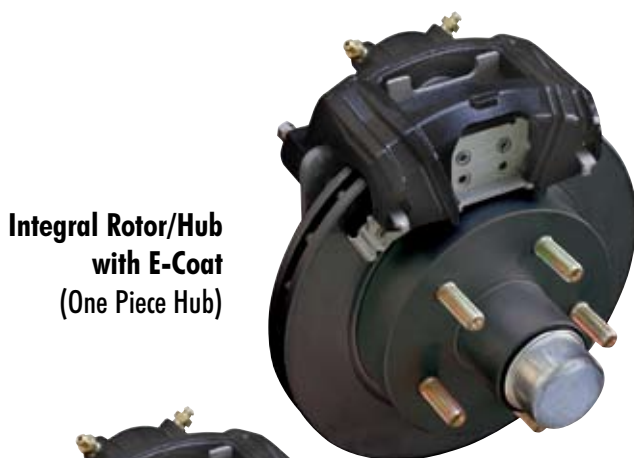


## Serious Brakes for Serious Towing! Eliminator Disc Brakes with Vented Rotor and Aluminum Caliper



**Integral Rotor/Hub  
with GalvX Coating  
(One Piece Hub)**



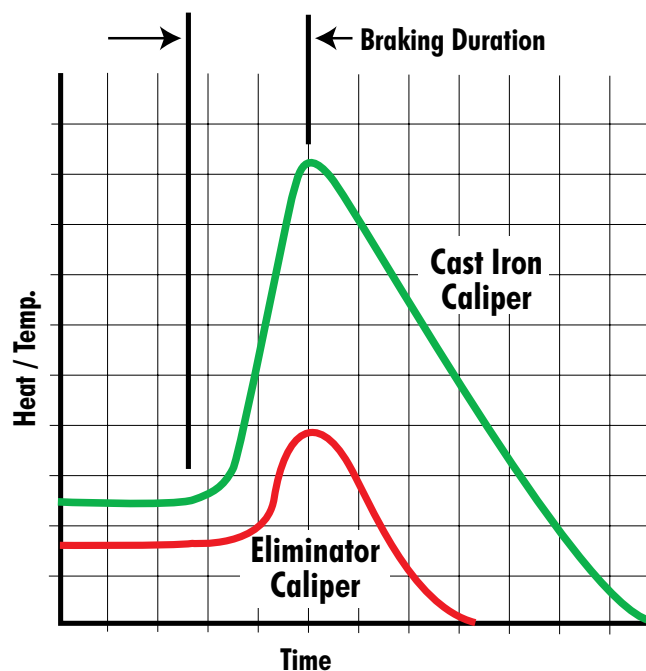
**Integral Rotor/Hub  
with E-Coat  
(One Piece Hub)**



**Cap Style Rotor  
with E-Coat  
(Hub Not Included)**

### CALIPER DESIGN FEATURES

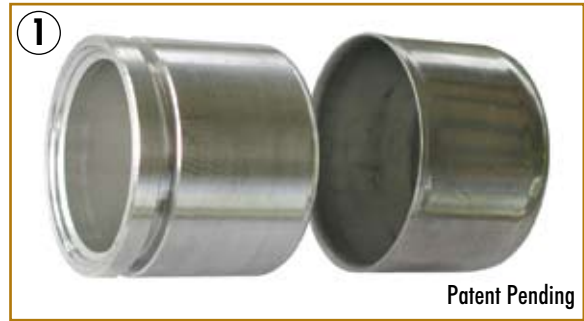
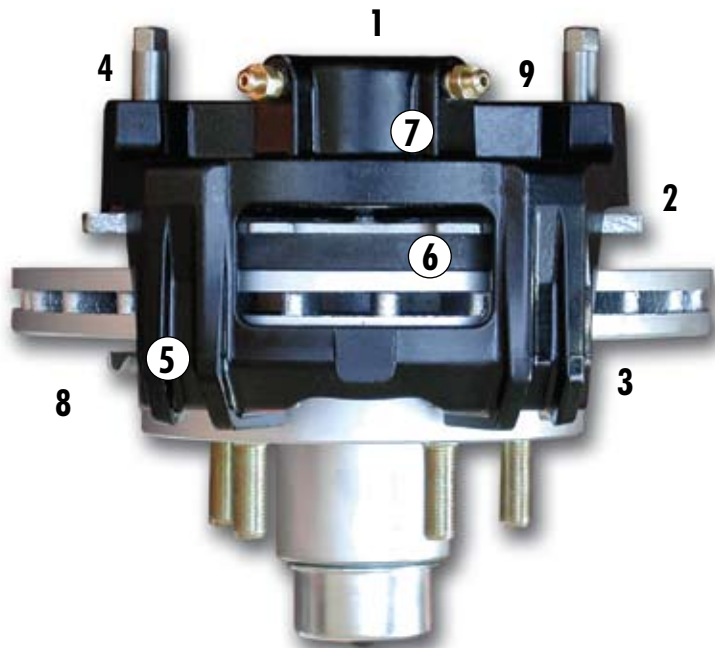
- E-Coat finish protects the caliper from salt crystallization.
- Stainless Steel caliper slide pins are easily accessible with 7/16" hex heads for quick removal
- GalvX coated brake pad backing plates further reduce areas susceptible to corrosion
- All aluminum caliper, 380 series alloy, sheds heat five times faster than traditional cast iron calipers
- Compact design allows short axle overhangs and provides direct brake line routing back to the axle
- Oil impregnated bronze bushings last longer and slide smoother
- Oversize rubber boot is 50% thicker by design and provides a more positive piston withdrawal
- Replacement brake pads available at most auto parts stores (use NAPA #TS-7192-M (for 1990 Chevrolet Cavalier) or: IBN #289 and MXD289)



"Whenever possible, the tendency is to use an aluminum alloy in order to reduce weight. These alloys are much lighter and are also much better heat conductors: 220W/m.°K for aluminum compared to 44 W/m.°K for cast iron", That's five times faster!

\*Haynes Automotive Disc Brake Manual

# Eliminator Vented Disc Brake Features



## Bi-metal Piston

Bi-metal piston combines a stainless steel outer jacket with an aluminum inner sleeve to shed braking heat 5 times faster than one piece stainless pistons. The stainless steel outer jacket is specifically designed for boat trailer use.



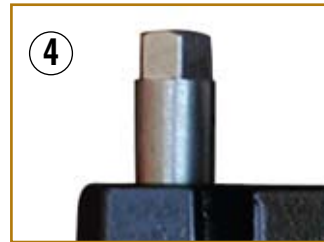
## Slim Design

Slim caliper design allows for short axle overhangs and also aids in faster cooling times.



## Vented Ribs

Vented design with ribs allow heat to escape and keep brake heat to an acceptable level.



## Stainless Steel Slider Pins

Stainless provides a corrosion resistant surface for smoother brake operation, the 7/16" hex head end makes for fast removal and easy servicing.



## Compact Design and Vented Ribs

Compact caliper design allows for short axle overhangs and also aids in faster cooling. Vented design with ribs allow air to ventilate and keep brake heat to an acceptable level.



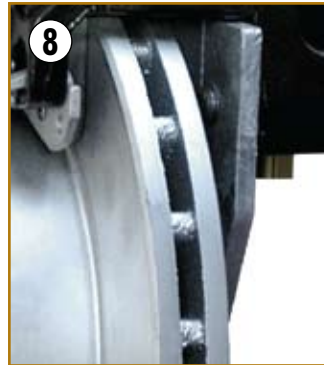
## Brake Pads with GalvX

Automotive quality brake pads have backing plates coated with GalvX. This will further reduce areas susceptible to corrosion.



## Oversized Rubber Boot

Rubber boot is 50% thicker by design and provides for positive and faster piston withdrawal.



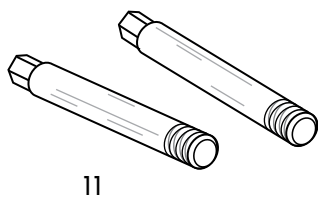
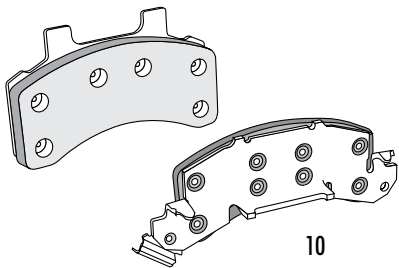
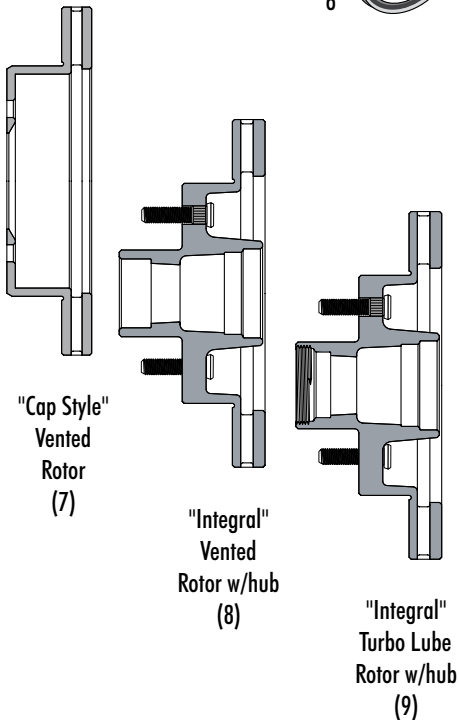
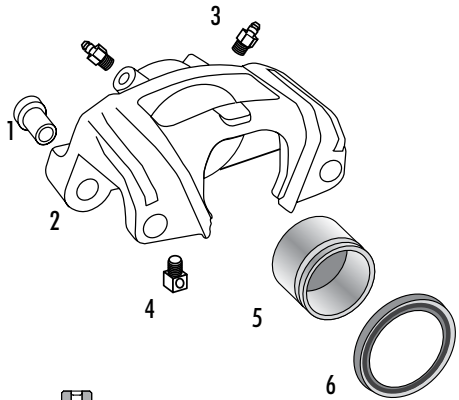
## Vented Disc Brake Rotor

Eliminator rotors are vented to provide faster cooling and are available in E-Coat & GalvX.

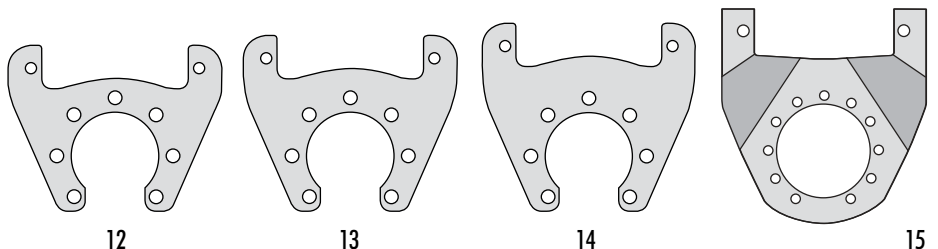


## Bronze Bushing

Oil impregnated bronze bushings last longer and slide smoother.



