

# ACTUATING SYSTEMS • TABLE OF CONTENTS

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# BRAKE CONTROLS

## Brake Actuating

Actuating is the cause making something operate. In the case of trailering, the operator wants the brakes to operate, therefore a need for an actuator is required. This Brake Actuating Section will provide the actuating options available and outline the features and benefits of each.

All brakes have an actuator. Electric brakes are activated when electricity from the tow vehicle flows to the brake's electromagnet (magnet). In turn, the energized magnet is attracted to the rotating surface of the wheels brake drum. This causes the actuating lever in the

brake to move in the same direction as the wheel is turning. This force pushes the brake shoes out to the drum which slows the rotation of the wheel. Increasing the electric flow to the brake increases the braking force. This electric current is supplied by the tow vehicle but must have a controlling device to properly allocate the power to the brakes. The actuating device for electric brakes is called a brake controller. There are two basic types: Proportional and Time Delayed. Below are the brake controller options.

## Brake Control

### PROPORTIONAL BRAKE CONTROLLER

A **Proportional Brake Controller** Senses How The Tow Vehicle Is Slowing Or Stopping And Applies The Trailer's Brakes With The Same Intensity. So If You Slam On The Brakes In Your Tow Vehicle, The Controller Will Activate Your Trailer's Brakes Just As Forcefully. With A Proportional Controller, You Can Adjust The Initial Braking Power And Aggressiveness Based On Your Trailer's Weight And Your Braking Preferences.

#### PROS

- \* SMOOTH, QUICK BRAKING
- \* LESS WEAR ON BOTH VEHICLE AND TRAILER BRAKES
- \* INCREASED BRAKING EFFICIENCY

#### CONS

- \* MORE EXPENSIVE THAN TIME-DELAYED CONTROLLERS (ALTHOUGH THE COST GAP BETWEEN THE TWO TYPES IS NARROWING AND THE COST OF BRAKE WEAR SHOULD EQUALLY BE CONSIDERED)
- \* NOT AS EASY TO INSTALL AS A TIME-DELAYED UNIT

### COMPARISON Types Of Brake Controllers

### TIME-DELAYED BRAKE CONTROLLER

A **Time-Delayed Brake Controller** Activates The Trailer's Brakes With A Preset Intensity (Power Output) And Rate Of Application (Sync), Both Of Which Are Determined By You. With This Type Of Controller, There Is A Delay Between The Time That You Initially Apply The Brakes In Your Tow Vehicle And The Time That The Controller Reaches Maximum Power Output To The Trailer's Brakes. However, This Delay Can Be Adjusted With The Sync Setting.

#### PROS

- \* EASY TO INSTALL - CAN BE MOUNTED AT ANY ANGLE
- \* USER FRIENDLY
- \* LOW PROFILE

#### CONS

- \* UNEVEN BRAKE WEAR BETWEEN VEHICLE AND TRAILER
- \* CHANCE OF BRAKE PULSING WHEN HAZARD FLASHERS ARE USED

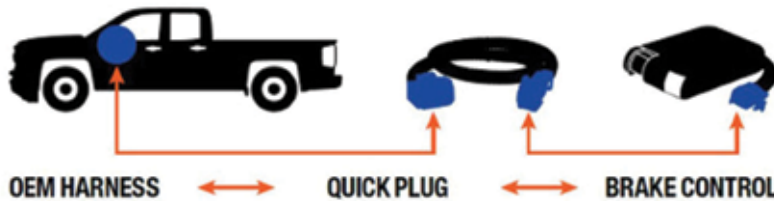
## BRAKE CONTROLLERS

REF NO.	ITEM NO.	DESCRIPTION	ID NO.	# AXLES	TYPE	ELEC/HYD	LEVELING	WARRANTY
1	6500001	POD	80500	1 - 2	TIMED	NO	AUTO	5 YEAR LIMITED
2	6500013	PILOT	80550	1 - 3	TIMED	NO	AUTO	LIFETIME LIMITED
3	6500094	VENTURER	51110	1 - 3	TIMED	NO	AUTO	LIFETIME LIMITED
4	6500064	DISCOVERY	51120	1 - 4	TIMED	NO	AUTO	LIFETIME LIMITED
5	6500012	PREDATOR	5800800	1 - 2	TIMED	YES	AUTO	7 YEAR LIMITED
6	6500092	TRIFLEX	51140	1 - 4	PROPORTIONAL	YES	AUTO	LIFETIME LIMITED
7	6500017	VOYAGER	9030	1 - 4	PROPORTIONAL	NO	MANUAL	5 YEAR LIMITED
8	6500045	PRIMUS	90160	1 - 3	PROPORTIONAL	NO	AUTO	LIFETIME LIMITED
9	6500004	PRODIGY	90885	1 - 4	PROPORTIONAL	NO	AUTO	LIFETIME LIMITED
10	6500052	P3	90195	1 - 4	PROPORTIONAL	YES	AUTO	LIFETIME LIMITED
11	6500060	PRODIGY RF	90250	1 - 3	PROPORTIONAL	NO	AUTO	15 /5 LIMITED



# BRAKE CONTROL HARNESSSES =

## QUICK PLUG EQUIPPED



- Allows brake control to be plugged into OEM socket
- Quick plug harness installs in less than ten minutes
- Wire colors match standard brake control harnesses
- Includes 24" of 12 gauge wire for flexible installation

OEM WIRE HARNESSSES									
MAKE & MODEL	TYPE	YEARS	ITEM NO.	CURT NO.	ITEM NO.	TEKONSHA	PLUG STYLE	INSTALL TIME	HARNESS LOCATION
<b>BUICK</b>									
Enclave	-	08-16	6500082	51423	6500062	3026-P	10	5	BH1
<b>CADILLAC</b>									
Escalade	-	14-16	6500106	51452	6500153	3016-P	15	5	BH3
	-	03-06	6500070	51353	7000089	3015-P	5	5	BH3
	-	2002	6500071	51343	6500110	3025-P	4	5	BH3
<b>CHEVROLET/GMC</b>									
Acadia	-	07-17	6500082	51423	6500062	3026-P	10	5	BH1
Avalanche	-	03-06	6500070	51353	7000089	3015-P	5	5	BH3
	-	2002	6500071	51343	6500110	3025-P	4	5	BH3
	-	14-17	6500106	51452	6500153	3016-P	15	5	BH1
Silverado/Sierra	NEW BODY*	07-13	6500079	51516	6500057	7894	-	-	-
	CLASSIC BODY	2007	6500070	51353	7000089	3015-P	5	5	BH3
	-	03-06	6500070	51353	7000089	3015-P	5	5	BH3
	-	99-02	6500071	51343	6500110	3025-P	4	5	BH3
Tahoe	-	15-16	6500106	51452	6500153	3016-P	15	5	BH3
	-	03-06	6500070	51353	7000089	3015-P	5	5	BH3
	NEW BODY W/AMBER TURN SIGNAL	00-02	6500071	51343	6500110	3025-P	4	5	BH3
Suburban, Yukon Yukon XI, Denali	-	14-16	6500106	51452	6500153	3016-P	15	5	BH3
	-	03-06	6500070	51353	7000089	3015-P	5	5	BH3
	NEW BODY W/AMBER TURN SIGNAL	00-02	6500071	51343	6500110	3025-P	4	5	BH3
Traverse	W/FACTORY TOW PACKAGE	09-17	6500082	51423	6500062	3026-P	10	5	BH3
<b>CHRYSLER</b>									
Aspen	W/FACTORY TOW PACKAGE	07-09	6500072	51333	6500109	3020-P	3	5	BH1
<b>DODGE</b>									
Dakota	W/FACTORY TOW PACKAGE	97-11	6500072	51333	6500109	3020-P	3	5	BH1
Durango	W/FACTORY TOW PACKAGE	11-15	6500107	51447	6500113	3045-P	20	5	BH8
	-	98-09	6500072	51333	6500109	3020-P	3	5	BH1
Ram 1500	-	2010	6500083	51439	6500066	3021-P	13	5	BH8
Ram 2500	-	2010	6500083	51439	6500066	3021-P	13	5	BH8
Ram 3500	-	2010	6500083	51439	6500066	3021-P	13	5	BH8
Ram Pickup	ALL FULL SIZE PICKUPS	95-09	6500072	51333	6500109	3020-P	3	5	BH1
<b>FORD</b>									
Bronco	FULL SIZE	94-96	6500073	51323	6500040	3035-P	2	5	BH2
	-	92-93	6500080	51313	-	-	1	5	BH1
Econoline Van	-	09-14	6500075	51433	6500051	3034-P	11	5	BH5
	-	92-08	6500073	51323	6500040	3035-P	2	5	BH1
Excursion	-	00-05	6500073	51323	6500040	3035-P	2	5	BH2
Expedition	-	13-17	6500075	51433	6500051	3034-P	11	5	BH5
	-	97-12	6500073	51323	6500040	3035-P	2	5	BH2

