly and with no residue. For use on all ABS, disc and brake drums. For sale in areas that restrict the VOC content of consumer products to 45%.
A000031292	Brake Parts Cleaner Non-Chlorinated, Low VOC, Brakleen® (CRC)	14 oz.	20 oz. aerosol	12	Non-chlorinated formula meets VOC regulations in all 50 states. POWERJET technology provides a powerful spray that blasts away contaminants like grease, oil, and dirt from brake part components. Use less product and take less time with BRAKLEEN POWERJET. Less than 10% VOC.
A000040223	Brake Parts Cleaner Non-Chlorinated, 50 State Formula (Permatex)	14.5 oz.	20 oz. aerosol	12	Penetrates, dissolves and removes dirt and oil from brake systems and metal parts. Safer for aluminum. Leaves no contaminant-attracting residue or chlorinated solvent run-off. Helps manage EPA halide limits. **NFPA Fire Code 30B. VOC compliant in all 50 states.
A000034050	Clean-R-Carb™ Carburetor Cleaner 50 State Formula (CRC)	16 oz.	20 oz. aerosol	12	Automatic chokes, carburetor components, crankcase breather element, exhaust gas recycling valve (EGR), general purpose cleaner for non-painted surfaces, heat risers, intake parts, positive crankcase ventilating system including PCV valve.
A000024418	Earth Soap Concentrated Cleaner/Degreaser Low VOC	-	1 gallon	4	Formulated with the environment in mind, Earth Soap is a powerful, non-solvent cleaning fluid that is biodegradable, VOC compliant and corrosion inhibiting. This cleaner/degreaser is ideal for use in automated cleaning equipment, traditional and heated parts washers, pressure washers and manual cleaning applications. Earth Soap provides a green alternative to heavy solvent cleaners without sacrificing performance. This product meets VOC standards for CA and OTC.
A000024425	Engine Degreaser Low VOC (CRC)	15 oz.	20 oz. aerosol	12	Quickly lifts grease and grime off engines for cooler more efficient running. Easy to use—just spray on and rinse off. Leaves no residue. This product meets VOC standards for CA and OTC.
A000031459	Heavy Duty Degreaser II Zero VOC (CRC)	15 oz.	20 oz. aerosol	12	Non-chlorinated, zero VOC formula for cleaning where chlorinated solvents are not acceptable. High flash point of 180°F. Effectively removes soils with no residue build-up. Use caution on plastics.
A000025385	Freeze-Off™ Super Penetrant Low VOC (CRC)	11.5 oz.	20 oz. aerosol	12	A unique formula that immediately drops the temperature of the area in direct contact with the spray. The freezing effect cracks rusted surfaces, allowing Freeze-Off™ to reach deeper and work more effectively than other penetrants. This product meets VOC standards for CA and OTC.
A000031192	Gasket Remover Low VOC (Permatex)	-	4 oz. Powercan	6	Quickly removes all solvent-based gasketing adhesives and sealants, even baked-on gaskets. Use to remove gasket from any flange material in 15-20 minutes. Prepares flanges for new gasket. Reduces scraping and grinding, eliminating flange damage.
A000002945	Hydroforce™ Butyl Free All-Purpose Cleaner Low VOC (CRC)	18 oz.	20 oz. aerosol	12	Versatile enough for all of your daily cleaning tasks, but strong enough to attack and remove tough dirt, dust, and grime deposits. Butyl free and biodegradable. This product meets VOC standards for CA and OTC.
A000028546	Original Simple Green Concentrated All-Purpose Cleaner/Degreaser	-	24 oz. spray	12	Simple Green is one of the most versatile all-purpose cleaners. It's non-toxic and biodegradable, without harmful bleach. Because it is a concentrate, you can custom dilute Simple Green to clean just about anything dirty. Simple Green falls well within state and federal VOC regulations when used as labeled.
A000028547			1 gallon	6	
A000025920	Throttle Body and Air-Intake Cleaner Low VOC (CRC)	12 oz.	16 oz. aerosol	12	Cleans gum and varnish from the throttle valves and body for easier starting and smoother engine performance. This product meets VOC standards for CA and OTC.
A000002937	Ultra Screwloose® Super Penetrant Low VOC (CRC)	11 oz.	16 oz. aerosol	12	Penetrates, loosens, and lubricates to free bolts, lug nuts, and fasteners. Squeaks are noticeably reduced. This product meets VOC standards for CA and OTC.
A000044291	WD-40 w/Smart Straw California Formula	8 oz.	8 oz. aerosol	12	Protects metal from rust and corrosion, penetrates stuck parts, displaces moisture, and lubricates. Cleans grease, grime, and marks from most surfaces.

## CRC Chemicals For Use in Canada

The following products are in compliance with Canadian product labeling regulations (WHMIS and CCCR2001).

p/n	Description	Net Fill	Qty.	Notes
A000037123	2-26® Multi-Purpose Lubricant	312 g	12	Plastic safe lubricant, penetrant and corrosion inhibitor that helps prevent electrical malfunctions caused by water penetration, humidity, condensation or corrosion. Restores resistance values and helps stop current leakage.
A000037125	Battery Terminal Protector	213 g	12	Specially designed to protect battery terminals from corrosion, a leading cause of hard starting and battery failure. Provides a lead-free soft protective coating.
A000037129	Brakleen® Brake Parts Cleaner	539 g	12	The original brake parts cleaner. Formulated to quickly and effectively remove grease, brake dust, brake fluids, oils, and other contaminants from brake parts, lining, pads.
A000034181	Brakleen® Brake Parts Cleaner with PowerJet™ Technology	397 g	12	BRACLEEN Premium non-chlorinated formula utilizes POWERJET technology. The new spray nozzle produces a burst of product that forcefully breaks away contaminants, while the formula cleans and degreases instantly. Dries fast.
A000037127	Bug Blast	397 g	12	Fast acting, high strength insecticide. Ergonomic trigger that provides control and is accurate up to 15' away. Plastic safe—will not damage plastic connectors and other insulating materials.
A000034179	Chain and Wire Rope Lubricant	284 g	12	Blend of synthetic lubricants that penetrate deep to lubricate and protect. Extends the working life of chains and wire rope and reduces wear caused by friction and corrosion.
A000034183	Clean-R-Carb® Carburetor Cleaner	454 g	12	A carb and choke cleaner that maximizes carburetor performance. Quickly dissolves deposits such as gum, sludge and varnish to improve fuel system performance and enhance fuel economy.
A000036360	Lift Truck and Sliding Tandem Lube (JAX)	454 g	12	Blend of synthetic lubricants that penetrate deep to lubricate and protect. Extends the working life of chains and wire rope and reduces wear caused by friction and corrosion.
A000037128	Engine Degreaser	425 g	12	Quickly lifts grease and grime off engines for cooler more efficient running. Easy to use—just spray on and rinse off. Leaves no residue.
A000034180	Food Grade Chain Lubricant	340 g	12	Blend of synthetic lubricants and mineral oil to keep roller drive and conveyor chains lubricated. Penetrates, lubricates and protects moving parts by reducing friction and wear.
A000034178	Food Grade QD™ Contact Cleaner	312 g	12	Suitable for cleaning sensitive electronics and electrical equipment. Evaporates quickly, leaves no residue and is safe to use on all plastics. Use where lower flashpoint cleaners are acceptable.
A000034186	Freeze-Off® Super Penetrant	312 g	12	A unique formula that immediately drops the temperature of the area in direct contact with the spray. The freezing effect cracks rusted surfaces, allowing Freeze-Off to reach deeper and work more effectively than other penetrants.
A000034182	Heavy Duty Silicone™ Lubricant	213 g	12	A multi-purpose silicone spray. Forms a colorless, odorless, non-staining film that lubricates and protects in most metal to non-metal applications. Dry film eliminates binding and sticking while protecting most surfaces.
A000037126	Ice-Off™ Windshield Spray De-Icer	340 g	12	Melts ice, snow, and frost on contact. Harmless to car finish. Thaws frozen locks and is effective to sub-zero temperatures.
A000037130	Inner Slide Lube	298 g	12	
A000034188	Jump Start® Starting Fluid with Lubricity	312 g	12	JUMP START Starting Fluid assures fast, economical starts in cold or humid conditions. Also contains an upper cylinder lubricant to minimize wear during cold starts.
A000034187	Screwloose™ Industrial Penetrating Oil	312 g	12	A no-compromise penetrant that attacks corrosion to free corroded fasteners and mechanical components. A super-fast, powerful, concentrated penetrating solvent that loosens and cleans. Instantly penetrates minute and tightly fitted crevices.
A000034185	SensorKleen™ Mass Air Flow Sensor Cleaner	312 g	12	The first product specifically developed to clean mass air flow sensors. Increases horsepower and improves air/fuel ratio and MPG. Plastic safe—dries in seconds!
A000037124	White Lithium Grease	284 g	12	Superior lubrication and durability in any weather or temperature. Perfect for use as a break-in lubricant for bearings or as a general purpose lubricant and corrosion inhibitor for tools, machinery and equipment.

Spotcheck® Penetrant

Spotcheck® is a red visible nondestructive test method that detects surface discontinuities (flaws) in non-porous material, such as a forklift’s mast and carriage. Spotcheck’s formulation, using a high concentration of quality dyes, together with high quality solvents, provides the best possible dye penetrants for finding the smallest and finest defects. Defects are marked by a deep red indication. Other products may skimp on dyes or use inferior solvents that cut costs. In doing so, indications do not appear as bright or vibrant and cracks can be missed. Some inferior solvents may also cause health hazards. Spotcheck delivers accurate, reliable crack detection results in the following applications:

- Automobile parts
- Off-road equipment
- Farm equipment
- Welds
- Castings
- Forgings
- Leak testing
- General metalwork

p/n	Description
A000016116	Complete Spotcheck Kit
A000016113	Solvent/Cleaner
A000016114	Solvent Removable Penetrant
A000016112	Solvent Developer



# Electrical

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## Fuses and Wire Terminals

- Fuses..... 5.1
- Fuse Holders..... 5.7
- Wire Terminals ..... 5.8
- Wire Terminal Kits ..... 5.12
- Heat Shrink Tubes..... 5.14
- Wire and Wire Tools..... 5.17





Fuse Type: ABC

Part No.	Amps
A000008346	1/8
A000008345	1/4
A000008355	3/8
A000008344	1/2
A000008354	3/4
A000008343	1
A000008348	1 1/4
A000008347	1 1/2
A000008350	2
A000008352	2 1/2
A000000012	3
A000008357	4
A000008358	5
A000008359	6
A000008360	7
A000008361	8
A000008362	9
0972734	10
A000008349	12
0972199	15
A000008351	20
A000008353	25
A000008356	30

Fuse Type: ACK

Part No.	Amps
A000000639	20
0973794	30
A000000640	40
2I5181	50
2I5179	60
2I5176	80
0973043	120
2I5171	140
0973044	150
A000000641	160
0973793	175
0973045	200
0973046	225
0973047	250
0973048	300
2I6437	400



Fuse Type: ACL

Part No.	Amps
A000008367	30
A000008369	40
A000008370	50
A000008371	60

Fuse Type: AGC

Part No.	Amps
A000008373	1/10
A000008387	15/100
A000008397	3/16
A000008392	2/10
A000008380	1/4
A000008399	3/8
A000008403	4/10
A000008376	1/2
A000008407	6/10
A000008410	8/10
A000008372	1
A000008382	1 1/2
A000008388	1 3/5
A000008394	2 1/4
A000008393	2 1/2
A000008395	3
A000008401	3 1/5
A000008400	3 1/2
A000008405	5
9I4765	6
A000008408	6 1/4
9I4766	7
A000000499	7 1/2
A000008409	8
9I4767	10
A000008384	12
A000008386	14
9I4768	15
9I4769	20
2I5197	25
2I3420	30
A000000500	35
9I4770	40
A000008406	50
A000034987	AGC Fuse Holder



AGC Fuse Kit p/n: 914760

Description	Quantity
6 AMP	10
7 1/2 AMP	10
10 AMP	10
15 AMP	10
20 AMP	10
25 AMP	10
30 AMP	10
35 AMP	10



Fuse Type: AGX

Part No.	Amps
A000008419	1/8
217595	1/4
A000008416	1/2
A000008412	1
A000008421	1 1/2
A000008424	2
A000008427	2 1/2
A000008429	3
A000008436	4
A000008438	5
A000008440	6
A000008441	7
A000008442	8
A000008420	10
A000008428	25
A000008434	30



Fuse Type: ALS

Part No.	Amps
A000008443	100
A000008444	175
215170	200B
A000000710	225
A000008445	250
A000008446	300
A000008447	350
A000008448	400
A000008449	450
A000005939	500
A000008450	550
A000008451	600



Fuse Type: ANL

Part No.	Amps
A000008457	35
A000007592	40
0972738	50
A000008460	60
A000008463	80
A000008452	100
A000008453	125
A000008454	130
0972893	150
A000008455	175
215180	200
215182	225
217761	250
A000008456	275
A000001094	300
0972879	325
A000008458	350
A000008459	400
0973797	500
A000008461	600
A000008462	675
A000017136	750

**Fuse Type: ANN**

Part No.	Amps
A000008471	40
2I8272	50
A000008472	60
2I5204	80
2I6330	100
2I5198	125
2I5199	150
2I5200	175
2I5201	200
A000008465	225
2I5202	250
A000008466	275
A000008467	300
A000008468	325
A000008470	350
2I9523	400
2I5203	500
A000008473	600
A000008474	700
A000008475	800

**Fuse Type: ATC easyID**

Part No.	Amps
A000042798	3
A000042799	5
A000042800	7 1/2
A000042793	10
A000042794	15
A000042795	20
A000042796	25
A000042797	30
A000042809	ATC-ID Fuse Holder

**Fuse Type: ATC**

Part No.	Amps
A000008477	1
A000008478	2
A000008479	3
A000008480	4
A000000191	5
A000000190	7 1/2
A000000430	10
A000000189	15
A000000188	20
A000000187	25
A000000186	30
A000008481	40
A000014269	ATC Fuse Holder (3-30 Amps)

**ATC Fuse Kit p/n: A000000148**

Description	Quantity
5 Amps	3
7.5 Amps	2
10 Amps	5
15 Amps	10
20 Amps	5
25 Amps	5
30 Amps	10

**Fuse Type: ATM easyID**

Part No.	Amps
A000042806	5
A000042807	7 1/2
A000042793	10
A000042802	15
A000042803	20
A000042804	25
A000042805	30
A000042808	ATM-ID Fuse Holder

**Fuse Type: ATM**

Part No.	Amps
A000037900	2
A000037901	4
A000017473	5
A000014215	10
A000014216	15
A000014217	20
A000014218	25
A000014219	30
A000014493	ATM Fuse Holder

**Fuse Type: ATM Low Profile**

Part No.	Amps
A000038547	7.5
A000038548	10
A000038549	15
A000038550	20
A000038552	30

**ATM Fuse Kit p/n: A000014476**

Description	Quantity
5 Amps	5
10 Amps	5
15 Amps	5
20 Amps	5
25 Amps	5
30 Amps	5

**Fuse Type: BAF**

Part No.	Amps
A000008484	1/4
A000008499	6/10
A000008503	8/10
A000008482	1
A000008490	2
A000008494	3
A000008497	5
A000008498	6
A000008501	7
A000008502	8
A000008504	9
A000008487	12
A000008488	15
A000008491	20
A000008493	25

**Fuse Type: FNM**

Part No.	Amps
A000008533	2
A000008547	4
A000008543	30

**Fuse Type: FRN-R**

Part No.	Amps
A000008570	12
A000008591	30
A000008569	110
A000008603	450

**Fuse Type: FWA**

Part No.	Amps
A000008718	80B
2I5206	150B
2I5207	200B
2I6181	250B
2I5208	300B
0972737	400B

**Fuse Type: FWX**

Part No.	Amps
A000008734	300A
A000008736	350A

**Fuse Type: CF-8**

Part No.	Amps
A000017155	300A

**Fuse Type: FRS-R**

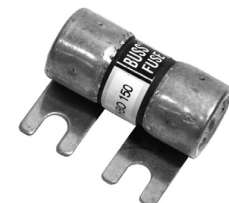
Part No.	Amps
A000008633	12
A000008636	15
A000008628	10
A000008646	20
A000008651	25
A000008656	30
A000008660	35
A000008664	40
A000008674	60

**Fuse Type: GMW**

Part No.	Amps
A000035920	2
A000035921	5

**Fuse Type: ELN**

Part No.	Amps
2I5184	80

**Fuse Type: HBO**

Part No.	Amps
2I5205	125

**Fuse Type: FMX Low Profile**

Part No.	Amps
A000038553	40



Fuse Type: JJK

Part No.	Amps
2I7515	70
A000008797	80
A000008799	90
2I7516	100
2I7558	150
2I7560	200
A000008784	250
A000008787	300
2I7410	350
2I7561	400
2I7517	450
A000008795	600



Fuse Type: JJS

Part No.	Amps
A000008813	250



Fuse Type: KTK

Part No.	Amps
A000008838	1 1/2
A000008842	2
A000008857	5
A000008859	6
A000008841	15
A000008855	40



Fuse Type: LKN

Part No.	Amps
A000008878	30
A000008886	50
A000008889	60
A000008892	80
A000008867	100
2I5183	125
2I5357	200
A000008876	250
2I5174	600



Fuse Type: LPJ

Part No.	Amps
A000028647	15SP
A000028644	25SP
A000028643	30SP
A000044645	35SP



Fuse Type: MAX

Part No.	Amps
A000016043	30
A000016044	40
A000016045	50
A000016046	60
A000016041	80



Fuse Type: MDA

Part No.	Amps
A000013429	1/10
A000013434	1/8
A000013442	2/10
A000013433	1/4
A000013447	3/10
A000013449	3/8
A000013453	4/10
A000013431	1/2
A000013456	6/10
A000013448	3/4
A000013460	8/10
A000013428	1
A000013437	1 1/4
A000013436	1 1/2
A000013440	1 3/5
A000013441	2
A000013443	2 1/2
A000013446	3
A000013451	3 1/5
A000013452	4
A000013454	5
A000013455	6
A000013458	7
A000013459	8
A000013435	10
A000013438	12
A000013462	15
A000013461	20

**Fuse Type: MDL**

Part No.	Amps
A000008932	1/16
A000008930	1/10
A000008937	1/8
A000008957	3/16
A000008949	2/10
A000008936	1/4
A000008956	3/10
A000008959	3/8
A000008964	4/10
A000008934	1/2
A000008967	6/10
A000008970	7/10
A000008958	3/4
A000008973	8/10
A000008929	1
A000008942	1 1/5
A000008940	1 1/4
A000008939	1 1/2
A000008945	1 3/5
A000008947	1 4/5
A000008948	2
A000008952	2 1/4
A000008951	2 1/2
A000008954	2 4/5
A000008955	3
A000008962	3 1/5
A000008961	3 1/2
A000008963	4
A000008965	5
A000008966	6
A000008968	6 1/4
A000008969	7
A000008971	7 1/2
A000008972	8
A000008974	9
A000008938	10
A000008941	12
A000008943	15
2I8578	40

**Fuse Type: NON**

Part No.	Amps
A000008975	1
A000009021	9
A000008983	12
0972736	50

**Fuse Type: NOS**

Part No.	Amps
A000009048	6
A000009024	10
A000000260	15
A000009032	20
A000009035	25
A000000261	30
A000009039	35
A000000262	40
A000009046	50

**Fuse Type: SC**

Part No.	Amps
A000009059	1/2
A000009077	60

**Fuse Type: SFE**

Part No.	Amps
A000009083	4
A000009085	7 1/2
A000009080	14
A000009081	20
A000009082	30
A000034987	SFE Fuse Holder

Inline Fuse Holders

For:	Part No.
AGC/SFE Fuses (14 and 30 Amp Fuse Included)	A000034987
ATC/ATO 3-30 Amp Fuses (Fuses Not Included)	A000014269
ATM Fuses (Fuses Not Included)	A000014493
ATM easyID Fuses (Fuses Not Included)	A000042808
ATC easyID Fuses (Fuses Not Included)	A000042809



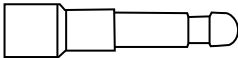
Panel Fuse Holders

Description	Part No.
HTB44I, 3/16" Right Angle Quick Connect (Fuse Not Included)	A000017137
HTB48I, 1/4" Right Angle Quick Connect (Fuse Not Included)	A000017138



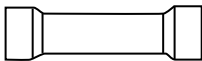
Bullet Connectors - Female

Color	Gauge	Tab Size	Part No.	Quantity
Red	22-18	0.157	A000014229	100
Blue	16-14	0.157	A000014231	100
Yellow	12-10	0.195	A000014233	100



Bullet Connectors - Male

Color	Gauge	Tab Size	Part No.	Quantity
Red	22-18	0.157	A000014228	100
Blue	16-14	0.157	A000014230	100
Yellow	12-10	0.195	A000014232	100



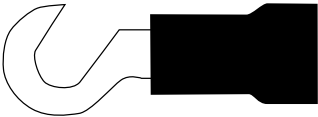
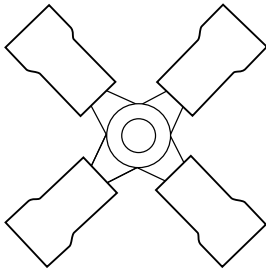
Butt Connectors

Package quantities of 100. Disconnects with heat shrink packaged in 25.

Color	Gauge	Non-Insulated	Vinyl Insulated	2-Piece Nylon	Heat Shrink	Seamless Nylon Flared
Red	22-18	-	9I1901	9I1904	9I1822	9I1907
Blue	16-14	9I1899	9I1902	9I1905	9I1823	9I1908
Yellow	12-10	-	9I1903	9I1906	9I1824	9I1909

Four-Way Connectors

Color	Gauge	Vinyl Insulated	Quantity
Blue	16-14	9I2008	100



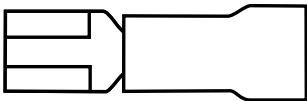
Hook Terminals

Color	Gauge	Stud Size	2-Piece Nylon	Quantity
Blue	16-14	#10	9I1996	100



Insta-Tap Connectors

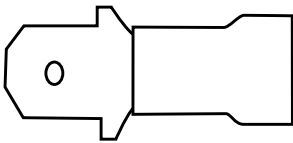
Color	Gauge	Tab Size	Quantity
A000006299	Red	22-16	25
A000006300	Blue	18-14	25



Quick Disconnects - Female

Package quantities of 100. Disconnects with heat shrink packaged in 25.

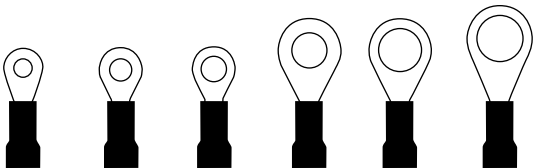
Color	Gauge	Tab Size	Vinyl Insulated	2-Piece Nylon	Heat Shrink	Fully Insulated Heat Shrink	Fully Insulated Nylon
Red	22-18	.187 x .020	9I1828	-	-	-	-
Blue	16-14	.187 x .020	9I1832	-	-	-	-
Red	22-18	.250 x .030	9I1830	9I1849	9I1812	9I1816	9I1853
Blue	16-14	.250 x .030	9I1834	9I1851	9I1814	9I1818	9I1855
Yellow	12-10	.250 x .030	9I1836	-	-	9I1820	9I1857



Quick Disconnects - Male

Package quantities of 100. Disconnects with heat shrink packaged in 25.

Color	Gauge	Tab Size	Non-Insulated	Vinyl Insulated	2-Piece Nylon	Heat Shrink	Fully Insulated Heat Shrink	Fully Insulated Nylon
Red	22-18	.187 x .020	-	9I1827	-	-	-	-
Blue	16-14	.187 x .020	-	9I1831	-	-	-	-
Red	22-18	.250 x .030	-	9I1829	9I1848	9I1813	9I1817	9I1852
Blue	16-14	.250 x .030	9I1837	9I1833	9I1850	9I1815	9I1819	9I1854
Yellow	12-10	.250 x .030	-	9I1835	-	-	9I1821	9I1856



Ring Terminals

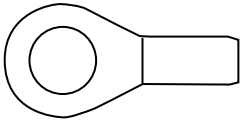
Package quantities of 100. Disconnects with heat shrink packaged in 25.

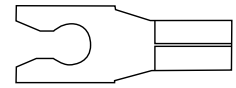
Color	Gauge	Stud Size	Insulated	Molded Vinyl	Molded Nylon	Heat Shrink
Red	22-18	#6	-	9I1919	9I1928	-
Red	22-18	#8	-	9I1920	-	-
Red	22-18	#10	-	9I1921	9I1930	9I1782
Red	22-18	1/4"	-	9I1922	-	-
Red	22-18	5/16"	-	9I1923	-	-
Red	22-18	3/8"	-	9I1924	9I1933	-
Blue	16-14	#6	-	9I1925	9I1934	9I1785
Blue	16-14	#8	-	9I1926	9I1935	9I1786
Blue	16-14	#10	-	9I1927	9I1936	9I1787
Blue	16-14	1/4"	9I1937	9I1947	9I1957	A000006291
Blue	16-14	5/16"	-	9I1948	9I1958	-
Blue	16-14	3/8"	-	9I1949	9I1959	9I1790
Yellow	12-10	#6	-	9I1950	-	-
Yellow	12-10	#8	-	9I1951	9I1961	-
Yellow	12-10	#10	-	9I1952	9I1962	9I1792
Yellow	12-10	1/4"	-	9I1953	9I1963	9I1793
Yellow	12-10	5/16"	-	9I1954	9I1964	9I1794
Yellow	12-10	3/8"	-	9I1955	9I1965	9I1795
Yellow	12-10	1/2"	-	9I1956	9I1966	-

Ring Terminals Bare Brazed Seam

Gauge	Stud Size	Part No.	Qty.
8	#8-10	9I1967	5
8	1/4"	9I1968	5
8	5/16"	9I1969	5
8	3/8"	9I1970	5
8	1/2"	9I1971	5
6	#8-10	9I1972	5
6	1/4"	9I1973	5
6	5/16"	9I1974	5
6	3/8"	9I1975	5

Gauge	Stud Size	Part No.	Qty.
6	1/2"	9I1976	5
4	1/4"	9I1977	5
4	3/8"	9I1979	5
4	1/2"	9I1980	5
2	5/16"	9I1982	5
2	3/8"	9I1983	5
2	1/2"	9I1984	5
1/0	3/8"	9I1985	5



**Snap Spade Terminals**

Color	Gauge	Stud Size	Insulated	Molded Vinyl	2-Piece Nylon	Quantity
Blue	16-14	#6	-	9I1892	9I1895	100
Blue	16-14	#8	9I1890	9I1893	-	100
Blue	16-14	#10	-	9I1894	-	100

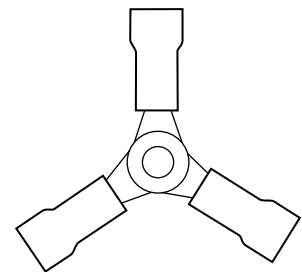
**Spade Terminals**

Package quantities of 100. Disconnects with heat shrink packaged in 25.

Color	Gauge	Stud Size	Molded Vinyl	Molded Nylon	Heat Shrink
Red	22-18	#6	9I1869	9I1879	9I1803
Red	22-18	#8	9I1870	9I1880	9I1804
Red	22-18	#10	9I1871	9I1881	-
Blue	16-14	#6	9I1872	9I1882	-
Blue	16-14	#8	9I1873	9I1883	9I1807
Blue	16-14	#10	9I1874	9I1884	-
Yellow	12-10	#6	A000032450	-	-
Yellow	12-10	#8	9I1876	9I1886	-
Yellow	12-10	#10	9I1887	9I1887	-
Yellow	12-10	1/4"	A000032449	-	-

**Three Way Connectors**

Color	Gauge	Vinyl Insulated	Quantity
Blue	16-14	9I1999	100

**Weather Pack Connectors**

Type	Description	Part No.	Quantity
Shroud	1 Connector	A000050850	1
Shroud	2 Connector	A000050851	1
Tower	1 Tower	A000050848	1
Tower	2 Tower	A000050849	1
Terminal	Female 14-16 ga.	A000050855	1
Terminal	Male 14-16 ga.	A000050856	1
Seal	Grey	A000050853	1
Cavity Plug		A000050854	1

Vinyl Terminal Kit with Crimper (240 pieces)  
Part No: A000009427

Color	Gauge	Stud Size	Tab Size	Description	Part No.	Quantity
Blue	16-14	-	-	Butt Connector	9I1902	20
Blue	16-14	#6	-	Ring-Molded	9I1925	10
Blue	16-14	#10	-	Ring-Molded	9I1927	10
Blue	16-14	#6	-	Spade-Molded	9I1872	10
Blue	16-14	#10	-	Spade-Molded	9I1874	10
Blue	16-14	-	.250 x .030	Male Quick Disconnect	9I1833	10
Blue	16-14	-	.250 x .030	Female Quick Disconnect	9I1834	10
Red	22-18	-	-	Butt Connector	9I1901	20
Red	22-18	#6	-	Ring-Molded	9I1919	10
Red	22-18	#10	-	Ring-Molded	9I1921	10
Red	22-18	#6	-	Spade-Molded	9I1869	10
Red	22-18	#10	-	Spade-Molded	9I1871	10
Red	22-18	-	.250 x .030	Male Quick Disconnect	9I1829	10
Red	22-18	-	.250 x .030	Female Quick Disconnect	9I1830	10
Yellow	12-10	-	-	Butt Connector	9I1903	20
Yellow	12-10	5/16"	-	Ring-Molded	9I1954	10
Yellow	12-10	3/8"	-	Ring-Molded	9I1955	10
Yellow	12-10	#8	-	Ring-Molded	9I1951	10
Yellow	12-10	#10	-	Ring-Molded	9I1952	10
Yellow	12-10	#8	-	Spade-Molded	9I1876	10
Yellow	12-10	#10	-	Spade-Molded	9I1877	10
-	-	-	-	Crimper	-	1



**Nylon Terminal Kit with Crimper (240 pieces)**

Part Number: A000009426

Color	Gauge	Stud Size	Tab Size	Description	Part No.	Quantity
Blue	16-14	-	-	Butt Connector	9I1905	20
Blue	16-14	#6	-	Ring-Molded	9I1934	10
Blue	16-14	#10	-	Ring-Molded	9I1936	10
Blue	16-14	#6	-	Spade-Molded	9I1882	10
Blue	16-14	#10	-	Spade-Molded	9I1884	10
Blue	16-14	-	.250 x .030	Male Quick Disconnect	9I1850	10
Blue	16-14	-	.250 x .030	Female Quick Disconnect	9I1851	10
Red	22-18	-	-	Butt Connector	9I1904	20
Red	22-18	#6	-	Ring-Molded	9I1928	10
Red	22-18	#10	-	Ring-Molded	9I1930	10
Red	22-18	#6	-	Spade-Molded	9I1879	10
Red	22-18	#10	-	Spade-Molded	9I1881	10
Red	22-18	-	.250 x .030	Male Quick Disconnect	9I1848	10
Red	22-18	-	.250 x .030	Female Quick Disconnect	9I1849	10
Yellow	12-10	-	-	Butt Connector	9I1906	20
Yellow	12-10	5/16"	-	Ring-Molded	9I1964	10
Yellow	12-10	3/8"	-	Ring-Molded	9I1965	10
Yellow	12-10	#8	-	Ring-Molded	9I1961	10
Yellow	12-10	#10	-	Ring-Molded	9I1962	10
Yellow	12-10	#8	-	Spade-Molded	9I1886	10
Yellow	12-10	#10	-	Spade-Molded	9I1887	10
-	-	-	-	Crimper	-	1



Heat Shrink Tubes

Protects battery cables and terminals from corrosive acid fumes near batteries, while protecting against oil, fuel, water, salt, grease, and other chemicals.

Heavy Duty Heat Shrink Tubes

- Packaged in one foot sections
- Extra thick material
- Adhesive sealant lining melts when heated to form a permanent seal
- Use for battery terminals and primary wire

Wire Gauge	Expanded Diameter	Shrunk Diameter	Black	Red
6-2	1/2"	3/16"	9I1710	9I1712
4-2/0	3/4"	1/4"	9I1711	9I1713

Standard Duty Heat Shrink Tubes

- Packaged in one hundred foot rolls
- Use for primary wire connections

Wire Gauge	Expanded Diameter	Black	Red
20-16	1/8"	1/16"	9I1714
16-14	3/16"	3/32"	9I1715
12-10	1/4"	1/8"	9I1716
8-6	3/8"	3/16"	9I1717
4-2	1/2"	1/4"	9I1718
1-1/0	3/4"	3/8"	9I1719

## Dual Wall Heat Shrink Tubes

- Inner surface lined with adhesive sealant which melts when heated
- Permanently seals connection as tube cools and shrinks
- Six inches in length

### Black Dual Wall Kit (50 pieces)

Part No: A000027292

Wire Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
24-18	1/8"	3/16"	Black	12
20-12	3/16"	1/16"	Black	12
18-10	1/4"	3/32"	Black	12
8-6	3/8"	1/8"	Black	6
6-2	1/2"	3/16"	Black	6
4-2/0	3/4"	1/4"	Black	2

### Red and Black Dual Wall Kit (50 pieces)

Part No: A000027293

Wire Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
24-18	1/8"	3/16"	Black	6
24-18	1/8"	3/16"	Red	6
20-12	3/16"	1/16"	Black	6
20-12	3/16"	1/16"	Red	6
18-10	1/4"	3/32"	Black	6
18-10	1/4"	3/32"	Red	6
8-6	3/8"	1/8"	Black	3
8-6	3/8"	1/8"	Red	3
6-2	1/2"	3/16"	Black	3
6-2	1/2"	3/16"	Red	3
4-2/0	3/4"	1/4"	Black	1
4-2/0	3/4"	1/4"	Red	1

## Single Wall Tubes

- Economical tubing is ideal for general purpose applications
- Six inches in length

### Black Single Wall Kit (50 pieces)

Part No: A000027295

Wire Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
18-14	1/8"	1/16"	Black	12
14-10	3/16"	3/32"	Black	12
12-8	1/4"	1/8"	Black	12
10-6	3/8"	3/16"	Black	6
8-2	1/2"	1/4"	Black	6
1-2/0	3/4"	3/8"	Black	6

### 6-Color Single Wall Kit (100 pieces)

Part No: A000027296

Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
18-14	1/8"	1/16"	Black	6
18-14	1/8"	1/16"	Blue	3
18-14	1/8"	1/16"	Green	3
18-14	1/8"	1/16"	Red	3
18-14	1/8"	1/16"	White	3
18-14	1/8"	1/16"	Yellow	3
14-10	3/16"	3/32"	Black	6
14-10	3/16"	3/32"	Blue	3
14-10	3/16"	3/32"	Green	3
14-10	3/16"	3/32"	Red	3
14-10	3/16"	3/32"	White	3
14-10	3/16"	3/32"	Yellow	3
12-8	1/4"	1/8"	Black	6
12-8	1/4"	1/8"	Blue	3
12-8	1/4"	1/8"	Green	3
12-8	1/4"	1/8"	Red	3
12-8	1/4"	1/8"	White	3
12-8	1/4"	1/8"	Yellow	3

Gauge	Expanded Diameter	Shrunk Diameter	Color	Quantity
10-6	3/8"	3/8"	Black	4
10-6	3/8"	3/8"	Blue	2
10-6	3/8"	3/8"	Green	2
10-6	3/8"	3/8"	Red	2
10-6	3/8"	3/8"	White	2
10-6	3/8"	3/8"	Yellow	2
8-2	1/2"	1/4"	Black	4
8-2	1/2"	1/4"	Blue	2
8-2	1/2"	1/4"	Green	2
8-2	1/2"	1/4"	Red	2
8-2	1/2"	1/4"	White	2
8-2	1/2"	1/4"	Yellow	2
1-2/0	3/4"	3/8"	Black	2
1-2/0	3/4"	3/8"	Blue	1
1-2/0	3/4"	3/8"	Green	1
1-2/0	3/4"	3/8"	Red	2
1-2/0	3/4"	3/8"	White	1
1-2/0	3/4"	3/8"	Yellow	1

## Heat Shrink Tube Gun

Part No: 9I1742

Commercial grade heat gun with shrink tube deflector. Dual temperatures (750°F or 1,000°F), durable high-impact plastic housing. Stand included for hands-free operation. 120 volts, 1,200 watts, UL and CSA approved.





Primary Wire

100 foot spools.

Color	18 Gauge	16 Gauge	14 Gauge	12 Gauge	10 Gauge
Black	9I2422	9I2430	9I2437	9I2444	9I2451
Red	9I2424	9I2431	9I2438	9I2445	9I2452
White	9I2425	9I2432	9I2439	9I2446	9I2453
Yellow	9I2426	9I2433	9I2440	9I2447	-
Blue	9I2427	9I2434	9I2441	9I2448	-
Brown	9I2428	-	9I2442	-	-
Green	9I2429	9I2436	9I2443	9I2450	-
Duplex (Black & White)	-	A000014546	A000014545	-	-



Control Cable

Sold by the foot.

Gauge	Conductor	Part No.
18	2	2I7278
18	3	2I8152
18	5	2I6399
18	6	2I7573
18	8	2I6398
16	2	2I4947
16	3	2I4948
16	12	9I0034

Plastic Protective Wire Loom (Pre-split)

Part No.	Diameter	Length
9I4863	1/4"	25'
9I4864	3/8"	25'
9I4865	1/2"	25'
A000009579	1/4"	100'
A000009580	3/8"	100'
A000009581	1/2"	100'
A000009582	3/4"	100'



Wire and Cable Gauge

Part No: 9I2572

Measures wire and compression nut gauges to 4/0.



## Weather Pack Tools

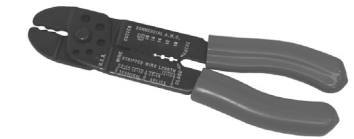
Description	Part No.
Weather Pack Crimper	A000050860
Weather Pack Removal Tool	A000050852



## Cutter Crimper

Part Number: A000043037

Cuts and strips wire 22-10 gauge. Crimps insulated and non-insulated connectors. Cuts 4-40, 6-32, 10-24, and 10-32 bolts.



## Scotch® Super 33+ Vinyl Electrical Tape

Part Number: A000019252

Scotch® Super 33+ is highly conformable and super stretchy in all weather applications. This tape provides flexibility and easy handling for all around performance. It combines PVC backing with excellent electrical insulating properties to provide primary electrical insulation for splices up to 600V and protective jacketing. UL Listed and CSA Certified. Excellent resistance to UV rays, abrasion, moisture, copper corrosion, alkalis and acids, and is flame-retardant. Excellent all-weather performance in cold to 0°F (-18°C) and is designed to perform in a continuous temperature environment up to 220°F (105°C).



## PVC Electrical Tape

Part Number: A000001504

Quick Cable black PVC electrical tape is 7 mils thick and measures 3/4" x 60'. Flame retardant and cold resistant. UL and CSA listed.



## Permatex Self-Fusing Silicone Tape

Part Number: A000048740

An all-purpose repair tape that is made out of specially formulated silicone rubber. Contains no adhesives; yet chemically bonds to itself upon contact. Simply stretch and wrap for an airtight, waterproof seal in seconds. Replaces duct tape and electrical tape.

Use to seal, insulate and stop vibration on just about anything you are able to get a couple of wraps around. Seal electrical connections, make emergency fuel or water hose repairs, insulate wiring and hoses, repair leaking pipes and hoses, repair damaged wires and wrap hand tools and grips. Use on connector wires and cables, all kinds of hoses such as garden hoses, vacuum hoses, appliance cords, and radiator hoses. Tape is black and measures 1" x 10'.



# Forks

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## Forks and Fork Accessories

- Fork Tapers, Tips and Tip Bevels ..... 6.1
- Cascade Hook Style Forks ..... 6.3
- Cascade Class II-IV Forks ..... 6.4
- Cascade Shaft Style Forks..... 6.7
- Cascade Carpet Poles..... 6.7
- Cascade Two-Stage Lumber Taper Forks..... 6.7
- Cascade Block Forks ..... 6.8
- Cascade iForks..... 6.8
- MSI Class II-IV Forks ..... 6.10
- Fork Extensions ..... 6.13
- Fork Pin Kits..... 6.14
- Shaft Fork Specification Sheet ..... 6.15
- Hook Fork Specification Sheet ..... 6.16
- Fork Inspection and Calipers..... 6.17
- Load Protection and Safety..... 6.21
- Magnetic Sweepers..... 6.26
- Rightline Attachments..... 6.27

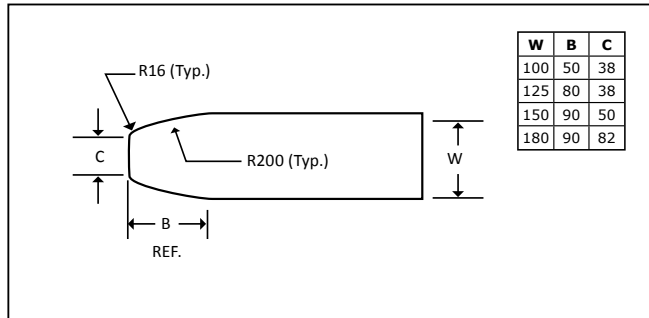
## Fork Tapers, Tips and Tip Bevels

Fork tapers are required to enhance the ease of travel of the fork when engaged into a load.

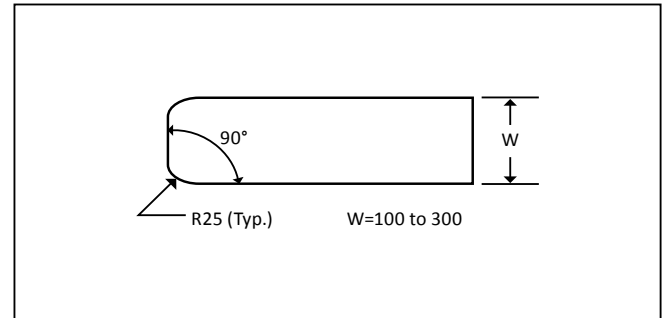
Fork tips and tip bevels are required for ease of entry into a load, depending on the application.

These three features should be carefully selected when deciding on how the tip of the fork will engage into a specific load.

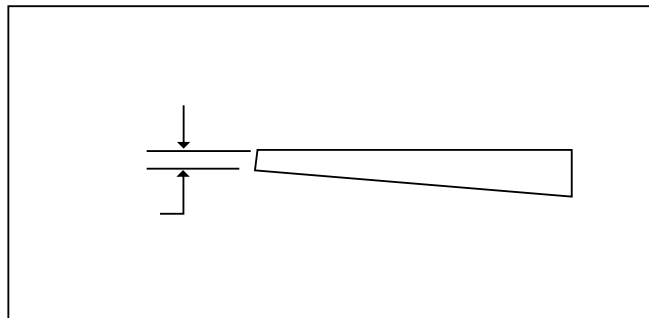
### No. 1



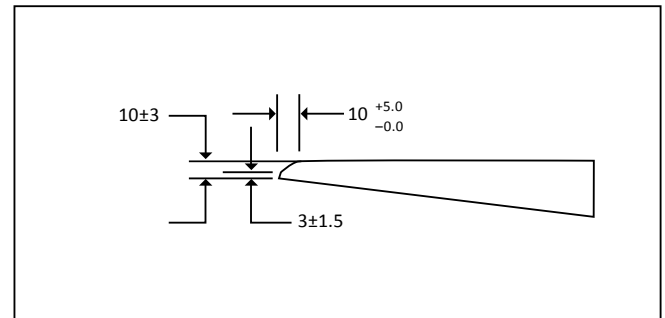
### No. 3



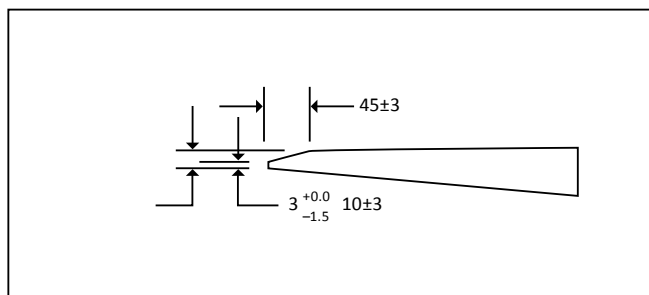
### Standard Taper–No Bevel



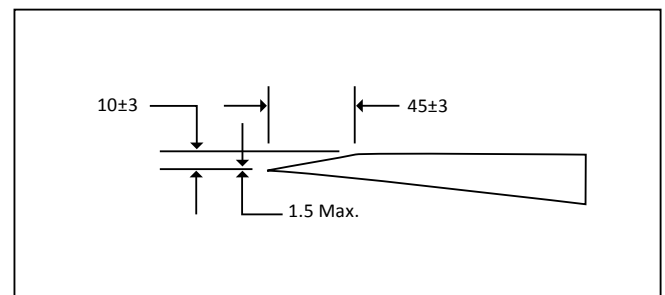
### Standard Taper–with Bevel



### Standard–Full Taper with Top or Bottom Bevel



### Chisel Tip

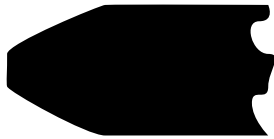


### Features:

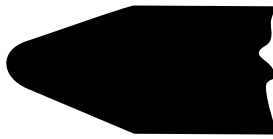
1. Careful choice of a tip configuration will enhance the fork's functionality.
2. There are two commonly requested top tip profiles: No. 1 and No. 3 (refer to diagram).
3. Tips can be ordered with or without a bevel.
4. Bevels can be requested. There are four basic designs (refer to diagram).
5. Tapers can be ordered as required. There are four basic designs.
6. A selection of the variables above can be custom ordered, recommended, or come standard with a specific fork requirement.

Fork Tips


**No. 1**  
Standard on forks up to and including 7" (180 mm)



**No. 2**  
Standard on block handling forks




**No. 3**  
Standard on forks wider than 7" (180 mm)




Chisel and Bevel Options


**Standard Taper, No Bevel**



**Full Taper and Polish with Bottom Bevel**




**Full Taper and Polish with Top Bevel**



Tapers


**Standard Taper**




**Full Top Taper and Polish**



**Full Bottom Taper and Polish**



**Two-Stage Taper and Polish**



Cascade Hook Style Forks (Standard I.T.A. Forks)

Hook style forks are separated into different classes, depending on the size of the carriage. Be sure to have the appropriate carriage size information to make certain you order the correct forks. Carriage size is measured from the top to the bottom of the carriage.

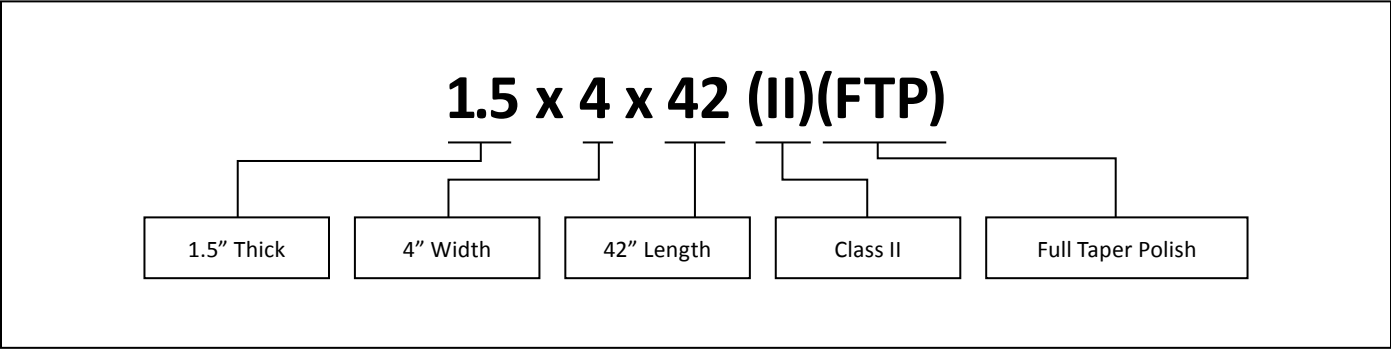
- Class II–16" Carriage (2,000-5,500 lbs)
- Class III–20" Carriage (6,000-10,000 lbs)
- Class IV–25" Carriage (10,000-17,500 lbs)
- Class V–28.67" Carriage (18,000-24,000 lbs)

Ordering Hook Style Forks

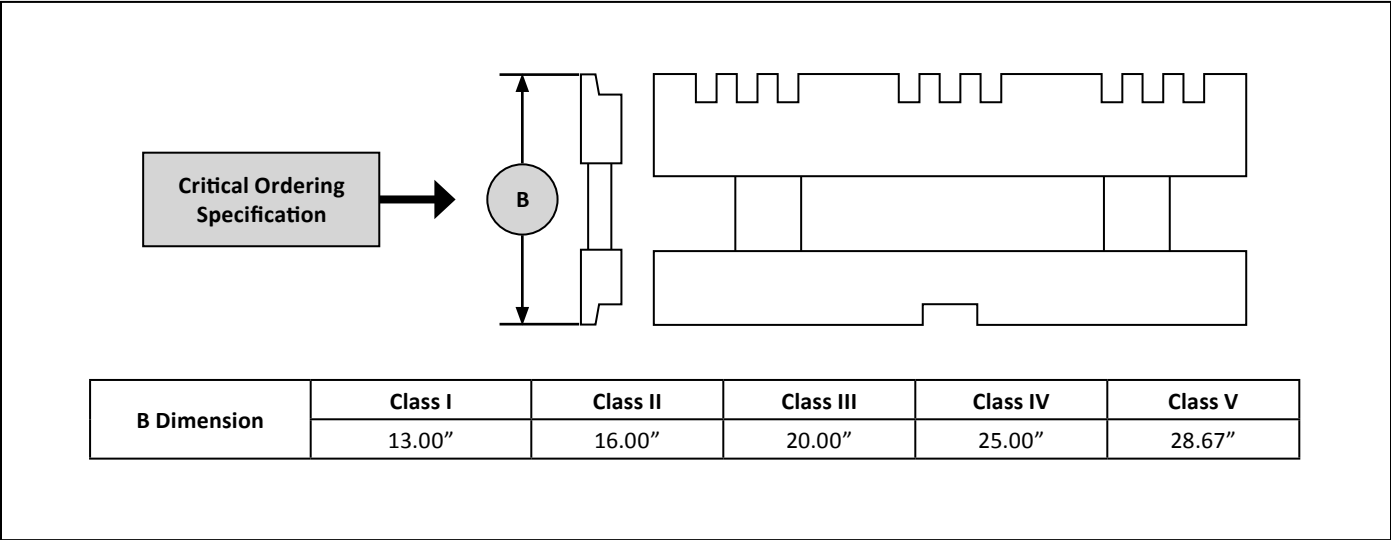
- Determine the fork dimensions.
- Confirm the fork capacity matches or is greater than the forklift capacity.
- Consider the forklift application.
- Verify the Promatch part number.
- When ordering unusual or special order hook style forks, please complete a hook fork specification sheet.



Hook Style Fork Part Number Breakdown



Front Carriage View



## Cascade Class II Standard I.T.A. Hook Forks

Cross Section	Capacity 24" Load Center	Length	Standard Taper	Weight (lbs)	Fully Tapered and Polished	Weight (lbs)
<b>1.25" x 4"</b> (35 x 100 mm)	<b>3,700 lbs/pair</b> (1,700 kg/pair)	30" (762 mm)	KNB2A30SD	72	KNB2A30TP	69
		36" (914 mm)	9410617010	82	KNB2A36TP	75
		42" (1067 mm)	9410617020	88	KNB2A42TP	82
		48" (1219 mm)	9410617030	97	KNB2A48TP	88
		54" (1372 mm)	9410617040	110	KNB2A54TP	95
		60" (1524 mm)	9410617050	119	KNB2A60TP	101
<b>1.5" x 4"</b> (40 x 100 mm)	<b>5,500 lbs/pair</b> (2,500 kg/pair)	30" (762 mm)	KNB2B30SD	77	KNB2B30TP	77
		32" (813 mm)	2I7887	80	KNB2B32TP	80
		36" (914 mm)	0972340	86	0973260	83
		42" (1067 mm)	0972341	97	0973261	91
		48" (1219 mm)	0972343	107	0973262	98
		54" (1372 mm)	9410615040	117	KNB2B54TP	105
		60" (1524 mm)	9410615050	126	KNB2B60TP	111
<b>1.5" x 5"</b> (40 x 122 mm)	<b>5,500 lbs/pair</b> (2,500 kg/pair)	72" (1829 mm)	KNB2B72SD	154	-	-
		30" (762 mm)	KNB2C30SD	97	KNB2C30TP	93
		36" (914 mm)	KNB2C36SD	108	KNB2C36TP	102
		42" (1067 mm)	0972482	117	A000029330	105
		48" (1219 mm)	0972483	130	A000013484	119
		54" (1372 mm)	KNB2C54SD	141	KNB2C54TP	121
		60" (1524 mm)	-	154	KNB2C60TP	137
<b>1.5" x 6"</b> (40 x 150 mm)	<b>5,500 lbs/pair</b> (2,500 kg/pair)	72" (1829 mm)	KNB2C72SD	190	-	-
		30" (762 mm)	KNB2D30SD	119	KNB2D30TP	113
		36" (914 mm)	KNB2D36SD	134	KNB2D36TP	124
		42" (1067 mm)	KNB2D42SD	151	KNB2D42TP	135
		48" (1219 mm)	KNB2D48SD	166	KNB2D48TP	145
		54" (1372 mm)	KNB2D54SD	182	KNB2D54TP	155
		60" (1524 mm)	KNB2D60SD	197	KNB2D60TP	166
<b>1.75" x 4"</b> (45 x 100 mm)	<b>5,500 lbs/pair</b> (2,500 kg/pair)	30" (762 mm)	KNB2E30SD	89	KNB2E30TP	84
		36" (914 mm)	0972721	93	0973264	92
		42" (1067 mm)	0972344	105	0972478	100
		48" (1219 mm)	0972345	118	0972479	107
		54" (1372 mm)	A000001349	129	KNB2E54TP	115
		60" (1524 mm)	0972722	140	9410616050	122
		72" (1829 mm)	2I7889	169	KNB2E72TP	138
		84" (2134 mm)	KNB2E84SD	192	-	-
		96" (2438 mm)	KNB2E96SD	216	-	-
<b>1.75" x 5"</b> (45 x 122 mm)	<b>5,500 lbs/pair</b> (2,500 kg/pair)	30" (762 mm)	KNB2F30SD	111	KNB2F30TP	106
		36" (914 mm)	KNB2F36SD	122	KNB2F36TP	115
		42" (1067 mm)	0972713	130	0972716	125
		48" (1219 mm)	0972714	142	0972717	134
		54" (1372 mm)	0972715	157	9420627040	144
		60" (1524 mm)	9I4960	170	A000001347	153
		72" (1829 mm)	2I7890	211	KNB2F72TP	173
		84" (2134 mm)	KNB2F84SD	241	-	-
		96" (2438 mm)	KNB2F96SD	271	-	-
		48" (1219 mm)*	-	146	-	-

Lock pin assembly included.

\*Rotator Fork

## Cascade Class III Standard I.T.A. Hook Forks

Cross Section	Capacity 24" Load Center	Length	Standard Taper	Weight (lbs)	Fully Tapered and Polished	Weight (lbs)
<b>1.5" x 6"</b> (40 x 150 mm)	<b>8,000 lbs/pair</b> (3,700 kg/pair)	42" (1067 mm)	KNB3D42SD	165	A000013310	149
		48" (1372 mm)	KNB3D48SD	180	A000028061	159
		54" (1372 mm)	KNB3D54SD	196	KNB3D54TP	170
		60" (1524 mm)	KNB3D60SD	211	KNB3D60TP	180
<b>1.5" x 7"</b> (40 x 180 mm)	<b>9,600 lbs/pair</b> (4,400 kg/pair)	42" (1067 mm)	KNB3J42SD	197	KNB3J42TP	177
		48" (1219 mm)	KNB3J48SD	215	0973279	190
		54" (1372 mm)	KNB3J54SD	234	KNB3J54TP	196
		60" (1524 mm)	KNB3J60SD	253	KNB3J60TP	215
<b>1.5" x 8"</b> (40 x 200 mm)	<b>10,000 lbs/pair</b> (4,500 kg/pair)	42" (1067 mm)	KNB3K42SD	218	KNB3K42TP	196
		48" (1372 mm)	KNB3K48SD	239	2I7888	210
		54" (1372 mm)	KNB3K54SD	259	KNB3K54TP	224
		60" (1524 mm)	KNB3K60SD	280	KNB3K60TP	238
<b>1.75" x 5"</b> (45 x 122 mm)	<b>8,200 lbs/pair</b> (3,800 kg/pair)	36" (914 mm)	9430615010	126	KNB3F36TP	127
		42" (1067 mm)	0972346	139	0972480	137
		48" (1219 mm)	0972347	154	0972481	149
		54" (1372 mm)	0972718	169	-	-
		60" (1524 mm)	9I4588	184	KNB3F60TP	165
		67" (1702 mm)	9058303040	208	-	-
		71" (1803 mm)	9058303050	218	-	-
		72" (1829 mm)	-	-	KNB3F72TP	185
		84" (2134 mm)	KNB3F84SD	248	KNB3F84TP	250
<b>1.75" x 7"</b> (45 x 180 mm)	<b>10,000 lbs/pair</b> (4,500 kg/pair)	96" (2438 mm)	KNB3F96SD	293	KNB3F96TP	212
		42" (1067 mm)	KNB3L42SD	214	KNB3L42TP	196
		48" (1219 mm)	KNB3L48SD	235	A000013303	209
		54" (1372 mm)	KNB3L54SD	256	KNB3L54TP	220
		60" (1524 mm)	KNB3L60SD	277	KNB3L60TP	236
		72" (1829 mm)	KNB3L72SD	320	KNB3L72TP	264
		42" (1067 mm)	KNB3H42SD	127	-	-
		48" (1219 mm)	KNB3H48SD	140	-	-
		54" (1372 mm)	KNB3H54SD	153	-	-
<b>2" x 4"</b> (50 x 100 mm)	<b>8,400 lbs/pair</b> (3,800 kg/pair)	60" (1524 mm)	KNB3H60SD	116	-	-
		72" (1829 mm)	KNB3H72SD	192	-	-
<b>2" x 5"</b> (50 x 122 mm)	<b>10,000 lbs/pair</b> (4,500 kg/pair)	36" (914 mm)	0973284	136	9430616010	138
		42" (1067 mm)	0972348	151	9430616020	149
		48" (1219 mm)	0972349	168	0973273	159
		54" (1372 mm)	0972342	182	0973274	171
		60" (1524 mm)	0973211	200	9430616050	181
		72" (1829 mm)	2I7891	234	9430616060	201
		84" (2134 mm)	KNB3M84SD	274	KNB3M84TP	216
		96" (2438 mm)	KNB3M96SD	308	KNB3M96TP	235
<b>2" x 6"</b> (50 x 150 mm)	<b>10,000 lbs/pair</b> (4,500 kg/pair)	36" (914 mm)	KNB3N36SD	173	9440619010	166
		42" (1067 mm)	2I7892	192	9440619020	179
		48" (1219 mm)	9440618020	211	0973277	191
		54" (1372 mm)	0972485	231	9440619040	203
		60" (1524 mm)	0972486	250	9440619050	216
		72" (1830 mm)	2I7895	290	9440619060	237
		84" (2134 mm)	KNB3N84SD	324	KNB3N84TP	241
		96" (2438 mm)	-	-	KNB3N96TP	290
		48" (1219 mm)*	-	215	-	-
<b>2" x 7"</b> (50 x 180 mm)	<b>13,700 lbs/pair</b> (6,200 kg/pair)	48" (1219 mm)	-	-	9440713010	237
<b>2" x 8"</b> (50 x 200 mm)	<b>10,000 lbs/pair</b> (4,500 kg/pair)	47.5" (1207 mm)	-	-	-	235

Lock pin assembly included.

\*Rotator Fork



## Cascade Class IV Standard I.T.A. Hook Forks

Cross Section	Capacity 24" Load Center	Length	Standard Taper	Weight (lbs)	Fully Tapered and Polished	Weight (lbs)
<b>1.5" x 10"</b> (40 x 250 mm)	<b>13,400 lbs/pair</b> (6,200 kg/pair)	42" (1067 mm)	-	-	KN7502951	267
		48" (1219 mm)	-	-	KN7500087	287
		54" (1372 mm)	-	-	KN7504627	305
		60" (1524 mm)	-	-	KN7505837	317
		72" (1829 mm)	-	-	KN7509309	343
<b>2" x 6"</b> (50 x 150 mm)	<b>12,600 lbs/pair</b> (5,800 kg/pair)	42" (1067 mm)	KNB4N42SD	216	KNB4N42TP	204
		48" (1219 mm)	KNB4N48SD	235	KNB4N48TP	216
		54" (1372 mm)	KNB4N54SD	255	KNB4N54TP	228
		60" (1524 mm)	KNB4N60SD	274	KNB4N60TP	240
		72" (1829 mm)	KNB4N72SD	314	KNB4N72TP	264
<b>2" x 7"</b> (50 x 180 mm)	<b>15,200 lbs/pair</b> (7,000 kg/pair)	42" (1067 mm)	KNB4P42SD	262	KNB4P42TP	247
		48" (1219 mm)	KNB4P48SD	286	KNB4P48TP	262
		54" (1372 mm)	KNB4P54SD	309	KNB4P54TP	276
		60" (1524 mm)	KNB4P60SD	332	KNB4P60TP	291
		72" (1829 mm)	KNB4P72SD	380	KNB4P72TP	321
		84" (2134 mm)	KNB4P84SD	427	KNB4P84TP	350
		96" (2438 mm)	KNB4P96SD	475	KNB4P96TP	380
<b>2" x 8"</b> (50 x 200 mm)	<b>16,800 lbs/pair</b> (7,700 kg/pair)	42" (1067 mm)	KNB4Q42SD	292	KNB4Q42TP	275
		48" (1219 mm)	KNB4Q48SD	318	9440712010	282
		54" (1372 mm)	KNB4Q54SD	344	-	308
		60" (1524 mm)	KNB4Q60SD	370	-	324
		72" (1829 mm)	KNB4Q72SD	424	9440712040	358
		84" (2134 mm)	KNB4Q84SD	475	KNB4Q84TP	380
		96" (2438 mm)	KNB4Q96SD	527	9440712050	421
<b>2.25" x 6"</b> (60 x 150 mm)	<b>17,500 lbs/pair</b> (8,000 kg/pair)	42" (1067 mm)	9440711010	261	KNB4R42TP	246
		48" (1219 mm)	9440711020	285	KNB4R48TP	250
		54" (1372 mm)	9440711030	308	KNB4R54TP	274
		60" (1524 mm)	9440711040	331	KNB4R60TP	283
		72" (1829 mm)	9440711050	379	KNB4R72TP	317
		84" (2134 mm)	KNB4R84SD	426	KNB4R84TP	335
		96" (2438 mm)	9440711060	472	KNB4R96TP	371
<b>2.5" x 6"</b> (65 x 150 mm)	<b>17,500 lbs/pair</b> (8,000 kg/pair)	42" (1067 mm)	KNB4T42SD	272	KNB4T42TP	261
		48" (1219 mm)	2I7899	292	KNB4T48TP	276
		54" (1372 mm)	2I7900	319	KNB4T54TP	291
		60" (1524 mm)	2I7901	342	KNB4T60TP	306
		72" (1829 mm)	2I7902	399	KNB4T72TP	337
		84" (2134 mm)	KNB4T84SD	449	KNB4T84TP	366
		96" (2438 mm)	A000001315	495	KNB4T96TP	467

Lock pin assembly included.

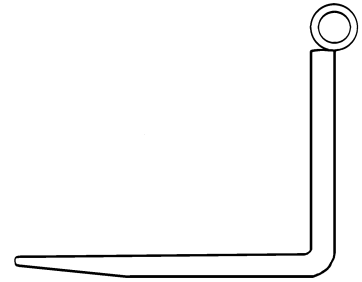
\*Rotator Fork

### Cascade Shaft Style Forks

Shaft forks are used as an alternative to hook forks. They are also referred to as pin type forks. Shaft forks are more readily found on larger forklifts, although there are a number of small forklifts with a pin type carriage. There are a large variety of sizes of shaft forks found in the materials handling industry. All shaft forks are special sourced items and must be ordered to customer specifications.

#### Ordering Shaft Style Forks

- Confirm the fork capacity matches or is greater than the forklift capacity.
- Consider the forklift application.
- Complete a shaft fork specification sheet.
- Fax the completed specification sheet to our fork specialist.
- Select shaft style forks can be ordered online.



