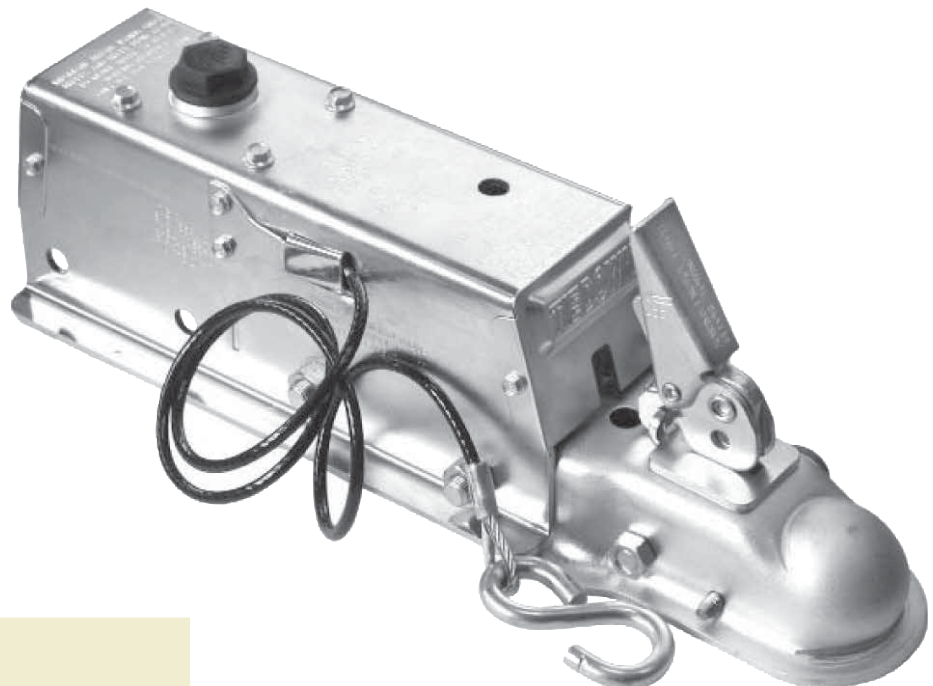


BRAKE ACTUATING SYSTEM

Hydraulic Surge Actuators: 6 - 8K Capacity
Hydraulic Surge Actuators: 12.5K Capacity
Hydraulic Surge Actuators: 16 - 20K Capacity
Composite Master Cylinders
Reverse Lock Out Solenoid
Back Flow Style Brake Solenoid
Tie Down Model 66, 70 & 70E Actuator Parts
Tie Down Model 70LP Actuator Parts
UFP Replacement Inner Slide Assembly
UFP Actuator Parts
Atwood 6 - 8K Actuator Parts
Dico/Titan Model 60 Actuator Parts
Dico/Titan Model 6 Actuator Parts
Dico/Titan Model 10 Actuator Parts
Dico/Titan Model 20 Actuator Parts
BrakeRite EHB Electric-Hydraulic
Trailer Brake Actuator
BrakeRite II SD Kit Electric-Hydraulic
Trailer Brake Actuator
BrakeRite Plug & Play

Carlisle HydraStar Frequently Asked Questions
HydraStar® Electric - Hydraulic Trailer Brake Actuator
HydraStar® XL Trailer Brake Actuator
ElectraStar® Trailer Mounted Controller
for Electric Brakes
DX Series Electro/Hydraulic Actuator
Draw-Tite® Brake Controls
Accu-Power® Brake Controls
Tekonsha® Brake Controls
Pulse Preventer
7-Way Trailer Emulator
Brake Control Wiring Harnesses Application Guide
Breakaway Kits
Breakaway Switches
Cable and Pin Assemblies
Battery Cases
12 Volt, Sealed Rechargeable Battery
Battery Chargers



FREQUENTLY ASKED QUESTIONS?

Q. Will the Carlisle HydraStar work with the 2008 or later Ford Tow Command; factory-integrated brake controller?

A. NO. Ford Motor Company has specified that their brake controller is to be used with electric brakes only; therefore, the Carlisle HydraStar is not compatible with the 2008 and later Ford Tow Command. Carlisle recommends installing an approved aftermarket controller. Please refer to the list of HydraStar Controllers.

Q. Will the Carlisle HydraStar work with the GM integrated brake controller?

A. NO. General Motors has specified that their brake controller is to be used with electric brakes only. Carlisle recommends installing an approved aftermarket controller. Please refer to the list of HydraStar Controllers.

Q. Can I use the HBA-CAM with my 2008 or later Ford or any GM factory brake controller?

A. NO. The HBA-CAM was designed to be used with 2005-2007 model Carlisle HydraStars and the 2005-2007 Ford Tow Command brake controller. (The HBA-CAM may also be used for selected aftermarket controllers on pre-2007 model Carlisle HydraStars.)

Q. How do I know which HydraStar unit to use with my trailer?

A. A rule of thumb is to use the HBA-10 (1000 psi) for drum brakes on single or tandem axle trailers. Use the HBA-12 (1200 psi) for disc brakes on axles rated up to 8000 lbs. Use the HBA-16 (1600psi) for all Dexter disc brakes and Hayes disc or drum brakes. Always check with the brake manufacturer for pressure requirements.

IMPORTANT: Do not exceed the brake manufacturers' recommended maximum operating pressure.

Q. How long has the HydraStar been on the market?

A. The Carlisle HydraStar has been on the market for over 10 years. The current models are seventh generation, released in January of 2007.

Q. My Carlisle HydraStar trailer brake actuator does not work?

A. First, confirm that the in-cab controller being used is approved on the Carlisle HydraStar Controllers list. Next, refer to the Troubleshooting Guide located in your service manual (also available on-line at www.carlislebrake.com). If the unit still does not work (or fails any troubleshooting test), please contact the dealer, distributor, or trailer OEM from which the product was purchased.

Q. Is it acceptable to wire the Carlisle HydraStar differently from the electrical schematic published in the Service Manual?

A. NO. Carlisle recommends connecting the HydraStar according to the electrical schematic located in your service manual. Failure to follow these guidelines will damage the HydraStar unit and void your warranty.

Q. Can I use other manufactures' breakaway systems with the Carlisle HydraStar?

A. YES. The only breakaway system tested not compatible with the Carlisle HydraStar is the Hoppy/Tap Model 200099 and 20400 breakaway kits. These kits can result in the trailer brakes dragging or not releasing at all.

CARLISLE HYDRASTAR



Brake Control Wiring Harnesses Application Guide

Part #	Make	Model	Style	Year
18269	Buick	Enclave	with Factory 7-Way	2008-2016
18263	Cadillac	Escalade	Including EXT	2002
18264	Cadillac	Escalade	Including ESV and EXT	2003-2006
3016	Cadillac	Escalade	-	2015-2016
18263	Chevrolet	Avalanche 1500, 2500	-	2002
18264	Chevrolet	Avalanche 1500, 2500	-	2003-2006
18263	Chevrolet	Silverado 1500, 2500	-	1999-2002
18264	Chevrolet	Silverado 1500, 1500 HD, 2500 HD, 3500	Including classic	2003-2006
18264	Chevrolet	Silverado 1500, 1500 HD, 2500 HD	(Classic)	2007
3016	Chevrolet	Silverado 1500	-	2014-2016
18263	Chevrolet	Silverado 1500 HD, 2500 HD, 3500	-	2001-2002
18264	Chevrolet	Silverado 2500	-	2003-2004
3016	Chevrolet	Silverado 2500 HD, 3500HD	-	2015-2016
3016	Chevrolet	Suburban	-	2015-2016
18263	Chevrolet	Suburban 1500, 2500	with Amber Turn Signals	2000-2002
18264	Chevrolet	Suburban 1500, 2500	-	2003-2006
18263	Chevrolet	Tahoe	with Amber Turn Signals	2000-2002
18264	Chevrolet	Tahoe	-	2003-2006
3016	Chevrolet	Tahoe	-	2015-2016
18269	Chevrolet	Traverse	with Factory 7-Way	2009-2016
18261	Chrysler	Aspen	with Factory Tow Package	2007-2009
18261	Dodge	Dakota	with Factory Tow Package	1997-2010
18261	Dodge	Durango	with Factory Tow Package	1998-2009
18274	Dodge	Durango	with Factory Tow Package	2011-2014
18261	Dodge	Ram 1500, 2500, 3500	-	1995-2009
18273	Dodge	Ram 1500, 2500, 3500	-	2010
18260	Ford	Bronco	-	1994-1996
18260	Ford	E-150, E-250, E-350 Econoline	Including RV Cutaway, with Factory Tow Prep Plug	1992-2008
18270	Ford	E-150, E-250, E-350 SD Econoline	-	2009-2014
18270	Ford	E-350 Econoline Super Duty	RV Cutaway, with Factory Tow Prep Plug	2009-2011
18260	Ford	E-450 Econoline Super Duty	RV Cutaway, with Factory Tow Prep Plug	2003-2008
18270	Ford	E-450 Econoline Super Duty	RV Cutaway, with Factory Tow Prep Plug	2009-2011
18260	Ford	E-450 Econoline Super Duty Stripped	RV Cutaway, with Factory Tow Prep Plug	2000-2002
18260	Ford	Excursion	-	2000-2005
18260	Ford	Expedition	-	1997-2012
18270	Ford	Expedition	-	2013-2014
18260	Ford	Explorer	with Factory Tow Package	2002-2016
18260	Ford	Explorer Sport Trac	with Factory Tow Package	2007-2010
18260	Ford	F-150	-	1994-2008
18272	Ford	F-150	-	2009-2016
18260	Ford	F-150 Heritage	-	2004
18260	Ford	F-250, F-350	-	1994-1996
18260	Ford	F-250, F-350	Heavy Duty	1997
18260	Ford	F-250	Styleside	1997-1999
18267	Ford	F-250 Super Duty, F-350 SD, F-450 SD, F-550 SD	Including Cab & Chassis	2005-2007
18270	Ford	F-250 Super Duty, F-350 SD, F-450 SD, F-550 SD	Including Cab & Chassis	2008-2016
18260	Ford	F-250 Super Duty, F-350 SD, F-450 SD, F-550 SD	Including Cab & Chassis	1999-2004
18260	Ford	Flex	with Factory Tow Package	2009-2011
18272	Ford	Flex	with Factory Tow Package	2012-2013
18270	Ford	Flex	with Factory Tow Package	2014-2015
18260	Ford	Windstar	with Factory Tow Package	1995-2003

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Hydraulic Surge Actuators: 6,000 - 8,000 lbs Capacity

(Replacement parts begin on page L6)

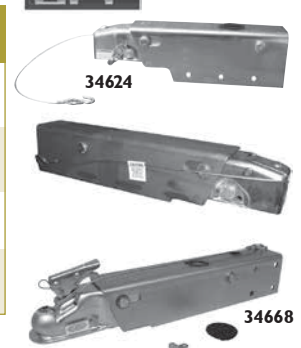
Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
84132	Drum	Atwood	No	2"	3"	Weld/Bolt-on	Zinc	6,000	900
88730	Disc	Atwood	No	2"	3"	Weld/Bolt-on	Zinc	6,000	900



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
83010	Drum	Atwood	No	2"	3"	Weld/Bolt-on	Zinc	8,000	1,000



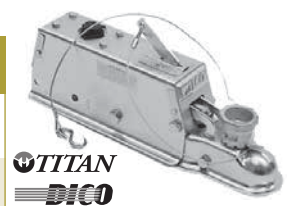
Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
34624	Drum	UFP A-60S	No	2"	3"	Top Mount Weld/Bolt-on	Zinc	6,000	600
34626	Disc	UFP A-60S	Yes	2"	3"	Top Mount Weld/Bolt-on	Zinc	6,000	600
35311	Disc	UFP A-60XL	Yes	2"	3"	Weld/Bolt-on Front Mount	Zinc	6,000	600
34668	Disc	UFP A-75	Yes	2"	3"	Weld/Bolt-on Front Mount	Zinc	7,500	750