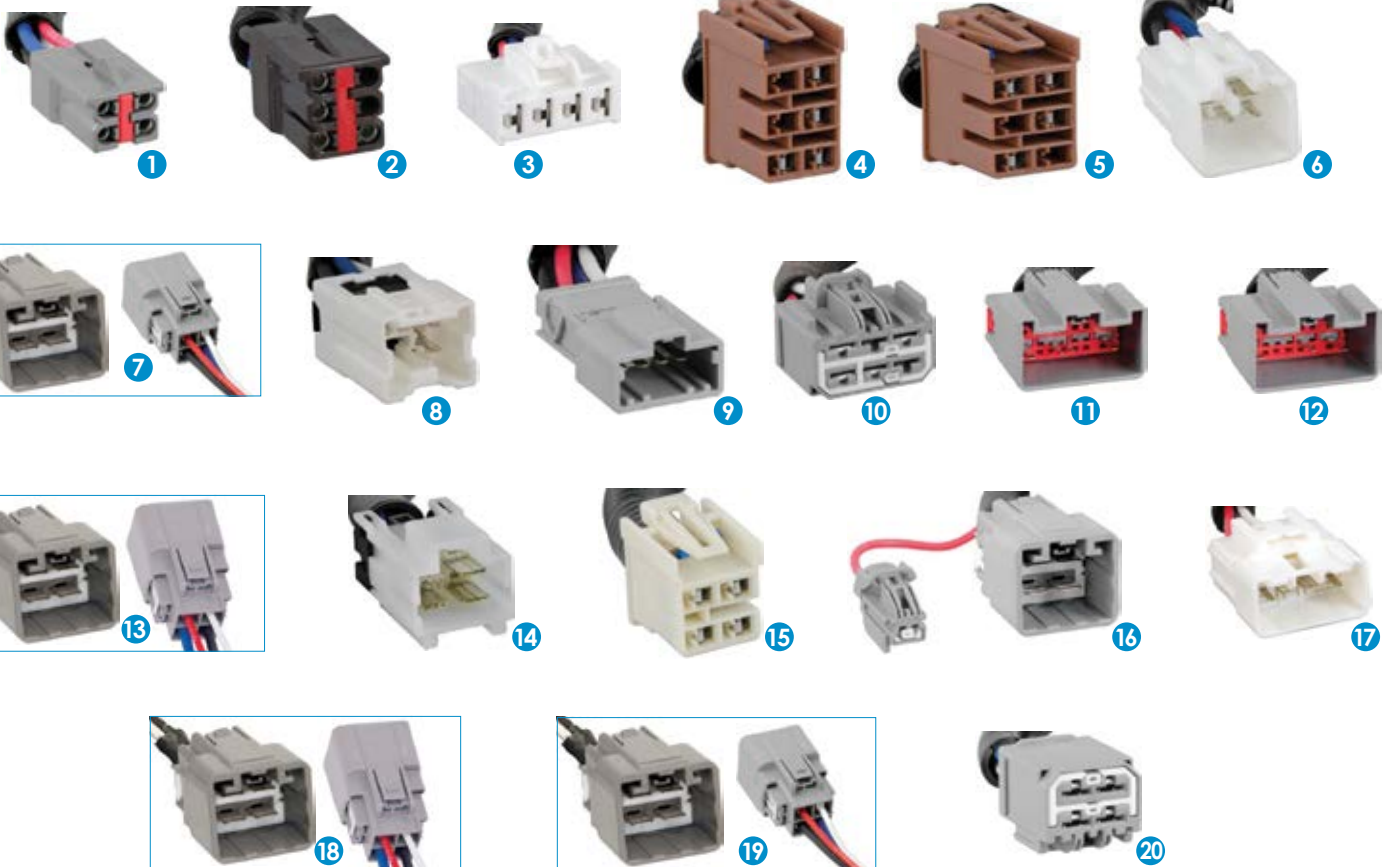
# BRAKE CONTROL HARNESSES

OEM WIRE HARNESSES								
Make & Model	YEARS	ITEM NO.	CURT NO.	ITEM NO.	TEKONSHA	PLUG STYLE	INSTALL TIME	HARNESS LOCATION
<b>DODGE/RAM</b>								
Ram 3500	15-16	6500152	51458	6500141	3024-P	18	10	BH2
	13-14	6500104	51453	6500149	3023-P	16	10	BH8
	11-12	6500083	51439	6500066	3021-P	13	5	BH8
<b>SATURN</b>								
Outlook	07-09	6500082	51423	6500062	3026-P	10	5	BH1
<b>TOYOTA</b>								
4Runner	03-16	6500077	51363	6500053	3040-P	6	5	BH1
Land Cruiser	13-15	6500077	51363	6500053	3040-P	6	5	BH1
	03-11	6500077	51363	6500053	3040-P	6	5	BH1
Sequoia	03-14	6500077	51363	6500053	3040-P	6	5	BH1
Tacoma	2016	6500140	51456	6500146	3017-P	17	5	BH4
Tundra	07-15	6500077	51363	6500053	3040-P	6	5	BH1
	15-16	6500140	51456	6500146	3017-P	17	5	BH4
	03-14	6500077	51363	6500053	3040-P	6	5	BH1

**Harness Location Designators:**

BH1 = Underneath dash, left of steering column, near emergency brake pedal  
 BH2 = Underneath dash, near center console  
 BH3 = Underneath dash, in junction box left of steering column  
 BH4 = Behind storage pocket, above ashtray  
 BH5 = Underneath dash, behind center access panel on passenger side  
 BH6 = Underneath dash, near brake pedal  
 BH7 = Behind storage pocket in center of dash  
 BH8 = Underneath dash, to right of emergency brake pedal

\*Truck is not equipped with OEM harness socket.



BRAKE CONTROL HARNESSES

# BREAKAWAY KITS

## OTHER HARNESSSES

REF NO.	ITEM NO.	DESCRIPTION
1	6500079	UNIVERSAL HARNESS CURT
2	6500057	UNIVERSAL HARNESS TEKONSHA
3	6500119	CONVERT TEKONSHA ADAPTER TO CURT



## BREAKAWAY KITS

REF NO.	ITEM NO.	AXLES	TYPE	LED TEST	PREWIRED	CHARGER	ELEC/HYD	BATTERY AMPS	REPLACEMENT	
									BATTERY	PIN/SWITCH
1	6550033	1 - 2 AXLES	FRONT	NO				5 AMP	6250009	6550019
2	6550020	1 - 2 AXLES	FRONT	NO	YES	YES	NO	5 AMP	6250009	6550019
3	6550020-01	Retail Package - Same As 6550020			YES			5 AMP	6250009	6550019
4	6550036	1 - 3 AXLES	TOP	NO	YES	YES	NO	5 AMP	6250009	6550019
5	6550028	1 - 4 AXLES	TOP	NO	YES	YES	YES	9 AMP		6550019
6	6550021	1 - 2 AXLES	FRONT	YES		YES		5 AMP	6250009	6550019
7	6550021-01	Retail Package - Same As 6550021						5 AMP	6250009	6550019
8	6550030	1 - 2 AXLES	TOP	NO	YES	YES	NO	5 AMP	6250009	6550019



## BREAKAWAY SWITCHES & PINS

REF NO.	ITEM NO.	DESCRIPTION
9	6550039	UNIVERSAL ZIP CABLE 4'
-	6550052	UNIVERSAL ZIP CABLE 6'
10	6550010	BREAKAWAY SWITCH - 2010 TEKONSHA
11	6550011	REPLACEMENT PIN & CABLE FOR 6550010
12	6550019	BREAKAWAY SWITCH
-	6550019-01	RETAIL PACKAGE - SAME AS 6550019
13	6550016	REPLACEMENT PIN & CABLE FOR 6550019



## REPLACEMENT BATTERY

REF NO.	ITEM NO.	DESCRIPTION
14	6250009	12V 5 AMP BREAKAWAY BATTERY
15	6251270	12V 8 AMP BREAKAWAY BATTERY
16	6550003	12V DC BATTERY CHARGER
17	6250007	12V DC BATTERY CHARGER - TEKONSHA
18	6500027	TWO STAGE 12V DC CHARGER - TEKONSHA

Check Your Breakaway Kit Periodically To Insure That The Wiring And Connections Are Secure. A Short Or An Open Circuit Can Result In A Non-Brake Condition. It Is Recommended That Breakaway Devices Be Replaced Every 3 - 5 Years.