Model	Part No.	Size	Length
RC60 (2 wheel drive)	214001	1.75" x 4.00" (40 x 100 mm)	48" (1220 mm)
DP/FD 70	9450604400	2.40" x 5.90" (60 x 150 mm)	72" (1829 mm)
DP/FD 70	9450604500	2.40" x 5.90" (60 x 150 mm)	96" (2440 mm)
DP/FD 80	**9450701101	2.40" x 7.10" (60 x 180 mm)	48" (1220 mm)
DP/FD 80	**9450701201	2.40" x 7.10" (60 x 180 mm)	60" (1520 mm)
DP/FD 80	**9450701401	2.40" x 7.10" (70 x 180 mm)	96" (2440 mm)
DP/FD 100	*9460703300	3.00" x 7.00" (75 x 180 mm)	72" (1829 mm)
DP/FD 100	*9460703400	3.00" x 7.00" (75 x 180 mm)	96" (2440 mm)

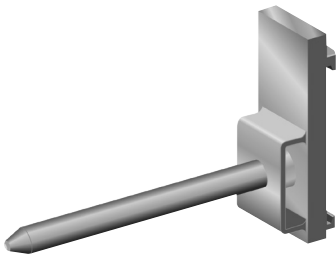
Shaft forks listed are available for specific models indicated. Contact customer service for custom sizes.

\*These shaft forks only fit (DP100 and FD100) older or built prior to July of 2002. Center Line = 43.5.

\*\*Made to order.

### Cascade Class II and III Carpet Poles

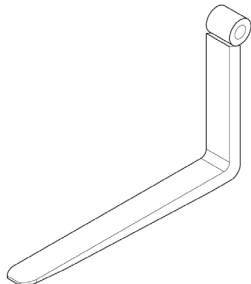
- Designed to handle carpet rolls.
- The load capacity at 72" is 1,200 pounds.
- A lock pin helps prevent lateral movement.
- Carpet poles may be special ordered through dealer support.



Length (Feet)	Weight (2-9/16" diameter)
8'	279 lbs
9'	297 lbs
10'	315 lbs
11'	333 lbs
12'	351 lbs

### Cascade Two-Stage Lumber Taper Forks

- A two-stage taper is factored into the blade design.
- There is a shorter, but more durable slim tip for easy entry into the stack.
- 10% of the blade near the inside of the heel is at full thickness, providing increased rigidity.
- 20% from the tip of the fork is now 50% of the full thickness of the blade, thus reducing fork deflection.
- The top of the blade can be polished to reduce friction when engaging a load.
- This design is recommended on forks 72" and longer.
- Lumber forks may be special ordered through our dealer support department.



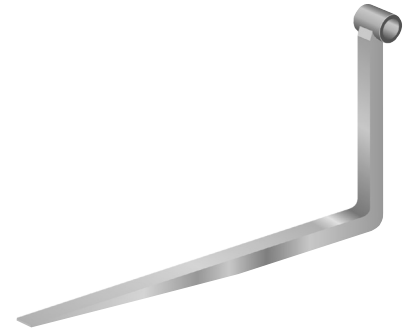
### Cascade Class II and III Block Forks

Block handling forks are used predominantly for lifting concrete or cement blocks in large numbers. They can be ordered in sets as required, depending on the load-width, configuration and weight.

#### Class II

Cross Section	Capacity 24" Load Center	Length	Weight	Part No.
<b>1.5" x 2.0"</b> (40 x 50 mm)	<b>2,916 lbs/pair</b> (1,300 kg/pair)	42" (1067 mm)	64 lbs	Special Order
		48" (1372 mm)	69 lbs	Special Order
<b>2.0" x 2.0"</b> (50 x 50 mm)	<b>3,900 lbs/pair</b> (1,700 kg/pair)	42" (1067 mm)	77 lbs	A000047428
		48" (1372 mm)	84 lbs	2I3404

Lock pin assembly included.



#### Class III

Cross Section	Capacity 24" Load Center	Length	Weight	Part No.
<b>1.5" x 2.0"</b> (40 x 50 mm)	<b>2,916 lbs/pair</b> (1,300 kg/pair)	42" (1067 mm)	71 lbs	Special Order
		48" (1372 mm)	76 lbs	Special Order
<b>2.0" x 2.0"</b> (50 x 50 mm)	<b>3,900 lbs/pair</b> (1,700 kg/pair)	42" (1067 mm)	85 lbs	2I3405
		48" (1372 mm)	91 lbs	2I3406

Lock pin assembly included.

#### Features:

1. The forged heel is enlarged (bent and upset manufacturing process) for maximum strength.
2. The inside heel area can be ordered with an optional special "concave type" radius that will reduce damage to the edges of the product.
3. Some applications may require our optional elongated tube (floating eye) so that when the load is being set down on an uneven surface, the forks first being relieved of the load can rise. This prevents damage to the product when the forks are withdrawn.
4. Block handling forks can be ordered in any length required and are manufactured with tube, hook, or floating eye mountings.
5. Typical section sizes used for block handling forks are 2.0" x 1.5" (T x W) and 2.0" x 2.0" (T x W). Special sizes are available upon request.



### Cascade iForks

Cascade's iForks work on virtually any lift truck with an I.T.A. hook-on carriage. These unique and innovative forks let you weigh your product as you move it. The wireless display uses Bluetooth® technology, enabling you to view and track the weight of individual loads, total weight of multiple loads and number of individual units within a load. Cascade iForks are approved by NTEP for use in the USA and accurate within .1% of the actual load weight. Common uses for the iFork are incoming goods control, overload prevention, dosing, filling, waste management, order picking and inventory control.

#### Benefits:

- Quick installation and set up
- Wireless Bluetooth and W-Lan output
- Displays both kg and lb units
- Each fork has an exchangeable battery module
- Compatible with load backrests
- Digital calibration for fast and easy adjustments

#### Features:

- LED indicators on the forks to provide battery level and Bluetooth status
- Auto shut-off function for optimal battery life
- Bright backlit LCD driver display for easy viewing
- Piece counting, code entry and date/time registration
- Optional SIR Mobile software interface for installation on any Windows Mobile 5.0 or Windows CE 5.0 data terminal or PDA
- Optional level sensor for digital compensation for mast angles more than 5%



Cascade iForks are capable of accuracy within .1% of actual load weight. However, due to the display graduation limitation, the display may yield results outside the .1% range. iForks ship with a rechargeable battery powered display, mounting bracket, two rechargeable fork battery packs and chargers for each unless additional components are specified.

Load length cannot exceed the length of the fork by more than 6". Cascade iForks are priced and sold by the pair.

#### Non-NTEP Approved: 0-5,000 lb with 2 lb display graduation

Capacity @ 24" (600 mm) Load Center	Fork Length	Weight/Pair	Mounting Class	Part No.
5,000 lbs (2,500 kg)	30"	261 lbs (118 kg)	II	Special Order
5,000 lbs (2,500 kg)	32"	265 lbs (120 kg)	II	Special Order
5,000 lbs (2,500 kg)	36"	272 lbs (123 kg)	II	Special Order
5,000 lbs (2,500 kg)	42"	284 lbs (129 kg)	II	Special Order
5,000 lbs (2,500 kg)	48"	296 lbs (134 kg)	II	Special Order
5,000 lbs (2,500 kg)	54"	363 lbs (164 kg)	II	Special Order
5,000 lbs (2,500 kg)	60"	374 lbs (170 kg)	II	Special Order

#### NTEP Approved (USA Only): 0-5,000 lb with 5 lb display graduation

Capacity @ 24" (600 mm) Load Center	Fork Length	Weight/Pair	Mounting Class	Part No.
5,000 lbs (2,500 kg)	30"	261 lbs (118 kg)	II	Special Order
5,000 lbs (2,500 kg)	32"	265 lbs (120 kg)	II	Special Order
5,000 lbs (2,500 kg)	36"	272 lbs (123 kg)	II	Special Order
5,000 lbs (2,500 kg)	42"	284 lbs (129 kg)	II	Special Order
5,000 lbs (2,500 kg)	48"	296 lbs (134 kg)	II	Special Order

#### Non-NTEP Approved: 0-6,000 lb with 2 lb display graduation

Capacity @ 24" (600 mm) Load Center	Fork Length	Weight/Pair	Mounting Class	Part No.
6,000 lbs (2,750 kg)	36"	361 lbs (164 kg)	III	Special Order
6,000 lbs (2,750 kg)	42"	372 lbs (169 kg)	III	Special Order
6,000 lbs (2,750 kg)	48"	381 lbs (173 kg)	III	Special Order
6,000 lbs (2,750 kg)	54"	465 lbs (211 kg)	III	Special Order
6,000 lbs (2,750 kg)	60"	475 lbs (215 kg)	III	Special Order

#### Non-NTEP Approved: 0-1,000 lb with 2 lb display graduation/1,001-10,000 lb with 5 lb display graduation

Capacity @ 24" (600 mm) Load Center	Fork Length	Weight/Pair	Mounting Class	Part No.
10,000 lbs (5,000 kg)	42"	606 lbs (275 kg)	III	Special Order
10,000 lbs (5,000 kg)	48"	623 lbs (283 kg)	III	Special Order
10,000 lbs (5,000 kg)	54"	728 lbs (330 kg)	III	Special Order
10,000 lbs (5,000 kg)	60"	745 lbs (338 kg)	III	Special Order

#### Options

Description	Part No.
Two Rechargeable or Non-Rechargeable Batteries	Special Order
Power Regulator 12V	Special Order
Power Converter 24-80V	Special Order
Thermal or Dot Matrix Printer	Special Order
Barcode Label Printer	Special Order
Bluetooth Output	Special Order
Level Sensor	Special Order
Digital Tilt Indicator	Special Order

National Type Evaluation Program (NTEP) is a program administered by the National Conference on Weights and Measures (NCWM), which establishes a uniform set of criteria and test procedures for the evaluation of commercial weighing and measuring devices.

**MSI-Forks**

MSI forks are forged in Rock Hill, South Carolina facility from Canadian sourced steel. MSI's comprehensive product line covers a wide variety of industrial and commercial applications—at a competitive price. The Promatch parts program is now stocking MSI's most popular hook-style ITA class II, III, and IV forks. Possibly the most the important benefit is that MSI is not owned by a lift truck manufacturer, like Cascade (Toyota) or Bolzoni Auramo (Hyster/Yale).

**MADE IN THE USA****MSI Class II Forks**

Part No.	Capacity (pounds/pair)	Thickness x Width	Length	Taper Style	Fork Style
A000054442	5,250	1.50" x 4.00" (40 x 100 mm)	32" (813 mm)	Standard Taper	Hook
A000054444	5,250	1.50" x 4.00" (40 x 100 mm)	36" (914 mm)	Standard Taper	Hook
A000054443	5,250	1.50" x 4.00" (40 x 100 mm)	36" (914 mm)	Fully Tapered and Polished	Hook
A000054437	5,250	1.50" x 4.00" (40 x 100 mm)	42" (1067 mm)	Standard Taper	Hook
A000054436	5,250	1.50" x 4.00" (40 x 100 mm)	42" (1067 mm)	Fully Tapered and Polished	Hook
A000054439	5,250	1.50" x 4.00" (40 x 100 mm)	48" (1219 mm)	Standard Taper	Hook
A000054438	5,250	1.50" x 4.00" (40 x 100 mm)	48" (1219 mm)	Fully Tapered and Polished	Hook
A000054440	5,250	1.50" x 4.00" (40 x 100 mm)	54" (1372 mm)	Standard Taper	Hook
A000054441	5,250	1.50" x 4.00" (40 x 100 mm)	60" (1524 mm)	Standard Taper	Hook
A000054457	6,590	1.50" x 5.00" (40 x 125 mm)	42" (1067 mm)	Standard Taper	Hook
A000054456	6,590	1.50" x 5.00" (40 x 125 mm)	42" (1067 mm)	Fully Tapered and Polished	Hook
A000054459	6,590	1.50" x 5.00" (40 x 125 mm)	48" (1219 mm)	Standard Taper	Hook
A000054458	6,590	1.50" x 5.00" (40 x 125 mm)	48" (1219 mm)	Fully Tapered and Polished	Hook
A000054460	6,590	1.50" x 5.00" (40 x 125 mm)	54" (1372 mm)	Standard Taper	Hook
A000054455	6,990	1.75" x 4.00" (45 x 100 mm)	36" (914 mm)	Standard Taper	Hook
A000054454	6,990	1.75" x 4.00" (45 x 100 mm)	36" (914 mm)	Fully Tapered and Polished	Hook
A000054446	6,990	1.75" x 4.00" (45 x 100 mm)	42" (1067 mm)	Standard Taper	Hook
A000054445	6,990	1.75" x 4.00" (45 x 100 mm)	42" (1067 mm)	Fully Tapered and Polished	Hook
A000054448	6,990	1.75" x 4.00" (45 x 100 mm)	48" (1219 mm)	Standard Taper	Hook
A000054447	6,990	1.75" x 4.00" (45 x 100 mm)	48" (1219 mm)	Fully Tapered and Polished	Hook
A000054450	6,990	1.75" x 4.00" (45 x 100 mm)	54" (1372 mm)	Standard Taper	Hook
A000054449	6,990	1.75" x 4.00" (45 x 100 mm)	54" (1372 mm)	Fully Tapered and Polished	Hook
A000054452	6,990	1.75" x 4.00" (45 x 100 mm)	60" (1524 mm)	Standard Taper	Hook
A000054451	6,990	1.75" x 4.00" (45 x 100 mm)	60" (1524 mm)	Fully Tapered and Polished	Hook
A000054453	6,990	1.75" x 4.00" (45 x 100 mm)	72" (1829 mm)	Standard Taper	Hook
A000054462	8,770	1.75" x 5.00" (45 x 125 mm)	42" (1067 mm)	Standard Taper	Hook
A000054461	8,770	1.75" x 5.00" (45 x 125 mm)	42" (1067 mm)	Fully Tapered and Polished	Hook
A000054466	8,770	1.75" x 5.00" (45 x 125 mm)	48" (1219 mm)	Standard Taper	Hook
A000054465	8,770	1.75" x 5.00" (45 x 125 mm)	48" (1219 mm)	Fully Tapered and Polished	Hook
A000054469	8,770	1.75" x 5.00" (45 x 125 mm)	54" (1372 mm)	Standard Taper	Hook
A000054472	8,770	1.75" x 5.00" (45 x 125 mm)	60" (1524 mm)	Standard Taper	Hook
A000054471	8,770	1.75" x 5.00" (45 x 125 mm)	60" (1524 mm)	Fully Tapered and Polished	Hook
A000054474	8,770	1.75" x 5.00" (45 x 125 mm)	72" (1829 mm)	Standard Taper	Hook
A000054517	4,490	2.00" x 2.00" (50 x 50 mm)	48" (1219 mm)	Block	Hook

## MSI Class III Forks

Part No.	Capacity (pounds/pair)	Thickness x Width	Length	Taper	Fork Style
A000054515	10,500	1.50" x 8.00" (40 x 200mm)	48" (1219 mm)	Fully Tapered and Polished	Hook
A000054475	8,770	1.75" x 5.00" (45 x 125 mm)	36" (914 mm)	Standard Taper	Hook
A000054464	8,770	1.75" x 5.00" (45 x 125 mm)	42" (1067 mm)	Standard Taper	Hook
A000054463	8,770	1.75" x 5.00" (45 x 125 mm)	42" (1067 mm)	Fully Tapered and Polished	Hook
A000054468	8,770	1.75" x 5.00" (45 x 125 mm)	48" (1219 mm)	Standard Taper	Hook
A000054467	8,770	1.75" x 5.00" (45 x 125 mm)	48" (1219 mm)	Fully Tapered and Polished	Hook
A000054470	8,770	1.75" x 5.00" (45 x 125 mm)	54" (1372 mm)	Standard Taper	Hook
A000054473	8,770	1.75" x 5.00" (45 x 125 mm)	60" (1524 mm)	Standard Taper	Hook
A000054516	4,490	2.00" x 2.00" (50 x 50mm)	42" (1067 mm)	Block	Hook
A000054518	4,490	2.00" x 2.00" (50 x 50mm)	48" (1219 mm)	Block	Hook
A000054488	11,270	2.00" x 5.00" (50 x 125 mm)	36" (914 mm)	Standard Taper	Hook
A000054487	11,270	2.00" x 5.00" (50 x 125 mm)	36" (914 mm)	Fully Tapered and Polished	Hook
A000054477	11,270	2.00" x 5.00" (50 x 125 mm)	42" (1067 mm)	Standard Taper	Hook
A000054476	11,270	2.00" x 5.00" (50 x 125 mm)	42" (1067 mm)	Fully Tapered and Polished	Hook
A000054479	11,270	2.00" x 5.00" (50 x 125 mm)	48" (1219 mm)	Standard Taper	Hook
A000054478	11,270	2.00" x 5.00" (50 x 125 mm)	48" (1219 mm)	Fully Tapered and Polished	Hook
A000054481	11,270	2.00" x 5.00" (50 x 125 mm)	54" (1372 mm)	Standard Taper	Hook
A000054480	11,270	2.00" x 5.00" (50 x 125 mm)	54" (1372 mm)	Fully Tapered and Polished	Hook
A000054483	11,270	2.00" x 5.00" (50 x 125 mm)	60" (1524 mm)	Standard Taper	Hook
A000054482	11,270	2.00" x 5.00" (50 x 125 mm)	60" (1524 mm)	Fully Tapered and Polished	Hook
A000054485	11,270	2.00" x 5.00" (50 x 125 mm)	72" (1829 mm)	Standard Taper	Hook
A000054484	11,270	2.00" x 5.00" (50 x 125 mm)	72" (1829 mm)	Fully Tapered and Polished	Hook
A000054486	11,270	2.00" x 5.00" (50 x 125 mm)	84" (2134 mm)	Standard Taper	Hook
A000054490	13,470	2.00" x 6.00" (50 x 150mm)	42" (1067 mm)	Standard Taper	Hook
A000054489	13,470	2.00" x 6.00" (50 x 150mm)	42" (1067 mm)	Fully Tapered and Polished	Hook
A000054492	13,470	2.00" x 6.00" (50 x 150mm)	48" (1219 mm)	Standard Taper	Hook
A000054491	13,470	2.00" x 6.00" (50 x 150mm)	48" (1219 mm)	Fully Tapered and Polished	Hook
A000054495	13,470	2.00" x 6.00" (50 x 150mm)	54" (1372 mm)	Standard Taper	Hook
A000054494	13,470	2.00" x 6.00" (50 x 150mm)	54" (1372 mm)	Fully Tapered and Polished	Hook
A000054497	13,470	2.00" x 6.00" (50 x 150mm)	60" (1524 mm)	Standard Taper	Hook
A000054496	13,470	2.00" x 6.00" (50 x 150mm)	60" (1524 mm)	Fully Tapered and Polished	Hook
A000054500	13,470	2.00" x 6.00" (50 x 150mm)	72" (1829 mm)	Standard Taper	Hook
A000054499	13,470	2.00" x 6.00" (50 x 150mm)	72" (1829 mm)	Fully Tapered and Polished	Hook
A000054502	13,470	2.00" x 6.00" (50 x 150mm)	84" (2134 mm)	Standard Taper	Hook
A000054503	13,470	2.00" x 6.00" (50 x 150mm)	96" (2438 mm)	Standard Taper	Hook

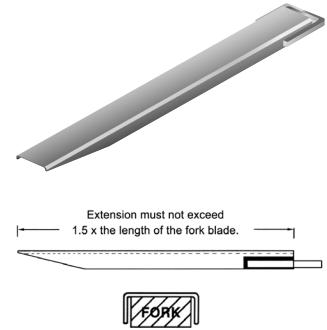
## MSI Class IV Forks

Part No.	Capacity (pounds/pair)	Thickness x Width	Length	Taper	Fork Style
A000054493	13,470	2.00" x 6.00" (50 x 150 mm)	48" (1219 mm)	Standard Taper	Hook
A000054501	13,470	2.00" x 6.00" (50 x 150 mm)	72" (1829 mm)	Standard Taper	Hook
A000054498	13,470	2.00" x 6.00" (50 x 150 mm)	60" (1524 mm)	Standard Taper	Hook
A000054504	13,470	2.00" x 6.00" (50 x 150 mm)	96" (2438 mm)	Standard Taper	Hook
A000054505	17,420	2.25" x 6.00" (60 x 150 mm)	48" (1219 mm)	Standard Taper	Hook
A000054506	17,420	2.25" x 6.00" (60 x 150 mm)	54" (1372 mm)	Standard Taper	Hook
A000054507	17,420	2.25" x 6.00" (60 x 150 mm)	60" (1524 mm)	Standard Taper	Hook
A000054508	17,420	2.25" x 6.00" (60 x 150 mm)	72" (1829 mm)	Standard Taper	Hook
A000054509	17,420	2.25" x 6.00" (60 x 150 mm)	96" (2438 mm)	Standard Taper	Hook
A000054510	21,210	2.50" x 6.00" (65 x 150 mm)	48" (1219 mm)	Standard Taper	Hook
A000054511	21,210	2.50" x 6.00" (65 x 150 mm)	54" (1372 mm)	Standard Taper	Hook
A000054512	21,210	2.50" x 6.00" (65 x 150 mm)	60" (1524 mm)	Standard Taper	Hook
A000054513	21,210	2.50" x 6.00" (65 x 150 mm)	72" (1829 mm)	Standard Taper	Hook
A000054514	21,210	2.50" x 6.00" (65 x 150 mm)	96" (2438 mm)	Standard Taper	Hook

### Fork Extensions

Fork extensions are used to compliment a fork that is lifting a load that is longer than the fork. Extensions are designed for uniform loading; they should never be tip loaded. The length of the extension must not be more than 1.5 times the length of the fork blade.

- Extensions are available to fit 100, 122, 150 and 180 mm wide forks.
- Extensions for the above widths can be acquired up to 2438 mm long (96").
- Heavy-duty and special extensions are available upon request.
- Fork extensions are built in compliance with the ANSI/ITSDF Standard B56.1-2012.



#### Fits 4" Fork Width

Extension Length	Minimum Fork Length	Weight (lbs)	Part No.
48"	32"	29	2I3398
54"	36"	32	A000047816
60"	40"	36	A000047817
63"	42"	37	A000008287
66"	44"	39	A000047818
72"	48"	43	2I3400
84"	56"	50	A000008236
90"	60"	53	A000047819
96"	64"	57	A000047820

#### Fits 5" Fork Width

Extension Length	Minimum Fork Length	Weight (lbs)	Part No.
48"	32"	32	A000047821
54"	36"	36	A000047822
60"	40"	39	A000047823
63"	42"	41	A000008288
66"	44"	43	A000047824
72"	48"	47	2I3401
84"	56"	55	A000008238
90"	60"	59	A000047825
96"	64"	63	A000047826

#### Fits 6" Fork Width

Extension Length	Minimum Fork Length	Weight (lbs)	Part No.
48"	32"	36	A000047827
54"	36"	40	A000047828
60"	40"	44	A000008240
63"	42"	-	A000047829
72"	48"	53	2I3402
84"	56"	62	A000008241
90"	60"	66	A000047830
96"	64"	98	A000047831

#### Fits 7" Fork Width

Extension Length	Minimum Fork Length	Weight (lbs)	Part No.
54"	36"	45	A000047832
72"	48"	59	A000047718
90"	64"	78	Special Order
96"	64"	-	A000047834

#### Fits 8" Fork Width

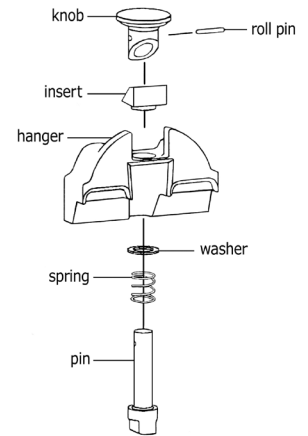
Extension Length	Minimum Fork Length	Weight (lbs)	Part No.
72"	48"	65	A000047719



## New Style Fork Pin Kits

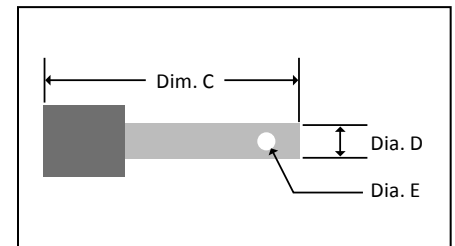
Assembly kit contains (one of each): metal knob, insert, washer, roll pin, spring and pin.  
The insert and washer are only required for retrofit kits.

Part No.	Description
A000009261	Class II with retrofit
A000009262	Class III with retrofit
A000009263	Class IV without retrofit

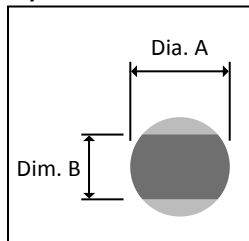


## Old Style Fork Pin Kits

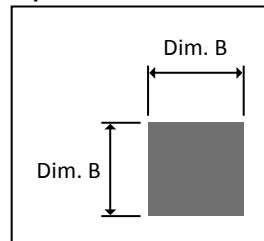
Style	Dia. A	Dim. B	Dim. C	Dia. D	Dia. E	Part No.	Fork Class
1	3/4"	1/2"	2-1/16"	1/2"	-	2I6355	I, II
1	7/8"	5/8"	2-1/16"	5/8"	-	0972223	II, III
1	7/8"	1/2"	2-1/16"	5/8"	-	0972222	II
1	7/8"	5/8"	2-3/4"	5/8"	-	2I6442	IV
1	7/8"	5/8"	2-1/4"	5/8"	-	2I6443	II, IV
1	13/16"	1/2"	2-3/16"	9/16"	-	2I6589	II, IV
4	11/16"	11/16"	3-3/4"	7/16"	-	2I6578	II, IV
4	11/16"	11/16"	3-1/4"	3/8"	-	2I6241	II, IV
4	9/16"	3/4"	3-1/16"	3/8"	-	0973862	II, IV
5	9/16"	-	2-13/16"	3/8"	-	2I6453	II, IV
5	11/16"	-	3-1/8"	3/8"	-	2I6588	II, IV
6	5/8"	1/2"	2-1/4"	3/8"	-	2I5227	II, IV
7	7/8"	11/16"	2-11/16"	5/8"	25/32"	2I8064	IV
7	7/8"	11/16"	2-3/16"	5/8"	25/32"	2I7493	III
7	7/8"	9/16"	2-1/8"	5/8"	3/4"	2I7492	I, II



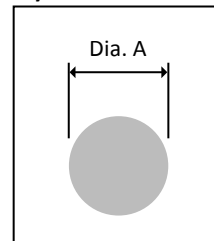
Style 1



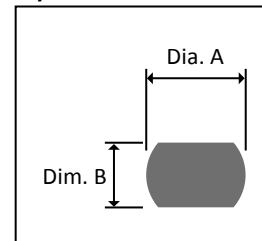
Style 4



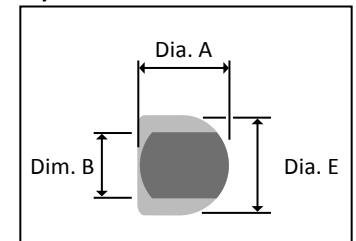
Style 5



Style 6






Style 7



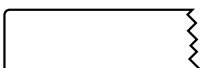
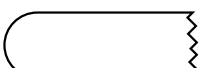


For a fork quote, email the completed form to our fork specialist at [dealersupportdepartment@rpionline.com](mailto:dealersupportdepartment@rpionline.com).

Contact	
Dealer Name	
Dealer Code	
Address	
Phone	
Fax	

Forklift Make	
Forklift Model	
Capacity	
Number of Pieces	
PO Number	

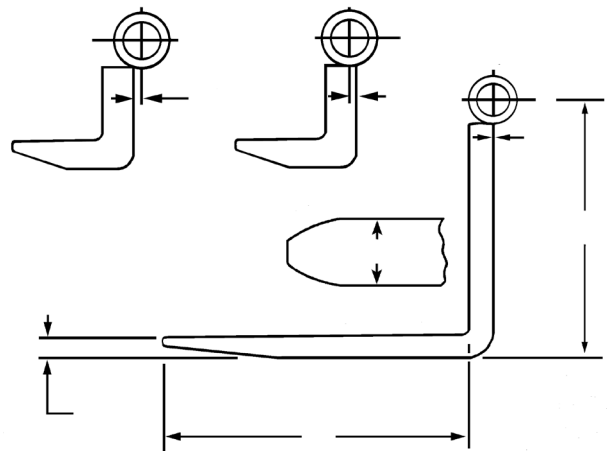
Tapers (Choose One)	
<input type="checkbox"/> Standard Taper	
<input type="checkbox"/> Full Taper	
<input type="checkbox"/> Full Taper Polish	

Tips (Choose One)	
<input type="checkbox"/> Standard Tip	
<input type="checkbox"/> Tapered Tip	
<input type="checkbox"/> Square Tip	
<input type="checkbox"/> Round Tip	

Shaft Type Forks		
A		To Center Line of Tube
B		Inset
C		Offset
D		Inline
E		Thickness
F		Width
G		Length
OD		Outside Diameter
IS		Inside Diameter
SD		Shaft Diameter

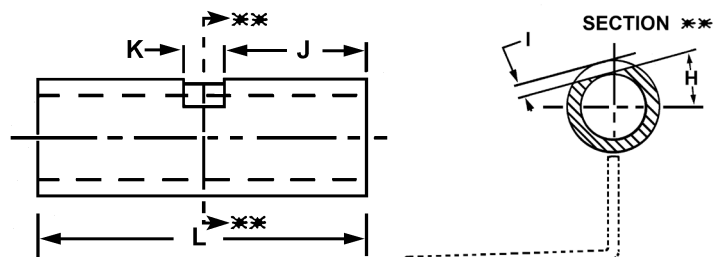
Choose One

\*Clearance must exist between shaft and tube ID.



Tube Specifications		
H		Angle of Slot
I		Depth of Slot
J		Location of Slot
K		Slot Width
L		Tube Length

If there is no slot in the tube, only the Dim. L is required.



For a fork quote, email the completed form to our fork specialist at [dealersupportdepartment@rpionline.com](mailto:dealersupportdepartment@rpionline.com).

Contact	
Dealer Name	
Dealer Code	
Address	
Phone	
Fax	

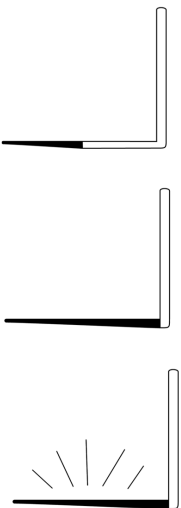
Forklift Make	
Forklift Model	
Capacity	
Number of Pieces	
PO Number	

**Tapers (Choose One)**

☐ **Standard Taper**

☐ **Full Taper**

☐ **Full Taper Polish**



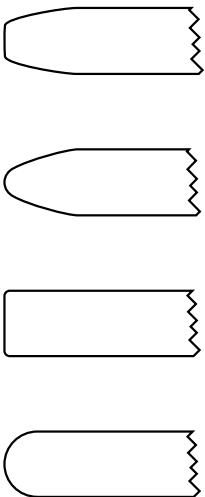
**Tips (Choose One)**

☐ **Standard Tip**

☐ **Tapered Tip**

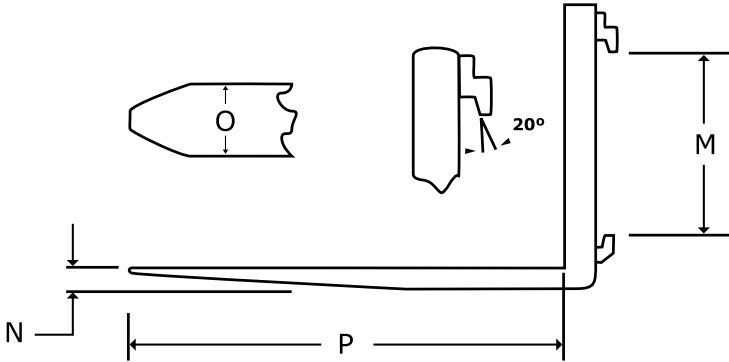
☐ **Square Tip**

☐ **Round Tip**

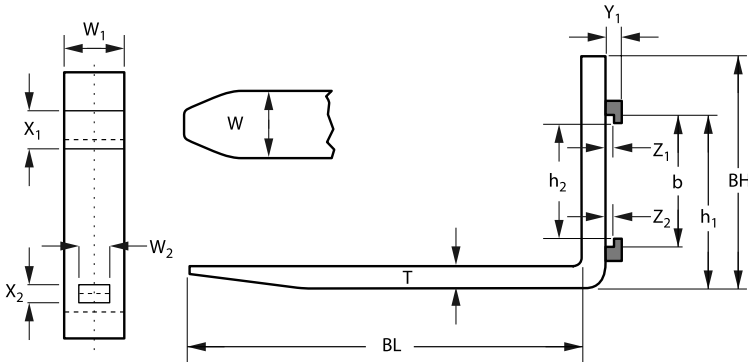


Hook Type Forks (20° Rear Slope on Carriage)		
(M) Distance Between Hooks	Class	Carriage Height
M = 12.09"	I	13.00"
M = 15.07"	II	16.00"
M = 18.82"	III	20.00"
M = 23.59"	IV	25.00"

N	Thickness
O	Width
P	Length



Non-Standard Hook Forks (Square Carriage)			
W	Y <sub>1</sub>		
T	W <sub>1</sub>		
BL	W <sub>2</sub>		
BH	X <sub>1</sub>		
b	X <sub>2</sub>		
h <sub>1</sub>	Z <sub>1</sub>		
h <sub>2</sub>	Z <sub>2</sub>		



**ANSI/ITSDF B56.1–2012****6.2.8 Inspection and Repair of Forks in Service on Forklift Trucks**

(a) Forks in use shall be inspected at intervals of not more than 12 months (for single shift operations) or whenever any defect or permanent deformation is detected. Severe applications will require more frequent inspection.

(b) Individual Load Rating of Forks. When forks are used in pairs (the normal arrangement), the rated capacity of each fork shall be at least half of the manufacturer's rated capacity of the truck, and at the rated load center distance shown on the lift truck nameplate.

**6.2.8.1 Inspection**

Fork inspection shall be carried out carefully by trained personnel with the aim of detecting damage, failure, deformation, etc., which might impair safe use. Any fork that shows such a defect shall be withdrawn from service, and shall not be returned to service unless it has been satisfactorily repaired in accordance with para. 6.2.8.2.

- (a) Surface Cracks
- (b) Straightness of Blade and Shank
- (c) Fork Angle (upper face of blade to load face of the shank)
- (d) Difference in Height of Fork Tips
- (e) Positioning Lock (when originally provided)
- (f) Wear
  - Fork Blade and Shank
  - Fork Hooks (when originally provided)
- (g) Legibility of Marking (when originally provided)

**6.2.8.2 Repair and Testing**

(a) Repair. Only the manufacturer of the fork or an expert of equal competence shall decide if a fork may be repaired for continued use, and the repairs shall only be carried out by such parties.

It is not recommended that surface cracks or wear be repaired by welding. When repairs necessitating resetting are required, the fork shall subsequently be subjected to an appropriate heat treatment, as necessary.

(b) Test Loading. A fork that has undergone repairs other than repair or replacement of the positioning lock and/or the marking, shall only be returned to service after being submitted to, and passing, the tests described in para. 7.27.3\*, except that the test load shall correspond to 2.5 times the rated capacity marked on the fork.

\*Para 7.27.3 reflects manufacturing standards.

**Cascade Fork Wear Caliper**

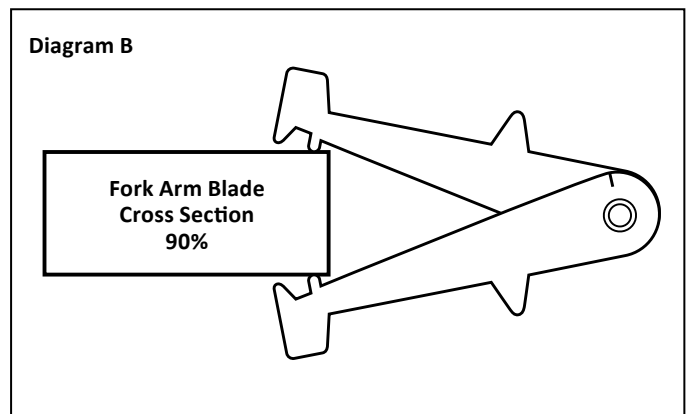
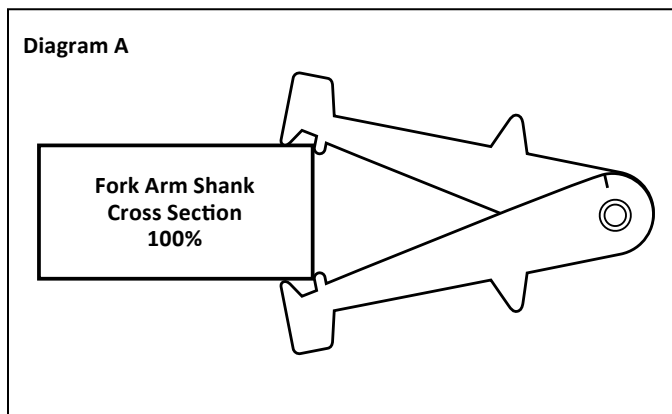
Part No: A000025174

**Checking for Thickness Wear**

The best method is to use a fork caliper, which is a type of adjustable go/no go gauge. The calipers measure the thickness of the fork arm shank (A) then automatically indicate what a 10% wear factor would be when the calipers are applied to the blade cross section (B). Calipers are not recommended for full taper or lumber forks.

- Set the front teeth of the jaws by measuring the thickness of the shank (in an area of little or no wear) ensuring that the caliper is square across the shank.
- Carefully remove the caliper from the shank and position the jaws over the fork arm blade approximately 2" out from the heel.
- If the inside teeth of the caliper hit the fork blade it has less than 10% wear and can be returned to service. If the inside teeth pass freely over the blade, the fork has 10% wear and 20% reduction in capacity. Remove the fork from service.

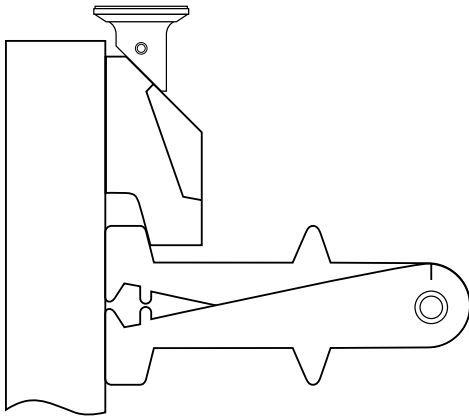
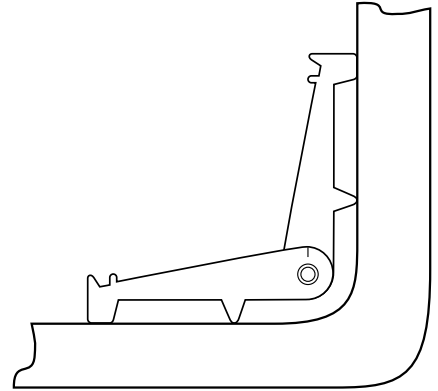
Failure to properly inspect forks on powered industrial trucks, may in some circumstances, be a recognized hazard and therefore warrant the use of the OSHA general duty clause in enforcement.



## Checking the Fork Heel Angle

- Open the calipers to approximately 90° and place the calipers in the top inside heel area of the fork (on top of the blade).
- Ensure that the two lower pieces on the horizontal leg are both touching the top of the blade.
- Move the calipers towards the upright. Ensure that the caliper arms are both parallel to the blade and to the upright.
- Open/close the calipers so that the two similar extruding pieces on the vertical leg of the calipers both touch the upright/shank of the fork.
- When you are sure that all four points are simultaneously in contact with the fork, gently remove the calipers and look at the indicator lines found at the top of the hinge pin.

If the line on the horizontal leg (that points vertically) is found to lie beyond either the 93° or 87° indicator line, the forks should be marked to be checked for either permanent deformation, possible stress cracks or any other defect that could impede the safe use of the fork.



## Checking the Hook for Defects

Select the correct I.T.A. caliper-gauge for the appropriate I.T.A. hook.

- Insert the caliper up into the hook recess with the corresponding 20° angle of the fork.
- Press the vertical face flat against the fork upright/shank and move the caliper up into the hook recess. The caliper must be held at 90° to the hook.
- If the (lower) horizontal face of the caliper can go up high enough to make contact with the lower lip surface on the hook, this would indicate that the 20° angle of the hook is worn or deformed, and therefore the fork hook welds and fork heel area should be checked for cracks.

## Measuring the Bore on Shaft/Pin Type Forks

Insert the reversed caliper inside the eye of the tube (see diagram 1) opening the teeth until both sides of the teeth come in contact with the inside wall of the tube. Pull the caliper out and measure the distance from tip to top (see diagram 2).

Diagram 1

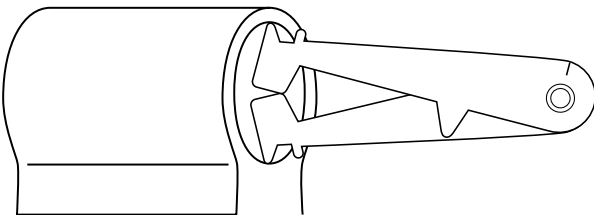
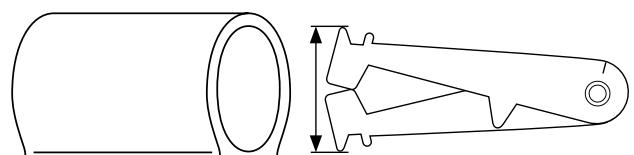


Diagram 2

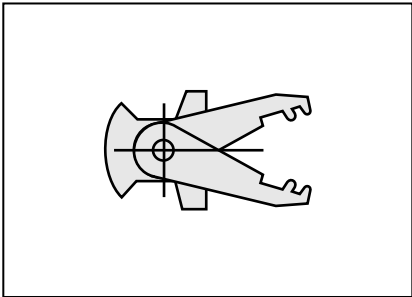


Measure the distance from tip to top.

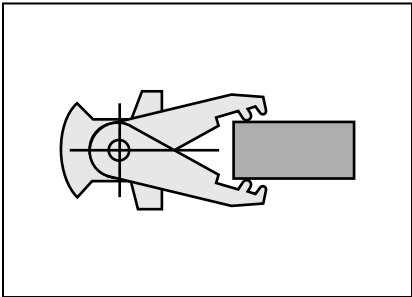
**Loadarm Fork Wear Caliper Series II**  
Part Number: A000002638

Checks thickness up to 65 mm. This caliper provides a simple “ACCEPT” or “REJECT” comparison of the fork arm’s critical load bearing areas with user FORK ARM SAFETY STANDARDS. The calipers are supplied in a wallet which also contains a steel rule and instruction booklet on their use with information on the care, maintenance, and operation of fork arms. The calipers measure hook/shaft wear, arm wear and fork angle.

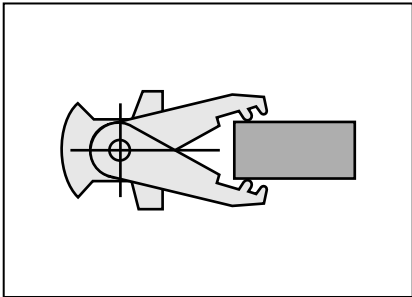
General Arrangement



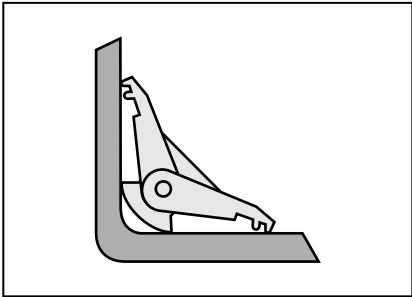
Set the Calipers



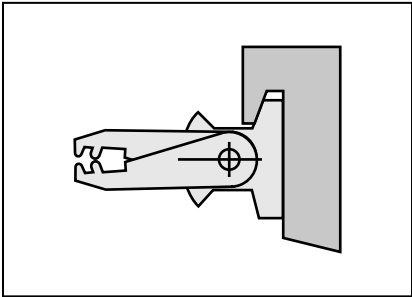
Check the Blade



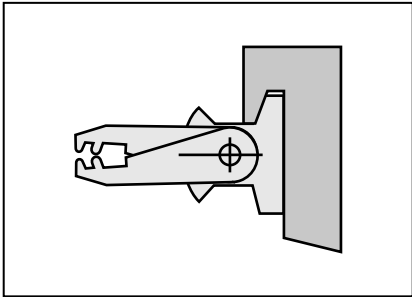
Check the Fork Angle



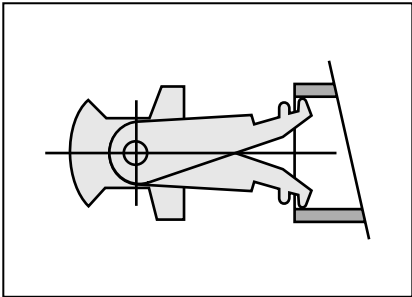
Check Retaining Face



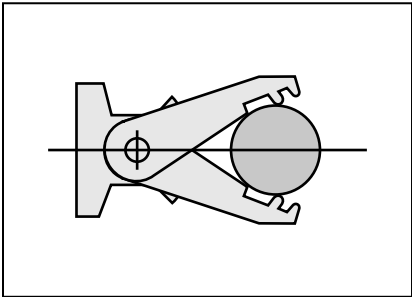
Check Suspension Face



Internal Diameters



External Diameters



**Class I, II, and III  
Model Range**

**Fork Hook and Carriage Wear Gauges**

Use these gauges to check for wear on Class II, III and IV carriages. Each gauges tests for lower hook, upper carriage bar and upper hook wear.

Gauge Type	Part No.
II Carriage Wear Gauge	A000011753
III Carriage Wear Gauge	A000011754
IV Carriage Wear Gauge	A000011755



### Tine-Guide Forklift Laser Guidance System

The Tine-Guide Forklift Laser Guidance System is designed to assist forklift operators with fork placement by projecting a dot or line laser on the pallet. The laser marks the spot where the forks will hit, helping to control product damage, increase productivity, and create a safer work environment.

#### Standard Fork-Guide

The Standard Fork-Guide Laser is battery powered and equipped with a circuit that detects vibration when the truck is in motion. When movement is detected by the vibration circuit, the laser (line/dot) will appear. After the truck is motionless for 4 minutes, the vibration circuit will automatically turn the laser off. Recommended in low traffic areas.

- Includes two six-volt rechargeable nickel metal hydride batteries (4800 amp hours each) and a NiMH battery charger.
- Battery charging time—80% quick charge in four hours, 100% in eight hours.
- Includes a line or dot laser, or both.

#### The Standard Tine-Guide Laser can be fitted with the following features:

- Vibration Control—Powers on with the engine and powers off after 4 minutes of in activity.
- Cold Storage—Designed for low temperatures, high moisture environments.
- Height Control—Operates only at 7' and above for high traffic areas.
- RF Control—Designed for greater operator control of the laser unit.
- Dual Laser—Incorporates two lasers; one directs the forks onto the pallet and the other guides the pallet onto the truck.



Description	Laser	Part No.
Vibration Controlled (Class II)	Dot Laser	A000050889
Vibration Controlled (Class II)	Line Laser	A000034122
Cold Storage, Vibration Controlled (Class II)	Dot Laser	A000050890
Height Controlled (Class II)	Dot Laser	A000050891
Height Controlled (Class II)	Line Laser	A000034110
Cold Storage, Sonic Controlled (Class II)	Dot Laser	A000050892
RF Controlled (Class II)	Dot Laser	A000050893
RF Controlled (Class II)	Line Laser	A000053768
Vibration Controlled (Class II)	Dual Laser (Dot and Line)	A000050895
Cold Storage, Vibration Controlled (Class II)	Dual Laser (Dot and Line)	A000050896
Height Controlled (Class II)	Dual Laser (Dot and Line)	A000050897
Cold Storage, Height Controlled (Class II)	Dual Laser (Dot and Line)	A000050898
RF Controlled (Class II)	Dual Laser (Dot and Line)	A000050899
Cold Storage, RF Controlled (Class II)	Dual Laser (Dot and Line)	A000050900



### V70 Fork-Guide

The V70 Fork-Guide Model wires directly to the forklift electrical system and includes a voltage regulator that reduces 12-55 VDC to 6 VDC. A qualified technician is recommended for installation.

**The V70 Fork-Guide Laser can be fitted with the following features:**

- Hard Wired—Powers on while the truck is in use and off when the truck shuts down.
- Cold Storage—Designed for low temperature, high moisture environments.
- Height Control—Operates only at 7' and above for high traffic areas.
- RF Control—Designed for greater operator control of the laser unit.
- Dual Laser—Incorporates two lasers; one directs the forks onto the pallet and the other guides the pallet onto the truck.



Description	Laser	Part No.
Hard Wired (Class II)	Dot Laser	A000050901
Hard Wired (Class II)	Line Laser	A000034118
Cold Storage, Hard Wired (Class II)	Dot Laser	A000050902
Height Controlled (Class II)	Dot Laser	A000050903
Height Controlled (Class II)	Line Laser	A000034114
Cold Storage, Height Controlled (Class II)	Dot Laser	A000050904
RF Controlled (Class II)	Dot Laser	A000050905
RF Controlled (Class II)	Line Laser	A000053767
Hard Wired (Class II)	Dual Laser (Dot and Line)	A000050907
Cold Storage, Hard Wired (Class II)	Dual Laser (Dot and Line)	A000050808
Height Controlled (Class II)	Dual Laser (Dot and Line)	A000050909
RF Controlled (Class II)	Dual Laser (Dot and Line)	A000050910
Cold Storage, RF Controlled (Class II)	Dual Laser (Dot and Line)	A000050911



## Accu-Tilt Fork Tip Level Indicator

Part Number: A000031466

Incorrect tilt angle of the forks is the leading cause of both racking and product damage. Even the most experienced operator has difficulty judging the tilt of the forks when entering pallets high on the rack. The Accu-Tilt shows the operator the level of the forks at all times, reducing potential damage by piercing product or racking and increasing productivity by eliminating the guess work. The Accu-Tilt will also indicate the correct angle to travel with a load, as well as parking the forklift.



## Digital Tilt Indicator

Part Number: A000046361

Cascade's Digital Tilt Indicator works on virtually any lift truck. This visual aid lets you know when your mast is tilted forward, backwards or true vertical. The sensitivity of the Digital Tilt Indicator is precise to within one degree. It clearly displays the angle of the mast at all times which eliminates guesswork and ultimately reduces damage and increases speed and efficiency.



### Features:

- Compatible with 12V systems
- Accurate within one degree
- Vibrant LED display
- Hardened steel protective mounting bracket
- Can be mounted on the left-hand or right-hand side of the mast



## Safe-Tilt Fork Level

Part Number: A000025802

Easily mounts on the forklift mast, indicating the fork's exact position from park, to level, to travel. The Safe-Tilt includes sticker labels to specify additional angles. Please Note: The Safe-Tilt Fork Leveling System works only on tilt mast counterbalance and tilt mast narrow aisle forklifts.

**Pallet Dawg™**

Part No: A000036189

Pallet Dawg offers enhanced protection of transported products and pallets, reducing costs related to damage. The low-profile bumper mounts easily to I.T.A. Class II fork carriages, regardless of lift truck make and model. Made of a high density polyethylene co-polymer, the Pallet Dawg can be easily attached between the forks on your forklift.

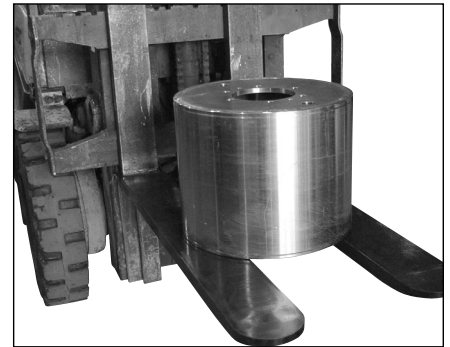
The Pallet Dawg reduces damage to palletized products and their packaging by preventing contact with the load. The attachment redirects the impact force from the lift truck to the center block of the pallet, instead of the top boards, where products are located. Housekeeping is also improved due to less debris from splintered pallets, which can damage lift truck tires.

- Installs in minutes with a 9/16 inch socket wrench
- Compatible with all I.T.A. Class II fork carriages
- Includes spacer plate to ensure a tight fit to forklift carriage

**Poly Fork Cushion Load Protectors**

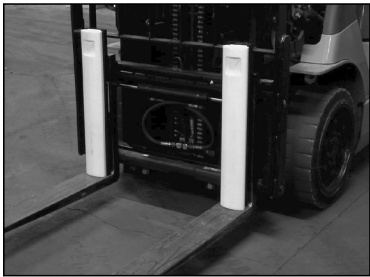
Superior Poly Fork Cushion Load Protectors help reduce costly damage caused by forks. The unique design provides a cushioned, non-slip surface between the product and steel fork, eliminating expensive scratching, chipping, marring, and scuffing experienced during the loading and unloading process. Manufactured by Superior to exact OEM specifications, these cushions are molded from premium Cushothane® polyurethane and easily slip over standard forks to provide the highest standards of performance and reliability in the most demanding operating environments.

Dimensions	Part No.
4" x 30" (100 x 760 mm)	A000027591
4" x 32" (100 x 813 mm)	A000027592
4" x 33.5" (100 x 850 mm)	A000027593
4" x 36" (100 x 920 mm)	A000027594
4" x 42" (100 x 1070 mm)	A000027595
4" x 48" (100 x 1220 mm)	A000027596
4" x 60" (100 x 1520 mm)	A000027597
5" x 36" (125 x 920 mm)	A000027598
5" x 42" (125 x 1070 mm)	A000027599
5" x 48" (125 x 1220 mm)	A000027600
5" x 54" (125 x 1370 mm)	A000027601
5" x 55" (125 x 1400 mm)	A000027602
5" x 60" (125 x 1520 mm)	A000027603
6" x 36" (150 x 920 mm)	A000027604
6" x 48" (150 x 1220 mm)	A000027605
6" x 54" (150 x 1370 mm)	A000027606
6" x 55" (150 x 1400 mm)	A000027607
6" x 60" (150 x 1520 mm)	A000027608



Fork Cushions

Fork Cushions offer a resilient, yet durable solution by equipping a forklift with specially engineered polyurethane bumpers that are mounted to the upright of the fork. These highly engineered bumpers provide cushioning protection from marring, denting, and other forms of damage. The unique structure offers excellent wear properties and vibration deadening without compromising the load capacity. Fork Cushions are mounted directly to the face of the fork utilizing a permanent mounting bracket. The bracket is equipped with a high performance quick adhesion system, providing easy installation and maximum bond strength. By eliminating the need to weld or rivet the brackets, there is no compromise to the OSHA regulated safety ratings of the forks. The brackets will not move or shift and will withstand constant use and force. They are sold in sets of two and are made to a standard length of 24 inches. Custom sizes and lengths are available as special orders.



Size	Description	Part No.
4" x 24"	Ultra Soft, Black	A000025805
5" x 24"	Ultra Soft, Black	A000025806
4" x 24"	Soft, Red	A000025807
5" x 24"	Soft, Red	A000025808
4" x 24"	General Purpose, Yellow	A000025809
5" x 24"	General Purpose, Yellow	A000025810
4" x 24"	Cut Resistant	A000025811
5" x 24"	Cut Resistant	A000025812
4" x 24"	Max Impact	A000025813
5" x 24"	Max Impact	A000025814



Safe-Bump Forklift Protectors  
Part No: A000036175



Add to some padding to your forklift with Safe-Bump Forklift Protectors. Designed to reduce product and forklift damage, Safe-Bump is constructed of a soft PVC plastic that will absorb energy upon impact. The soft bumpers attach anywhere on the forklift, including the forks, with magnets and two-way tape to absorb impacts. The bumpers can easily bend 90 degrees to fit around corners.

Each bumper includes 2 magnets, 3M VHB two-way tape and fork brackets.

### Hang Type Magnetic Sweepers with Release

Magnetic sweepers can be used in three different configurations to clear driveways, factory aisles, trucking terminals, parking lots, construction sites and more. Works over any terrain, in any weather condition.

- Towable magnet can be towed from a variety of vehicles
- Load release feature for easy cleaning
- Built with heavy gauge steel and aircraft-grade aluminum housing
- 8" dia. wheels provide 3" ground clearance
- Removable handle for suspension mounting

Magnet Width	Overall Width	Surface Area	App. lbs. Pull	Part No.
48"	55"	192 sq. in.	250	A000048935
60"	67"	240 sq. in.	300	A000048974

### Hang Type Magnetic Sweepers with Release

Use these sweepers to clear factory and warehouse aisles and driveways. All models are 4" high by 3" deep—eyebolts included. To unload, push the sweeper to the desired dumping area (i.e. a piece of cardboard) and pull the release handle. As the magnet rises, collected material is released from the collector plate. Easily mounts on forks.

Sweeping Width	Part No.
36"	A000042351
48"	A000042350



Use attached eyebolts to securely attach sweeper to a forklift.

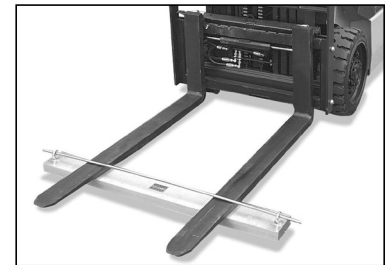


Pull release handle to quickly clear metal pieces from sweeper.

### Hang Type Magnetic Sweepers

Help reduce costly flats and injuries by removing sharp iron objects from roads, parking areas, loading docks, and other important traffic areas with our super-powered, magnetic sweepers. Simply hang the magnetic sweeper from your forklift or vehicle bumper and "sweep" all contaminated areas. Wipe the face of the magnet with a glove or heavy shop towel to clear. Two eyebolts are installed on each magnet for suspending. Hanging bar is not included.

- Permanent magnetism guaranteed
- 24" model picks up eleven pounds of 8-penny nails from 2" high, about 1,000 pieces
- All models are 1.75" high by 5" deep
- Available in any width, from 18" to 96"



Sweeping Width	Part No.
18"	A000030134
24"	A000030135
36"	A000030136
48"	A000030137
78"	A000030138
84"	A000030139
96"	A000030140

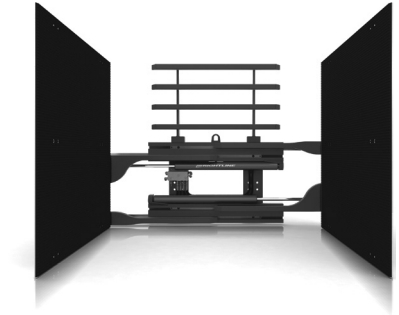
## Rightline Attachments

Rightline Equipment, Inc. designs and manufactures premium lift truck attachments designed to increase material handling productivity. Known for their innovative, rugged and reliable attachments, Rightline has been providing superior performance at competitive prices for more than thirty years and continues to build on its fundamental principles of engineering excellence, precision production and genuine customer service.

These American-made attachments are crafted for performance and lasting value, and are backed by Rightline's unmatched ability to tailor solutions to unique applications. Though Rightline has grown to be the largest privately-held attachment manufacturer in the United States, they never forget the importance of each and every customer.

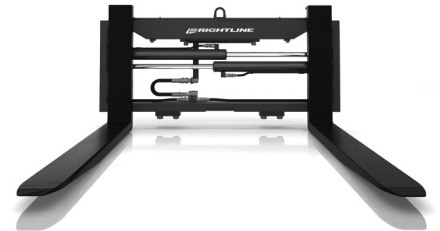
## Clamps

Rightline offers world-class clamps for whatever product you transport—from bale clamps to drum clamps, razorback clamps and beyond. Rightline clamps combine safety, performance, and durability from raw materials to finished product. Side shifting models have the additional ability to laterally position the arms or the entire load for faster and more accurate lifting and placement.



## Fork Positioners

Fork positioners allow drivers to move the forks hydraulically without leaving the seat. Side shifting models have the additional ability to laterally position the arms or the entire load for faster and more accurate lifting and placement. Rightline's top-notch fork positioners are engineered and built in the USA and infused with care and quality from beginning to end.



## Multiple-Load Handlers

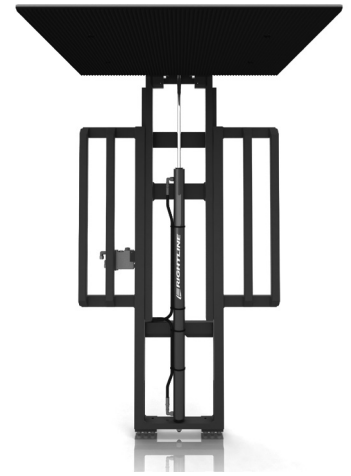
Rightline double-block handlers offer two-carriage productivity to your block or brick handling applications. Double-block handlers allow your driver to efficiently transport double the cube loads without the need for pallets. Drivers can position two carriages to effectively lift, transport, separate or unite double cube loads efficiently and without pallets.

Rightline single/dual pallet handlers can lift one pallet alone or hydraulically extend the outer forks to engage two pallets side by side. The pallet handler can retract for a slimmer width, enhancing truck maneuverability when carrying single pallets.



### Load Stabilizers

Rightline offers both hold-downs and vertical load stabilizers to help the wobblest loads get where they're going. Rightline hold-downs allow you to safely and efficiently handle virtually any stackable products without the need for pallets, and vertical load stabilizers are ideal when transporting unstable loads such as soft drinks, malted beverages, bottled water and empty containers. Load stabilizers secure pallet loads, allowing drivers to operate faster and more efficiently. They are especially valuable outdoors and in facilities with irregular floors.



### Side Shifters

Rightline side shifters are recommended for nearly all lift truck operations. Side shifters allow drivers to laterally position the attachment arms or an entire load for faster and more accurate lifting and placement. The added versatility eliminates excessive maneuvering and increases driver efficiency. Rightline's superior shift power, cylinder protection, and frame strength make its side shifters powerful and durable in the toughest applications.



### Fork Bar Rotators

Rightline fork bar rotators add the versatility of powerful 360 degree rotation to your standard lift truck. Fork bar rotators are widely used in agriculture, recycling, manufacturing and general industry. Operators can invert bins and specialized containers in addition to handling standard lift truck loads. Rightline has eliminated the weak points where other designs fail.



### Forward Bin Dumpers

Rightline forward bin dumpers multiply productivity in agricultural and industrial applications. They lift, grip, and spin bins through a 135 degree arc to empty contents with single-lever actuation. These dumpers also also designed to increase visibility, net truck capacity, and ease of service.



# Fuel Systems

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## LP Tanks and Accessories

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## LP Tanks

Part No.	Canadian Part No.	Capacity	Material	Fill Type
2I3964	A000005860	20# (5 gallon)	Aluminum	Quick Fill
2I3967	A000005859	20# (5 gallon)	Steel	Quick Fill
0973667	A000005855	33.5# (8 gallon)	Aluminum	Quick Fill
0973664	A000005858	33.5# (8 gallon)	Aluminum	Standard
0973390	A000005853	33.5# (8 gallon)	Steel	Quick Fill
0973186	A000005857	33.5# (8 gallon)	Steel	Standard
0973673	A000005856	43.5# (10 gallon)	Aluminum	Quick Fill
A000015954	-	43.5# (10 gallon)	Aluminum	Standard
0973670	A000005854	43.5# (10 gallon)	Steel	Quick Fill
A000015955	-	43.5# (10 gallon)	Steel	Standard



Standard



Quick Fill

## LP Tank Brackets

Part No.	Description	Tank
2I7616	Horizontal Tank Bracket Kit (TB2)	20#, 33.5# and 43.5#
A000009259	Horizontal Tank Bracket Kit (TB206)	20#, 33.5# and 43.5#
A000009258	Vertical Tank Bracket Kit (TB28)	33.5# and 43.5#
A000009257	Vertical Tank Bracket Kit (TB3)	20#
A000009422	Tank Bracket Kit, Swing Back (TB252)	33.5# and 43.5#
A000035553	Tank Bracket, Low Profile Swing Down	33.5# (Fits: Cat lift truck models GC55K, GC55STR, C5000-C6000 and Mitsubishi forklift truck models FGC55K, FGC55STR, FGC25N-FGC30N)
A000002287	Toggle Clamp (TB260)	2I7616 and others

## LPG Safety Valves

The LPG safety valve reduces the hazard of potential gas burns and speeds up propane cylinder changes by blocking the gas in the hose from being released while the cylinder is being exchanged. The safety valve installs in minutes and features a standard LPG female coupler and a 3/8" flare fitting to fit most forklifts.