Item	Part #	Description
1	10010	Bronze Bushing
2	46304	Aluminum disc brake caliper for vented rotor - housing only
	46304A	Aluminum disc brake caliper for vented rotor, includes: 1,3,4,5,6, & 10
3	11246	Brass bleeder valves
4	11242	Inverted flare inlet elbow brake line fitting
5	42080A	Caliper piston, stainless steel/aluminum
6	17472	Rubber boot, caliper
7	46246P	10" Cap style vented rotor, 5 hole, E-Coat finish
7	46246X	10" Cap style vented rotor, 5 hole, GalvX finish
7	46247P	12" Cap style vented rotor, 6 hole, E-Coat finish
7	46247X	12" Cap style vented rotor, 6 hole, GalvX finish
8	46430P	9.6" Integral vented rotor to fit 13" wheels, E-Coat finish
8	46430X	9.6" Integral vented rotor to fit 13" wheels, GalvX finish
9	46454P	9.6" Integral vented rotor to fit 13" wheels, with Turbo Lube, E-Coat finish
9	46454X	9.6" Integral vented rotor to fit 13" wheels, with Turbo Lube, GalvX finish
8	46245P	10" Integral hub and vented rotor, 5 stud, E-Coat finish
8	46245X	10" Integral hub and vented rotor, 5 stud, GalvX finish
9	46244P	10" Integral hub vented rotor with Turbo Lube, E-Coat finish
9	46244X	10" Integral hub vented rotor with Turbo Lube, GalvX finish
8	46264P	12" Integral hub and vented rotor, 6 stud, E-Coat finish
8	46264X	12" Integral hub and vented rotor, 6 stud, GalvX finish
9	46455P	12" Integral hub vented rotor with Turbo Lube, E-Coat finish
9	46455X	12" Integral hub vented rotor with Turbo Lube, GalvX finish
10	11274 "inside" 11275 "outside"	Brake pads, or use NAPA #TS-7192-M (for 1990 Chevrolet Cavalier) OR: IBN #289 and MXD289
11	12114	7/16" Hex head slider pins, stainless steel (2 required)
12	44676G	Mounting bracket for 46430, Integral Rotor for 13" wheels, Galvanized finish
13	44479G	Mounting bracket for 46245 - 10" Integral Rotor, Galvanized finish
14	44480G	Mounting bracket for 46246 - 10" Cap Style Rotor, Galvanized finish
15	44478X	Mounting bracket for 12" Cap or Integral Style Rotor, GalvX finish
These items are available at your local hardware store		Bolts for 10" mounting plate (4) 7/16" x 1-1/4" Grade 5 or better
		Nuts for 10" mounting plate (4) 7/16" nylock nut
		Bolts for 12" mounting plate (5) 3/8" x 1.5" Grade 5
		Nuts for 12" mounting plate (5) 3/8" nylock nut
		Bolts for 12" mounting plate for use with Eliminator 6000# Torsion Axles, tapped for 3/8"-24NF x 3/4"L Bolts Grade 5 or better (5), nuts not required



## Eliminator Vented Disc Brake Kits

Available with E-Coat or GalvX coated rotors: Integral or Cap Style.  
Calipers are 380 marine grade aluminum with a black E-Coat finish.  
**Kits are one side only.**

Kits Include:

- Aluminum Caliper Assembly
- Vented Rotor
- Stainless Steel Slide Pins installed on GalvX Mounting Brackets.

Shipping Information:

Size	Pallet Qty	Weight
9.6" & 10"	60	1800#
12"	40	1780#

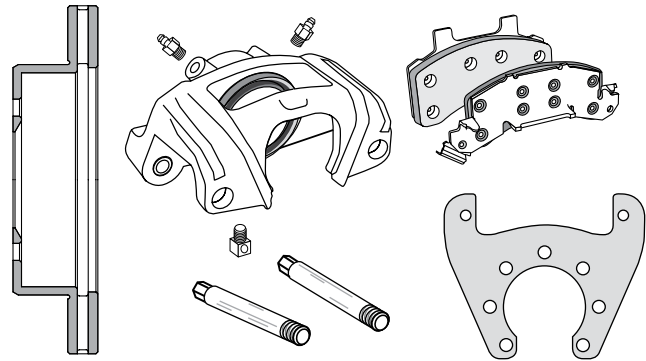


Shown complete with bearings/cups/seal and dust cap

## Cap Style Vented Disc Brake Kits

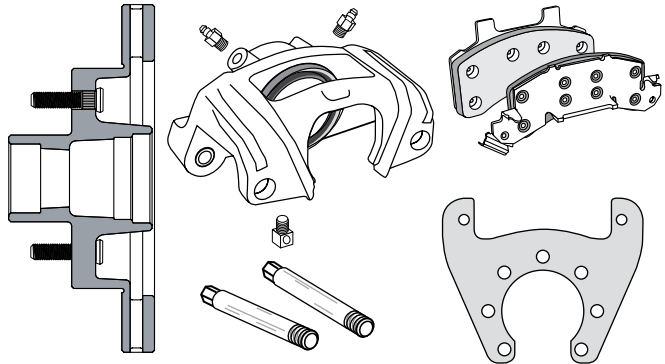
Part #	Description
46259	1750# - 5 Lug Cap Style 10", E-Coat Rotor
46261	1750# - 5 Lug Cap Style 10", GalvX Rotor
46263	3000# - 6 Lug Cap Style 12", E-Coat Rotor
46262	3000# - 6 Lug Cap Style 12", GalvX Rotor

Notes:  
Cap Style rotors require idler hub, not included.  
Cap Style Vented Disc Brakes add .375" (3/8") to axle idler hub face.



## Integral Style Vented Disc Brake Kits

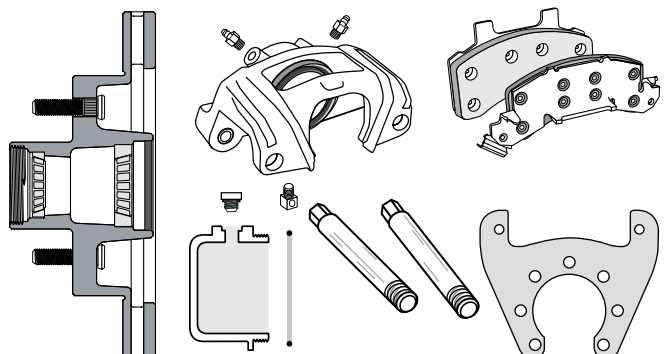
Part #	Description
46500	1750# - 5 Lug Integral Style 9.6", E-Coat Rotor
46501	1750# - 5 Lug Integral Style 9.6", GalvX Rotor
46258	1750# - 5 Lug Integral Style 10", E-Coat Rotor
46260	1750# - 5 Lug Integral Style 10", GalvX Rotor
46451	3000# - 6 Lug Integral Style 12", E-Coat Rotor
46452	3000# - 6 Lug Integral Style 12", GalvX Rotor



## Integral Style Vented Disc Brake With Turbo Lube Kits

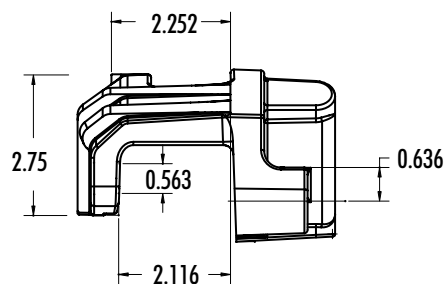
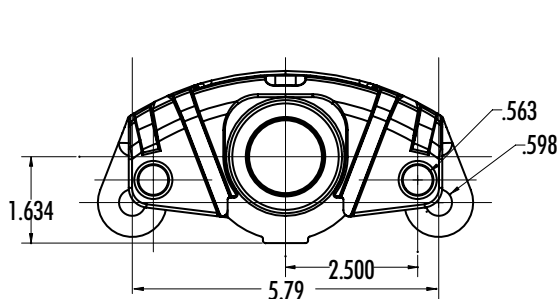
Kit includes seal, bearings and Turbo Lube cap

Part #	Description
46500TL	1750# - 5 Lug Integral Turbo Lube 9.6", E-Coat Rotor
46501TL	1750# - 5 Lug Integral Turbo Lube 9.6", GalvX Rotor
46258TL	1750# - 5 Lug Integral Turbo Lube 10", E-Coat Rotor
46260TL	1750# - 5 Lug Integral Turbo Lube 10", GalvX Rotor
46451TL	3000# - 6 Lug Integral Turbo Lube 12", E-Coat Rotor
46452TL	3000# - 6 Lug Integral Turbo Lube 12", GalvX Rotor

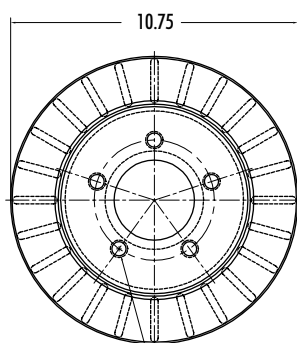
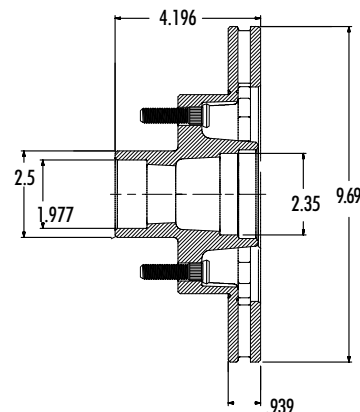
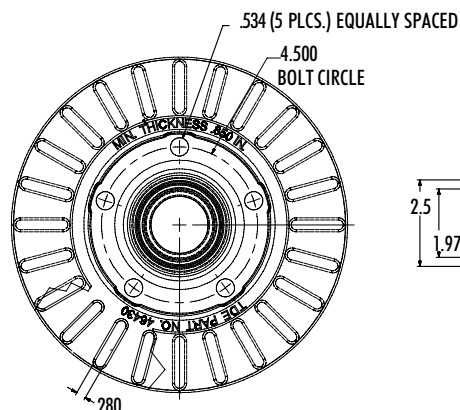




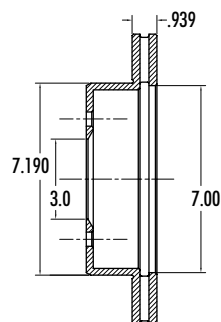
Aluminum Caliper  
Part #46304



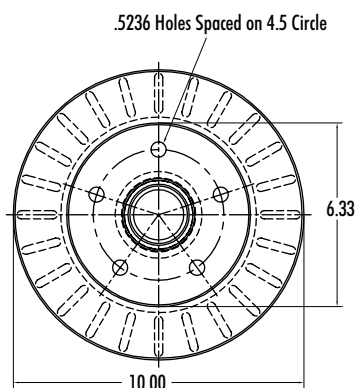
9.6" Integral Style Rotor/Hub  
for 13" Wheels  
Part #46430