# ACTUATOR COUPLERS • 6,000 LB. CAPACITY ☺

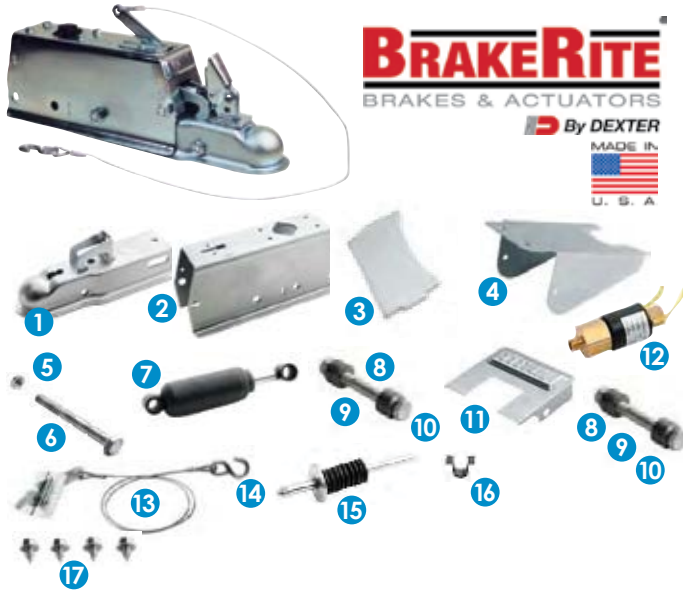
## Brake Actuator 6K 1-7/8" & 2" Coupler

6,000 POUND CAPACITY, MAXIMUM GVWR, 600 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.

ITEM NO.	BRAKE TYPE	MASTER CYLINDER	MASTER CYLINDER ASSEMBLY	COUPLER REPAIR KIT
9050055	DRUM	9050013	9050094	6750082
9050068	DISC	4714200042	9050062	6750082

Note: For 3" Wide Trailer Tongue. Fits 1-7/8", 50Mm And 2" Ball (Some Adjustments Required).

### MODEL 60 ACTUATOR DIAGRAM



### MODEL 60 LEVERLOCK PLATED ACTUATOR

REF NO.	ITEM NO.	DESCRIPTION	QTY.
1	6750307	COUPLER CASE	1
2	4863800	OUTER CASE	1
3	2337700	STRUT	1
4	48358500183	SOLENOID VALVE COVER	1
5	2339100	LOCKNUT, HEX 7/16"NF	1
6	2339000	BOLT, HEX 7/16" NF	1
7	9050021	SHOCK ABSORBER	1
8	2327800	ROLLER	4
9	4861300	BOLT, HEX 1/2" NF	2
10	4861400	LOCKNUT, HEX 1/2" NF	2
11	2452500183	PLATED FRONT COVER	2
12	6450624	SOLENOID BACKUP VALVE	1
13	9050178	BREAKAWAY ASSEMBLY	1
14	9050113	S-HOOK (INCLUDED W/ #13)	1
15	9050241	PUSH ROD ASSEMBLY	1
16	4005200	BREAKAWAY SPRING	1
17	4861200	COVER SCREW	6
18	9050094	MASTER CYLINDER KIT	1

### DRUM BRAKES 1.25" BORE CONSISTING OF 18A - 18G:

18	9050062	MASTER CYLINDER KIT	1
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DISC BRAKES 1.25" BORE CONSISTING OF:			
18A	9050093	FILLER CAP	1
18B	9050249	GASKET	1
18C	2356600	MASTER CYLINDER COVER	1
18D	9050013	MASTER CYLINDER - DRUM	1
	4714200042	MASTER CYLINDER - DISC	1
18E	9050116	CONNECTOR FITTING - DRUM	1
	4750300	CONNECTOR FITTING - DISC	1
18F	0794000	LOCKWASHER 1/4"	4
18G	1050800	BOLT HEX 1/4" NC	4
19	6750082	LEVERLOCK COUPLER KIT	1

### LEVERLOCK COUPLER REPAIR KIT CONSIST OF:

19A	4358500	HANDLE ASSEMBLY	1
19B	4336800	SPRING	1
19C	4335800	BALL LATCH	1
19D	4334500	SPRING PLATE	1
19E	1809000	LOCK PLATE	1
19F	4861400	LOCKNUT, HEX 1/2" NF	1
20	1502600	MASTER CYLINDER REPAIR KIT	1
		WAGNER 1" BORE	

Individual Components Are Special Order Parts Only.

### 18 - Master Cylinder Kit



### 19 - Leverlock Parts

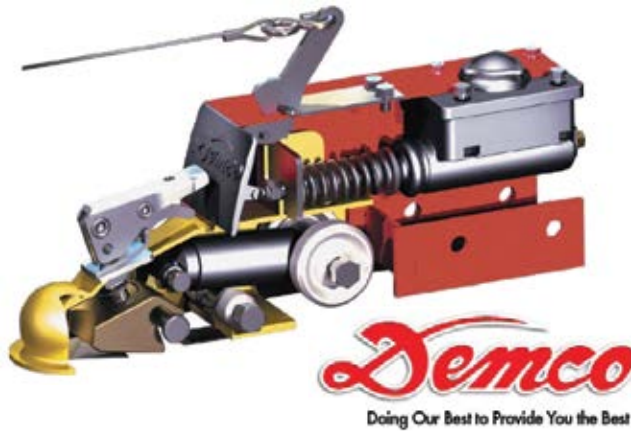


### 20 - Master Cylinder Repair Kit

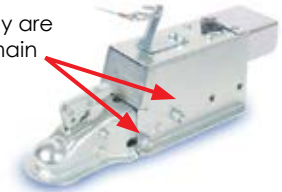


# ACTUATOR COUPLERS • 6,000 LB. CAPACITY •

## Brake Actuator 6K 1-7/8" & 2" Coupler



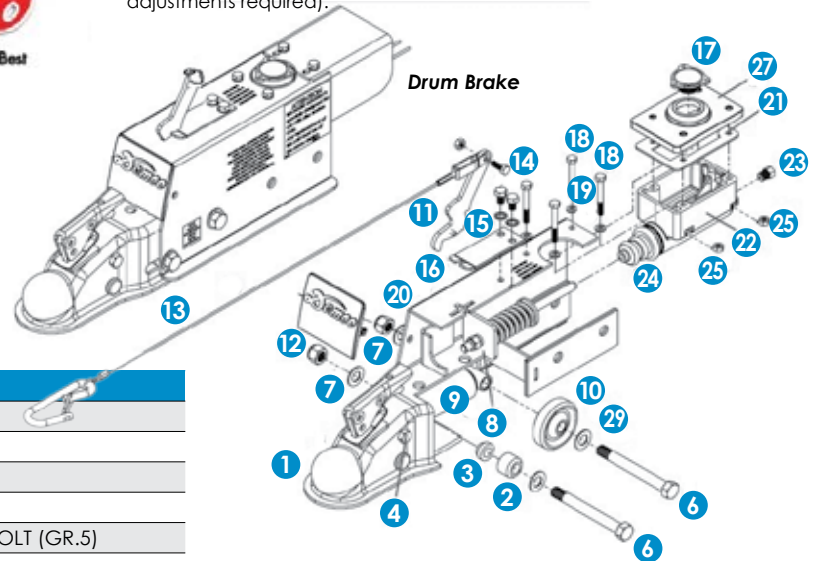
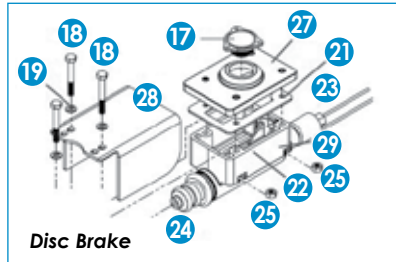
Do not adjust these bolts. They are factory torqued and must remain loose enough to allow free coupler movement.