### When the Valve is Closed

The safety shut-off valve prevents the liquid propane from leaking and spraying when the hose is disconnected. This prevents the LPG from coming back through hose if the LPG cylinder seal fails. When the valve is closed, the operator no longer needs to bleed the hose saving 2-3 minutes at each cylinder change.

### When the Valve is Open

The high-visibility red nylon shut-off handle covers the coupler so that the valve cannot be disconnected. The handle must be moved 90 degrees in order to shut off the valve and prevent liquid propane from escaping. The design also prevents the operator from loosening the coupler without shutting off the valve first.

### Safe Coupler Cover

The safe coupler cover prevents LPG from coming in contact with skin and makes it easier to tighten and remove. In case of an LPG release, the liquid propane is directed away from the hand. The Easy-Grip ergonomic design allows you to hand tighten and loosen the coupler with less effort. The plastic nylon material works as an insulator from cold LPG or the brass coupler. The plastic nylon material works as an insulator from cold LPG or the brass coupler. Install a cover (p/n - A000049693) to your existing safety valve for added protection.



Description	Without Cover	With Cover
45 Degree Valve	A000040271	A000046420
90 Degree Valve	A000040272	A000046419

## Viking Cylinders

Part Number: A000050155

Viking Cylinders tanks are a safer, lighter alternative to steel and aluminum propane tanks. Constructed using a mixture of fibers and plastic resin instead of metal, the tanks are designed with a three-layer construction:

- A completely seamless, blow-molded liner
- A fiberglass-wrapped plastic casing
- A durable outer case

No special valve adapters are needed to use or fill composite cylinders. All cylinders are manufactured in accordance with U.S. Department of Transportation (DOT) special permits, and composite propane gas cylinders include the same approved valves, pressure-relief devices, and overfill-prevention devices as traditional steel and aluminum propane tanks.

### Why choose a Viking composite cylinder?

**Translucent** - Viking Cylinders tanks are translucent, so you'll always be able to see the level of gas remaining. This helps employees plan better when working – no more running out unexpectedly and having to walk back to get a replacement propane tank.

**Lightweight** - Viking Cylinders tanks weigh more than 50 percent less than traditional steel propane tanks. Coming in at just over 48 pounds when full, the cylinders are the lightest FLT cylinders available. Combine the light weight with the ergonomic handle design, and it's a simple task for absolutely anyone to lift them.

**Safer than metal** - Unlike steel and aluminum tanks, Viking cylinders will not BLEVE in a fire. BLEVE is the technical abbreviation for Boiling Liquid Expanding Vapor Explosion. In layman's terms this means Viking cylinders will not explode in a fire. Instead, the resin will burn off and the plastic liner and casing will melt. The LPG will then "breathe" through the cylinder wall and burn in a controlled manner.

**Noncorrosive** - Viking Cylinders tanks are noncorrosive, so they can stand up to the elements without rusting or breaking down. They're also incredibly durable, so they can stand up to frequent use, even in tough environments.



Specifications:	
Replaces	33.5 lbs. tanks
Propane Capacity	31 lbs.
Propane Volume @ 60°F	7.38 gallons
Butane Capacity	37 lbs.
Water Capacity	75 lbs.
Weight	18 lbs.
Height	28.3 inches
Diameter	12 inches

### Re-Certification

Viking Cylinders propane tanks must be periodically re-certified. Viking Cylinders tanks are the only composite LPG cylinder that can be re-certified by visual inspection (pressure test is not required). Re-certification must be done by an authorized facility once every five years.

LP Tank Service Valve

Part No.	Description
0973910	Use on Worthington tanks only



Relief Valves

Part No.	Description
A000009172	For use on the following tanks: 33.5# and 43.5#



Quick Fill Valves

Part No.	Description
A000038250	Quick Fill Valve
9I2588	Replacement Cap
9I2589	Replacement Seal



Fixed Liquid Level Fill Valves

Part No.	Tank Size	Tank Type
0973949	33.5 lbs	Steel
A000003233	33.5 lbs	Aluminum
A000003234	43.5 lbs	Steel
A000003235	43.5 lbs	Aluminum



Float Assemblies

Part No.	Location/Tank
A000006233	U.S. and South America 33.5 lbs and 43.5 lbs
A000007280	Canadian 33.5 lbs and 43.5 lbs



LP Gauges

Part No.	Location/Tank
A000021166	Dial, LP Level (2 Cap Screws)
A000021167	Dial, LP Level (Snap-On)



## RegO® Coupler Kit

Part Number: A000035013

These brass connectors are designed to join the carburetor fuel line to the service valve on lift truck cylinders. Sturdy, long lasting threads provide hand-tight assembly for quick and simple cylinder replacement. Back checks automatically close in each connector when disconnected. The male unit couples directly to the service valve. An integral o-ring is designed to seal before the internal check opens, aiding in product loss prevention. A gasket at the thread is a secondary seal when the connectors are tightened together. The connector fits RegO lift truck cylinder adapters for fast, convenient filling. The female unit accepts fuel line adapter and couples directly to the male unit. The o-ring seal in the male is designed to seal before the internal check opens to allow product to pass through the connection. The knurled coupling eases threading and the threads provide rapid, effortless make-up, even against LP gas pressure.



Part No.	Description
A000002439	Male Coupler
2I5215	Male Coupler Seal - Outer
2I5239	Male Coupler O-Ring - Inner
A000002285	Female Coupler

## LPG Safety Grip

Part Number: A000049693

The LPG Safety Grip is a soft rubber boot that easily fits over the brass coupler preventing serious thermal injury burns. It provides protection against escaping liquid propane as it redirects liquid propane away from the operator's hand. Please note: The LPG Safety Grip does not eliminate the required PPE for changing LPG cylinders.

- Rubber grip makes it easier to tighten and loosen the coupler
- Glues on to existing brass coupler (glue included)
- Brass and steel construction
- Connects directly to the forklift propane hose
- Brass coupler not included



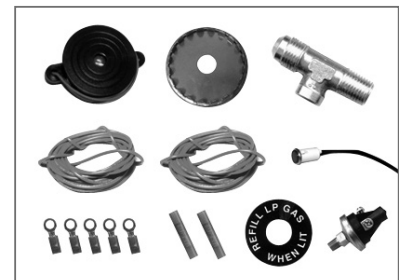
## Low Propane Fuel Warning Devices

This easy to use instrument signals low propane fuel by measuring LP pressure. Includes pressure switch, horn or buzzer, wire, terminal end, and a "T" fitting.

Description	Part No.
Warning Light	A000038671
Warning Buzzer	A000038672
Warning Light and Buzzer	A000038673

## Replacement Parts

Description	Part No.
Red Light Assembly (12 VDC)	9I2338
Pressure Switch	2I3271



## PVC Propane Cylinder Handling Retracto-Gloves

Part Number: A000044294

The Retracto Gloves help reduce burns and injury while replacing LPG tanks. Retractable and ready to use, the gloves are designed to be securely attached to a forklift with a spring loaded chain. Velcro also keeps the pair of gloves in place while truck is in operation.



## Model 55 Series

The Model CA55 Series carburetors provide effective solutions for optimum metering and delivery of either LPG vapor or natural gas. The standard model can be mounted in either an updraft, downdraft, or sidedraft orientation, supplying either LPG or natural gas to engines up to 73 hp (1 to 54 kW ), with a flow rate of 118 CFM (55.7 L/s). Various SAE flanges and air hose sizes are available.

## Carburetors

IMPCO #	Description	Part No.
CA55-8	1-1/4" SAE Flange, 2-1/16" Air Horn	A000019216
CA55-017	1-1/4" SAE Flange, 2-1/16" Air Horn	A000012132
CA55-20	1" SAE Flange, 1-5/8" Air Horn	A000019235
CA55-64	1" SAE Flange, 1-5/8" Air Horn, with 1/4" Hole in Lever At 1" R, 4" Shaft	9I2314
CA55-66	1" SAE Flange, 1-5/8" Air Horn, with 1/4" Hole in Lever At 1" R, 4" Shaft	9I2315
CA55-80	1" SAE Flange, 1-5/8" Air Horn HTDM	A000019218
CA55-258	2-1/16" Air Horn, 2-1/16" Hose, Dual Fuel, without Lifter	A000036233
CA55-258L	2-1/16" Air Horn, 2-1/16" Hose, Dual Fuel, with Lifter	A000031471
CA55-271	1" SAE Flange, A2-65-2 Straight Air Horn, Long Shaft, Return Spring Bracket	A000009359
CA55-503	1-1/4" SAE Flange, 2-1/4" Air Horn, Drilled Shaft	A000000195
CA55-542	1" SAE Flange, Toyota	A000008008
CA55-576	Hyster Special Flange, 43 mm Air Horn, Short Lever, Throttle Return	9I2313
CA55-577	53 mm Flange, 43 mm Air Horn, Standard Flow	A000007646
CA55-577-2	53 mm Flange, 43 mm Air Horn, Lean Flow	A000010607
CA55-577-3	53 mm Flange, 43 mm Air Horn, Lean Flow	A000017310
CA55-596	1-1/4" SAE Flange, A2-61 Air Horn	A000009238
CA55-598-2	1-1/4" SAE Flange, A2-61-2 Air Horn HTDM, Tapped 8 mm, Clark	A000010606
CA55-599-2	1-1/4" SAE Flange, 2-1/4" Air Horn, Tapped 8 mm Less Levers	A000007955
CA55-756L	2-1/16" Air Horn, 2-1/16" Hose, Dual Fuel, with Lifter	A000010605
CA55-756M	2-1/16" Air Horn, 2-1/16" Hose, Dual Fuel, with Lifter	A000031475

## Mixers

IMPCO #	Description	Part No.
CA55M-5-9	Mixer, Lean Flow, HTDM	A000024364
CA55M-500	Series 500, Straight Draft Mixer	A000010604
CA55M-500-2	Series 500, Straight Draft Mixer, Lean Flow	A000010603

## Model 60 Series

The Model 60 Series is an air-gas valve/diaphragm mixer designed to fit engines from 79 to 183 cubic inches (1.3 to 3 liters) in displacement and up to 95 CFM (44.8 L/s) air flow. It is a 90° air horn design available with a 2.06 inch (52.4 mm) air horn and fits most current CA100 throttle bodies and adapters. It can also be used in-line, separate from the throttle body. The mixer comes in two configurations: the CT version for open-loop engine applications without an electronic engine controller, and the FT version for use with the IMPCO Commander digital closed-loop fuel controller.

### Mixers

IMPCO #	Description	Part No.
FT60M-3-3	Feedback, 2.06" Air Horn, Str Fixed Jet 40	A000035094
FT60M-30741-52-002	3.0L LPG DBC Spectrum II	A000033742
FT60M-30741-52-005	2.0 & 2.2L LPG NMHG, Spectrum III	A000037593

## Model 100/110 Series

The Model 100 Series carburetor is a single-diaphragm air-gas valve carburetor/mixer. It offers a 90° air inlet to provide low overhead clearance and is available with several air horn and throttle body options. This unit is available for propane, natural gas, and digester gas applications.

### Carburetors

IMPCO #	Description	Part No.
CA100-10	1-1/4" SAE Flange, 2-5/16" Air Horn, Lean Flow	A000031753
CA100-64	1-1/4" SAE Flange (short), 2-1/16" Air Horn	A000031482
CA100-64G	2-1/16" Air Horn, 70/75 Flow, No Throttle Assembly	A000007957
CA100-91A	Carburetor Assembly	A000005895
CA100-110	1" SAE Flange, 2-1/16" Air Horn, Drilled Shaft, AL1-26-40	0972813
CA100-112	1-1/4" SAE Flange, 2-1/16" Air Horn, Lean Flow, Short Shaft	9I4698
CA100-138	1" SAE Flange, 1-1/16" Air Horn, Yale	A000012118
CA100-139	1" SAE Flange, 2-1/16" Air Horn with Bracket and Swivel	A000006230
CA100-180	1-1/4" SAE Flange, 2-1/16" Air Horn with L1-33, Clark	9I4703
CA100-183	1-1/4" SAE Flange	A000014790
CA100-194	2-1/16" Air Horn, AA3-67 Adapter, Clark	0973125
CA100-272	1-1/4" SAE Flange, 2-1/16" Air Horn, 100% Flow, Low Caterpillar	A000026615
CA100-334	4.3 L LPG, 2-1/16" Air Horn	A000009161
CA100-334-1	4.3L LPG, 2-1/16" Air Horn (fittings and throttle linkage not included)	A000036228
CA100-498	Carburetor Assembly, Nacco 1389498	A000012111
CA100-621	1-1/4" SAE Flange, 2-5/16" Air Horn, 2.2 L Mazda Engine	A000012107
CA100-7108	Carburetor Assembly, Clark 2817108	A000035710

### Mixers

IMPCO #	Description	Part No.
CA100M-3	Mixer, 2-1/16" Air Horn	A000010620
CA100M-4	Mixer, 58.7 mm (2.31") Air Horn	A000024367
CA100M-636	Mixer Assembly, Clark 2802636	A000007830
CA100M-647	Mixer, 2-5/16" Air Horn, Silicone Diaphragm	A000012108
FT100M-30828-52-001	Mixer, Tamper Proof 100 Series	A000027721

### Components

IMPCO #	Description	Part No.
A110-DP	Dash Pot Assembly, 110 Mixer, Hydrin Diaphragm	A000010667



## Model 125 Series

The Model 125 Series carburetor is a single-diaphragm air valve carburetor/mixer. It offers a downdraft air inlet that can be used for remote air filtration or open-element type air filters. This unit is available for propane, natural gas, and digester gas applications.

### Carburetors

IMPCO #	Description	Part No.
CA125-76-2	1-1/4" SAE Flange (Short), 80 mm Air Horn, Spring Hole R, with AV1-14-76-2	A000009237
CA125-77G	Carburetor Assembly, Governor, Nacco 1331600	A000007299

### Mixers

IMPCO #	Description	Part No.
CA125M	Mixer with Hydrin Diaphragm	A000010615
CA125-M089	Mixer Assembly, Hyster 8509089	A000012136
CA125M-3	Lean Flow Mixer with Silicone Diaphragm	A000031474

## Model 225 Series

The Model 225 Series carburetor is a single-diaphragm air valve carburetor/mixer. It offers a downdraft air inlet that can be used for remote air filtration or open-element type air filters. This unit is available for propane, natural gas, and digester gas applications.

### Mixers

IMPCO #	Description	Part No.
CA225M	Mixer, Hydrin Diaphragm	A000010612
CA225M-2	Mixer, Silicone Diaphragm	A000010611



## Miscellaneous Carburetors and Mixers

Manufacturer #	Description	Part No.
E330M-19	Mixer	A000035709

## Conversion Kits

IMPCO #	Description	Part No.
BP-4T	LPG Conversion Kit (Conversion from Aisin to IMPCO for Toyota 4P and 4Y Engines. Converts from Japanese LPG system to IMPCO LPG system. Does not convert from gas to LPG.)	A000009347

## Model 120A Regulator

The 120A regulator is a two-stage engine coolant heated regulator/vaporizer. The 120A is equipped with an internal vacuum lock-off which automatically shuts off the fuel outlet when the engine stops.

IMPCO #	Description	Part No.
120A	Converter, Beam 120A	0971674



## Model C250A Regulator

The ALGAS C250A model regulator/vaporizer is a two-stage, pressure reduction regulator. Variations of the regulator use water heated or an air heated element (used with air cooled engine applications). The C250A includes two side mounting holes.

IMPCO #	Description	Part No.
C250A	Converter Assembly	0971592



## Cobra Regulator

The Cobra regulator/vaporizer delivers superior performance and excellent pressure output consistency. Cobra offers greater service life and is ideal for applications with controlled emissions. Its primary pin design and fluorosilicone diaphragm offer superior chemical resistance, resistance to over pressurization, and cold weather operation. Use of the standard blue secondary spring provides -1.5" w.c. (0.37 kPa). The optional orange secondary spring, provides -0.5" w.c. (0.12 kPa) output.

IMPCO No.	Description	Part No.
Cobra	Two-stage 1-1/2" WC Negative Pressure Converter/Regulator Blue Spring	A000002180
Cobra-I	Two-stage 1/2" WC Negative Pressure Converter/Regulator Orange Spring	A000034645
CB-30177	Converter Assembly	A000031473
CB-30712-002	Converter Assembly Primerless	A000037819
CB-C-964	Converter Assembly	A000012115
CB-R-772	Converter, Cobra (RH)	A000012134
CO-495	Regulator, Converter LH LPG, Daewoo A218495	A000014713



## CS4-30772-004 Low Pressure Regulator

IMPCO #	Description	Part No.
CS4-30772-004	Low Pressure Regulator (2004-5 2.0/2.4L Mitsubishi Engine LPG DBW Spectrum II)	A000029718





## Model E Regulator

The Model E is an engine heated two-stage regulator/vaporizer. The Model E provides a choice of two negative outlet pressures. A blue secondary spring to provide a -1.5" w.c. (0.37 kPa) output and an optional orange secondary spring, provides -0.5" w.c. (0.12 kPa) output. A manual primer is standard on the Model E.



IMPCO #	Description	Part No.
EB	Model E Blue Spring, Hydrin Diaphragm	A000009260
EB-2	Model E Blue Spring, Silicone Diaphragm	A000010597

## EPR-50388-001 Electronic Pressure Regulator

The EPR-50388-001 electronic regulator is used for ECU controlled certified fuel systems. Unlike the Model "J" and COBRA regulators which operate on engine vacuum, EPR-50388-001 controls the fuel mixture using an electric coil driven by the ECU.

IMPCO #	Description	Part No.
EPR-50388-001	Electronic Pressure Regulator	A000035859

## HK-53721-002 Vaporizer

This controller assembly, for Nacco applications, includes a filter and electric fuel lockoff.

IMPCO #	Description	Part No.
HK-53721-002	Controller Assembly with Filter and Fuel Lockoff	A000041567

## Model J Regulator

The Model J regulator/vaporizer delivers reliable performance and pressure output consistency. Its reliability, especially with questionable fuel quality, has made it an industry standard for many years. Two vapor outlet pressures are available. The standard JB blue provides -1.5" w.c. (0.37 kPa). The optional JO provides -0.5" w.c. (0.12 kPa). The port size and mounting pad locations are identical to the Cobra regulator and include a primary pressure test port and "left" or "right" fuel outlets.

IMPCO #	Description	Part No.
JB	Model J Blue Spring, Hydrin Diaphragm	A000003207
JB-2	Model J Blue Spring, Silicone Diaphragm	A000008258
JO	Model J Orange Spring, Hydrin Diaphragm	A000009235
JO-2	Model J Orange Spring, Silicone Diaphragm	0973907



### Model KN Regulator

The Model KN is a secondary regulator designed for maximum sensitivity and simple, trouble free operation. It is suitable for use with low pressure, natural gas and LPG vapor fuels. This regulator is typically used in service applications up to 30 kW (40 hp). A new high flow capacity unit is also available with a 1/2" orifice, suited for service applications up to 37 kW (50 hp).

IMPCO #	Description	Part No.
039-12	Secondary Regulator, LPG/Natural Gas Vapor	A000029677



### MD-2100-1 Regulator

IMPCO #	Description	Part No.
MD-2100-1	Fuel Module, Toyota, Regulator and VFF30	A000012122



### Model L Regulator

The Model L is a two-stage regulator/vaporizer. These units are coolant heated and are able to provide liquid vaporization to supply up to 325 hp (242 kW) peak or 200 hp (150 kW) continuous in industrial engine applications. The Model L regulator provides a negative outlet pressure of -1.5" w.c. (-0.37 kPa). No optional pressures are available. The Model L offers economical performance with full features; rear fuel inlet, and primary and secondary diagnostic test ports. Optional silicone diaphragm materials are also available.

IMPCO #	Description	Part No.
LB	Model L Blue Spring, Hydrin Diaphragm	A000008256
LB-2	Model L Blue Spring, Silicone Diaphragm	A000010595



### Model T60 Regulator

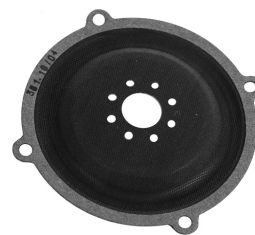
The T60 is a two-stage regulator/vaporizer for LPG applications up to 60 hp (45 kW). Various models feature built-in vacuum lockoffs, idle adjustment, primers, various heating methods, and several mounting options. The idle screw has improved sensitivity and stability and is relocated to the cover. An idle screw cap and tamper resistant screws satisfy regulatory tamper resistance requirements.

IMPCO #	Part No.
T60-A-NN-N	A000034648
T60-A-VN-N	A000034649



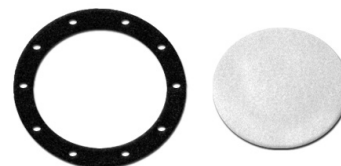
## Diaphragms and Air-Gas Valves

IMPCO #	Description	Part No.
AD1-85	Diaphragm Assembly, Throttle, Governor	A000019204
AV1-12	Standard Flow, Hydrin Diaphragm, 200, 200D, 200T and 225 Series	A000019210
AV1-12-2	Standard Flow, Silicone Diaphragm, 200, 200D, 200T and 225 Series	A000010629
AV1-12-6-2	Standard Flow, Silicone Diaphragm, 200, 200D, 200T and 225 Series	A000010628
AV1-14	Standard Flow, Hydrin Diaphragm, LPG, 100 and 125 Series	A000010627
AV1-14-2	Lean Flow, Hydrin Diaphragm, 100 and 125 Series	A000000355
AV1-14-2RY	Lean Flow, Ryuo Valve, Diaphragm, 72/80	A000007829
AV1-14-3	Standard Flow, Silicone Diaphragm, LPG, 100 and 125 Series	A000010626
AV1-14-4	Lean Flow, Silicone Diaphragm, 100 and 125 Series	A000010625
AV1-1447-2	Standard Feedback, Silicone Diaphragm	A000024366
AV1-14-76-2	Standard Feedback, Silicone Diaphragm, 425 Series	A000010624
AV1-25413	Air/Gas Valve Assembly, 100 Series	A000031752
AV1-25590	Air/Gas Valve Assembly, Silicone CT Series	A000031481
AV1-30115	Air/Gas Valve Assy, Silicone FT, 60 Series	A000019207
AV1-30115-001	Air/Gas Valve Assy, Silicone FT, 60 Series (includes spacer)	A000026378
CV1-14	Lean Flow, Hydrin Diaphragm, 100 and 125 Series	A000010601
CV1-14-2	Lean Flow, Silicone Diaphragm, 100 and 125 Series	A000010600
D1-13-2	Diaphragm, Silicone, 110 Series	A000037801
D1-16-1	Diaphragm, Air/Gas Valve, CA225/200, Hydrin Diaphragm	A000019205
D1-17	Diaphragm, Air Valve, 100 and 125 Series, Hydrin Diaphragm	A000015349
D1-17-2	Diaphragm, Air Valve, 100 and 125 Series, Silicone Diaphragm	A000010598
EV1-14	Standard Flow, Hydrin Diaphragm, V2-42 Gas Valve, 100 and 125 Series	A000009114
EV1-14-2	Standard Flow, Silicone Diaphragm, V2-42 Gas Valve, 100 and 125 Series	A000012110
EV1-14-5	Air/Gas Valve Assembly	A000012114
EV1-14-782	Valve Assembly, Flow 72-80, Hyster	A000012119



## Filters and Filter Assemblies

IMPCO #	Description	Part No.
AF1-10	Filter, LPG (For VFF30, includes filter and gasket)	2I5245
F1-30869-001	Filter Assembly, LPG (1/4" x 1/4" NPT)	A000031193
F1-5	Filter, 125 Series	2I5195
20B10	Bulkhead Filter, 1-3/4" Round	0971036
20B13	Basemount Filter, 1-3/4" Round, Flat Mount	2I6272
701	Filter Kit, ELF1, EF5, BFF2	2I9786
F-108	Bulkhead Filter, LPG Inline 1/4" x 1/4" NPT	A000035005
7121	Bulkhead Filter with Magnet	0971570



## Fittings

IMPCO #	Description	Part No.
F4-8	Hose Connector, Plastic, 90°, 1/8" NPT-M x 1/4" Hose	A000010593
F4-17	Hose Connector, Plastic, 90°, 3/8" NPT-M x 5/8" Hose	A000012125
F4-19	Elbow, 90°; 1/2" NPT x 5/8" Hose	A000031479



## ET98 Fuel Lockoff

The Model ET98 is an electrically operated safety shutoff valve suitable for high pressure up to 315 psi (21.72 Bar) of LPG liquid, LPG Vapor or Natural Gas Vapor. It is a normally closed Straight-Through Lockoff, opened with 12 VDC featuring an integrated filter. The filter model has two female NPT fittings and a mounting kit.

IMPCO #	Description	Part No.
ET98-51315-001	Lockoff Assembly with Filter	A000036204
ET98-50362-001	Lockoff Assembly without Filter	A000036205
ET98-30515-001	Spectrum II and III	A000031480



## FL-206 Fuel Lockoff

The FL-206 model is a normally closed 12 VDC electric solenoid shut off valve, suitable for use with gasoline applications.

IMPCO #	Description	Part No.
FL-206	Fuel Shut-Off/Lockoff	A000046588

## MD-2100-1 Regulator

IMPCO #	Description	Part No.
MD-2100-1	Fuel Module, Toyota, Regulator and VFF30	A000012122



## VFF30 - Fuellock

The VFF30 is a combination fuel lock-off and filter engineered for use with LPG or natural gas. A pressure of 1.69 kPa (0.5" Hg) is required to open the lockoff. The VFF30 is suitable for engines up to 242 kW (325 hp) at a maximum working pressure of 2,150 kPa.



IMPCO #	Description	Part No.
VFF30	Vacuum, Filter, Hydrin Diaphragm	0973977
VFF30-2	Vacuum, Filter, Silicone Diaphragm	A000008259
VFF30-3	Vacuum, Filter, Fluorosilicone Diaphragm	A000010668
VFF30-321	Vacuum Fuellock, Filter Assembly	A000012135

## Miscellaneous Fuel Lockoff

IMPCO #	Description	Part No.
7007B	Solenoid, Valve Shut Off	0971161
7008B	Solenoid with Strip Fuel Lock Off	0972711

## Gaskets

IMPCO #	Description	Part No.
G1-11	Gasket, Throttle Body to Mixer	217257
G1-19	Gasket, 1" SAE Flange	A000008267
G1-56	Gasket, 1-1/4" and 1-1/2" Flange, AT2-16	A000005960
G1-66	Gasket, Mixer to Air Horn	A000008266



## Levers, Stops and Clamps

IMPCO #	Description	Part No.
AL1-31	Shaft Clamp, 1/4" Mounting ID, 1-15/16" Long	A000010594
AL1-31-138	Shaft Clamp, 1/4" Mounting ID, 1-15/16" Long	A000010651

## Repair and Rebuild Kits

IMPCO #	Description	Part No.
RK-CA55	Repair Kit, CA55 Series Carburetor, Standard Flow	A000007718
RK-CA55-2	Repair Kit, CA55 Series Carburetor, Lean Flow, Silicone Diaphragm	A000010590
RK-C-717	Repair Kit, Cobra Nacco 1459717	A000012117
RK-Cobra	Repair Kit, Cobra Series Regulator with Fluorosilicone Diaphragm	A000002181
RK-E	Repair Kit, Model E Series, Hydrin Diaphragm	A000008262
RK-E-2	Repair Kit, Model E Series, Silicone Diaphragm	A000009256
RK-EPR-3	Repair Kit Minor, EPR Regulator (Includes: Seat, gasket, pin, spring, clip, diaphragm, o-rings, seal)	A000035727
RK-EPR-4	Repair Kit Major, EPR Regulator (Includes all components)	A000035726
RK-221	Repair Kit, FL-221	A000012084
RK-J	Repair Kit, Model J Series, Hydrin Diaphragm	A000001468
RK-J-2	Repair Kit, Model J Series, Silicone Diaphragm	A000008260
RK-J-71	Repair Kit, Model J Series, Toyota	A000012102
RK-L	Repair Kit, Model L Series, Hydrin Diaphragm	A000009330
RK-L-2	Repair Kit, Model L Series, Silicone Diaphragm	A000009331
RK-VFF30	Repair Kit, VFF30 with Hydrin Diaphragm	A000001065
RK-VFF30-2	Repair Kit, VFF30 with Silicone Diaphragm	A000024280
RK-VFF30-3	Repair Kit, VFF30 with Fluorosilicone Diaphragm	A000010669
RK-VFF30-958	Repair Kit, Hyster 263958	A000012127
R20-11	Repair Kit, Minor, 20 Series	0971038
SA2330-2	Repair Kit, Diaphragm Service Assembly (Algas Model 60)	0973814
SA2553-2	Repair Kit, Diaphragm Service Assembly (Algas Models 80 and 90)	0973690
52B-RBK	Rebuild Kit, 52B Series Regulator	0973689
120A-RBK	Rebuild Kit, Beam 120A	0971671
T60-RBK	Rebuild Kit, Beam T60	0971670
1501-RK	Repair Kit, 1501-L	A000034214
1-7010	Repair Kit, Diaphragm, C250A	0972586
2210	Repair Kit, Power Ram, C250A	2I8880

## Springs and Spring Kits

IMPCO #	Description	Part No.
AS2-50-1	Spring Assembly, Throttle Return, 6.4 mm (0.250") shaft	A000010660
AS2-50-2	Spring Assembly, Throttle Return, 7.9 mm (0.313") shaft	2I6435
AS2-50-3	Spring Assembly, Throttle Return, 9.5 mm (0.375") shaft	A000010645
S2-13	Spring, Air Valve, 100, 110, 125 and Model E Series	A000019192
S2-36	Spring, Primary Reg, Model J Series	A000015148
S2-38	Spring, Secondary, Orange, Model J and Cobra Series	A000008263
S2-50	Spring Assembly, Throttle Return, CA55, CA100 and CA125 Series	A000019198
S2-85	Spring, Air Valve, 100, 125 and 125M-10 Series	A000036229
S2-88	Spring, Idle Screw, CA55 Series	A000010589

## Test Kit

IMPCO #	Description	Part No.
ITK-1	IMPCO Test Kit, Required for IMPCO Fuel System Diagnostics	A000019232



## Throttle Bodies and Governor Assemblies

IMPCO #	Description	Part No.
ATGC-30312-32-25-64	Throttle Body Assembly, Drive By Cable, 3.0L LPG	A000037610
ATGC-30312-38-25-64	Throttle Body Assembly, Drive By Cable, 4.3L LPG	A000037609
AT2-2-5	1-3/4" SAE Flange, 200M, 210M, and 225M Series	A000010638
AT2-16-1	1-1/4" and 1-1/2" SAE Flange, Drilled, 100M, 110M, and 125M Series	A000010641
AT2-23	1-1/4" SAE Flange (short), 8.0 mm dia., 100M, 110M, and 125M Series	A000019209
AT2-27	1-1/4" SAE Flange, 6.4 mm dia., CA55 Series	A000010634
AT2-60G-1	Governor, Hyster, 125 Series	A000030376
AT2-77G	Governor, 100 and 125 Series	A000030377
AT2-200	Governor Assembly, LPG	A000012109
E1312100	Electronic Throttle Body, 40MM	A000035709

## Valves

IMPCO #	Description	Part No.
V3-30270-277	Fuel Trim Valve	A000042034
V3-30272-279	Fuel Trim Valve	A000042036

## Miscellaneous

IMPCO #	Description	Part No.
1501-L	Switch, Vacuum 3-Terminal	A000030264
A2-60	Adapter, 2-1/4" diameter, with 1/4" - 20 CS, CA55 Series	A000010662
C1-17	Carburetor Cover	A000031469
S5-6	Throttle Shaft, 1/4" Long	2I7400
S1-3	Screw, 10-24 x 5/8 inch, Slotted Fillister, Steel Zinc	A000019187



### Goodyear Transmission Oil Cooler Hose

For use in connecting add-on and external transmission oil coolers.

- Working Pressure: 250 PSI
- Burst Pressure: 1000 PSI
- Tube: Black NBR
- Reinforcement: 2-Spiral Synthetic
- Cover: Black Hypalon (CSM)
- Temperature Range: -40°F to +250°F (-40C to +121C)
- Goodyear Specification: 580018
- Packaging Tolerances: Exact
- 25-Foot Section

ID (in.)	OD (in.)	Weight (lbs./ft)	Length	Part No.
5/16	0.62	0.14	25' Section	A000036727
3/8	0.69	0.16	25' Section	A000036728
1/2	0.87	0.25	25' Section	A000036726

### Goodyear Transmission Oil Cooler Hose 5/16"

For use in connecting add-on and external transmission oil coolers.

- Working Pressure: 140 PSI
- Burst Pressure: 600 PSI
- Inside Diameter Tolerance: 0.445" to 0.477"
- Outside Diameter Tolerance: 0.807" to 0.867"
- Tube Construction: Black Synthetic Rubber
- Reinforcement: Single Braid Synthetic Yarn
- Cover: Black Synthetic Rubber
- Temperature Range: -40°F to +248°F

Weight (lbs./ft)	Length	Part No.
0.14	25' Section	A000036727

### Gasoline Fuel Hose

Description	Length	Part No.
3/8" Hose	25' Section	A000008006
5/16" Hose	25' Section	A000008005



## LPG Vapor Hose

This corrugated vapor hose is used to make the dry gas connection between the converter and the gaseous fuel carburetor. The hose is non-porous and is compatible with LP gas and natural gas vapor. Not for use with liquid propane or natural gas.

Description	Length	Part No.
1/2" Hose	By the Foot	A000054405
5/8" Hose	By the Foot	A000017131
3/4" Hose	By the Foot	A000037896

## LPG Hose (SS25UL)

- Pressure Rating: 350 PSI
- Hose ID: 5/16"
- Application: Liquified petroleum gas hose
- Inner Tube: Synthetic rubber
- Reinforcement: Fiber and stainless steel wire braids
- Cover: Fiber braid
- Temperature Range: -40°F to +250°F
- Fittings: 20 series, 22 series

Description	Industry No.	Length	Part No.
5/16" Hose	SS25UL-6	By the Foot	9I3988
5/16" Hose	SS25UL-6	4' Section	A000011070

Please note: This hose cannot be used on CARB compliant trucks unless specified by the OEM.

## LPG High-Pressure Hose Assembly (HA100-W)

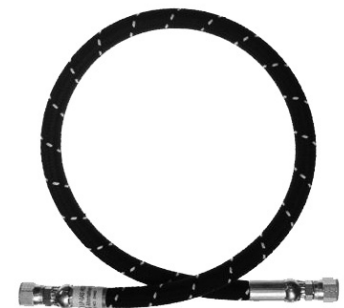
These fuel hose assemblies are UL listed and 100% tested for leaks. The hose ends are plugged to prevent contamination. Assembly is measured from the ends of the fittings.

### Specifications

- Tube: Black Nitrile
- Cover: Rubber impregnated textile braid
- Reinforcement: One stainless steel braid
- Hose Ends: 3/8 SAE female flare— straight (5/8 x 18 thread pitch)
- Protective Cover: Galvanized steel wire spring
- Temperature Range: -40°F to +180°F (Note: Hose is capable of this rating. However, LPG should never be elevated above 100°F during conveyance.)
- Maximum working pressure: 350 PSI, Burst pressure: 1750 PSI
- ID: 5/16", OD: 0.675"
- Minimum bend radius: 4.0"

Length	Industry No.	Part No.
12"	HA10012W	A000038913
18"	HA10018W	A000038914
24"	HA10024W	A000038915
30"	HA10030W	A000038916
36"	HA10036W	A000038917
42"	HA10042W	A000038918
48"	HA10048W	A000038919

Please note: This hose cannot be used on CARB compliant trucks unless specified by the OEM.



### LPG High-Pressure Hose Assembly (HA101 and HA101-W)

These fuel hose assemblies are UL listed and 100% tested for leaks. The hose ends are plugged to prevent contamination. Assembly is measured from the ends of the fittings.

#### Specifications

- Tube: Black Nitrile
- Cover: Rubber impregnated textile braid
- Reinforcement: One stainless steel braid
- Hose End 1: 3/8 SAE female flare—straight (5/8 x 18 thread pitch)
- Hose End 2: 1/4 NPT male pipe thread (1/4 x 18 thread pitch)
- Protective Cover: Galvanized steel wire spring (HA101-W only)
- Temperature Range: -40° F to +180° F (Note: Hose is capable of this rating. However, LPG should never be elevated above 100° F during conveyance.)
- Maximum working pressure: 350 PSI, Burst pressure: 1750 PSI
- ID: 5/16", OD: .675"
- Minimum bend radius: 4.0"



Length	Wire Covered	Part No.	Without Wire	Part No.
20"	HA101-20W	A000039724	HA101-20	A000039719
24"	HA101-24W	A000039722	HA101-24	-
26"	HA101-26W	A000039723	HA101-26	-
32"	HA101-32W	A000039720	HA101-32	-

Please note: This hose cannot be used on CARB compliant trucks unless specified by the OEM.

### LPG High-Pressure Hose Assembly (HA9)

This 34" high-pressure fuel hose assembly (HA100-34) is UL listed and 100% tested for leaks. After testing, the hose ends are plugged to prevent contamination. Each hose assembly is measured from the ends of the fittings.

#### Specifications

- Tube: Black Nitrile
- Cover: Rubber impregnated textile braid
- Reinforcement: One stainless steel braid
- Hose Ends: 3/8 SAE female flare—straight (5/8 x 18 thread pitch)
- Includes: Rego 7141F coupling (p/n-A000002285) and a 49 x 6 UL fitting
- Protective Cover: Galvanized steel wire spring
- Temperature Range: -40°F to +180°F Note: Hose is capable of this rating. However, LPG should never be elevated above 100°F during conveyance.
- Maximum working pressure: 350 PSI, Burst pressure: 1750 PSI
- ID: 5/16", OD: 0.675"
- Minimum bend radius: 4.0"



Length	Industry No.	Part No.
34"	HA9	A000039725

Please note: This hose cannot be used on CARB compliant trucks unless specified by the OEM.

### Gasoline Filters

Part No.	Description
1/4"	2I8151
5/16"	0971433
3/8"	2I9233



## Donaldson TopSpin™ Pre-Cleaners

Donaldson TopSpin™ Pre-Cleaners will extend air filter life, reducing filter expenses and overall operating costs. The aerodynamically designed TopSpin is made of a lightweight, durable, non-corroding material which makes it tolerant to all weather and operating conditions. The Donaldson TopSpin Pre-Cleaner has the lowest restriction of any competitive brands tested. Lower restrictions means:

- Engine can “breathe” easier
- Air filter usage is reduced
- Lower costs per operating hour
- More dust loaded on the filter when serviced by restriction



## Separates up to 85% of incoming contaminant (per ISO 5011/SAE J726)

- Greatly extends air filter life
- Reduces air filter usage
- Lowers cost per operating hour
- Automatically ejects mixed debris
- Separates more than 99% of particles 20 micron and larger

## Operates at a lower RPM

- Less noise
- Longer bearing life
- Lower restriction

## Self-cleaning/self-scavenging

- No maintenance to clean bowl
- No exhaust ejector required

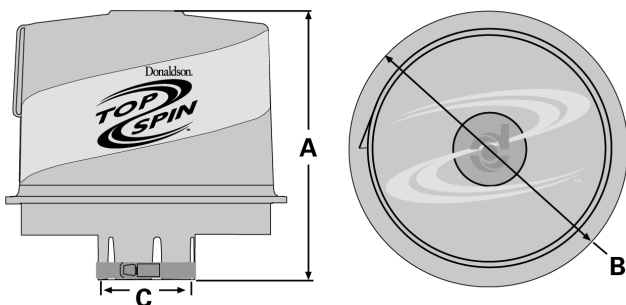
## Easy and Quick installation

- One clamp to tighten
- No wires or power requirements
- Dual mounted bearings
- More robust design
- Extends bearing life

## Light Weight

- Lighter than competitive pre-cleaners
- Lighter than Donaldson full-view pre-cleaner

Part No.	Outlet ID [C]	Overall Height [A]	Body Diameter [B]	Operating Flow Range SCFM	Operating Flow Range m3/m
A000031783	2.03" (56 mm)	5.75" (146 mm)	6.38" (162 mm)	90-200	2.5-5.7
A000031784	2.27" (58 mm)	5.75" (146 mm)	6.38" (162 mm)	90-200	2.5-5.7
A000031785	2.53" (64 mm)	5.75" (146 mm)	6.38" (162 mm)	90-200	2.5-5.7
A000031786	3.03" (77 mm)	5.75" (146 mm)	6.38" (162 mm)	90-200	2.5-5.7
A000031787	3.07" (78 mm)	9.39" (238 mm)	9.51" (242 mm)	200-450	5.7-12.7
A000031788	3.83" (97 mm)	9.39" (238 mm)	9.51" (242 mm)	200-450	5.7-12.7
A000031789	4.06" (103 mm)	9.39" (238 mm)	9.51" (242 mm)	200-450	5.7-12.7
A000031790	4.06" (103 mm)	11.30" (287 mm)	11.32" (288 mm)	450-750	12.7-21.2
A000031791	4.56" (116 mm)	9.39" (238 mm)	9.51" (242 mm)	200-450	5.7-12.7
A000031792	4.56" (116 mm)	11.30" (287 mm)	11.32" (288 mm)	450-750	12.7-21.2
A000031793	5.03" (128 mm)	11.30" (287 mm)	11.32" (288 mm)	450-750	12.7-21.2
A000031794	6.03" (153 mm)	13.57" (345 mm)	15.62" (397 mm)	750-1500	21.2-42.5
A000031795	7.03" (179 mm)	13.57" (345 mm)	15.62" (397 mm)	750-1500	21.2-42.5



# Hand Trucks

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## Hand Trucks and Accessories

- Cat® Hand Trucks ..... 8.1
- Mitsubishi Hand Trucks ..... 8.3
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## Cat® Hand Pallet Truck (A5 Model)

### Warranty

- 1 year on pump—full pump replacement
- 6 months on all other parts

### Features

- Reinforced Ergonomic Handle
- Polyurethane Steer Wheels
- Polyurethane Load Rollers
- Entry/Exit Roller System
- Thirteen Grease Zerks at the Pivot Points
- Adjustable Push Rods

### Specifications

- Capacity: 5,500 lb (2,500 kg)
- Lowered Height: 2.92"
- Raised Height: 7.67"



Description	Notes	Part No.
20.5" x 35.5"	-	A500002036
20.5" x 43.3"	-	A500002043
20.5" x 48"	-	A500002048
20.5" x 48" Tandem	-	A500002049
27" x 48"	-	A500002748
27" x 48" Tandem	-	A500002749
27" x 48" with QuickLift Pump	Loads <660 lbs require five full pumps. Loads >660 lbs require standard amount of pumps.	A5Q0002748
27" x 48" with Backrest	Measures 27" x 50". Folds down to work as a skid carrier.	A5B0002748

## Cat® Low Profile Hand Pallet Truck (A5 Model)

### Warranty

- 1 year on pump—full pump replacement
- 6 months on all other parts

### Specifications

- Capacity: 3,300 lb (1,500 kg)
- Polyurethane Steer Wheels
- Steel Load Wheels
- Lowered Height: 2.03"
- Raised Height: 5.50"
- Lowered Ground Clearance: 0.55"



Description	Width Across Forks	Part No.
20.5" x 48" Low Profile	20.50"	A500002050
27" x 48" Low Profile	27.00"	A500002750
33" x 48" 4-Way, Low Profile	32.80"	A500003348

Cat® Scale Pallet Truck

Warranty

- 1 year on pump—full pump replacement
- 6 months on all other parts

Features

- Mobile pallet truck with scale included
- Power supply with rechargeable battery or with 88-264V AC input
- Keypad and automatic tare functions
- Solid-state large LED display (measures 1.2")
- Displays pounds and kilograms
- Fast and accurate weighing

Specifications

- Capacity: 4,409 lbs (2,000 kg)
- Lowered fork height: 2.99 in (76 mm)
- Total lift height: 6.50 in (165 mm)
- Fork length: 45.27 in (1,150 mm)
- Overall fork width: 27.75 in (705 mm)
- Steering wheel diameter: 6.30 in (160 mm)
- Fork wheel diameter: 2.76 in (70 mm)
- Power: lead acid battery
- Measuring interval: 0.5
- Max deviation: +/- 1%
- Service weight: 287 lbs (130 kg)



Description	Width Across Forks	Part No.
27" x 45"	27.75"	A500002745

## Mitsubishi Hand Pallet Truck (A5 Model)

### Warranty

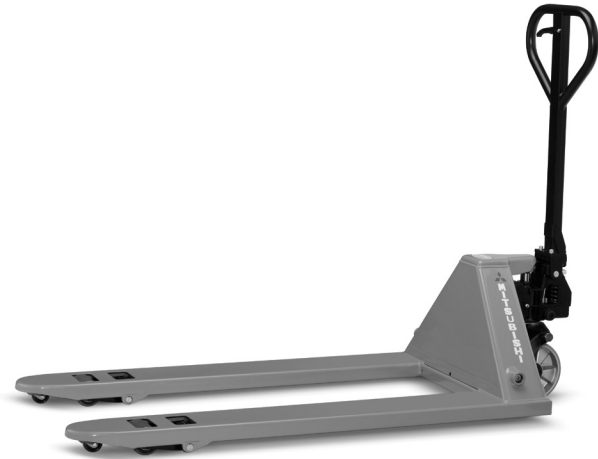
- 1 year on pump—full pump replacement
- 6 months on all other parts

### Features

- Reinforced Ergonomic Handle
- Polyurethane Steer Wheels
- Polyurethane Load Rollers
- Entry/Exit Roller System
- Twelve Grease Zerks at the Pivot Points
- Adjustable Push Rods

### Specifications

- Capacity: 5,500 lb (2,500 kg)
- Lowered Height: 2.92"
- Raised Height: 7.67"



Description	Part No.
20.5" x 35.5"	A500002278
20.5" x 48"	A500002276
27" x 48"	A500001662

## Mitsubishi Low Profile Hand Pallet Truck (A5 Model)

### Warranty

- 1 year on pump—full pump replacement
- 6 months on all other parts

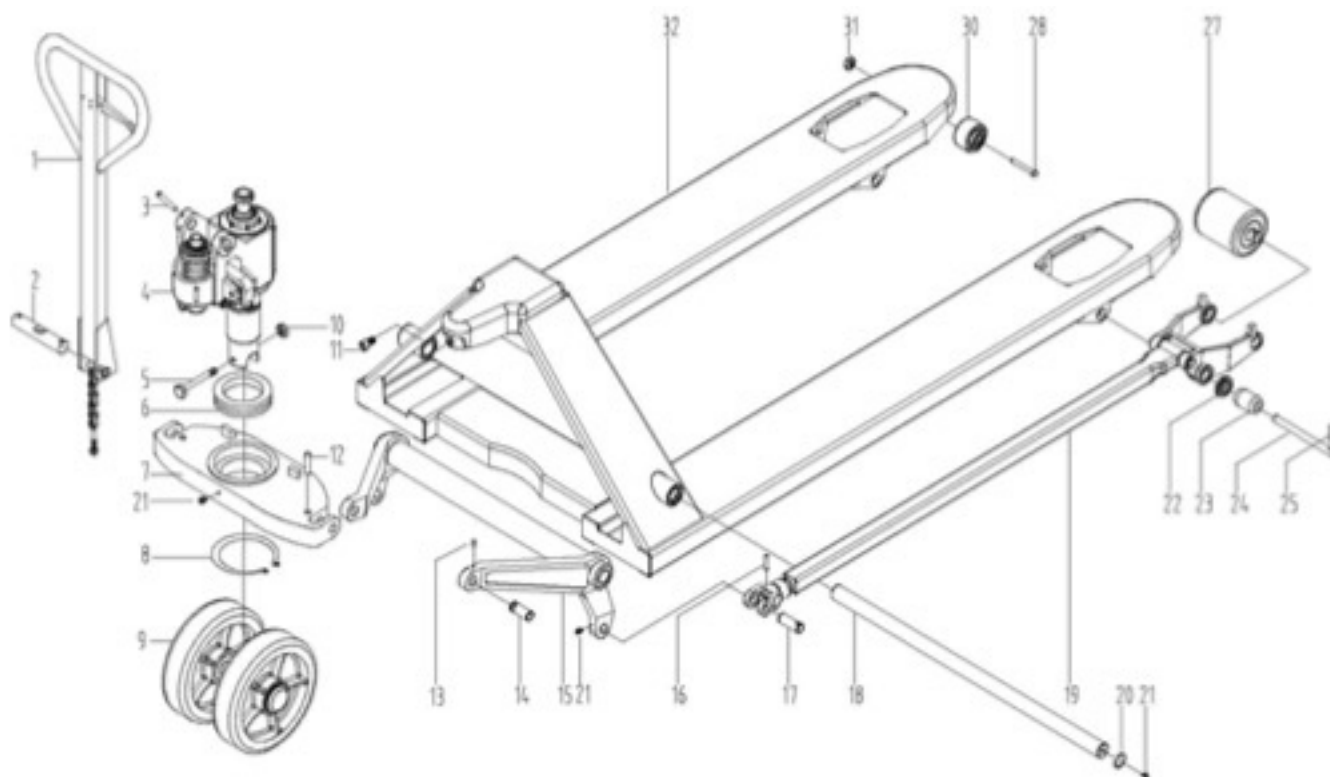
### Specifications

- Capacity: 3,300 lb (1,500 kg)
- Polyurethane Steer Wheels
- Steel Load Wheels
- Lowered Height: 2.03"
- Raised Height: 5.50"
- Lowered Ground Clearance: 0.55"



Description	Width Across Forks	Part No.
27" x 48", Low Profile	27.00"	A500002279

## Frame Replacement Parts (A5 Model Hand Pallet Jack)



No.	Description	Qty./Truck	Part No.
1	Handle Assemble	1	A000048762
2	Shaft	1	A000036121
3	Spring Pin	2	A000036128
4	Pump Assembly-Standard	1	A000036131
4	Pump Assembly-QuickLift	1	A000050867
5	Screw	1	A000036132
6	Thrust Bearing	1	A000046678
7	Supporting Base	1	A000036133
8	C-Clip	1	A000036135
9	Steer Wheel Assembly	2	See Page 8.8
10	Lock Nut	1	A000036114
11	Bolt	1	A000028166
12	Spring Pin	2	A000028154
13	Grease Zerk	2	A000036134
14	Pin	2	A000036116
15	Rocker Arm (27" Wide Jacks)	1	A000036117
15	Rocker Arm (20.5" Wide Jacks)	1	A000050863
16	Spring Pin	2	A000028154
17	Pin	2	A000028170
18	Pivot Shaft (27" Wide Jacks)	1	A000028156
18	Pivot Shaft (20.5" Wide Jacks)	1	A000050864

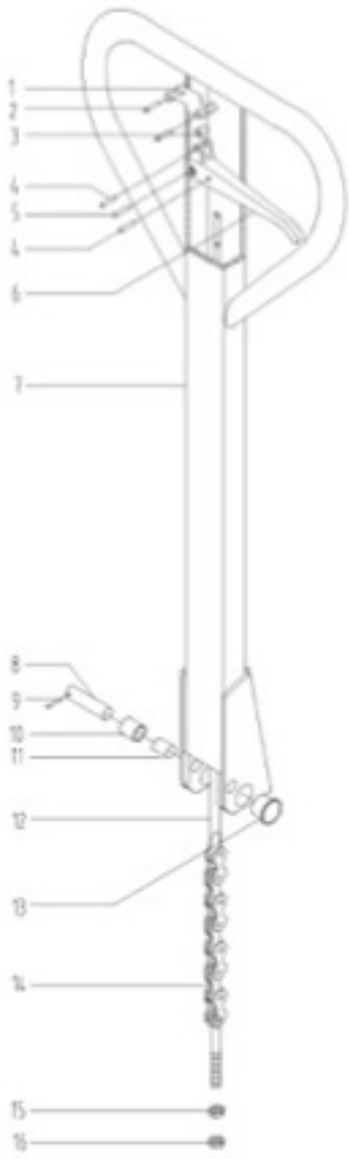
No.	Description	Qty./Truck	Part No.
19	Push Rod (48" Long Forks)	2	A000028155
19	Push Rod (43.3" Long Forks)	2	A000050865
19	Push Rod (35.5" Long Forks)	2	A000050866
20	C-Clip	1	A000017710
21	Grease Zerk	3	A000036134
22	Exit Roller Kit	2	A000028161
23	Exit Roller Kit	2	A000028161
24	Shaft	2	A000028160
25	Spring Pin	2	A000036128
27	Load Wheel	2	A000028162
28	Entry Roller Kit	2	A000028164
30	Entry Roller Kit	2	A000028164
31	Entry Roller Kit	2	A000028164
32	Truck Frame	1	NSS
-	5,500 lb. Capacity Label	1	A000054029
-	3,300 lb. Capacity Label (Low Profile Jack)	1	A000054030
-	QuickLift Decal (for A5Q0002748)	1	A000054031
-	Cat Decal Set (Set of 2)	1	A000028192
-	Cat Yellow Pallet Jack Spray Paint	1	A000024988
-	Cat Yellow Pallet Jack Spray Paint (Case)	12	A000002144

NSS - Not sold separately.

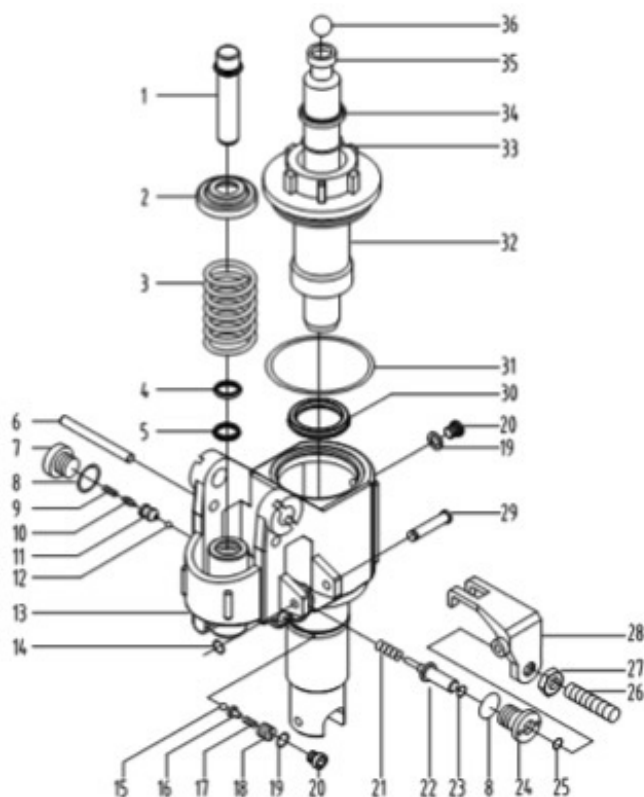


Handle Replacement Parts (A5 Model Hand Pallet Jack)

No.	Description	Qty./Truck	Part No.
	Handle Assembly	1	A000048762
1	Locating Plate	1	A000036136
2	Spring Pin	2	A000036143
3	Roller	1	A000036144
4	Spring Pin	2	A000036145
5	Spring Pin	1	A000036146
6	Hand Lever	1	A000036147
7	Handle Body	1	A000036148
8	Cylindrical Pin	1	A000036149
9	Spring Pin	1	A000036150
10	Pressure Wheel	1	A000036137
11	Bushing	1	A000036138
12	Pull Rod Unit	1	A000036139
13	Bushing	2	A000036140
14	Chain	1	A000036141
15	Lock Nut	1	A000036142
-	Handle Position Decal	1	A000046579
-	Handle Warning Decal	1	A000046580



## Standard Pump Assembly Replacement Parts (A5 Model Hand Pallet Jack)

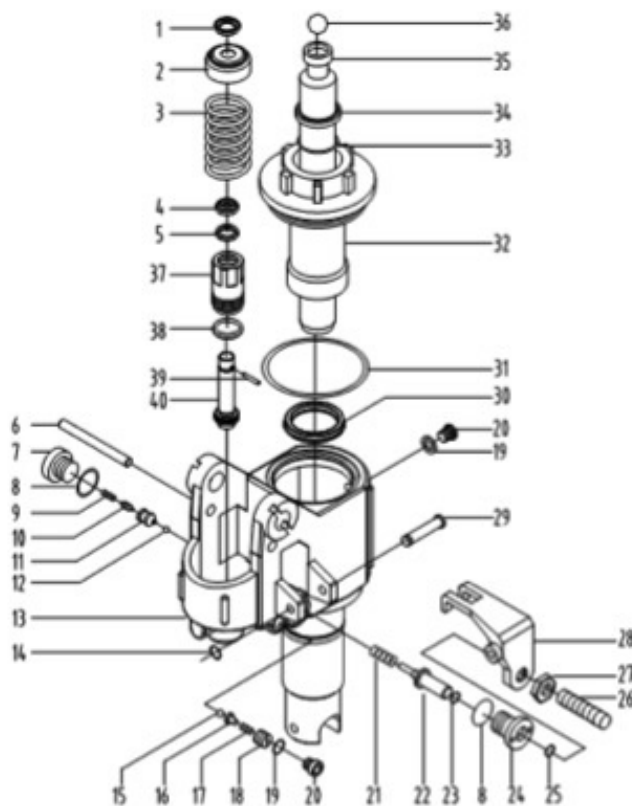


No.	Description	Qty./Truck	Part No.
	Complete Pump Assembly	1	A000036131
	Complete Pump Seal Kit	1	A000036151
1	Pump Core	1	A000036152
2	Spring Cap	1	A000036154
3	Spring	1	A000036162
4	Dust Ring*	1	NSS
5	Seal Ring*	1	NSS
6	Lock Rod	1	A000036165
7	Plug	1	A000036166
8	Combined Washer*	2	NSS
9	Spring*	1	NSS
10	Spindle of Valve*	1	NSS
11	Seat of Valve*	1	NSS
12	Steel Ball*	1	NSS
13	Base Unit	1	NSS
14	Circlip for Axle	1	A000036153
15	Ball*	1	NSS
16	Ball Base*	1	NSS
17	Spring*	1	NSS

No.	Description	Qty./Truck	Part No.
18	Screw*	1	NSS
19	Washer*	2	NSS
20	Plug	2	A000036155
21	Spring*	1	NSS
22	Firing Pin	1	A000036156
23	O-Ring*	1	NSS
24	Firing Pin Seat	1	A000036157
25	O-Ring*	1	NSS
26	Bolt	1	A000036158
27	Nut	1	A000036159
28	Lever Board	1	A000036160
29	Pin	1	A000036161
30	Seal Ring*	1	NSS
31	O-Ring*	1	NSS
32	Cylinder Cap	1	A000036163
33	O-Ring*	1	NSS
34	Dust Ring*	1	NSS
35	Piston	1	A000036164
36	Ball*	1	NSS

NSS - Not sold separately. \*These items are included in the Pump Seal Kit (p/n - A000036151).

## QuickLift Pump Assembly Replacement Parts (A5 Model Hand Pallet Jack)

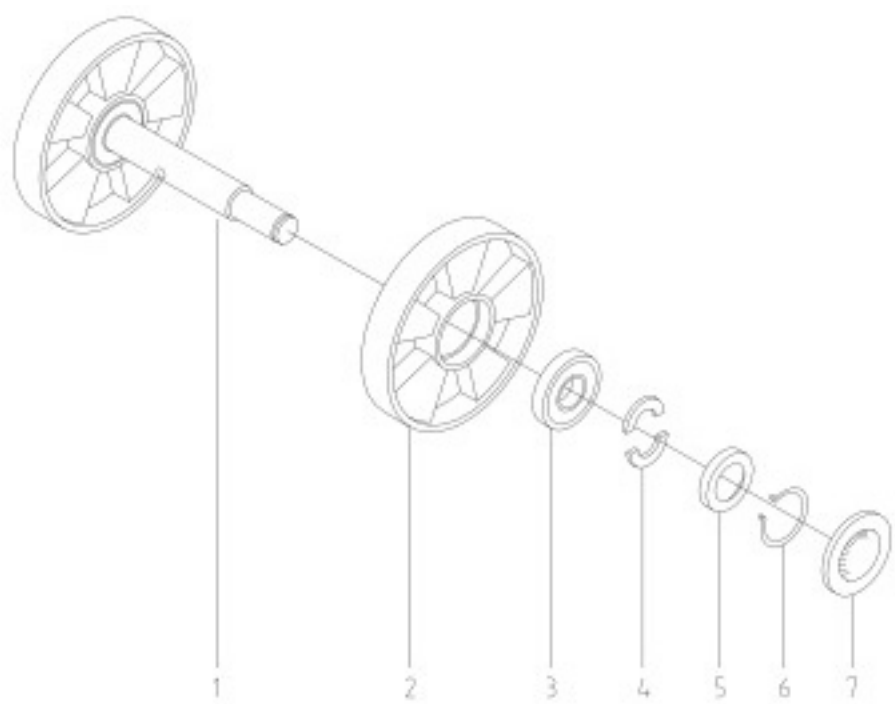


No.	Description	Qty./Truck	Part No.
	Pump Assy QuickLift (A5Q Models)	1	A000050867
	Pump Seal Kit QuickLift	1	A000050877
1	Washer	1	A000050868
2	Spring Cap	1	A000050869
3	Spring	1	A000050870
4	Dust Ring*	1	NSS
5	Seal Ring*	1	NSS
6	Lock Rod	1	A000036165
7	Plug	1	A000036166
8	Combined Washer*	2	NSS
9	Spring*	1	NSS
10	Spindle of Valve*	1	NSS
11	Seat of Valve*	1	NSS
12	Steel Ball*	1	NSS
13	Base Unit	1	NSS
14	Circlip for Axle	1	A000036153
15	Ball*	1	NSS
16	Ball Base*	1	NSS
17	Spring*	1	NSS
18	Screw*	1	NSS
19	Washer*	2	NSS

No.	Description	Qty./Truck	Part No.
20	Plug	2	A000036155
21	Spring*	1	NSS
22	Firing Pin	1	A000036156
23	O-Ring*	1	NSS
24	Firing Pin Seat	1	A000036157
25	O-Ring*	1	NSS
26	Bolt	1	A000036158
27	Nut	1	A000036159
28	Lever Board	1	A000036160
29	Pin	1	A000036161
30	Seal Ring*	1	NSS
31	O-Ring*	1	NSS
32	Cylinder Cap	1	A000036161
33	O-Ring*	1	NSS
34	Dust Ring*	1	NSS
35	Piston	1	A000036164
36	Ball*	1	NSS
37	Pump Cylinder QuickLift	1	A000050873
38	Copper Washer*	1	NSS
39	Pin*	1	NSS
40	Pump Core QuickLift	1	A000050876

NSS - Not sold separately. \*These items are included in the Pump Seal Kit (p/n - A000050877).

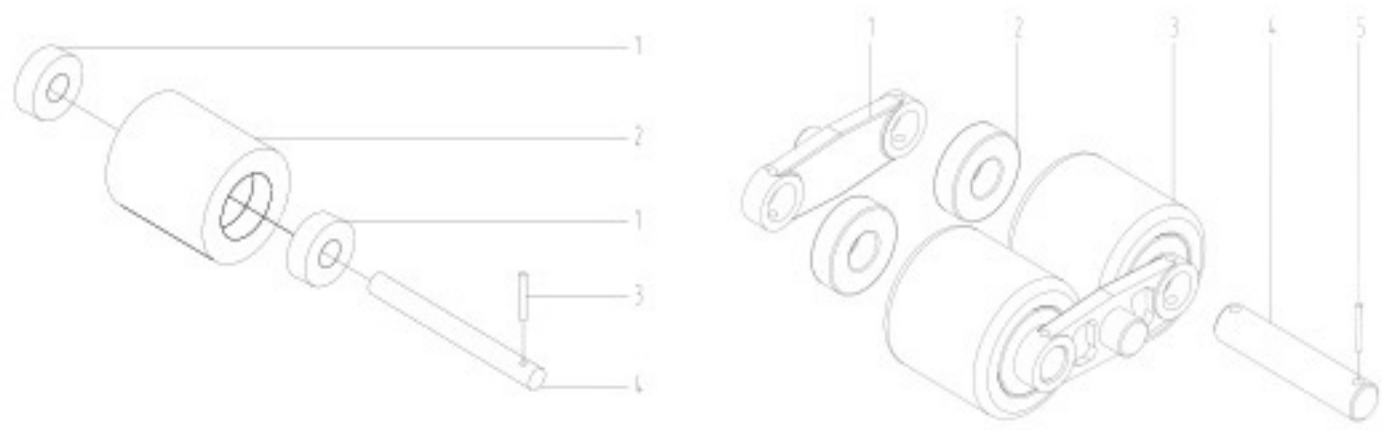
Steer Wheel Replacement Parts (A5 Model Hand Pallet Jack)



No.	Description	Qty./ Truck	Part No.
1	Shaft	1	A000036099
2	Steer Wheel Poly Gold w/ Bearings	2	A000028151
2	Steer Wheel Poly Red w/ Bearings	2	A000033532
2	Steer Wheel Steel w/ Bearings	2	A000031849
2	Steer Wheel Nylon White w/ Bearings	2	A000033533
3	Bearing (included w/ wheel #2)	-	NSS
4	Half Circle Ring*	-	NSS
5	Washer*	-	NSS
6	Retaining Ring*	-	NSS
7	Hub Cap*	-	NSS
-	Hub Cap Kit (per wheel)	2	A000028152

NSS - Not sold separately. \*These items are included in the Hub Cap Kit (p/n - A0000028152).