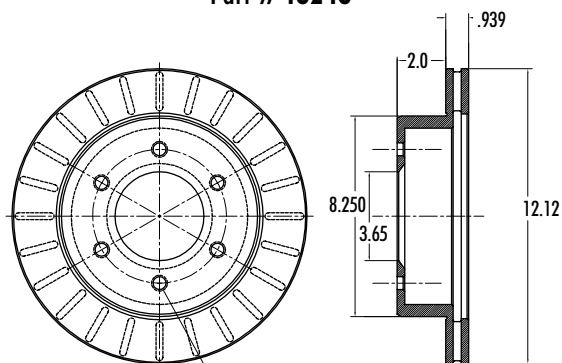
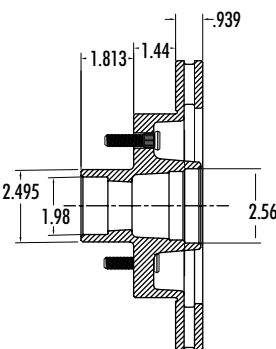
17/32 Holes Spaced on 4.5 Circle



10" Cap Style Rotor  
Part #46246

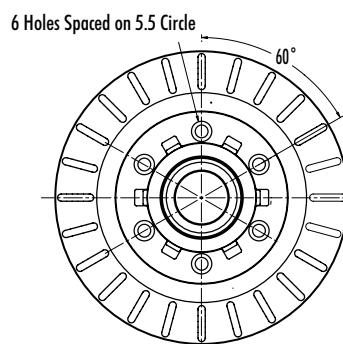


10" Integral Style Rotor/Hub  
Part #46245

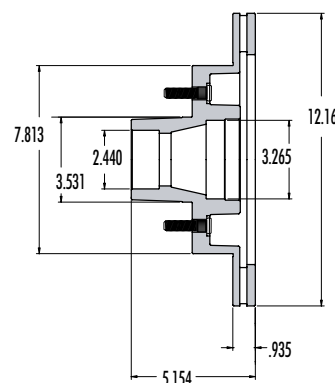


6 - 17/32 Holes Spaced on 5.5 Circle

12" Cap Style Rotor  
Part #46247



12" Integral Style Rotor/Hub  
Part #46264



## "G4" Stainless Steel Disc Brakes

**Floating Pads with metal backing plate:** Allows for better alignment of pads to rotor even if caliper is out of position.

**Lock-tite on all bolts and screws:** Keeps all bolts and screws in place but will release for pad and caliper replacement.

**E- Coated Grade 413 aluminum caliper housing:** Grade 413 aluminum contains more magnesium and less copper providing a harder and more corrosion resistant compound. E-Coated for added corrosion protection.

**Semi-metallic pads:** Improved wear over organic pads.

**Pressure equalizing port:** Port connects the two piston chambers in order to maintain equal pressure and allow brakes to "bleed" properly for improved operation.

**Sliding caliper pins with oil impregnated bronze bushing:** Allows caliper to float more freely and ensures proper alignment during installation.

**Four point mounting bracket:** Resists bending in the event the trailer is backed up without reverse solenoid engaged. Mounting surfaces are machined to insure proper alignment of the caliper housing to the rotor. Sliding caliper pins are installed on the mounting bracket at our factory to insure proper pin alignment.

**Vented caliper housing:** Improves heat dissipation and decreases pad wear.

**One piece brass bleeder valves:** Resists corrosion and allows for easier bleeding of the brake system.

**Rubber booted piston covers:** Eliminates the possibility of foreign contamination of the piston housing, ensuring trouble free performance in harsh salt water conditions.

**Square O-rings with slant edge:** Helps retract pistons away from the rotor when fluid pressure is released. Provides better protection from contamination of brake fluid.

**Fits most 13" wheels and larger**



### Technical Information for G4 Disc Brakes:

Rotor Material:	304 Stainless Steel
Rotor Thickness:	1/4 inch
Caliper Material:	413 Aluminum w/E-Coat
Pistons:	360 Free Machining Brass
Brake Pads Type:	GG Semi Metallic
Slider Pins:	Stainless Steel
Mounting Bracket:	Hot Dip Galvanized

### 3500# Axle - 5 Lug Hub, Part #46231

For: Most 13", 14" or 15" Wheels, Replaces 10" Drum Brakes

Rotor Diameter:	9.2"
Hub Capacity:	1750#
Hub Bearing Size:	1-1/16" & 1-3/8"
Hub Finish:	GalvX
Hub Bolt Pattern:	5 @ 4.5"

### 6000# Axle - 6 Lug Hub, Part #46232

For: 14" or 15" Wheels, Replaces 12" Drum Brakes

Rotor Diameter:	10-3/8"
Hub Capacity:	3000#
Hub Bearing Size:	1-1/4" & 1-3/4"
Hub Finish:	GalvX
Hub Bolt Pattern:	6 @ 5.5"



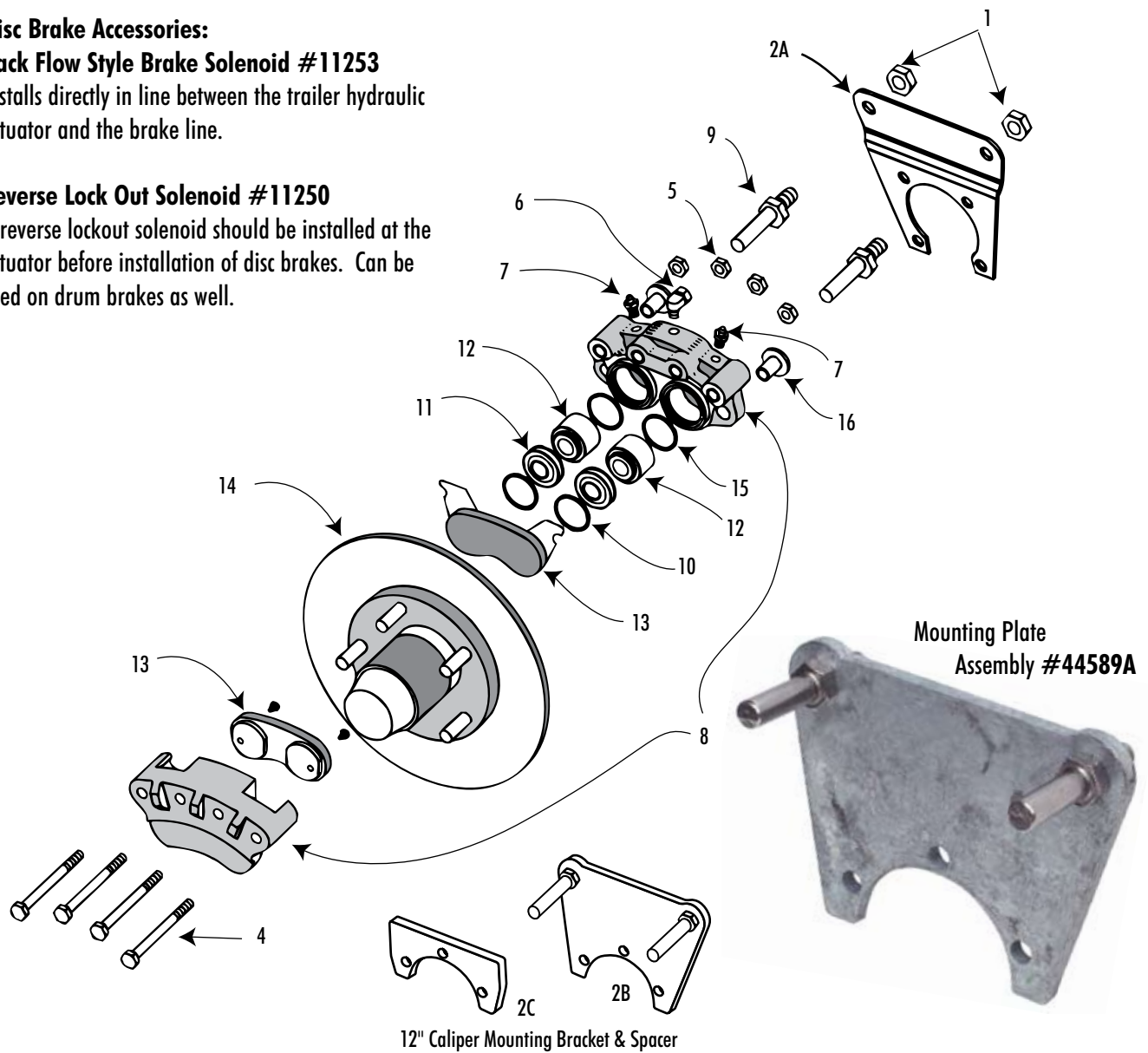
## Disc Brake Accessories:

### Back Flow Style Brake Solenoid #11253

Installs directly in line between the trailer hydraulic actuator and the brake line.

### Reverse Lock Out Solenoid #11250

A reverse lockout solenoid should be installed at the actuator before installation of disc brakes. Can be used on drum brakes as well.



Item	Part #	Description	Quantity
1*	•	Flange Nuts, 1/2", SS	
2A	44582A	Caliper Mounting Bracket, 10"(with pins)	1
2B	44589A	Caliper Mounting Bracket, 12"(with pins)	1
2C	44588	Caliper Mounting Shim Bracket, 12"	1
4*	•	Bolts, 3/8" x 3-1/4", SS	
5*	•	Hex Nuts, 3/8", SS	
6	11242	Inverted flare inlet elbow	1
7	11246	Brass Bleeder Valve	2
8	46243	Caliper Assembly with pads	1
9	12110	Caliper Mounting Bolts, 1/2", SS	2
10*	•	Piston Boot Retaining Ring	
11*	•	Rubber Boot	

Item	Part #	Description	Quantity
12*	•	Pistons	
13	81100	Brake Pad Set, 4 each, carded, for two wheels	1
14	46227-1X	Hub & SS Rotor Assembly, w/bearings, 10"	1
14	46228-1	Hub & SS Rotor Assembly, w/bearings, 12"	1
15*	•	Piston Seal	
16*	•	Bronze Bushing	

\* Due to the exacting process of assembly of the dual piston caliper for the stainless steel disc brakes, Tie Down Engineering sells the caliper completely assembled with pads. We do not sell the individual components for rebuilding.





**Absolutely, Positively the MOST  
Corrosion Resistant Drum Brake  
PERIOD!**

The GalvX system is composed of a dry chromium inorganic polymer which bonds metallic zinc flakes to the metal surface.