**6,000 POUND CAPACITY, MAXIMUM GVWR, 600 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.**

ITEM NO	BRAKE TYPE	MASTER CYLINDER
9050161	DRUM	9050031
8605101	DISC	9050091

NOTE: For 3" wide trailer tongue. Fits 1-7/8", 50mm and 2" ball. (Some adjustments required).



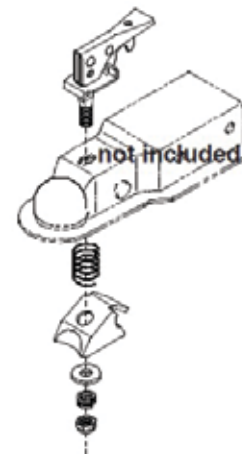
### MODEL DA66B - PLATED LEVER LOCK ACTUATOR

REF NO.	ITEM NO.	QTY	DESCRIPTION
1	12190-95	1	6000# 2" LEVER LOCK COUPLER
2	SB23278	2	ROLLER
3	12151	2	FRONT ROLLER SPACER
4	02166	1	3/8"-16UNC X 2-3/4" HEX HEAD BOLT (GR.5)
5	07176	1	3/8"-16UNC STOVER LOCK NUT
6	05684	2	1/2"-13UNC X 4-7/16" HEX HEAD BOLT (GR.5)
7	02178	2	1/2"-13UNC NYLON INSERT LOCK NUT
8	12193	1	PUSH ROD ASSEMBLY
9	9050092	1	DAMPENER/ SHOCK
10	12103	2	REAR ROLLER SPACER
11	*9050080	1	EMERGENCY LEVER
12	12187	1	FRONT COVER COMPOSITE BLACK
13	*12200	1	28" CABLE
14	05960	2	5/16"-18UNC X 1/2" SELF-TAPPING SCREW
15	05424	2	5/16" EXTERNAL TOOTH LOCK WASHER
16	*9050081	1	EMERGENCY LEVER SPRING
17	7950007	1	MASTER CYLINDER CAP W/ DIAPHRAGM & O-RING
18	**00618	4	1/4-20UNC X 2.00" HEX HEAD BOLT
19	**00057	4	1/4" SPRING LOCK WASHER
20	12191-95	1	OUTER CASE
21	**9050199	1	REPLACEMENT MASTER CYLINDER GASKET
22	9050031	1	MASTER CYLINDER DRUM KIT (INCLUDES ** ITEMS)
	9050091	1	MASTER CYLINDER DISC KIT (INCLUDES ** ITEMS)
23	05679	1	0.125 FULL ORIFICE DRUM
	11993	1	INLINE BLOCKING SOLENOID DISC
24	**9050171	1	MASTER CYLINDER PROTROTIVE BOOT
25	**00062	4	1/4-20 UNC NUT
26	9050198	1	THREADED CAP FOR MASTER CYLINDER
27	12267-95	1	SOLENOID COVER DISC
28	07283	1	10MM FLAT WASHER DISC
29	02384	4	1/2" X 14GA NR ZINC MACHINE WASHER

### Master Cylinder Repair Kits



### Coupler Repair Kit - 5696



# ACTUATOR COUPLERS • 6,000 LB. CAPACITY •

## Brake Actuator 6K 2" Coupler

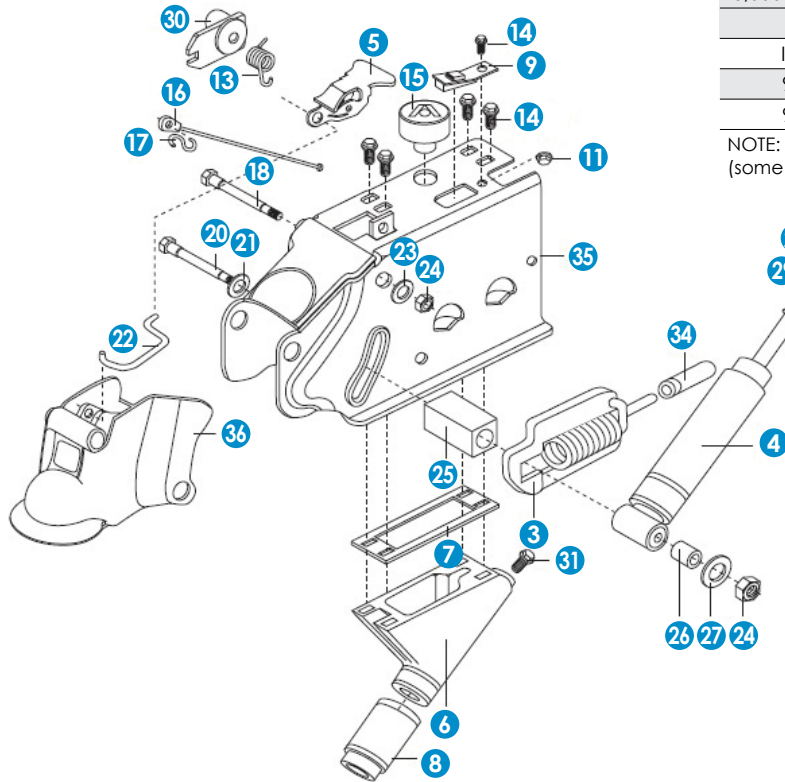
### MODEL 84132 / 85483 - LEVER LOCK ACTUATOR

6,000 POUND CAPACITY, MAXIMUM GVWR, 600 POUND TONGUE LOAD.

GVWR LIMITED TO BALL RATING.

ITEM NO	BRAKE TYPE	MASTER CYLINDER	FINISH
9050008	DRUM	9050031	PLATED
9050009	DRUM	9050091	PAINTED

NOTE: For 3" wide trailer tongue. Fits 1-7/8", 50mm and 2" ball.  
(some adjustments required).



### BRAKE ACTUATOR 6K 2" COUPLER

REF NO.	ITEM NO.	QTY.	DESCRIPTION	REF NO.	ITEM NO.	QTY.	DESCRIPTION
	<b>9050040</b>	<b>1</b>	<b>SHOCK ABSORBER KIT</b>		<b>9050037</b>	<b>1</b>	<b>MASTER CYLINDER PUSH ROD KIT</b>
4	-	1	SHOCK ABSORBER	3	-	1	SPRING ASSEMBLY
24	-	2	NUT	6	-	1	MASTER CYLINDER
28	-	2	WASHER	7	-	1	GASKET
29	-	2	BUSHING	8	-	1	BOOT
15	<b>9050020</b>	<b>1</b>	<b>CAP</b>	9	-	1	BREAKAWAY SPRING TAB
	<b>9050042</b>	<b>1</b>	<b>SHOULDER BOLT KIT</b>	11	-	1	NUT
20	-	1	SHOULDER BOLT	14	-	5	BOLT
21	-	1	WASHER	16	-	1	CABLE
24	-	2	NUT	17	-	1	S-HOOK
25	-	1	SPACER BLOCK	24	-	2	NUT
26	-	1	SPACER BUSHING	34	-	1	PUSH ROD
	<b>9050048</b>	<b>1</b>	<b>RELEASE HANDLE ASSEMBLY</b>		<b>9050123</b>	<b>1</b>	<b>6,000 LB DRUM BRAKE HOUSING KIT</b>
5	-	1	HANDLE	7	-	1	GASKET
13	-	1	SPRING	35	-	1	HOUSING BACKSIDE
18	-	1	BOLT	36	-	1	COUPLER FRONTSIDE
22	-	1	CATCH		<b>6750129</b>	<b>1</b>	<b>STOP &amp; SPRING ASSEMBLY</b>
24	-	3	NUT	9	-	1	BREAKAWAY SPRING TAB
30	-	1	LATCH	11	-	1	NUT
	<b>9050029</b>	<b>1</b>	<b>MASTER CYLINDER - DRUM BRAKE</b>	14	-	1	BOLT
6	-	1	MASTER CYLINDER	24	-	1	NUT
7	-	1	GASKET	8	<b>9050017</b>	<b>1</b>	<b>BOOT</b>
14	-	4	BOLT				



# ACTUATOR COUPLERS • 6,000 LB. CAPACITY •



## MODEL A-60 ACTUATOR - 6K 2" COUPLER

6,000 POUND CAPACITY, MAXIMUM GVWR, 600 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.

ITEM NO.	BRAKE TYPE	MOUNT	FINISH	BOXED KIT	DESCRIPTION
9050177	DRUM	TOP MOUNT	ZINC	K99-060-04	A-60S DRUM BRAKE ACTUATOR 14.5" LONG, HOLES 3/4" DOWN
9050213	DISC	TOP MOUNT	ZINC	K99-060-24	A-60S DISC BRAKE ACTUATOR 14.5" LONG, HOLES 3/4" DOWN

Note: For 3" Wide Trailer Tongue.