Load Wheel Replacement Parts (A5 Model Hand Pallet Jack)



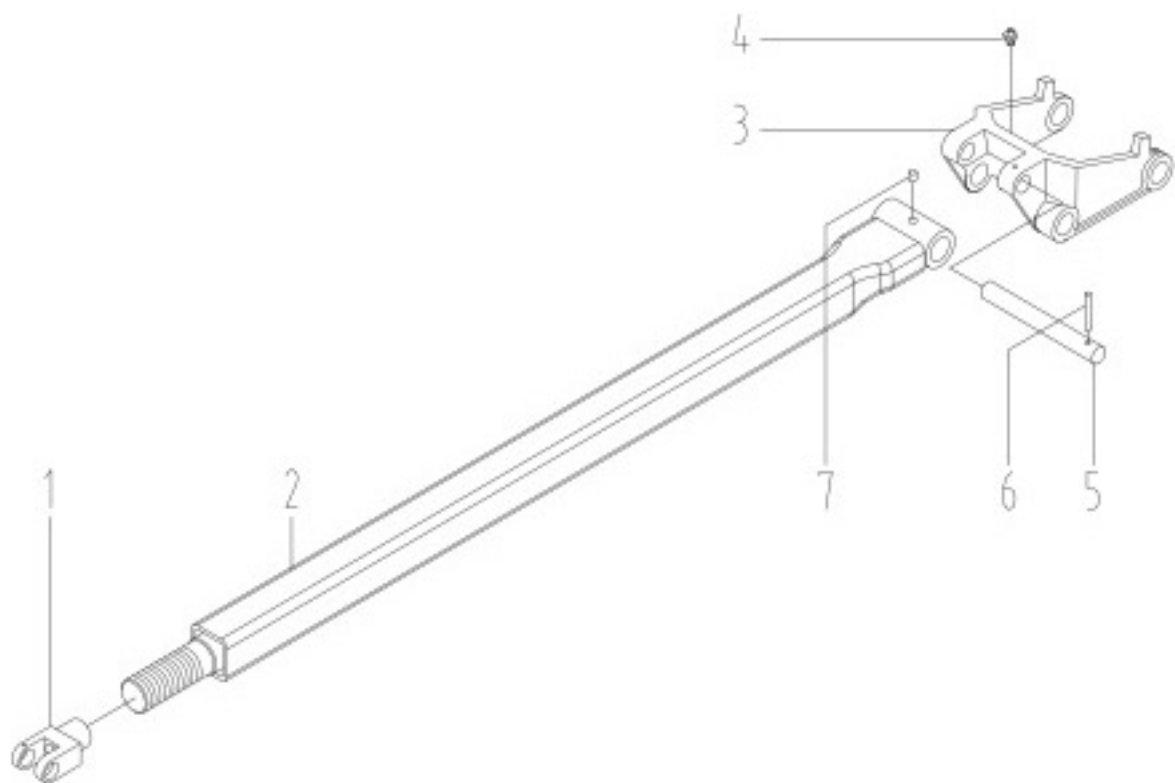
Single Load Wheel

No.	Description	Qty./Truck	Part No.
1	Bearing (included w/ wheel)	-	-
2	Load Wheel Poly Gold w/ Bearings	2	A000028162
2	Load Wheel Poly Red w/ Bearings	2	A000033531
2	Load Wheel Poly Red w/ Bearings	2	A000031848
2	Load Wheel Nylon w/ Bearings	2	A000036111
3	Spring Pin	2	A000028154
4	Wheel Shaft	2	A000028163

Tandem Load Wheel

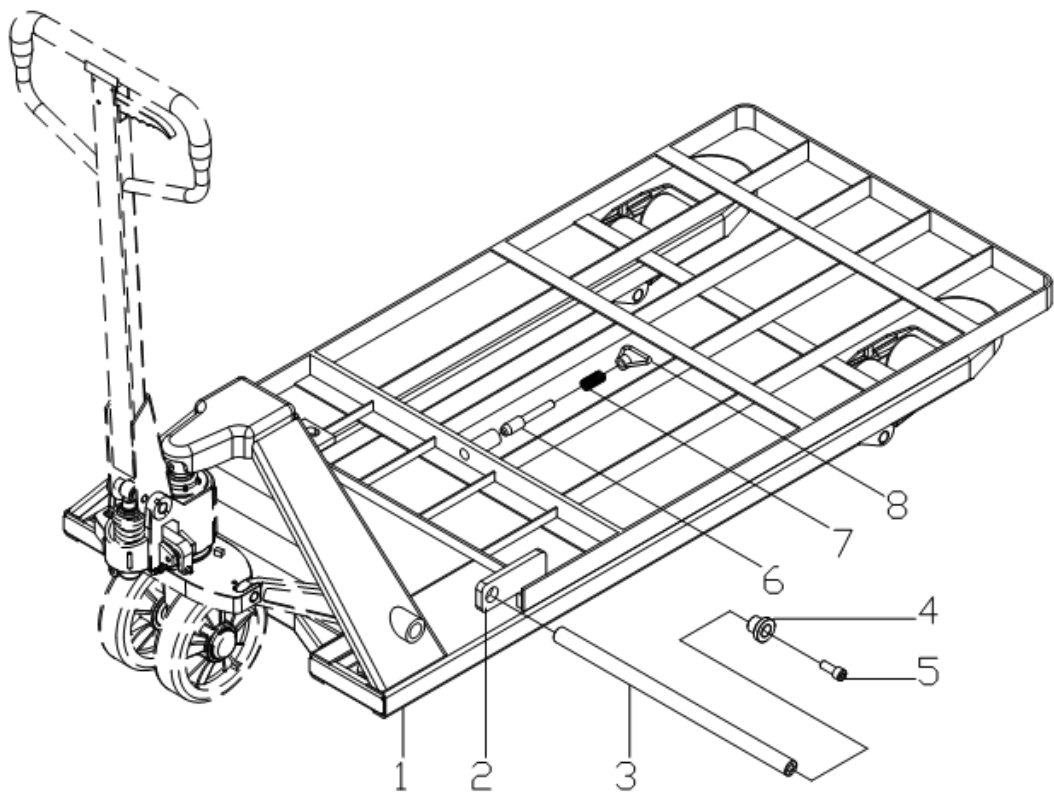
No.	Description	Qty./Truck	Part No.
1	Load Roller Bracket	4	A000034533
2	Bearing (included w/ Wheel)	-	-
3	Load Roller Poly w/ Bearings	4	A000034537
3	Load Roller Nylon w/ Bearings	4	A000034538
4	Wheel Shaft	4	A000034534
5	Spring Pin	8	A000034532

Push Rod and Wheel Frame Replacement Parts (A5 Model Hand Pallet Jack)



No.	Description	Qty./ Truck	Part No.
1	Connector	2	A000028169
2	Push Rod (48" Long Forks)	2	A000028155
-	Push Rod (43.3" Long Forks)	2	A000050865
-	Push Rod (35.5" Long Forks)	2	A000050866
3	Wheel Frame	2	A000028159
4	Grease Zerk	4	A000036134
5	Shaft	2	A000028158
6	Spring Pin	2	A000028154
7	Grease Zerk	2	A000036110

Load Back Rest Replacement Parts (A5B0002748 Hand Pallet Jack)



No.	Description	Qty./Truck	Part No.
1	Truck Frame	1	NSS
2	Back Rest	1	A000053829
3	Long Axle	1	A000053830
4	Bushing	2	A000053831
5	Screw	2	A000019172
6	Bolt	1	A000053832
7	Spring	1	A000053833
8	Pull Ring	1	A000053834

NSS - Not sold separately.

## Labels, Decals and Spray Paint

Description	Qty.	Part No.
Capacity Label (5,500 lb.)	1	A000054029
Capacity Label (3,300 lb. Low Profile)	1	A000054030
Cat® Decal Set	2	A000028192
QuickLift Decal	1	A000054031
Cat® Yellow Spray Paint	1	A000024988
Cat® Yellow Spray Paint (Case)	12	A000002144
Mitsubishi Decal Set	2	A000028193
Mitsubishi Jewel Green Spray Paint	1	A000039003
Mitsubishi Jewel Green Spray Paint (Case)	12	A000038540
Handle Position Decal (Cat, Mitsubishi and MR-5500)	1	A000046579
Handle Warning Decal (Cat, Mitsubishi and MR-5500)	1	A000046580
Gray Spray Paint	1	A000033739
Gray Spray Paint	12	A000033737





## Jungheinrich® AM 22 Hand Pallet Truck

### Warranty

- 1 year on pump—full pump replacement
- 6 months on all other parts

### Features

- Ergonomic Handle for Left and Right-Handed Operators
- Maintenance-Free Teflon Bushings
- Forks Designed for Both Normal and Side-Way Pallet Entry
- Effortless Hydraulic System for Reduced Pumping
- Polyurethane Steer Wheels
- Polyurethane Load Rollers
- Entry/Exit Roller System

### Specifications

- Capacity: 4,850 lb/2,200 kg
- Lowered Height - 2.90"
- Raised Height - 7.90"



Description	Part No.
27" x 48"	AM22002748

## Pallet Jack Brake

Part Number: A000033173

- Fits A4 and A5 style Cat and Mitsubishi Hand Pallet Trucks
- Fits MR-5500 Hand Pallet Trucks
- Installs in less than 15 minutes
- Functions as a parking brake by locking onto the two steer wheels
- Preventing the pallet jack from moving



## Pallet Truck Stop

Part Number: A000033244

- Prevents any movement on the floor of a truck or trailer
- Pick it up and placed in a convenient location
- 27.16" (690 mm) x 15.35" (390 mm) x 3.15" (80 mm)



## Pallet Truck Stop

Part Number: A000044100

- Secures pallet trucks inside trailer
- Reduces costly trailer and/or pallet truck repairs and downtime
- Durable non-slip rubber construction
- 14.5" (368 mm) x 11.5" (292 mm)



## Magliner® Gemini® Multi-Position Trucks

Gemini® 2-in-1 trucks convert from 2 to 4 wheels in seconds. These high capacity trucks reduce the number of trips, increasing productivity. Strong, light-weight construction reduces user fatigue.



### Gemini Jr. Convertible Hand Truck (UA Nose Plate, Pneumatic Tire)

Part Number: A000034163

- Magliner Number: GM-16UA4
- 500 lbs capacity as a hand truck
- 1,000 lbs capacity as a platform truck
- 5-inch polyurethane casters
- Double grip handle
- 18 x 7 1-2" die cast aluminum nose plate
- 10-inch pneumatic wheels
- UA nose plate
- Overall width: 21"
- Frame width: 12"
- Deck width: 12"
- Height as a hand truck: 51"
- Height as a platform truck: 40"
- Platform bed length: 38"



### Gemini Sr. Convertible Hand Truck (UA Nose Plate, Pneumatic Tire)

Part Number: A000034162

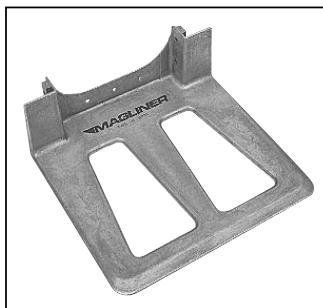
- Magliner Number: GM-81UA4
- 500 lbs capacity as a hand truck
- 1,000 lbs capacity as a platform truck
- 5-inch polyurethane casters
- Loop handle
- 18 x 7 1-2" die cast aluminum nose plate
- 10-inch pneumatic wheels
- UA nose plate
- Overall width: 21"
- Frame width: 12"
- Deck width: 12"
- Height as a hand truck: 61"
- Height as a platform truck: 45 1/8"
- Platform bed length: 51"



### Gemini Sr. Convertible Hand Truck (HM Nose Plate, Pneumatic Tire)

Part Number: A000034161

- Magliner Number: GM-81HM4
- 500 lbs capacity as a hand truck
- 1,000 lbs capacity as a platform truck
- 5-inch polyurethane casters
- Loop handle
- 18 x 7 1-2" die cast aluminum nose plate
- 10-inch pneumatic wheels
- HM nose plate
- Overall width: 21"
- Frame width: 12"
- Deck width: 12"
- Height as a hand truck: 61"
- Height as a platform truck: 45 1/8"
- Platform bed length: 51"



## Gemini Sr. Convertible Hand Truck (UA Nose Plate, Microcellular Foam Tire)

Part Number: A000034160

- Magliner Number: GM-81UAC
- 500 lbs capacity as a hand truck
- 1,000 lbs capacity as a platform truck
- 5-inch polyurethane casters
- Loop handle
- 18 x 7 1-2" die cast aluminum nose plate
- 10-inch puncture-resistant microcellular foam tire with sealed semi-precision ball bearings
- UA nose plate
- Overall width: 21"
- Frame width: 12"
- Deck width: 12"
- Height as a hand truck: 61"
- Height as a platform truck: 45 1/8"
- Platform bed length: 51"



## Gemini Replacement Parts

Part No.	Magliner Number	Description
A000034174	18055	Premium Semi Prec Sealed Red Bearing
A000034173	210100	Wheel Bracket (RH)
A000034172	210101	Wheel Bracket (LH)
A000034169	131020	Caster, 5 x 1-1/4" Gray Poly, Flat Tread
A000034168	302016	Latch and Lock Handle
A000046585	301058	Spreader Bar
A000046586	301060	Load Support Bolt
A000046587	301061	Load Support Spacer

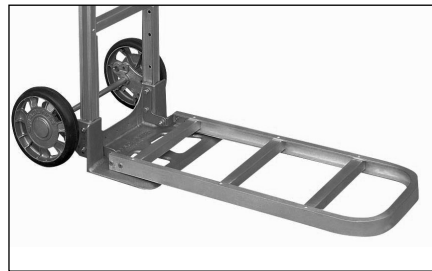
## Gemini Accessories



### C5 Stair Climber

Part Number: A000033615

For use with Gemini Sr. only. Heavy-duty cast sliders with replaceable low-friction polymer skid bars.



### F3 Folding Nose Extension

Part Number: A000033617

Channel-type folding nose. Extends the length of the hand truck nose to carry additional bulky packages. Their use reduces the overall capacity of the hand truck to 300 pounds. Measures 30" x 12".

Compatible with AM, HM, UA, UM, E1, E3, G1, and G3 noses.

# Hardware

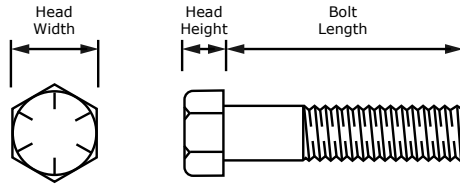
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## Hardware

- Hex Head Bolts..... 9.1
- Socket Head Bolts ..... 9.6
- Nuts..... 9.8
- Nylon Lock Nuts ..... 9.9
- Flat Washers..... 9.11
- Split Ring Lock Washers ..... 9.12
- Flat Internal Tooth Lock Washers ..... 9.12
- Cup Points ..... 9.13
- Cotter Pins..... 9.13
- Hardware Kits..... 9.14
- Hose Clamps..... 9.20
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- Bolt Gauge..... 9.21
- Fuse Kits ..... 9.22
- Grease Zerk Kits ..... 9.23
- Terminal Kits ..... 9.24
- Crimpers..... 9.25
- O-Ring Kits..... 9.26
- Storage Equipment ..... 9.29

## Hex Head Bolts

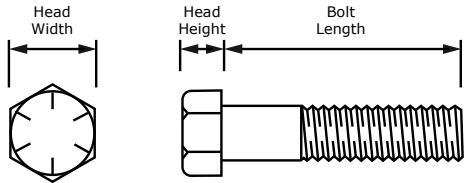
- Inch
- Coarse Thread
- Zinc Plated
- Grade 8



Thread Size (Diameter TPI)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
1/4 - 20	1/2"	0.156"	0.438"	-	A000017358	A000017359
	3/4"	0.156"	0.438"	A000017360	A000017361	A000017362
	1"	0.156"	0.438"	A000017363	A000017364	A000017365
	1-1/4"	0.156"	0.438"	A000017366	A000017367	A000017368
	1-1/2"	0.156"	0.438"	A000017369	A000017370	A000017371
	2"	0.156"	0.438"	A000017375	A000017376	A000017377
	2-1/4"	0.156"	0.438"	A000017378	A000017379	A000017380
	2-1/2"	0.156"	0.438"	A000017381	A000017382	A000017383
	Nut	0.219"	0.438"	A000018447	A000018448	A000018449
	Washer	0.313" I.D.	0.734" O.D.	A000018508	-	A000018510
5/16 - 18	3/4"	0.203"	0.500"	A000017387	A000017388	A000017389
	1"	0.203"	0.500"	A000017390	A000017391	A000017392
	1-1/4"	0.203"	0.500"	A000017393	A000017394	A000017395
	1-1/2"	0.203"	0.500"	-	-	A000017398
	1-3/4"	0.203"	0.500"	A000018546	A000018547	A000018548
	2"	0.203"	0.500"	A000017402	-	-
	2-1/2"	0.203"	0.500"	A000017408	A000017409	A000017410
	Nut	0.266"	0.500"	A000018450	A000018451	A000018452
	Washer	0.375" I.D.	0.875" O.D.	A000018511	A000018512	A000018513
3/8 - 16	1/2"	0.234"	0.563"	A000017411	A000017412	A000017413
	3/4"	0.234"	0.563"	A000017414	A000017415	A000017416
	1"	0.234"	0.563"	A000017417	A000017418	A000017419
	1-1/4"	0.234"	0.563"	A000017420	A000017421	A000017422
	1-1/2"	0.234"	0.563"	A000017423	A000017424	A000017425
	1-3/4"	0.234"	0.563"	A000017426	A000017427	A000017428
	2"	0.234"	0.563"	A000017429	A000017430	A000017431
	2-1/4"	0.234"	0.563"	A000017432	A000017433	A000017434
	2-1/2"	0.234"	0.563"	A000017435	A000017436	A000017437
	Nut	0.328"	0.563"	A000018453	A000018454	A000018455
	Washer	0.438" I.D.	1.000" O.D.	A000018514	A000018515	A000018516
7/16 - 14	1"	0.281"	0.625"	A000018079	A000018080	A000018081
	1-1/2"	0.281"	0.625"	A000018085	A000018086	A000018087
	2"	0.281"	0.625"	A000018091	A000018092	A000018093
	Nut	0.375"	0.625"	A000018456	A000018457	A000018458
	Washer	0.500" I.D.	1.250" O.D.	A000018517	A000018518	A000018519

Hex Head Bolts

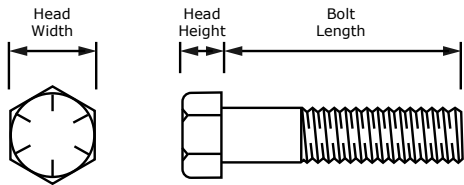
- Inch
- Coarse Thread
- Zinc Plated
- Grade 8



Thread Size (Diameter TPI)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
1/2-13	3/4"	0.313"	0.750"	A000018097	A000018098	A000018099
	1"	0.313"	0.750"	A000018094	A000018095	A000018096
	1-1/4"	0.313"	0.750"	-	-	A000018102
	1-1/2"	0.313"	0.750"	A000018103	A000018104	A000018105
	1-3/4"	0.313"	0.750"	A000018106	A000018107	A000018108
	2"	0.313"	0.750"	A000018109	A000018110	A000018111
	2-1/4"	0.313"	0.750"	A000018112	A000018113	A000018114
	2-1/2"	0.313"	0.750"	A000018115	A000018116	A000018117
	2-3/4"	0.313"	0.750"	A000018118	A000018119	A000018120
	3"	0.313"	0.750"	A000018121	A000018122	A000018123
	Nut	0.438"	0.750"	A000018459	A000018460	A000018461
	Washer	0.563" I.D.	1.375" O.D.	A000018520	A000018521	A000018522
5/8-11	1-1/4"	0.391"	0.938"	A000018148	A000018149	A000018150
	2"	0.391"	0.938"	A000018151	A000018152	A000018153
	Nut	0.547"	0.938"	A000018465	A000018466	A000018467
	Washer	0.688" I.D.	1.750" O.D.	A000019815	A000019816	A000019817
3/4-10	1-1/4"	0.469"	1.125"	A000018160	A000018161	A000018162
	1-1/2"	0.469"	1.125"	A000018163	A000018164	A000018165
	2"	0.469"	1.125"	A000018166	A000018167	A000018168
	3"	0.469"	1.125"	A000018169	-	-
	Nut	0.641"	1.125"	A000018468	A000018469	A000018470
	Washer	0.875" I.D.	2.000" O.D.	A000019818	A000019819	A000019820

Hex Head Bolts

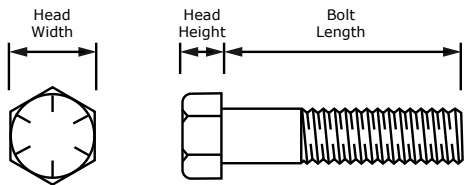
- Inch
- Fine Thread
- Zinc Plated
- Grade 8



Thread Size (Diameter - TPI)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
1/4-28	1/2"	0.156"	0.438"	A000018188	A000018189	A000018190
	3/4"	0.156"	0.438"	A000018191	A000018192	A000018193
	1"	0.156"	0.438"	A000018194	A000018195	A000018196
	2"	0.156"	0.438"	A000018206	A000018207	A000018208
	2-1/2"	0.156"	0.438"	A000018212	A000018213	A000018214
	Nut	0.219"	0.438"	A000018471	A000018472	A000018473
	Washer	0.313" I.D.	0.734" O.D.	-	-	A000018510
5/16-24	1"	0.203"	0.500"	A000018221	A000018222	A000018223
	2"	0.203"	0.500"	A000018233	A000018234	A000018235
	3"	0.203"	0.500"	A000018372	A000018373	A000018374
	Nut	0.269"	0.500"	A000018474	A000018475	A000018476
	Washer	0.375" I.D.	0.875" O.D.	A000018511	A000018512	A000018513
3/8-24	1"	0.234"	0.563"	A000018381	A000018382	A000018383
	1-1/4"	0.234"	0.563"	A000018384	A000018385	A000018386
	2"	0.234"	0.563"	A000018393	A000018394	A000018395
	2-1/2"	0.234"	0.563"	A000018399	A000018400	A000018401
	Nut	0.328"	0.563"	A000018477	A000018478	A000018479
	Washer	0.438" I.D.	1.000" O.D.	A000018514	A000018515	A000018516

Hex Head Bolts

- Inch
- Fine Thread
- Zinc Plated
- Grade 8

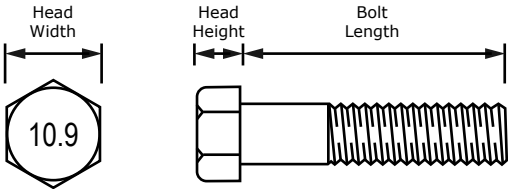


Thread Size (Diameter TPI)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
7/16-20	1"	0.281"	0.625"	A000018402	A000018403	A000018404
	1-1/2"	0.281"	0.625"	A000018408	A000018409	A000018410
	2"	0.281"	0.625"	A000018414	A000018415	A000018416
	2-1/4"	0.281"	0.625"	A000018417	A000018418	A000018419
	2-1/2"	0.281"	0.625"	A000018420	A000018421	A000018422
	Nut	0.375"	0.625"	A000018480	A000018481	A000018482
	Washer	0.500" I.D.	1.250" O.D.	A000018517	A000018518	A000018519
1/2-20	1"	0.313"	0.750"	A000018423	A000018424	A000018425
	1-1/2"	0.313"	0.750"	A000018429	A000018430	A000018431
	1-3/4"	0.313"	0.750"	A000018432	A000018433	A000018434
	2"	0.313"	0.750"	A000018435	A000018436	A000018437
	2-1/2"	0.313"	0.750"	A000018441	A000018442	A000018443
	Nut	0.438"	0.750"	A000018483	A000018484	A000018485
	Washer	0.563" I.D.	1.375" O.D.	A000018520	A000018521	A000018522



Hex Head Bolts

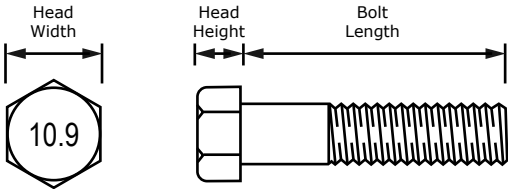
- Metric
- Coarse Thread
- Zinc Plated
- ISO 10.9



Thread Size (Diameter Pitch)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
M6-1.00	10 mm	4.00 mm	10.00 mm	A000019821	-	A000019823
	20 mm	4.00 mm	10.00 mm	A000019824	A000019825	A000019826
	30 mm	4.00 mm	10.00 mm	A000019827	A000019828	A000019829
	40 mm	4.00 mm	10.00 mm	A000019830	A000019831	A000019832
	50 mm	4.00 mm	10.00 mm	A000019833	A000019834	A000019835
	Nut	4.50 mm	10.00 mm	A000019944	A000019945	A000019946
	Washer	6.87 mm I.D.	18.80 mm O.D.	A000018490	A000018491	A000018492
M8-1.25	10 mm	5.50 mm	13.00 mm	A000019848	A000019849	A000019850
	20 mm	5.50 mm	13.00 mm	A000019851	A000019852	A000019853
	25 mm	5.50 mm	13.00 mm	A000019854	A000019855	A000019856
	30 mm	5.50 mm	13.00 mm	A000019857	A000019858	A000019859
	35 mm	5.50 mm	13.00 mm	A000019860	-	-
	40 mm	5.50 mm	13.00 mm	A000019863	A000019864	A000019865
	Nut	6.50 mm	13.00 mm	A000019950	A000019951	A000019952
	Washer	9.12 mm I.D.	25.40 mm O.D.	A000018493	A000018494	A000018495
M10-1.50	20 mm	7.00 mm	17.00 mm	A000019881	A000019882	A000019883
	25 mm	7.00 mm	17.00 mm	A000019884	A000019885	A000019886
	30 mm	7.00 mm	17.00 mm	A000019887	A000019888	A000019889
	35 mm	7.00 mm	17.00 mm	A000019890	A000019891	A000019892
	40 mm	7.00 mm	17.00 mm	A000019893	A000019894	A000019895
	50 mm	7.00 mm	17.00 mm	A000019896	A000019897	A000019898
	Nut	8.25 mm	16.00 mm	A000019956	A000019957	A000019958
	Washer	11.12 mm I.D.	27.48 mm O.D.	A000018496	A000018497	A000018498
M12-1.75	20 mm	8.00 mm	19.00 mm	A000019926	A000019927	A000019928
	25 mm	8.00 mm	19.00 mm	A000019929	A000019930	A000019931
	30 mm	8.00 mm	19.00 mm	A000019932	A000019933	A000019934
	40 mm	8.00 mm	19.00 mm	A000019935	A000019939	A000019940
	50 mm	8.00 mm	19.00 mm	A000019941	A000019942	A000019943
	Nut	10.50 mm	18.00 mm	A000019965	A000019966	A000019967
	Washer	14.40 mm I.D.	27.00 mm O.D.	A000018499	A000018500	A000018501

Hex Head Bolts

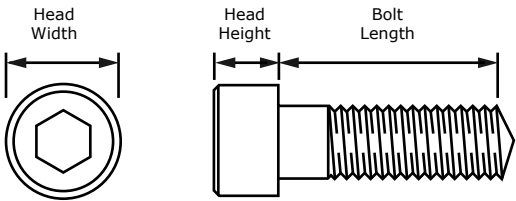
- Metric
- Fine and Extra-Fine Thread
- Zinc Plated
- ISO 10.9



Thread Size (Diameter Pitch)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
M8-1.00	20 mm	5.50 mm	13.00 mm	A000019839	A000019840	A000019841
	30 mm	5.50 mm	13.00 mm	A000019842	A000019843	A000019844
	40 mm	5.50 mm	13.00 mm	A000019845	A000019846	-
	Nut	6.50 mm	13.00 mm	A000019947	A000019948	A000019949
	Washer	9.12 mm I.D.	25.40 mm O.D.	A000018493	A000018494	A000018495
M10-1.25	25 mm	7.00 mm	17.00 mm	A000019866	A000019867	A000019868
	30 mm	7.00 mm	17.00 mm	A000019869	A000019870	A000019871
	35 mm	7.00 mm	17.00 mm	A000019872	A000019873	A000019874
	40 mm	7.00 mm	17.00 mm	A000019875	A000019876	A000019877
	50 mm	7.00 mm	17.00 mm	A000019878	A000019879	A000019880
	Nut	8.25 mm	16.00 mm	A000019953	A000019954	A000019955
	Washer	11.12 mm I.D.	27.48 mm O.D.	A000018496	A000018497	A000018498
M12-1.25	25 mm	8.00 mm	19.00 mm	A000019899	A000019900	A000019901
	30 mm	8.00 mm	19.00 mm	A000019902	A000019903	A000019904
	35 mm	8.00 mm	19.00 mm	A000019905	A000019906	A000019907
	40 mm	8.00 mm	19.00 mm	A000019908	A000019909	A000019910
	50 mm	8.00 mm	19.00 mm	A000019911	A000019912	A000019913
	Nut	10.50 mm	18.00 mm	A000019959	A000019960	-
	Washer	14.40 mm I.D.	27.00 mm O.D.	A000018499	A000018500	A000018501
M12-1.50	25 mm	8.00 mm	19.00 mm	A000019914	A000019915	A000019916
	30 mm	8.00 mm	19.00 mm	A000019917	A000019918	A000019919
	40 mm	8.00 mm	19.00 mm	A000019920	A000019921	A000019922
	50 mm	8.00 mm	19.00 mm	A000019923	A000019924	A000019925
	Nut	10.50 mm	18.00 mm	A000019962	A000019963	A000019964
	Washer	14.40 mm I.D.	27.00 mm O.D.	A000018499	A000018500	A000018501

Socket Head Bolts

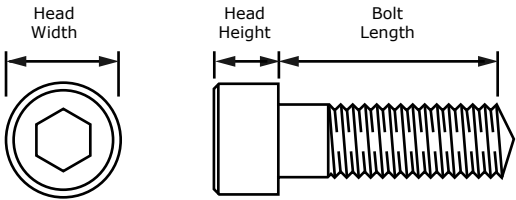
- Inch
- Coarse Thread
- Plain Oil Coated



Thread Size (Diameter TPI)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
5/16-18	1/2"	0.312"	0.469"	A000018676	A000018677	A000018678
	1-1/4"	0.312"	0.469"	A000018685	A000018686	A000018687
	1-1/2"	0.312"	0.469"	-	-	A000018690
	2-1/4"	0.312"	0.469"	A000018697	A000018698	A000018699
3/8-16	1/2"	0.375"	0.562"	A000018703	A000018704	A000018705
	1-1/2"	0.375"	0.562"	A000018715	A000018716	A000018717
	2"	0.375"	0.562"	-	-	A000018723
	2-1/2"	0.375"	0.562"	A000018727	A000018728	A000018729
7/16-14	1-1/2"	0.438"	0.656"	A000018742	A000018743	A000018744
	1-3/4"	0.438"	0.656"	A000018745	A000018746	A000018747

Socket Head Bolts

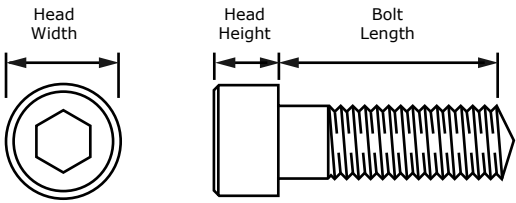
- Inch
- Coarse Thread
- Plain Oil Coated



Thread Size (Diameter TPI)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
1/2-13	1"	0.500"	0.750"	A000018792	A000018793	A000018794
	2"	0.500"	0.750"	A000018804	A000018805	A000018806
3/4-10	1-1/4"	0.750"	1.250"	A000018834	A000018835	A000018836
	2"	0.750"	1.250"	A000018840	A000018841	A000018842

Socket Head Bolts

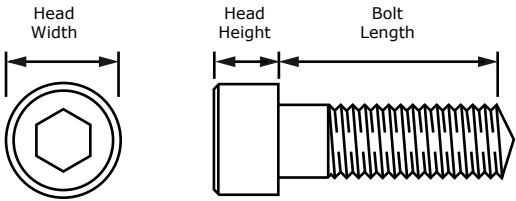
- Inch
- Fine Thread
- Plain Oil Coated



Thread Size (Diameter TPI)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
1/4-28	1-1/4"	0.250"	0.375"	A000018918	A000018919	A000018920
	2-1/4"	0.250"	0.375"	A000018930	A000018931	A000018932
5/16-24	3/4"	0.312"	0.469"	A000018939	A000018940	A000018941
	1-1/4"	0.312"	0.469"	A000018945	A000018946	A000018947
	1-1/2"	0.312"	0.469"	A000018948	A000018949	A000018950
7/16-20	1-1/4"	0.438"	0.656"	A000018993	A000018994	A000018995
1/2-20	1"	0.500"	0.750"	A000019008	A000019009	A000019010

Socket Head Bolts

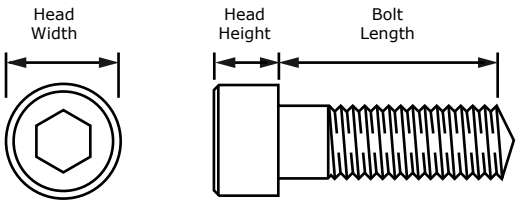
- Metric
- Coarse Thread
- Plain Oil Coated



Thread Size (Diameter Pitch)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
M6-1.00	20 mm	6.00 mm	10.00 mm	A000019052	A000019053	A000019054
	30 mm	6.00 mm	10.00 mm	A000019055	A000019056	A000019057
	50 mm	6.00 mm	10.00 mm	A000019061	A000019062	A000019063
M8-1.25	10 mm	8.00 mm	13.00 mm	A000019076	A000019077	A000019078
	30 mm	8.00 mm	13.00 mm	A000019085	A000019086	A000019087
	40 mm	8.00 mm	13.00 mm	A000019091	A000019092	A000019093
M10-1.50	20 mm	10.00 mm	16.00 mm	A000019112	A000019113	A000019114
M12-1.75	30 mm	12.00 mm	18.00 mm	A000019172	A000019173	A000019174

Socket Head Bolts

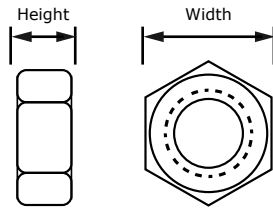
- Metric
- Fine and Extra-Fine Thread
- Plain Oil Coated



Thread Size (Diameter Pitch)	Bolt Length	Head Height	Head Width	Quantity 1	Quantity 10	Quantity 100
M10-1.25	30 mm	10.00 mm	16.00 mm	A000019100	A000019101	A000019102

**Nuts**

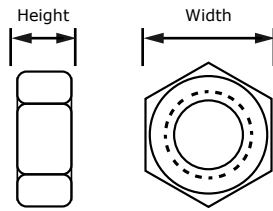
- Inch
- Coarse Thread
- Zinc Plated
- Grade 8



Thread Size (Diameter TPI)	Height	Width	Quantity 1	Quantity 10	Quantity 100
1/4-20	0.218"	0.438"	A000018447	A000018448	A000018449
5/16-18	0.265"	0.500"	A000018450	A000018451	A000018452
3/8-16	0.328"	0.563"	A000018453	A000018454	A000018455
7/16-14	0.375"	0.625"	A000018456	A000018457	A000018458
1/2-13	0.437"	0.750"	A000018459	A000018460	A000018461
9/16-12	0.484"	0.875"	A000018462	A000018463	A000018464
5/8-11	0.546"	0.938"	A000018465	A000018466	A000018467
3/4-10	0.750"	1.125"	A000018468	A000018469	A000018470

**Nuts**

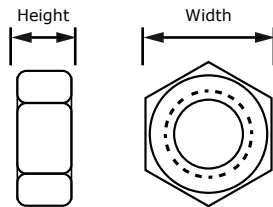
- Inch
- Fine Thread
- Zinc Plated
- Grade 8



Thread Size (Diameter TPI)	Height	Width	Quantity 1	Quantity 10	Quantity 100
1/4-28	0.218"	0.438"	A000018471	A000018472	A000018473
5/16-24	0.265"	0.500"	A000018474	A000018475	A000018476
3/8-24	0.328"	0.563"	A000018477	A000018478	A000018479
7/16-20	0.375"	0.625"	A000018480	A000018481	A000018482
1/2-20	0.437"	0.750"	A000018483	A000018484	A000018485
3/4-16	0.750"	1.125"	A000028344	A000028353	A000028354

**Nuts**

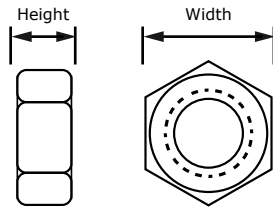
- Metric
- Course Thread
- Zinc Plated
- ISO 10.9



Thread Size (Diameter- Pitch)	Height	Width	Quantity 1	Quantity 10	Quantity 100
M6-1.00	5.05 mm	10.00 mm	A000019944	A000019945	A000019946
M8-1.25	6.50 mm	13.00 mm	A000019950	A000019951	A000019952
M10-1.50	8.25 mm	17.00 mm	A000019956	A000019957	A000019958
M12-1.75	10.50 mm	19.00 mm	A000019965	A000019966	A000019967

### Nuts

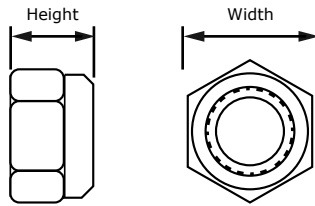
- Metric
- Fine and Extra-Fine Thread
- Zinc Plated
- ISO 10.9



Thread Size (Diameter Pitch)	Height	Width	Quantity 1	Quantity 10	Quantity 100
M8-1.00	6.50 mm	13.00 mm	A000019947	A000019948	A000019949
M10-1.25	8.25 mm	17.00 mm	A000019953	A000019954	A000019955
M12-1.25	10.50 mm	19.00 mm	A000019959	A000019960	-
M12-1.50	10.50 mm	19.00 mm	A000019962	A000019963	A000019964

### Nylon Lock Nuts

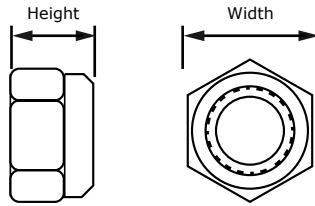
- Inch
- Coarse Thread
- Zinc Plated



Thread Size (Diameter TPI)	Height	Width	Quantity 1	Quantity 10	Quantity 100
1/4-20	0.328"	0.438"	A000018579	A000018580	A000018581
5/16-18	0.359"	0.500"	A000036707	A000018583	A000018584
3/8-16	0.469"	0.563"	A000018585	A000018586	A000018587
1/2-13	0.609"	0.750"	A000018591	A000018592	A000018593

### Nylon Lock Nuts

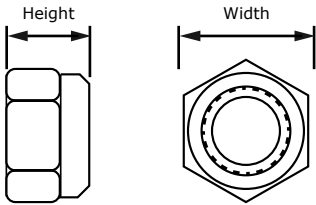
- Inch
- Fine Thread
- Zinc Plated



Thread Size (Diameter TPI)	Height	Width	Quantity 1	Quantity 10	Quantity 100
1/4-28	0.328"	0.438"	A000018625	A000018626	A000018627
5/16-24	0.359"	0.500"	A000018628	A000018629	A000018630
1/2-20	0.609"	0.750"	A000018637	A000018638	A000018639

Nylon Lock Nuts

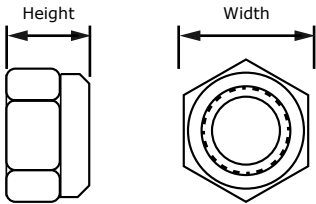
- Metric
- Coarse Thread
- Zinc Plated



Thread Size (Diameter Pitch)	Height	Width	Quantity 1	Quantity 10	Quantity 100
M6-1.00	5.70 mm	10.00 mm	A000009193	A000018641	A000018642
M8-1.25	7.50 mm	13.00 mm	A000018643	A000018644	A000018645
M10-1.50	9.30 mm	16.00 mm	A000018646	A000018647	A000018648
M12-1.75	12.00 mm	18.00 mm	A000018649	A000018650	A000018651

Nylon Lock Nuts

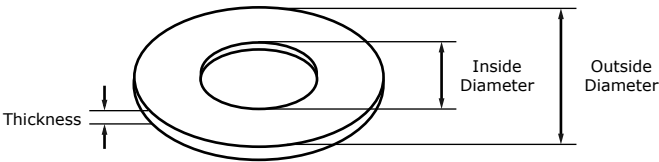
- Metric
- Fine and Extra-Fine Thread
- Zinc Plated



Thread Size (Diameter Pitch)	Height	Width	Quantity 1	Quantity 10	Quantity 100
M8-1.00	5.70 mm	10.00 mm	A000019968	A000019969	A000019970
M10-1.25	7.50 mm	13.00 mm	A000019971	A000019972	A000019973
M12-1.25	9.30 mm	16.00 mm	A000019974	A000019975	A000019976
M12-1.50	12.00 mm	18.00 mm	A000019977	A000019978	A000019979

Flat Washers

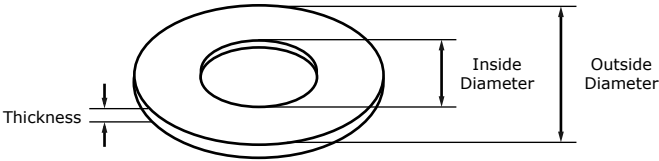
- Inch
- Zinc Plated
- SAE
- Hardened



Bolt Diameter	Inside Diameter	Outside Diameter	Thickness	Quantity 1	Quantity 10	Quantity 100
1/4"	0.281"	0.625"	0.080"	A000018508	A000018509	A000018510
5/16"	0.343"	0.687"	0.080"	A000018511	A000018512	A000018513
3/8"	0.406"	0.812"	0.080"	A000018514	A000018515	A000018516
7/16"	0.468"	0.921"	0.080"	A000018517	A000018518	A000018519
1/2"	0.531"	1.063"	0.177"	A000018520	A000018521	A000018522
9/16"	0.620"	1.140"	0.177"	A000018523	A000018524	A000018525
5/8"	0.687"	1.312"	0.177"	A000019815	A000019816	A000019817
3/4"	0.812"	1.468"	0.177"	A000019818	A000019819	A000019820

Flat Washers

- Metric
- Zinc Plated
- ISO
- Hardened



Bolt Diameter	Inside Diameter	Outside Diameter	Thickness	Quantity 1	Quantity 10	Quantity 100
4 mm	4.30 mm	10.00 mm	1.20 mm	A000018487	A000018488	A000018489
6 mm	6.40 mm	12.00 mm	1.60 mm	A000018490	A000018491	A000018492
8 mm	8.40 mm	16.00 mm	1.60 mm	A000018493	A000018494	A000018495
10 mm	10.50 mm	20.00 mm	2.00 mm	A000018496	A000018497	A000018498
12 mm	13.00 mm	24.00 mm	2.50 mm	A000018499	A000018500	A000018501
14 mm	15.00 mm	28.00 mm	2.50 mm	A000018502	A000018503	A000018504
16 mm	17.00 mm	30.00 mm	3.00 mm	A000018505	A000018506	A000018507



Split Ring Lock Washers

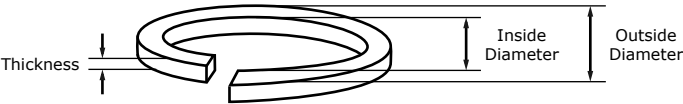
- Inch
- Zinc Plated



Bolt Diameter	Inside Diameter	Outside Diameter	Thickness	Quantity 1	Quantity 10	Quantity 100
1/4"	0.262"/0.254"	0.489"	0.062"	A000019546	A000019547	A000019548
5/16"	0.326"/0.317"	0.586"	0.078"	A000019549	A000019550	A000019551
3/8"	0.390"/0.380"	0.683"	0.094"	A000019552	A000019553	A000019554
7/16"	0.455"/0.443"	0.779"	0.109"	A000019555	A000019556	A000019557
1/2"	0.518"/0.506"	0.873"	0.125"	A000019558	A000019559	A000019560
9/16"	0.582"/0.570"	0.971"	0.141"	A000019561	A000019562	A000019563
5/8"	0.650"/0.635"	1.079"	0.156"	A000019564	A000019565	A000019566
3/4"	0.775"/0.760"	1.271"	0.188"	A000019567	A000019568	A000019569

Split Ring Lock Washers

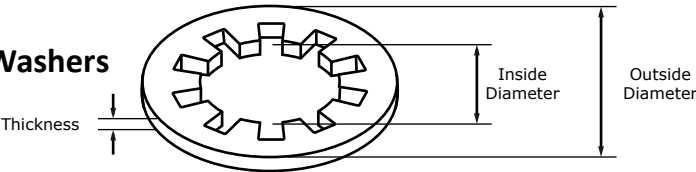
- Metric
- Zinc Plated



Bolt Diameter	Inside Diameter	Outside Diameter	Thickness	Quantity 1	Quantity 10	Quantity 100
6 mm	6.10 mm	11.80 mm	1.60 mm	A000019528	A000019529	A000019530
8 mm	8.10 mm	14.80 mm	2.00 mm	A000019531	A000019532	A000019533
10 mm	10.20 mm	18.10 mm	2.20 mm	A000019534	A000019535	A000019536
12 mm	12.20 mm	21.10 mm	2.50 mm	A000019537	A000019538	A000019539
14 mm	14.20 mm	24.10 mm	3.00 mm	A000019540	A000019541	A000019542
16 mm	16.20 mm	27.40 mm	3.50 mm	A000019543	A000019544	A000019545

Flat Internal Tooth Lock Washers

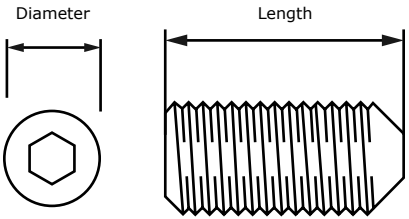
- Metric
- Zinc Plated



Bolt Diameter	Inside Diameter	Outside Diameter	Thickness	Quantity 1	Quantity 10	Quantity 100
8 mm	8.50 mm	15.50 mm	0.85 mm	A000018529	A000018530	A000018531

### Cup Point

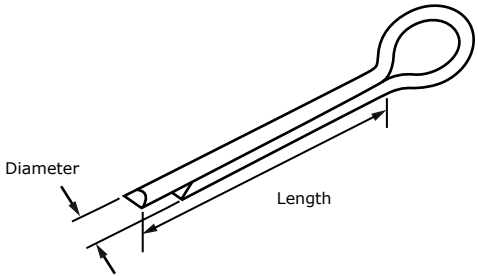
- Set Screw
- Inch



Thread Size (Diameter TPI)	Length	Quantity 1	Quantity 10	Quantity 100
No. 10-24	1/4"	-	A000019310	A000019311
5/16-18	5/16"	A000019324	A000019325	A000019326

### Cotter Pins

- Inch



Diameter	Pin Length	Quantity 1	Quantity 10	Quantity 100
1/16"	1"	A000019336	A000019337	A000019338
	1-1/2"	A000019339	A000019340	-
3/32"	1/2"	A000019342	A000019343	A000019344
	1"	A000019345	-	A000019347
	2"	A000019348	A000019349	A000019350
7/64"	1"	A000019351	A000019352	A000019353
	2"	A000019354	A000019355	A000019356
	2-1/2"	A000019357	A000019358	A000019359
1/8"	1-1/4"	A000019360	A000019361	A000019362
	1-1/2"	A000019363	A000019364	A000019365
	1-3/4"	A000019366	A000019367	A000019368
	2"	A000019369	A000019370	A000019371
	2-1/2"	A000019372	A000019373	A000019374
5/32"	1-1/2"	A000019375	A000019376	A000019377
	2-1/2"	A000019378	A000019379	A000019380
	3"	A000019381	A000019382	A000019383
3/16"	1-1/2"	A000019393	A000019394	A000019395
	1-3/4"	A000019396	A000019397	A000019398
	2"	A000019399	A000019400	A000019401
	2-1/2"	A000019402	A000019403	A000019404
	3"	A000019405	A000019406	A000019407
1/4"	1-1/4"	A000019384	A000019385	A000019386
	1-1/2"	A000019387	A000019388	A000019389
	2"	A000019390	A000019391	A000019392

Clevis Pin Kit (30 Pieces)  
Part Number: 9I2936

Size	Quantity	Part No.
1/4" x 2"	10	9I2963
5/16" x 2"	10	NSS
3/8" x 2"	5	NSS
1/2" x 2"	5	NSS

NSS (Not Sold Separately)



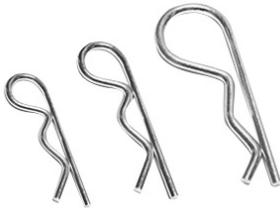
Cotter Pin Kit (310 Pieces)  
Part Number: 9I2472

Size	Quantity	Part No.
1/16" x 1"	100	A000019336
3/32" x 1"	100	A000019345
1/8" x 1-1/2"	50	A000019363
3/16" x 1-1/2"	20	A000019393
1/4" x 2"	10	A000019390
5/32" x 2-1/2"	30	A000019378



Hitch Pin Kit (103 Pieces)  
Part Number: A000000051

Size	Quantity	Part No.
3/16"	30	A000000052
5/16"	30	A000000053
3/8"	20	A000000054
1/2"	10	A000000055
5/8"	8	A000000056
1"	5	A000000057



Roll Pin Kit (170 Pieces)  
Part Number: 9I2471

Size	Quantity	Part No.
1/8" x 1"	50	9I2499
1/8" x 1-1/4"	30	9I2500
1/4" x 1"	25	9I2501
1/4" x 1-1/4"	15	9I2502
1/4" x 1-3/4"	15	9I2503
3/16" x 1"	35	9I2504



External Snap Ring Kit (105 Pieces)  
Part Number: 9I2468

Size	Quantity	Part No.
1/4"	20	0971130
5/16"	20	-
3/8"	20	9I2495
1/2"	15	9I2496
3/4"	15	9I2497
15/16"	15	9I2498



External Snap Ring Kit (490 Pieces)  
Part Number: A000017488

Size	Quantity	Part No.
1/4"	50	0971130
5/16"	50	-
3/8"	50	9I2495
7/16"	50	A000017675
1/2"	50	9I2496
9/16"	50	A000017677
5/8"	25	A000017678
11/16"	25	A000017679
3/4"	25	9I2497
13/16"	25	A000017681
7/8"	25	A000017682
15/16"	25	9I2498
1"	10	A000017684
1-1/8"	6	A000017685
1-1/4"	6	A000017686
1-5/16"	6	A000017687
1-3/8"	6	A000017688
1-1/2"	6	NSS



NSS - Not Sold Separately

External Snap Ring Kit Metric DIN 471 (270 Pieces)  
Part Number: A000017485

Size	Quantity	Part No.
4 mm	25	A000017620
6 mm	25	A000017621
8 mm	25	A000017622
10 mm	25	A000017623
12 mm	20	A000017624
14 mm	20	A000017625
15 mm	20	A000017626
16 mm	20	NSS
18 mm	20	A000017628
19 mm	10	A000017629
20 mm	10	A000017630
22 mm	10	A000017631
25 mm	10	A000017632
28 mm	6	A000017633
30 mm	6	A000017634
32 mm	6	A000017635
35 mm	6	A000017636
38 mm	6	A000017637

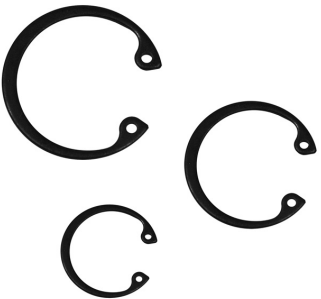
NSS - Not Sold Separately



Internal Snap Ring Kit Standard (110 Pieces)  
Part Number: 9I2470

Size	Quantity	Part No.
1/2"	20	NSS
5/8"	20	9I4601
11/16"	14	NSS
3/4"	16	NSS
13/16"	14	9I2489
7/8"	14	NSS
1"	6	9I2491
1-1/16"	6	A000017667

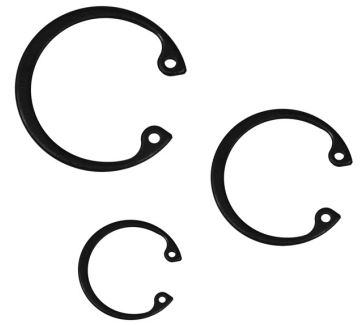
NSS - Not Sold Separately



**Internal Snap Ring Kit Standard (475 Pieces)**

Part Number: A000017487

Size	Quantity	Part No.
1/4"	50	A000017654
5/16"	50	A000017655
3/8"	50	A000017656
7/16"	50	A000017657
1/2"	50	NSS
9/16"	50	A000017659
5/8"	25	9I4601
11/16"	25	NSS
3/4"	25	NSS
13/16"	20	9I2489
7/8"	20	NSS
15/16"	20	NSS
1"	10	9I2491
1-1/16"	6	A000017667
1-1/8"	6	A000017668
1-1/4"	6	A000017669
1-5/16"	6	A000017670
1-3/8"	6	NSS

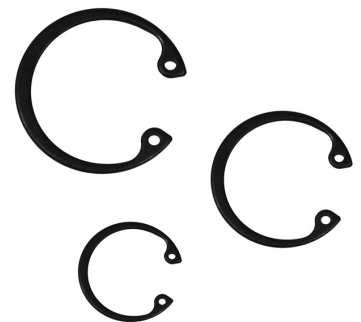


NSS - Not Sold Separately

**Internal Snap Ring Kit Metric DIN 471 (269 Pieces)**

Part Number: A000017484

Size	Quantity	Part No.
10 mm	25	A000017603
12 mm	25	A000017604
14 mm	25	A000017605
15 mm	25	A000017606
16 mm	25	A000017607
18 mm	20	A000017608
19 mm	20	A000017609
20 mm	20	A000017610
22 mm	10	A000017611
24 mm	10	A000017710
25 mm	10	A000017612
27 mm	10	A000017613
28 mm	10	A000017614
30 mm	10	A000017615
32 mm	6	A000017616
35 mm	6	A000017617
38 mm	6	NSS
40 mm	6	NSS

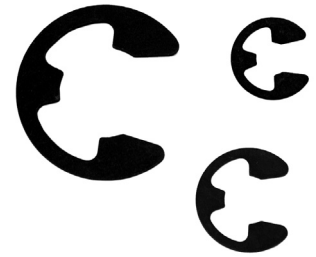


NSS - Not Sold Separately

**E-Clip Kit (200 Pieces)**

Part Number: 9I2469

Size	Quantity	Part No.
1/16"	30	NSS
1/8"	30	NSS
3/16"	40	9I2507
1/4"	30	9I2508
3/8"	30	9I2509
1/2"	20	9I2510
5/8"	5	NSS
3/4"	15	9I2512

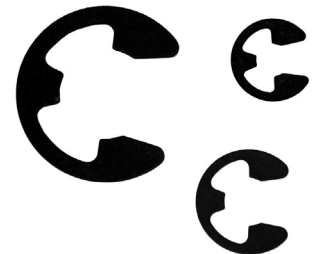


NSS - Not Sold Separately

**E-Clip Kit (982 Pieces)**

Part Number: A000017489

Size	Quantity	Part No.
3/32"	100	A000017690
7/64"	100	A000017691*
1/8"	100	NSS
9/64"	100	A000017693*
9/64"	100	A000017694
5/32"	100	A000017695
11/64"	50	A000017696*
3/16"	50	9I2507
3/16"	50	A000017698*
7/32"	50	A000017699*
1/4"	50	9I2508
5/16"	50	NSS
3/8"	20	9I2509
7/16"	20	NSS*
1/2"	20	9I2510
5/8"	10	NSS
3/4"	6	A000017706*
3/4"	6	9I2512



\*Thin Size

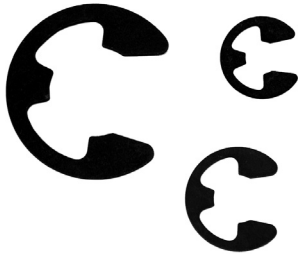
NSS - Not Sold Separately

E-Clip Kit - Metric DIN 6799 (550 Pieces)

Part Number: A000017486

Size	Quantity	Part No.
1.2 mm	75	A000017638
1.5 mm	75	A000017639
1.9 mm	65	A000017640
2.3 mm	50	A000017641
3.2 mm	50	A000017642
4 mm	40	A000017643
5 mm	40	A000017644
6 mm	40	A000017645
7 mm	25	NSS
8 mm	25	A000017647
9 mm	25	A000017648
10 mm	10	F320401000
12 mm	10	A000017650
15 mm	10	A000017651
19 mm	5	NSS
24 mm	5	A000017653

NSS - Not Sold Separately



Woodruff Key Kit (72 Pieces)

Part Number: 9I2473

Size	Quantity	Part No.
1/8" x 5/8"	12	NSS
5/32" x 5/8"	12	9I2515
3/16" x 3/4"	12	NSS
1/4" x 7/8"	10	NSS
1/8" x 1"	18	NSS
1/4" x 1"	8	NSS

NSS - Not Sold Separately





**Miniature Hose Clamps**

Marine grade, all stainless steel miniature hose clamps. A lightweight, streamlined clamp generally used in small diameter applications. The streamlined configurations allows for installation in tight fitting areas. 5/16" (7.9 mm) band.



Stock Number		Effective Diameter Range				Band Width
SAE Size	p/n	Min. inches	Max. inches	Min. mm	Max. mm	
#4	A000020048	7/32"	5/8"	5.6	16	5/16"
#6	A000020049	7/16"	25/32"	11	20	5/16"
#8	A000029351	1/2	29/32	13	23	5/16"
#10	A000029352	9/16	1-1/16	14	27	5/16"

**Hose Clamps**

Marine grade, all stainless steel miniature hose clamps. Four-piece construction featuring clinched housing and saddle. 5/16" slotted hex screw - Grade 316 Stainless. 1/2" (12.7 mm) band width. Packaged in quantities of ten.



Stock Number		Effective Diameter Range				Band Width
SAE Size	Part No.	Min. inches	Max. inches	Min. mm	Max. mm	
#6	A000020050	7/16"	25/32"	11 mm	20 mm	1/2"
#8	A000020051	1/2"	29/32"	13 mm	23 mm	1/2"
#10	A000020052	9/16"	1-1/16"	14 mm	27 mm	1/2"
#12	A000020053	11/16"	1-1/4"	17 mm	32 mm	1/2"
#16	A000020054	13/16"	1-1/2"	21 mm	38 mm	1/2"
#20	A000020055	13/16"	1-3/4"	21 mm	44 mm	1/2"
#24	A000020056	1-1/16"	2"	27 mm	51 mm	1/2"
#28	A000020057	1-5/16"	2-1/4"	33 mm	57 mm	1/2"
#32	A000020058	1-9/16"	2-1/2"	40 mm	64 mm	1/2"
#36	A000020059	1-13/16"	2-3/4"	46 mm	70 mm	1/2"
#40	A000020060	2-1/16"	3"	52 mm	76 mm	1/2"
#44	A000020061	2-5/16"	3-1/4"	59 mm	83 mm	1/2"
#48	A000020062	2-9/16"	3-1/2"	65 mm	89 mm	1/2"
#52	A000020063	2-13/16"	3-3/4"	71 mm	95 mm	1/2"
#56	A000029353	3-1/16"	4	78 mm	102 mm	1/2"
#60	A000029354	3-5/16"	4 1/4	84 mm	108 mm	1/2"
#64	A000025175	3-9/16"	4-1/2"	91 mm	114 mm	1/2"
#72	A000029355	1-7/8"	5"	48 mm	127 mm	1/2"
#88	A000029357	3-1/8"	6"	79 mm	152 mm	1/2"
#104	A000029358	4-1/8"	7"	105 mm	178 mm	1/2"

## Exhaust Clamps

Standard exhaust clamps have a u-bolt size of 5/16" while heavy duty clamps have 3/8" u-bolts.

Size	Standard	Heavy Duty
1-5/8"	9I1583	-
1-3/4"	9I1584	-
1-7/8"	9I1585	-
2"	-	9I1610
2-1/8"	9I1587	0617208
2-3/4"	-	A000010876
3"	-	A000010877
3-1/2"	-	A000010878



## Nylon Cable Ties

Natural	Black UV Resistant	Length (inches)	Tensile Strength (lbs)	Package Quantity
9I1673	9I1674	4"	18	100
9I1675	9I1676	7-1/2"	50	100
9I1677	9I1678	11"	50	100
9I1679	9I1680	14"	50	100
A000009596	A000009597	14"	120	100
9I2566	-	40"	250 (Reusable)	1

## Bolt Gauge (Metric and U.S.)

Part Number: A000019628

Excellent for sizing bolts, screws, nuts (USS, SAE, and Metric) and twist drills. Measures bolt diameter with sizing holes. Gauges hex nuts and washers (USS, SAE). Measures U.S. and Metric thread pitch. Gauges flat headed metal and wood screws. Includes a ruler marked with inches and millimeters.