**Salt Water Spray Test (552 Hours) Actual Test Results**



**Before**



**After**

**Other test results:**



**Painted**

**E-Coat**



**Zinc Plate**



**Hot Dip Galvanized**





## Hydraulic Drum Brakes

### 10" and 12" Hydraulic Drum Brake Features:

- Aluminum Wheel Cylinder
- Available in E-Coat, or GalvX coating
- Stainless Steel Springs
- Brake Pads are Bonded & Riveted With Bronze Rivets to Backing Plate
- GalvX Coating Offers Superior Saltwater Performance Over Standard Drum Brakes
- Available in 10" or 12" Sizes
- Free Backing or Uni-Servo
- 10" (3,500#) and 12" (5,200#)



**GalvX  
Drum Brakes**



**E-Coated  
Drum Brakes**

### Uni-Servo Drum Brakes

Part #	Description	Position	Finish
11287	7" Uni-Servo	Left Hand	E-Coat
11288	7" Uni-Servo	Right Hand	E-Coat
11216	10" Uni-Servo	Left Hand	E-Coat
11217	10" Uni-Servo	Right Hand	E-Coat
11212	10" Uni-Servo	Left Hand	GalvX/E-Coat
11213	10" Uni-Servo	Right Hand	GalvX/E-Coat
11222	12" Uni Servo	Left Hand	E-Coat
11223	12" Uni-Servo	Right Hand	E-Coat

### Free Backing Drum Brakes

Part #	Description	Position	Finish
11012	10" Free Backing	Left Hand	E-Coat
11013	10" Free Backing	Right Hand	E-Coat
11003	10" Free Backing	Left Hand	GalvX
11004	10" Free Backing	Right Hand	GalvX
11016	12" Free Backing	Left Hand	E-Coat
11017	12" Free Backing	Right Hand	E-Coat
11018	12" Free Backing	Left Hand	GalvX
11019	12" Free Backing	Right Hand	GalvX

## Electric Drum Brakes

- Water resistant connections
- Rubber molded plugs
- Braking in forward and reverse
- Quick connect electrical for fast and easy installation



Part #	Description	Position	Finish
11207	7" Electric	Left Hand	E-Coat
11208	7" Electric	Right Hand	E-Coat
11214	10" Electric	Left Hand	E-Coat
11215	10" Electric	Right Hand	E-Coat
11283	12" Electric	Left Hand	E-Coat
11284	12" Electric	Right Hand	E-Coat

## Drum Brake Hubs



Part #	Description	Finish
46230	10", 5 stud for Hydraulic Brakes	Painted
46230P	10", 5 stud for Hydraulic Brakes	E-Coat
46230Y	10", 5 stud for Hydraulic Brakes	Yellow Zinc
46230E	10", 5 stud, for Electric Brakes	Painted
46230EP	10", 5 stud, for Electric Brakes	E-Coat
46230TL	10", 5 stud, for Turbo Lube	Painted
46230TLP	10", 5 stud, for Turbo Lube	E-Coat
46236	12", 6 stud for Hydraulic Brakes	Painted
46236Y	12", 6 stud for Hydraulic Brakes	Yellow Zinc

# Drum Brake Replacement Parts

## Drum Brake Replacement Parts/Kits

### Drum Wheel Cylinder Kit for 10" & 12" Brakes

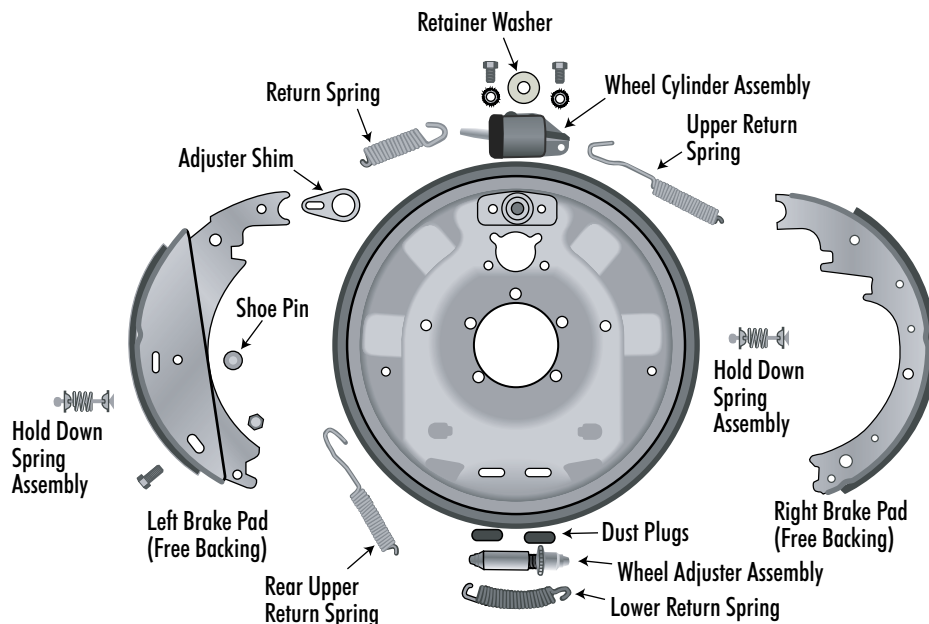
includes; LH & RH Wheel Cylinder and mounting screws  
Part #80994

### Drum Replacement Parts Kit for 10" Brakes, (Freebacking & Uni-Servo)

includes all parts shown, excluding pads, back plate and wheel cylinder  
Part #81096

### Drum Replacement Parts Kit for 12" Brake, (Freebacking & Uni-Servo)

includes all parts shown, excluding pads, back plate and wheel cylinder  
Part #81095



### Brake Pad Replacement Kits

Kits include brake pad sets for left and right side brakes

7" Freebacking Shoe (lining) Kit

10" Freebacking Shoe (lining) Kit

12" Freebacking Shoe (lining) Kit

10" Uni-Servo/Electric Shoe (lining) Kit

12" Uni-Servo/Electric Shoe (lining) Kit

Part #81113

Part #81108

Part #81109

Part #80995

Part #80996

## Electric Drum Brake Replacement Parts/Kits

### Drum Replacement Parts Kit

for 10" brakes

Part #82081

### Magnet/Spring Assembly

for 10" & 12" brakes

Part #82082

### Drum Replacement Parts Kit

for 12" brakes

Part #82083

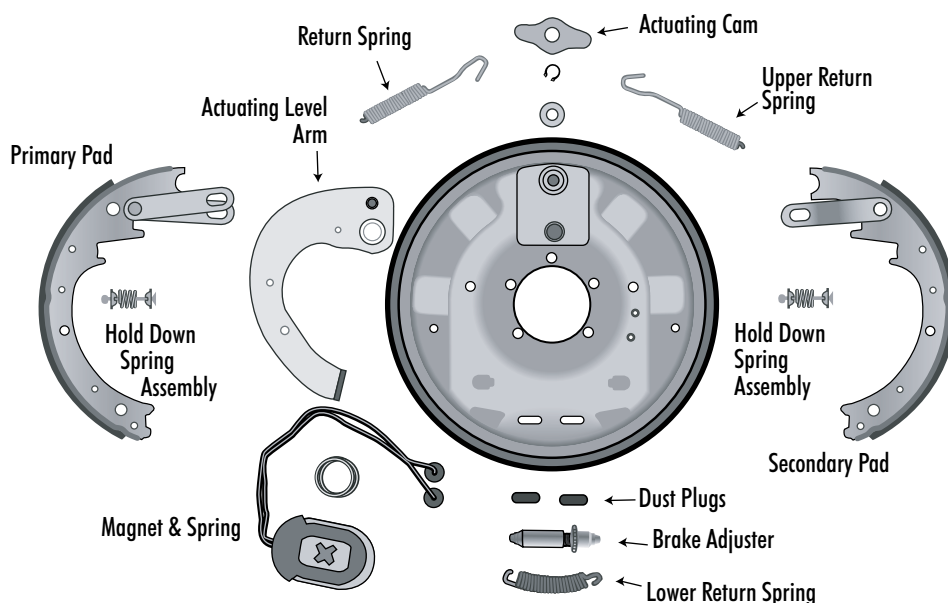
### Pad Replacement Kits

10" Uni-Servo/Electric Shoe (lining) Kit

Part #80995

12" Uni-Servo/Electric Shoe (lining) Kit

Part #80996



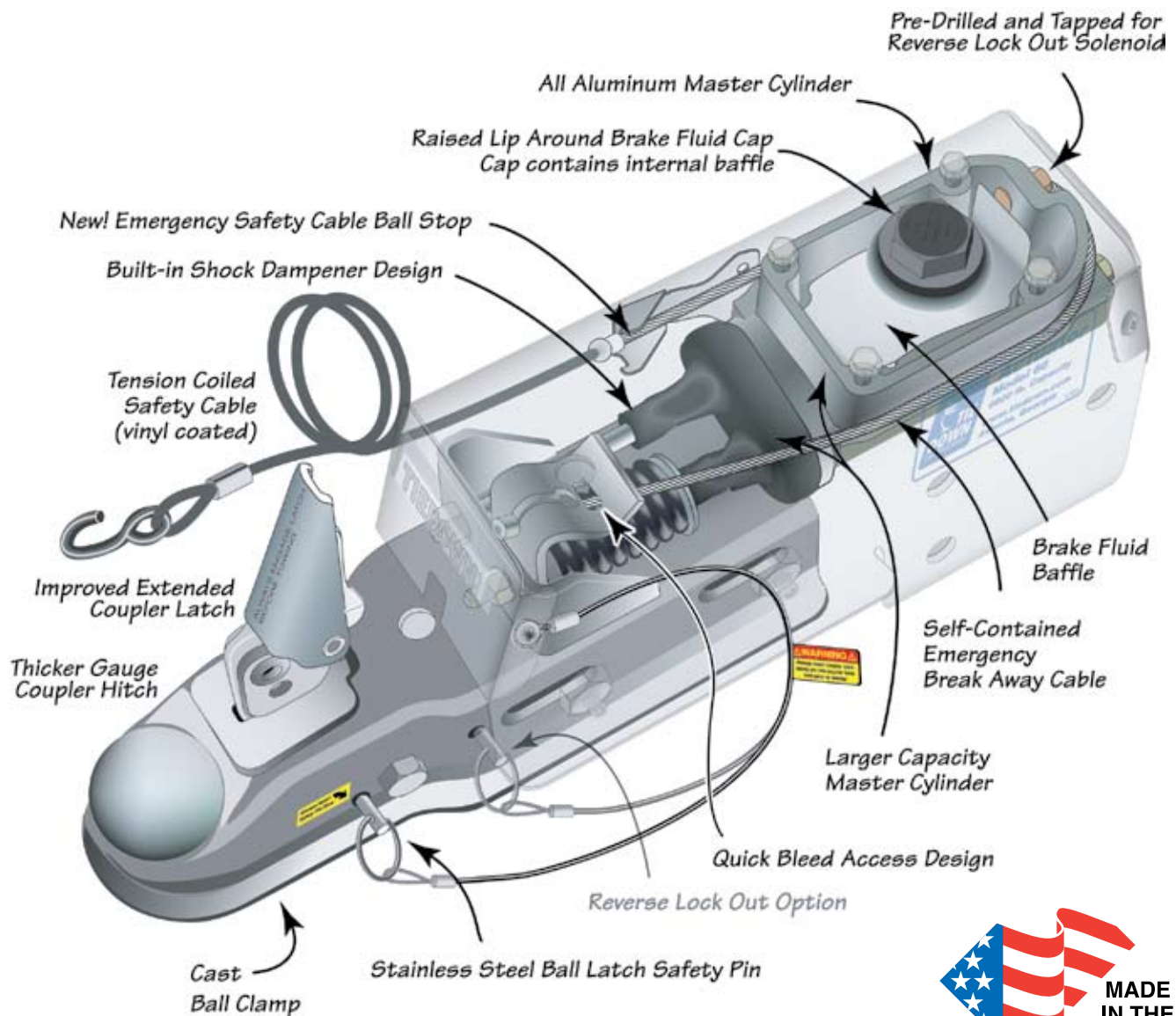
# Brake Actuators

## For Trailers Equipped with Disc or Drum Brakes

Tie Down's actuators represent over four years of product development and months of continuous testing. The ten product features are the result of numerous suggestions brought forth by trailer manufacturers and trailer users that wanted improvements in hydraulic brake actuation. The patented all aluminum master cylinder incorporates the shock absorber into the master cylinder assembly. This exclusive product feature was designed into our master cylinder in order to provide the tow vehicle operator with an early warning signal when the brake fluid is at a low level. Our oversized master cylinder provides the pressures required to run disc brakes and the added brake fluid volume to run multi axle configurations. The Model 66 capacity actuator provides trailer manufacturers with greater towing capacity (6,600 lbs.) than traditional 6000 lb.. capacity actuators. The coupler is manufactured from a heavier gauge steel when compared to other actuator manufacturers.