## MODEL A-75 ACTUATOR - 7.5K 2" COUPLER

7,500 POUND CAPACITY, MAXIMUM GVWR, 750 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.

ITEM NO.	BRAKE TYPE	MOUNT	FINISH	BOXED KIT	DESCRIPTION
9050214	DRUM	TOP MOUNT	ZINC	K99-075-04	A-75S DRUM BRAKE ACTUATOR 14.5" LONG, HOLES 3/4" DOWN
9050206	DISC	TOP MOUNT	ZINC	K99-060-24	A-75S DISC BRAKE ACTUATOR 14.5" LONG, HOLES 3/4" DOWN

Note: For 3" Wide Trailer Tongue.



## MODEL XR-85 ACTUATOR - 8.4K 2" BALL COUPLER

8,400 POUND CAPACITY, MAXIMUM GVWR, 840 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.

ITEM NO.	BRAKE TYPE	MOUNT	FINISH	BOXED KIT	DESCRIPTION
9050216	DRUM	TOP MOUNT	ZINC	K99-184-04	XR-84S DRUM BRAKE ACTUATOR 14.5" LONG, HOLES 3/4" DOWN
9050217	DISC	TOP MOUNT	ZINC	K99-184-24	XR-84S DISC BRAKE ACTUATOR 14.5" LONG, HOLES 3/4" DOWN

Note: For 3" Wide Trailer Tongue.

# ACTUATOR COUPLERS • 7,000 LB. CAPACITY •

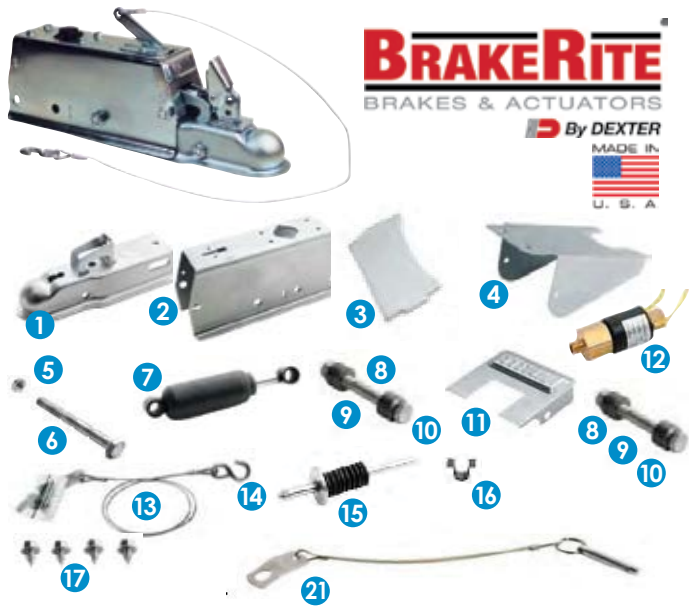
## BRAKE ACTUATOR 7K 1-7/8" AND 2" COUPLER

7,000 POUND CAPACITY, MAXIMUM GVWR, 700 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.

ITEM NO.	BRAKE TYPE	MASTER CYLINDER	MASTER CYLINDER ASSEMBLY	COUPLER REPAIR KIT
9050175	DISC	4714200042	9050062	6750082
43329007K	DRUM	9050013	9050062	6750082

Note: For 3" Wide Trailer Tongue. Fits 1-7/8", 50Mm And 2" Ball (Some Adjustments Required).

### MODEL 60 ACTUATOR DIAGRAM



### 18 - Master Cylinder Kit



### 19 - Leverlock Parts



### 20 - Master Cylinder Repair Kit



### MODEL 60 ZX7000 LEVERLOCK PLATED ACTUATOR

REF NO.	ITEM NO.	DESCRIPTION	QTY
1	6750307	COUPLER CASE	1
2	4863800	OUTER CASE	1
3	2337700	STRUT	1
4	48358500183	SOLENOID VALVE COVER	1
5	2339100	LOCKNUT, HEX 7/16" NF	1
6	2339000	BOLT, HEX 7/16" NF	1
7	9050021	SHOCK ABSORBER	1
8	2327800	ROLLER	4
9	4861300	BOLT, HEX 1/2" NF	2
10	4861400	LOCKNUT, HEX 1/2" NF	2
11	2452500183	PLATED FRONT COVER	2
12	6450624	SOLENOID BACKUP VALVE	1
13	9050178	BREAKAWAY ASSEMBLY	1
14	9050113	S-HOOK (INCLUDED W/ #13)	1
15	9050241	PUSH ROD ASSEMBLY	1
16	4005200	BREAKAWAY SPRING	1
17	4861200	COVER SCREW	6
18	9050094	MASTER CYLINDER KIT	1
DRUM BRAKES 1.25" BORE CONSISTING OF 18A - 18G			
18	9050062	MASTER CYLINDER KIT	1
DISC BRAKES 1.25" BORE CONSISTING OF:			
18A	9050093	FILLER CAP	1
18B	9050249	GASKET	1
18C	2356600	MASTER CYLINDER COVER	1
18D	9050013	MASTER CYLINDER - DRUM	1
	4714200042	MASTER CYLINDER - DISC	1
18E	9050116	CONNECTOR FITTING - DRUM	1
	4750300	CONNECTOR FITTING - DISC	1
18F	0794000	LOCKWASHER 1/4"	4
18G	1050800	BOLT HEX 1/4" NC	4
19	6750082	LEVERLOCK COUPLER KIT	1
LEVERLOCK COUPLER REPAIR KIT CONSIST OF:			
19A	4358500	HANDLE ASSEMBLY	1
19B	4336800	SPRING	1
19C	4335800	BALL LATCH	1
19D	4334500	SPRING PLATE	1
19E	1809000	LOCK PLATE	1
19F	4861400	LOCKNUT, HEX 1/2" NF	1
20	1502600	MASTER CYLINDER REPAIR KIT	1
WAGNER 1" BORE			
21	4360900	QR PIN & LANYARD ASSY	1

Individual Components Are Special Order Parts Only.

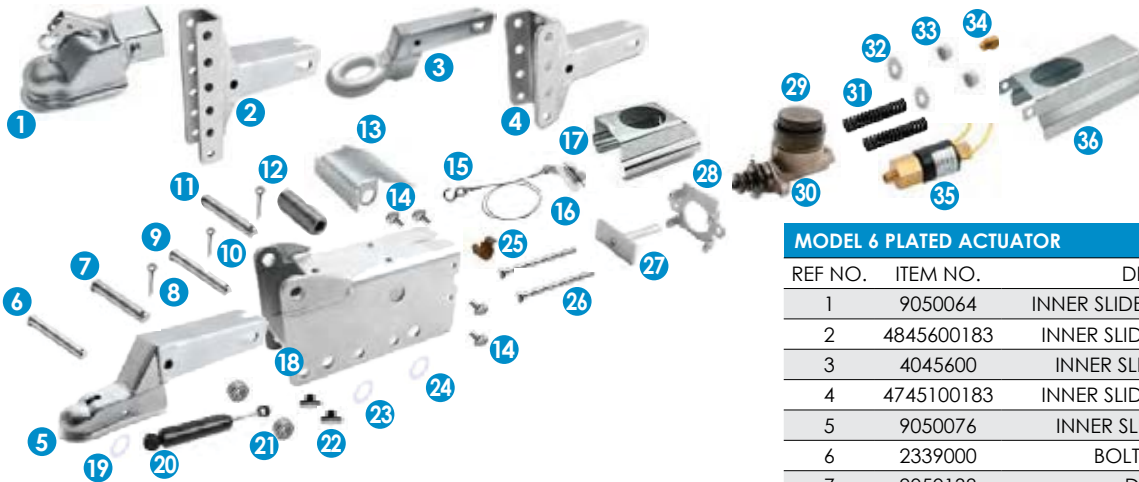
# ACTUATOR COUPLERS • 8,000 LB. CAPACITY •

## BRAKE ACTUATOR 8K 2-5/16" COUPLER, LUNETTE AND CHANNEL BRACKET

8,000 POUND CAPACITY, MAXIMUM GVWR, 800 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.