**AGC Fuse Kit (80 Pieces)**  
Part Number: 9I4760

Description	Quantity	Part No.
6 amp	10	9I4765
7-1/2 amp	10	A000000499
10 amp	10	9I4767
15 amp	10	9I4768
20 amp	10	9I4769
25 amp	10	2I5197
30 amp	10	2I3420
35 amp	10	A000000500



**ATC Fuse Kit (40 Pieces)**  
Part Number: A000000148

Description	Quantity	Part No.
5 amp	3	A000000191
7-1/2 amp	2	A000000190
10 amp	5	A000000430
15 amp	10	A000000189
20 amp	5	A000000188
25 amp	5	A000000187
30 amp	10	A000000186



**ATM Fuse Kit (30 Pieces)**  
Part Number: A000014476

Description	Quantity	Part No.
5 amp	5	A000017473
10 amp	5	A000014215
15 amp	5	A000014216
20 amp	5	A000014217
25 amp	5	A000014218
30 amp	5	A000014219



Grease Zerk Kit - Standard (35 Pieces)

Part Number: 9I2545

Size	Pitch	Angle	Quantity	Part No.
1/4"	28	Straight	10	2I6227
3/16"	Drive In	Straight	3	9I2551
1/4"	28	65°	3	9I2549
1/4"	28	90°	3	9I2550
1/8"	Pipe Thread	90°	3	0972134
1/4"	28	45°	3	2I8200
1/8"	Pipe Thread	Straight	7	3B8489
1/8"	Pipe Thread	45°	3	9I2547



Grease Zerk Kit - Metric (27 Pieces)

Part Number: 9I2546

Size	Pitch	Angle	Quantity	Part No.
6 mm	1.0	Straight	5	2I2757
8 mm	1.0	Straight	5	9I2554
10 mm	1.0	Straight	5	9I2558
6 mm	1.0	45°	2	9I2370
8 mm	1.0	45°	2	9I2552
10 mm	1.0	45°	2	9I2556
6 mm	1.0	90°	2	9I2555
8 mm	1.0	90°	2	9I2553
10 mm	1.0	90°	2	9I2557



Vinyl Terminal Kit with Crimper (240 pieces)  
Part Number: A000009427

Color	Gauge	Stud Size	Tab Size	Description	Quantity	Part No.
Blue	16-14	-	-	Butt Connector	20	9I1902
Blue	16-14	#6	-	Ring-Molded	10	9I1925
Blue	16-14	#10	-	Ring-Molded	10	9I1927
Blue	16-14	#6	-	Spade-Molded	10	9I1872
Blue	16-14	#10	-	Spade-Molded	10	9I1874
Blue	16-14	-	.250 x .030	Male Quick Disconnect	10	9I1833
Blue	16-14	-	.250 x .030	Female Quick Disconnect	10	9I1834
Red	22-18	-	-	Butt Connector	20	9I1901
Red	22-18	#6	-	Ring-Molded	10	9I1919
Red	22-18	#10	-	Ring-Molded	10	9I1921
Red	22-18	#6	-	Spade-Molded	10	9I1869
Red	22-18	#10	-	Spade-Molded	10	9I1871
Red	22-18	-	.250 x .030	Male Quick Disconnect	10	9I1829
Red	22-18	-	.250 x .030	Female Quick Disconnect	10	9I1830
Yellow	12-10	-	-	Butt Connector	20	9I1903
Yellow	12-10	5/16"	-	Ring-Molded	10	9I1954
Yellow	12-10	3/8"	-	Ring-Molded	10	9I1955
Yellow	12-10	#8	-	Ring-Molded	10	9I1951
Yellow	12-10	#10	-	Ring-Molded	10	9I1952
Yellow	12-10	#8	-	Spade-Molded	10	9I1876
Yellow	12-10	#10	-	Spade-Molded	10	9I1877
-	-	-	-	Crimper	1	-



**Nylon Terminal Kit with Crimper (240 pieces)**

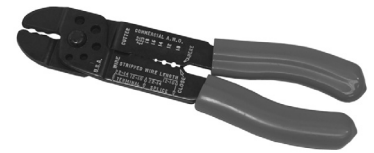
Part Number: A000009426

Color	Gauge	Stud Size	Tab Size	Description	Quantity	Part No.
Blue	16-14	-	-	Butt Connector	20	9I1905
Blue	16-14	#6	-	Ring-Molded	10	9I1934
Blue	16-14	#10	-	Ring-Molded	10	9I1936
Blue	16-14	#6	-	Spade-Molded	10	9I1882
Blue	16-14	#10	-	Spade-Molded	10	9I1884
Blue	16-14	-	.250 x .030	Male Quick Disconnect	10	9I1850
Blue	16-14	-	.250 x .030	Female Quick Disconnect	10	9I1851
Red	22-18	-	-	Butt Connector	20	9I1904
Red	22-18	#6	-	Ring-Molded	10	9I1928
Red	22-18	#10	-	Ring-Molded	10	9I1930
Red	22-18	#6	-	Spade-Molded	10	9I1879
Red	22-18	#10	-	Spade-Molded	10	9I1881
Red	22-18	-	.250 x .030	Male Quick Disconnect	10	9I1848
Red	22-18	-	.250 x .030	Female Quick Disconnect	10	9I1849
Yellow	12-10	-	-	Butt Connector	20	9I1906
Yellow	12-10	5/16	-	Ring-Molded	10	9I1964
Yellow	12-10	3/8	-	Ring-Molded	10	9I1965
Yellow	12-10	#8	-	Ring-Molded	10	9I1961
Yellow	12-10	#10	-	Ring-Molded	10	9I1962
Yellow	12-10	#8	-	Spade-Molded	10	9I1886
Yellow	12-10	#10	-	Spade-Molded	10	9I1887
-	-	-	-	Crimper	1	-

**Cutter Crimper**

Part Number: A000043037

Cuts and strips wire 22 - 10 gauge. Crimps insulated and non-insulated connectors. Cuts 4-40, 6-32, 10-24, and 10-32 bolts.

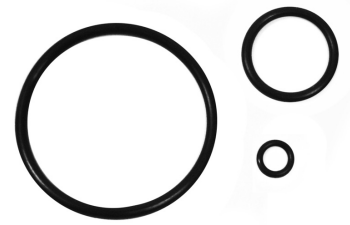


**ORFS Fitting 90D O-Ring Kit Nitrile (140 Pieces)**

Part Number: 9I2337

Description	Quantity	Part No.
011-N90	20	9I1614
012-N90	20	9I1616
014-N90	20	9I1617
016-N90	20	9I1618
018-N90	20	9I1619
021-N90	20	9I1620
025-N90	10	9I1621
029-N90	10	NSS

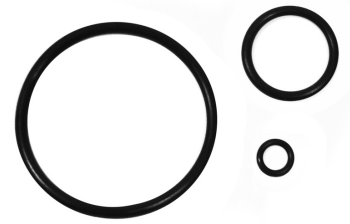
NSS - Not Sold Separately

**Boss Fitting 90D O-Ring Kit Nitrile (180 Pieces)**

Part Number: 9I2336

Description	Quantity	Part No.
901-N90	10	9I1623
902-N90	10	9I1625
903-N90	10	9I1626
904-N90	10	9I1627
905-N90	10	9I1628
906-N90	10	9I1629
907-N90	10	9I1630
908-N90	10	9I1631
909-N90	10	9I1632
910-N90	10	9I1634
911-N90	10	9I1484
912-N90	10	9I2345
913-N90	10	NSS
914-N90	10	9I1487
916-N90	10	9I1488
918-N90	10	9I1489
920-N90	5	9I1491
924-N90	5	9I1492
928-N90	5	9I1493
932-N90	5	9I1495

NSS - Not Sold Separately



Metric 70D O-Ring Kit (381 Pieces)  
Part Number: 9I2334

Diameter x Cross Section (mm)	Quantity	Part No.
2.8 x 1.9	20	NSS
3.8 x 1.9	20	NSS
4.8 x 1.9	18	NSS
5.8 x 1.9	18	9I2393
6.8 x 1.9	18	NSS
7.8 x 1.9	18	9I2395
8.8 x 1.9	18	9I2396
9.8 x 2.4	13	9I2397
10.8 x 2.4	13	9I2398
11.8 x 2.4	13	9I2399
13.8 x 2.4	13	9I2400
15.8 x 2.4	13	9I2401
17.8 x 2.4	13	9I2402
19.8 x 2.4	13	9I2403
20.0 x 3.0	10	9I2404
22.0 x 3.0	10	9I2405
24.1 x 3.1	10	9I2407
24.7 x 3.1	10	9I2408
29.4 x 3.1	10	9I2410
34.4 x 3.1	10	9I2414
39.4 x 3.1	10	NSS
44.4 x 3.1	10	NSS
22.1 x 3.5	10	9I2406
25.7 x 3.5	10	9I2409
29.7 x 3.5	10	9I2411
31.7 x 3.5	10	9I2412
33.7 x 3.5	10	9I2413
35.7 x 3.5	10	9I2415
39.7 x 3.5	10	9I2417
47.7 x 3.5	10	NSS



NSS - Not Sold Separately



SAE 70D O-Ring Kit (382 Pieces)  
Part Number: 9I2335

Description	Quantity	Part No.
006-N70	20	9I1496
007-N70	20	NSS
008-N70	20	9I1498
009-N70	20	NSS
010-N70	20	9I1500
011-N70	20	9I1501
012-N70	20	9I1503
110-N70	13	9I2341
111-N70	13	9I1505
112-N70	13	0972151
113-N70	13	2I5863
114-N70	13	0972152
115-N70	13	2I3932
116-N70	13	A000032579
210-N70	10	NSS
211-N70	10	9I1513
212-N70	10	9I1514
213-N70	10	9I1515
214-N70	10	9I1516
215-N70	10	9I1517
216-N70	10	9I1518
217-N70	10	9I1519
218-N70	10	9I1520
219-N70	10	9I1521
220-N70	10	9I1522
221-N70	10	9I2385
222-N70	10	9I2386
325-N70	7	NSS
326-N70	7	9I2388
327-N70	7	9I2389

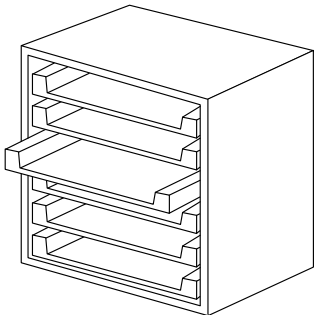


NSS - Not Sold Separately

Four or Six Tier Security Cabinets

These cabinets feature four or six sliding trays for use with the drawers listed below. These cold-rolled steel cabinets include a standard baked, gray enamel finish. Six tier cabinet includes a keyed sliding lock system.

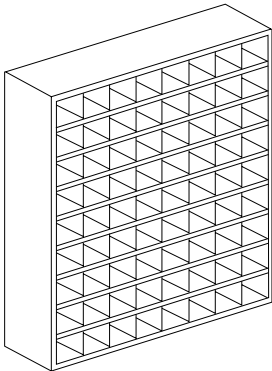
Part No.	Description
A000002867	Four Tier Security Cabinet
A000001192	Six Tier Security Cabinet (Lockable)



Compartment Bins

These steel constructed 72-hole compartment bin has the standard baked gray enamel finish. Each individual bin has a one inch lip for labels and holding parts in place.

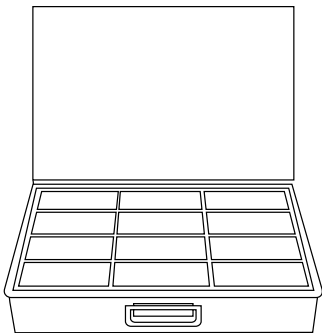
Part No.	# of Bins	Exterior Size (H x W x D)	Opening Size (H x W )
A000001351	72	42" x 35-1/4" x 11-7/8"	4 5/8" x 4-1/4"



Metal Drawers

Organizes your terminals, fasteners, and accessories into separate compartments. Plastic liners have rounded bottoms for easy parts removal. Steel box is finished in rust and acid resistant baked grey enamel paint.

Part No.	Description
9I1744	12 Compartment Metal Drawer
A000001194	16 Compartment Metal Drawer
A000001193	24 Compartment Metal Drawer
A000009699	Adjustable Compartment Metal Drawer



# Safety Accessories

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## Protection and Safety Accessories

- Hearing Protection ..... 10.1
- Respiratory Protection ..... 10.2
- Safety Glasses ..... 10.4
- Cords ..... 10.6
- Lens Cleaning ..... 10.6
- Hard Hats, Liners, Headgear and Face Shields ..... 10.7
- Gloves..... 10.8
- Body Protection ..... 10.13
- Fall Protection ..... 10.15
- Fire Extinguishers ..... 10.19
- First Aid Kits ..... 10.20
- Facility Products..... 10.21
- Mirrors ..... 10.23
- Work Platforms ..... 10.24
- Load Protection..... 10.25
- Truck Protection ..... 10.27
- Padlocks ..... 10.29
- Electrical Lockout Devices..... 10.30
- Hasps ..... 10.31
- Lockout Stations and Kits ..... 10.32
- Tags, Covers and Logs ..... 10.33

## Radians Rad Band™ 23

Part Number: A000013341

- High density construction is lightweight and very durable
- Super soft Jelli™ plugs are made of FDA approved materials
- Non-toxic, washable
- NRR Rating (dB): 23
- Made in the USA



## Radians Snug Plugs™

Part Number: A000013342

- Super soft Snug Plugs are washable and reusable
- Corded
- FDA approved materials are non-toxic
- NRR Rating (dB): 28
- Made in the USA
- Quantity: 100



## Radians Resistor™ 32 Disposable Foam Earplugs

Part Number: A000049408

- Tapered bullet shape
- Extremely soft foam plug
- Uncorded
- FDA approved materials are non-toxic
- NRR Rating (dB): 32
- Made in the USA
- Quantity: 200



## Radians Resistor™ 29 Earplugs

Part Number: A000029682

- Lightweight foam provides a comfortable seal without pressure
- Can be combined with ear muffs or other personal protection equipment
- Corded
- NRR Rating (dB): 29
- Made in the USA
- Quantity: 100



## Radians Cap Mount

Part Number: A000014126

- Universal design fits virtually all slotted hard hats
- Foam-filled
- Lightweight, durable construction
- NRR Rating (dB): 22



## Radians Earmuffs

Part Number: A000013338

- Rugged construction provides durability
- Padded, adjustable headband
- Soft foam-padded ear cups
- Dielectric
- NRR Rating (dB): 26



### 3M™ Particulate Respirator 8271, P95

Part Number: A000019571

This disposable P95 particulate respirator features 3M proprietary advanced electret filter media, foam face seal and 3M™ Cool Flow™ Valve to help provide comfortable worker respiratory protection against certain oil and non-oil based particles. Ten per box.

- NIOSH Approved P95
- 3M™ CoolFlow™ Valve helps keep wearer cool
- Adjustable M noseclip
- Comfortable foam face seal and braided headbands
- Applications: Dry Chemical Handling, Petrochemical Manufacturing, Paper Processing, Pharmaceutical Manufacturing, Assembly and Mechanical, Cleaning

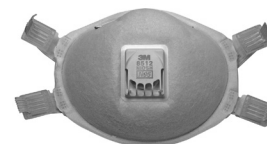


### 3M™ Particulate Respirator 8512, N95

Part Number: A000019570

This disposable N95 particulate welding respirator helps provide respiratory protection for applications such as welding or soldering where metal fumes may be present. The 3M™ Cool Flow™ Valve and fully adjustable straps provide added comfort.

- Ideal for welding and metal pouring
- Flame resistant per modified ASTM D2859
- 3M™ CoolFlow™ Valve
- Soft nose foam; adjustable noseclip and straps
- Standards/Approval: N95, KMOEL P2
- Applications: Airborne Biological Particles, Metal Repair



### 3M™ Half Facepiece Reusable Respirator 6100/07024 (AAD)

This half facepiece reusable respirator offers reliable and convenient respiratory protection and is suitable for many situations, helping provide protection against particulates and a wide variety of gases and vapors according to NIOSH approvals. The 6000 Series offers versatility for many environments and applications helping to provide protection against particulates and a wide variety of gases and vapors when used with approved cartridges and filters. When properly fitted and used with approved 3M™ Cartridges and Filters, helps provide respiratory protection from a variety of gases, vapors and particulate hazards at concentrations up to 10 times the Permissible Exposure Limit. Not for use in environments that are immediately dangerous to life or health. For use with 3M™ Cartridges 6000 Series; 3M™ Filters 2000, 2200, 7000 or 5000 Series; or 3M™ Dual Airline Systems.



Part No.	Size	Description	Qty.	Cartridge	Filter
2I2016	Small	Face Piece Only	1	2I2019	A000044283/2I2021
2I2017	Medium	Face Piece Only	1	2I2019	A000044283/2I2021
2I2018	Large	Face Piece Only	1	2I2019	A000044283/2I2021

### 3M™ Half Facepiece Disposable Respirator Assembly 52P71 and 53P71

When properly fitted, this respirator helps provide respiratory protection from certain organic vapors and particulates at concentrations up to ten times the Permissible Exposure Limit. Do not use in environments that are immediately dangerous to life or health. Use for a variety of applications including spray painting, pesticides, agriculture, construction and transportation. NIOSH approved.

Part No.	Size	Product Series	Standards/Approval	Qty.	Filter
2I2014	Medium	Half Facepiece 5000	Organic Vapors	1	A000044283/2I2021
2I2015	Large	Half Facepiece 5000	Organic Vapors	1	A000044283/2I2021



## Organic Cartridges

Use in a variety of workplace applications, including petrochemical, chemical manufacturing, construction, transportation and electronics. When properly fitted, helps provide respiratory protection from certain organic vapors at concentrations up to 10 times the Permissible Exposure Limit with half facepieces or 50 times PEL with full facepieces. Full facepieces must be quantitatively fit tested to claim assigned protection factor above 10 in negative pressure mode. Not for use in environments that are immediately dangerous to life or health.



Part No.	3M No.	Use With:	Standards/Approval	Application	Qty.
2I2019	3M™ Organic Vapor Cartridge 6001	3M™ Half and Full Facepieces 6000, 7000 and FF-400 Series with bayonet filter holders	Organic Vapors	Batch-Charging, Clean-up, Assembly and Mechanical, Painting, Change-Overs, Seal Coatings, Chemical Dispensing, Parts Cleaning, Cleaning	2/box

## P-Series Filters

A filter intended for removal of any particle including oil-based liquid aerosols. They may be used for any solid or liquid particulate airborne hazard. NIOSH requires that respirator manufacturers establish time-use limitations for all P-series filters. 3M recommends that in atmospheres containing oil aerosols, P-series filters should be used and reused for no more than 40 hours of use or 30 days, whichever occurs first, unless the filter needs to be changed for hygiene reasons, is damaged, or becomes difficult to breathe through before the time limit is reached. When used in atmospheres containing non-oil aerosol, 3M P-series filters should be used and reused subject to conditions of hygiene, damage and increased breathing resistance.



- P95 Particulate Filter—At least 95% filter efficient when tested with ~0.3 µm DOP (Diethyl Phthalate) aerosol.
- P100 Particulate Filter—At least 99.97% filter efficient when tested with ~0.3 µm DOP (Diethyl Phthalate) aerosol.

Part No.	3M No.	Use With:	Standards/Approval	Application	Qty.
A000044283	3M™ Particulate Filter 5P71/07194 (AAD)	3M™ Respirators 5000 Series or 3M™ Cartridges 6000 Series or 3M™ Filter Adapter 603, and 3M™ Filter Retainer 501	P5	Assembly and Mechanical, Painting, Cleaning	10/box
2I2021	3M™ Particulate Filter 2091/07000 (AAD)	3M™ Respirators 5000 Series or 3M™ Cartridge 6000 Series with 3M™ Adapter 502, or 3M™ Half and Full Facepieces 6000, 7000 and FF-400 Series with bayonet filter holders	P100	Soldering, Metal Pouring, Brazing, Pesticide Application, Remediation, Welding, Assembly and Mechanical, Torch Cutting, Painting, Cleaning	2/box
2I2034	3M™ Filter Adapter 502	Required for part numbers 2I2021 and A000044283. Use to attach 3M™ Particulate Filters 2000 Series and 7093 to the 3M™ Respirators 5000 Series and 3M™ Cartridges 6000 Series for a wide variety of applications	NA	Assembly and Mechanical, Painting, Cleaning	20/box

**Diamondbacks™ Safety Glasses**

- High-impact polycarbonate lenses
- 99.9% UV protection
- Wrap-around design hugs the face
- Anti-fog coating on lenses
- Scratch-resistant coating
- Non-slip nose piece
- Non-slip temples
- ANSI Z87.1 compliant

Description	Part No.
Clear	A000044285
Gray	A000044286
Smoke Mirror	A000044287



**3M™ Readers Safety Eyewear**

- Impact-resistant lenses with 1.5X or 2.0X magnification
- Dual-lens frame with adjustable temples
- 99.9% UV protection
- Black frame with clear lens
- ANSI Z87.1 and CSA Z94.3-2005 compliant

Description	Part No.
+2.0	A000046343
+1.5	A000046578



**Radians Rad-Atac Low IR™**

Part Number: A000029686

- Rubber tipped temples and lightweight frame provide a comfortable fit
- Polycarbonate lens provides impact resistance
- 1.7 IR filter lens (not designed for primary eye protection in welding, brazing or similar procedures)
- ANSI Z87.1 compliant



**Radians Chemical Goggles**

Part Number: A000018784

- Clear, anti-fog, fits over most prescription eye wear
- Indirect vent goggle provides protection against chemical splashes
- Adjustable neoprene strap
- Meets ANSI Z87.1+ standards



**Radians Chief™**

Part Number: A000013346

- Close fitting design with integrally molded brow guard and deep side shields provides all around protection, can be worn over prescription glasses
- Clear, traditional looking safety glasses offering outstanding vision protection
- Reinforced side shields provide high-impact lateral protection
- ANSI Z87.1 compliant, made in the USA



## Radians Cobalt™

Part Number: A000014116

- A lightweight frame combines style and protection
- Wrap around design fits comfortably to provide excellent protection
- Polarized lenses, blocks 99.9% of sun's UV rays
- ANSI Z87.1 compliant



## Radians Galaxy™

Part Number: A000013349

- Offers a stylish red, white and blue wrap around design
- Excellent protection at a very affordable price
- Temples are adjustable
- ANSI Z87.1 compliant



## Radians Illusion™

Part Number: A000019033

- Wraparound single, clear lens provides unobstructed field of vision
- Flexible non-slip temple tips and soft rubber nosepiece for extreme comfort
- Slim line temples fit well under earmuffs or hard hats
- Extended brow guard molded into the top of the lens for added protection
- ANSI Z87.1 compliant



## Radians Revelation™

Part Number: A000014117

- Polarized lenses provide superior glare control for bright outdoor conditions
- Blocks 99.9% of the sun's harmful UV rays
- Lightweight design offers an extremely comfortable fit
- ANSI Z87.1-2003 compliant
- Revelation has a 5-position ratchet plus 4-position telescoping temples for superior fit



## Remington T-70™ Safety Glasses

Part Number: A000019032

- Polycarbonate lenses provide maximum impact resistance
- Full wraparound frame provides ultimate protection
- Soft, rubber temple pads provide a comfortable, secure fit
- Neck cord included

### Polarized Lens

- Polarized polycarbonate lens eliminates reflected glare and reduces eye fatigue
- Polarized glass comes with neck cord and carrying case
- Exceeds ANSI Z87.1+ impact standards





**Radians Tech Cord**

Part Number: A000014121

Fits comfortably around any size head. Adjustor allows a snug fit.



**Radians Lens Cleaning Station**

Sturdy economical lens cleaning stations provide instant access for all lens cleaning needs. Strategically placed stations will promote proper lens cleaning techniques extending the life of prescription and non-prescription safety glasses. The specially developed formula will clean greasy and oily glasses while providing an anti-fog/anti-static coating. Low lint, non-abrasive tissue leaves lenses clear and streak free. May also be used on face shields, goggles and full face respirators.

- Anti-fog and anti-static
- Silicone free
- Made in the USA



Description	Part No.
Cleaning Station: 16 oz. solution with 1,200 tissues	A000013343
Cleaning Station: 8 oz. solution with 600 tissues	A000013344

**Radians Lens Cleaning Towelettes**

Part Number: A000013582

- Easy to use disposable lens cleaning towelettes
- Anti-fog and anti-static
- Silicone free
- Excellent for cleaning glass, plastic and polycarbonate
- 100 foil wrapped towelettes in each dispenser
- 1000 towelettes per case
- Made in the USA



### Hard Hats

- Pillowed brow pad
- Nylon crown strap suspensions
- Nape cushion on ratchet suspension
- Vertical height adjustment
- Six-point quick ratchet adjustment system
- High density polyethylene construction
- Universal accessory slots

Description	Part No.
Yellow Hard Hat	A000016890
White Hard Hat	A000016891
Capshield Mount	A000021049



### Boss Hard Hats

- Meets ANSI Z89.1-2003
- Type 1 EN397.1995, Class E, G, and C
- CE Certified
- Impact absorbent polyethylene shell
- Ratcheting, adjustable suspension fits 6-7/8 to 7-3/4 (55 - 62 cm)
- Adjustable/removable chin strap for a secure fit

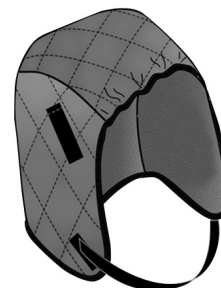
Description	Part No.
Yellow Hard Hat with Cat® Logo	A000021207
White Hard Hat with Cat® Logo	A000021208



### Hard Hat Liners

These flame retardant (until washed) liners fit easy under hard hats with aid of three suspension tabs. One size fits all.

Description	Part No.
Single layer; gold cotton flannel fabric.	2I2346
Two layer; blue cotton twill outer shell with red polyester fleece lining; long nape; lining/fasteners flame resistant.	2I2347
Two layer; navy cotton twill outer shell with red polyester fleece lining; extra long nape; lining/fasteners flame resistant.	2I2348
Foam middle, red heavy weight fleece lining; foam and binding are flame retardant; shell, fleece and fasteners are flame resistant.	2I2349



### Headgear

Part Number: A000013337

- Ratchet-style suspension and adjustment system
- Available in blue



### Face Shields

Use with headgear part number: A000013337

Shield Size	Tinted Material	Thickness	Part No.
9" x 15-1/2"	Clear Acetate	0.040"	A000013336
8" x 15-1/2"	Smoke Polycarbonate	0.060"	A000013917



## Cat® Leather Unlined Gloves

Brown split unlined leather. Shirred elastic wrist for snug fit. Gunn cut design with keystone thumb for comfort and mobility.

Description	Part No.
Large	A000021195
Jumbo	A000021196



## Cat® Jersey Gloves

Heavy black jersey with PVC micro dot palm for extra grip. Gunn cut design. Knit wrist for snug fit.

Description	Part No.
Large	A000021198



## Cat® Cut Resistant String Knit Gloves

Extra tough HPPE/polyester/spandex shell. Polyurethane-coated palm and fingers. Adjustable wrist strap. EN 388: 4342 (Cut Level 3).

Description	Part No.
Medium	A000050206
Large	A000050207
X-Large	A000050208



## Cat® Leather Palm Gloves

Gray lined split leather palm. Leather index finger, leather finger tips, and leather knuckle strap for added protection. Black cotton back. Gunn cut design with straight thumb. Shirred elastic wrist for snug fit.

Description	Part No.
Large	A000021199



## Split Leather Palm Gloves

Part Number: A000014124

These standard size split leather gloves have cotton backs, leather knuckles, full leather index fingers, knuckle straps, and elastic around the wrists. They include 2-1/2 inch safety cuffs for quick glove removal and increased wrist protection. The Gunn pattern assures no seams are exposed in the palm.



## Boss 3/4 Leather Shirred Elastic Back Gloves

Gunn cut pattern. Inside-sewn, double split cowhide leather palm. Rubberized gauntlet cuff. Sewn with cut resistant aramid thread. Wing thumb. 3/4 leather back with shirred elastic back.

Description	Quantity	Part No.
Large	1 pair	A000053795



## Boss Thermal Lined Grain Leather Gloves

Premium lined grain leather. Gunn-cut design with keystone thumb and shirred elastic back.

Size	Quantity	Part No.
Large	1 pair	A000035281
X-Large	1 pair	A000035282



## Boss Unlined Premium Grain Leather Gloves

Premium unlined grain leather. Gunn-cut design with keystone thumb and shirred elastic back.

Size	Quantity	Part No.
Large	1 pair	A000035283
X-Large	1 pair	A000035284



## Boss Welder's Gloves

Fully lined split leather welder sewn with heat and cut resistant Kevlar® thread. Gunn-cut design with reinforced wing thumb strap for excellent abrasion resistance and longer wear. Welted seams greatly reduce the chance for burn-through at the seams. Durable one-piece back with gauntlet cuff for excellent forearm protection.

Size	Quantity	Part No.
Large	1 pair	A000035280



## Boss Arctik Tek™ Palm Dip Sandy Acrylic Lined Gloves

Acrylic terry-lined polyester shell for maximum warmth. Sandy foam nitrile coated palm. Knit wrist.

Size	Quantity	Part No.
Large	1 pair	A000046392
X-Large	1 pair	A000046405



## Boss Jersey Gloves

Our classic brown jersey gloves are available in various weights for a variety of general purpose applications, clean up and assembly work. The knit wrist provides a secure fit and locks out debris.

Size	Weight	Quantity	Part No.
Large	9 oz.	1 pair	A000035285
Large	10 oz.	1 pair	A000035286



## Boss Cotton Gloves

Eight ounce cotton blend flannel tightly woven to provide greater seam strength and longer wear. Perfect for a variety of tasks providing comfort and general protection. Navy blue knit wrist locks out dirt and debris. Clute-cut design with continuous thumb.

Size	Quantity	Part No.
Large	1 pair	A000035287



## Boss Reversible String Knit Gloves

Our reversible string knits are available in a variety of blended fabrics for optimum performance. The seamless design provides all day comfort and helps the gloves last longer. Wear alone or as a liner for added warmth and padding. Ribbed knit wrist seals out dirt and debris.

Size	Quantity	Part No.
One Size	1 pair	A000035288



## Boss Nitrile Gloves

Boss nitrile disposable gloves are resistant to snags, nicks and abrasions offering light duty protection from many common household chemicals. Rolled cuff for easy removal. Latex free. Seamless design for better wear and tactility. Eight mil. nitrile.

Description	Size	Quantity/Box	Part No.
Lightly Powdered	Large	50 count	A000035457
Lightly Powdered	X-Large	50 count	A000035458
Powder Free	Medium	50 count	A000037655
Powder Free	Large	50 count	A000035556
Powder Free	X-Large	50 count	A000035557



## Neoprene Gloves

Part Number: A000034719

These heavy-duty neoprene gloves offer durability and safety by protecting against many hazardous chemicals. Seventeen inches in length. Comfortable knit cotton lining absorbs moisture. One size fits all. Sold in pairs.



## PVC Propane Cylinder Handling Retracto-Gloves

Part Number: A000044294

The Retracto Gloves help reduce burns and injury while replacing LPG tanks. Retractable and ready to use, the gloves are designed to be securely attached to a forklift with a spring loaded chain. Velcro also keeps the pair of gloves in place while truck is in operation.



## Reflectivz™ Hi-Visibility Thermal Lined Gloves

- Hi-visibility material
- Reflective knuckle strap
- Polyester knit wrist
- Waterproof plated palm

Size	Quantity	Part No.
Medium	1 pair	A000050138
Large	1 pair	A000050136
X-Large	1 pair	A000050137



## Mechanix Original Gloves (Men's and Women's)

- Form-fitting stretch Spandex top for a comfortable fit
- Durable and dexterous synthetic leather palm
- Easy-entry, elastic cuff
- TPR (Thermal Plastic Rubber) hook and loop closure for a secure fit to the wrist
- Reinforced thumb panel for added durability
- Machine washable

Color	Style	Size	Inches Across Palm	Quantity	Part No.
Black	Men	Medium	3.50"	1 pair	A000017126
Black	Men	Large	4.00"	1 pair	A000017125
Black	Men	X-Large	4.50"	1 pair	A000017351
Black	Men	XX-Large	5.00"	1 pair	A000017474
Black	Women	Medium	2.75"	1 pair	A000042390
Black	Women	Large	3.50"	1 pair	A000042391



## Mechanix FastFit® Gloves

- Easy-on, easy-off elastic cuff
- TrekDry® material top helps keep hands dry and comfortable
- Durable and dexterous synthetic leather palm
- Anatomically designed two-piece palm eliminates material bunching for a snug fit
- Machine washable

Color	Size	Inches Across Palm	Quantity	Part No.
Black	Medium	3.50"	1 pair	A000017442
Black	Large	4.00"	1 pair	A000017443
Black	X-Large	4.50"	1 pair	A000017350
Black	XX-Large	5.00"	1 pair	A000017444



## Mechanix Safety FastFit Gloves

- Durable ANSI-107 compliant high-visibility materials
- 3M® Scotchlite™ reflective ink increases visibility
- Easy-on, easy-off elastic cuff
- Form-fitting TrekDry® material top of hand helps keep hands dry and comfortable
- Machine washable

Color	Size	Inches Across Palm	Quantity	Part No.
Hi-Viz Yellow	Medium	3.50"	1 pair	A000017128
Hi-Viz Yellow	Large	4.00"	1 pair	A000017127



## Diamond Grip™ Powder-Free Latex Gloves

Premium quality natural rubber latex. Thicker than typical latex gloves for enhanced protection. Unique design prevents ripping and tearing. Enhanced, textured fingertips for added protection and better functionality. Ideal for rugged tasks in mid- to heavy-duty environments. Non-sterile. Ambidextrous. Beaded cuff. Textured fingers. (Cuff Thickness: 5.1 mils, Palm Thickness: 6.3 mils, Finger Thickness: 7.9 mils)

Size	Quantity/Box	Part No.
Medium	100 count	A000035275
Large	100 count	A000027549
X-Large	100 count	A000027550



## Latex Gloves

Lightly powdered. Excellent feel and gripping power. Five mil. latex.

Size	Quantity/Box	Part No.
Medium	100 count	A000011689
Large	100 count	A000011690
X-Large	100 count	A000011691



## Nitrile Gloves

No natural rubber latex proteins. Chemical and solvent resistant. Superior puncture and abrasion resistance. Lightly powdered for easy slip-on. Textured grip. Five mil. nitrile.

Size	Quantity/Box	Part No.
Medium	100 count	A000011692
Large	100 count	A000011693
X-Large	100 count	A000011694



## Powder-Free Nitrile Gloves

Powder free exam grade nitrile gloves. Chemical and solvent resistant. Superior puncture and abrasion resistance. Textured grip. Four mil. nitrile.

Size	Quantity/Box	Part No.
Medium	100 count	A000034052
Large	100 count	A000014725
X-Large	100 count	A000014726



## Raven Powder-Free Nitrile Gloves

Powder-free exam grade nitrile. Non-latex. Outstanding strength, wear and dexterity. Fully textured for enhanced gripping power. Six mil. nitrile.

Size	Quantity/Box	Part No.
Medium	100 count	A000050775
Large	100 count	A000050776
X-Large	100 count	A000050777

## Battery Maintenance Kit

Part Number: A000021089

OSHA requires that employees who work with batteries be furnished with the appropriate safety equipment.

Description	Part No.
Hard Hat (Yellow)	A000016890
Polyester/PVC Apron	A000021050
Capshield Mount	A000021049
Goggles, Chemical	A000018784
Gloves, Neoprene (17")	A000034719
Earplugs, Rad Band (23 dB)	A000013341
Face Shield, Clear Acetate	A000013336



## Tyvek® Coveralls

Tyvek® is a unique, non-woven material chemically and biologically inert. All coveralls are white, with a zipper front. Lightweight, easy to use and disposable. Excellent product for protecting clothing from oils, grease and dirt.

Description	Part No.
X-Large	2I2362
XX-Large	2I2363
XXX-Large	2I2364
XXXX-Large	2I2365





Shop Coats

These coats provide clothing protection during the occasional shop visit or while inspecting equipment. Each coat has one pocket at the chest and two at the waist line. Machine wash or dry clean. Available in navy blue (color).

Size	Length	Part No.
Medium	40"-42"	2I2368
Large	44"-46"	2I2370
X-Large	48"-50"	2I2372
XX-Large	52"-54"	2I2374



Back Supports

The durable contour design conforms to the body for a secure fit and is designed for the physical demands associated with lifting and carrying. The two-stage vintex-reinforced closure provides a tough defense against the harshest work environment. Machine washable.

Size	Fits Waist	Description	Part No.
X-Small	Up to 25" (64 cm)	Black	2I2246
Small	25"-30" (64-76 cm)	Black	2I2247
Medium	30"-34" (76-86 cm)	Black	2I2248
Large	34"-38" (86-97 cm)	Black	2I2249
X-Large	38"-42" (97-107 cm)	Black	2I2250
XX-Large	42"-46" (107-117 cm)	Black	2I2251



ProFlex Tennis Elbow Supports

Provide a wide base of support around the forearm. Lightweight and fully adjustable, these supports provide comfort over extended periods of wear. Machine washable.

Size	Length	Color	Part No.
Large	11"-12"	Gray	2I2272
X-Large	12"-13"	Gray	2I2273



**Turbo T-BACK™ Tie-Back Personal Fall Limiter**

Part Number: A000040608

- All-in-one, self-retracting lifeline/anchorage connector with a working capacity of 7.5 feet (2.3 m)
- Maximum working load rated to 400 pounds (181.4 kg)
- Designed for anchoring below a user's harness back D-ring for greater safety
- Integrated shock absorber especially designed for tie-back applications with load indicator device
- Locking snap hook with 3/4 inch gate opening designed specifically for tie-back use (5,000 pounds gate load capacity from any angle)



**Titan™ Fall Limiter**

Part Number: A000013206

- Offers 11 feet (3.4 m) of working capacity
- Maximum working load rated to 310 pounds (141.6 kg)
- Includes stainless steel swivel shackle and carabiner
- Requires less fall clearance than shock-absorbing lanyards
- Offers more mobility than a shock-absorbing lanyard
- Quick-activating stainless steel braking mechanism arrests free falls
- Compact, lightweight design, corrosion-resistant interior components



**Titan Positioning and Restraint Lanyard**

Part Number: A000013014

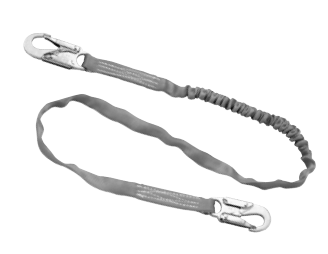
- Recommended for work positioning and restraint only
- Length: 6 feet
- Material: Polyester Rope (5/8")
- Maximum working load rated to 310 pounds (141.6 kg)
- Anchorage Connection: Locking Snap Hook
- Harness Connection: Locking Snap Hook
- Number of Legs: 1



**Titan Tubular Shock-Absorbing Lanyard**

Titan Tubular Shock-Absorbing Lanyards feature a built-in woven inner core that smoothly expands to reduce fall arrest forces, while the outer jacket serves as a back-up web lanyard.

Part No.	Material	# of Legs	Harness Connection	Anchorage Connection	Length	Maximum Working Load
A000014119	Webbing	1	Choke-Off Loop	Locking Snap Hook	6 ft.	310 lbs (141.6 kg)
A000014120	Webbing	1	Locking Snap Hook	Locking Snap Hook	6 ft.	310 lbs (141.6 kg)



## **Titan Pack-Type Shock-Absorbing Lanyard**

Part Number: A000013013

Titan Pack-Type Shock-Absorbing Lanyards include the shock absorber pack as an integral part of a standard lanyard. In the event of a fall, the pack smoothly expands to reduce fall forces while a back-up safety strap deploys for added fall protection.

- Length: 4-6 feet
- Material: Webbing
- Maximum working load rated to 310 pounds (141.6 kg)
- Anchorage Connection: Locking Snap Hook
- Harness Connection: Locking Snap Hook
- Number of Legs: 1



## **Web Lanyard with SofStop® Shock Absorber**

Part Number: A000032573

The Miller SofStop Shock Absorber pack is designed with a specially-woven inner core that smoothly expands up to 42 inches (1.1 m) to reduce fall arrest forces.

- Length: 6 feet
- Material: Webbing
- Maximum working load rated to 310 pounds (141.6 kg)
- Anchorage Connection: Locking Snap Hook
- Harness Connection: Locking Snap Hook
- Number of Legs: 1



## **SofStop® Shock Absorber (Only)**

Part Number: A000040607

The Miller SofStop Shock Absorber pack is designed with a specially-woven inner core that smoothly expands up to 42 inches (1.1 m) to reduce fall arrest forces.

- Length: 18 inches
- Maximum working load rated to 310 pounds (141.6 kg)
- Anchorage Connection: D-Ring
- Harness Connection: Locking Snap Hook

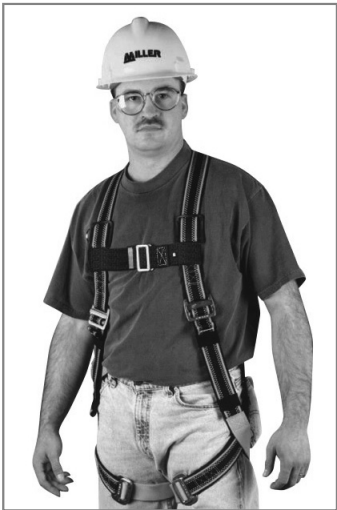


DuraFlex® Warehouse Picker’s Stretchable Harness

DuraFlex Harnesses conform to the shape of the worker, stretching with every movement, so there is no bunching, binding or kinking. With comfort unsurpassed, DuraFlex Harnesses offer wider end-user acceptance. And, a comfortable harness is worn properly, enhancing compliance and safety on the job site. Because DuraFlex Harnesses are stretchable, the worker has greater mobility with less fatigue.

- Back D-ring web extension
- Mating chest strap buckle
- Friction shoulder strap buckles
- Mating leg strap buckles
- Sub-pelvic strap
- Pull-down adjustment
- Pull-free lanyard rings
- Rated to 400 pounds (181.4 kg) capacity

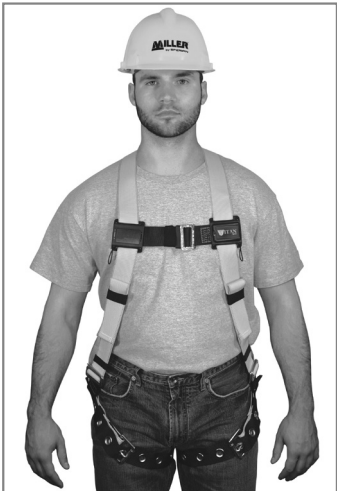
Size	Part No.
Small/Medium	A000040604
Universal	A000040605



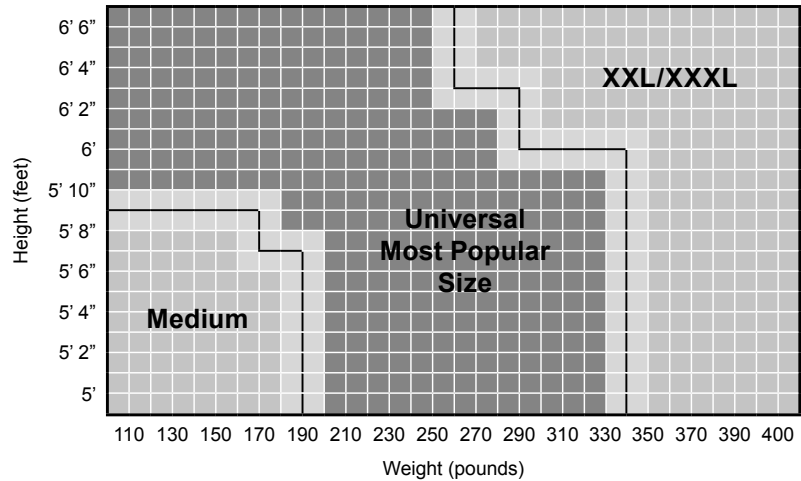
Fully Body Harness

- Fully adjustable designs
- Sliding back D-ring (no side D-ring)
- Mating shoulder strap buckles
- Mating chest strap buckle
- Two (2) pull-free lanyard rings
- Rated to 400 pounds (181.4 kg) capacity

Size	Part No.
Small/Medium	A000013010
Large/X-Large	A000013012
XX-Large	A000019525
XXX-Large	A000040606



Harness Size Reference Chart



Titan Body Belt with Single D-Ring

Includes three inches of back pad. The Titan Body Belt with single D-Ring has polyester webbing and a buckle tongue. For work positioning only. Not for fall arrest.

Size	Measurements	Part No.
Small	28"-37" (73-94 cm)	A000013005
Medium	33"-41" (83-104 cm)	A000013006
Large	37"-45" (94-114 cm)	A000013007
X-Large	41"-49" (104-124 cm)	A000013008
XX-Large	45"-53" (114-134 cm)	A000015968



Titan Body Belt with Two Side D-Rings

Includes three inches of back pad. The Titan Body Belt with two side D-Rings has polyester webbing and a buckle tongue. For work positioning only. Not for fall arrest.

Size	Measurements	Part No.
Small	28"-37" (73-94 cm)	A000013001
Medium	33"-41" (83-104 cm)	A000013002
Large	37"-45" (94-114 cm)	A000013003
X-Large	41"-49" (104-124 cm)	A000013004
XX-Large	45"-53" (114-134 cm)	A000015969



### Fire Classes

- **Class A Fires**—Ordinary combustible materials such as paper and cardboard.
- **Class B Fires**—Flammable or combustible liquids such as gasoline, grease and oil.
- **Class C Fires**—Electrical equipment such as wiring and circuits.



### Limited-Purpose Dry Chemical Fire Extinguisher

Sodium bicarbonate based. Can be used on Class B and C fires. Excellent for use in garages, service bays and on forklifts.

UL Rating	Capacity	Valve	Discharge Range	Discharge Time	Bracket	Rechargeable	Part No.
5B:C	2.0 lbs	Zytel-Nylon	4-6 ft.	8-12 sec.	Vehicle-Marine-Nylon (No Metal Strap)	N	A000000116
10B:C	2.9 lbs	Zytel-Nylon	6-8 ft.	8-12 sec.	Vehicle-Marine-Nylon	N	2I7535*
10B:C	2.9 lbs	Metal	8-12 ft.	8-12 sec.	Vehicle-Marine-Steel	Y	2I7536
10B:C	2.5 lbs	Metal	9-15 ft.	10 sec.	Vehicle-Marine-Steel	Y	9I4910

\*Metal strap available (Part No. - A000007719).

### Multi-Purpose Dry Chemical Fire Extinguisher

Ammonium phosphate blended with flow promoters and anti-caking chemicals help to give a long range and smooth, uninterrupted flow. For use on Class A, B and C fires.

UL Rating	Capacity	Valve	Discharge Range	Discharge Time	Bracket	Rechargeable	Part No.
1A-10B:C	2.5 lbs	Zytel-Nylon	6-8 ft.	8-12 sec.	Vehicle-Marine-Nylon	N	2I7534*
1A-10B:C	2.5 lbs	Metal	9-15 ft.	10 sec.	Wall/Vehicle-Marine-Steel	Y	9I4908
2A-10B:C	5.0 lbs	Metal w/Hose	12-18 ft.	14 sec.	Wall/Vehicle-Marine-Steel	Y	A000013244
3A-40B:C	5.0 lbs	Metal w/Hose	12-18 ft.	14 sec.	Wall/Vehicle-Marine-Steel	Y	2I2378
4A-60B:C	10.0 lbs	Metal w/Hose	20 ft.	19-21 sec.	Wall	Y	2I2379
6A-80B:C	20.0 lbs	Metal w/Hose	20 ft.	19-22 sec.	Wall	Y	2I2381

\*Metal strap available (Part No. - A000007719).

### Heavy Duty Brackets

Fits	Part No.
2.00"-2.75" diameter	A000037840
2.75"-4.25" diameter	A000019039
4.25"-6.25" diameter	A000019040



## 10 Person ANSI A First Aid Kit

Part Number: A000052401

Weatherproof case comes with a carrying handle and is wall mountable. Contents exceed the 2015 ANSI Class A (ANSI/ISEA Z308.1-2015) requirements and are sufficient to treat 10 or more people.

Class: A

Type: III

Pieces: 71

Size: 8" x 5" x 2.75"

### Includes:

- (16) Plastic Bandages, 1" x 3"
- (1) First Aid Tape, ½" x 5yd
- (10) Triple Antibiotic Ointment Packets
- (10) BZK Antiseptic Towelettes
- (1) CPR Mask with One Way Valve
- (1) Burn Dressing, 4" x 4"
- (10) First Aid/Burn Cream Packets, 0.9g
- (1) Cold Compress, 4" x 5"
- (2) Sterile Eye Pads
- (1) Eyewash, 1oz
- (6) Hand Sanitizer Packets, 0.9g
- (4) Nitrile Exam Gloves
- (1) Conforming Gauze Roll, 2"
- (1) Scissors
- (2) Gauze Dressing Pads, 3" x 3"
- (2) Trauma Pads, 5" x 9"
- (1) Triangular Sling/Bandage, 40" x 40" x 56"
- (1) First Aid Guide



## 25 Person ANSI A First Aid Kit

Part Number: A000052400

Weatherproof case comes with a carrying handle and is wall mountable. Contents meet the 2015 ANSI Class A (ANSI/ISEA Z308.1-2015) requirements and are sufficient to treat 25 or more people.

Class: A

Type: III

Pieces: 89

Size: 9.5" x 6.5" x 3"

### Includes:

- (10) BZK Antiseptic Towelettes
- (10) First Aid/Burn Cream Packets, 0.9g
- (10) Triple Antibiotic Ointment Packets
- (32) Plastic Bandages, 1" x 3"
- (6) Hand Sanitizer Packets, 0.9g
- (4) Gauze Dressing Pads, 3" x 3"
- (2) Nitrile Gloves
- (2) Sterile Eye Pads
- (2) Trauma Pads, 5" x 9"
- (1) Burn Dressing, 4" x 4"
- (1) Cold Compress, 4" x 5"
- (1) Conforming Gauze Roll, 2"
- (1) CPR Mask with One Way Valve
- (1) Eyewash, 1oz
- (1) First Aid Guide
- (1) First Aid Tape, ½" x 5yd
- (1) Scissors
- (1) Triangular Sling/Bandage, 40" x 40" x 56"



Stationary Eye Wash Unit

Part Number: 2I2382

This stationary eye wash units feature chrome-plated brass heads firmly mounted in a corrosion-resistant Cicolac® bowl. Operation is easy with the “push flag handle” which automatically controls pressure and volume. A wall mount bracket is included. Meets OSHA Standard: 1910.151 (C).



Portable Eye Wash Unit

Part Number: A000034391

Our emergency eye wash station provides a steady water flow and first aid relief virtually anywhere. Meets OSHA and ANSI 2358.1 standard requirements for a full 15 minute capacity of flushing. Constructed of FDA high-density polyethylene material; Wide fill cap for easy filling, cleaning and inspecting; Antibacterial additive for use in eyewash station protects water up to six months. Easily bolts to the wall. Manufactured in the USA.



Description	Part No.
Portable Eye Wash Unit	A000034391
Water Additive for Eye Wash Unit (8 oz. bottle)	A000035100

Gatorade Coolers

Size	Part No.
1 Gallon Cooler	2I2226
5 Gallon Cooler	2I2228





Wheel Chocks

Part Number: A000050159

Fiber-reinforced rubber wheel chock keeps light trucks and vans in place, thanks to its gripping, fluted design, which increases downward pressure, assuring tires always stay locked in place. 8.5 lbs, 10"L x 8"H x 6"W



Traffic Cones

Height	Part No.
18"	2I2277
28"	A000044229
36"	A000044230



Protect-it™ Pallet Rack Guards

Protect-it™ offers exceptional performance in pallet rack protection. Warehouse rack damage is a major occupational health and safety issue. Pallet racking is not designed to be struck by forklifts. Even low speed collisions can lead to structural damage that is costly to repair and places workers at risk. With Protect-it™ column guards, product and pallet racking damage is decreased. Its innovative design allows each unit to compress when struck, absorbing the impact and preventing costly upright damage.

- Improves safety and protects your investment
- Easy to install
- Low purchase and installation costs
- Lowest replacement cost in the market
- Securely grips the column (no hardware)
- Recommend 3-4 per column
- Effective in cold stores as low as -40 degrees
- Passes FEM 10.2.02 frontal impact test
- Multiple International Design Award winner
- Suits column sizes from 3" to 1.625"

Size	Part No.
3" x 3"	A000025801
3" x 1 5/8"	A000046347



Safety Signs

Keep your pedestrians aware of hazardous warehouse conditions. These safety signs are made from durable polyethylene plastic.

Description	Part No.
Caution! Stop Sound Horn Sign	A000025803
Stop Sign	A000025804



Full Dome Mirrors

See all the angles with a full dome mirror. Suspend from the ceiling at four-way intersections for 360° viewing capabilities.

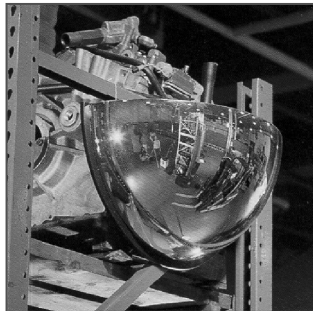
Diameter	Part No.
18"	2I2280
26"	2I2281
32"	2I2282
36"	2I2283



Half Dome Mirrors

Half dome mirrors can help prevent traffic accidents involving equipment and pedestrians. Use at "T" intersection to provide a 200° viewing area. Wall-mount.

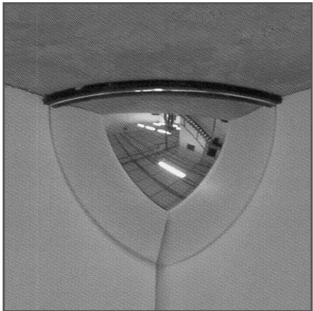
Diameter	Part No.
18"	2I2284
26"	2I2285
32"	2I2286
36"	2I2287



Quarter Dome Mirrors

These mirrors fit in corners to give a 120° viewing at "L" intersections. Help manage pedestrian and lighter equipment traffic in warehouses, labs, and offices.

Diameter	Part No.
18"	2I2288
26"	2I2289



Convex Mirrors

Constructed of weather-proof hardboard backs, they can be used indoors and outdoors. These mirrors have rubber rims to help extend useful life and an adjustable swivel with mounting bracket to allow scanning of large areas.

Diameter	Description	Part No.
8"	Acrylic	2I2298
12"	Acrylic	2I2299
26"	Acrylic	2I2300
30"	Acrylic	2I2301
36"	Acrylic	2I2302



Work Platforms

Our work platforms allow access to high-reaching places without setting up ladders or scaffolds. All platforms are equipped with safety mesh to help keep clothing and equipment from lift mechanism. Fall protection is recommended with this equipment.

Platform Size (W x L)	Pocket Center	Capacity	Handrail Height	Part No.
36" x 36"	24"	1,000 lbs	42" with 21" Midrail	A000027782
36" x 48"	24"	1,000 lbs	42" with 21" Midrail	A000027783
48" x 48"	24"	1,000 lbs	42" with 21" Midrail	A000027784
48" x 48"	24"	1,000 lbs	42" with 21" Midrail	A000027785*
30" x 20"	24"	2,000 lbs	60" Metal Back	A000027786
30" x 20"	24"	2,000 lbs	84" Metal Back	A000027787



\*Part number A000027785 is a fully featured work platform. This work platform includes an emergency shut-off button and web lanyard with safety harness. Please Note: CAL/OSHA regulations require a platform with an 84 inch metal back (Part Number: A000027787).

Safety Options

Description	Part No.
4" x 2" Mold On Rubber Casters	A000027788
Emergency Stop Button Kit	A000027789
Emergency Stop Fork Truck Junction Box Only	A000027790
Emergency Stop Work Platform Junction Box Only	A000027791
Fluorescent Tube Caddy	A000027792
Sliding Tool Tray (36")	A000027793
Sliding Tool Tray (48")	A000027794
Caution Sign with Hardware	A000027795
Double Chain Door Lock	A000027796
84" High Expanded Metal Backing	A000027797



## Accu-Tilt Fork Tip Level Indicator

Part Number: A000031466

Incorrect tilt angle of the forks is the leading cause of both racking and product damage. Even the most experienced operator has difficulty judging the tilt of the forks when entering pallets high on the rack. The Accu-Tilt shows the operator the level of the forks at all times, reducing potential damage by piercing product or racking and increasing productivity by eliminating the guess work. The Accu-Tilt will also indicate the correct angle to travel with a load, as well as parking the forklift.



## Digital Tilt Indicator

Part Number: A000046361

Cascade's Digital Tilt Indicator works on virtually any lift truck. This visual aid lets you know when your mast is tilted forward, backwards or true vertical. The sensitivity of the Digital Tilt Indicator is precise to within one degree. It clearly displays the angle of the mast at all times which eliminates guesswork and ultimately reduces damage and increases speed and efficiency.

### Features:

- Compatible with 12V systems
- Accurate within one degree
- Vibrant LED display
- Hardened steel protective mounting bracket
- Can be mounted on the left-hand or right-hand side of the mast



## Safe-Tilt Fork Level

Part Number: A000025802

Easily mounts on the forklift mast, indicating the fork's exact position from park, to level, to travel. The Safe-Tilt includes sticker labels to specify additional angles. Please note: The Safe-Tilt Fork Leveling System works only on tilt mast counterbalance and tilt mast narrow aisle forklifts.



Pallet Dawg™

Part Number: A000036189

Pallet Dawg offers enhanced protection of transported products and pallets, reducing costs related to damage. The low-profile bumper mounts easily to ITA Class II fork carriages, regardless of lift truck make and model. Made of a high density polyethylene co-polymer, the Pallet Dawg can be easily attached between the forks on your forklift.

The Pallet Dawg reduces damage to palletized products and their packaging by preventing contact with the load. The attachment redirects the impact force from the lift truck to the center block of the pallet, instead of the top boards, where products are located. Housekeeping is also improved due to less debris from splintered pallets, which can damage lift truck tires.

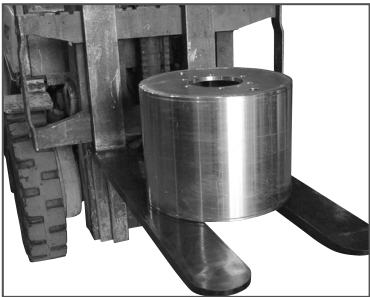
- Installs in minutes with a 9/16 inch socket wrench
- Compatible with all ITA Class II fork carriages
- Includes spacer plate to ensure a tight fit to forklift carriage



Poly Fork Cushion Load Protectors

Superior Poly Fork Cushion Load Protectors help reduce costly damage caused by forks. The unique design provides a cushioned, non-slip surface between the product and steel fork, eliminating expensive scratching, chipping, marring, and scuffing experienced during the loading and unloading process. Manufactured by Superior to exact OEM specifications, these cushions are molded from premium Cushothane® polyurethane and easily slip over standard forks to provide the highest standards of performance and reliability in the most demanding operating environments.

Dimensions	Part No.
4" x 30" (100 x 760 mm)	A000027591
4" x 32" (100 x 813 mm)	A000027592
4" x 33.5" (100 x 850 mm)	A000027593
4" x 36" (100 x 920 mm)	A000027594
4" x 42" (100 x 1070 mm)	A000027595
4" x 48" (100 x 1220 mm)	A000027596
4" x 60" (100 x 1520 mm)	A000027597
5" x 36" (125 x 920 mm)	A000027598
5" x 42" (125 x 1070 mm)	A000027599
5" x 48" (125 x 1220 mm)	A000027600
5" x 54" (125 x 1370 mm)	A000027601
5" x 55" (125 x 1400 mm)	A000027602
5" x 60" (125 x 1520 mm)	A000027603
6" x 36" (150 x 920 mm)	A000027604
6" x 48" (150 x 1220 mm)	A000027605
6" x 54" (150 x 1370 mm)	A000027606
6" x 55" (150 x 1400 mm)	A000027607
6" x 60" (150 x 1520 mm)	A000027608



## Fork Kushions

Fork-Kushions offer a resilient, yet durable solution by equipping a forklift with specially engineered polyurethane bumpers that are mounted to the upright of the fork. These highly engineered bumpers provide cushioning protection from marring, denting, and other forms of damage. The unique structure offers excellent wear properties and vibration deadening without compromising the load capacity. Fork Kushions are mounted directly to the face of the fork utilizing a permanent mounting bracket. The bracket is equipped with a high performance quick adhesion system, providing easy installation and maximum bond strength. By eliminating the need to weld or rivet the brackets, there is no compromise to the OSHA regulated safety ratings of the forks. The brackets will not move or shift and will withstand constant use and force. They are sold in sets of two and are made to a standard length of 24 inches. Custom sizes and lengths are available as special orders.

Description	Size	Part No.
Ultra Soft, Black	4" x 24"	A000025805
Ultra Soft, Black	5" x 24"	A000025806
Soft, Red	4" x 24"	A000025807
Soft, Red	5" x 24"	A000025808
General Purpose, Yellow	4" x 24"	A000025809
General Purpose, Yellow	5" x 24"	A000025810
Cut Resistant	4" x 24"	A000025811
Cut Resistant	5" x 24"	A000025812
Max Impact	4" x 24"	A000025813
Max Impact	5" x 24"	A000025814



## Safe-Bump Forklift Protectors

Part Number: A000036175

Add to some padding to your forklift with Safe-Bump Forklift Protectors. Designed to reduce product and forklift damage, Safe-Bump is constructed of a soft PVC plastic that will absorb energy upon impact. The soft bumpers attach anywhere on the forklift, including the forks, with magnets and two-way tape to absorb impacts. The bumpers can easily bend 90 degrees to fit around corners.

Each bumper includes two magnets, 3M VHB two-way tape and fork brackets.

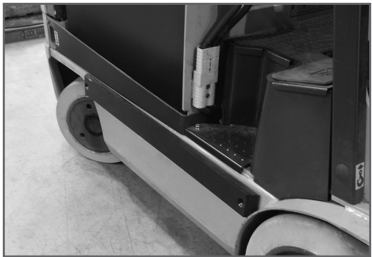


Plastic Bumpers

Part Number: A000016346

Dimensions: 38.25" x 3.00" x 1.00"

Reduce damage to your forklifts by installing a high-wear plastic bumper. This strong bumper contains two half inch diameter (35 inches apart) pre-drilled holes for mounting to each side of the forklift.



Static Straps

Prevent static electricity from building up with a static strap. Our straps measures 1-1/16 inches wide and 3/16 inches thick with a 1/2 inch brass grommet in one end.

Description	Part No.
25.00"	A000003401
14.33"	A000030256



Checklist Caddy

This polyethylene caddy (4-1/2" x 7") is mounted with two-way tape. Includes a checklist caddy, checklist pad with 75 inspection carbonless checklists, and a pen.

Description	Part No.
Electric Sit-Down	A000025788
IC	A000025789
Reach and Order Picker	A000025790
Pallet Jack, Electric	A000025791
Aerial/Scissor Lift	A000025792
Refill Pack (4 Books) Electric Sit-Down	A000025793
Refill Pack (4 Books) IC	A000025794
Refill Pack (4 Books) Reach and Order Picker	A000025795
Refill Pack (4 Books) Pallet Jack, Electric	A000025796
Refill Pack (4 Books) Aerial/Scissor Lift	A000025797



Master Lock® Steel Body Padlocks

- Traditional and Durable Lockout Series
- Reinforced laminated steel construction
- Keyed Alike and Master Keyed Padlocks are available, contact dealer support to order

Vertical Shackle Clearance	Bumper Color	Part No.
3/4"	Red	A000016714
2"	Red	A000016726



Master Lock® Lightweight Safety Padlocks

- 1-1/2 inches wide, 1-3/4 inches tall
- Designed exclusively for lockout/tagout
- Designed by safety directors for OSHA lockout compliance
- Durable, lightweight, non-conductive lock body
- Compliant with OSHA "one employee, one lock, one key" directive
- Key retaining ensures padlocks are not left unlocked
- Keyed Alike and Master Keyed Padlocks are available, contact dealer support to order

Vertical Shackle Clearance	Color	Part No.
1-1/2"	Red	A000016758
3"	Red	A000016766



Master Lock® Extra Large Lightweight Safety Padlocks

- 1-1/2 inches wide, 3 inches tall
- Designed exclusively for lockout/tagout
- Designed by safety directors for OSHA lockout compliance
- Durable, lightweight, non-conductive lock body
- Compliant with OSHA "one employee, one lock, one key" directive
- Key-retaining ensures padlocks are not left unlocked

Vertical Shackle Clearance	Color	Part No.
1-1/2"	Red	A000016822





Rotating Electrical Plug Outlets (Cable Lockout)

- Outward/inward rotation allows for easier application and storage
- Surrounds the electrical plug and helps protect against accidental reconnecting
- Unique, patent-pending rotation allows for easier installation in confined spaces
- Rotates into itself for compact storage in safety tool boxes
- Tough, lightweight, dielectric thermoplastic bodies withstand chemicals; perform effectively in extreme conditions

For Electrical Plug Sizes Up To:	Part No.
2-1/4" diameter x 3-1/4" with cord diameter up to 3/4" (Most 110 and many 220 volt plugs)	A000016854
3" diameter x 6" with cord diameter up to 3/4" (Most 220 and 550 volt plugs)	A000016855



Oversized Plug and Control Cover

Part Number: A000016852

- Effectively locks out odd size and large electrical connectors
- Cinch sack offers broad application solutions
- 7" diameter, 17" tall
- Insert PVC tubing to block access to control buttons
- Lockout with up to six padlocks or hasps
- Flexible and durable rip-stop nylon bag



SB Connector Lockouts

Lockouts are important when working on large equipment and provide the necessary safety protection for power lockout.

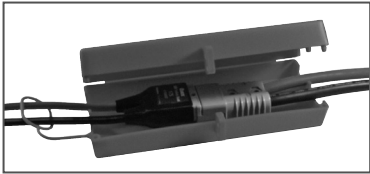
Description	Part No.
SB175 Connector Lockout	A000011417
SB350 Connector Lockout	A000011254



**SB Lock Box**

Part Number: A000018908

Lockout the charger, truck, or battery. Lock together to complete charging cycle, battery cool down, proper battery rotation, etc. Fits SB, SBX and DIN connectors. Fits 50, 175 and 350 amp connectors.



**Lockout Box**

When a forklift has mechanical failure and is unsafe to operate, it must be locked out. OSHA states that companies must isolate from its energy source, and render inoperative any machine or equipment prior to servicing, maintenance, or repair by employees (1910.147). The equipment lockout box comes complete with a lock and four lockout tags with accompanying pull-straps.