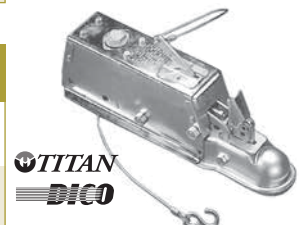
Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
47210	Drum	Tie Down D66	No	2"	3"	Weld/Bolt-on	Zinc	6,600	660
47211	Disc	Tie Down D66	No	2"	3"	Weld/Bolt-on	Zinc	6,600	660
47205	Disc	Tie Down D70E	Yes	2"	3"	Weld/Bolt-on	Zinc	7,000	700
47213	Disc	Tie Down D70-¾	Yes	2"	3"	Weld/Bolt-on	Zinc	7,000	700



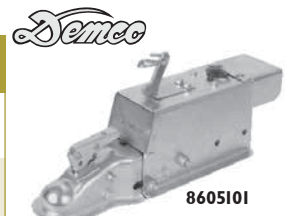
Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
40960	Drum	Titan/Dico Model 60	No	1⅞", 2" & 50mm	3"	Weld/Bolt-on	Zinc	6,000	600
47457	Disc	Titan/Dico Model 60	No	1⅞", 2" & 50mm	3"	Weld/Bolt-on	Zinc	6,000	600



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
43329	Drum	Titan/Dico Model 60	No	2"	3"	Weld/Bolt-on	Zinc	6,000	600
47154	Disc	Titan/Dico Model 60	No	2"	3"	Weld/Bolt-on	Zinc	6,000	600



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
8605001	Drum	Demco DA66B	No	2"	3"	Weld/Bolt-on	Zinc	6,000	600
8605101	Disc	Demco DA66B	Yes	2"	3"	Weld/Bolt-on	Zinc	6,000	600





Hydraulic Surge Actuators: 6,000 - 8,000 lbs Capacity (Continued)

(Replacement parts begin on page L6)



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
45006	Drum	Titan/Dico Aero-7500	No	2"	3"	Weld/Bolt-on	Zinc	7,500	750



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
24800	Drum	Titan/Dico Model 6	No	2"	3"	Weld/Bolt-on	Zinc	6,000	600



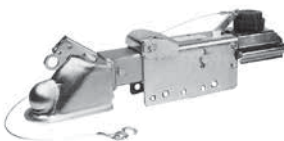
Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
24928	Drum	Titan/Dico Model 6	No	2"	A-Frame	Weld-on	Zinc	6,000	600



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
40932	Drum	Titan/Dico Model 6	No	3" Lunette Eye	3"	Weld/Bolt-on	Zinc	8,000	800



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
40455	Drum	Titan/Dico Model 6	No	3" Lunette Eye	A-Frame	Weld-on	Zinc	8,000	800



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
40792	Drum	Titan/Dico Model 6	No	2 5/16"	3"	Weld/Bolt-on	Zinc	8,000	800
47472	Disc	Titan/Dico Model 6	No	2 5/16"	3"	Weld/Bolt-on	Zinc	8,000	800



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
40676	Drum	Titan/Dico Model 6	No	2 5/16"	A-Frame	Weld-on	Zinc	8,000	800

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Hydraulic Surge Actuators: 12,500 lbs Capacity

(Replacement parts begin on page L6)



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
24776	Drum	Titan/Dico Model 10	No	2 $\frac{5}{16}$ "	3"	Weld/Bolt-on	Zinc	12,500	1,250
47508	Disc	Titan/Dico Model 10	No	2 $\frac{5}{16}$ "	3"	Weld/Bolt-on	Zinc	12,500	1,250



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
16075	Drum	Titan/Dico Model 10	No	2 $\frac{5}{16}$ "	-	Weld-on	Painted	12,500	1,250



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
24781	Drum	Titan/Dico Model 10	No	2 $\frac{5}{16}$ " Drop	3"	Weld/Bolt-on	Zinc	12,500	1,250
47506	Disc	Titan/Dico Model 10	No	2 $\frac{5}{16}$ " Drop	3"	Weld/Bolt-on	Zinc	12,500	1,250



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
17727	Drum	Titan/Dico Model 10	No	2 $\frac{5}{16}$ " Drop	3"	Weld/Bolt-on	Painted	12,500	1,250



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
16077	Drum	Titan/Dico Model 10	No	3" Lunette Eye	-	Weld-on	Painted	12,500	1,250



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
24046	Drum	Titan/Dico Model 10	No	Adjusting Channel	-	Weld-on	Painted	12,500	1,250



Hydraulic Surge Actuators: 16,000 lbs Capacity

(Replacement parts begin on page L6)



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
8164311	Disc	Demco DA16	Yes	2 $\frac{5}{16}$ "	3"	Bolt-on	Zinc	16,000	1,600

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Hydraulic Surge Actuators: 20,000 lbs Capacity

(Replacement parts begin on page L6)



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
15210	Drum	Titan/Dico Model 20	No	2 $\frac{5}{16}$ "	-	Weld-on	Painted	20,000	2,000
47505	Disc	Titan/Dico Model 20	No	2 $\frac{5}{16}$ "	-	Weld-on	Painted	20,000	2,000



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
40427	Drum	Titan/Dico Model 20	No	2 $\frac{5}{16}$ " Drop	3"	Weld/Bolt-on	Zinc	20,000	2,000
47507	Disc	Titan/Dico Model 20	No	2 $\frac{5}{16}$ " Drop	3"	Weld/Bolt-on	Zinc	20,000	2,000



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
12974	Drum	Titan/Dico Model 20	No	3" Lunette Eye	-	Weld-on	Painted	20,000	2,000



Part #	Type	Mfg	Solenoid Installed	Ball Size	Tongue Size	Attachment Method	Finish	Trailer GVW (lbs)	Vertical Capacity (lbs)
18991	Drum	Titan/Dico Model 20	No	Adjusting Channel	-	Weld-on	Painted	20,000 lbs with 1" Clevis 12,000 lbs with 3" Eye or 2 $\frac{5}{16}$ " Coupler	2,000 lbs w/Clevis 1,200 lbs w/Eye or Coupler

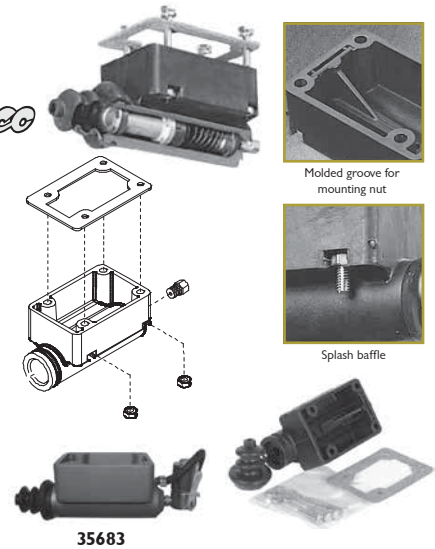
Composite Master Cylinders

Throughout the history of hydraulic surge brakes, cast iron has been accepted as the standard for brake cylinder construction. New leading edge technology unveils superior composite materials and methods that outperform cast iron. Demco uses long glass reinforced nylon in the production of surge brake master cylinders. Demco's new composite construction provides benefits and features not available with other materials.

Demco Replacement Parts Master Cylinders

Demco

Part #	Description
5650	Composite Master Cylinder (Drum Brake) Fits all Demco Drum Brake Actuators
5672	Composite Master Cylinder (Disc Brake) Fits all DA66 - Disc, DA91 - Disc, DA10 - Disc (Requires 2-wire backup solenoid #4799)
35683	Aluminum master cylinder with 1 1/4" bore for model DA20 Disc Brake Actuator Backup solenoid included. Gaskets, bolts and cover NOT included.
9153-D	Gasket for DA20 cylinder #35683



Part #	Description
4838	Damper Shock. Fits DA91, DA10 & DA20

Part #	Description
3876	Master Cylinder Filler Cap Fits all Demco Models

Reverse Lock Out Solenoid

Part #	Description
4800	Reverse LOCKOUT switch is required for actuators without a free-backing feature built-in. Set for "Normally Open"
4799	2 wire for non-metallic master cylinders - "Normally Open"



Back Flow Style Brake Solenoid

Part #	Description
4804	Reverse RECIRCULATING switch is required for actuators without a free-backing feature built-in. Set for "Normally Open".



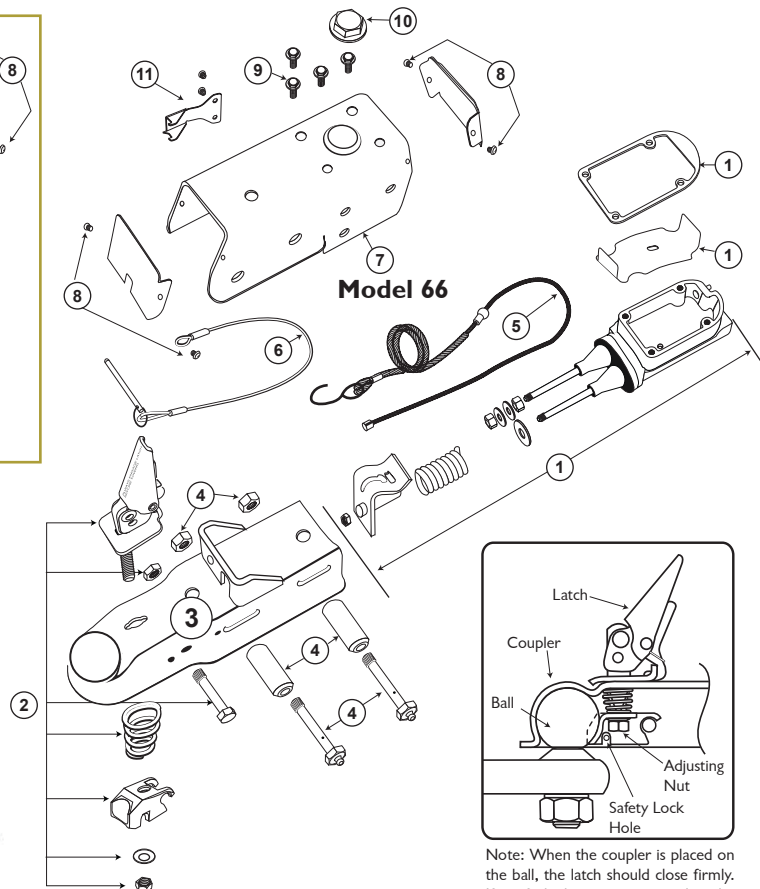
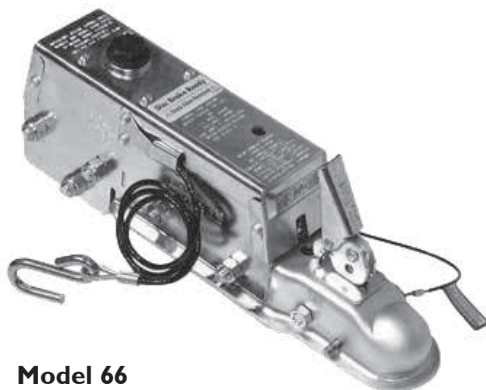
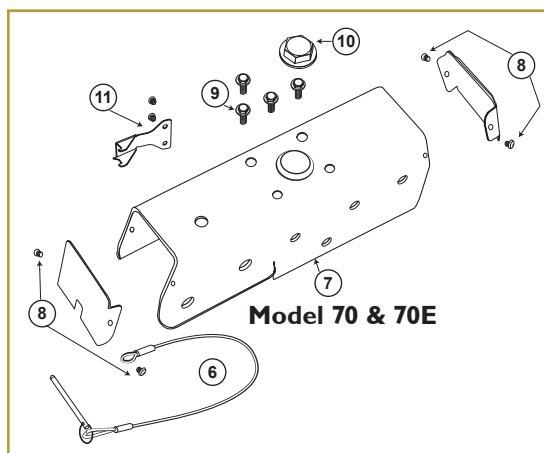
Part #	Description
5283	Adapter to attach solenoid to old style Dico/Titan model 10 & 20 fittings