ITEM NO.	BRAKE TYPE	DESCRIPTION	MASTER CYLINDER	MASTER CYLINDER ASSEMBLY	COUPLER REPAIR KIT
9050069	DISC	2-5/16" COUPLER STRAIGHT	9050061	9050135	9050098
*9050052	DISC	2-5/16" COUPLER DROP	9050061	9050135	9050098
*9050050	DRUM	2-5/16" COUPLER STRAIGHT	9050096	1777401	9050098
9050179	DRUM	2-5/16" COUPLER A-FRAME	9050096	1777401	9050098
9050124	DRUM	3" LUNETTE EYE	9050096	1777401	-
9050129	DRUM	3" LUNETTE EYE A-FRAME	9050096	1777401	-
9050051	DRUM	4 HOLE CHANNEL BRACKET	9050096	1777401	-
9050160	DRUM	6 HOLE CHANNEL BRACKET	9050096	1777401	-

Note: \*Includes Lockout Valve And Cover. All For 3" Wide Trailer Tongue Except Where Noted As A-Frame.



### MODEL 6 PLATED ACTUATOR

REF NO.	ITEM NO.	DESCRIPTION	QTY
1	9050064	INNER SLIDE 2-5/16" BALL LATCH	1
2	4845600183	INNER SLIDE 6-HOLE CHANNEL	1
3	4045600	INNER SLIDE 3" LUNETTE EYE	1
4	4745100183	INNER SLIDE 4-HOLE CHANNEL	1
5	9050076	INNER SLIDE 2" BALL LATCH	1
6	2339000	BOLT, HEX 7/16" NF	1
7	9050138	DAMPER PIN	1
8	8750003	COTTER PIN 1/8" X 1-3/4"	2
9	1777300	MASTER PIN	1
10	0815200	COTTER PIN 3/16" X 1-1/4"	1
11	1776600	FRONT ROLLER PIN	1
12	1776300	FRONT ROLLER	1
13	4655900183	FRONT ROLLER COVER 8K RATING	1
14	1781500	5/16" X 1/2" GRADE 5 HEX BOLT	4
15	4594100	BREAKAWAY LEVER WITH PIN	1
16	1055500	S-HOOK (INCLUDED WITH 45941)	1
17	9050146	COVER	1
18	2480100183	OUTER CASE, PLATED 3" WIDE	1
	2493000	OUTER CASE, PLATED A-FRAME	1
19	2339100	LOCKNUT 7/16" THIN	1
20	9050019	SHOCK ABSORBER	1
21	9050246	REAR ROLLER	2
22	9050132	BEARING 0.075"	2
23	1831600	WASHER	1
24	1861900	FLAT WASHER	1
25	1780300	BREAKAWAY SPRING	1
26	1027300	HEX BOLT 5/16" X 5" GRADE 5	2
27	4390500	PUSH ROD ASSEMBLY	1
28	1776200	MASTER CYLINDER MOUNT PLATE	1
29	9050095	DIAPHRAGM TYPE FILLER CAP	1
30	9050096	MASTER CYLINDER DRUM BRAKE	1
	9050061	MASTER CYLINDER DISC BRAKE	1
31	9050140	SPRING	2
32	0782000	FLAT WASHER 3/8"	2
33	0797600	NUT 3/8"	2
34	9050116	ORIFICE 0.015" FOR DRUM BRAKES	1
	4750300	ORIFICE 0.125" FOR DISC BRAKES	1

### 37 - Master Cylinder Kit



### 38 - Coupler Repair Kit



### Multi-Fit Parts



REF NO.	ITEM NO.	DESCRIPTION	QTY
35	6450624	SOLENOID VALVE	1
36	4836800183	SOLENOID VALVE COVER	1
37	1502600	MASTER CYLINDER REPAIR KIT 1" BORE	1
38	9050098	2-5/16" COUPLER REPAIR KIT	1
39	2496400	LOCKING RING	1
40	2420000	HAND WHEEL	1
41	2338300	HAND WHEEL LOCK	1
42	4336800	SPRING	1
43	4335800	2" BALL LATCH	1
44	1809000	LOCK PLATE	1
45	2338100	LATCH BOLT	1

Individual Components Are Special Order Parts Only.

# ACTUATOR COUPLERS • 8,000 LB. CAPACITY •

## Brake Actuator 8K 2-5/16" Flat Mount & Channel Bracket Coupler

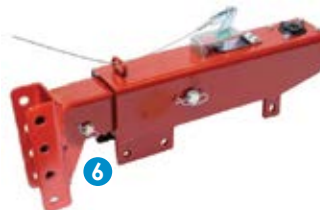
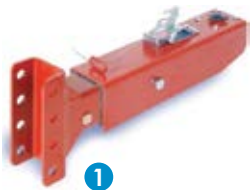


### MODEL DA91 8,000 LB G.V.W.R - ACTUATOR

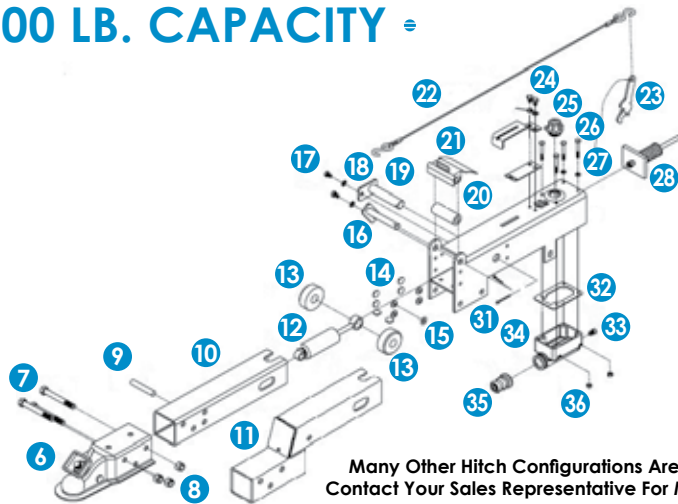
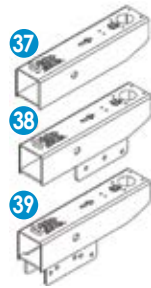
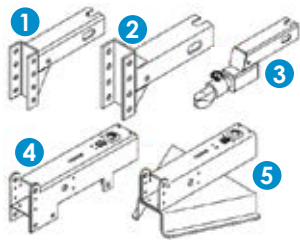
\*8,000 POUND CAPACITY, MAXIMUM GVWR, 800 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.

\* NOTE: ACTUATOR CAPACITY IS DEGRADED TO THE LOWEST COMPONENT CAPACITY RATING.

REF NO.	ITEM NO.	ID NO.	BRAKE TYPE	MOUNT	FINISH	POSITION	DESCRIPTION	DIAGRAM
1	9050152	8759922	DRUM	WELD-ON	PRIMED	STRAIGHT	8" 4-BOLT CHANNEL BRACKET	PAGE O-15
2	9050111	8759122	DRUM	BOLT-ON 3-HOLE STANDARD	PRIMED	STRAIGHT	8" 4-BOLT CHANNEL BRACKET	PAGE O-14
3	9050090	8759522	DRUM	WELD-ON	PRIMED	STRAIGHT	50° A-FRAME 8" 4-BOLT CHANNEL BRACKET	PAGE O-14
4	9050248	8759802	DRUM	WELD-ON	PRIMED	STRAIGHT	50° A-FRAME 2-5/16" BULLDOG® COUPLER	PAGE O-14
5	9050194	8759153	DRUM	BOLT-ON 3-HOLE STANDARD	ZINC	STRAIGHT	FLAT MOUNT	PAGE O-15
6	8759132	8759132	DRUM	BOLT-ON 3-HOLE STANDARD	PRIMED	DROP	8" 4-BOLT CHANNEL BRACKET	PAGE O-14
7	9050083	8750311	DISC	BOLT-ON 5-HOLE STANDARD	ZINC	DROP	2-5/16" EASY LATCH COUPLER WITH BYPASS SOLENOID KIT	PAGE O-15



# ACTUATOR COUPLERS • 8,000 LB. CAPACITY =



\* Note: Actuator Capacity Is Degraded To The Lowest Component Capacity Rating.



Many Other Hitch Configurations Are Available. Contact Your Sales Representative For More Options.