Description	Part No.
Kit, Lockout Box	A000025785
Lock	A000025786
Lockout Tag (set of 25)	A000025787



**Steel Jaw Safety Lockout Hasps**

- Lockout multiple workers at each lockout point
- Keeps equipment inoperative while repairs or adjustments are being made
- Attach device to energy disconnect switch
- Control cannot be turned on until the last worker’s padlock is removed from the hasps
- Holds up to six padlocks

Description	Inside Jaw Diameter	Part No.
Steel Jaw with Vinyl Coated Handle (1-3/4" x 4-1/2")	1"	A000016849
Steel Jaw with Vinyl Coated Handle (2-3/8" x 5")	1-1/2"	A000016850



**Labeled Snap-On Safety Lockout Hasps**

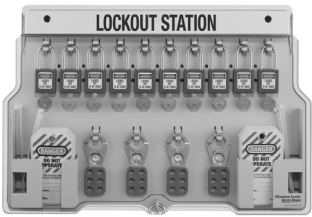
Part Number: A000016851

- Size: 2-7/8" x 7"
- Inside jaw diameter: 1-3/4" x 2-1/8"
- Combines multiple-person lockout/tagout identification
- Features an easy-to-apply “snap-on” advantage with its spring-loaded locking arm
- Anodized aluminum and stainless steel construction for corrosion-resistance and strength
- Holds up to five padlocks



Padlock Lockout Stations

These modular, user-friendly wall stations provide a central location for necessary lockout/tagout components. Integrated, one-piece molded construction eliminates loose parts.



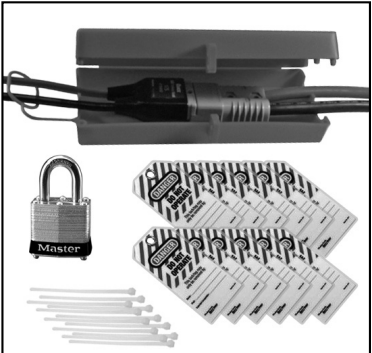
Description	Base Only (Unfilled)	Base and Cover (Unfilled)	Dimensions	Station with Red Lightweight Safety Padlocks	Station with Red Steel Padlocks
10-Lock Station. Contains: 10 Padlocks, 2 Hasps, 2 Lockout Tags (12 per pack)	-	-	12-1/4" x 22" x 1-3/4"	A000016867	A000016866
20-Lock Station. Contains: 20 Padlocks, 4 Hasps, 4 Lockout Tags (12 per pack)	A000016869	A000016868	22-1/4" x 22" x 1-3/4"	A000016870	-

Lockout/Tagout Kit

Part Number: A000024926

This kit includes the following items:

Description	Quantity	Part No.
SB Connector Lock Box	1	A000018908
Steel Red Padlock	1	A000016714
Lockout Tag (English)	1	A000016857
7.50" Natural Cable Ties Tensile Strength: 50	12	9I1675



Safety Lockout Starter Kit

Part Number: A000016874

Includes: two safety lockouts, six steel padlocks (one of each color), six I.D. tags and six attachment collars.



## “Do Not Operate” Tags

Heavy duty tags comply with OSHA lockout/tagout standards. Durable polyester laminate resists water, grease, and extreme temperatures. Ties included for each tag.

Description	Quantity	Part No.
English	12	A000016857
Spanish/English	12	A000016858



## Steering Wheel Covers

Provides visual deterrent for vehicle maintenance. Trilingual warning notifies employees not to start or move the forklift. Locks in place with a 421 hasp and safety padlock (lock not included).

Description	Part No.
16" Diameter	A000016871
20" Diameter	A000016872
24" Diameter	A000016873



## Lift Truck Log

The lift truck log system installs easily on any forklift in seconds with double sided tape. Includes log forms, lock-out tags, repair request forms, accident request forms, near-miss incident reports and routine maintenance logs.

Description	Part No.
IC	A000025776
Narrow Aisle	A000025777
Electric Counterbalance	A000053851
Electric Pallet Jack	A000025779
Replacement Pen	A000025780
IC Replacement Log Book	A000025781
Electric Counterbalance Replacement Log Book	A000025783
Electric Pallet Jack Replacement Log Book	A000025784



# Seats and Seat Belts

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## Seats and Replacement Parts

- One-Piece Seats ..... 11.1
- Two-Piece Seats ..... 11.2
- Grammer Seats ..... 11.11
- Seat Belts and Restraints ..... 11.15

The Promatch® parts program offers a complete line of premium seats from a variety of manufacturers including Grammer Seating Systems and Milsco. With innovative seating solutions like dynamic suspension systems, built-in shock absorbers and lumbar support, your customers will be comfortably ready to get the job done.

The proper use of seats/restraints helps meet applicable OSHA regulations. All of our seats include pre-installed retractable belts. For more information, please see the official OSHA regulations for powered industrial trucks.

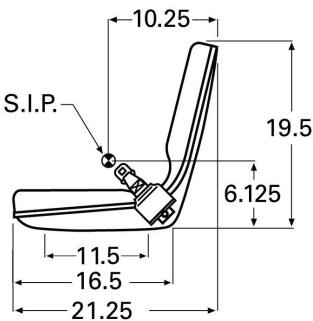
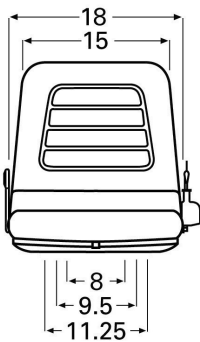
Economy One-Piece Seat  
Part Number: A000014005

- Retractable seat belt included
- Molded one-piece construction
- Self-draining
- 8", 9 1/2" or 11 1/4" multi-adjuster mounting
- 300 lb capacity
- Adjuster not included
- Accepts seat switch



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000014100	Seat Switch
A000045324	Seat Swivel



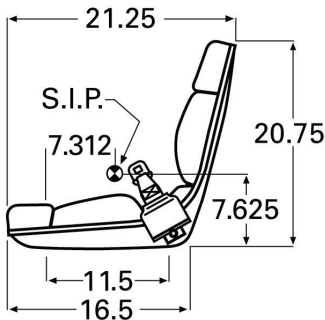
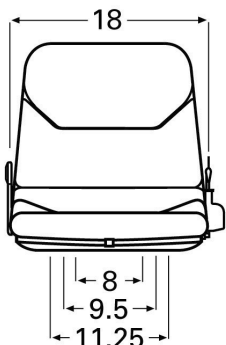
Deluxe One-Piece Seat  
Part Number: A000014002

- Retractable seat belt included
- Molded one-piece construction
- Self-draining
- 8", 9-1/2" or 11-1/4" multi-adjuster mounting
- 300 lb capacity
- Adjuster not included
- Accepts seat switch



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000030280	Hip Restraint, RH
A000037851	Hip Restraint, LH
A000014100	Seat Switch
A000045324	Seat Swivel



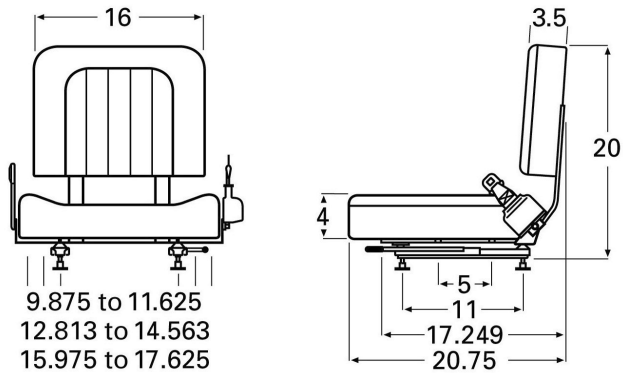
Economy Two-Piece Seat  
Part Number: A000025819

- Retractable seat belt included
- 9-1/2" to 17" multi-adjuster mounting
- 6" fore/aft adjuster included
- 300 lb capacity



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000045324	Seat Swivel



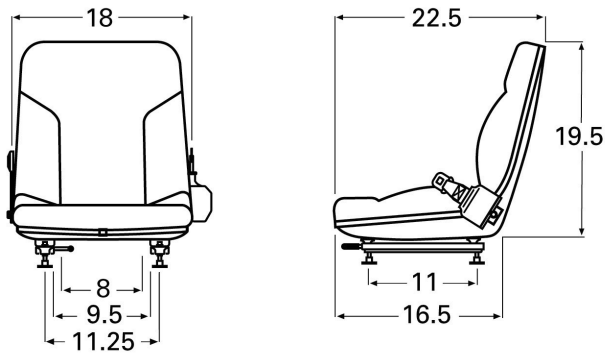
Deluxe Two-Piece Seat  
Part Number: A000028830

- Retractable seat belt included
- Molded two-piece construction
- 14 gauge, stamped metal frame with vac form cushions
- 8", 9-1/2" or 11-1/4" multi-adjuster mounting
- 6" fore/aft adjuster included
- Accepts seat switch



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000014100	Seat Switch
A000030280	Hip Restraint, RH
A000037851	Hip Restraint, LH



Two-Piece Bucket Seat w/Armrests

- Retractable seat belt included
- 14 gauge, stamped steel pan frame
- Replaceable seat and back cushions
- 6" fore/aft adjuster included
- 8", 9-1/2", 10-3/4" or 11-1/4" multi-adjuster mounting
- 300 lb capacity
- Heavy duty plastic inner liner
- Accepts seat switch

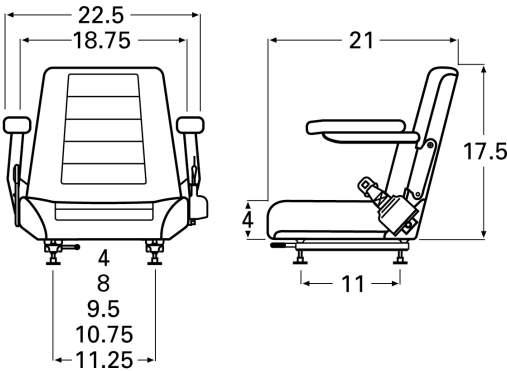


Part Numbers

Part No.	Description
A000014003	Vinyl Seat without Armrests
A000028839	Vinyl Seat with Armrests
A000034153	Cloth Seat without Armrests

Replacement Parts

Part No.	Description
A000014102	Bottom Cushion
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000014100	Seat Switch
A000045324	Seat Swivel



Deluxe Straight Back Two-Piece Seat

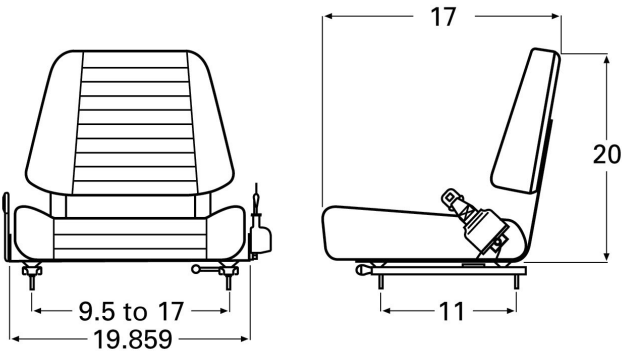
Part Number: A000029294

- Retractable seat belt included
- 9" - 17" multi-adjuster mounting
- 6" fore/aft adjuster included
- 300 lb capacity
- Does not accept seat switch



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000045324	Seat Swivel





Two-Piece Semi-Suspension Seat

- Replacement for Grammer GS12
- Retractable seat belt included
- Two-piece construction
- 8-1/8" to 15-1/8" multi-adjuster mounting
- 3-stage weight adjustment from 130-265 lbs
- Tilt adjustment backrest
- 6" fore/aft adjuster included

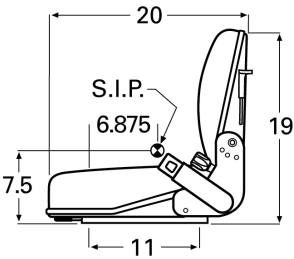
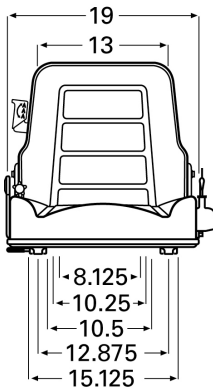


Part Numbers

Part No.	Description
A000042949	Vinyl Seat with Seat Switch
A000042950	Vinyl Seat without Seat Switch
A000042951	Cloth Seat with Seat Switch
A000042952	Cloth Seat without Seat Switch

Replacement Parts

Part No.	Description
A000042954	Vinyl Back Cushion
A000042957	Vinyl Bottom Cushion
A000042958	Cloth Back Cushion
A000042955	Cloth Bottom Cushion
A000042956	Seat Adjuster
A000014100	Seat Switch
A000042953	Retractable Seat Belt (Black)



Economy Fold Back Seat

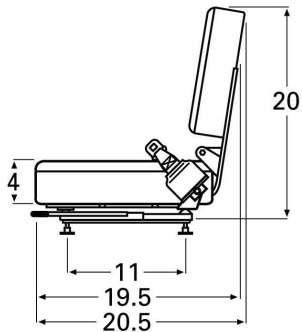
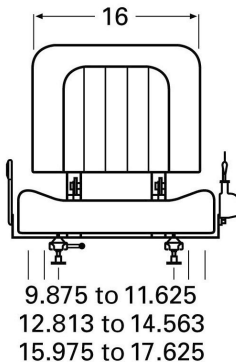
Part Number: A000025820

- Retractable seat belt included
- 9-1/2" to 17" multi-adjuster mounting
- 6" fore/aft adjuster included
- Folding back rest
- 300 lb capacity



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000045324	Seat Swivel



Fold Back Two-Piece Seat

- Retractable seat belt included
- Molded two-piece construction
- 13" adjuster mounting
- 6" fore/aft adjuster included
- Folding backrest
- 300 lb capacity
- Accepts seat switch
- Includes manual holder

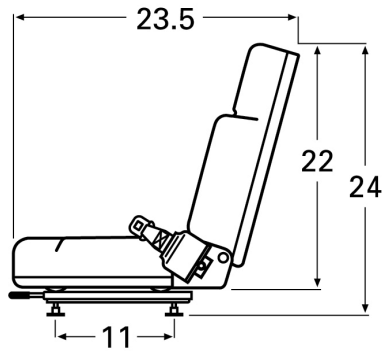
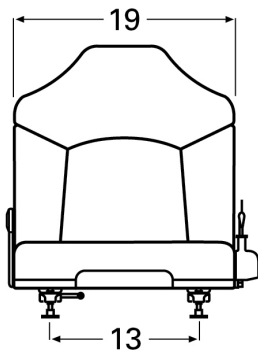


Part Numbers

Part No.	Description
A000029897	Vinyl Seat
A000030263	Cloth Seat

Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000019296	Twist Type Seat Switch
A000045324	Seat Swivel



Fold Back Two-Piece Seat with Armrests

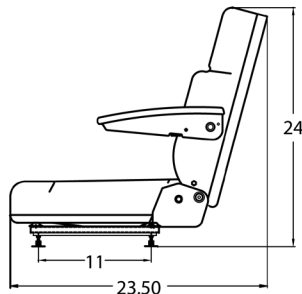
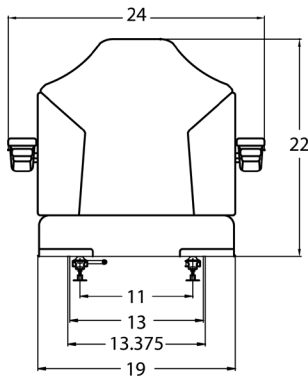
Part Number: A000030266

- Retractable seat belt included
- Molded two-piece construction
- Armrests
- Folding backrest
- 11", 13" or 13-3/8" multi-adjuster mounting
- 6" fore/aft adjuster included
- 300 lb capacity
- Accepts seat switch
- Includes manual holder



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000019296	Twist Type Seat Switch
A000045324	Seat Swivel



Fold Back Two-Piece Seat w/Hip Restraints

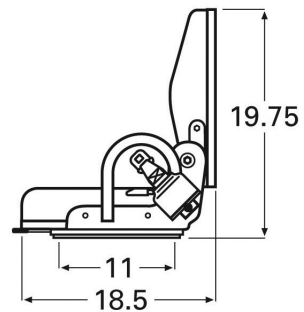
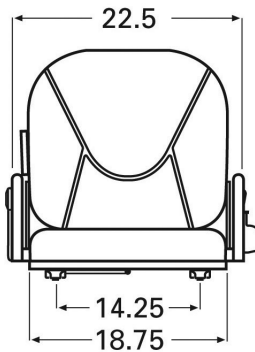
Part Number: A000021160

- Retractable seat belt included
- Molded two-piece construction
- Adjustable back angle (90 - 120 degrees)
- 11" adjuster mounting
- Adjustable lumbar
- Folding backrest
- Hip restraints
- Accepts seat switch
- Includes vinyl manual holder



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000042956	Seat Adjuster
A000014100	Seat Switch
A000016944	Vinyl Manual Holder



Fold Back Two-Piece Seat w/Riser and Hip Restraints

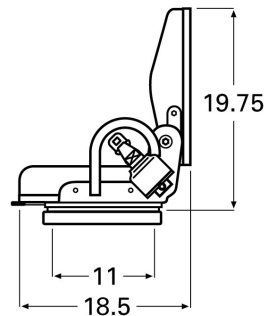
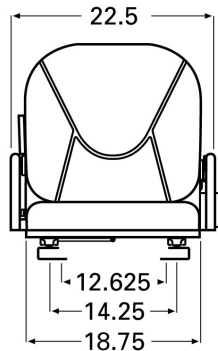
Part Number: A000030248

- Retractable seat belt included
- Molded two-piece construction
- Lumbar support
- 12-5/8" adjuster mounting
- Folding backrest
- Hip restraints
- 6" fore/aft adjuster included
- 300 lb capacity
- Accepts seat switch
- Includes vinyl manual holder



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000014100	Seat Switch
A000016944	Vinyl Manual Holder
A000045324	Seat Swivel



Deluxe Fold Back Two-Piece Seat

- Retractable seat belt included
- 9" - 17" multi-adjuster mounting
- 6" fore/aft adjuster included
- 300 lb capacity

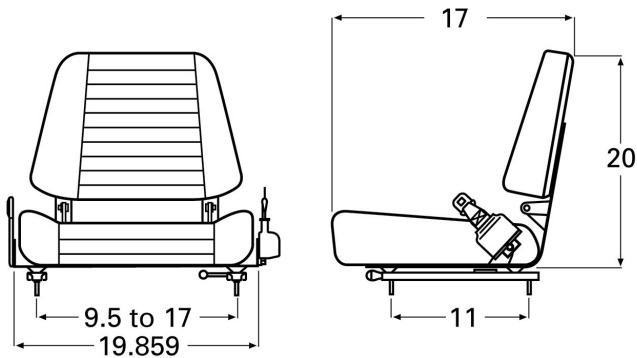


Part Numbers

Part No.	Description
A000029295	Seat without Seat Switch
A000033786	Seat with "Bag Type" Seat Switch

Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000045324	Seat Swivel



Deluxe Tilt Forward/Fold Back Seat

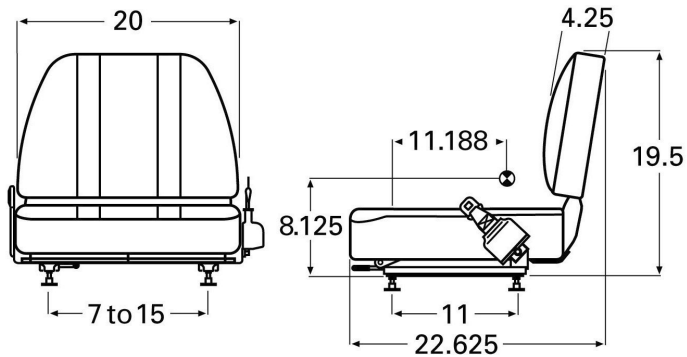
Part Number: A000014004

- Retractable seat belt included
- Wide bottom and back cushions
- Forward tilting and folding back for easy access to the engine compartment
- 7" to 15" multi-adjuster mounting
- 6" fore/aft adjuster included
- 300 lb capacity



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000045324	Seat Swivel



Deluxe Fold Back Two-Piece Seat w/Hip Restraints

- Retractable seat belt included
- Side hip restraints
- 11 and 13-3/8" adjuster mounting
- 6" fore/aft adjuster included
- Folding back rest
- Adjustable back angle
- 300 lb capacity

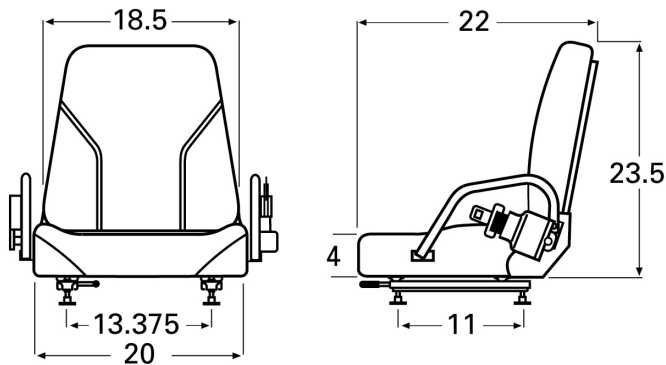


Part Numbers

Part No.	Description
A000026796	Seat without Seat Switch
A000054372	Seat with Seat Switch

Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000019296	Twist Type Seat Switch
A000045324	Seat Swivel



Deluxe Tilt Forward/Fold Back Seat with Hip Restraints

- Retractable seat belt included
- Wide bottom and back cushions
- Side hip restraints
- Forward tilting and folding back for easy access to the engine compartment
- 7" to 15" multi-adjuster mounting
- 6" fore/aft adjuster included

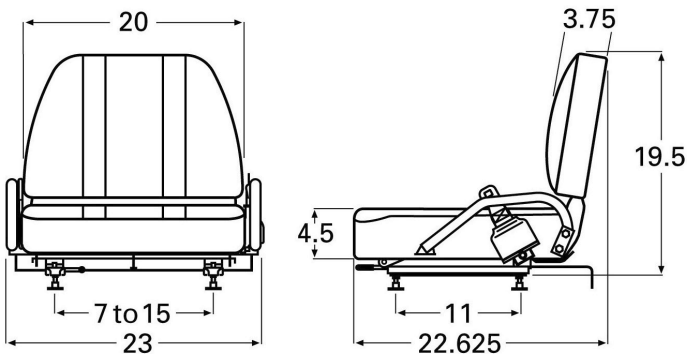


Part Numbers

Part No.	Description
A000014186	Seat without Seat Switch
A000045471	Seat with Seat Switch

Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014100	Seat Switch
A000014101	Seat Adjuster
A000045324	Seat Swivel



Deluxe Tilt Forward/Fold Back Seat with Upper Body Restraints

- Retractable seat belt included
- Wide bottom and back cushions
- Upper body restraints
- Forward tilting and folding back for easy access to the engine compartment
- 5" to 15-1/2" multi-adjuster mounting
- 6" fore/aft adjuster included
- 300 lb capacity

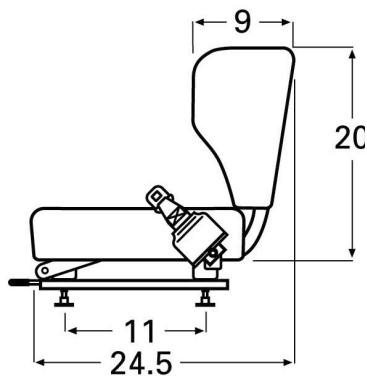
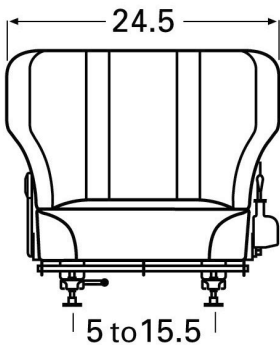


Part Numbers

Part No.	Description
A000028785	Seat with Twist Type Seat Switch
A000028790	Seat without Seat Switch

Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000014101	Seat Adjuster
A000019296	Twist Type Seat Switch
A000045324	Seat Swivel



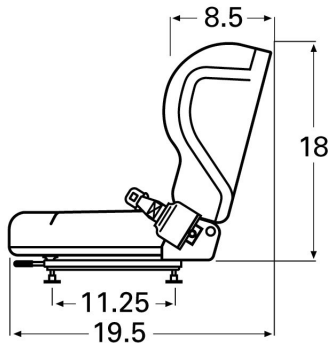
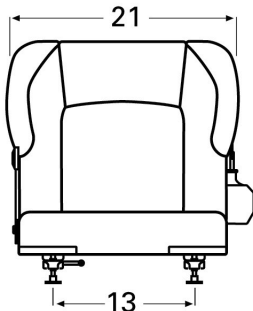
Two-Piece Seat w/Shoulder Bolsters  
Part Number: A000016203

- Retractable seat belt included
- Shoulder bolsters
- Molded two-piece construction
- 6" fore/aft adjuster included
- Front to rear adjuster spacing is 11-1/4"
- 13" adjuster mounting
- 300 lb capacity
- Accepts seat switch
- Includes plastic manual holder



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000030234	Seat Adjuster
A000019296	Twist Type Seat Switch
A000016945	Plastic Manual Holder
A000045324	Seat Swivel



Two-Piece Suspension Seat w/Shoulder Bolsters

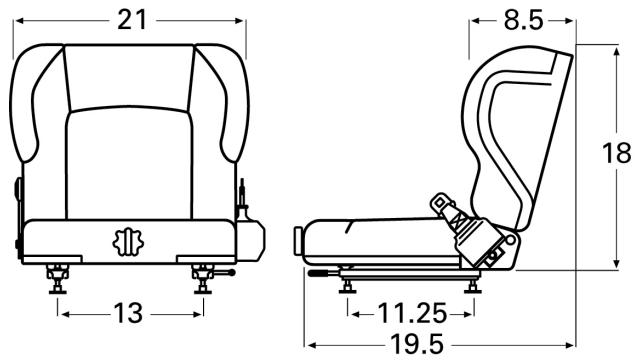
Part Number: A000030297

- Retractable seat belt included
- Shoulder bolsters
- Molded two-piece construction
- 6" fore/aft adjuster included
- Front to rear adjuster spacing is 11-1/4"
- 13" adjuster mounting
- Includes plastic manual holder
- 300 lb capacity



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000030234	Seat Adjuster
A000019296	Twist Type Seat Switch
A000016945	Plastic Manual Holder
A000045324	Seat Swivel



Two-Piece Seat w/Shoulder Bolsters

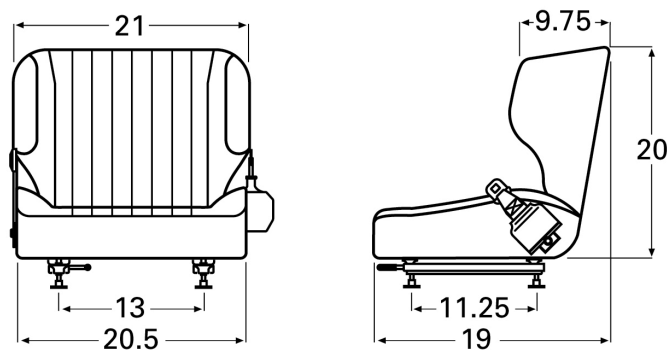
Part Number: A000020015

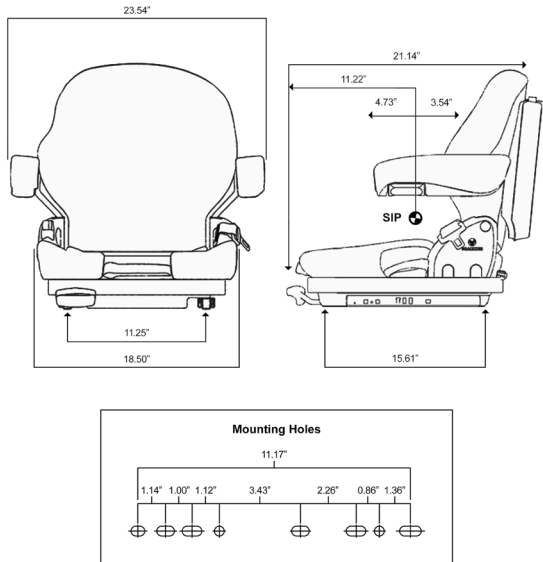
- Retractable seat belt included
- Shoulder bolsters
- 6" fore/aft adjuster included
- Front to rear adjuster spacing is 11 1/4"
- 13" adjuster mounting
- 300 lb capacity
- Twist lock switch (includes wiring and harness)



Replacement Parts

Part No.	Description
A000028984	Retractable Seat Belt (Black)
A000028983	Retractable Seat Belt (Orange)
A000030234	Seat Adjuster
A000045324	Seat Swivel





MSG 65/531

Material handling machines do some major heavy lifting. The MSG 65 series makes sure you don't feel the pain. Designed with a low-profile mechanical suspension that significantly reduces vibrations, it helps you stay comfortable, no matter how rough the day gets.

- Retractable seat belt
- Very low-profile mechanical suspension
- Suspension stroke up to 2.3"(60 mm) or 3.1"(80 mm)
- Weight adjustment range: 100-385 lbs (50-170 kg)
- Fore/aft adjustment: accommodates all body sizes/types
- Lumbar support: easily adjusts for optimal back support and comfort
- Operator presence switch (optional)
- Armrest and backrest extension sold separately

Part Numbers

Part No.	Description
A000035474	Vinyl Seat with Seat Belt and Seat Switch
A000035475	Vinyl Seat with Seat Belt
A000035473	Cloth Seat with Seat Belt and Seat Switch

Replacement Parts

Part No.	Description
A000033229	Armrest, Right Hand
A000033230	Armrest, Left Hand
A000033231	Seat Belt, DUO (Black)
A000037141	Seat Belt, DUO (Orange)
A000037140	Seat Cushion, Cloth
A000037138	Back Cushion, Cloth
A000037139	Seat Cushion, Vinyl
A000037137	Back Cushion, Vinyl
A000044037	Backrest Extension, Cloth
A000044038	Backrest Extension, Vinyl
A000033232	Seat Switch
A000050146	Seat Swivel
A000037136	Literature Box
A000037142	Protecto Protective Cover
A000034878	Connector





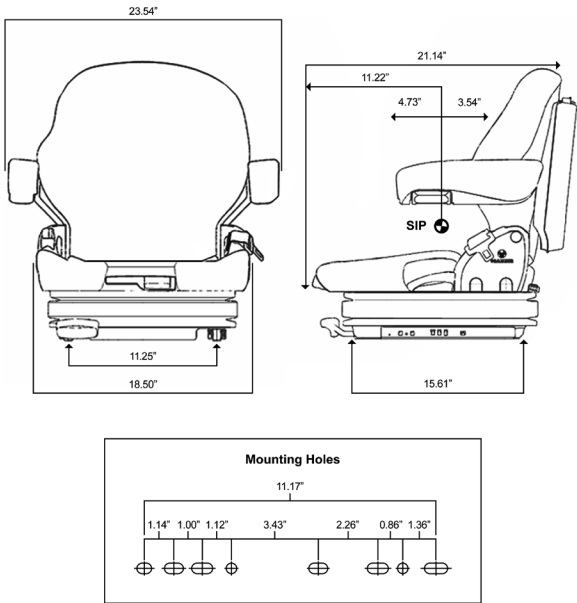
MSG 75/531

The low-profile air suspension provides unmatched vibration-absorbing technology in a small package. The MSG 75 fits perfectly in compact machines.

- Retractable seat belt
- Very low-profile air suspension (12v compressor)
- Suspension stroke up to 2.3"(60 mm), 3.1"(80 mm) or 4.3"(110 mm)
- Weight adjustment range: 100-375 lbs (50-170 kg)
- Fore/aft adjustment: accommodates all body sizes/types
- Lumbar support: easily adjusts for optimal back support and comfort
- Operator presence switch (standard)
- Armrest and backrest extension sold separately

Part Number

Part No.	Description
A000035472	Vinyl Seat with Seat Belt and Seat Switch
A000049309	Cloth Seat with Seat Belt and Seat Switch



Replacement Parts

Part No.	Description
A000033229	Armrest, Right Hand
A000033230	Armrest, Left Hand
A000033231	Seat Belt, DUO (Black)
A000037141	Seat Belt, DUO (Orange)
A000037140	Seat Cushion, Cloth
A000037138	Back Cushion, Cloth
A000037139	Seat Cushion, Vinyl
A000037137	Back Cushion, Vinyl
A000044037	Backrest Extension, Cloth
A000044038	Backrest Extension, Vinyl
A000033232	Seat Switch
A000050146	Seat Swivel
A000037142	Protecto Protective Cover
A000034878	Connector



MSG 85/721 (Light Duty Seat)

Grammer's top-of-the-line mechanical suspension offers a boost in vibration reduction for a more comfortable ride in even the most demanding conditions.

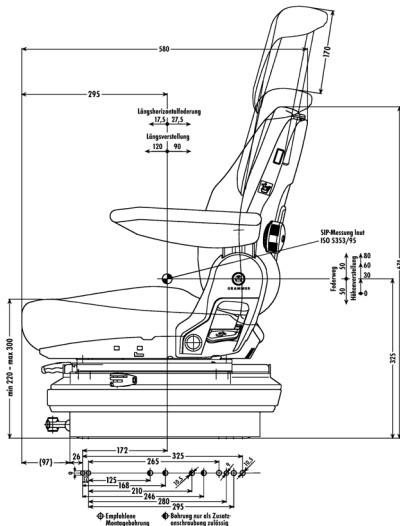
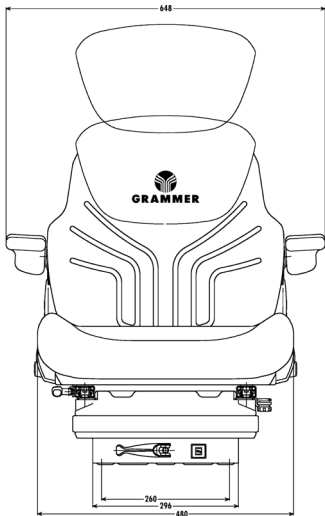
- Retractable seat belt
- Mechanical light-duty suspension: provides dependable, hardworking comfort
- Suspension stroke up to 3.9"(100 mm)
- Weight adjustment range: 100-285 lbs (50-130 kg)
- Fore/aft adjustment: accommodates all body sizes/types
- Height adjustment up to 3.1"(80 mm)
- Lumbar support: easily adjusts for optimal back support and comfort
- Operator presence switch (standard)
- Armrest and backrest extension sold separately

Part Number

Part No.	Description
A000035471	Vinyl Seat with Seat Belt and Seat Switch
A000049475	Cloth Seat with Seat Belt and Seat Switch

Replacement Parts

Part No.	Description
A000037132	Armrest, Right Hand
A000037131	Armrest, Left Hand
A000037133	Seat Belt
A000035181	Seat Cushion, Vinyl
A000037135	Back Cushion, Vinyl
A000037134	Seat Switch
A000050266	Seat Rails
A000037136	Literature Box
A000037142	Protecto Protective Cover
A000034878	Connector



Grammer Replacement Parts

Fits Seat:	Description	Part No.
MSG 65/521 and MSG 75/521	Armrest, Right Hand	A000033229
MSG 65/521 and MSG 75/521	Armrest, Left Hand	A000033230
MSG 65/521 and MSG 75/521	Back Cushion, Vinyl	A000033233
MSG 65/521 and MSG 75/521	Seat Cushion, Vinyl	A000033234
MSG 65/521 and MSG 75/521	Back Cushion, Cloth	A000033239
MSG 65/521 and MSG 75/521	Seat Cushion, Cloth	A000033238
MSG 65/521 and MSG 75/521	Seat Belt, DUO (Black)	A000033231
MSG 65/521 and MSG 75/521	Seat Belt, DUO (Orange)	A000037141
MSG 65/521 and MSG 75/521	Backrest Extension, Cloth	A000044037
MSG 65/521 and MSG 75/521	Backrest Extension, Vinyl	A000044038
MSG 65/521 and MSG 75/521	Seat Switch	A000033232
MSG 65/521 and MSG 75/521	Seat Swivel	A000050146
GS12	Back Cushion, Cloth	A000046382
GS12	Seat Cushion, Cloth	A000046381

**Protecto™ Protective Cover**  
Part Number: A000037142

GRAMMER's Protecto seat cover helps protect seats from everyday wear and tear. The high-quality Alcantara fabric is dirt resistant and washable. It optimally adapts the seat's shape, and it's simple to adjust when needed. Ideal for most seats up to 530 mm seat cushion width. Not suited for seats with climate control.



The proper use of seats/restraints helps meet applicable OSHA regulations. For more information, please see the official OSHA regulations for powered industrial trucks.

### SAFE-Belt

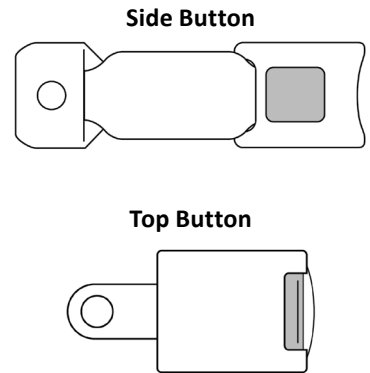
Ordinary seat belts can be a nuisance and are often uncomfortable for operators. SAFE-Belt is designed to help improve operator comfort, flexibility, and maneuverability. The belt's arc-style, ergonomic design features a spring action arm designed to improve operator functionality. Highly visible yellow seat belt ends help supervisors easily spot when an operator is not wearing a seat belt.



Part No.	Description
A000031625	Standard Belt
A000031624	Belt with Ignition Switch

### Seat Belts

Description	Color	Length	Button	Part No.
Retractable Seat Belt	Orange	60"	Side	A000028983
Retractable Seat Belt	Black	60"	Side	A000028984
Retractable Seat Belt	Black	60"	Top	A000014099
Retractable Seat Belt	Orange	60"	Top	A000014104
Retractable Seat Belt with Switch (Closed circuit when buckled)	Black	60"	Top	A000034644
Retractable Seat Belt with Switch (Open circuit when buckled)	Black	60"	Top	A000035760
Retractable Seat Belt with Switch (Closed circuit when buckled)	Orange	60"	Top	A000035438
Retractable Seat Belt with Switch (Open circuit when buckled)	Black	60"	Top	A000035981
Retractable Seat Belt with Short Receptacle	Black	60"	Top	A000025921
Retractable Seat Belt	Black	60"	Top	A000025928
Retractable Seat Belt	Orange	60"	Top	A000025929
Extra-Wide (3") Retractable Seat Belt	Black	60"	Top	A000041062
Lap Belt with Orange Webbing	Orange	72"	Side	A000016059
Lap Belt	Black	74"	Side	A000016060
Lap Belt	Black	110"	Side	A000015948
Seat Belt Extension*	Black	12"	Top	A000030202
Seat Belt Extension*	Orange	12"	Top	A000049305



\*Only compatible with seat belts containing a top button. Side button belts are not compatible.

# Service

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## Service Tools and Products

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- Forklift Jacks and Stands ..... 12.2
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## Support Blocks - Hazardous Energy Control

Support blocks, or cribbing blocks, help maintain stability and support when performing service repair work on forklifts. Plastic support blocks are a stable, longer-lasting and easily cleaned alternative to wooden blocks. The blocks feature a slip-resistant pyramid locking surface for superior stability in cribbing, chocking and shoring. Unlike wood, plastic doesn't absorb most fluids and is resistant to gas, oil, and chemicals, saving you time and money. Please note: plastic support blocks (cribs) have a design strength of 800 psi.

### Interlocking Cribbing

Description	Size (in.)	Qty.	Part No.
Space Saver	2 x 4 x 18	1	A000046622
Space Saver	4 x 4 x 18	1	A000046624
Space Saver	6 x 7 x 10	1	A000047857
Pyramid Design and Lincoln Log Style Sides	4 x 4 x 18	1	A000049802
Super Crib	6 x 7 x 24	1	A000049805



### Industrial Blocking Stabilization Kit

Description	Part No.
Complete Blocking Stabilization Kit	A000049793

#### Kit Components

Description	Size (in.)	Qty.	Part No.
Block Mast	4 x 4 x 48	1	A000049794
Block Mast	4 x 4 x 22	1	A000049795
Block Pantograph	2.5 x 3.5 x 13	1	A000049796
Block Pantograph	2.5 x 3.5 x 9	1	A000049797
Block Pyramid	6 x 7 x 10	1	A000047857
Block Outrigger	2.5 x 3.5 x 6	1	A000049798
Wheel Chock - Large		1	A000049799
Wheel Chock - Small		1	A000049800
Bessey Clamp		1	A000049801



### Wedges

Size (in.)	Part No.
2 x 4 x 12	A000049804
4 x 4 x 20	A000049803
6 x 7 x 24	A000049806

### Wheel Chocks

Description	Part No.
Double Wheel Chock - Large	A000049807
Wheel Chock - Large	A000049799
Wheel Chock - Small	A000049800

Forklift Jack (Capacity: 8,800 lbs)

- Lowered Height: 2-9/16"
- Lifting Height: 15-7/8"
- Chassis Length: 28-11/32"
- Width: 10-15/64"
- Weight: 72-3/4 lbs

Description	Part No.
Forklift Jack Only	A000033097
Forklift Jack and Two Stands (p/n: A000019520)	A000044115



Forklift Jack (Capacity: 11,000 lbs)

- Lowered Height: 2-9/16"
- Lifting Height: 16-3/4"
- Chassis Length: 27-5/32"
- Width: 8-17/64"
- Weight: 99 lbs

Description	Part No.
Forklift Jack Only	A000033098
Forklift Jack and Two Stands (p/n: A000019520)	A000044116



Forklift Jack (Capacity: 14,000 lbs)

- Lowered Height: 2-3/5"
- Lifting Height: 16-1/2"
- Weight: 106/112 99 lbs

Description	Part No.
Forklift Jack Only	A000054389
Forklift Jack and Two Stands (p/n: A000054394)	A000054867



Forklift Jack (Capacity: 15,000 lbs)

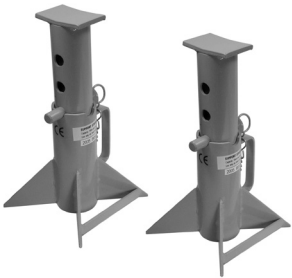
- Lowered Height: 2-1/4"
- Lifting Height: 16-1/2"
- Chassis Length: 28-3/4"
- Weight: 99 lbs

Description	Part No.
Forklift Jack Only	A000011532

Forklift Jack Stands

These stands have a rugged steel construction, with four height positions to provide proper support for servicing forklift trucks.

Capacity	Base Width	Height Settings	Part No.
26,000 lbs	8" (200 mm)	9.25" (234.95 mm), 11.50" (292.10 mm), 13.38" (339.73 mm), 15.25" (397.35 mm)	A000019520
36,000 lbs	8.5" (216 mm)	9.06" (230.19 mm), 12.13" (307.98 mm), 14.13" (358.78 mm), 16" (406.40 mm)	A000054394



**Forklift Jack Replacement Parts—Capacity 8,800 lbs**

Part Number: A000033097

No.	Description	Part No.	Req. Pieces
1	Screw	A000036252	2
2	Lock Washer	A000036253	4
3	Trunnion	A000036254	2
4	Frame 1	Special Order	1
5	Screw	A000036255	2
6	Washer	A000036256	2
7	Axle	A000036257	1
8	Retaining Ring	A000036258	2
9	Washer	A000036259	2
10	Steel Wheel (Used prior to 2012)	A000036260	2
10	Plastic Wheel (New)	Special Order	2
11	Frame 2	Special Order	1
12	Screw	A000036261	2
13	Lock Washer	A000019531	2
14	Nut	A000036262	2
15	Spacer	A000036263	2
16	Pin	A000036264	1
17	Saddle	A000036265	1
18	Pin	A000036266	1
20	Screw	A000036267	2
21	Seal Ring*	*Seal Kit Part	2
22	Screw	A000036268	1
23	Spring	A000036269	1
24	Ball Seat	A000036270	1
25	Ball	A000036271	1
26	Valve Block	Special Order	1
27	Magnet Steel	A000036272	1
28	Ball	A000036273	3
29	Spring	A000036274	1
30	Screw	A000036275	1
31	Seal Ring*	*Seal Kit Part	1
32	Pump	A000036276	1

No.	Description	Part No.	Req. Pieces
33	O-Ring*	*Seal Kit Part	1
34	Back-Up Ring*	*Seal Kit Part	1
35	Wiper*	*Seal Kit Part	1
36	Plunger	A000036277	1
37	Retaining Ring	A000036278	6
38	Link Rod	A000036279	2
39	Pin	A000036280	2
43	O-Ring*	*Seal Kit Part	2
44	Oil Tank	A000036281	1
45	O-Ring*	*Seal Kit Part	2
46	Port Ring*	*Seal Kit Part	1
47	Cylinder	A000036282	1
49	Piston	A000036283	1
50	Valve Seat	A000036284	1
51	O-Ring	A000036285	1
52	Release Rod	A000036286	1
53	Release Knob	A000036287	1
54	Pin	A000036288	1
55	Chain Hook	A000036289	1
56	Chain	A000036290	1
57	Handle Base	A000036291	1
58	Ring*	*Seal Kit Part	1
59	Pin and Ring	A000033727	1
60	Handle	A000033728	1
61	Grip	A000033729	1
62	Pin	A000036292	1
63	O-Ring*	*Seal Kit Part	2
64	Back-Up Ring*	*Seal Kit Part	1
65	Seal Ring*	*Seal Kit Part	1
70	Piston Rod	A000036219	1
71	Y-Ring*	*Seal Kit Part	2
-	Hydraulic Jack Oil (32 oz.)	216564	1

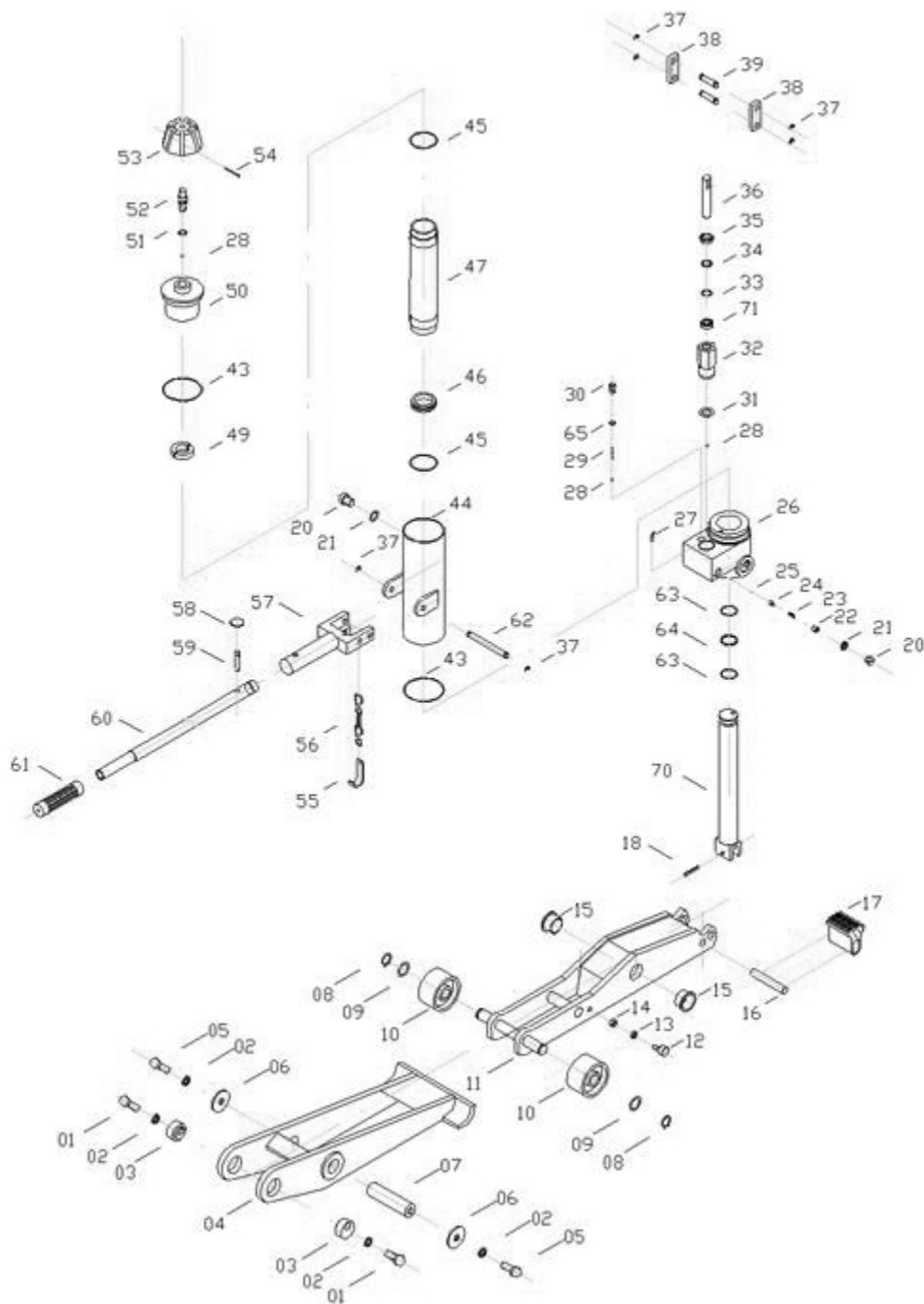
**\*Forklift Jack Seal Kit**

Part Number: A000033725

The seal kit includes the following items: seal ring (21), seal ring (31), o-ring (33), back-up ring (34), wiper (35), o-ring (43), o-ring (45), port ring (46), ring (58), o-ring (63), back-up ring (64), seal ring (65) and y-ring (71).



**Forklift Jack Replacement Parts—Capacity 8,800 lbs**  
Part Number: A000033097



**Forklift Jack Replacement Parts—Capacity 11,000 lbs**

Part Number: A000033098

No.	Description	Part No.	Req. Pieces
1	Nut	A000036293	2
2	Washer	A000036294	2
3	Axle	A000036295	1
4	Bolt	A000036296	2
5	Washer	A000036297	2
6	Plate	A000036298	2
7	Side Plates	Special Order	2
8	Retaining Ring	A000036299	2
9	Washer	A000036300	2
10	Front Steel Wheel	A000036301	2
11	Nut	A000036302	2
12	Axle	A000036303	1
13	Retaining Ring	A000036304	2
14	Washer	A000036305	2
15	Rear Steel Wheel	A000036260	2
16	Grease Fitting	A000036307	2
17	Eccentric Bolt	A000036308	2
18	Screw	A000036309	1
19	Nut	A000036310	2
20	Spacer	A000036311	2
21	Lifting Arm Assembly	Special Order	1
22	Grip	A000033730	1
23	Handle, Upper	A000033731	1
24	Handle, Lower	A000033732	1
25	Screw	A000036312	1
26	Screw	A000036313	1
30	Retaining Ring	A000036314	2
31	Axle	A000036315	1
32	Spring	A000036316	1
33	Pin	A000036317	1
34	Socket	A000036318	1
36	Screw	A000036319	1
37	Screw	A000036320	2
38	Steel Ball	A000036321	2
39	Cylinder Nut	A000036322	1
40	O-Ring*	Included with Seal Kit	2
41	O-Ring*	Included with Seal Kit	2
42	Screw	A000036323	1

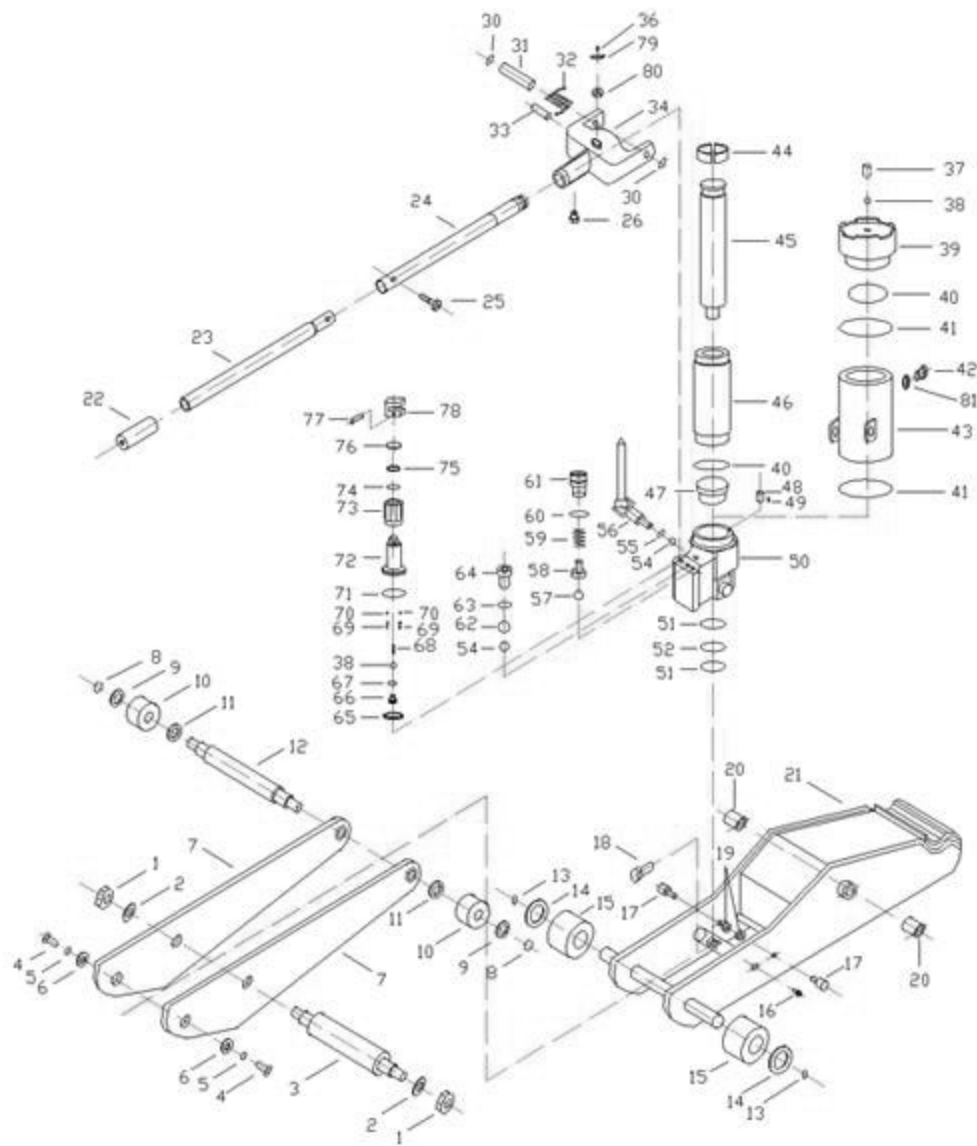
No.	Description	Part No.	Req. Pieces
43	Reservoir	A000036324	1
44	Bushing	A000036325	1
45	Piston Rod	A000036326	1
46	Cylinder	A000036327	1
47	Spacer	A000036328	1
48	Filter	A000036329	1
49	Steel Magnet	A000036330	1
50	Valve Block	Special Order	1
51	O-Ring*	Included with Seal Kit	2
52	Nylon Washer*	Included with Seal Kit	1
54	Steel Ball	A000036332	2
55	Square-Type Ring*	Included with Seal Kit	1
56	Linking Axle	A000036333	1
57	Ball	A000036334	1
58	Ball Seat	A000036335	1
59	Spring	A000036336	1
60	O-Ring*	Included with Seal Kit	1
61	Screw	A000036337	1
62	Steel Ball	A000036338	1
63	Gasket*	Included with Seal Kit	1
64	Screw	A000036339	1
65	Gasket*	Included with Seal Kit	1
66	Screw	A000036340	1
67	O-Ring*	Included with Seal Kit	1
68	Spring	A000036341	1
69	Spring	A000036342	2
70	Steel Ball	A000036343	2
71	O-Ring*	Included with Seal Kit	1
72	Plunger	A000036344	1
73	Piston	A000036345	1
74	O-Ring*	Included with Seal Kit	1
75	Back-Up Ring*	Included with Seal Kit	1
76	Wiper*	Included with Seal Kit	1
77	Pin	A000036346	1
78	Guide	A000036347	1
79	Positioner	A000036348	1
80	Nut	A000036349	1
81	O-Ring	A000036350	1

**\*Forklift Jack Seal Kit**

Part Number: A000033726

The seal kit includes the following items: o-ring (40), o-ring (41), o-ring (51), nylon washer (52), square-type ring (55), o-ring (60), gasket (63), gasket (65), o-ring (67), o-ring (71), o-ring (74), back-up ring (75) and wiper (76).

**Forklift Jack Replacement Parts—Capacity 11,000 lbs**  
Part Number: A000033098



**Air Hose Reels**

- All steel construction for industrial applications
- Spring powered auto rewind
- Ideal for mounting on the wall, floor, or ceiling
- Guide arm adjustable for different angles
- Valve assembly handles up to 250 PSI and 25 cfm
- Locking ratchet brake

Description	Part No.
3/8" x 50' Rubber Hose	A000014284
1/2" x 50' Rubber Hose	A000014285



**Milton Air Accessories and Fittings**

**Safety Lever Blo-Gun**

Part Number: A000030965

Use anywhere with compressed air. Full flow control. Extra large hang-up hook for easy storage.

- Maximum inlet pressure: 150 PSI
- Maximum nozzle pressure: 30 PSI when dead ended
- SCFM 10.6 @ 100 PSI
- 1/4" NPT air inlet, nozzle thread 1/8"-27
- Zinc die-cast body, steel plated handle
- OSHA compliant



**Brass Blo-Gun Extensions**

Fits most blo-guns with nozzle thread of 1/8" NPS.

Description	Part No.
10" Blo-Gun Extension	A000030967



**Compact Safety Lever Blo-Gun**

Part Number: A000030968

Compact and versatile blo-gun comes with both a safety nozzle and rubber tip nozzle. Hang-up hook for easy storage.

- Maximum working pressure: 150 PSI
- SCFM 11.7 @ 100 PSI safety tip
- SCFM 12.9 @ 100 PSI rubber tip
- 1/4" NPT air inlet
- Zinc die-cast body
- OSHA compliant with safety tip only



**Window Inflator Gauge**

Part Number: A000030964

For high pressure truck tires. 10 to 160 pounds, in two-pound increments. Gauge complete with 5 foot hose with a dual head straight foot chuck for inner duals with lock on threads both ends (full swivel). Built-in deflator to relieve excess pressure. Meets OSHA regulation number 1910.177 on inflation.



M-Style Air Coupler and Plug

M-style “Kwik-change” couplers and plugs interchange with all manufacturers who comply with the dimensional requirements of military specification MIL-C-4109.

- Brass body with brass sleeves
- Case hardened steel, plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250°F
- Air flow: 40 SCFM
- Seals: Buna-N

Description	Connection	Part No.
Coupler	1/4" NPT Female	A000030970
Coupler	3/8" NPT Female	A000031620
Plug	1/4" NPT Male	A000030969
Plug	3/8" NPT Female	A000031619
Plug	3/8" NPT Male	A000031623



H-Style Air Coupler and Plug

- Steel body plated to resist rust
- Case hardened steel plated to resist rust
- Maximum inlet pressure: 300 PSI
- Maximum temperature: 250°F
- Air flow: 67 SCFM
- Seals: Buna-N

Description	Connection	Part No.
Coupler	1/4" NPT Female	A000030585
Coupler	3/8" NPT Female	A000031622
Plug	1/4" NPT Male	A000030586
Plug	3/8" NPT Male	A000031621



Dial Type Tire Gauge

Part Number: A000030971

Precision made, rugged bronze bourdon tube, two inch face with unbreakable lens, and easy-to-read dial. Pressure is indicated until release valve is depressed. Every gauge is tested against master gauges prior to packaging.

- 0 - 160 PSI in two-pound increments
- 12" hose, dual foot chuck with rubber shock guard



Pencil Type Tire Gauge

USA made tire gauges provide accurate, long life with trouble free performance. Durable plated brass with four side nylon indicator bar. Always check tire pressure when tires are cold.

Description	Application	Part No.
Built-in tire tread depth gauge in 1/16" increments. 2 sides 10 to 70 PSI in 2-pound increments and 2 sides 60 to 500 kPa in 10 kPa units.	Higher Pressure Auto Tires (including 60 PSI mini spare)	A000030973
2 sides 20 to 120 PSI in 2-pound increments 2 sides 120 to 820 kPa in 20 kPa units.	Dual Chuck Truck Tire Gauge	A000030972



Nylon Cable Ties

Natural	Black UV Resistant	Length (in)	Tensile Strength (lb)	Package Quantity
9I1673	9I1674	4"	18	100
9I1675	9I1676	7-1/2"	50	100
9I1677	9I1678	11"	50	100
9I1679	9I1680	14"	50	100
A000009596	A000009597	14"	120	100
9I2566	-	40"	250 (Reusable)	1

Bolt Gauge (Metric and U.S.)

Part Number: A000019628

Excellent for sizing bolts, screws, nuts (USS, SAE, and Metric) and twist drills. Measures bolt diameter with sizing holes. Gauges hex nuts and washers (USS, SAE). Measures U.S. and Metric thread pitch. Gauges flat headed metal and wood screws. Includes a ruler marked with inches and millimeters.



Wire and Cable Gauge

Part Number: 9I2572

Measures wire and compression nut gauges to 4/0.



Pipe, Tube, Fitting, and Hose Size Gauge

Part Number: 9I2573

Measures hose ID and tube OD up to 1", pipe thread to 3/4", and 37° and 45° angles.



Carriage Wear Gauges

Use these gauges to check for wear on Class II, III, and IV carriages. Each gauge tests for lower hook, upper carriage bar and upper hook wear.

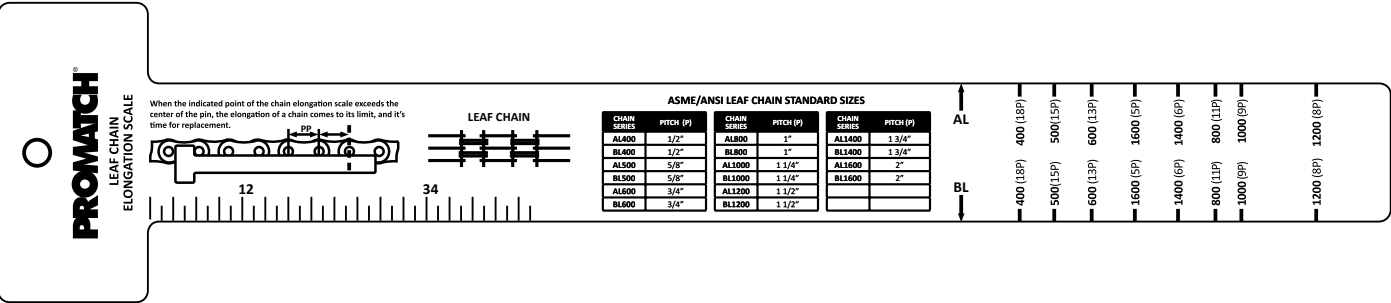
Description	Part No.
Class II Carriages (Measure 16" from top to bottom)	A000011753
Class III Carriages (Measure 20" from top to bottom)	A000011754
Class IV Carriages (Measure 25" from top to bottom)	A000011755



Chain Wear Gauge

Part Number: A000013600

Lift applications demand the frequent transmission of high lifting power at relatively low speeds. A chain’s normal life expectancy depends on wear and elongation. As the chain flexes back and forth, the joints gradually incur wear due to articulation and load weight. Over time, the pin holes elongate, lengthening the chain. Chain should be replaced when it has elongated 3%. Leaf and roller chain elongation can be measured using a chain wear gauge. Chain life is affected by environmental conditions, lubrication, and frequency in which it is used. Chain should be be inspected, cleaned, and lubricated after every 100 hours of operation, or 50 hours in a corrosive or cold environment.

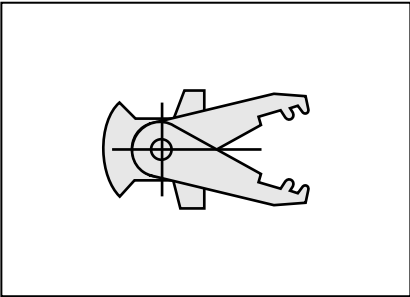


Fork Wear Caliper Series II

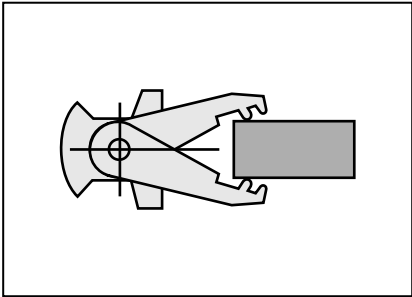
Part Number: A000002638

This caliper provides a simple “ACCEPT” or “REJECT” comparison of the fork arm’s critical load bearing areas with user FORK ARM SAFETY STANDARDS. The calipers are supplied in a wallet which also contains a steel rule and instruction booklet on their use with information on the care, maintenance, and operation of fork arms. The calipers measure hook/shaft wear, arm wear and fork angle.