Model 66, 70 & 70E Actuator Parts (Old Style Pre 2013)

Part #	Item #	Description	Qty
47260 (Disc*)	1	Master Cylinder Assembly - Includes all Nuts, Baffle, all Seals, O-rings, Gaskets & Seal.	1
47268 (Drum)	1	*The check valve has been removed in models #47211 & 86165	1
47261	2	Latch Kit Assembly	1
47262	2	Latch Kit Assembly (for serial #'s 16020 and below)	1
48801-1A	3	Coupler Housing	1
47263	4	Roller Kit includes: 1/2" x 4 Grade 5 Super Lube Bolts (2); 1/2" Hex Center Lock Nut (2) & Rollers (2)	1
50305	5	Cable Assembly (Breakaway) with button stop	1
50302	5	Cable Assembly (for serial #'s 16020 and below)	1
50301	6	Safety Pin Cable	1
48802	7	Actuator Assembly Housing (Model 66)	1
48815	7	Actuator Assembly Housing (Model 70)	1
47213-1	7	Actuator Assembly Housing (Model 71-3/4)	1
48816	7	Actuator Assembly Housing (Model 70E)	1
47264	8	Actuator Covers Kit (front & back covers & 4 screws)	1
47265	9	Screw Kit, includes: 1/4" - 20NC x 3/4" Hex Bolt (4)	1
48804	10	Master Cylinder Cap with Internal Bladder	1
48845	11	Safety Spring with Screws (for serial #'s 16020 and above)	1



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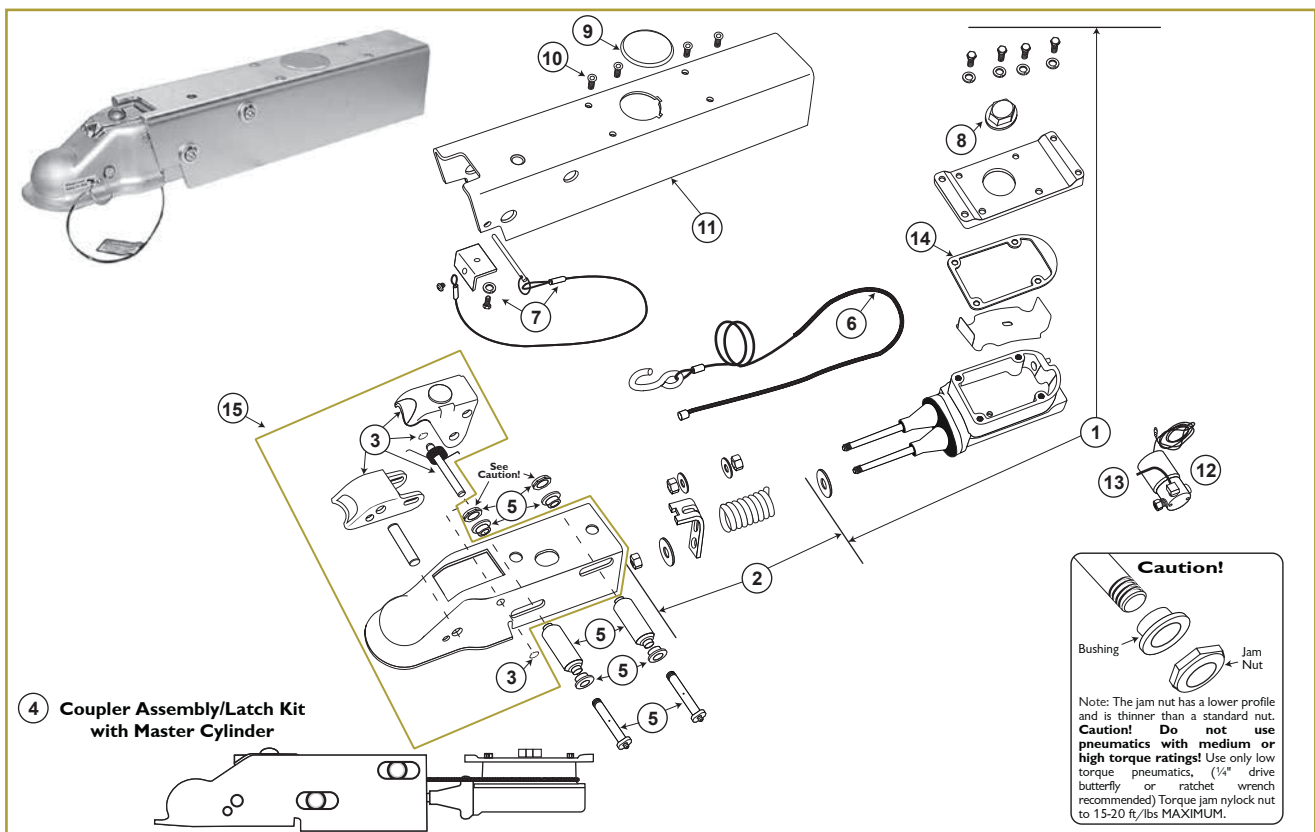
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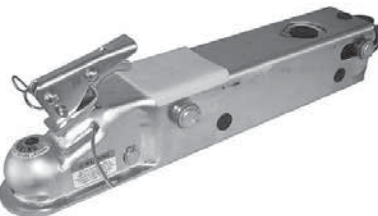
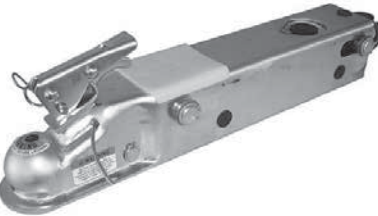
Model 70LP Actuator Parts (Old Style Pre 2013)

Part #	Item #	Description	Qty
47267 (Disc*)	1	Master Cylinder Assembly - Includes all Nuts, Baffle, all Seals,	1
47271 (Drum)	2	O-rings, Gaskets & Seals (*check valve removed)	1
47259	2	Safety Stop & Spring	1
47254	3	Latch Kit Assembly Low Profile	1
47258 (Disc)	4	Coupler Housing & Latch Kit (3) with Master Cylinder Assembly (1) Disc	1
47255	5	Roller Kit includes - Includes all Rollers, Pins, Bushings & Nuts	1
50304	6	Cable Assembly (Breakaway)	1
47256	7	Safety Pin Cable with Bracket & Screws	1
48804	8	Master Cylinder Fill Cap with Internal Bladder	1
48759	9	Fill Cap Cover	1
12138	10	Button Head Torx Screws 1/4" - 20 x 1"	4
48762	11	Actuator Housing	1
11253A	12	Solenoid with Return Tube (optional)	1
11262	13	Solenoid Return Tube	1
48803	14	Gasket	1
17025	15	Coupler Housing & Latch Kit (3) Low Profile Assembly	1



UFP - Replacement Inner Slide Assembly

The UFP inner member assembly contains all of the actuator's moving parts. It can be completely removed for trouble-shooting and repair or replacement.



2" Ball, Model A-60, A-70 & A-75

Part #	Description
34039	For drum brakes only WITHOUT lockout solenoid

Part #	Description
34043	One disc brake axle or 1-2 drum brake axles Normally closed lockout solenoid installed

Part #	Description
34044	Tandem disc brake application with normally closed lockout installed. Includes larger push rod & heavier spring accommodating longer stroke required for tandem disc brake application

Part #	Description
47723	Single axle drum brake application WITHOUT lockout solenoid

Part #	Description
47724	Single disc brake axle application or single & tandem drum application with lockout solenoid installed

Part #	Description
47729	Tandem disc brake application with lockout installed. Includes larger push rod & heavier spring accommodating longer stroke required for tandem disc brake application

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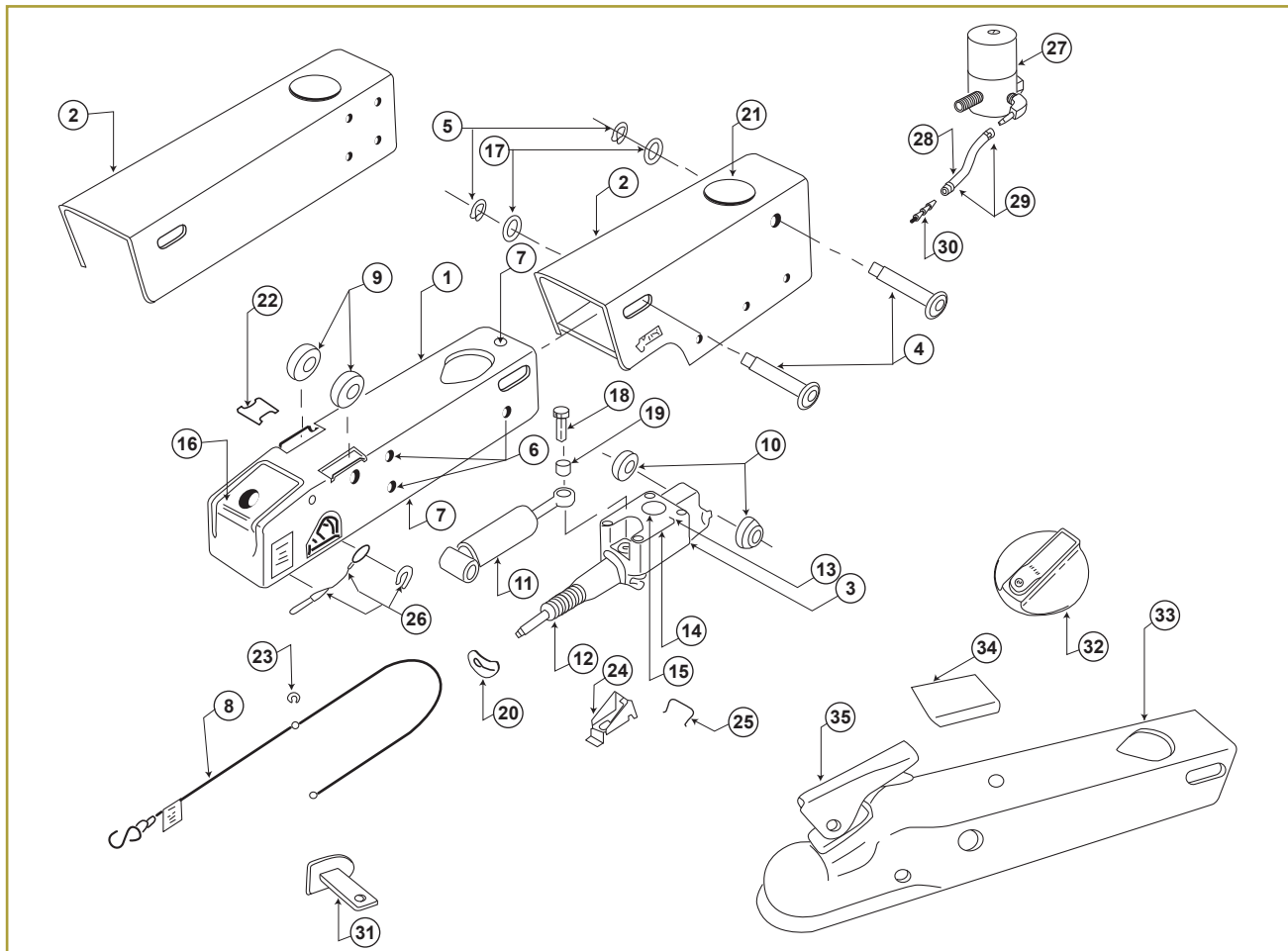
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UFP Actuator Parts