## MODEL DA91 8,000 LB G.V.W.R - ACTUATOR

\*8,000 Pound Capacity, Maximum Gvwr, 800 Pound Tongue Load. Gvwr Limited To Ball Rating. Note: -97 Primed Red -95 Zinc Plated

REF NO.	ITEM NO.	QTY	DESCRIPTION	REF NO.	ITEM NO.	QTY	DESCRIPTION
1	05937-97	1	CLEVIS CHANNEL DOWN (DROP)	22	6750146	1	3/32" CABLE WITH S-HOOKS ON BOTH ENDS
2	03734-97	1	CLEVIS CHANNEL CENTERED (STRAIGHT)		SB10555		REPLACEMENT S-HOOKS ONLY
3	05594-97	1	BULLDOG® 2-5/16" COUPLER WELDED TO DROP SLIDER TUBE		9050101	1	LEVER REPLACEMENT KIT (INCLUDES #22 & #30)
4	05975-97	1	STRAIGHT MOUNT OUTER CASING	23	9050080	1	EMERGENCY LEVER
5	05967-97	1	50° A-FRAME MOUNT OUTER CASING	24	9050082	2	5/16"-18UNC X 5/8 GRADE 5 HEX BOLT
6	05432	1	FULTON® 2" COUPLER	25	7950007	1	MASTER CYLINDER CAP W/DIAPHRAGM & O-RING
7	01896	3	1/2"-13UNC X 4" GRADE 5 HEX BOLT		05849	1	O-RING ONLY (NOT SHOWN)
8	02178	3	1/2"-13UNC NYLON INSERT LOCK NUT	26	00618	4	1/4"-20 UNC X 2" HEX BOLT
9	05441-95	1	FRONT SHOCK PIN 5/8" DIAM X 3" (DROP)	27	00057	4	1/4" LOCK WASHER
	05426-95	1	FRONT SHOCK PIN 5/8" DIAM X 3" (STRAIGHT)	28	05977	1	PUSH ROD ASSEMBLY
10	05440-97	1	STRAIGHT ACTUATOR SLIDER TUBE	29	03866-97	1	LEVER GUIDE
11	05421-97	1	DROP ACTUATOR SLIDER TUBE	30	05693-97	1	EMERGENCY LEVER SPRING
12	SB12426	1	SHOCK ABSORBER	31	02363	2	5/32" X 1-1/4" COTTER PIN
13	05403	2	BRAKE ACTUATOR ROLLER	32	9050142		CAST MASTER CYLINDER GASKET ONLY
14	05401	10	NYLATRON WEAR BUTTON		9050199		PLASTIC MASTER CYLINDER GASKET ONLY
15	09420	6	WASHER 3/4"OD X 21/64"ID STAINLESS STEEL	33	9050141	1	0.018 CONNECTOR ORIFICE
16	05423-97	1	TOP ROLLER PIN	34	05680	1	CAST MASTER CYLINDER WITH GASKET
17	04305	2	5/16"-18UNC X 1/2" GRADE 5 HEX BOLT		9050031	1	PLASTIC MASTER CYLINDER WITH GASKET
18	05424	4	5/16" EXTERNAL TOOTH LOCK WASHER	35	05687	1	MASTER CYLINDER PROTECTIVE BOOT
19	05422-97	1	INNER ROLLER PIN	36	00062	4	1/4"-20 UNC HEX NUT
20	05402	1	TOP ROLLER	37	11101-97	1	PRIMED RED NO MOUNT OUTER CASING
21	05419-97	1	TOP ROLLER COVER	38	11168-95	1	ZINC PLATED 3-HOLE MOUNT OUTER CASING
				39	11170-95	1	ZINC PLATED 5-HOLE MOUNT OUTER CASING

Other Hitch Configuration Options. Note: ?? = -97 Primed Red -95 Zinc Plated

11081-?? Slider With Flat Plate 	11075-?? 05557-?? 05823-?? 04051 03730 Channel Center Slider 2" 7K Coupler 2/5-16" 8K Coupler 5/8"-11 X 1-1/2 Bolt 5/8" Stover Locknut 	15080-?? 2" Ez-Latch Flat Mount Coupler 
11077-?? 05593-?? 04051 03730 Channel Up Slider Clevis Hitch 5/8"-11 X 1-1/2 Bolt 5/8" Stover Locknut 	12113-?? 04051 03730 2" 6K Lever Lock Coupler 5/8"-11 X 1-1/2 Bolt 5/8" Stover Locknut 	12688-?? 04051 03730 2" Ez-Latch Coupler 5/8"-11 X 1-1/2 Bolt 5/8" Stover Locknut 
11076-?? 09557-?? 02434 02587 Channel Down Slider Pintle Ring 10-Ton 5/8"-11 X 4-1/2" Bolt 5/8" Nylon Locknut 	14976-?? 04051 03730 2" Ez-Latch Flat Mount Coupler 5/8"-11 X 1-1/2 Bolt 5/8" Stover Locknut 	12141-?? 2-5/16" Lever Lock Coupler Flat Mount 
07678-?? 04051 03730 2-5/16" Ez-Latch Coupler 5/8"-11 X 1-1/2 Bolt 5/8" Stover Locknut 	11073-?? Straight Tube Slider 2-5/16" Coupler 	11074-?? Drop Tube Slider 2-5/16" Coupler 

# ACTUATOR COUPLERS • 12,500 LB. CAPACITY



9050047



9020203



9050070



9050066



9050046



9050181



## MODEL 10 PLATED ACTUATOR

BRAKE ACTUATOR 12.5K 2-5/16" COUPLER. GVWR LIMITED TO BALL RATING.

PART NO.	DESCRIPTION	ATTACHMENT	MASTER CYLINDER	COUPLER REPAIR KIT
9050047	2-5/16" COUPLER, STRAIGHT, PAINTED, DRUM	WELD-ON	9050032	9050098
9050203	2-5/16" COUPLER, 2.5" OFFSET, PLATED, DRUM	BOLT-ON 1/2"	9050032	9050098
9050071	2-5/16" COUPLER, 2.5" OFFSET, PLATED, DISC	BOLT-ON 1/2"	9050063	9050098
9050085	2-5/16" DROP COUPLER, PLATED, DRUM	BOLT-ON 5/8"	9050032	9050098
9050070	2-5/16" DROP COUPLER, PLATED, DISC	BOLT-ON 5/8"	9050063	9050098
9050066	2-5/16" DROP COUPLER, PLATED, WITH SOLENOID & COVER DISC	BOLT-ON 5/8"	9050063	9050098
9050046	4-HOLE LEVELER CHANNEL, PAINTED, DRUM	WELD-ON	9050032	N/A
9050181	4-HOLD LEVELER CHANNEL, 2.5" OFFSET, PAINTED, DRUM	BOLT-ON 1/2"	9050032	N/A