Capacities from 6,600 lbs. to 12,500 lbs.

Tie Down Engineering has your actuator needs covered.



**TIE DOWN ENGINEERING**

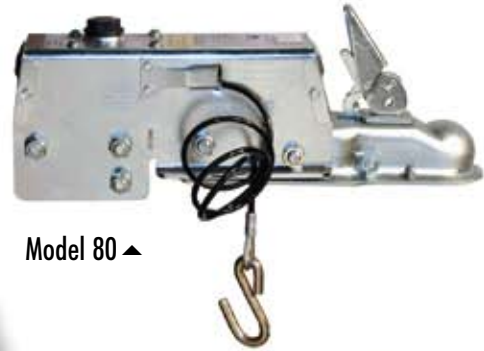
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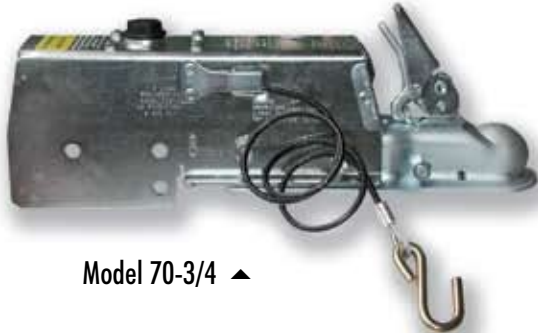


◀ Model 66

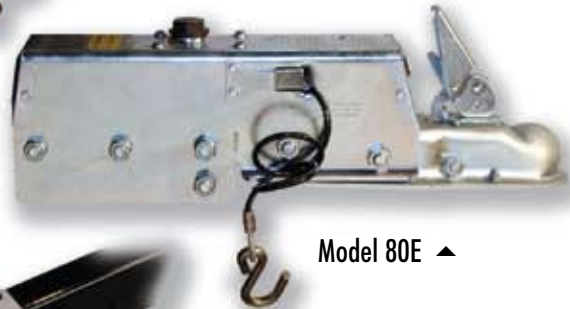


Model 80 ▶

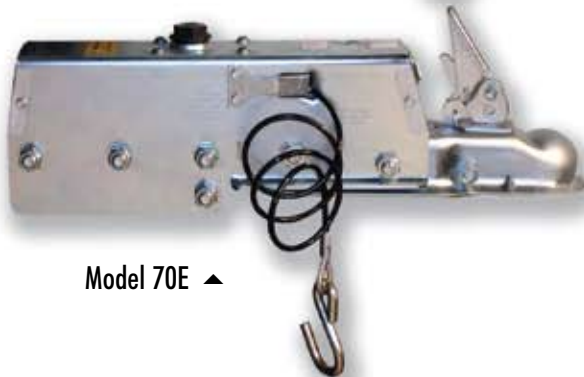
Model 70 ▶



Model 70-3/4 ▶



Model 80E ▶



Model 70E ▶



◀ Model 70S



Model 70LP ▶



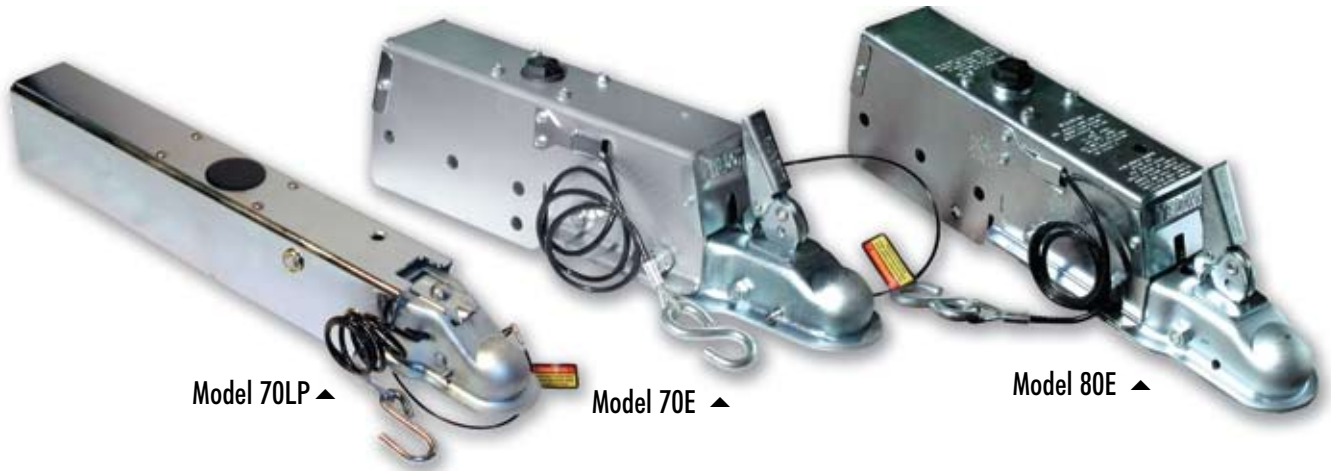
Model 70PC ▶



Model 125 ▶



Model 70P ▶



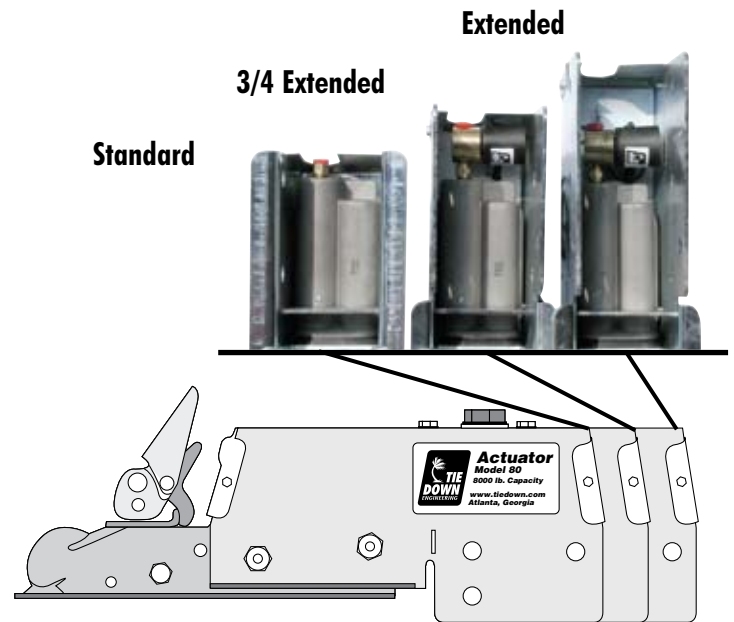
Model 70LP ▲

Model 70E ▲

Model 80E ▲

## Standard Actuator Features:

- Cast ball clamp and extended latch lever
- Visual exterior emergency safety cable lock and release
- Heavy duty vinyl coated coiled emergency stop cable
- Safety ball clamp lock pin with reverse lock out feature
- 7000# and 8000# capacity housings available with optional extended housing
- Available built-in back flow solenoid on extended & 3/4 housing models
- Raised filler cap keeps debris out when adding fluid
- Dual rollers with zerk grease fittings have full contact for smoother operation
- Corrosion resistant zinc plate finish
- Aluminum master cylinder



Standard Actuator Models:				
Part #	Model	Capacity	Brake Type	Actuator Options/Style
47210	66	6,600 lbs.	Drum	Standard Housing
47211	66	6,600 lbs.	Disc	Standard Housing
47202	70	7,000 lbs.	Drum	Standard Housing
47204	70	7,000 lbs.	Disc	Standard Housing
47213	70-3/4	7,000 lbs.	Disc	3/4 Extended Housing w/Solenoid
47203	70E	7,000 lbs.	Drum	Extended Housing w/Solenoid
47205	70E	7,000 lbs.	Disc	Extended Housing w/Solenoid
47206	80	8,000 lbs.	Drum	Standard Housing
47208	80	8,000 lbs.	Disc	Standard Housing
47214	80-3/4	8,000 lbs.	Disc	3/4 Extended Housing w/Solenoid
47207	80E	8,000 lbs.	Drum	Extended Housing w/Solenoid
47209	80E	8,000 lbs.	Disc	Extended Housing w/Solenoid
48780D (W)	125	12,500 lbs.	Drum	Standard Housing (Weld on w/o holes)
48780B (W)	125	12,500 lbs.	Disc	Standard Housing (Weld on w/o holes)
48780C (W)	125	12,500 lbs.	Disc	Standard w/Solenoid (Weld on w/o holes)

NOTE: Check valve has been removed on "Disc" Brake Ready Actuators.