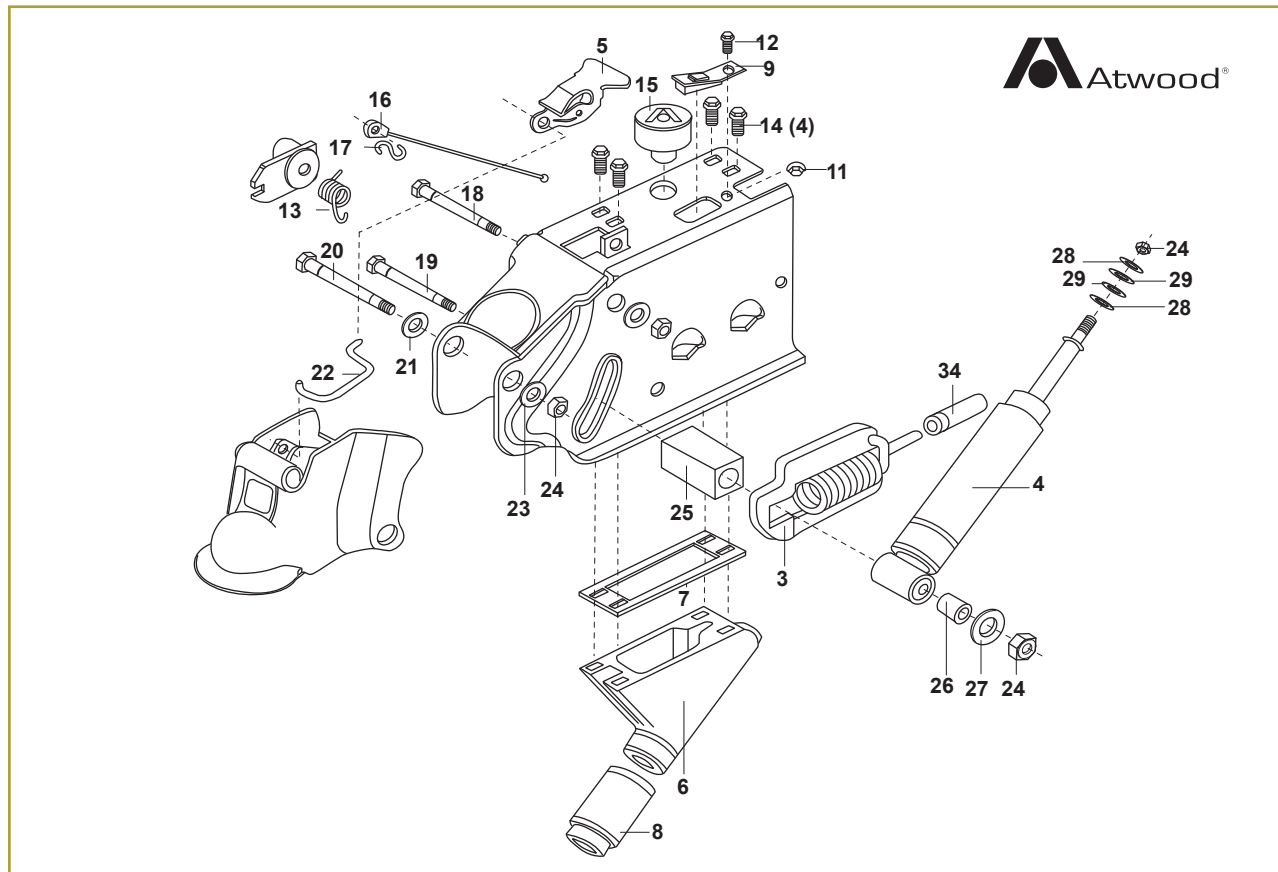
Part #	Item #	Description
34021	1	A-60 Inner Member, Primary Assembly
34375	2	Outer Member - Top Mount
35693	2	Outer Member - Front Mount
34760	3	Master Cylinder Assembly - Drum Brake
34762	3	Master Cylinder for use w/Disc Brake
34079	4	Roller Pin
34079-A	4,5,17	Roller Pin w/2 each Ring & Washer
32262	5	Retaining Ring
32260	6	Wear Pad, Thin (sides)
32263	7	Wear Pad, Thick (top/bottom)
34370	8	Breakaway Cable Assembly
34371	9	Front Roller (A-60 only)
32310	10	Rear Roller
32306	11	Shock Absorber
35112	12	Push Rod Assembly & Single Axle Disc
35114	12	Push Rod Assembly & Tandem Axle Disc
34300-UPF	13	Reservoir Plate Cover
32288	14	Reservoir Diaphragm
32286	15	Reservoir Plug
34142	16	Square Latch Replacement Kit 2"

Part #	Item #	Description
32554	17	Roller Pin Washer
2291	18	3/8-16 x 1.00" Bolt
34301-UPF	19	Shock Absorber Bushing
34380	20	Cable Attachment Plate
32547	21	Outer Member Cap, Plastic
32592	22	A-60 Top Pad
34355	23	Breakaway Cable Clip
34378	24	Pushrod Release Bracket
32546	25	Pushrod Release Bracket Spring
34545	26	Hitch Pin Kit (Pin, Decal & Retainer)
34500	27	Solenoid Valve with Fittings
34508	28	Reverse Valve Drain Tube
32269	29	Nylon Cable Tie
32570	30	#10-32 Mini-Barb Fitting
34557	31	Side Lockout Kit
34359	32	Top Lockout Upgrade
47720	33	A-70/75 Inner Member, Primary Assembly
47710	34	A-70/75 Top Pad
36368	35	Top Latch Replacement Kit 2"
34566	36	A-70/75 Hitch Pin Kit



Atwood 6,000 & 8,000 lbs Capacity Actuator Parts

Part #	Item #	Description
84258	8	Boot
85830	4, 24 (2 each), 28 (2 each), 29 (2 each)	Shock Absorber Kit
85841	6, 7, 14 (4 each)	Master Cylinder (Drum Brakes)
85854	6, 7, 14 (4 each), orifice (not shown)	Master Cylinder (Disc Brakes)
85842	20, 21, 24 (2 each), 25, 26, 27	Shoulder Bolt Kit
85844	5, 13, 18, 23, 24 (3 each), 19	Release Handle Kit
85852	3, 7, 11, 14 (5 each), 16, 17, 24 (2 each), 34, 8	Push Rod Assembly
87478	15	Cap



Parts shown, but not numbered are NOT available for field replacement.

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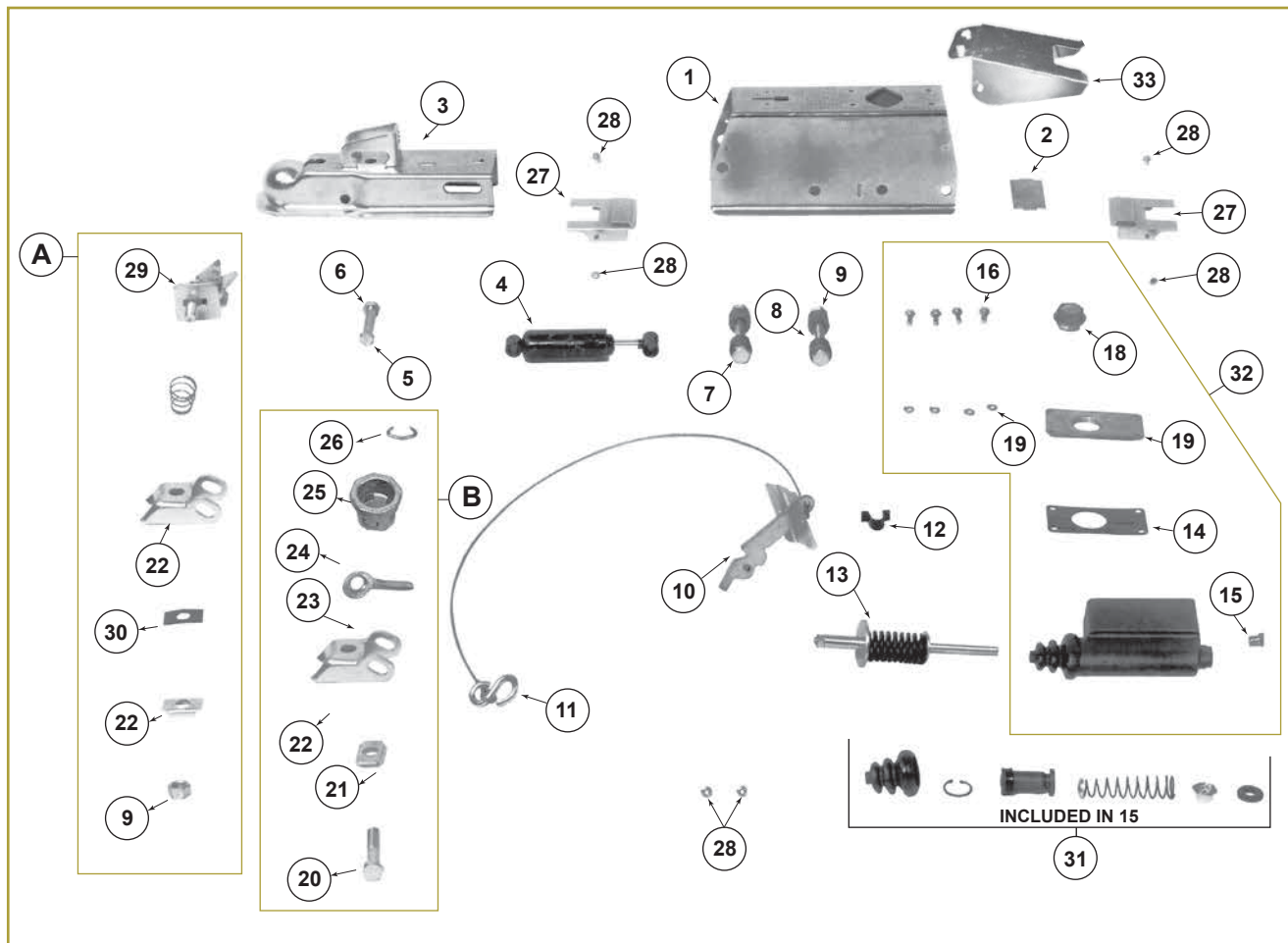


Dico/Titan Model 60 Actuator Parts



Part #	Dico #	Item #	Description
4863	43246	1	Outer Case
5158	23377	2	Strut
4866	23378	3	Inner Slide Multi-Fit
5230	43325	3	Inner Slide Lever Lock
4842	23362	4	Shock Absorber
5264	23390	5	Bolt $\frac{7}{16}$ " x $2\frac{5}{8}$ "
5265	23391	6	Locknut $\frac{7}{16}$ " Thin
5111	23278	7	Roller
5113	23413	8	Bolt $\frac{1}{2}$ " x $3\frac{3}{4}$ "
5112	18612	9	Lock Nut $\frac{1}{2}$ "
4998	46238	10	Breakaway Lever
4827	10555	11	S-Hook
4832	40052	12	Breakaway Spring
4844	23463	13	Push Rod Assembly
4843	23414	14	Gasket
4854	12098	15	Connector $\frac{1}{4}$ " Orifice
5284	47503	15	Connector for new style disc brake actuators with $\frac{1}{8}$ " MPT & $\frac{3}{32}$ " Orifice
5116	10508	16	Bolt $\frac{1}{4}$ " x $\frac{3}{4}$ "
5128	7940	17	Lock Washer $\frac{1}{4}$ "