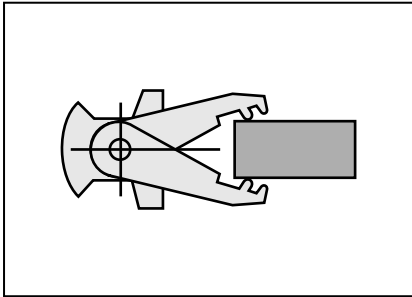
General Arrangement



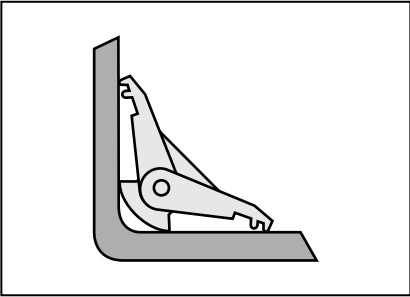
Set the Calipers



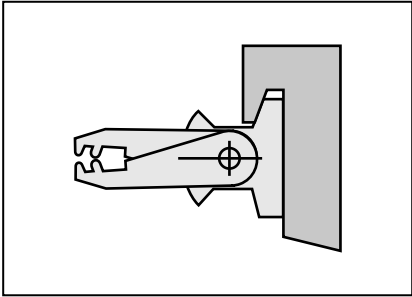
Check the Blade



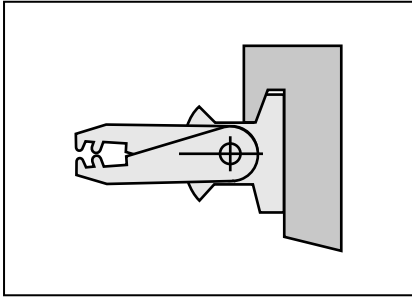
Check the Fork Angle



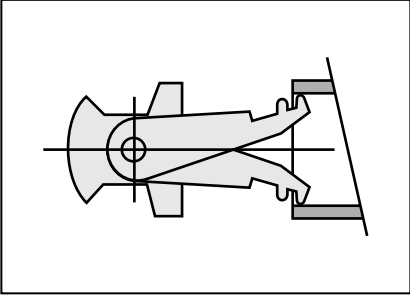
Check Retaining Face



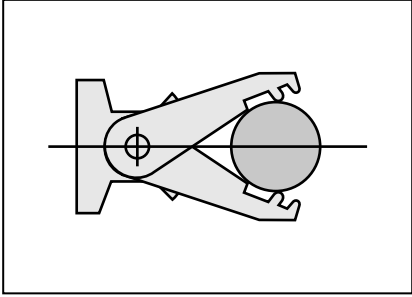
Check Suspension Face



Internal Diameters



External Diameters

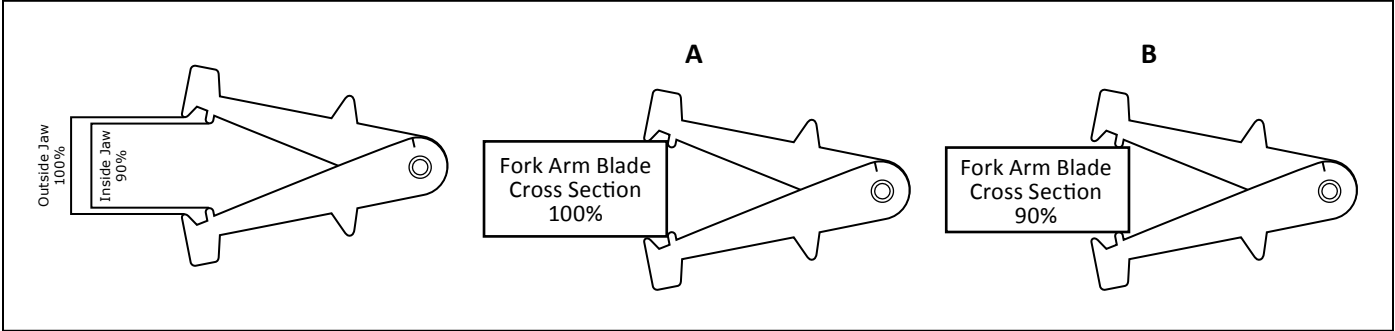


Class I, II, and III  
Model Range

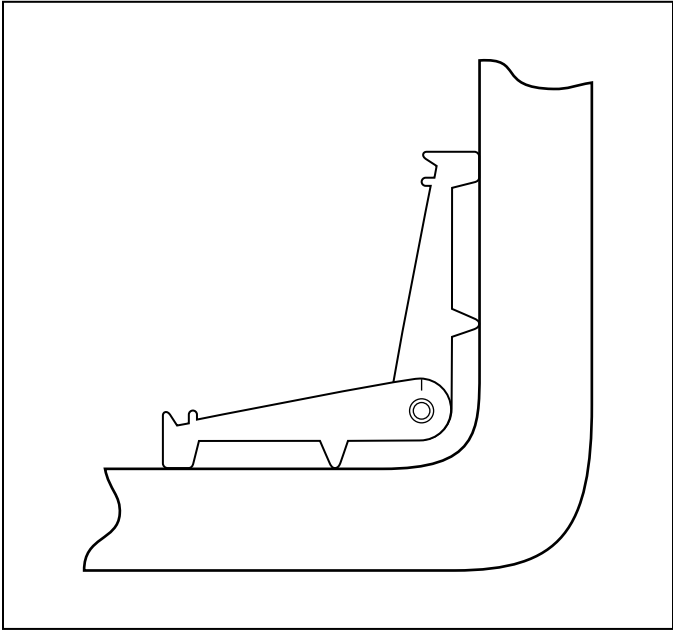
**Cascade Fork Wear Calipers**  
Part Number: A000025174

Fork calipers perform two tasks at once. They measure the thickness of the fork arm shank (A) then automatically indicate what a 10% wear factor would be when the calipers are applied to the blade cross section (B).

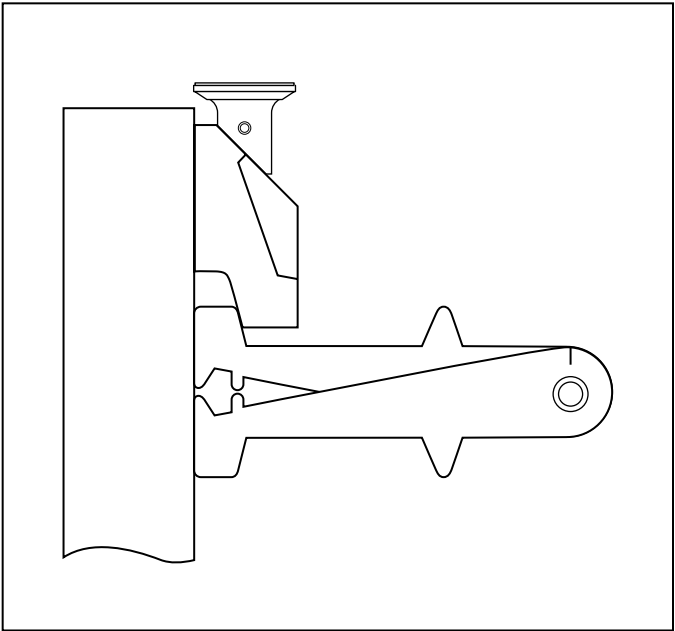
**Checking the Fork for Thickness Wear**



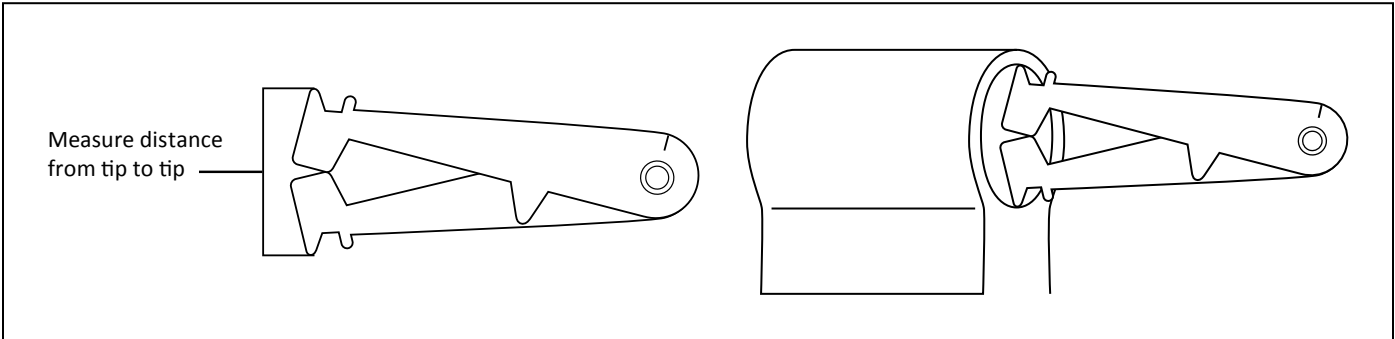
**Checking the Fork Heel Angle**



**Checking the ITA Hook for Defects**



**Measuring the Bore on Shaft/Pin Type Forks**





### GE EV100/200 Logic Handset

This multifunctional GE Handset is available for use with the LX, ZX and SX series of GE solid-state controls. The unit consists of a handset with LED display, keyboard for data entry, an eight-foot interface cable (Part Number: A000015825) to plug into the EV100, and a carrying case.

Description	Part No.
GE EV100/200 Logic Handset	A000009698
8 Foot Cable (8 Pin Connector)	A000017332
8 Foot Cable (14 Pin Connector)	A000015825
8 Foot Cable (12 Pin Connector)	A000019246



### Curtis Model 1313 LP Handheld Programmer

The Curtis Model 1313 Handheld Programmer is a powerful and intuitive programming and diagnostic tool. Model 1313 enables parameter files to be created and edited online or offline, transferred to another controller for cloning, or saved onto a PC or SD card.

#### Features:

- Large, high-resolution color display shows multiple parameters simultaneously for quick adjustment.
- Backlight for easy viewing in low-light environments.
- Cloning feature and 64 Mb internal memory allows multiple parameter files to be stored in the Handheld Programmer making it easy to transfer settings to other vehicles.
- Advanced troubleshooting capabilities for all vehicles that use Curtis programmable motor controllers or control systems.
- AA battery compartment allows programs to be edited without having to be connected to a system.
- Multiple language support includes English, German, Spanish, French, and Italian.
- Monitoring function allows real-time viewing of controller activity.
- Icon based graphical user interface allows for quick and intuitive menu navigation.
- Dedicated buttons for “help” and “favorites” provide for direct access to commonly used features.
- Soft Keys (located under the LCD) change function as indicated by screen text to provide quick access to the most commonly used functions.
- Comprehensive help text offers solutions and information at the touch of a button.
- Easily upgradeable via USB to ensure compatibility with future products and features.
- The Model 1313 programmer is easily portable, with a tough rubber protective perimeter strip.
- Kits include handheld programmer, 4-pin Molex cable, USB cable, case, and quick start guide.



Please note: The handheld programmer cannot be used with most controllers that are equipped with proprietary software.

#### Kits

Access Rights	Part No.
User Programmer Kit	A000042250
Service Programmer Kit	A000042251
Dealer Programmer Kit	A000042252

### Cable Options for Models 1313 and 1311

Description	Model 1313	Model 1311
4-Pin Molex	A000042254	A000046625
RJ11	A000042253	A000046626
XLR	A000042255	A000046627

MICO® Quadrigage

- Pressure testing devices for hydraulic, air, and vacuum systems
- Performs four gauge functions
- Reads in lb/in<sup>2</sup> (psig) and kg/cm<sup>2</sup> (bar)
- Case is dust and moisture resistant
- Compact for toolbox storage
- Includes bleeder screw and convenient hanger
- Compatible with most hydraulic fluids

Type	Hose Length	Low Pressure Range (psig)	Mid Pressure Range (psig)	High Pressure Range (psig)	Part No.
Standard	12"	0-150	0-600	0-5000	A000011543
Standard	36"	0-150	0-600	0-5000	2I8068
Glycerin Filled	36"	0-250	0-1000	0-4000	A000011544



Handyman Component Tester

The Handyman Component Tester enables you to test SCRs, Diodes, Capacitors, Transistors, Contactor Drivers, Snubbers, Suppressors and more with a level of confidence never before possible with a VOM (multi-meter) alone. Combining the Handyman with your VOM (multi-meter) creates an even more powerful troubleshooting tool.

The Handyman applies 200 VDC to SCRs and diodes for evaluating blocking and reverse leakage. Capacitors may now be tested at or near their actual operating voltage for both value and leakage. Numerous other components can be completely tested under realistic conditions where VOM testing alone would provide only marginal or inconclusive information. SCR dual-range firing and SCR holding-current tests, along with diode forward-conduction and simple continuity testing, are all routine for the Handyman.

Features:

- Component testing at realistic voltages
- Self-contained, battery-powered operation
- Failure & degradation detection (VOMs are unable to detect)
- Complete operator's manual
- Safety auto-discharge
- Audible and visual continuity indication
- User-friendly front panel in four color graphics

Description	Part No.
Handyman Component Tester	A000013964
Carrying Case	A000013971



Sidekick Starter Circuit Tester

Part Number: RMS0000019

The Sidekick Starter Circuit Tester helps make testing starters on 12 VDC and 24 VDC systems easier. Hook the tester up to your starter, solenoid, and battery posts and let the unit do all the work. The Sidekick measures battery charge; positive, negative, and switch circuit drop; and provides users with either a green light (good) or a red light (bad) feedback.



Battery Testers and Accessories

Description	Notes	Part No.
Battery Tester	Tests 200 - 1600 cold cranking amp range and stores previous 50 tests.	A000027288
SLA Power Port Battery Tester	Tests 4ah - 50ah batteries with fast results.	A000027289
Battery and Electrical System Tester	Tests 12 VDC - 24 VDC systems and stores previous 50 tests.	A000027290
Infrared Printer	This optional accessory is compatible with all of the above models.	A000027557
PC Cord	This optional accessory is compatible with all of the above models.	A000027556
Carry Case (Holds Printer and Tester)	This optional accessory is compatible with all of the above models.	A000027555



Digital Battery Resistance Tester

Part Number: A000009631

- 12 VDC digital resistance (no heat, sparks or load)
- Fast test results in seconds
- New patented Dynamic Resistance Technology
- Accurate digital read outs
- Compact size, easy to use, handle, and store
- International multi-rating system: SAE, DIN, ENc2
- Flexible on/off vehicle testing
- Automatic shut off for extended battery life
- Tests discharged batteries to 9 VDC



Analog Battery Load Tester

Part Number: A000009629

- Preset load
- 100 amp (6 VDC) and 50 amp (12 VDC) rating
- Voltmeter for state-of-charge, cranking, charging and starter testing



Battery Tester

Part Number: A000013205

Indicates battery's level of charge by simply observing the number of floating balls.



**pH Test Strips**

Part Number: A000034845

On-site kit used to check a liquid's pH level. Package quantity of 200.

**Oil Analysis Kit**

Part Number: A000044313

Regular sampling increases the odds of detecting abnormal wear by trending results from unit components. Oil samples can be taken from: engines, transmissions, differentials, final drive assemblies, hydraulic systems, and PTO gear boxes. This kit comes with everything needed to collect the oil and a postage-paid (in the USA only) box for mailing. Samples are tested within 24 hours of receipt.

**Results will show:**

- Viscosity cSt @ 100°C
- Viscosity cSt grade @ 100°C
- Fuel soot percentage and fuel dilution
- Water and antifreeze contamination
- Screening for visible solids/metals
- Contaminants analysis, PPM
- Oil additives, PPM

**FQC-B Diesel Fuel Sample Analysis Kit**

Part Number: A000049476

Fuel analysis kit comes with everything you need to collect the oil including 8 oz bottle, protective wrapping, fuel label, and regulated box. Fuel kits may not be sent through the mail and must be sent via UPS or FedEx.

Testing includes: cetane, sulfur, API gravity, bacteria, water, distillation, and flash point

**Antifreeze Tester**

Part Number: A000013204

Prevents your forklift truck from freeze-ups in the winter and overheating in the summer. Provides a quick and accurate means for checking antifreeze. Simply observe the number of floating balls to measure the degree of protection.



**Engine Combustion Test Leak Kit**  
Part Number: A000031156

Locate blown gaskets, cracked heads, or cracked blocks quickly as the test fluid color changes to indicate a leak. Quickly and easily detects leaks in all engine types. With the engine idling, place the tester in the radiator filler neck and close off the overflow tube. Use a rubber syringe as directed to pull air from the radiator, through the liquid. If combustion gas is leaking into the cooling system, the test fluid will change from blue to yellow. The test fluid may be reused six or seven times and returns to the original color when air is re-introduced after the test. Test kit includes: Combustion Leak Tester, Test Fluid (16 oz.) and Test Bulb.



**Spotcheck® Penetrant**

Spotcheck® is a red visible nondestructive test method that detects surface discontinuities (flaws) in non-porous material, such as a forklift's mast and carriage. Spotcheck's formulation, using a high concentration of quality dyes, together with high quality solvents, provides the best possible dye penetrants for finding the smallest and finest defects. Defects are marked by a deep red indication. Other products may skimp on dyes or use inferior solvents that cut costs. In doing so, indications do not appear as bright or vibrant and cracks can be missed. Some inferior solvents may also cause health hazards.

**Spotcheck delivers accurate, reliable crack detection results in the following applications:**  
Automobile Parts, Off-Road Equipment, Farm Equipment, Welds, Castings, Forgings, Leak Testing, and General Metalwork

Description	Part No.
Complete Spotcheck Kit	A000016116
Solvent/Cleaner	A000016113
Solvent Removable Penetrant	A000016114
Solvent Developer	A000016112



Emission Monitors

Carbon Monoxide (CO) and Hydrocarbons (HC) are two by-products of any internal combustion engine that can cause nausea, dizziness, headaches, fatigue, unpleasant odors, and even fatal asphyxiation. Determine the performance and efficiency of your internal combustion forklift trucks with a Bridge Gas Analyzer.

Make fast and accurate adjustments to the air/fuel ratio to ensure emissions meet both current OSHA and CARB standards, as well as maintain optimum engine horsepower and efficiency. These hand-held units are available in 2-gas, 4-gas, and 5-gas models.

2-Gas Analyzer with Battery Pack

Part Number: A000019633

- Measures: CO, HC
- Power off the vehicle or use battery pack for six hours
- Includes hose and exhaust probe
- Inexpensive, operator accessible filters

4-Gas Analyzer

Part Number: A000019632

- Measures: CO, HC, CO<sub>2</sub>, O<sub>2</sub>
- Self-powered with internal battery pack—2 hour capability
- Real time Lambda air/fuel ratio calculated
- Instant on: Data in 30 seconds
- Inexpensive, operator accessible filters

5-Gas Analyzer

Part Number: A000019630

- Measures: CO, HC, CO<sub>2</sub>, O<sub>2</sub>, NO<sub>x</sub>
- Self-powered with internal battery pack—2 hour capability
- Real time Lambda air/fuel ratio calculated
- Instant on: Data in 30 seconds
- Inexpensive, operator accessible filters



2-Gas Analyzer



5-Gas Analyzer

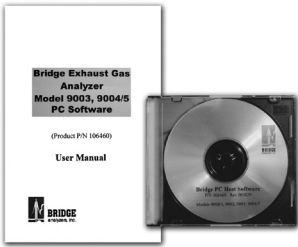
	2-Gas Analyzer	4- and 5-Gas Analyzers
Gases Measured	CO, HC	CO, HC, CO <sub>2</sub> , O <sub>2</sub> , (NO <sub>x</sub> on 5-Gas Analyzer)
Reporting Range	CO: 0-10%, HC: 0-10,000 ppm	CO: 0-10%, HC: 0-9,999 ppm, CO <sub>2</sub> : 0-20%, O <sub>2</sub> : 0-25%, NO <sub>x</sub> : 0-5,000 ppm
Resolution	CO: 0.01%, HC: 0 - 9,999 ppm	CO: 0.01%, HC: 1 ppm, CO <sub>2</sub> : 0.1%, O <sub>2</sub> : 0.01%, NO <sub>x</sub> : 1 ppm, Lambda: 0.50-1.60, A/F: 7.0-24.0
Accuracy	All channels: 5% relative	All channels: 5% relative
Repeatability	All channels: 3% full scale	All channels: 3% full scale
Warm-Up Time	5 minutes to full accuracy (Display in 30 seconds)	5 minutes to full accuracy (Display in 30 seconds)
Power	The battery pack option may be ordered with the analyzer or added later. Adapters clip to 12 V battery or plug into cigarette lighter socket.	Three watts required - either from internal battery pack or external 9.0 V to 15.0 V supply. Battery charge mode requires seven watts from external supply.

PC Software

Part Number: A000011706

The Bridge Gas Analyzers are also PC compatible (using Bridge PC Software), which makes use of enhanced PC display, data storage, and user-interactive capabilities. The real-time display options are a large numeric display, analog meter displays, or graphic display capability. In addition, the PC can automatically store data at user-specified intervals to a text file on the PC hard drive, for later importing into a spreadsheet for thorough data analysis and charting.

The PC can be used to generate and print a full-page test report using the PC printer. This full-page report can have custom header information (modifiable by the user) containing the business and customer information of the user's choice - and a copy of the report is saved to the hard drive and can be copied or recalled for future reference. This software is available on a CD.



Serial Printer

Part Number: A000034831

Every Bridge Analyzer has the ability to directly interface with a serial printer. A hard copy print out of gas readings can be obtained with a single push of a button on the analyzer front panel. The printer is battery powered and connects to a serial port built into the analyzer. Once connected and turned on, the thermal printer will produce a hardcopy record of the gas readings being displayed when the 'PRINT' (4-Gas, 5-Gas) or the 'CAL' (2-Gas) button is depressed. This function is totally automatic and allows the user to create hardcopy records of 'before and after' test results or any other significant gas readings.

This portable printer is less than 1 lb. and measures 4.5 x 3.5 x 2.0 inches. It will operate for a full 12-hour day from one charge. The hardcopy printout is produced within five seconds on 2.3 inch wide thermal paper. (Paper not included.) The printer comes complete with its charger and interface cable to the analyzer.



Hard Seal Exhaust Port Kit

The Hard Seal Exhaust Port Kit allows you to install a hard seal exhaust port (threaded nutsert) into the exhaust pipe upstream of the tailpipe in the exhaust system. This method improves the performance of gas analysis for engine tuning and diagnosis, as well as isolating the catalytic converter for enhanced diagnosis - resulting in much more credible and repeatable gas concentrations. The analyzer will provide an accurate determination of gas emissions levels and engine diagnostics, such as Lambda (AFR) and Combustion Efficiency.

Description	Part No.
Hard Seal Exhaust Port Kit with Water Trap (25 Inserts)	A000020996
Hard Seal Exhaust Port Kit - Basic (25 Inserts)	A000020995
Hard Seal Port Replacements (25 Inserts)	A000020997



## Emission Monitor Accessories

Description	Part No.
Compact EGA Probe	A000019993
Battery Pack for 2-Gas Analyzer	A000019634
PC Display/Data Capture/Report Printing Software for 4-Gas and 5-Gas Analyzers	A000011706
Serial Printer	A000034831
Needle Probe - 12" x 1/8" dia. (cross-drilled quick-release)	A000011712
Needle Probe - 24" x 1/8" dia. (cross-drilled quick-release)	A000011713
Regulator/Valve Assembly for Calibration Gas Cylinders	A000011709
Filter Pack - 12-month usage	A000011707
50 mm Primary Particle Filter (6 pieces)	A000011716
Water Trap Filter (6 pieces)	A000011717
25 mm Analyzer Filter	A000011718
O <sub>2</sub> Sensor	A000011719
NO Sensor	A000011720
Line Assembly - 20' long	A000036009
Water Bowl/Check Valve Assembly	A000011715
Adapter, AC for 4-Gas and 5-Gas Analyzers	A000025166





### SmartWasher® Bioremediating Parts Washing System

The SmartWasher Bioremediating Parts Washing System is both self-cleaning and non-hazardous. Through the process of bioremediation the SMARTWASHER constantly maintains the cleanliness of the OZZYJUICE cleaning/degreasing solution without the need for hauling, skimming or evacuating the unit.

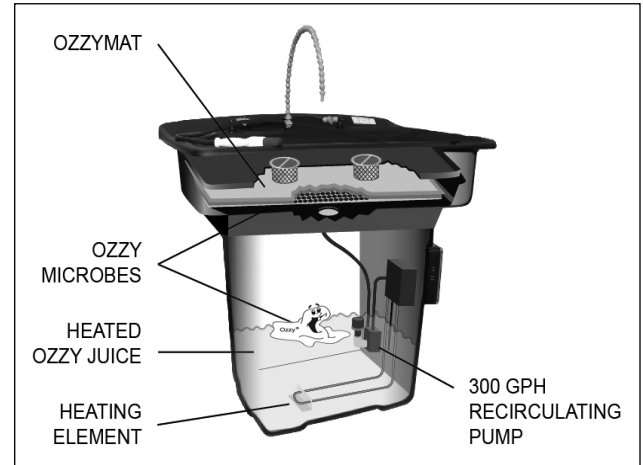
The SmartWasher makes use of highly potent microbes that break down grease and grime without the use of caustic chemicals or solvents. Bioremediation is so effective that analyses have shown the presence of 1,400 parts per million presence of grease and oil after use, compared to 20,000 parts per million when using a non-bioremediating cleaners.

**What is OZZYJUICE?** It is a powerful, aqueous based degreasing solution that is pH-neutral, non-irritating, non-flammable, and non-toxic. Armed with superior cleaning capability, the OZZYJUICE solutions will match or surpass the performance of a premium solvent without all the associated risks. All OZZYJUICE solutions are certified by both NSF and AQMD.

**Clean OZZYJUICE means clean parts.** The OZZYJUICE cleaning/degreasing solution cleans the dirty parts and the OZZY microbes clean the OZZYJUICE leaving it strong and clean for every use. You should never need to haul away dirty parts cleaning fluid again, if the unit is maintained properly, and according to the operating instructions.

**The OZZYMAT** traps particulate down to 50 microns size but more importantly contains OZZYS (microbes). The OZZY microbes, impregnated in the OZZYMAT, are transported along with the OZZYJUICE into the SMARTWASHER tank. These naturally occurring OZZY microbes eat the grease, oil, and other contaminants cleaned off the dirty parts and create the harmless by-products of carbon dioxide and water. This process leaves the OZZYJUICE clean and strong and ready to use time after time without the need to change and haul away dirty fluid.

**The OZZY Microbes** do their job eating the grease, oil and other contaminants, cleaning off the dirty parts, creating the harmless by-products of carbon dioxide and water, leaving the OZZYJUICE clean and strong and ready to use. **Heated OZZYJUICE** flows through the nozzle, and flow-through brush, onto the part, then travels through the OZZYMAT and into the tank. **The 300 GPH Recirculating Pump** pulls the OZZYJUICE from the tank and sends it back through the nozzle - ready to clean more parts.



### Start-Up Kits

Description	Includes	Part No.
SW-423 Mobile Parts Washer Kit	1 SW23, 3 Pails SW4 OzzyJuice, 1 FL4 OzzyMat Filter	A000049555
SW-437 Mobile Heavyweight Parts Washer Kit	1 SW37, 5 Pails SW4 OzzyJuice, 1 FL4 OzzyMat Filter	A000049556
SW-737 Mobile Heavyweight Parts Washer Kit	1 SW37, 5 Pails SW7 OzzyJuice, 1 FL4 OzzyMat Filter	A000049557
SW-723 Mobile Heavyweight Parts Washer Kit	1 SW23, 3 Pails SW7 OzzyJuice, 1 FL4 OzzyMat Filter	A000049558
SW-323 Mobile Parts Washer Kit	1 SW23, 3 Pails SW3 OzzyJuice, 1 FL4 OzzyMat Filter	A000049559

### OzzyJuice®

Description	Part No.
SW-1 Degreasing Solution (5 g. jug)	A000049545
SW-3 Truck Grade Solution (5 g. jug)	A000049546
SW-4 Heavy Duty Solution (5 g. jug)	A000049548
SW-6 Select Metals Solution (5 g. jug)	A000049549
SW-7 Parts/Brake Solution (5 g. jug)	A000049550
SW-8 Aircraft & Weapon Solution (5 g. jug)	A000049551
SW-LF Low Foam Solution (5 g. jug)	A000049547
OZZY Booster - microbial enhancer (8 oz.)	A000049552

### Parts Washers

Description	Part No.
SW-23 Mobile Parts Washer	A000049539
SW-25 Signature Parts Washer	A000049540
SW-25C Combo Brake/Parts Washer	A000049541
SW-28 SuperSink Parts Washer	A000049542
SW-28XE SuperSink XE Parts Washer	A000049543

### OzzyMat®

Description	Part No.
FL-4 Multi-Layer Filter	A000049553
FL-3 Single-Layer Filter	A000049554

**3M Scotch-Brite™ Roloc™ Surface Conditioning Disc**

Use for cleaning and finishing on all metals for removal of light rust, oxides and coatings. Box of 25.

Color	Diameter	Grade	Mineral Type	Attach Type	Max RPM	Part No.
Brown	2"	CRS	Aluminum Oxide	TR	25000	A000031638
Brown	3"	CRS	Aluminum Oxide	TR	18000	A000030588



**3M Green Corps™ Roloc™ Disc**

Generally used for hard to reach areas in paint, rust, and weld removal. Handy quick change tool for disc grinding which fits any standard 1/4 in drill or air tool. Box of 25.

Color	Diameter	ANSI Grade	Mineral Type	Abrasive Backing	Part No.
Green	2"	36	Aluminum Oxide	Cloth	A000031639
Green	3"	36	Aluminum Oxide	Cloth	A000044646
Green	3"	50	Aluminum Oxide	Cloth	A000044647



**3M Roloc™ Disc Pad Assembly**

The hard rubber back up pad provides firm support for Scotch-Brite Roloc Surface Conditioning Discs and 3M Roloc Bristle Discs.

Diameter	Max Operating Speed	Part No.
2"	25000	A000031649
3"	20000	A000031648



Rod U-Seal Installation Tools

These tools aid in u-seal installation, eliminating the risk of damaging the seal lip.

Seal ID Range	Part No.
3/4" to 1-1/4"	A000035616
1-3/8" to 1-7/8"	A000035617
2" to 3"	A000035618



O-Ring Pick Set (Bronze)

Part Number: A000035619

These bronze o-ring picks aid in the installation and extraction of o-rings.



O-Ring Pick Set (Heavy Duty)

Part Number: A000035620

Designed for heavy duty use and packaged in a clear vinyl pouch, this kit contains a knurled handle and four screw-in picks with different hook configurations. Set includes straight tip, o-ring 90 degree tip, hook tip, and angle tip. Made in the USA.



Snap-On O-Ring Pick Set

Part Number: A000035623

Designed for heavy duty use and packaged in a plastic pouch, these highly visible picks feature screwdriver-type colored handles. Set includes awl, hook tip, 45 degree bent tip tool, and 90 degree bent tip tool. Made in the USA.



Grease Guns and Accessories

Description	Notes	Part No.
Standard Duty Grease Gun	Uses standard 14 oz. cartridge. Develops up to 6,000 psi. Delivers 1 oz. of grease/40 strokes.	A000016130
Standard Duty Grease Gun with Hose	Uses standard 14 oz. cartridge. Develops up to 6,000 psi. Delivers 1 oz. of grease/40 strokes.	A000016141
Flexible Grease Hose	For use on hand operated grease guns only. 12" in length. Steel 1/8" NPT male fittings on each end. Recommended working pressure is 5,000 psi.	A000016129
Grease Gun Coupler	1/8" NPT	A000030587
Needle Nose Dispenser	Dispenses a fine line of grease through a needle nose. 3/4" adapter with a 1/8" female NPT. Use with extension or hose. 19/32" needle length. .046" tip diameter and .219" body diameter. For hand operated grease guns only.	A000032987



**Commutator Treating Kit**  
Part Number: A000027202

This versatile tool can quickly change shape to any job to keep small commutators operating at peak efficiency. Simply dip the tool in hot water for one minute and bend the handle to suit your application. The holder and inserts are non-conductive. The exclusive hex nut and screw locking assembly permits replacement and locking of the inserts, eliminating the chance of the stone becoming loose. The kit contains four grades of stones and grade FH seaters. Inserts are color coded for easy identification. Handles and replacement inserts are available separately.

**Kit includes:**

- 1 holder
- 2 coarse stones (red)
- 2 medium stones (yellow)
- 2 fine stones (green)
- 2 extra fine stones (black)
- 4 FH brush seating stones (white)



**Replacement Stones and Holder**

Description	Part No.
Holder with a Medium Stone and Fine Stone	A000027203
Coarse Stones (package of six)	A000027206
Medium Stones (package of six)	A000027207
Fine Stones (package of six)	A000027204
Extra Fine Stones (package of six)	A000027208
FH Brush Seating Stones (package of six)	A000027209
Holder Only	A000027200

**Commutator Dressing and Finishing Stones (Unmounted)**

Description	Size	Part No.
Soft Stone	6" x 3/8" x 5/8"	A000026425
Medium Stone	6" x 1/4" x 3/8"	A000027199



**Brush Seating and Cleaning Stones (Unmounted)**

Commutators and brushes of any material can be easily and accurately seated with brush seaters.

Description	Size	Part No.
White Stone	1" x 1/2" x 4-3/4"	A000027197
White Stone	1/2" x 1/4" x 4-3/4"	A000027198



**Commutator Brush Saver**  
Part Number: A000026360

This uniquely shaped plastic handle with resurfacing stones at each end (polish grade and finish grade) is designed for smoothing commutators on many small motors and generators. This non-conductive tool allows access into any motor frame when resurfacing the commutator to a smooth finish. This extends brush life and improves commutation.



**AGC Fuse Kit (80 Pieces)**

Part Number: 9I4760

Description	Quantity	Part No.
6 amp	10	9I4765
7-1/2 amp	10	A000000499
10 amp	10	9I4767
15 amp	10	9I4768
20 amp	10	9I4769
25 amp	10	2I5197
30 amp	10	2I3420
35 amp	10	A000000500

**ATC Fuse Kit (40 Pieces)**

Part Number: A000000148

Description	Quantity	Part No.
5 amp	3	A000000191
7-1/2 amp	2	A000000190
10 amp	5	A000000430
15 amp	10	A000000189
20 amp	5	A000000188
25 amp	5	A000000187
30 amp	10	A000000186

**ATM Fuse Kit (30 Pieces)**

Part Number: A000014476

Description	Quantity	Part No.
5 amp	5	A000017473
10 amp	5	A000014215
15 amp	5	A000014216
20 amp	5	A000014217
25 amp	5	A000014218
30 amp	5	A000014219



Grease Zerk Kit - Standard (35 Pieces)

Part Number: 9I2545

Size	Pitch	Angle	Quantity	Part No.
1/4"	28	Straight	10	2I6227
3/16"	Drive In	Straight	3	9I2551
1/4"	28	65°	3	9I2549
1/4"	28	90°	3	9I2550
1/8"	Pipe Thread	90°	3	0972134
1/4"	28	45°	3	2I8200
1/8"	Pipe Thread	Straight	7	3B8489
1/8"	Pipe Thread	45°	3	9I2547



Grease Zerk Kit - Metric (27 Pieces)

Part Number: 9I2546

Size	Pitch	Angle	Quantity	Part No.
6 mm	1.0	Straight	5	2I2757
8 mm	1.0	Straight	5	9I2554
10 mm	1.0	Straight	5	9I2558
6 mm	1.0	45°	2	9I2370
8 mm	1.0	45°	2	9I2552
10 mm	1.0	45°	2	9I2556
6 mm	1.0	90°	2	9I2555
8 mm	1.0	90°	2	9I2553
10 mm	1.0	90°	2	9I2557



Vinyl Terminal Kit with Crimper (240 pieces)  
Part Number: A000009427

Color	Gauge	Stud Size	Tab Size	Description	Quantity	Part No.
Blue	16-14	-	-	Butt Connector	20	9I1902
Blue	16-14	#6	-	Ring-Molded	10	9I1925
Blue	16-14	#10	-	Ring-Molded	10	9I1927
Blue	16-14	#6	-	Spade-Molded	10	9I1872
Blue	16-14	#10	-	Spade-Molded	10	9I1874
Blue	16-14	-	.250 x .030	Male Quick Disconnect	10	9I1833
Blue	16-14	-	.250 x .030	Female Quick Disconnect	10	9I1834
Red	22-18	-	-	Butt Connector	20	9I1901
Red	22-18	#6	-	Ring-Molded	10	9I1919
Red	22-18	#10	-	Ring-Molded	10	9I1921
Red	22-18	#6	-	Spade-Molded	10	9I1869
Red	22-18	#10	-	Spade-Molded	10	9I1871
Red	22-18	-	.250 x .030	Male Quick Disconnect	10	9I1829
Red	22-18	-	.250 x .030	Female Quick Disconnect	10	9I1830
Yellow	12-10	-	-	Butt Connector	20	9I1903
Yellow	12-10	5/16"	-	Ring-Molded	10	9I1954
Yellow	12-10	3/8"	-	Ring-Molded	10	9I1955
Yellow	12-10	#8	-	Ring-Molded	10	9I1951
Yellow	12-10	#10	-	Ring-Molded	10	9I1952
Yellow	12-10	#8	-	Spade-Molded	10	9I1876
Yellow	12-10	#10	-	Spade-Molded	10	9I1877
-	-	-	-	Crimper	1	



**Nylon Terminal Kit with Crimper (240 pieces)**

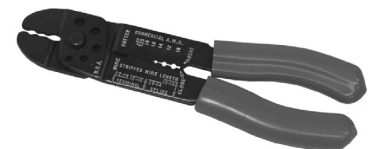
Part Number: A000009426

Color	Gauge	Stud Size	Tab Size	Description	Quantity	Part No.
Blue	16-14	-	-	Butt Connector	20	9I1905
Blue	16-14	#6	-	Ring-Molded	10	9I1934
Blue	16-14	#10	-	Ring-Molded	10	9I1936
Blue	16-14	#6	-	Spade-Molded	10	9I1882
Blue	16-14	#10	-	Spade-Molded	10	9I1884
Blue	16-14	-	.250 x .030	Male Quick Disconnect	10	9I1850
Blue	16-14	-	.250 x .030	Female Quick Disconnect	10	9I1851
Red	22-18	-	-	Butt Connector	20	9I1904
Red	22-18	#6	-	Ring-Molded	10	9I1928
Red	22-18	#10	-	Ring-Molded	10	9I1930
Red	22-18	#6	-	Spade-Molded	10	9I1879
Red	22-18	#10	-	Spade-Molded	10	9I1881
Red	22-18	-	.250 x .030	Male Quick Disconnect	10	9I1848
Red	22-18	-	.250 x .030	Female Quick Disconnect	10	9I1849
Yellow	12-10	-	-	Butt Connector	20	9I1906
Yellow	12-10	5/16	-	Ring-Molded	10	9I1964
Yellow	12-10	3/8	-	Ring-Molded	10	9I1965
Yellow	12-10	#8	-	Ring-Molded	10	9I1961
Yellow	12-10	#10	-	Ring-Molded	10	9I1962
Yellow	12-10	#8	-	Spade-Molded	10	9I1886
Yellow	12-10	#10	-	Spade-Molded	10	9I1887
-	-	-	-	Crimper	1	

**Cutter Crimper**

Part Number: A000043037

Cuts and strips wire 22 - 10 gauge. Crimps insulated and non-insulated connectors. Cuts 4-40, 6-32, 10-24, and 10-32 bolts.





**Clevis Pin Kit (30 Pieces)**

Part Number: 9I2936

Size	Quantity	Part No.
1/4" x 2"	10	9I2963
5/16" x 2"	10	NSS
3/8" x 2"	5	NSS
1/2" x 2"	5	NSS

NSS - Not Sold Separately.

**Cotter Pin Kit (310 Pieces)**

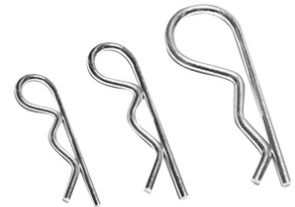
Part Number: 9I2472

Size	Quantity	Part No.
1/16" x 1"	100	A000019336
3/32" x 1"	100	A000019345
1/8" x 1-1/2"	50	A000019363
3/16" x 1-1/2"	20	A000019393
1/4" x 2"	10	A000019390
5/32" x 2-1/2"	30	A000019378

**Hitch Pin Kit (103 Pieces)**

Part Number: A000000051

Size	Quantity	Part No.
3/16"	30	A000000052
5/16"	30	A000000053
3/8"	20	A000000054
1/2"	10	A000000055
5/8"	8	A000000056
1"	5	A000000057

**Roll Pin Kit (170 Pieces)**

Part Number: 9I2471

Size	Quantity	Part No.
1/8" x 1"	50	9I2499
1/8" x 1-1/4"	30	9I2500
1/4" x 1"	25	9I2501
1/4" x 1-1/4"	15	9I2502
1/4" x 1-3/4"	15	9I2503
3/16" x 1"	35	9I2504



External Snap Ring Kit (105 Pieces)  
Part Number: 9I2468

Size	Quantity	Part No.
1/4"	20	0971130
5/16"	20	NSS
3/8"	20	9I2495
1/2"	15	9I2496
3/4"	15	9I2497
15/16"	15	9I2498

NSS - Not Sold Separately.



External Snap Ring Kit (490 Pieces)  
Part Number: A000017488

Size	Quantity	Part No.
1/4"	50	0971130
5/16"	50	NSS
3/8"	50	9I2495
7/16"	50	A000017675
1/2"	50	9I2496
9/16"	50	A000017677
5/8"	25	A000017678
11/16"	25	A000017679
3/4"	25	9I2497
13/16"	25	A000017681
7/8"	25	A000017682
15/16"	25	9I2498
1"	10	A000017684
1-1/8"	6	A000017685
1-1/4"	6	A000017686
1-5/16"	6	A000017687
1-3/8"	6	A000017688
1-1/2"	6	NSS

NSS - Not Sold Separately.



External Snap Ring Kit - Metric DIN 471 (270 Pieces)  
Part Number: A000017485

Size	Quantity	Part No.
4 mm	25	A000017620
6 mm	25	A000017621
8 mm	25	A000017622
10 mm	25	A000017623
12 mm	20	A000017624
14 mm	20	A000017625
15 mm	20	A000017626
16 mm	20	NSS
18 mm	20	A000017628
19 mm	10	A000017629
20 mm	10	A000017630
22 mm	10	A000017631
25 mm	10	A000017632
28 mm	6	A000017633
30 mm	6	A000017634
32 mm	6	A000017635
35 mm	6	A000017636
38 mm	6	A000017637

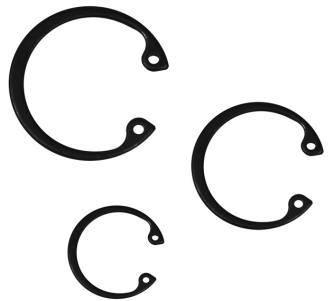
NSS - Not Sold Separately.



Internal Snap Ring Kit - Standard (110 Pieces)  
Part Number: 9I2470

Size	Quantity	Part No.
1/2"	20	NSS
5/8"	20	9I4601
11/16"	14	NSS
3/4"	16	NSS
13/16"	14	9I2489
7/8"	14	NSS
1"	6	9I2491
1-1/16"	6	A000017667

NSS - Not Sold Separately.

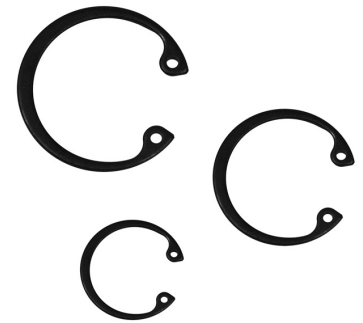


**Internal Snap Ring Kit - Standard (475 Pieces)**

Part Number: A000017487

Size	Quantity	Part No.
1/4"	50	A000017654
5/16"	50	A000017655
3/8"	50	A000017656
7/16"	50	A000017657
1/2"	50	NSS
9/16"	50	A000017659
5/8"	25	9I4601
11/16"	25	NSS
3/4"	25	NSS
13/16"	20	9I2489
7/8"	20	NSS
1"	10	9I2491
1-1/16"	6	A000017667
1-1/8"	6	A000017668
1-1/4"	6	A000017669
1-5/16"	6	A000017670

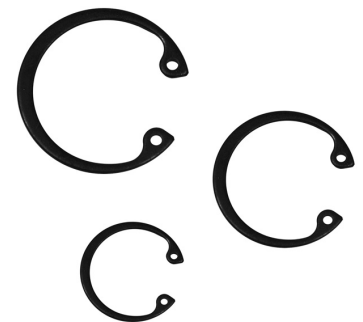
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**Internal Snap Ring Kit - Metric DIN 471 (269 Pieces)**

Part Number: A000017484

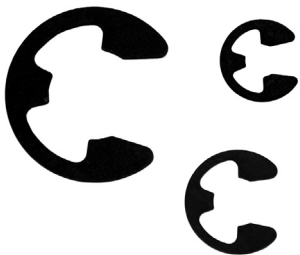
Size	Quantity	Part No.
10 mm	25	A000017603
12 mm	25	A000017604
14 mm	25	A000017605
15 mm	25	A000017606
16 mm	25	A000017607
18 mm	20	A000017608
19 mm	20	A000017609
20 mm	20	A000017610
22 mm	10	A000017611
24 mm	10	A000017710
25 mm	10	A000017612
27 mm	10	A000017613
28 mm	10	A000017614
30 mm	10	A000017615
32 mm	6	A000017616
35 mm	6	A000017617
38 mm	6	NSS
40 mm	6	NSS

NSS - Not Sold Separately.



E-Clip Kit (200 Pieces)  
Part Number: 9I2469

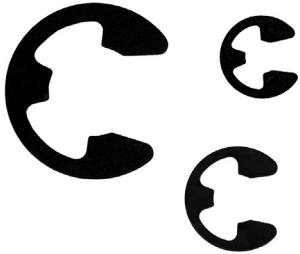
Size	Quantity	Part No.
1/16"	30	NSS
1/8"	30	NSS
3/16"	40	9I2507
1/4"	30	9I2508
3/8"	30	9I2509
1/2"	20	9I2510
5/8"	5	NSS
3/4"	15	9I2512



NSS - Not Sold Separately.

E-Clip Kit (982 Pieces)  
Part Number: A000017489

Size	Quantity	Part No.
3/32"	100	A000017690
7/64"	100	A000017691*
1/8"	100	NSS
9/64"	100	A000017693*
9/64"	100	A000017694
5/32"	100	A000017695
11/64"	50	A000017696*
3/16"	50	9I2507
3/16"	50	A000017698*
7/32"	50	A000017699*
1/4"	50	9I2508
*5/16"	50	NSS
3/8"	20	9I2509
1/2"	20	9I2510
5/8"	10	NSS
3/4"	6	A000017706*
3/4"	6	9I2512

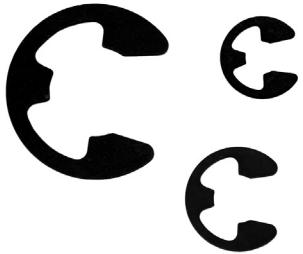


\*Thin Size  
NSS - Not Sold Separately.

E-Clip Kit - Metric DIN 6799 (550 Pieces)

Part Number: A000017486

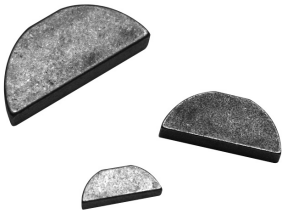
Size	Quantity	Part No.
1.2 mm	75	A000017638
1.5 mm	75	A000017639
1.9 mm	65	A000017640
2.3 mm	50	A000017641
3.2 mm	50	A000017642
4 mm	40	A000017643
5 mm	40	A000017644
6 mm	40	A000017645
8 mm	25	A000017647
9 mm	25	A000017648
10 mm	10	F32041000
12 mm	10	A000017650
15 mm	10	A000017651
24 mm	5	A000017653



Woodruff Key Kit (72 Pieces)

Part Number: 9I2473

Size	Quantity	Part No.
1/8" x 5/8"	12	NSS
5/32" x 5/8"	12	9I2515
3/16" x 3/4"	12	NSS
1/4" x 7/8"	10	NSS
1/8" x 1"	18	NSS
1/4" x 1"	8	NSS



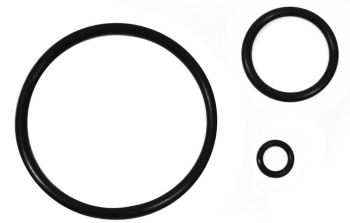
NSS - Not Sold Separately.

**ORFS Fitting 90D O-Ring Kit - Nitrile (140 Pieces)**

Part Number: 9I2337

Description	Quantity	Part No.
011-N90	20	9I1614
012-N90	20	9I1616
014-N90	20	9I1617
016-N90	20	9I1618
018-N90	20	9I1619
021-N90	20	9I1620
025-N90	10	9I1621
029-N90	10	NSS

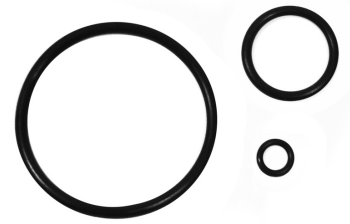
NSS - Not Sold Separately.

**Boss Fitting 90D O-Ring Kit - Nitrile (180 Pieces)**

Part Number: 9I2336

Description	Quantity	Part No.
901-N90	10	9I1623
902-N90	10	9I1625
903-N90	10	9I1626
904-N90	10	9I1627
905-N90	10	9I1628
906-N90	10	9I1629
907-N90	10	9I1630
908-N90	10	9I1631
909-N90	10	9I1632
910-N90	10	9I1634
911-N90	10	9I1484
912-N90	10	9I2345
913-N90	10	NSS
914-N90	10	9I1487
916-N90	10	9I1488
918-N90	10	9I1489
920-N90	5	9I1491
924-N90	5	9I1492
928-N90	5	9I1493
932-N90	5	9I1495

NSS - Not Sold Separately.



**Metric 70D O-Ring Kit (382 Pieces)**  
Part Number: 9I2334

Diameter x Cross Section (mm)	Quantity	Part No.
2.8 x 1.9	20	NSS
3.8 x 1.9	20	NSS
4.8 x 1.9	18	NSS
5.8 x 1.9	18	9I2393
6.8 x 1.9	18	NSS
7.8 x 1.9	18	9I2395
8.8 x 1.9	18	9I2396
9.8 x 2.4	13	9I2397
10.8 x 2.4	13	9I2398
11.8 x 2.4	13	9I2399
13.8 x 2.4	13	9I2400
15.8 x 2.4	13	9I2401
17.8 x 2.4	13	9I2402
19.8 x 2.4	13	9I2403
20.0 x 3.0	10	9I2404
22.0 x 3.0	10	9I2405
24.1 x 3.1	10	9I2407
24.7 x 3.1	10	9I2408
29.4 x 3.1	10	9I2410
34.4 x 3.1	10	9I2414
39.4 x 3.1	10	NSS
44.4 x 3.1	10	NSS
22.1 x 3.5	10	9I2406
25.7 x 3.5	10	9I2409
29.7 x 3.5	10	9I2411
31.7 x 3.5	10	9I2412
33.7 x 3.5	10	9I2413
35.7 x 3.5	10	9I2415
39.7 x 3.5	10	9I2417
47.7 x 3.5	10	NSS



NSS - Not Sold Separately.



**SAE 70D O-Ring Kit (383 Pieces)**

Part Number: 9I2335

Description	Quantity	Part No.
006-N70	20	9I1496
007-N70	20	NSS
008-N70	20	9I1498
009-N70	20	NSS
010-N70	20	9I1500
011-N70	20	9I1501
012-N70	20	9I1503
110-N70	13	9I2341
111-N70	13	9I1505
112-N70	13	0972151
113-N70	13	2I5863
114-N70	13	0972152
115-N70	13	2I3932
116-N70	13	A000032579
210-N70	10	NSS
211-N70	10	9I1513
212-N70	10	9I1514
213-N70	10	9I1515
214-N70	10	9I1516
215-N70	10	9I1517
216-N70	10	9I1518
217-N70	10	9I1519
218-N70	10	9I1520
219-N70	10	9I1521
220-N70	10	9I1522
221-N70	10	9I2385
222-N70	10	9I2386
325-N70	7	NSS
326-N70	7	9I2388
327-N70	7	9I2389



NSS - Not Sold Separately.

# Shop Supplies

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## Cleaners, Towels and Sweepers

- General Purpose Cleaners..... 13.1
- Hand Cleaners ..... 13.2
- Spill Cleanup..... 13.5
- Battery Maintenance ..... 13.7
- Tissues and Towels..... 13.8
- Sellars TOOLBOX® Brand Wipers ..... 13.9
- WypAll® Wipers..... 13.11
- Magnetic Sweepers..... 13.12
- Storage Equipment..... 13.14
- Tape..... 13.15

### Earth Soap Concentrated Cleaner/Degreaser - Low VOC

Formulated with the environment in mind, Earth Soap is a powerful, non-solvent cleaning fluid that is biodegradable, VOC compliant and corrosion inhibiting. Ideal for use in automated cleaning equipment, traditional and heated parts washers, pressure washers and manual cleaning applications. Provides a green alternative to heavy solvent cleaners without sacrificing performance. This product meets VOC standards for CA and OTC.

Part No.	Description	Package Quantity
A000024418	1 gallon	6



### Hydroforce™ Butyl-Free All-Purpose Cleaner - Low VOC (CRC)

Versatile enough for all of your daily cleaning tasks, but strong enough to attack and remove tough dirt, dust, and grime deposits. Butyl free and biodegradable. This product meets VOC standards for CA and OTC.

Part No.	Net Weight	Container	Package Quantity
A000002945	18 oz.	20 oz. aerosol	12



### Spray Nine Cleaner/Disinfectant

This tough task cleaner tackles your worst cleaning job. Water based formula contains no petroleum solvents, bleach, or acids.

Part No.	Description	Package Quantity
A000014133	32 oz. spray	12
A000014134	1 gallon bottle	4



### Original Simple Green Concentrated All-Purpose Cleaner/Degreaser

Simple Green, available in original formula or lemon scent, is one of the most versatile all-purpose cleaners. It's non-toxic and biodegradable, without harmful bleach. Because it is a concentrate, you can custom dilute Simple Green to clean just about anything dirty. It replaces most cleaners, detergents, and degreasers you're using now.

Part No.	Description	Package Quantity
A000028546	24 oz. spray	12
A000028547	1 gallon bottle	6



**Permatex® Fast Orange® Multi-Purpose Glass Cleaner**

Fast acting, professional strength glass cleaner. Can be used on a variety of surfaces to remove the toughest grease and dirt.

Part No.	Net Weight	Container	Package Quantity
A000040131	18.75 oz.	20 oz. aerosol	6



**E-Z Clean All Purpose Hand Cleaner with Pumice**

E-Z Clean Multi-Purpose Hand Cleaner is the safe and effective solution for hard working hands. E-Z Clean gets the job done, while being easy on your skin. The formula was carefully developed without harsh caustics or solvents, just safe and effective ingredients. Its non-toxic formula does not contain kerosene or mineral spirits, so it is not drying to the skin. E-Z Clean, used with or without water, removes grease, tar, oil, graphite, grime, carbon, lubricants, stains, adhesives, obnoxious odors and much more without leaving a residue.

Part No.	Description	Package Quantity
A000041020	16 oz. bottle	6



**GOJO® ORIGINAL FORMULA™ Hand Cleaner**

GOJO® ORIGINAL FORMULA™ crème contains soothing emollients. For removing heavy grease, tar and oil. Rub, then wipe clean with a towel or rinse off.

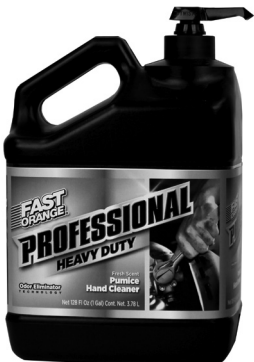
Part No.	Description	Package Quantity
A000045336	4.5 lb. plastic canister	1



**Permatex® Fast Orange® Professional**

The leading citrus hand cleaner brand, Fast Orange, is now bringing you the latest in hand cleaner technology – a heavy duty hand cleaner infused with odor eliminator technology. This new formula removes the heaviest of grease and grime, including tar, oil, dirt, soils, resins, printer’s ink, paint, glue, rubber cement, gasketing residue and tile cements from your hands leaving them looking and feeling clean. What differentiates the Fast Orange Professional Series from other hand cleaners is that while it’s blasting away the physical grease and grime, it is simultaneously eliminating any gasoline or other odor residues that can linger after a job. This product leaves your hand not only feeling great, but also smelling fresh! Fast Orange Professional contains premium skin conditioners, including lanolin, aloe vera and jojoba to soothe raw, rough hands.

Part No.	Description	Package Quantity
A000044316	1 gallon pump	4



### Permatex® Fast Orange® Waterless Hand Cleaner

The #1 selling, biodegradable, waterless, petroleum solvent-free hand cleaner that contains no harsh chemicals, mineral oils or ammonia that can sting cuts and abrasions. Pure, fresh-smelling natural citrus power does the cleaning. Fortified with aloe, lanolin, glycerin, and other skin conditioners. Fine pumice formula gently deep cleans the toughest dirt. Works great on laundry stains, scuff marks, tile floors, pet odors, and many other household cleaning needs.

Part No.	Description	Package Quantity
A000034091	1 gallon pump (pumice)	4
9I4644	1 gallon pump (smooth)	4
A000049401	15 oz. squeeze bottle (pumice)	12
A000049400	15 oz. squeeze bottle (smooth)	12



### Permatex Ultra Cherry™ Pumice Hand Scrub

Clean up with Ultra Cherry Pumice Hand Scrub, a heavy duty hand cleaner made to handle your dirtiest projects fast. This premium fine pumice lotion acts quickly to power out the heaviest and harshest oil, grease, tar, asphalt, and adhesives without leaving hands feeling greasy or irritated. No water required, just rub into dirty hands and wipe dry or rinse off as needed.

Part No.	Description	Package Quantity
A000029367	102.4 fl oz. pump	4



### SCOTT Hand Cleansers

SCOTT Hand Cleansers are formulated to clean the toughest dirt, including grease and tar. Rounded polymer beads provide scrubbing action without the abrasion associated with pumice or walnut shell grits found in other products.

Part No.	Description	Size	Package Quantity
2I3232	Super Duty Skin Cleanser with Grit	3.5 liter refill	2
A000011034	Super Duty Skin Cleanser with Grit	8.0 liter refill	2
A000011036	Naturally Tuff Orange Skin Cleanser with Grit	8.0 liter refill	2
A000011039	Dispenser, Wall-mounted	3.5/8.0 liter	1



### Permatex® Fast Orange® Hand Cleaner Wipes

Removes the toughest grease, tar, grime, ink, paints, sealants, adhesives and other difficult soils. Each pre-moistened wipe has a textured surface on one side that is ideal for cleaning heavy duty soils from hands, tools and work areas. The wipes also have a smooth side for general purpose cleaning.

Part No.	Description	Quantity/Pack	Unit/Case
A000013219	Fast Orange Hand Cleaner Towels	25	8



**TOOLBOX Grab N’ Scrub Hand and Surface Wet Wipes**

- A powerful hand and surface degreasing cleaner that’s gentle on your skin.
- Multi-purpose degreaser cuts thru oil, tar, grease, paint, lubricants, ink, wax, adhesives, etc.
- Ideal for cleaning of hands and/or surfaces without the need for soap and water.
- Unique non-scratching, scrubbing texture.
- Safe on your hands when cleaning surfaces, no need for gloves or handwashing.
- Refreshingly clean citrus scent.

Part No.	Description	Quantity/Pack	Unit/Case
A000016088	Sellars TOOLBOX® Grab N’ Scrub Wet Wipes	72	6



**WYPALL Waterless Cleaning Wipes**

WYPALL Waterless Cleaning Wipes in the 75 count bucket are the ideal presaturated cleaner for on-the-go cleaning of hands, tools, parts and non-porous work surfaces. Natural solvents cut through grease, grime and oil while soothing ingredients aid in moisturizing the skin.

Part No.	Description	Size W x L	Quantity/Pack	Unit/Case
A000040838	Bucket	9.5" x 12"	75	6



**Scrubs In-A-Bucket Hand Cleaner Towels**

SCRUBS® Hand Cleaner Towels combine an advanced cleaning formula with a strong, dual-textured towel to thoroughly clean hands and surfaces ANYWHERE, ANYPLACE, ANYTIME!® The clean, citrus-scented formula loosens and dissolves industrial soils while leaving hands free from dryness and irritation. The Rough Touch® blue towel locks in soil to prevent it from transferring back onto hands and surfaces. Hands are left feeling clean with no sticky residue and no rinsing required.

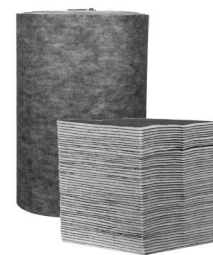
- Clean, citrus fragrance
- Advanced cleaning power
- For use on hands and surfaces
- No sticky residue
- Removes dirt, tar, oils, grease, paints, adhesives, epoxies, caulks, inks, urethanes, lubricants, asphalt

Part No.	Description	Size W x L	Quantity/Pack	Unit/Case
A000054434	Bucket	10" x 12"	72	6



**EverSoak® General Purpose Preferred Recycled Sorbents**

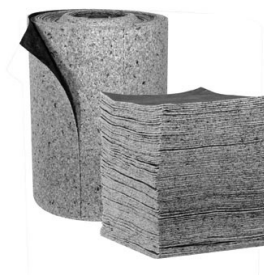
- Made with 80% recycled cellulose fibers.
- Heavy-duty sorbent soaks up both oil and water, as well as grease, transmission fluid, hydraulic fluid, coolants, diesel fuel and many other fluids.
- More absorbent and cost effective than the leading competitor's meltblown sorbent pads.
- Perforated every 19" across as well as down the center of the length of the roll.
- Class A fire retardant when the pad is dry.
- Made in the USA.
- Not intended for use with aggressive acids or caustics.



Description	Color	Size	Qty.	Absorbs	Part Number
Sorbet Pad	Grey	15" x 19"	50/box	Up to 23.5 gallons of oil/bale	A000025698
Sorbent Roll	Grey	28.5" x 75'	1/box	Up to 42 gallons of oil/roll	A000037594

**EverSoak® General Purpose Basic Recycled Sorbents**

- Made with 80% recycled cellulose fibers.
- Light-duty sorbent soaks up both oil and water, as well as grease, transmission fluid, hydraulic fluid, coolants, diesel fuel and many other fluids.
- More absorbent and cost effective than the leading competitor's meltblown sorbent pads.
- Perforated every 19" across as well as down the center of the length of the roll.
- Class A fire retardant when the pad is dry.
- Made in the USA.
- Not intended for use with aggressive acids or caustics.



Description	Color	Size	Qty.	Absorbs	Part Number
Sorbet Pad	Grey	15" x 19"	50/box	Up to 24 gallons of oil/bale	A000037595
Sorbent Roll	Grey	28.5" x 75'	1/box	Up to 43 gallons of oil/roll	A000037596

**EverSoak® Oil Only Heavy Weight Cotton Sorbents**

- Made with 80% cotton, the pads have a cover stock on both sides for increased durability.
- Up to 85% more absorbent than the leading competitor's heavy-weight melt-blown pads.
- Extremely effective in soaking up large spills, including oil, grease, transmission fluid, coolants, and many other liquids (except water). Absorbs up to 36 gallons of oil per bale.
- Perforated every 19" across as well as down the center of the length of the roll.
- Made with 100% USA grown cotton.
- Not intended for use with aggressive acids or caustics.



Description	Color	Size	Qty.	Absorbs	Part Number
Sorbet Pad	White	15" x 19"	100/box	Up to 36 gallons of oil/bale	A000032043
Sorbent Roll	White	28.5" x 125'	1/box	Up to 54 gallons of oil/roll	A000037601

Universal Meltblown Sorbents

Soaks up oil, water and most chemicals. Meltblown sorbents are an oil derivative and are manufactured by extruding polypropylene resin. This manufacturing process creates a sorbent product that is durable and will absorb nearly any liquid that is found in most MRO and environmental spills.



Description	Color	Size	Qty.	Absorbs	Part Number
Sorbet Pad	Grey	15" x 18"	100/bag	Up to 19 gallons of oil/bale	A000037598
Sorbent Roll	Grey	38" x 144'	1/bag	Up to 45 gallons of oil/roll	A000037597

Oil Only Meltblown Sorbents

Oil only meltblown sorbents soak up oil, fuel, grease and other liquids, except water. Perfect for many outdoor MRO applications.