# Low Profile, Swing and Pivot Actuators

## Low Profile Actuators

### Low Profile Actuator Features:

- Inline design for a sleek appearance
- Visual exterior emergency safety cable lock and release
- Heavy duty vinyl coated coiled emergency stop cable
- Safety ball clamp lock pin with reverse lock out feature
- Raised filler cap keeps debris out when adding fluid
- Aluminum master cylinder
- Available with optional back flow solenoid
- Dual rollers with zerk grease fittings have full contact for smoother operation
- Zinc plate or "raw" finish for painting



Model 70LP ▲

### Low Profile Actuator Models:

Part #	Model	Capacity	Brake Type	Actuator Options/Style
47225	70 LP	7,000 lbs.	Drum	Standard Housing
47227	70 LP	7,000 lbs.	Disc	Standard Housing
47226	70 LP	7,000 lbs.	Drum	w/Solenoid
47228	70 LP	7,000 lbs.	Disc	w/Solenoid

## Pivot/Swing Tongue Actuators



Model 70P ▲



Model 70PC ▲



Model 70S ▲

### Pivot and Swing Tongue Actuator Features:

- Inline design for a sleek appearance
- Visual exterior emergency safety cable lock and release
- Heavy duty vinyl coated coiled emergency stop cable
- Safety ball clamp lock pin with reverse lock out feature
- Raised filler cap keeps debris out when adding fluid
- Dual rollers with zerk grease fittings have full contact for smoother operation
- Aluminum master cylinder
- Available with optional back flow solenoid
- Zinc plate or "raw" finish for painting
- Interchangeable pivot pin and hinge bolt to set pivot direction to right or left on "pivot models"

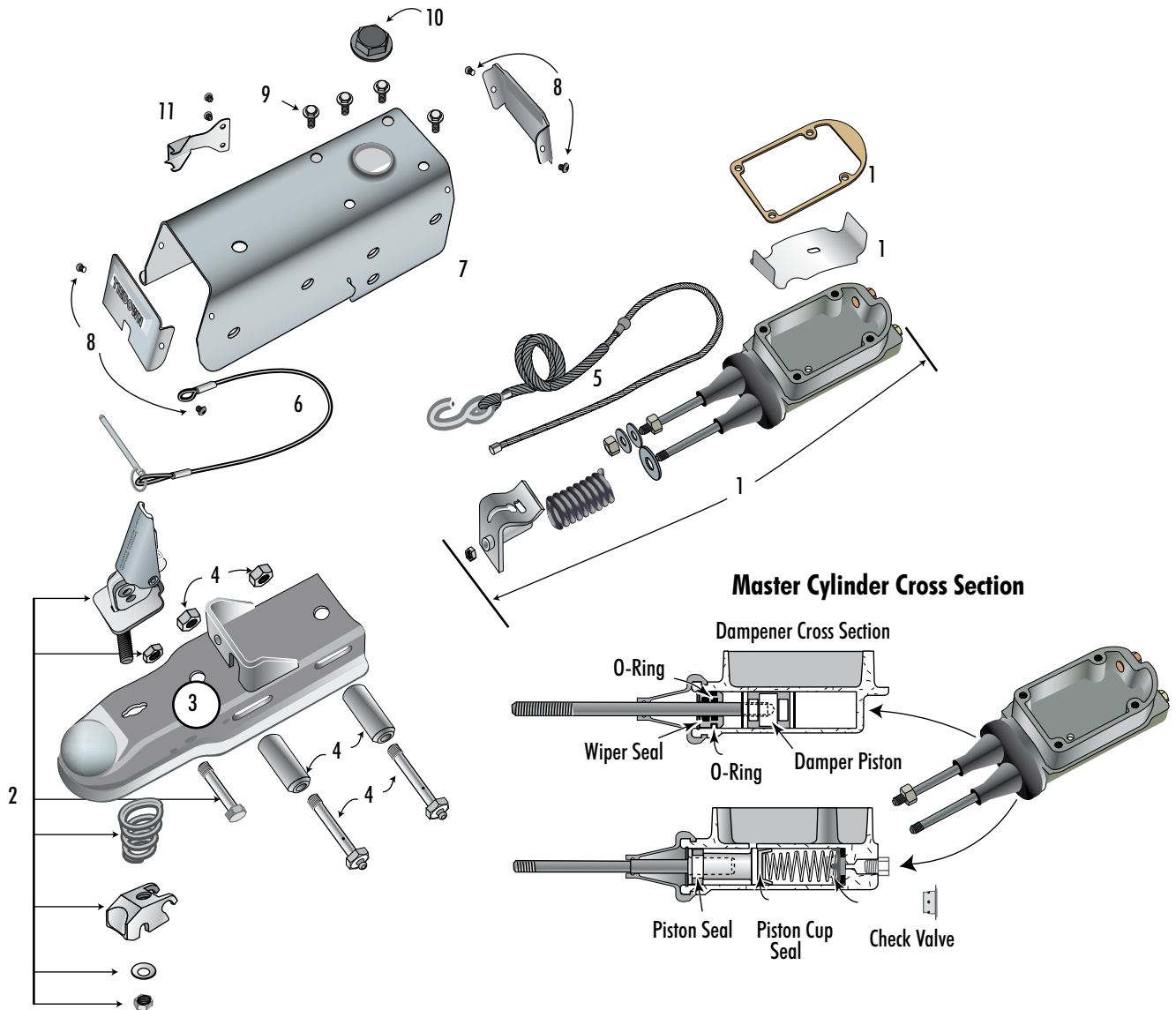
### Pivot/Swing Tongue Actuator Models:

Part #	Model	Capacity	Brake Type	Actuator Options/Style
Custom*	70S	7,000 lbs.	Drum	Swing Tongue
Custom*	70S	7,000 lbs.	Disc	Swing Tongue
Custom*	70P	7,000 lbs.	Drum	Pivot
Custom*	70P	7,000 lbs.	Disc	Pivot
Custom*	70PC	7,000 lbs.	Drum	Pivot with Safety Cables
Custom*	70PC	7,000 lbs.	Disc	Pivot with Retractable Safety Cables



\*Actuator models manufactured to customer specifications



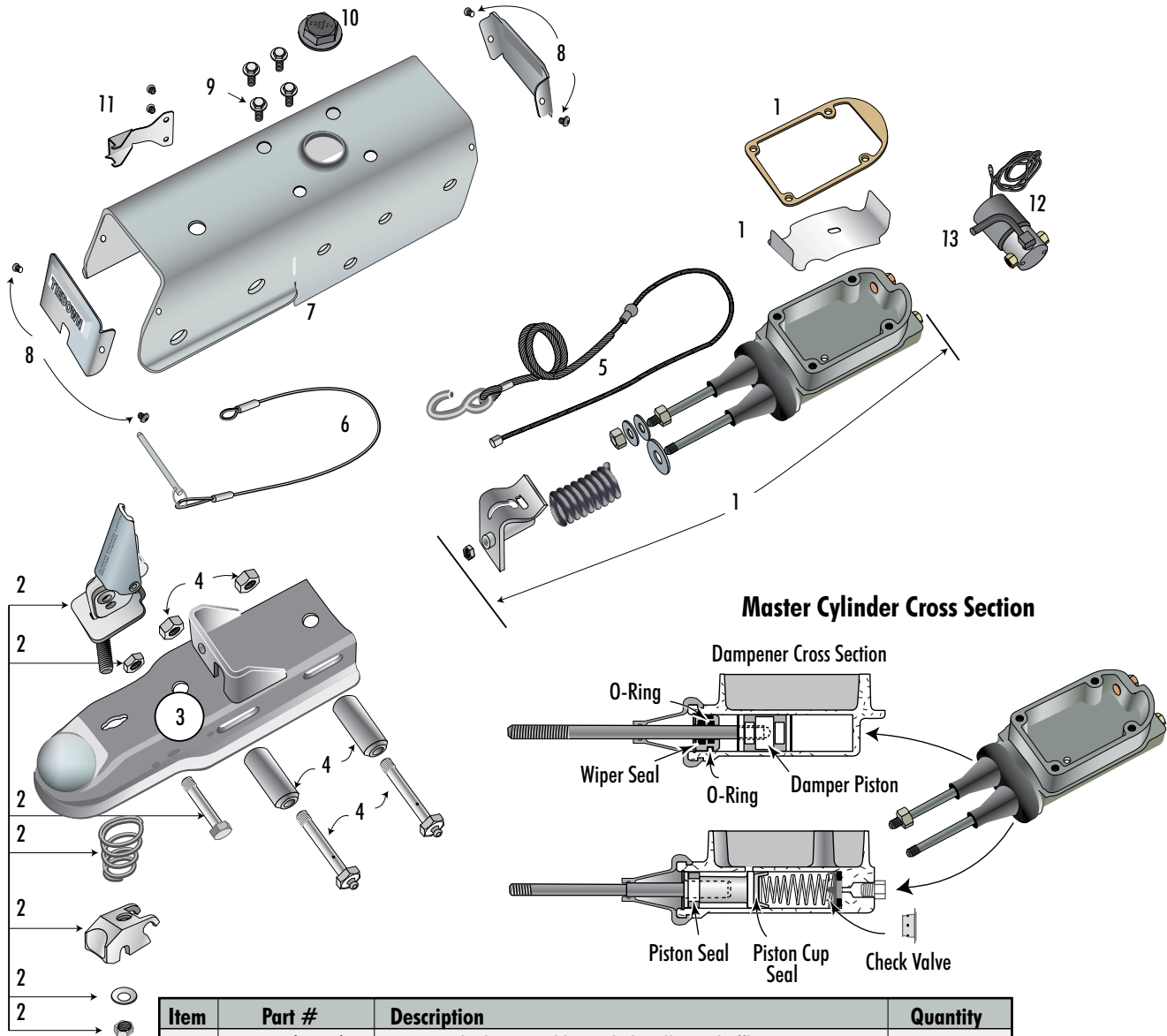


Item	Part #	Description	Quantity
1	47260 (Disc*) 47268 (Drum)	Master Cylinder Assembly - Includes all nuts, baffle, all seals, O-rings, gaskets & seal *The check valve has been removed in models 47211 & 86165	1
2	47261	Latch Kit Assembly	1
	47262	Latch Kit Assembly (for serial #'s 16020 and below)	1
3	48801-1A	Coupler Housing	1
4	47263	Roller Kit includes: 1/2" X 4 Grade 5 Super Lube Bolts (2) 1/2" Hex Center Lock Nut (2) Rollers (2)	1
5	50305	Cable Assembly (Breakaway) with button stop	1
	50302	Cable Assembly (for serial #'s 16020 and below)	1
6	50301	Safety Pin Cable	1
7	48802	Actuator Assembly Housing	1
8	47264	Actuator Covers Kit (front & back covers & 4 Screws)	1
9	47265	Screw Kit, includes: 1/4" - 20NC X3/4" Hex Bolt (4)	1
10	48804	Master Cylinder Cap with internal bladder	1
11	48845	Safety Spring w/screws (for serial #'s 16020 and above)	1