Part #	Dico #	Item #	Description
4841	44807	18	Filler Cap $1\frac{1}{4}$ "
4849	23566	19	Cylinder Cover Plate
5257	23381	20	Latch Bolt
5129	18090	21	Lock Plate
4837	43358	22	Ball Latch
5258	43368	23	Spring
4997	23383	24	Hand Wheel Lock
5256	24200	25	Hand Wheel
5133	24964	26	Lock Ring/Cotter Pin
5229	25425	27	Front/Rear Cover
5228	10941	28	Cover Screw
5134	43585	29	Lever Handle Assembly
5135	43345	30	Spring Plate
11229	43584	A	Lever-Lock Coupler Kit
11223	40454	B	Multi-Fit Coupler Kit
4840	15026	31	Cylinder Repair Kit
4860	43951	32	Master Cylinder Assembly - Drum
4860-D	48200	32	Master Cylinder Assembly - Disc
5267	48358	33	Solenoid Cover (Plated)



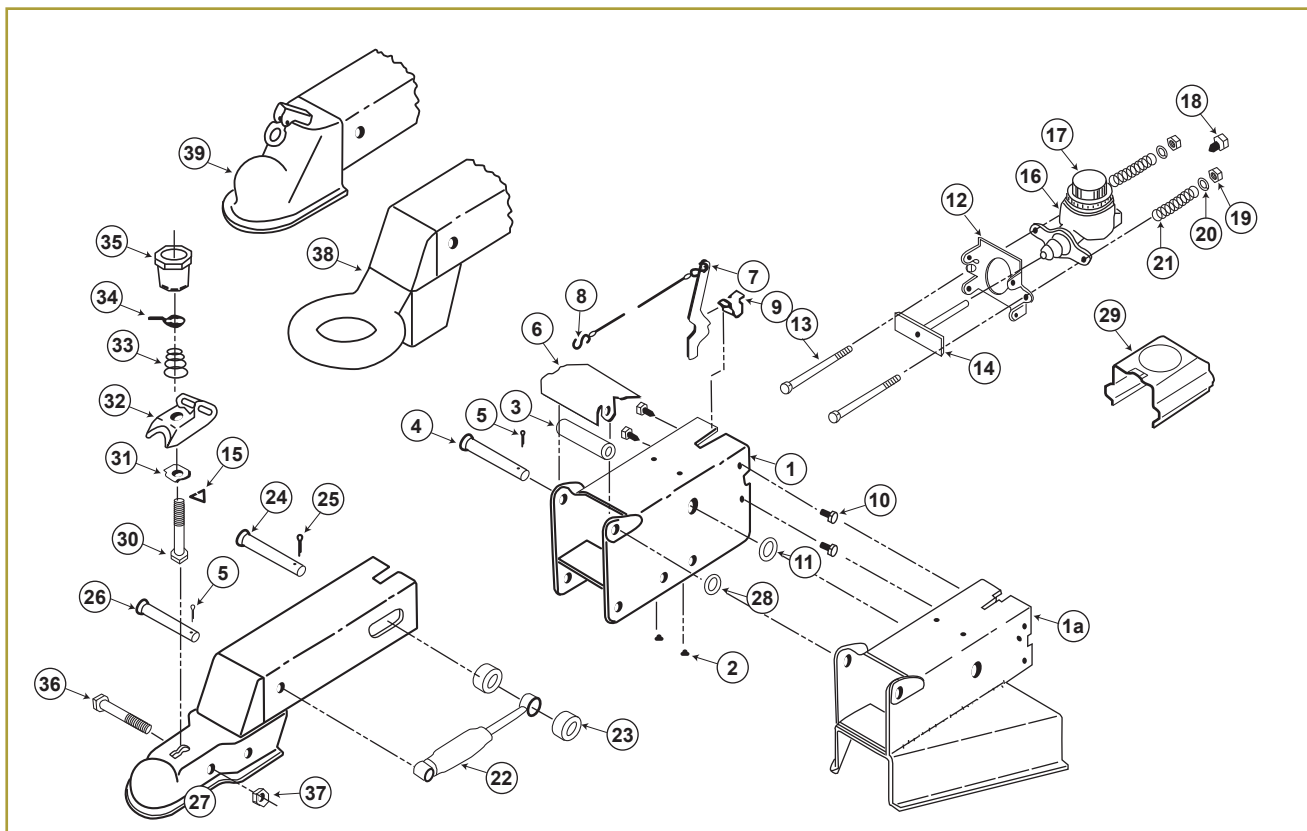


Dico/Titan Model 6 Actuator Parts



Part #	Dico #	Item #	Description
4976	24801	1	Outer Case Straight
5266	24930	1a	Outer Case A-Frame
4995	10209	2	Nylon Slide Bearing
5223	17763	3	Front Roller
5125	17766	4	Front Roller Pin
5139	7997	5	Cotter Pin 1/8" x 3/4"
5120	17767	6	Roller Cover 6,000#
5140	43507	6	Roller Cover 7,500#
5141	46239	7	Breakaway Lever Assembly
4827	10555	8	S-Hook
5118	17803	9	Breakaway Spring
5142	17815	10	Bolt 5/16" x 1/2" Self Tap
5143	18619	11	Washer
5240	17762	12	Cylinder Mounting Plate
5237	10273	13	Bolt 3/8" x 5"
5122	43905	14	Push Rod Assembly
5133	24964	15	Lock Ring/Cotter Pin
4865	10271	16	Master Cylinder w/Cap - Drum
4865-D	47470	16	Master Cylinder w/Cap - Disc
4862	17556	17	Cylinder Cap
4854	12098	18	Connector
5284	47503	18	Connector for new style disc brake actuators with 1/8" MPT & 3/32" Orifice
5235	7976	19	Nut 3/8"

Part #	Dico #	Item #	Description
4145	7820	20	Washer 3/8"
5104	10274	21	Spring
4838	12426	22	Shock Absorber/Damper
5244	8291	23	Rear Roller
5255	17773	24	Master Pin
5242	8152	25	Cotter Pin
5251	17772	26	Damper Pin
5108	43916	27	Inner Slide Multi-Fit Coupler
5137	18316	28	Washer
5253	18066	29	Cover
5257	23381	30	Latch Bolt
5129	18090	31	Lock Plate
4837	43358	32	Ball Latch
5258	43368	33	Spring
4997	23383	34	Hand Wheel Lock
5256	24200	35	Hand Wheel
5264	23390	36	Bolt 7/16" x 2 5/16"
5265	23391	37	Bolt 7/16" Thin
5138	40456	38	Inner Slide w/3" Eye
5254	40677	39	Inner Slide w/2 5/16" Coupler
4840	15026	-	Cylinder Repair Kit
11223	40454	-	Multi-Fit Coupler Kit
11227	43584	-	2 5/16" Coupler Kit



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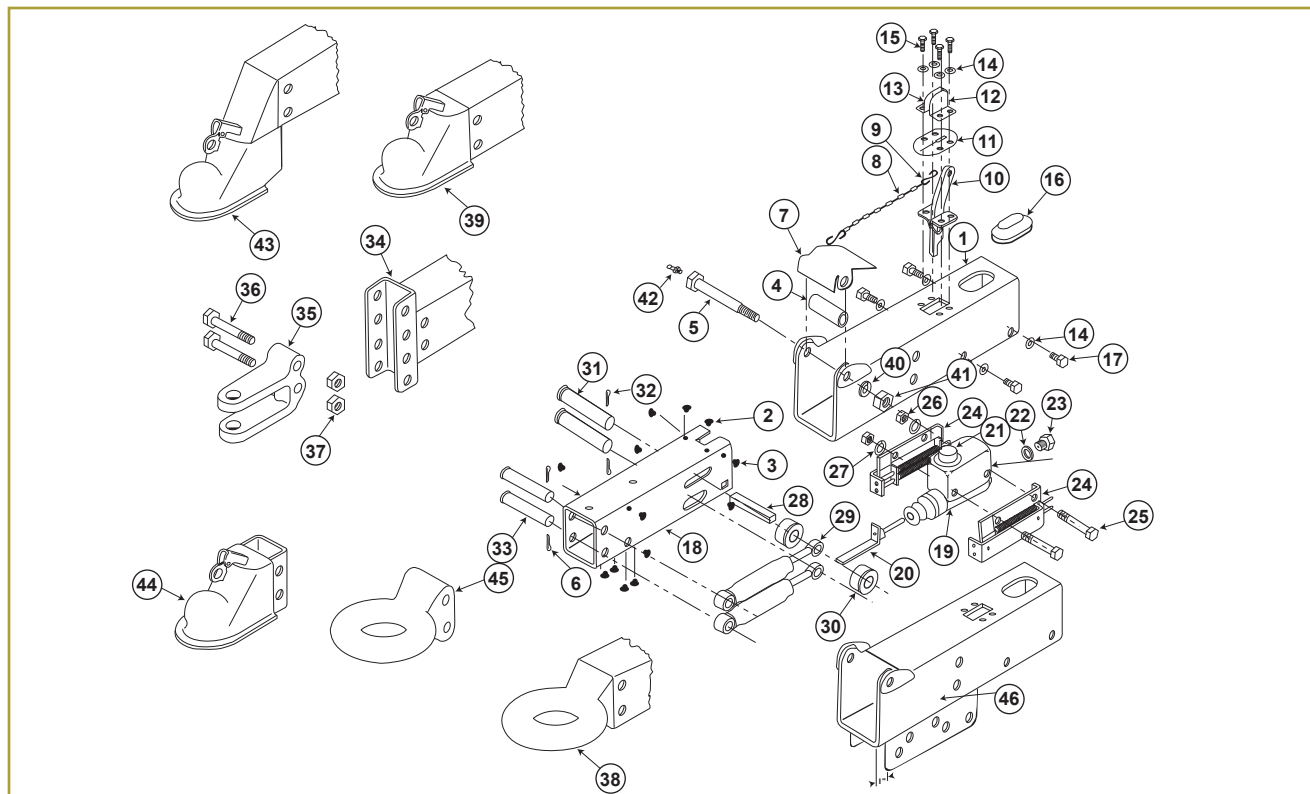


Dico/Titan Model 10 Actuator Parts



Part #	Dico #	Item #	Description
5144	16016	1	Outer Case Assembly
4995	10209	2	Nylon Glide Top/Bottom
4996	12427	3	Nylon Glide - Slide
4875	16019	4	Front Roller
4876	8288	5	Front Roller Bolt
5139	7997	6	Cotter Pin
5224	16018	7	Front Roller Cover
4999	7768	8	Breakaway Chain
4827	10555	9	S-Hook
4867	10541	10	Breakaway Lever Assembly
5260	10552	11	Weather Seal
4992	10526	12	Left Breakaway Lock
4993	10527	13	Right Breakaway Lock
5227	7938	14	Lock Washer 5/16"
5226	7949	15	Bolt 5/16" x 5/8"
5110	15070	16	Cylinder Cover
5261	7948	17	Bolt 5/16" x 1/2"
5145	15933	18	Inner Slide - Plain
4861	23744	19	Master Cylinder Assembly - Drum
4861-D	47471	19	Master Cylinder Assembly - Disc
5252	23745	20	Push Rod (included in 4861)
4864	12503	21	Filler Cap
5102	7745	22	Copper Gasket
5101	12099	23	Connector for old style drum brake actuators with 1/2" thread & 1/64" Orifice
4854	12098	23	Connector for new style drum brake actuators with 1/8" MPT & 1/64" Orifice
5284	47503	23	Connector for new style disc brake actuators with 1/8" MPT & 3/32" Orifice