Description	Color	Size	Qty.	Absorbs	Part Number
Sorbet Pad	White	15" x 18"	100/bag	Up to 19 gallons of oil/bale	A000037599
Sorbent Roll	White	38" x 144'	1/bag	Up to 47 gallons of oil/roll	A000037600

Sellars EverSoak® Medium-Duty 12' Absorbent Sock

EverSoak® Medium-Duty 12' Absorbent Socks soak up both oil and water as well as diesel fuel, grease, transmission fluid, hydraulic fluid, coolants and many other fluids. Made 70% recycled cellulose fibers.



Description	Color	Size	Qty.	Absorbs	Part Number
Absorbent Sock	Grey	3" x 12'	10/box	Up to 39 gallons of oil/case	A000046685



**Battery Acid Spill Cleanup Kit**  
Part Number: A000025763

A quick response to leaking or spilled battery acid. Effective for cleanup of dry cell batteries.

Description	Quantity
Liquid Acid Neutralizer	2 quarts
Nitrile Gloves	1 pair
Poly Apron	1
Scoop with Detachable Scraper	1
Hazmat Pads	1
Polymer	1 oz.
Splash Goggles	1 pair
Trigger Spray	1
Disposal Bag and Tie	1



**Liquid Acid Neutralizer**  
Part Number: A000030975

Many aggressive liquid spills involve hazardous acids that require a way to render them safe for final cleanup and disposal in accordance with local, state and federal regulations. KOLOR-SAFE® Acid Neutralizers meet this requirement by providing a unique 3-color change during the neutralization process to indicate when an acid has reached its “neutral” state.

- Container Size: 1 quart bottle
- Quantity: 12/case



**Battery Wipes**  
Part Number: A000025762

Formulated to clean and neutralize battery acid. The color changes to let you know when the acid is neutralized.

### Towels

Part No.	Description	Color	Size W x L	Qty/Pack	Case Qty
2I4005	Scott® Center-Pull Towels	White	8" x 15"	500	4
2I4006	Scott® Hard Roll Towels	Natural	8" x 800'	1 Roll	12
2I3224	Kleenex® Hard Roll Towels	White	8" x 425'	1 Roll	12
A000044280	Kleenex® C-Fold Towels	White	10.125" x 13.15"	150	16
2I3229	Sellars C-Fold Towels	White	10.25" x 13.25"	200	12
A000037870	Sellars Premium Roll Towels	White	9.4" x 66'	1 Roll	30
A000042888	Sellars Multi-Fold Towel	White	9" x 9.5"	250	16
A000042889	Sellars Multi-Fold Towel	Natural	9" x 9.5"	250	16



### Towel Dispensers

Part No.	Description	Use With	Package Qty
2I4022	Kimberly-Clark Omni Roll Towel Dispenser	2I3224, 2I4006	1



### Bathroom Tissues

Part No.	Description	Color	Size W x L	Rolls
2I3227	Scott® Standard Roll Bathroom Tissue	White	4.0" x 605'	80
A000016117	Kleenex® Cottonelle® Bathroom Tissue	White	4.0" x 505'	60
A000003185	Scott® JRT Jr. Jumbo Roll Bathroom Tissue	White	3.55" x 1,000'	12



## Sellars TOOLBOX® Brand Wipers

Sellars® wipers work like cloth. They're soft and they have incredible scrub strength. In order to offer a towel for any need, Sellars TOOLBOX® wipers are available in a variety of strengths and styles with a variety of dispensers.

### TOOLBOX® Z300 Wipers

Ideal for light-duty general purpose wiping. Comparable to Wypall L30 Wipers.

Description	Color	Size (WxL)	Box Qty.	Case Qty.	Part Number
BIG GRIP® Bucket	White	10" x 13"	275/bucket	2	A000037867
BIG GRIP® Refill	White	10" x 13"	275/roll	6	A000037868
1/4 Fold Wipers	White	12.5" x 13"	90/bundle	12	A000037866
Interfold Wipers	White	9.5" x 16.5"	135/box	8	A000037869
Sellars Premium Roll Towels	White	9.4" x 11"	72/roll	30	A000037870



### TOOLBOX® Z400 Wipers

Ideal for medium-duty general purpose wiping. Comparable to Wypall L40 Wipers.

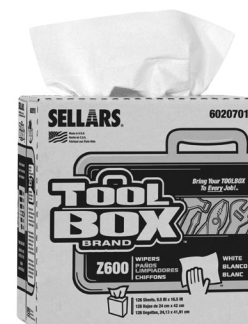
Description	Color	Size (WxL)	Box Qty.	Case Qty.	Part Number
1/4 Fold Wipers	White	12.5" x 13"	60/bundle	12	A000037871
Interfold Wipers	White	9.5" x 16.5"	100/box	8	A000037875
Interfold Wipers	Blue	9.5" x 16.5"	100/box	8	A000037874
Shop Towel Roll	Blue	11" x 9.4"	64/roll	30	A000054116



### TOOLBOX® Z600 Wipers

Ideal for medium-duty general purpose wiping applications that require a strong towel. Comparable to Wypall X60 Wipers.

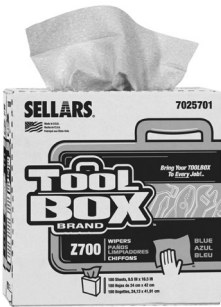
Description	Color	Size (WxL)	Box Qty.	Case Qty.	Part Number
1/4 Fold Wipers	White	12.5" x 13"	80/bundle	12	A000037877
Interfold Wipers	White	9.5" x 16.5"	126/box	8	A000037878



**TOOLBOX® Z700 Wipers**

Ideal for heavy-duty general purpose wiping applications that require a strong towel.  
Comparable to Wypall X70 Wipers.

Description	Color	Size (WxL)	Box Qty.	Case Qty.	Part Number
Interfold Wipers	White	9.5" x 16.5"	100/box	8	A000037880
Interfold Wipers	Blue	9.5" x 16.5"	100/box	8	A000037879



**TOOLBOX® Z800 Wipers**

Ideal for heavy-duty general purpose wiping applications that require both strength and absorbency. Comparable to Wypall X80 Wipers.

Description	Color	Size (WxL)	Box Qty.	Case Qty.	Part Number
BIG GRIP® Bucket	White	9.9" x 13.1"	190/bucket	2	A000037881
BIG GRIP® Refill	White	9.9" x 13.1"	190/roll	6	A000037882



**TOOLBOX® Z900 Wipers**

Ideal for heavy-duty general purpose wiping applications that require a very absorbent towel.  
Comparable to Wypall X90 Wipers.

Description	Color	Size (WxL)	Box Qty.	Case Qty.	Part Number
BIG GRIP® Bucket	Red	9.9" x 13.1"	140/bucket	2	A000037883
BIG GRIP® Refill	Red	9.9" x 13.1"	140/roll	6	A000037884



**TOOLBOX Grab N' Scrub Hand and Surface Wet Wipes**

- A powerful hand and surface degreasing cleaner that's gentle on your skin.
- Multi-purpose degreaser cuts thru oil, tar, grease, paint, lubricants, ink, wax, adhesives, etc.
- Ideal for cleaning of hands and/or surfaces without the need for soap and water.
- Unique non-scratching, scrubbing texture.
- Safe on your hands when cleaning surfaces, no need for gloves or handwashing.
- Refreshingly clean citrus scent.

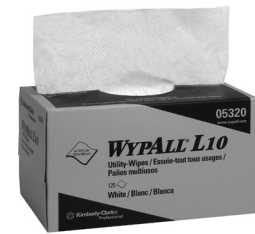
Part No.	Description	Quantity/Pack	Unit/Case
A000016088	Sellars TOOLBOX® Grab N' Scrub Wet Wipes	72	6



## L10 Series

WypAll L10 Utility Wipes are great for cleaning glass, spills, light duty manufacturing settings, and general wiping tasks. Made with new absorbency pockets for faster clean up.

Part No.	Description	Size W x L	Quantity/Pack	Unit/Case
2I3923	Pop-up Box (White)	9.0" x 10.5"	125	18



## L30 Series

WypAll L30 Wipers have a cloth-like feel at a value price. They are ideal for a variety of light-duty maintenance, processing, and janitorial wiping tasks.

Part No.	Description	Size W x L	Quantity/Pack	Unit/Case
2I3929	Pop-up Box (White)	10.8" x 10"	120	10
2I3919	Pop-up Box (White)	16.4" x 9.8"	100	8



## L40 Series

WypAll L40 wipers are an outstanding general-purpose wiper with good performance in a wide range of industrial cleaning and other wiping tasks.

Part No.	Description	Size W x L	Quantity/Pack	Unit/Case
2I3918	Pop-up Box (Blue)	16.4" x 9.8"	100	9
2I3924	Pop-up Box (White)	16.4" x 9.8"	100	9
2I3921	1/4 Fold (White)	12.5" x 14.4"	56	18
A000012070	Pop-up Box (White)	10.8" x 10"	90	9
A000026363	Small Roll (White)	11.0" x 10.4"	70	24



## X80 Series

WypAll X80 Towels have been upgraded with SuperCharged technology, making it the choice for the toughest jobs. X80 Towels are also made using patented HYDROKNIT fast-absorbing material.

Part No.	Description	Size W x L	Quantity/Pack	Unit/Case
A000010976	Brag® Box (Blue)	12.5" x 16.8"	160	1
2I4004	Brag® Box (Red)	9.75" x 16.75"	80	5



## X60 Series

WypAll X60 wipers bring the absorbing power of hydroknit material technology to a light weight wiper, combining versatile performance and economy for light-duty tasks. Plus, the new Just One dispenser port is designed to be easier to use and more efficient with One-At-A-Time dispensing.

Part No.	Description	Size W x L	Quantity/Pack	Unit/Case
A000035369	Pop-Up Box (White)	9.1" x 16.8"	126	10



## WYPALL Waterless Cleaning Wipes

WYPALL Waterless Cleaning Wipes in the 75 count bucket are the ideal presaturated cleaner for on-the-go cleaning of hands, tools, parts and non-porous work surfaces. Natural solvents cut through grease, grime and oil while soothing ingredients aid in moisturizing the skin.

Part No.	Description	Size W x L	Quantity/Pack	Unit/Case
A000040838	Bucket	9.5" x 12"	75	6

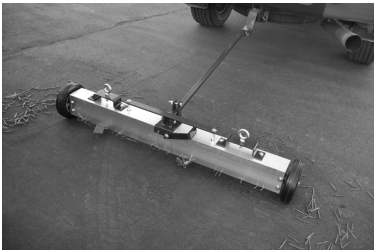
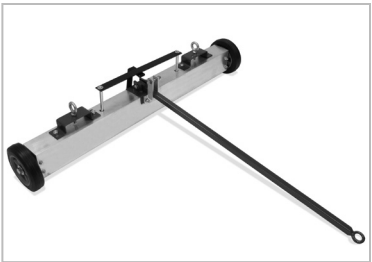


Hang Type Magnetic Sweepers with Release

Magnetic sweepers can be used in three different configurations to clear driveways, factory aisles, trucking terminals, parking lots, construction sites and more. Works over any terrain, in any weather condition.

- Towable magnet can be towed from a variety of vehicles
- Load release feature for easy cleaning
- Built with heavy gauge steel and aircraft-grade aluminum housing
- 8" dia. wheels provide 3" ground clearance
- Removable handle for suspension mounting

Part No.	Magnet Width	Overall Width	Surface Area	App. Lbs. Pull
A000048935	48"	55"	192 sq. in.	250
A000048974	60"	67"	240 sq. in.	300



Hang Type Magnetic Sweepers with Release

Use these sweepers to clear factory and warehouse aisles and driveways. All models are 4" high by 3" deep - Eyebolts included. To unload, push the sweeper to the desired dumping area (i.e. a piece of cardboard) and pull the release handle. As the magnet rises, collected material is released from the collector plate. Easily mounts on forks.

Part No.	Sweeping Width
A000042351	36"
A000042350	48"



Use attached eyebolts to securely attach sweeper to a forklift.



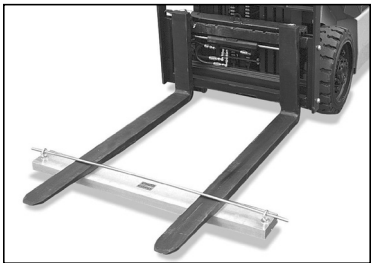
Pull release handle to quickly clear metal pieces from sweeper.

Hang Type Magnetic Sweepers

Help reduce costly flats and injuries by removing sharp iron objects from roads, parking areas, loading docks, and other important traffic areas with our super-powered, magnetic sweepers. Simply hang the magnetic sweeper from your forklift or vehicle bumper and "sweep" all contaminated areas. Wipe the face of the magnet with a glove or heavy shop towel to clear. Two eyebolts are installed on each magnet for suspending. Hanging bar is not included.

- Permanent magnetism guaranteed
- 24" model picks up eleven pounds of 8-penny nails from 2" high, about 1,000 pieces
- All models are 1.75" high by 5" deep
- Available in any width, from 18" to 96"

Part No.	Sweeping Width
A000030134	18"
A000030135	24"
A000030136	36"
A000030137	48"
A000030138	78"
A000030139	84"
A000030140	96"



Magnetic Sweepers with Release

These push-type sweepers feature 24" and 14" sweeping widths, 48" sturdy handle and 6" diameter rubber wheels. Quickly drop collected scrap metal by pulling back on the release handle. The 24" model picks up six pounds of 8-penny nails, or approximately 600 pieces.

Part No.	Sweeping Width
A000030144	24"
A000030145	14"



Magnetic Mini Sweepers

Pick up nails, screws, paper clips and any other ferrous metal items. Clear collected debris with work gloves or a heavy shop towel. Permanent magnetism guaranteed. Light aluminum housing.

Part No.	Sweeping Width
A000030149	14.5"
A000030150	27"

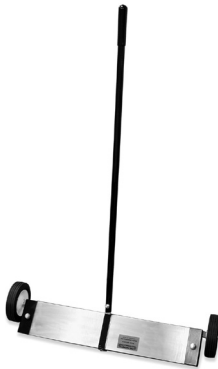


Magnetic Floor Sweepers

Collect large quantities of dangerous scrap metal or scattered ferrous metal items with ease. Clear collected debris from sweeper with work gloves or a heavy shop towel.

- Permanent magnetism guaranteed
- Light aluminum housing
- Easy to operate over most terrain
- 36" model converts to a hang-type sweeper (see photo)
- 24" model picks up seven and a half pounds of 8-penny nails, about 680 pieces
- All models are 1.75" high by 5" deep (does not include wheel dimensions)

Part No.	Sweeping Width
A000030146	12"
A000030147	24"
A000030148	36"



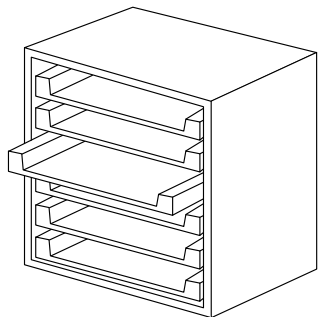
Extra Heavy Duty Magnetic Sweepers

Designed for long wear and durability. Back-mounted wheels allow for easy access to corners and protect wheels from debris.

- Permanent magnetism guaranteed
- Quick-load release lever
- Heavy duty, durable construction
- Designed for extended use over rough terrain, even in water
- 24" model with release picks up ten pounds of 8-penny nails, about 900 pieces
- All models are 4" high by 16" deep (does not include wheel dimensions)

Part No.	Sweeping Width
A000030141	18"
A000030142	24"
A000030143	36"

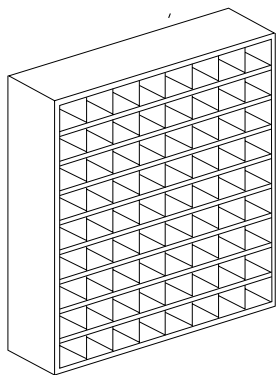




**Four or Six Tier Security Cabinets**

These cabinets feature four or six sliding trays for use with the drawers listed below. These cold-rolled steel cabinets include a standard baked, gray enamel finish. Six tier cabinet includes a keyed sliding lock system.

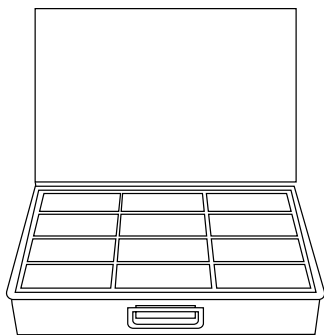
Part No.	Description
A000002867	Four Tier Security Cabinet
A000001192	Six Tier Security Cabinet (Lockable)



**Compartment Bins**

These steel constructed 36 and 72 hole compartment bins have the standard baked gray enamel finish. Each individual bin has a one inch lip for labels and holding parts in place.

Part No.	# of Bins	Exterior Size (H x W x D)	Opening Size (H x W )
A000001351	72	42" x 35-1/4" x 11-7/8"	4 5/8" x 4-1/4"



**Metal Drawers**

Organizes your terminals, fasteners, and accessories into separate compartments. Plastic liners have rounded bottoms for easy parts removal. Steel box is finished in rust and acid resistant baked grey enamel paint.

Part No.	Description
9I1744	12 Compartment Metal Drawer
A000001194	16 Compartment Metal Drawer
A000001193	24 Compartment Metal Drawer
A000009699	Adjustable Compartment Metal Drawer





**Scotch® Super 33+ Vinyl Electrical Tape**  
Part Number: A000019252

Scotch® Super 33+ is highly conformable and super stretchy. Combines PVC backing with excellent electrical insulating properties to provide primary electrical insulation for splices up to 600 volts and protective jacketing. Excellent resistance to UV rays, abrasion, moisture, copper corrosion, alkalis and acids, and is flame-retardant. Excellent all-weather performance in cold to 0°F (-18°C) and is designed to perform in a continuous temperature environment up to 220°F (105°C). UL listed and CSA Certified.



**PVC Electrical Tape**  
Part Number: A000001504

Quick Cable black PVC electrical tape is 7 mils thick and measures 3/4" x 60'. Flame retardant and cold resistant. UL and CSA listed.



**Teflon Tape**  
Part Number: 9I4866

Use this tape wherever a seal is required around threads. 1/2" x 520" (43' 4"). Meets Mil Spec T27730A.



**AC36 Medium Grade Cloth/Duct Tape**  
Part Number: A000018852

This is the general contractor's duct tape of choice. Black, 11 mils thick and measures 3" x 60 yards.



**Permatex Self-Fusing Silicone Tape**  
Part Number: A000048740

An all-purpose repair tape that is made out of specially formulated silicone rubber. Contains no adhesives; yet chemically bonds to itself upon contact. Simply stretch and wrap for an airtight, waterproof seal in seconds. Replaces duct tape and electrical tape.

Use to seal, insulate and stop vibration on just about anything you are able to get a couple of wraps around. Seal electrical connections, make emergency fuel or water hose repairs, insulate wiring and hoses, repair leaking pipes and hoses, repair damaged wires and wrap hand tools and grips. Use on connector wires and cables, all kinds of hoses such as garden hoses, vacuum hoses, appliance cords, and radiator hoses. Tape is black and measures 1" X 10'.

# Tires and Load Wheels

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## Tires and Load Wheels

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- Trelleborg Tire Tread Features..... 14.3
- Trelleborg Press-On Tires..... 14.3
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## Additives

### KRT (ITL) / GK

KRT and Glass King are manufactured with fiberglass additives. Fiberglass aids in overloading of steer tires—the fiberglass adds about 2% durometer, which limits the deflection just slightly allowing the tire to survive with heavier loads.

Fiberglass aids in tire chunking. The rubber can tear, but where you have two tears that come together, you get a chunk. The fiberglass helps reduce tear propagation.

### RR+

An even higher level of fiberglass added to the tires for increased durometer.

### SRT (ITL) / WTX

SRT and Wiretex use brass filaments to help aid traction in a food processing plant with wet waste materials on the floor.

### GR-S

Grip Shell uses walnut shells to increase traction in a wet environment. The walnut shells do not break down during the curing of the rubber, but fall out of the tread surface and create a suction point in the tread surface area to aid in traction.

## Compounds

### EL (ITL) / PS (Maine)

Electric and Power Saver compounds are designed to improve rolling resistance in high cycle applications. Problem solving for tires that are overloaded or overheated in a high cycle application.

### TFT

Tough Formulated Tires are designed for applications requiring abrasion resistance, chip, chunk and cut resistance. Great for applications with challenging surface areas—dock plates in need of repair and littered floors.

### EC

Electrically Conductive are designed to dissipate the maximum static electricity build up. Designed for EEE and EEX machines being used in chemical/ammunition type applications where electrical build up may occur.

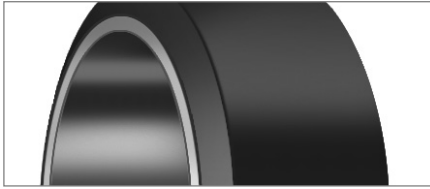
### NM

Non-marking compounds will leave behind (white, beige, grey) materials that do not show up on the floors, leaving the appearance of a cleaner floor. Less skidding and slower starts can help reduce marking.

### Lion

Lion compound is designed for heavier load situations with a 25% greater carrying capacity. It offers increased stability as it improves steer tire performance. Lion compound offers a higher durometer of approximately 75 compared to a durometer of 65-70 for rubber tires.

## Tire Tread Features



### Smooth Tread

- Contains more rubber and will last longer than a regular lug tire.
- Lug tires are usually crowned and have a flat profile. Therefore, a smooth tire generally provides better stability.
- A bigger footprint on the ground, providing better traction.
- A smooth tread design has more rubber, absorbing more shock and better cushions the forklift. This provides a softer ride and less downtime, due to shock transmitted through the machine.

Consider automotive tires applications. Stock, Indy and 1/4 mile drag race cars all have smooth tires for the best traction and overall performance.



### Lug or Traction Tread

- Lug or traction tread tires should only be used on drive tires. Use smooth tread on all steer tires. Lug tread will cut or chunk a lot easier on a steer wheel due to the torque created during turning.
- Forklift manufacturers typically choose lug tires because of their reduced cost. Less rubber on a lug type tire allows for a somewhat less expensive tire to manufacture. The lug tread also looks more rugged and durable.
- Perception also plays an important role. It is often believed that a lug tread pattern gives better traction and a more rugged appearance.



**Press-On Solid Tires (POS)**

Trelleborg premium solid rubber press-on tires deliver both industry leading engineering and an extensive product offering.

Trelleborg POS tires can be ordered in a variety of industry-leading compound and tread options to provide the tough performance you need. Trelleborg tires comply with the highest industry standards for performance, durability, and operator comfort.

**Available Compounds**

- Rolling Resistant
- Abrasion/Cut Resistant
- Non-Marking

**Available Treads**

- Smooth
- Traction

Physical Properties	Benefits	EL	UN
<b>MODULUS (Stiffness)</b>	The stiffer the rubber, the less it deflects and builds up heat.	2000	1500
<b>ULTIMATE TENSILE (Strength)</b>	The higher the tensile strength, the longer the tire will last.	3500	2700
<b>ELONGATION (Stretch)</b>	The more a rubber stretches, the less cutting and chunking that will occur.	500	450
<b>DUROMETER (Hardness)</b>	Hard rubber tires transmit more impact to the forklift, operator, and load.	65	65
<b>RESILIENCE (Energy)</b>	Resilience measures how quickly the rubber will rebound to its molded shape. Higher resilience can increase battery and drive motor life 15-20% in electric forklifts and provide a significant fuel savings for IC forklifts.	50	42
<b>TEAR STRENGTH (Resistance to tearing)</b>	Tear strength measures how much force is required to increase an existing cut or tear. High tear strength combined with high tensile strength contribute to good wear characteristics.	375	300



**ITL Press-On Tires (Premium)**

ITL Press-On forklift tires are designed for demanding materials handling environments. Our premium compounding and bonding process combine to create tires that outlast others in their class.

**Traction**

The traction profile offers long wear and distributes the load for excellent stability.

- Cool running tire
- Great traction
- Smooth riding

**Smooth**

The smooth profile provides a greater contact area with the work surface, offering better load distribution and increased stability. The larger footprint area creates better traction in most applications for starting and stopping.

- Increased stability
- Excellent traction
- Increased operator comfort

**Available Compounds:**

- Standard Black – Designed to run on both internal combustion and electric trucks.
- Non-Marking – For use in applications where floor care is essential.
- Special Compounds – Our compounding expertise allows us to offer a wide range of compounds. Please contact us for more details.



**ITL Maxmatic Press-On (Premium)**

ITL Maxmatic's wide profile provides better traction and increases the carrying capacity up to 20% in specific applications. The aggressive tread pattern is designed to provide maximum traction in both in-plant and outdoor applications.

**Available Compounds:**

- Standard Black – Designed to run on both internal combustion and electric trucks.
- Non-Marking – For use in applications where floor care is essential.
- Special Compounds – Our compounding expertise allows us to offer a wide range of compounds. Please contact us for more details.

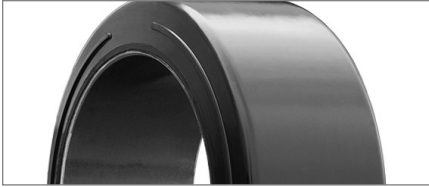
**Footprint**



**Maxmatic**  
Net Area 24 sq. in.  
Deflection 0.38 in.



**Conventional Non-skid**  
Net Area 18 sq. in.  
Deflection 0.55 in.



## Customer Testimonial:

A dealer installed four MPC2 (smooth/black) tires on a rental truck based at a customer location. The tires were inspected approximately four months later after 438 hours. Less than 1/4 inch of wear was measured on all four tires.

“438 hours with little wear is a great start,” says the Product Support Manager. “So far, the 'economy' tire is providing premium life.”

## MPC2 Press-On Tires

MPC2 Press-On forklift tires are designed for demanding materials handling environments. They are made of a high quality natural rubber that has excellent shock absorption and protects the critical parts of the forklift truck and improves operator comfort.

### Traction

The traction profile offers long wear and distributes the load for excellent stability.

- 100% natural rubber
- Exceptional grip
- Smooth riding

### Smooth

The smooth profile provides a greater contact area with the work surface, offering better load distribution and increased stability. The larger footprint area creates better traction in most applications for starting and stopping.

- Increased stability
- Excellent traction
- Increased operator comfort

### Available Compounds:

- Standard Black – Designed to run on both internal combustion and electric trucks.
- Non-Marking – For use in applications where floor care is essential.

## Compound Application Matrix

This table is intended to provide guidance on special compounds for special applications. For more specific guidance or more complicated uses, please contact our tire specialist.

<ul style="list-style-type: none"> <li>● Recommended</li> <li>○ Optional</li> </ul>	Class 1, 4 & 5 (Rubber Tires)					Class 2 & 3 (Polyurethane Tires)	
	UN	NM	SC	LION	TFT	Poly Standard	Poly High Load
Beverage Brewery		●				○	
Bottling Plants		●		○	○	●	
Carpet Plants		●		●			●
Distribution Facilities	●	○		○		●	●
Floor Scrubbers		●					
Food Processing		●				●	
Foundry				○		●	○
Glass Works	●				●	○	○
Indoor Construction						○	○
Saw Mills	●						
Lumberyards	●						
Machine Shops	●						
Marine Cannery	●						
Marine Docks	●				○		●
Metal Works	●			○	●		○
Die Handling		●		●			○
Munitions Plant			●				
Paper Mills		●		○		○	○
Cold Storage						●	
Tanneries				○		○	●
Textile Plants		●				●	●
Warehousing	●	●	○	○	○	●	○

UN	Universal (Electric and Propane)
NM	Non Marking
SC	Anti Static
TFT	Tough Formulated Tires
LION	High-Load Rubber
Poly Standard	80 Durometer Poly
Poly High Load	90 Durometer Poly

**Note:** If you are considering a shift from rubber to polyurethane, or vice versa, please contact our tire specialist to ensure the change will yield successful results in your application.





## Elite XP (Premium)

Trelleborg Elite XP is engineered to meet the key requirements of today's materials handling equipment.

Elite XP resilient tires feature the Pit Stop Line wear indicator. The Pit Stop Line ensures that users get maximum whole-life value from their choice of tire by always replacing them at the right time and being able to keep forklift downtime to a minimum, as well as always knowing that their tires are safe to use.

The Elite XP's square footprint provides excellent stability and greater contact area, which reduces uneven wear and results in a longer tire life.

### Available Compounds:

- Standard Black – Designed to run on both internal combustion and electric trucks.
- Non-Marking – A high performance non-marking compound for use in applications where floor care is essential.
- Special Compounds – Our compounding expertise allows us to offer a wide range of compounds. Please contact us for more details.



## ST-3000

This rugged, deep tread tire offers maximum stability under high loads while maintaining low heat build-up. It also optimizes resilience to enhance driver comfort, and the abrasion resistant compound helps extend tire life and reduces downtime.

### Available Compounds:

- Standard Black – Designed to run on both internal combustion and electric trucks.
- Non-Marking – A high performance non-marking compound for use in applications where floor care is essential.



## Premia

Trelleborg Premia is the reliable solution for all your materials handling needs.

Premia solid tires are designed for long lasting performance. The square footprint provides even wear and increased stability. The advanced compounding and premium natural rubber combines to create a tire that has excellent heat resistance resulting in a longer tire life.

### Available Compounds:

- Standard Black – Designed to run on both internal combustion and electric trucks.
- Non-Marking – A high performance non-marking compound for use in applications where floor care is essential.
- Special Compounds – Our compounding expertise allows us to offer a wide range of compounds. Please contact us for more details.



### **Ecosolid\* (Budget)**

Ecosolid is an entry level solid tire option available in the 8" to 15" size range.

\*Ecosolid tires are only available for purchase by the container (40,000 pounds).

#### **Available Compound:**

Standard Black – Designed to run on both internal combustion and electric trucks.



### **T-900 (Premium)**

The Trelleborg T-900 pneumatic tire is designed for heavy duty use on forklifts and other industrial equipment.

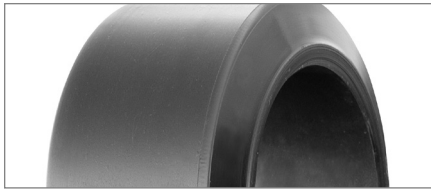
The Trelleborg T-900 has an excellent total value of ownership. The reinforced sidewall, flat tread, and special compounding provide for longer tire life and extra resistance against side impacts.

The preferred tire of OEMs, this conventional pneumatic tire is a premium choice for today's materials handling applications.



### **FL-08**

Bias-ply pneumatic tire. Higher filling of tread pattern designed for heavy duty service. Provides improved directional stability.



## Permathane Premium Press-On

### PERMA-80

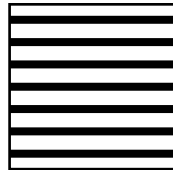
- Softest polyurethane material in the industry reduces vibration, protecting equipment and operators
- Premium poly tire specially formulated to resist wear and tear; outlast rubber as much as 2 to 1
- Highest traction poly available for improved handling and safety
- Exceeds load capacity of rubber; rated up to 54 percent
- Non-marking prevents damage to finished floors

### PERMA-90

- All-purpose compound for use on most surfaces
- Good load capacity
- Resistance to chunking
- Smooth riding

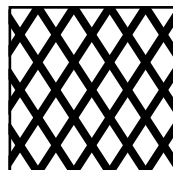
## Tread Surface Treatments

The custom tread treatments shown below are available as special order factory orders only on smooth poly and press-on tires.



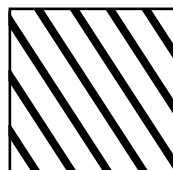
### Siping

Lateral 1/2" deep razor cuts are made 1/2" apart to provide extra traction on wet surfaces and inclines.



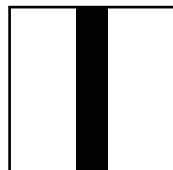
### Diamond Cutting

Criss-crossing grooves are cut into the tire surface - typically used for sweeper tires operating in wet conditions.



### Cross Grooving

3/16" wide diagonal grooves are cut into tire surface to channel out water and reduce hydroplaning.



### Grooving

A 5/8" wide and 5/8" deep groove is cut into the tire surface to reduce steer tire side slipping and drive tire heat build-up.



## Brawler® Tires

Skid Steer and Construction Vehicle Tires for the most severe tire applications

### What if you could eliminate flats, increase load capacity, and reduce operating costs?

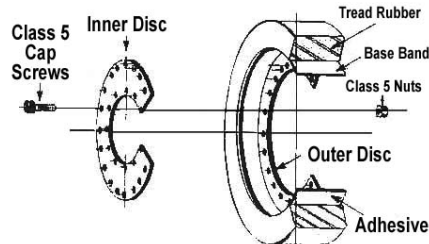
Brawler's solid rubber and steel wheel construction eliminates costly downtime and repairs due to flats. The solid construction provides three times the life of a standard pneumatic tire.

### What if tires better cushioned the ride for the operator and equipment while providing better fuel economy?

Brawler tires are manufactured with a variety of rubber compounds that combine a soft resilient rubber that provides cushion for the operator and equipment, as well as tough rubber that resists wear and tear and provides better fuel economy. Wheels can handle heavy loads, torque, and bending stress.

What if tires were designed to be easily installed on a variety of equipment?

Brawler features a two-piece patented wheel and disc system that allows the tires to bolt on and be interchangeable on different vehicles.



## Applications

- Waste Management
- Mining Operations
- Metal Recycling
- General Purpose



## Brawler Solid Flex

Solid Flex tires are available in both a smooth tread and a deep traction design. These tires feature an enhanced rubber compound designed for greater resistance to cutting and chunking. In fact, Solid Flex tires use a mining rubber compound – the toughest, longest lasting tread compound available. The solid rubber means no flats which translates into reduced downtime and greater productivity. The flex gives a pneumatic type ride without the “bounce” resulting in greater stability and control.

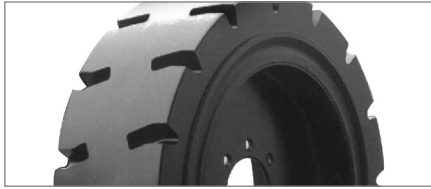
Solid Flex tires fit all manufacturers' skid steer machines using 10-16.5 and 12-16.5 sizes and the built-in wheel means no pressing required – just bolt them on. Brawler Solid Flex is also available in a non-marking compound.

## Features

- No specialized equipment is required to install Solid Flex tires
- Solid Flex tires are bonded to steel wheels – available with 6 or 8 bolt holes
- Elliptical apertures result in no stress cracking as found in solid tires with circular apertures – therefore a long tire life
- Elliptical apertures provide a 37 percent softer ride – equivalent to a foam filled pneumatic tire
- Solid Flex Traction R-4 tires feature deep, self-cleaning step lugs that provide excellent traction
- Solid Flex Traction tires are the only solid tires that provide excellent traction on dirt, sand, mud, and gravel
- Solid Flex tires provide superior flotation and less wear on equipment – a 14-17.5 Solid Flex tire weighs 325 pounds compared to a foam filled pneumatic tire which weighs approximately 450 pounds (including wheel)
- Solid Flex tires have passed the rigorous testing of Original Equipment Manufacturers such as Bobcat, Case, Caterpillar, Gehl/Mustang, New Holland, Thomas and Waldon

## Available Treads

- Smooth
- Traction

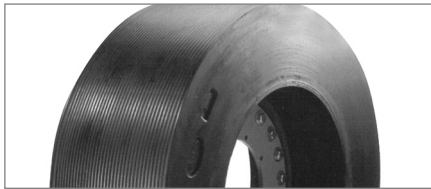


## Brawler Skid Steer

Brawler molded skid steer tires are engineered to provide superior performance in severe applications thereby reducing downtime. Brawlers feature an enhanced rubber compound designed for greater resistance to cutting and chunking. No pressing is required as Brawlers feature a built-in wheel that simply bolts on.

### Features

- Ultra tough, cut-resistant rubber compound
- Impact protection – rubber overlays the base band
- Up to 40 percent increased load capacity over pneumatics maximizing skid steer potential and efficiency
- Non-directional traction and smooth tread profiles are available
- No pressing required – simply bolt them on



## Brawler Super Deep

These tires are engineered for use in the most extreme, high wear applications from scrap metal recycling centers to waste transfer stations to underground and open pit mining operations. From its solid rubber compound to its patented steel wheel and disc design, the Brawler Super Deep is designed to outperform.

### Features

- Durable, cut resistant rubber compounds translate into no downtime from flats or sidewall cuts resulting in a lower cost per hour
- Three times more wearable rubber than regular pneumatic tires
- Test results using shock analyzers have proven that the Super Deep provides a ride which is softer than foam-filled pneumatic tires—a result of the 2-stage rubber compounding process
- Steel wheels are engineered with the strength and flexibility to handle overloads, excessive torque, severe sheer and bending stress
- Two-piece patented wheel and disc system\* allows interchangeability on equipment simply by changing the disc—no specialized equipment required

\* The Brawler Super Deep features an exclusive patented two-piece adapter rim for wheel assemblies.

## Continental Super Elastic Resilient Tires

Continental Super Elastic tires feature highly-elastic rubber for lower heat generation, less fuel consumption, and a smoother ride. Continental Super Elastic tires can pay for themselves in fuel cost savings alone. Every 10 percent reduction in rolling resistance reduces energy consumption by up to 1.8 percent.

Considering that the rolling resistance of Continental Super Elastic tires is up to 46 percent lower compared to competitive tires, users can save up to eight percent in annual fuel costs while reducing their carbon footprint. The result is the savings of several hundred dollars annually per piece of equipment—per shift.

### Features

- Highly-elastic rubber compounds
- Wrap-around tread stock that extends over each sidewall to the bead area
- 3-stage construction with inner cushion layer
- Rectangular-shaped, high-strength bead wire bundles within the tire base
- Most sizes available in non-marking “Clean” tire
- Most sizes available in Snap-In Tire (SIT) construction

### Benefits

- Lower heat generation, less fuel consumption, smoother ride
- All-around protection from abrasion, cutting, and chunking while protecting inner layers
- Extra shock absorption for drivers and equipment
- Provides superior grip on rim, eliminates tire slippage
- Cooler running, less tread wear, greater retention of load capacity



### SC11 High Cornering

Continental’s SC11 combines a robust construction and even ride. With its flat solid tread and circumferential ribs, the Continental SC11 provides a smooth ride and excellent steering characteristics. Combined with its robust design and low rolling resistance, the SC11 is the perfect tire for a range of industrial vehicles and trailers.



### SC18 Tough And Long-Lasting

The ContiSC18 proves itself in hot, difficult and tough applications. This solid rubber tire ensures constant propulsion on any surface thanks to its proven tread pattern. The robust design featuring reinforced sidewalls protects the tire against cuts and punctures, thus ensuring the tire enjoys a long service life.



### SC20 Agility With Profile

The Continental SC20 is the ideal solution for electric indoor vehicles. The low rolling resistance ensures a long battery runtime. In addition the tread design combines with the tire construction to offer outstanding stability and excellent traction.



### CSEasy SC20 Innovative And Economic

The CSEasy system makes changing the tires easier and quicker as it does not require a mounting press. This not only saves cost, but also reduces vehicle downtime. In addition to its ease of mounting, the unique CSEasy construction also provides very low rolling resistance, high mileage and excellent driving stability.

## Continental Super Elastic Resilient Tires (continued)



### SH12 Particularly Robust

The SH12 features a slick tread and solid shoulder, making it ideal for use on dry, even surfaces. With its smooth profile, the SH12 offers maximum driving comfort with minimal vibrations.



### Astrum Blue Recycled Cores

This super elastic solid tire is manufactured from recycled solid tire cores that are molded with new rubber and a robust sidewall in a standard black compound. Astrum Blue super elastic tires offer an environmentally friendly alternative by using the recycled cores, as well as low maintenance from their robust, puncture-resistant construction. Astrum Blue solid tires offer all the benefits of a solid industrial tire in super elastic construction, offering an environmentally friendly and lower cost product for forklift operations.

## Continental Press-On Band Tires

Continental Press-On Band tires offer high load capacity with balanced performance.

### Features

- Very good stationary stability
- Puncture-proof
- Heavy-duty suitability
- Low rolling resistance
- Suitable for heavy loads on in-plant paved and level surfaces
- Low heat build-up
- Chunk and tear resistance
- Improved traction
- Enhanced shock absorption
- Also available in non-marking ("Clean") tire

### Benefits

- Needs little to no maintenance
- High load capability
- Low fuel costs
- Cooler running
- High load capacity
- Good stability
- Smooth riding
- Long life
- Low cost per hour
- Reduced energy consumption



### MC20

Continental's MC20 is designed for high tilting when dealing with heavy loads. This tire delivers outstanding performance in harsh applications, and the profiled tread pattern of MC20 ensures excellent traction. At the same time, the low rolling resistance will help to reduce your vehicle's fuel consumption.



### MH20

The Continental MH20 is the optimal tire for stationary stability when dealing with heavy loads. The special construction and high level of stiffness ensure excellent stability and load-bearing capability. Moreover, this tire—which generates minimal vibration—provides excellent performance in harsh applications. Full contact with the road means that the MH20 offers maximum dry traction. This tire will also help you to cut costs over the long term thanks to its low rolling resistance, long service life, and lower risk of tread edge damage.



### ContiPT18

The ContiPT18, with its deep, aggressive lug pattern, is ideal for uneven and wet surfaces. Even in these harsh applications, the ContiPT18 offers a high degree of stability thanks to its high stiffness and fractional interrupted circumferential. With its low rolling resistance, high mileage, and chunk- and tear-resistance, the ContiPT18 runs on minimal costs per hour. Moreover, the ContiPT18 has a high load capability, improved traction, and enhanced shock absorption. This makes the ContiPT18 ideal for use on loading docks, ramp inclines, and in all manner of outdoor applications. It is also available in a non-marking version for use in clean industrial environments.



### LifeCycle

The Continental LifeCycle™ is a retreaded solid rubber tire based on selected casings which have been subjected to exhaustive, standardized quality controls. Following these checks, the tread is removed from the casing and completely replaced, using materials identical to those used in the production of new tires. This way the retreaded tire achieves the highest possible quality standards.



## Continental Industrial Pneumatic Tires

Continental Industrial Pneumatic Tires provide comfort on all surfaces and therefore offer the protection of people, goods and material in many transporting and lifting tasks. The pneumatic range is complimented by a wide cross-ply range which offers excellent price performance ratio in general and specialist industrial applications.

### Radial Tires

A Radial Tire has a carcass of one or more layers made of fibers or steel running directly from bead to bead (radial). The tread is stabilized by steel belts. Continental's Pneumatic Radial Tires ensure a high degree of comfort because of their flexible sidewalls. Their low rolling resistance will also help you to save energy. That's why Radial Tires are ideal for outdoor application and long runs. They are mainly used on forklift trucks, heavy-duty transport vehicles, indoor service trailers, and platform trucks.



#### ContiRT20

The ContiRT20 is a rugged tire for demanding heavy forklift applications and terminal tractors where traction, strength, and durability are essential. It is designed with special features that reduce punctures, flats, and heat buildup. The ContiRT20 meets extremely high requirements regarding longer life expectancy and less downtime. Moreover, this tire has been engineered to achieve a life expectancy up to 30 percent longer than its predecessors. The construction of ContiRT20 maximizes tilting stability and ensures maximum comfort and traction on soft, uneven surfaces. The ContiRT20 provides increased tire life, maximum tilting stability, comfort and traction on soft and uneven surfaces.



#### ContiRV20

The ContiRV20 Velocity has been developed by Continental for industrial high-speed and long-distance applications, like airport ground service. This tire is perfect suitable for tow tractors and sweepers where comfort, high mileage, and wet wet-braking are critical. The ContiRV20 is a speciality tire designed to avoid delays with its unique characteristics of low energy consumption, wet grip and traction, ride comfort, and even wear.



#### IC70

The Continental IC70 is a universal Industrial Tire for all wheel positions in the small 8" sizes. This tire is designed for high average speeds over long distances and rounds off Continental's radial tire range. The IC70 has a standard tread depth and uniform ground pressure distribution. The good and highly balanced cushioning properties are of particular benefit to drivers because this ensures excellent ride comfort. The IC70 also generates less heat, has low wear, and offers good traction. The special rubber compound reduces the rolling resistance by up to 60%, which helps you to save energy and, in turn, money. The puncture-resistant steel belts underneath make the tire much more durable than other standard bias ply tires. Moreover, the IC70 ensures directional stability and uniform wear. The belt construction supports higher speeds and longer runs.



#### ConRad HT1

The Continental ConRad HT1 with its exclusive asymmetrical half-track tread is ideal for twin fitments, making it the perfect solution for wear-intensive applications in the building material industry, for example. The ConRad HT1 with its long service life has a high tread depth and strong solid shoulder, which makes this pneumatic tire surprisingly strong and resistant to tread cuts and impacts. At the same time, the ConRad HT1 offers an extremely smooth ride thanks to the greater sidewall flexibility. The half-track profile makes it ideal for twin fitments since it minimizes the irregular wear that can occur with twin-fitted tires.

## Continental Industrial Pneumatic Tires (continued)

### Cross-ply Tires

A Cross-ply Tire has a carcass comprising multiple layers of fabric. These run diagonally from one bead to the other. The tread and sidewall of a Cross-ply Tire are coupled to form a single unit. All shock absorbing movements of the sidewall are transferred into the tread. The contact patch width varies in size and shape according to the ground surface. In summary, Continental's Pneumatic Cross-ply Tires are not only highly flexible, but also highly damage-resistant. These properties make Cross-ply Tires ideal for industrial tractors, airport vehicles, and self-powered lift vehicles.



#### IC10 & IC12

The Continental IC10 and IC12 is our standard cross-ply tire for all wheel positions and all types of terrain. The excellent suspension and damping capability of our IC10/12 offer outstanding ride comfort, while its sturdy construction provides protection against tread punctures. Moreover, the IC10/12 is insensitive to temperature and offers excellent stationary stability, good traction, and low rolling resistance. Another outstanding customer benefit is the low price of this high-quality tire.



#### IC40

The IC40 Extra Deep with its solid extra deep tread best demonstrates its optimal cost-efficiency in arduous applications under grueling conditions. Thanks to the special characteristics of this tire—with the stiff sidewall and wide tread—the IC40 offers outstanding stationary and enhanced sidewall stability. Moreover, the IC40 has an extremely high wear volume and solid sidewall. This high wear volume and solid sidewall deliver improved mileage performance and damage-resistance. At the same time, the rectangular contour of IC40 ensures excellent ride comfort and even wear. In summary, the IC40 Extra Deep offers very high levels of damage-resistance, traction, and stability, making it the ideal solution for heavy-duty applications.

Vulkollan® Polyurethane Load Wheels

Vulkollan® (Tan-Purple)

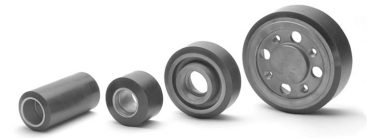
Vulkollan wheels have approximately 25% higher load capacity than standard polyurethane products. They can also operate at higher temperatures without failing. These two distinct qualities allow Vulkollan products to outperform other wheels under heavy loads and at high speeds.



Load Wheels by Superior

Polyurethane (poly) load wheels are used for narrow aisle equipment and other applications that demand maximum strength, stability, and durability.

	Cut and Tear Resistance	Dynamic Flex and Durability	Rolling Resistance	Heat Build-up Resistance	Load Carrying Capacity	Hardness Shore A
Standard	Low	Low	Moderate	Low	Moderate	95A
EZ	Moderate	Moderate	Moderate	Moderate	Moderate	85A
XL	High	High	Low	High	Very High	97A
Vulkollan®	Very High	High	Low	Very High	Very High	95A



Cushothane® STD (Universal Maroon)

This standard load wheel is engineered to perform reliably in everyday use and provide maximum work life in general purpose applications. A proven work horse, time tested to outperform the competition.



Cushothane® EZ (Premium Red)

EZ is designed for applications where battery life, operator fatigue, and vibration are primary concerns. Formulated to prevent wheel chunking problems, EZ wheels are excellent in rough floor and docking applications. The softer EZ polyurethane deflects more, aiding in chunk resistance and improving traction, even in harsh freezer applications. EZ wheels have load carrying capacity equal to the standard compound and remarkable cut and tear strength.



Cushothane® XL (High Performance Yellow)

The high performance XL polyurethane is engineered to offer extended service life in the harshest conditions. Engineered to limit heat buildup caused by high speeds, long runs, and heavy loads. XL wheels are site proven to eliminate bond failures, improve truck productivity, reduce maintenance labor, and lessen overall wheel and bearing expense. XL wheels have the highest load carrying capacity with excellent cut and tear strength.

## Load Wheels by Falcon

### STD T-92 (Maroon)

The legendary burgundy workhorse and Falcon's most economical compound. Site proven and recommended for general purpose applications.



### SPS (Red)

Soft durometer tires and wheels cushion operators, equipment, and loads from shocks and vibrations while extending battery life.

### Hyload (Yellow-Green)

Resists internal heat build-up and can withstand the abuse of high speeds, long runs, and heavy loads that cause standard compounds to overheat and degrade.

### Megaload

These high performance, non-marking polyurethane wheels can withstand the abuse of long runs and heavy loads that cause other wheels to fail. Excellent for higher temperature, long run applications. Excellent cut and tear resistance.

### Solid 80D

Ideal in freezer applications. Easy rollability. Non-marking, shatter resistant.

### Solid 80D with Steel Sleeve

An upgrade over the solid 80D steer wheel, this is the ideal wheel for hand pallet jack steer wheels. Non-marking, shatter resistant.

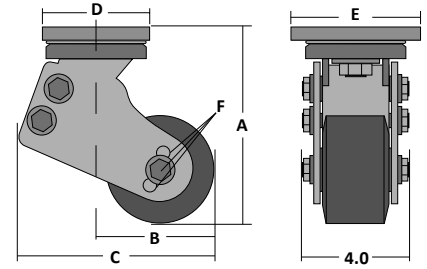
### 80D on Steel Core

Maintain the benefits of the heavy core on the load roller, while experiencing the easy rollability of the 80D compound. Non-marking, shatter resistant, easy rollability. Also available in the steer wheel for heavy duty applications.

## STR Casters™ by Superior

Superior has engineered the STR Caster™ as a drop-in replacement for most OEM spring loaded and rigid casters. The infinitely adjustable STR Stabilizer Caster is site-proven to eliminate rocking and provide stability in the most demanding operating environments. The unique design, without the use of metal springs, implements a shock-absorbing polyurethane block to create a dampening effect and provides a consistently smooth ride.

Manufactured with a standard 4" O.D. poly wheel, the STR Caster is larger than other casters and can be outfitted with one of three polyurethane load wheels: Standard, EZ, and XL.



Model	Compound	Part No.	Height Adjustment F	Overall Height A	Turn Radius B	Overall Width C	D	E	Mounting Bolt Pattern
2001	Standard	A000007942	1"	6-5/8"	4-3/8"	7-1/2"	4-3/4"	4"	2-1/2" x 3-1/2"
			2"	7-1/4"	4-1/4"	7-1/4"	4-3/4"	4"	2-1/2" x 3-1/2"
			3"	7-13/16"	3-7/8"	6-7/8"	4-3/4"	4"	2-1/2" x 3-1/2"
2001	EZ	A000007941	1"	6-5/8"	4-3/8"	7-1/2"	4-3/4"	4"	2-1/2" x 3-1/2"
			2"	7-1/4"	4-1/4"	7-1/4"	4-3/4"	4"	2-1/2" x 3-1/2"
			3"	7-13/16"	3-7/8"	6-7/8"	4-3/4"	4"	2-1/2" x 3-1/2"
2001	XL	A000007940	1"	6-5/8"	4-3/8"	7-1/2"	4-3/4"	4"	2-1/2" x 3-1/2"
			2"	7-1/4"	4-1/4"	7-1/4"	4-3/4"	4"	2-1/2" x 3-1/2"
			3"	7-13/16"	3-7/8"	6-7/8"	4-3/4"	4"	2-1/2" x 3-1/2"
3001	Standard	A000007939	1"	8-1/8"	4-1/16"	6-15/16"	7"	5"	3" x 5"
			2"	8-3/4"	3-15/16"	7-1/16"	7"	5"	3" x 5"
			3"	9-5/16"	3-9/16"	6-11/16"	7"	5"	3" x 5"
3001	EZ	A000007938	1"	8-1/8"	4-1/16"	6-15/16"	7"	5"	3" x 5"
			2"	8-3/4"	3-15/16"	7-1/16"	7"	5"	3" x 5"
			3"	9-5/16"	3-9/16"	6-11/16"	7"	5"	3" x 5"
3001	XL	A000007937	1"	8-1/8"	4-1/16"	6-15/16"	7"	5"	4" x 4"
			2"	8-3/4"	3-15/16"	7-1/16"	7"	5"	4" x 4"
			3"	9-5/16"	3-9/16"	6-11/16"	7"	5"	4" x 4"
3201	Standard	A000027677	1"	6-5/8"	4-3/8"	7-1/2"	7"	5"	3" x 5"
			2"	7-1/4"	4-1/4"	7-1/4"	7"	5"	3" x 5"
			3"	7-13/16"	3-7/8"	6-7/8"	7"	5"	3" x 5"
4000	Standard	A000007936	1"	7-3/8"	3-3/8"	6-7/16"	5-3/8"	5"	4" x 4"
			2"	8"	3-3/4"	6-13/16"	5-3/8"	5"	4" x 4"
			3"	8-9/16"	4-1/8"	7-3/16"	5-3/8"	5"	4" x 4"
4001	EZ	A000007935	1"	7-3/8"	3-3/8"	6-7/16"	5-3/8"	5"	4" x 4"
			2"	8"	3-3/4"	6-13/16"	5-3/8"	5"	4" x 4"
			3"	8-9/16"	4-1/8"	7-3/16"	5-3/8"	5"	4" x 4"
4001	XL	A000007934	1"	7-3/8"	3-3/8"	6-7/16"	5-3/8"	5"	4" x 4"
			2"	8"	3-3/4"	6-13/16"	5-3/8"	5"	4" x 4"
			3"	8-9/16"	4-1/8"	7-3/16"	5-3/8"	5"	4" x 4"
6001	Standard	A000007933	1"	9-1/8"	4"	7-1/8"	7"	5"	3" x 5"
			2"	9-3/4"	3-7/8"	7"	7"	5"	3" x 5"
			3"	10-5/16"	3-1/2"	6-5/8"	7"	5"	3" x 5"
6001	EZ	A000007932	1"	9-1/8"	4"	7-1/8"	7"	5"	3" x 5"
			2"	9-3/4"	3-7/8"	7"	7"	5"	3" x 5"
			3"	10-5/16"	3-1/2"	6-5/8"	7"	5"	3" x 5"
6001	XL	A000007943	1"	9-1/8"	4"	7-1/8"	7"	5"	3" x 5"
			2"	9-3/4"	3-7/8"	7"	7"	5"	3" x 5"
			3"	10-5/16"	3-1/2"	6-5/8"	7"	5"	3" x 5"



STR Food Service Casters

With a greaseable wheel, axle, and pivot joint, the rust proof STR Food Service Stabilizer Caster is a perfect choice when lubrication is required to overcome food service applications.

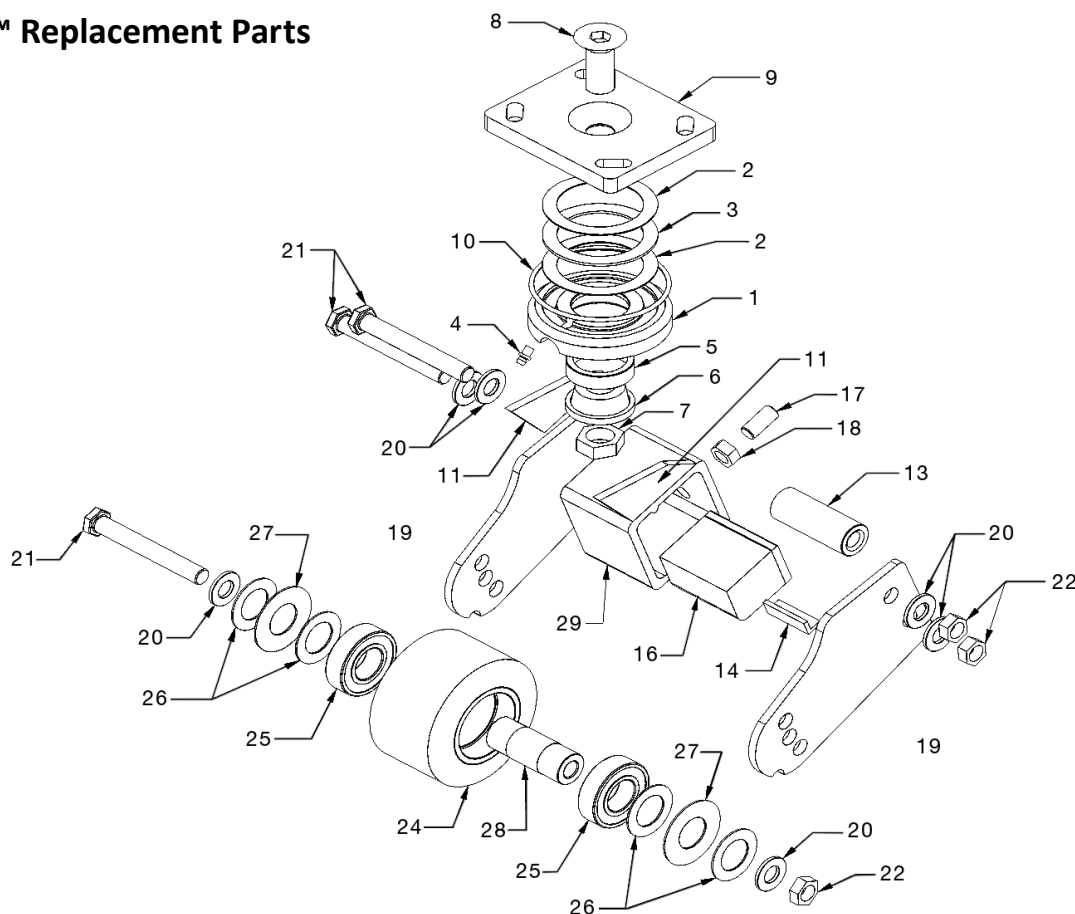
The STR Food Service Caster can be outfitted with one of three polyurethane load wheels: Standard, EZ, and XL.

Features

- Greaseable Pivot Axle
- Greaseable Axle
- Yellow Zinc (Rust Proof) Plating

Model	Compound	Part No.	Height Adjustment F	Overall Height A	Turn Radius B	Overall Width C	D	E	Mounting Bolt Pattern
2001	Standard	A000011489	1"	6-5/8"	4-3/8"	7-1/2"	4-3/4"	4"	2-1/2" x 3-1/2"
			2"	7-1/4"	4-1/4"	7-1/4"	4-3/4"	4"	2-1/2" x 3-1/2"
			3"	7-13/16"	3-7/8"	6-7/8"	4-3/4"	4"	2-1/2" x 3-1/2"
2001	EZ	A000011658	1"	6-5/8"	4-3/8"	7-1/2"	4 3/4"	4"	2-1/2" x 3-1/2"
			2"	7-1/4"	4-1/4"	7-1/4"	4-3/4"	4"	2-1/2" x 3-1/2"
			3"	7-13/16"	3-7/8"	6-7/8"	4-3/4"	4"	2-1/2" x 3-1/2"
2001	XL	A000011659	1"	6-5/8"	4-3/8"	7-1/2"	4-3/4"	4"	2-1/2" x 3-1/2"
			2"	7-1/4"	4-1/4"	7-1/4"	4-3/4"	4"	2-1/2" x 3-1/2"
			3"	7-13/16"	3-7/8"	6-7/8"	4-3/4"	4"	2-1/2" x 3-1/2"

## STR Caster™ Replacement Parts



No.	Part No.	Description
1	NSS	Race
2	A000007660	Race for Pin Thrust Bearing
3	A000007659	Pin Thrust Bearing
4	NSS	Zerk
5	0972371	Cone Bearing
5	0972370	Roller Bearing Cup
6	A000013947	Caster Bearing Cap
7	NSS	Nut, Slotted Hex
8	A000007653	King Pin Hex Bolt
9	A000007676	Top Caster Mounting Plate STR 2001
9	A000007677	Top Caster Mounting Plate STR 3001
9	A000007678	Top Caster Mounting Plate STR 4001
9	NSS	Top Caster Mounting Plate STR 6001
10	A000007661	Rubber Seal for Yoke Bearing
11	NSS	Housing
16	A000007680	Standard 83A (Polyurethane STD)
16	A000007681	Hard 88A (Polyurethane EZ)
16	A000007682	Soft 70A (Polyurethane XL)
17	NSS	1/2 - 20 x 1 Set Screw

No.	Part No.	Description
18	A000007664	1/2 - 20 Hex Jam Nut
19	A000007665	Side Plates for STR 2001
19	A000007666	Side Plates for STR 3001
19	A000007667	Side Plates for STR 4001
19	A000007668	Side Plates for STR 6001
20	A000018499	Washers
21	NSS	Axle (Pivot, Compression, and Wheel)
21	A000011490	Greaseable Axle (For Food Service Applications)
22	A000018649	Nylon Locking Nut
24	NSS	Standard Load Wheel (String Guard, No Grease)
24	A000007670	Standard Load Wheel (String Guard with Grease)
24	A000007671	XL Load Wheel (String Guard with Grease)
24	A000007672	EZ Load Wheel (String Guard with Grease)
25	2I6345	Sealed Bearing
26	A000007675	Spacers
27	A000007674	String Guard
28	NSS	Bushing for Load Wheel Assembly
29	NSS	Housing Weldment (Includes Items 1-11, 17, 18, and 29)

NSS - Not sold separately.

## Chain for Forklift Tires

Twist link forklift tire chains provide increased traction.

Tire Size	Part No.	Cross Chains Per Half Pair	Quantity
200/50-10	A000046589	16	2
6.50-10	A000030333*	10	2
25x8.50-14	A000030334	11	2
25x7.50-15	A000030334	11	2
27x8.50-15	A000030334	11	2
7.00-15	A000030335	12	2
7.00-12	A000030336	11	2
7.50-10	A000030336	11	2
29x8-15	A000030337	9	2
7.50-15	A000030338	9	2
28x9-15	A000030338	9	2
815-15	A000030338	9	2
7.50-16LT	A000040774	14	2
8.25-15	A000030339	10	2
250-15	A000030340	9	2
27x10.50-15	A000030340	9	2
300x15	A000031004	10	2
28x12-15	A000030341	10	2
15-19.5	A000030342	14	2
1200-20	A000030977	14	2
23x10-12	A000033473	10	2
9.00-20	A000033480	12	2
10.00-22.5	A000033480	12	2
265/75-22.5	A000033480	12	2
10.00-20	A000044250	15	2

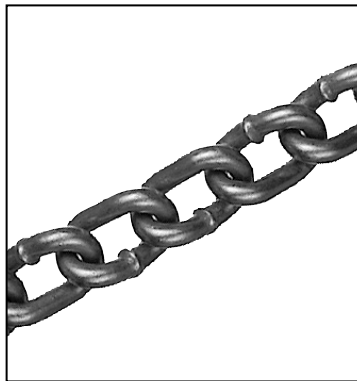
## Chain for Heavy Duty Equipment

Our twist link ladder style chains are built exclusively for heavy duty equipment including graders, scrapers, and loaders.

Tire Size	Part No.	Cross Chains Per Half Pair	Quantity
13.00-24	A000030344	14	2
13.00-25	A000030344	14	2
14.00-20	A000030344	14	2
14.00-21	A000030344	14	2
15.50-25	A000030344	14	2
14.00-24	A000030345	16	2
14.00-25	A000030345	16	2
16.00-20	A000030346	13	2
16.00-21	A000030346	13	2
17.5-25	A000030346	13	2
16.00-24	A000030347	15	2
16.00-25	A000030347	15	2
20.50-25	A000030348	14	2
23.50-25	A000030351	15	2
26.50-25	A000030352	17	2
755/70-25	A000030352	17	2

Tire chains are built to fit a range of tire sizes, and therefore they may need modification to remove extra links. Remove the extra links with bolt cutters or secure them to the side chain with zip ties.

\*Part number A000030333 cannot be used on wide profile tires. For wide profile applications, use A000030336. (Some ladder links may need to be removed.)



## Tire Chain Adjusters

Part No.	Description	Quantity
A000054692	Forklift Tire Chain Adjuster (10" rim or larger)	2
A000054693	Forklift Tire Chain Adjuster (10" rim or less)	2
A000054714	Tractor Tire Chain Adjuster	2
A000031013	Passenger Car Tire Chain Adjuster	2

One adjuster needed per single chain.



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