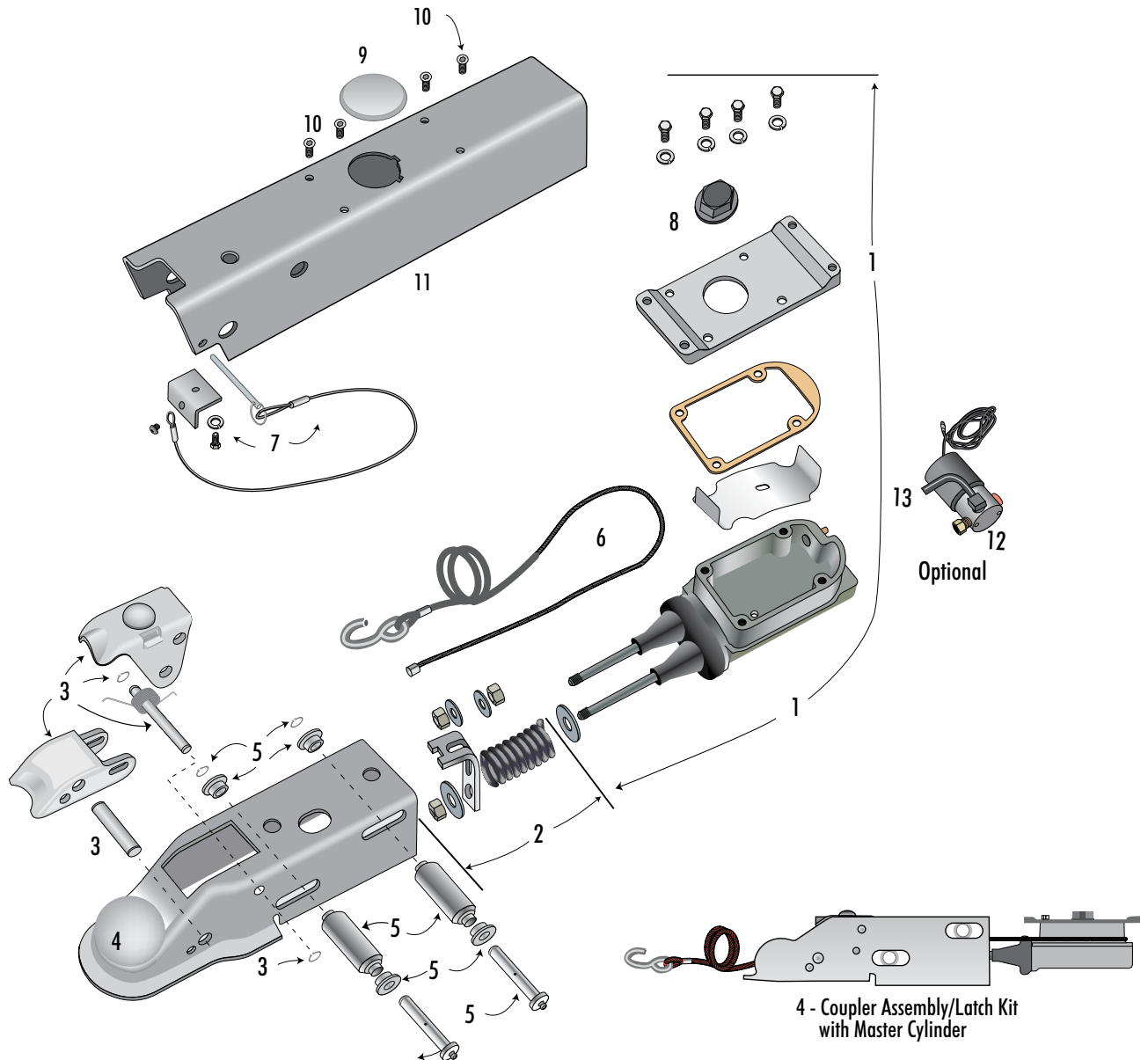
# Model 70 Actuator Parts

TIE DOWN ENGINEERING

800-241-1806



Item	Part #	Description	Quantity
1	47268 (Drum) 47260 (Disc*)	Master Cylinder Assembly - Includes all nuts, baffle, all seals, O-rings, gaskets & seal * Check valve has been removed in models 47204, 47205 & 47213	1
2	47261	Latch Kit Assembly	1
3	48801-1A	Coupler Housing	1
4	47263	Roller Kit includes: 1/2" X 4 Grade 5 Super Lubed Bolts (2) 1/2" Hex Center Lock Nut (2) Rollers (2)	1
5	50305	Cable Assembly (Breakaway) with button stop	1
	50302	Cable Assembly (Breakaway) (for serial #'s 16020 and below)	1
6	50301	Safety Pin Cable	1
7	48815	Actuator Assembly Housing Model 70	1
	47213-1	Actuator Assembly Housing Model 70-3/4	1
	48816	Actuator Assembly Housing Model 70E	1
8	47264	Actuator Covers Kit (front & back covers & 4 screws)	1
9	47265	Screw Kit, includes: 1/4" - 20NC X3/4" Hex Bolt (4)	1
10	48804	Master Cylinder Cap with internal bladder	1
11	48845	Safety Cable Spring with screws	1
12	11253A	Solenoid & Return Tube (optional)	1
13	11262	Solenoid Return Tube	1



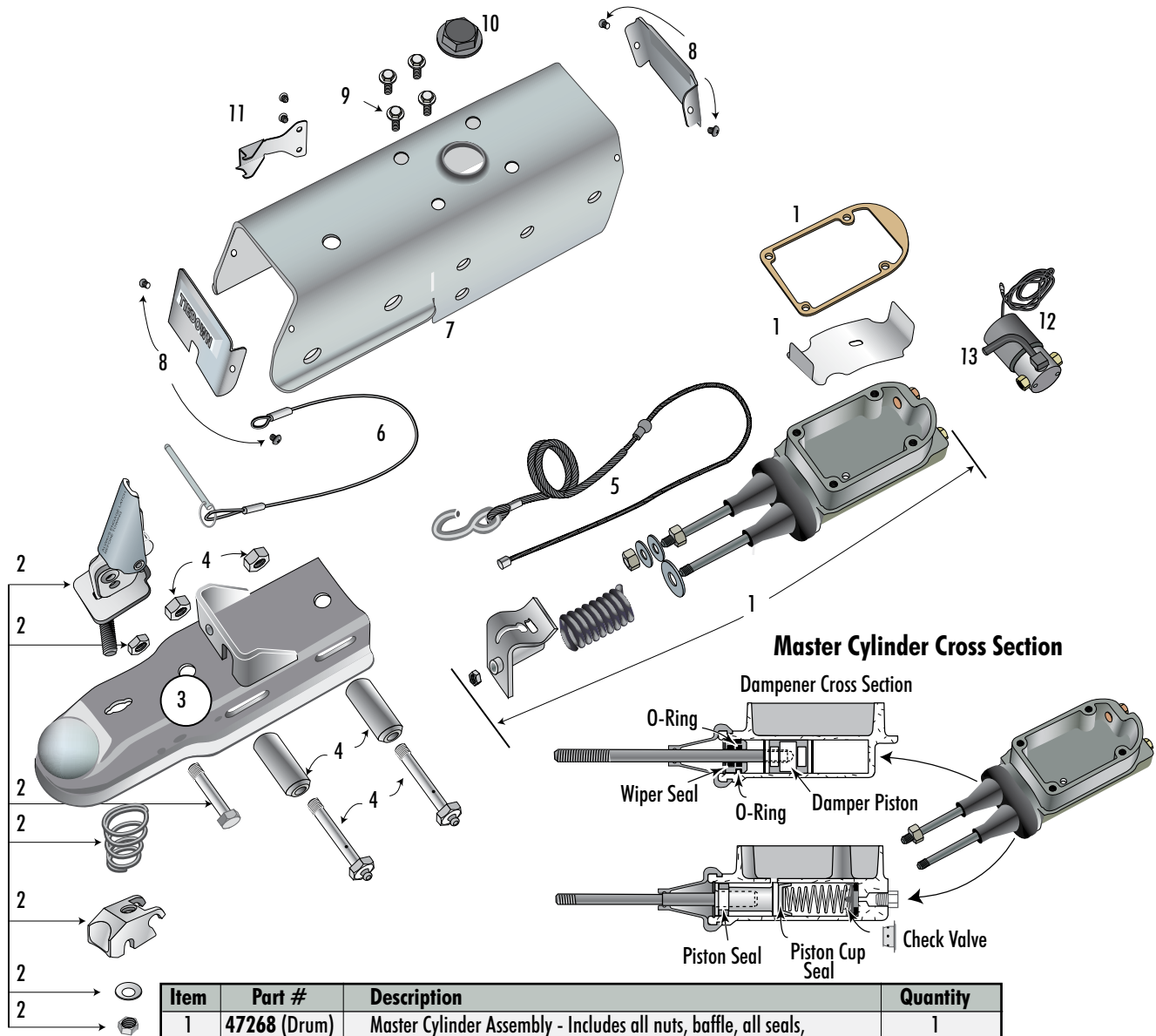
Item	Part #	Description	Quantity
1	<b>47267 (Disc*)</b> <b>47271 (Drum)</b>	Master Cylinder Assembly - Includes all nuts, baffle, all seals, O-rings, gaskets & seals (*check valve removed)	1
2	<b>47259</b>	Safety Stop & Spring	1
3	<b>47254</b>	Latch Kit Assembly Low Profile	1
4	<b>17025</b> <b>47258</b>	Coupler Housing & Latch Kit(3) Low Profile Assembly Coupler Housing & Latch Kit(3) with Master Cylinder Assembly(1)	1
5	<b>47255</b>	Roller Kit includes - Includes all rollers, pins, bushings & clips	1
6	<b>50304</b>	Cable Assembly (Breakaway)	1
7	<b>47256</b>	Safety Pin Cable with bracket & screws	1
8	<b>48804</b>	Master Cylinder Fill Cap with internal bladder	1
9	<b>48759</b>	Fill Cap Cover	1
10	<b>12138</b>	Button Head Torx Screws 1/4"-20 x1"	4
11	<b>48762</b>	Actuator Housing	1
12	<b>11253A</b>	Solenoid with Return Tube (optional)	1
13	<b>11262</b>	Solenoid Return Tube	1