Part #	Dico #	Item #	Description
4868	8388	24	Right Cylinder Bracket
4869	8389	24	Left Cylinder Bracket
5234	8271	25	Bolt 3/8" x 3"
5235	7976	26	Nut 3/8"
5236	7933	27	Lock Washer 3/8"
4994	8301	28	Push Rod Block
4838	12426	29	Shock Absorber/Damper
5244	8291	30	Rear Roller
5241	15935	31	Master Pin
5242	8152	32	Cotter Pin 3/16" x 1 1/4"
5243	15934	33	Damper Pin
5146	16087	34	Inner Slide w/Channel
18979	8979	35	3/4" Pin Clevis
18093	9093	36	Bolt 5/8" x 4 1/2"
18094	10405	37	Lock Nut 5/8"
5147	16086	38	Inner Slide w/3" Eye
5148	16084	39	Inner Slide w/2 5/16" Coupler
4119	7937	40	Lock Washer 1/2"
4877	7985	41	Nut 1/2"
5126	149901	42	Grease Fitting
5115	24783	43	Inner Slide w/Drop Coupler
18820	18820	44	Adjustable 2 5/16" Coupler
18128	16137	45	Adjustable 3" Lunette Eye
5233	16855	46	Outer Case 1" Offset
4831	10187	-	1 1/4" Cylinder Repair Kit
11227	18487	-	2 5/16" Coupler Latch Kit



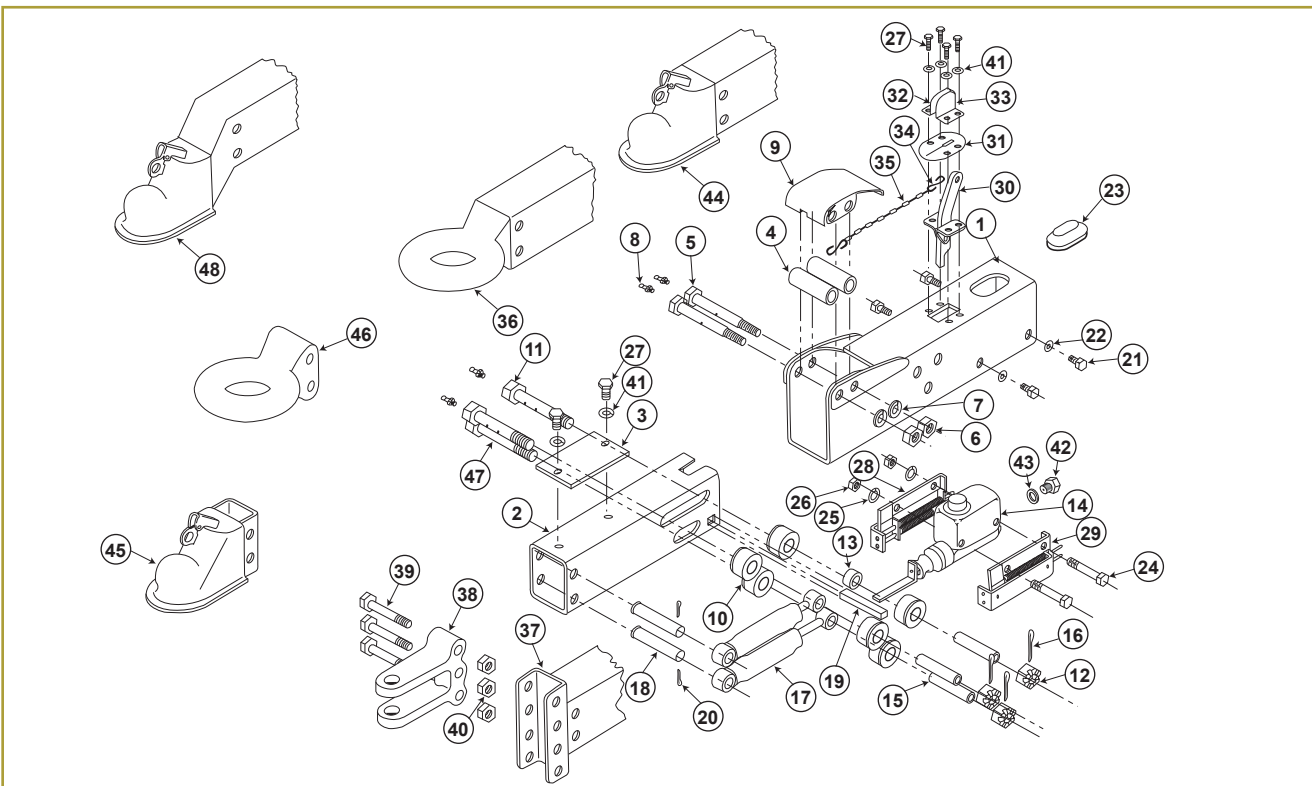


Dico/Titan Model 20 Actuator Parts



Part #	Dico #	Item #	Description
5231	10553	1	Outer Case Assembly
5155	17349	1	Outer Case w/Channel
5156	15563	2	Inner Slide - Plain
5157	-	2	Inner Slide w/Drop Coupler
5232	8284	3	Centering Rail
4875	16019	4	Front Roller
4876	8288	5	Bolt $\frac{5}{8}$ " x $4\frac{3}{8}$ " x $\frac{1}{2}$ " Thread
4877	7985	6	Nut $\frac{1}{2}$ "
4119	7937	7	Lock Washer $\frac{1}{2}$ "
5126	144901	8	Grease Fitting
5225	8289	9	Front Roller Cover
5244	8291	10	Rear Roller Assembly
5245	8294	11	Rear Roller Bolt $\frac{5}{8}$ " x 5"
5248	7971	12	Slotted Nut $\frac{5}{8}$ "
2562	3328	13	Spacer
4861	23744	14	Master Cylinder Assembly - Drum
4861-D	47471	14	Master Cylinder Assembly - Disc
4864	12503	14	Filler Cap 1 $\frac{5}{8}$ "
5252	23745	14	Push Rod Assembly
5247	8297	15	Spacer
5151	7994	16	Cotter Pin $\frac{1}{8}$ " x $1\frac{1}{4}$ "
4835	7784	17	Damper/Shock Absorber
5250	8298	18	Damper Bar
4994	8301	19	Push Rod Block
5139	7997	20	Cotter Pin $\frac{1}{8}$ " x $\frac{3}{4}$ "
5261	7948	21	Bolt $\frac{5}{16}$ " x $\frac{1}{2}$ "
5227	7938	22	Lock Washer $\frac{5}{16}$ "
5110	15070	23	Cylinder Cover

Part #	Dico #	Item #	Description
5234	8271	24	Bolt $\frac{3}{8}$ " x 3"
5127	12552	25	Star Lock Washer $\frac{3}{8}$ "
5235	7976	26	Nut $\frac{3}{8}$ "
5226	7949	27	Bolt $\frac{5}{16}$ " x $\frac{5}{8}$ "
4868	8388	28	Cylinder Bracket Assembly RH
4869	8389	29	Cylinder Bracket Assembly LH
4867	10541	30	Breakaway Lever Assembly
5260	10552	31	Weather Seal
4993	10527	32	Breakaway Lock RH
4992	10526	33	Breakaway Lock LH
4827	10555	34	S-Hook
4999	7768	35	Chain
5153	12976	36	Inner Slide w/3" Eye
5119	10582	37	Inner Slide w/Adjustable Channel
18078	18078	38	1" Clevis - 3 Hole Mount
18093	9093	39	Bolt $\frac{5}{8}$ " x $4\frac{1}{2}$ "
18094	10405	40	Lock Nut $\frac{5}{8}$ "
5227	7938	41	Lock Washer $\frac{5}{16}$ "
5101	12099	42	Connector for old style drum brake actuators with $\frac{1}{2}$ " thread & $\frac{1}{64}$ " Orifice
4854	12098	42	Connector for new style drum brake actuators with $\frac{1}{8}$ " MPT & $\frac{1}{64}$ " Orifice
5284	47503	42	Connector for new style disc brake actuators with $\frac{1}{8}$ " MPT & $\frac{3}{32}$ " Orifice
5102	7745	43	Gasket
4979	12788	44	Inner Slide w/ $2\frac{5}{16}$ " Coupler
18820	18820	45	Adjustable $2\frac{5}{16}$ " Coupler
18128	16137	46	Adjustable 3" Eye
5246	8295	47	Rear Roller Bolt $\frac{5}{8}$ " x 5"
4831	10187	-	1 $\frac{1}{4}$ " Cylinder Repair Kit
11227	18487	-	$2\frac{5}{16}$ " Coupler Latch Kit
5154	4490400183	48	Inner Slide; Drop; Zinc



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BrakeRite EHB Electric-Hydraulic Trailer Brake Actuator

A proven track record of performance and reliability! Designed to be hard wired into your trailers electrical system. All components self-contained under the BrakeRite's Cover. The features of the BrakeRite EHB includes:

- First in the field with an electronic proportional pressure valve.
- The most rapid response from brake actuation to total dynamic braking in the industry.
- Hybrid electronic control board compatible with most in-cab brake controllers.
- On-going in plant performance testing and each production unit is bench tested.
- Research and development is the "norm" at Titan.
- Pump/motor based.
- Isolated fluid reservoir with diaphragm type valve filler cap.

Part #	Brake Type	PSI	Weight	Titan Part #
39420	Disc	1500	10.5	4813100
39421	Drum	1000	10.5	4822500
4846000	Adapter module for 2006 ½ to current Ford and Chevy OEM in-cab controllers, no plugs.			



BrakeRite II SD Kit Electric-Hydraulic Trailer Brake Actuator

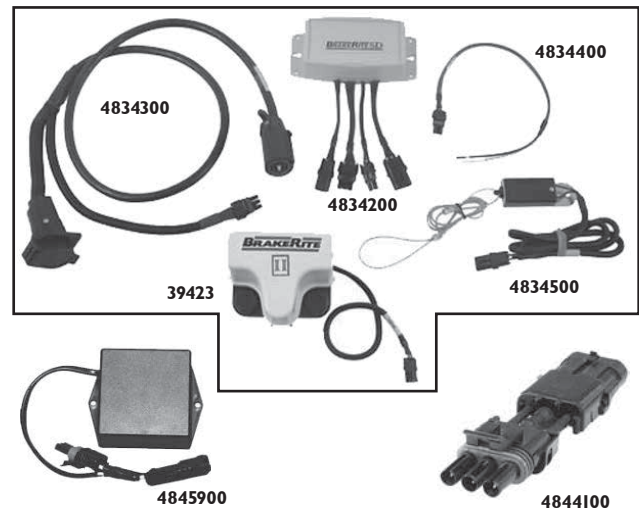
BrakeRite-II Electric over Hydraulic Severe Duty Actuator Kit. Designed for severe duty applications using external control modules for specific applications. Control modules have plug-in weather sealed connectors. The features of the BrakeRite II includes:

- Utilizes the standard proven EHB electronic control board, potted and enclosed in a remote mounted control module.
- Provides complete Plug-in wiring harnesses to simplify field installation.
- In the event of field service, component replacement is simplified.
- On-going in plant performance testing and each production unit is bench tested.
- Potted hybrid circuitry provides dependable service under adverse conditions.

Complete Kit 39424

Part #	Description	Mfg #
39424	Complete Kit (including BrakeRite II unit)	4835700
39423	BrakeRite II 1500 psi Pump	4834100
4834200	SD Control Module	4834200
4834300	SD Wiring Harness	4834300
4834400	SD Battery Harness	4834400
4834500	SD Battery Switch	4834500

Part #	Description
4845900	Adapter module for 2006 ½ to current Ford and Chevy OEM in-cab controllers
4844100	Pressure Reducer for Drum Brake Application



BrakeRite Plug & Play

Same features as BrakeRite II with control module integrated inside main housing. In-cab brake control adapter required for OEM controllers. Pressure reducer required for drum brake applications.

Part #	Description	Mfg #
39428	BrakeRite Plug & Play Kit	4813102PP
39430	BrakeRite Plug & Play with Australian style connector	4813102A
39429	BrakeRite Plug & Play pump only	4813102



HydraStar® Electric - Hydraulic Trailer Brake Actuator

Easily replaces surge, Air/Hydraulic and Vacuum/Hydraulic Systems. Simply mount the HydraStar to the trailer and attach the hydraulic line:

- Only four wires to connect, 3 wires go to the tow vehicle receptacle, the fourth goes to the breakaway switch.
- Works in reverse, no more pins to insert before backing up.
- Eliminates brake drag common with surge actuators on down hill grades.
- HydraStar installs on trailer with minimal wiring.
- Meets or exceeds D.O.T. brake actuator regulations.



Part #	Description	HydraStar Part #
39413	1000 psi HydraStar Brake Actuator	HBA10
39412	1200 psi HydraStar Brake Actuator	HBA12
39414	1600 psi HydraStar Brake Actuator	HBA16
HBA-CAM	Add-on adapter module for 2005-07 Ford OEM in-dash controller, Prodigy and Sentinel controllers	

Note: Carlisle Industrial Brake does not recommend and breakaway kit equipped with a built-in battery meter and LED test lights for use in conjunction with trailers equipped with disc brakes. There is a possibility of the brakes not releasing completely, resulting in damage to the brake system.



HydraStar®HBA Series Electronic Brake Controller Compatibility List



**Applicable Units:
Serial Numbers:**

**HBA-10
>313800**

**HBA-12
>705700**

**HBA-16
>506100**

Manufacturer	Model #	Model	Compatible	Not Compatible
Drawtite	5500	Activator II	✓	
Drawtite	5510	Activator III	✓	
Ford Motor Co.		2005-2007 TowCommand	✓*	
Ford Motor Co.		2008-on TowCommand		✓
General Motors		Integrated Controller		✓
Hayes	81741B	Energize III	✓ ^e	
Hayes	81745	Energize XPC	✓ ^e	
Hayes	81770	Endeavor	✓ ^e	
Hayes	81790	Genesis	✓ ^e	
Redneck	TA900	Redline	✓	
Redneck	TA1100	Redline		✓
Tekonsha	80510	AccuTrac		✓
Tekonsha	80550	Pilot		✓
Tekonsha	90155	Primus	✓	
Tekonsha	90185	Prodigy	✓	
Tekonsha	90195	P3	✓	
Tekonsha	9030A	Voyager	✓	
Tekonsha	9035	Voyager XP	✓	
Tekonsha	9040	Envoy	✓	

* Under laboratory testing it was possible to make the 2005 Ford TowCommand produce error codes with a gain setting of 2 or less, and rapidly cycling the manual brake apply switch for one minute or more. It is important to note that it is inconceivable that this condition would occur during normal vehicle and brake operation.

^e No error indication is provided on the brake controller display in the event that the signal wire from th in-cab brake controller becomes disconnected from the HydraStar unit.

Note: Some controller manufacturers state that their products are intended to be used only with electric brake systems. Using their controllers with the HydraStar may cause the controller warranty to be null and void. The above controllers were tested with the HydraStar and found to be compatible where indicated. Carlisle can only stand behind the controller that we actually sell.

HydraStar® XL Electric - Hydraulic Trailer Brake Actuator

HydraStar® XL uses an on-board microprocessor and accelerometer to sense the amount of braking effort being generated by the tow vehicle. It then adjusts its output and pressure to the brakes, to provide a smooth, safe stop:

- Eliminates drag and pushing problems common to surge brake actuators
- Works in reverse
- Unit installs on trailer with minimal wiring
- No installation required in tow vehicle
- Meets or exceeds D.O.T. regulations for brake actuators
- Visual/Audio warning alerts driver to brake or controller problems
- Meets or exceeds D.O.T. brake actuator regulations



Part #	Description	HydraStar Part #
39415	<ul style="list-style-type: none"> • Works with 1, 2, and 3 axle trailers equipped with hydraulic brakes • 12 volt DC operation • Trailer mounted/self contained • Microprocessor/accelerometer control • In-cab control plugs into the vehicle cigarette lighter. No additional installation required. • Requires a 17 amp hour trailer mounted battery for proper operation (HBA-EBA sold separately) • On-board 3 amp battery charger built into the actuator assembly - automatically keeps the trailer battery fully charged. • Six variable load control setting 	HBAC10-CLR

ElectraStar® - Trailer Mounted Controller for Electric Brakes

Developed for Horse Trailers, Boat Trailers, RVs, Car Haulers, or any trailer with electric brakes.

The Carlisle ElectraStar® uses an on-board microprocessor and accelerometer to sense the amount of braking effort being generated by the tow vehicle. It then adjusts its output to the brakes, to provide a smooth, safe stop.

Because the ElectraStar is mounted on the trailer it requires no wiring or installation modifications to the towing vehicle. The hand held actuator controller plugs into the cigarette lighter and sends signals through existing vehicle wiring to the actuator, providing adjustments to match load and road conditions.

- Weather tight, extruded aluminum enclosure protects the unit in all weather conditions
- Fully compliant with CFR-393 federal braking requirements.
- Works with 1, 2 and 3 axle trailers equipped with electric brake
- 12 volt DC operation
- Trailer mounted/self contained
- Microprocessor/accelerometer control
- In-cab control plugs into the vehicle cigarette lighter. No additional installation required
- Requires a 17 amp hour trailer mounted battery for proper operation (HBA-EBA part #39417 sold separately)
- On-board 3 amp battery charger built into the actuator assembly - automatically keeps the trailer battery fully charged
- Six variable load control settings



Part #	Description	ElectraStar Part #
39416	ElectraStar with Remote Control	EBAC-CLR
39425	ElectraStar without Remote Control	EBAC
39418	Remote Control	CLR
39417	Battery Pack/Breakaway Kit	HBA-EBA

DX Series™ Electro/Hydraulic Actuator



Dexter Electro/Hydraulic Drum brake actuator is compatible with all vehicle electric connectors and works with all in-cab controllers. Electro/Hydraulic brake actuator provides 1000 psi of pressure for 1-3 axles equipped with drum brakes. Brake fluid pressure is proportional to the electronic brake controller signal. Sealed, anodized aluminum housing provides a weather tight seal.

Features:

- Large reservoir capacity reduces the number of fill-ups required which reduces the bleed time as well as the risk of running the reservoir dry during brake bleeding.
- Aluminum enclosure provides anti-corrosive protection and prevents the elements from affecting reliability while the finned housing design dissipates heat efficiently.
- The unit's hydraulic pump is unrestricted by fluid displacement requirements of brakes which allows for use on single, tandem, and triple axle applications regardless of capacity without the risk of starving the brakes for fluid.
- Solid state electronics eliminate mechanical relays and possible damage to the unit if wired incorrectly in addition to improved durability and compatibility with any electric brake controller.
- Proportional pressure output to the brakes corresponds to voltage output of the brake controller for smooth, reliable braking.
- Reliable warranty coverage provides each actuator with an industry leading 2 year warranty.

Product specifications:

- Dimensions: 11.38" long x 6" wide x 7" high
- Requires a four wire hookup and minimum 10 amp/hour break-away kit
- Uses DOT 3 or 4 brake fluid, holds 40 cubic inches (0.7 quarts) of fluid
- Meets all DOT regulations and complies with CFR-393 federal braking requirements
- Eliminates the feeling of being "pushed" by the trailer (reducing the potential of jackknife)
- Eliminates the problems found when backing a trailer uphill with surge brakes
- Eliminates brake drag common with surge brakes on a downhill grade

Part #	Brake Type	PSI	Weight	Dexter Part #
171650	Drum	1000	10.5	K71-650-00
171651	Disc	1600	10.5	K71-651-00

Part #	Description	Dexter Part #
134285	9 amp/hour breakaway battery and charger	034-285-00



Brake Controls



Activator® Electronic Brake Control



Part #	Description
5100	1 & 2 Axle Trailers; Illuminated L.E.D. Output Indicator Slide Adjustment Output Control; 3 Year Limited Warranty.

Activator® II Electronic Brake Control



Part #	Description
5500	1 to 4 Axle Trailers; Digital Output Indicator; Thumb Wheel Output Adjustment Overload Indicator; Limited Lifetime Warranty.

Activator® III Electronic Brake Control



Part #	Description
5520	1 to 4 Axle Trailers; Overload indicator; Digital output indicator; “Up-front” manual over-ride control; Soft touch thumb wheel; “Kwik-Release” port matches Prodigy style wiring adapters; Front display allows viewing at almost any angle; Stylish upgraded appearance; Mounts in any position; No leveling required; Mounting hardware included; Wiring harness is included. Limited Lifetime Warranty.
20127	Universal wiring harness for #5520 brake control



Pod® Brake Control



Part #	Description
80500	<ul style="list-style-type: none"> • 1 - 2 Axle Trailers. • Power-on L.E.D. for a positive tow vehicle-to-trailer connection. • “Up-front” manual override controls. • 5 Year Warranty



Pilot® Brake Control



Part #	Description
80550	<ul style="list-style-type: none"> • 1 - 3 Axle Trailer. • Large easy-to-read dual digital display shows: <ol style="list-style-type: none"> a. Properly wired control b. Voltage output to brakes c. Connection to trailer • Dark smoke lens ideal for direct light applications - performs better than red lens. • Microprocessor allows control to be mounted upside down and still have a readable display. • Protection against short circuit and loss of ground. • Limited Lifetime Warranty

Brake Controls (Continued)**Prodigy® P2 - Proportional Brake Control**

Part #	Description
90885	<ul style="list-style-type: none"> • 1 to 4 Axle Brake Systems • Reverse battery protection for both vehicle and breakaway • Designed to work with electronic over hydraulic brake systems • Numerous mounting options - including 360 degree vertical rotation • Digital display depicts voltage delivery to trailer during braking • No level adjustment necessary - it adjusts itself to varying terrain as you drive • Great for backing into tough spots! Works proportionally in reverse with the ability to disable when not needed • Produces stops that are in proportion to vehicles deceleration rate • "Boost" feature gives users the ability to apply more initial trailer braking power when towing heavier trailers • Continual diagnostics check for proper connection, shorted magnet conditions & much more • Quick and easy disconnect feature allows user to remove & store the control when not in use • Electric trailer brake control for up to 4 braking axles • Limited lifetime warranty

**Primus™ "IQ" - Proportional Brake Control**

Part #	Description
90160	<ul style="list-style-type: none"> • 2 to 6 Axle Brake Systems. • Utilizes Plug-N-Play port for 2-plug adapters • Self-diagnostics features will illuminate LED readout when issues occur • Includes a Boost feature • Works proportionally in reverse • Snap-in dash mounting clip and hardware included • Digital LED readout • Limited lifetime warranty

**Voyager® - Proportional Brake Control**

Part #	Description
9030	<ul style="list-style-type: none"> • 1 to 3 Axle Systems. • The unit is more attractive, easier to install, and makes better use of space. • Recessed controls protect gain and level settings from accidental readjustment. • Ergonomically designed control lever for easy, accurate gain and level settings. • Traditional 4-wire hookup and under-dash U-bracket assure secure & permanent installation. • System is compatible with virtually any 12v, negative ground tow vehicle, foreign or domestic. • Broad control range makes setting quick and easy. • The green L.E.D. display tells you that the unit is on and there is a complete circuit with the trailer brakes. • As braking power is applied, the L.E.D. changes color gradually from green to red, to indicate relative braking power. • The advanced electronics in the Voyager minimizes false braking, to give you a smoother ride, even on the roughest roads. • 5 Year Limited Warranty.