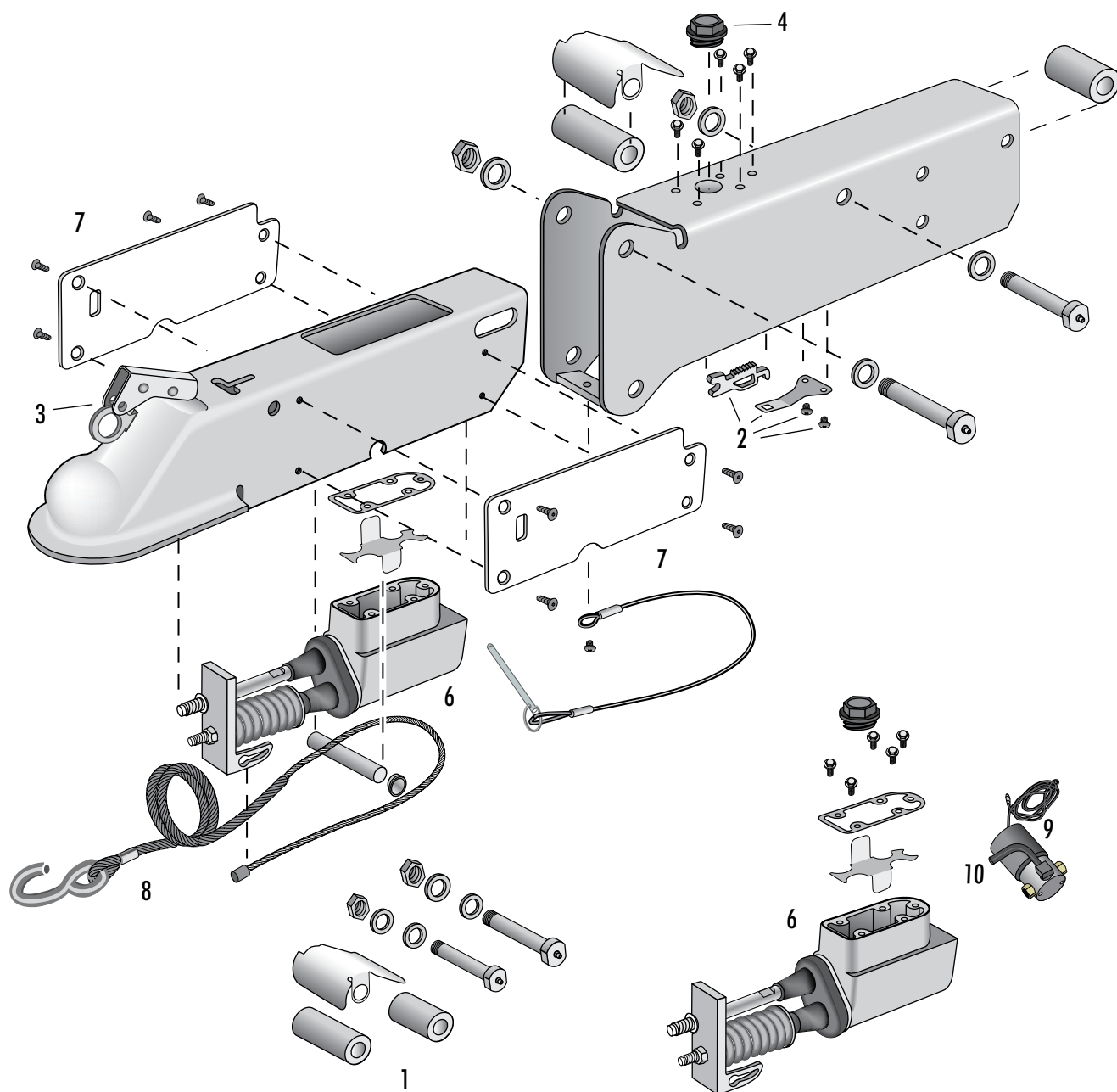
# Model 80 Actuator Parts

TIE DOWN ENGINEERING

800-241-1806



Item	Part #	Description	Quantity
1	47268 (Drum) 47260 (Disc*)	Master Cylinder Assembly - Includes all nuts, baffle, all seals, O-rings, gaskets & seals (*check valve removed)	1
2	47261	Latch Kit Assembly	1
	47262	Latch Kit Assembly (for serial #'s 16020 and below)	1
3	48801-1A	Coupler Housing	1
4	47263	Roller Kit includes: 1/2" X 4 Grade 5 Super Lube Bolts (2) 1/2" Hex Center Lock Nut (2) Rollers (2)	1
5	50305	Cable Assembly (Breakaway) with button stop	1
	50302	Cable Assembly (for serial #'s 16020 and below)	1
6	50301	Safety Pin Cable	1
7	47242-1	Actuator Assembly Housing Model 80	1
	47214-1	Actuator Assembly Housing Model 80-3/4	1
	48822-1	Actuator Assembly Housing Model 80E	1
8	47264	Actuator Covers Kit (front & back covers with 4 screws)	1
9	47265	Screw Kit, includes: 1/4" - 20NC X3/4" Hex Bolt (4)	1
10	48804	Master Cylinder Cap with internal bladder	1
11	48845	Safety Spring with screws (#16020 and above)	1
12	11253A	Solenoid with Return Tube (optional)	1
13	11262	Solenoid Return Tube	1

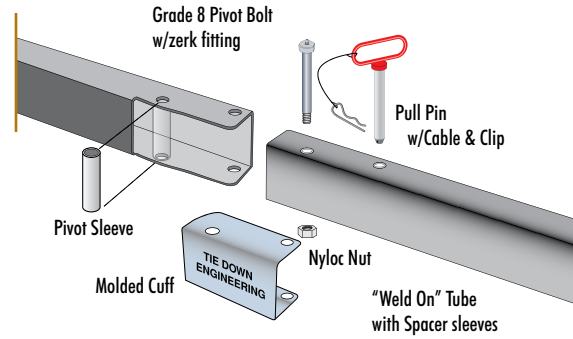


Item	Part #	Description	Quantity
1	48836	Roller & Pin Kit	1
2	48839	E-Latch Kit (clip, spring and 2 screws)	1
3	48837	Coupler Latch Kit	1
4	48804	Master Cylinder Filler Cap with internal bladder	1
5	48835	Gasket & Screw Kit (master cylinder gasket and 5 mounting screws)	1
6	48854	Master Cylinder Assembly "Drum Brake Ready"	1
	48855	Master Cylinder Assembly "Disc Brake Ready" (check valve removed)	
7	44838	Wear Plates Kit (2 wear plates and 8 mounting screws)	1
8	50308	E-Stop Cable	1
9	11253A	Solenoid with Return Tube (optional)	1
10	11262	Solenoid Return Tube	1

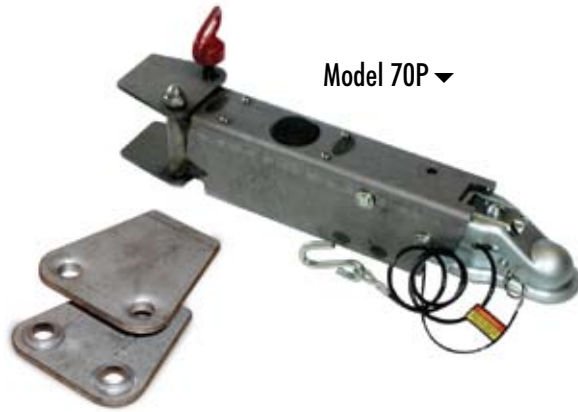
# Actuator/Swing Tongue Parts

## Model 70S

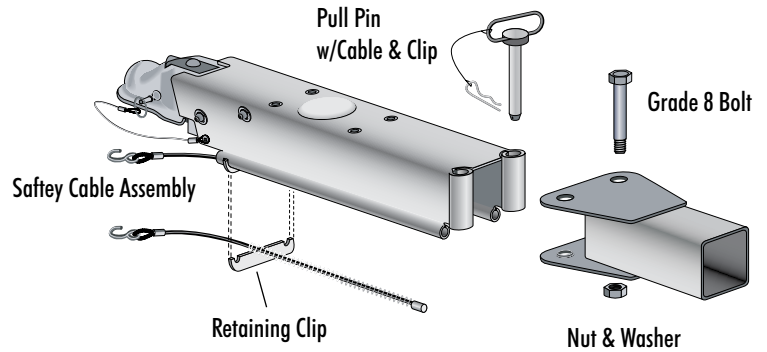
Part #	Description
48765	Molded Cuff
10591A	Pivot Bolt 5/8"x4" (Grade 8 with zerk fitting)
10590A	Pivot Bolt 5/8"x3" (Grade 8 with zerk fitting)
48781-3	Pivot Sleeve
10628	Nyloc Nut 5/8"
10593A	4" Pull Pin with cable clip



## Model 70P and 70PC



### Model 70PC

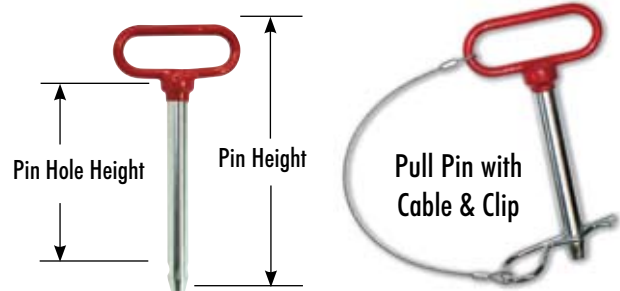


Part #	Description
50303	Safety Hitch Cable Assembly (each)
48782	Retaining Clip
10591A	Pivot Bolt 5/8"x 4" (Grade 8 with zerk fitting)
10590A	Pivot Bolt 5/8"x 3" (Grade 8 with zerk fitting)

Part #	Description
10645	Nyloc Nut
10592A	3" Pull Pin with Cable & Clip
10593A	4" Pull Pin with Cable & Clip
48777	Pivot Mounting Plates (weld on, 2 required)

## Pull Pins

Part #	Description	Pin Dia.	Pin Height	Hole Height
10592A	3" Pull Pin w/Cable & Clip	5/8"	6.75"	4.0"
10593A	4" Pull Pin w/Cable & Clip	5/8"	7.75"	5.0"
10596A	Large w/Cable & Clip (10,000#)	3/4"	8.0"	6.25"



## 2" Hitch Balls

- 2" Diameter
- 8000# GVW capacity
- 2"x 1" x 2-1/8" Diameter shaft
- Heavy duty chrome plating

Part # 17012





Tie Down swing and pivot tongues offer custom looks and features without the manufacturing hassles.



Patented

### Pivot/Swing Tongues

In line design pivot/swing tongues have a 7K capacity and can be configured for couplers or the 7K low profile actuator. A plastic insert completes the package giving the pivot tongue a smooth one piece look. The swing tongue is laser cut from 3x4 and 3.5x4.5 steel tube with no exterior welds.



U.S. Patent #6,595,540

### Pivot/Swing Tongues

Pivot tongues utilize twin mounting plates welded to your tongue or Tie Down can make custom length tongues for your trailers. Front pivot sections can be configured for bolt on couplers and actuators or built in low profile 7 K actuator. Spring loaded safety hitch cables are also available. Added strength comes from the computer designed smooth flow, one piece housing and pin tubes. 3x3 and 3x4 swing tongues have a maximum tongue weight of 600 lbs. Swing tongues are designed for your applications.



### 10 K Pivot/Swing Tongues

For the larger trailers, Tie Down offers the 10K swing tongue built from 3x5 9 ga. steel tube. Heavy duty swing plates and 3/4" bolt on pins complete the design for heavy duty use. Custom lengths available for the rear and front sections. Front section can be pre-drilled for the Tie Down 125 actuator and larger couplers.



# Brake System Accessories

## Brake Lines

- Designed to be used on trailers using either surge brake actuators or power brake actuators (vacuum/hydraulic, air/hydraulic, electric/hydraulic)
- Brake lines provided are DOT Flexible hoses approved for use on all trailer brakes including disc brakes with floating calipers
- All fittings are brass for the ultimate in corrosion resistance (Available with male & female end fittings)
- Universal T-Clamp used with 2 or 3 hole Union "T"s in the up or side positions



DOT Flex Hose - Male End Fittings



DOT Flex Hose - Female End Fittings



Union "T"  
#11270



Union "T"  
#11271



Universal "T" Clamp  
#42091

### Description

24" DOT Flex Hose and longer\*

### Part #

46238-24

\*For common lengths refer to price list

DOT Flex Hoses are available cut to your custom lengths, available with male & female end fittings, call for quotes,

### Accessories

Union "T" (3 hole female)

### Part #

11270

Union "T" (2 hole female)

11271

"T" Clamp

42091

Union "T" Plug

10128

Self Tapping Screw

10589

Cable Clamps

17003

Cable Ties

10107

## Brake Solenoids



### Back Flow Style Brake Solenoid

Part #11253A

Includes solenoid return tube. Installs directly in line between the trailer hydraulic actuator and the brake line. Adapts to hydraulic actuators with provisions for inlet tubes. Only one electrical connection required between solenoid and vehicle backup light. Solenoid is set for "Normally Open" operation.

### Solenoid Return Tube

Part #11262



### Reverse Lock Out Solenoid

Part #11250

A reverse lockout solenoid should be installed at the actuator before installation of disc brakes. Can be used on drum brakes as well. Solenoid is set for "Normally Open" operation.