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Brake Controls (Continued)

P3™ Brake Control



Part #	Description
90195	<p>One look at the new P3™ and it's easy to see why it's the best trailer brake control available. For starters, it's easier to see. An easy-to-read LCD display highlights a number of functions with multiple color and contrast options. P3™ is a true proportional braking system that is ideal for use with recreational vehicles, utility, equestrian and agricultural trailers. Designed for ease of use, the P3™ maximizes functionality while promoting the utmost safety. In short, it offers the features you'd expect from a Tekonsha®, the leader in innovative braking systems.</p> <ul style="list-style-type: none"> • Distinct, easy to see LCD display with multiple color and contrast options • User can customize to choose English, French or Spanish display • Allows the user to switch between Electric and Electric Over Hydraulic trailer brakes • Highly advanced, easy-to-understand, roadside diagnostics • Easy access, "Up-Front" controls • Our original "Boost" feature allows for different levels of customized braking • Compact, dash-hugging design • Unique, easy-to-use, clip-mounting system • Quick disconnect for easy storage; convenient storage pouch included • Limited Lifetime Warranty

Prodigy® RF Trailer Mount Brake Control



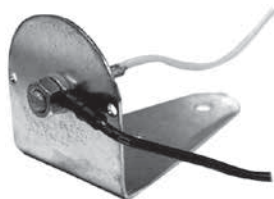
90250



90251

Part #	Description
90250	<p>For 1 to 3 Axle Trailers. Utilize for rental businesses, fleet ownerships or multipletow vehicles. Requires no leveling.</p> <p>Remote Hand Held Unit</p> <ul style="list-style-type: none"> • No under dash wiring necessary - utilizes wireless communication • The original "Boost" feature allows for different levels of customized braking • System runs continual diagnostics and displays fault codes in hand held unit's display • Plugs into standard 12-volt power accessory adapter • 5 year limited warranty <p>Trailer Mount (Power Module) Unit</p> <ul style="list-style-type: none"> • Utilizes standard sealed 8' blade style 7-way connector • Multiple mounting positions on tongue or front of trailer • 15 year limited warranty on power module, • 1 Year Limited Warranty on cord
90251	Replacement Remote Hand Held Unit

Pulse Preventer



Part #	Description
4021	Prevents actuation of electronic brake control by 4-way flasher circuit.

7-Way Trailer Emulator



Part #	Description
6562	7-way Trailer Emulator is used for the proper installation and set-up of a brake control when a trailer is not readily available. Brake control set-up is accomplished using a built-in load module that will simulate electric magnet brakes on a trailer. (The emulator will also check electrical continuity of all circuits in the 7-way blade style connector.)

Brake Control Wiring Harnesses





















1-Plug units are designed for brake controls manufactured with electrical wiring mounted on the back of the unit, otherwise known as a pigtail. Wiring harnesses must be spliced into the existing pigtail to allow the vehicle specific plug to be installed.

2-Plug units are designed for brake controls that have a wiring port built into the back of the unit. Simply plug the brake control end of the wiring harness into the back of the brake control and the vehicle end into the automobile's port.



Part #	Description
20127	Universal wire harness for controllers with 4 pin flat connector for vehicle applications without a prewired electric brake control connector.



 3014	 3016	 3017	 3023
 3024-DT	 3041-DT	 I8260	 I8261
 I8263	 I8264	 I8265	 I8266
 I8267	 I8268	 I8269	 I8270
 I8271	 I8272	 I8273	 I8274

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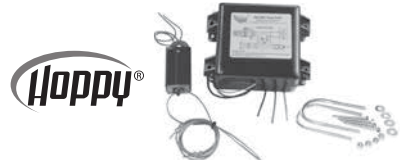
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CARLISLE**TEKONSHA®**

4107



4109

**DEXTER AXLE**

134285

**HOPPY®**

20099



Breakaway System

Breakaway Kits

Part #	Description
39417	<p>Ideal for electric/hydraulic systems requiring a higher amp/hr. battery. The molded box is made of weather and shock resistant glass filled nylon.</p> <ul style="list-style-type: none"> • 12 Volt - 17 amp hour rating Battery. For trailers with 1 to 4 axles. • Breakaway Switch • Trickle Charger included • Battery Case • Mounting Hardware NOT included

Part #	Description
4104	<p>Tekonsha #2026. Includes #2018 Polymer Battery Case with A-Frame or Post Mounting Bracket; #2023 Rechargeable Sealed 12v 5-amp/hr Lead Acid Battery and Terminals; #2010 Nylon Breakaway Switch. For trailers with 1 to 4 axles.</p>

Part #	Description
4106	<p>Tekonsha #2028. Includes #2018 Polymer Battery Case with A-Frame or Post Mounting Bracket; #2023 Rechargeable Sealed 12v 5-amp/hr Lead Acid Battery and Terminals; #2024 DC-to-DC Heavy-Duty Quick/Maintenance (Two Stage) Battery Charger; #2010 Nylon Breakaway Switch. For trailers with 1 to 4 axles.</p>

Part #	Description
4107	<p>Includes #4055 lockable all polymer battery case with flat surface mounting; #4051 Rechargeable Sealed 12v 5-amp/hr Lead Acid Battery and Terminals; #4097 Nylon Breakaway Switch. For trailers with 1 to 4 axles. Mounting Hardware NOT included.</p>
4130	<p>Same as above, but includes Trickle Charger #20011</p>

Part #	Description
4109	<p>Includes lockable polymer battery case with weldable mounting bracket; #4051 Rechargeable Sealed 12v 5-amp/hr Lead Acid Battery, Terminals and Nylon Breakaway Switch. For trailers with 1 to 4 axles. Mounting Hardware NOT included.</p>

Part #	Description
4103	<p>Rustproof, plastic case protects battery and charger. For use on single and tandem axle trailers with electric brakes. (Required in most states.) TAP #20001. Includes Mounting Hardware. 5 amp/hr battery.</p>

Part #	Description
134285	<p>For Dexter electric/hydraulic systems. 9 amp/hour Breakaway Battery Molded Case and Charger. For trailers with 1 to 4 axles.</p>

Breakaway Kit with Battery Meter

Built-in push button battery meter with L.E.D. test lights indicate: Fully charged, re-charge, or charging. Built-in battery charger. 1 to 2 axle capacity; 5 amp hour battery.

Part #	Description
4094	<p>Includes Box, Battery and #4097 Breakaway Switch.</p>
20099	<p>Includes Box, Battery, Charger, Switch and Mounting Hardware.</p>



Breakaway Kits Service Parts

Breakaway Switches



Part #	Description
4099	Tekonsha #2009. All metal parts for long life. Silver contact points remain corrosion-free for positive contact. Brass pull pin for trouble-free, long life.



Part #	Description
4098	Tekonsha #2010. Reinforced nylon case. Weldable metal tab and coated 48" lanyard. Rust and corrosion-free assures long life. Silver contact points remain corrosion-free for positive contact. Nylon pull pin can't freeze up - assures positive actuation.



Part #	Description
4097	Tekonsha #2005. Reinforced nylon case. Nylon pull tab. Weldable metal tab. Rust & Corrosion-free assures long life. For use with one to three axle trailers.

Breakaway Switches and Brake Systems

Many states and provinces require breakaway switches and brake systems which will automatically cause the trailer brakes to apply in the event of an accidental disconnect from the towing vehicle during towing.

The breakaway switch device connected with *electric trailer brakes* consists of (1), a switch mounted in the front end of the trailer and connected to a special or auxiliary battery also mounted on the trailer and (2), a cable (or wire) which extends forward from a pin mounted on the switch to a permanent part of the towing vehicle hitch, other than the ball. Upon separation of the trailer from the towing vehicle, the pin is pulled out of the switch and the electric brakes are automatically applied using the power from the trailer battery.

When using a breakaway switch device with *hydraulic trailer brakes*, the cylinder which is mounted as part of, or near the coupler, normally has a lever with a cable (or wire) which extends forward and is attached to the towing vehicle (but not at the ball). Upon accidental separation of the trailer from the towing vehicle, the cable (or wire) pulls on the lever which actuates the hydraulic brakes on the trailer.

Note: Where a Breakaway Switch and Safety Chain are provided on the same unit, care should be taken to insure that the breakaway switch actuating cable will not operate the switch until complete separation from the towing vehicle has taken place. This would include failure and disengagement of both the hitch and safety chains.

info

Cable and Pin Assemblies



Part #	Description
4087	Tekonsha #2009A. Brass pin with 48" lanyard. Use with #4099 - (Tekonsha #2009) switch.
4086	Tekonsha #2010A. Nylon pin with 48" lanyard. Use with #4098 - (Tekonsha #2010) switch.
4085	Tekonsha #2005-A, Bargman #50-85-002. Nylon pin with 48" lanyard. Use with #4097- (Tekonsha #2005) switch & (Bargman #50-85-007) switch.

Part #	Description
4088	TAP #20012. Nylon pin with cable. Use with Hoppy/TAP switch.

TAP

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Breakaway Kits Service Parts (Continued)

Battery Cases

Part #	Description
4053	Tekonsha #2018. Quick, easy one-bolt installation on Jack Post or A-frame - no need for cutting or drilling. U-shaped clamp style fastener mounts over most trailer tongues. Rust-proof heavy-duty polymer case protects battery and charger from elements and corrosion.

Part #	Description
4052	TAP #20006. Rustproof and plastic battery case.

Part #	Description
4055	Quick, easy four-bolt installation on any flat surface. For use with self tapping screws or similar fasteners. Lockable heavy-duty rust-proof polymer case protects battery and charger from elements and corrosion.

Part #	Description
20000	Quick, easy two-bolt or weldable installation on any flat surface. Rust-proof heavy-duty polymer case protects battery and charger from elements and corrosion. Galvanized metal mounting bracket and locking bar provide secure battery protection.
4057	Bolt-on, lockable battery case with built-in button test light and charging. Mounting hardware NOT included.

12 Volt, Sealed Rechargeable Battery

Part #	Description
4051	Tekonsha #2023. 12v, 5-amp/hour sealed lead acid battery for use with Shur Set III™ Breakaway Systems on single, tandem and tri-axle* trailers equipped with electric brakes. (*Tri-Axle trailers require 5-amp/hour battery.) Battery requires periodic recharging to maintain optimum performance.

Battery Chargers

Part #	Description
20011	Charges breakaway brake system 12-volt battery while electrical/light/brake system is plugged into tow vehicle.

Part #	Description
4054	Tekonsha #2024. Designed to fit securely into the Shur Set III™ Breakaway Battery Cases. Patented temperature compensated design provides continuous recharge for all 12v battery systems with 4-amp (minimum) output. Provides maintenance-free assurance that breakaway batteries are always fully charged. Automatic shut-off feature will not permit battery to overcharge. Effective for batteries down to 1 volt remaining charge.

Part #	Description
4056	Tekonsha #1024. A battery charging device designed to return partially depleted trailer breakaway system batteries (12v with 4-amp minimum output) to their maximum potential. Not effective for batteries with less than 7 volts remaining charge.