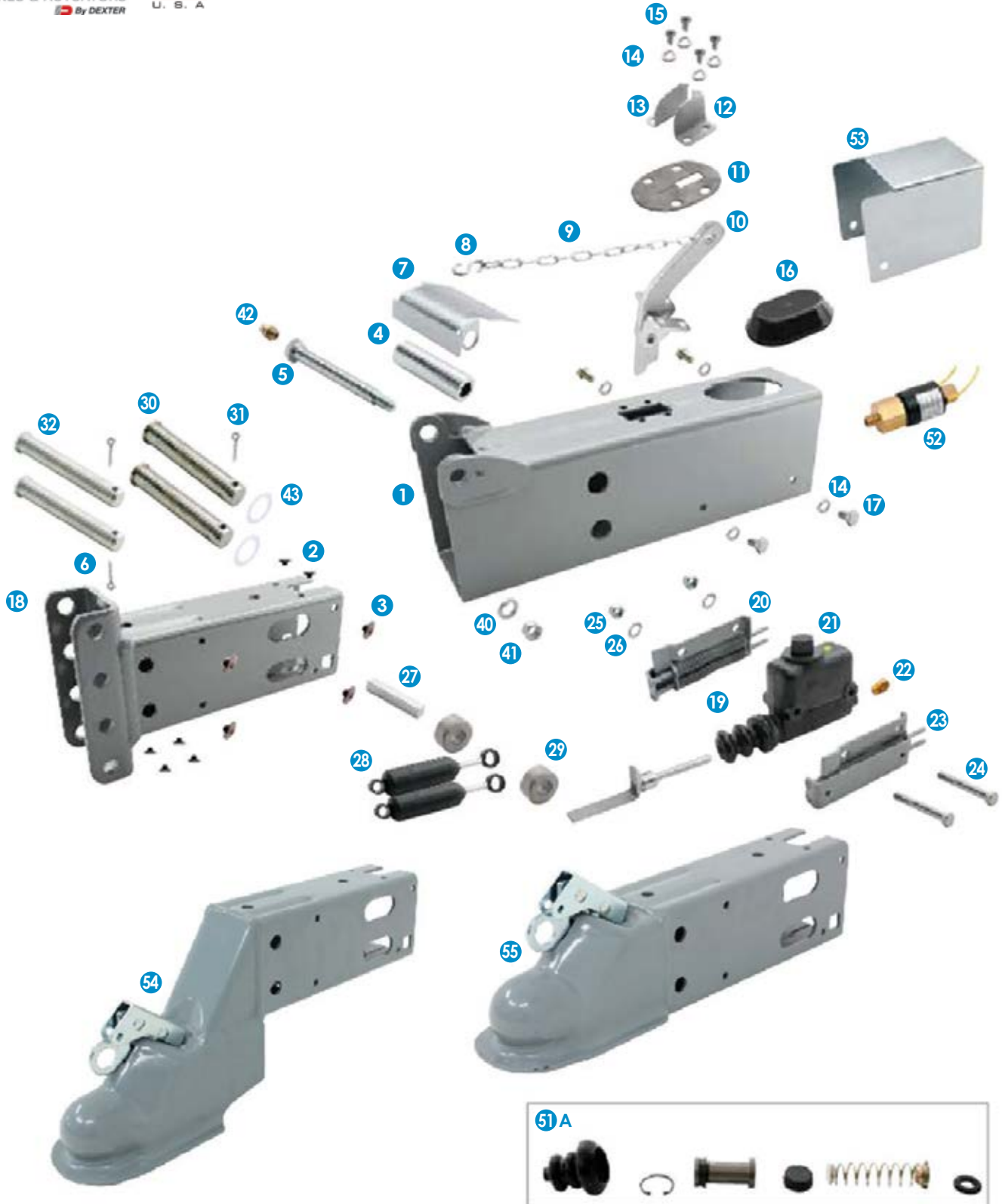
## MODEL 10 ACTUATOR PARTS LIST

REF NO.	ITEM NO.	DESCRIPTION	QTY.	REF NO.	ITEM NO.	DESCRIPTION	QTY.
1	*1601600	OUTER CASE, PAINTED, WELD-ON	1	N	0774500	GASKET FOR USE WITH EARLIER 1209900 ORIFICE	1
2	1020900	BEARING TOP & BOTTOM .125" THICK	6	23	0838900	CYLINDER BRACKET, LEFT HAND	1
3	1242700	BEARING (SIDE) .075" THICK	8	24	0827100	HEX BOLT, 3/8"-16 NC X 3" LONG	2
4	1601900	FRONT ROLLER	1	25	0797600	HEX NUT, 3/8" NC	2
5	0828800	FRONT ROLLER BOLT	1	26	1255200	STAR LOCKWASHER 3/8"	2
6	0799700	COTTER PIN 1/8" X 1"	2	27	0830100	PUSH ROD BLOCK	1
7	1601800	FRONT ROLLER COVER	1	28	1242600	DAMPER	2
8	0776800	BREAKAWAY CHAIN	1	29	0829100	REAR ROLLER	2
9	1055500	S-HOOK	2	30	1593500	MASTER PIN	2
10	1054100	BREAKAWAY LEVER ASSEMBLY	1	31	0815200	COTTER PIN 3/16" X 1-1/4"	2
11	1055200	WEATHER SEAL	1	32	1593400	DAMPER PIN	2
12	1052600	BREAKAWAY LOCK - LEFT HAND	1	40	0793700	LOCKWASHER 1/2" STANDARD	1
13	1052700	BREAKAWAY LOCK - RIGHT HAND	1	41	0798500	HEX NUT 1/2"-13 NC	1
14	0793800	LOCKWASHER 5/16" STANDARD	8	42	0144901	GREASE ZERK	1
15	0794900	HEX BOLT 5/16"-18 NC X 5/8" LONG	4	43	1861900	NYLON FLAT WASHER	2
16	1507000	CYLINDER COVER	1	N	2374600	DRUM BRAKE MASTER CYLINDER ASSY WITH BRACKETS	1
17	0794800	HEX BOLT 5/16"-18 NC X 1/2" LONG	4	N	4749501042	DISC BRAKE MASTER CYLINDER ASSY WITH BRACKETS	1
18	1608700317	INNER SLIDE, 4-HOLE LEVELER	1	50	1018700	1-1/4" MASTER CYLINDER REPAIR KIT FOR 2374400	1
19A	2374400	MASTER CYLINDER, 1-1/4" BORE, DRUM BRAKE	1	50A	4359100	MASTER CYLINDER BOOT	1
N	4831600	MASTER CYLINDER, 1-1/4" BORE, DRUM BRAKE	1	52	4748800	SOLENOID BACKUP VALVE, MALE 1/8" NPT AND 3/8" X 24 NF WITH INVERTED SEAT	1
19B	4747100	MASTER CYLINDER, 1-1/4" BORE, DRUM BRAKE	1	53	4836100183	BACKUP VALVE COVER, PLATED	1
20	0838800	CYLINDER BRACKET, RIGHT HAND	1	54	2478300183	INNER SLIDE DROP WITH 2-5/16" COUPLER, PLATED	1
21	4830601	FILLER CAP WITH DIAPHRAGM	1	55	1608400183	INNER SLIDE DROP WITH 2-5/16" COUPLER, PLATED	1
22	1209800	ORIFICE CONNECTOR, DRUM .015" 1/8" NPT	1	NOTE: N = NOT SHOWN IN DIAGRAM *SPECIAL ORDER			
N	1209900	ORIFICE, DRUM, EARLY TYPE 1/2" NF THREAD	1				

ACTUATING COUPLERS • 12,500 LB. CAPACITY

# ACTUATOR COUPLERS • 12,500 LB. CAPACITY •

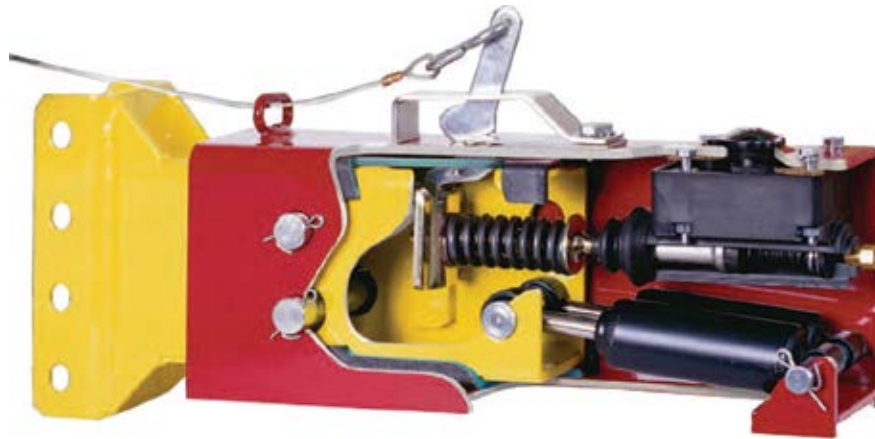
## MODEL 10 PLATED ACTUATOR DIAGRAM



ACTUATING COUPLERS • 12,500 LB. CAPACITY •

# ACTUATOR COUPLERS • 12,500 LB. CAPACITY •

## Brake Actuator 12.5K 2-5/16" & Channel Bracket Couplers

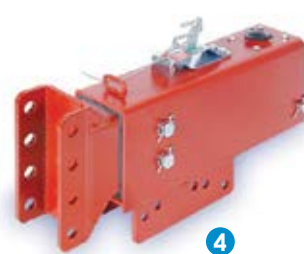


### MODEL DA10 12,500 LB G.V.W.R. - ACTUATOR

\*12,500 POUND CAPACITY, MAXIMUM GVWR, 1,200 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.

\* NOTE: ACTUATOR CAPACITY IS DEGRADED TO THE LOWEST COMPONENT CAPACITY RATING.

REF NO.	ITEM NO	ID NO	BRAKE TYPE	MOUNT	FINISH	POSITION	DESCRIPTION	DIAGRAM
1	9050154	8102222	DRUM	WELD-ON	PRIMED	STRAIGHT	50° A-FRAME 8" 4-BOLT CHANNEL BRACKET	PAGE O-18
2	9050243	8102232	DRUM	WELD-ON	PRIMED	DROP	50° A-FRAME 8" 4-BOLT CHANNEL BRACKET	PAGE O-18
3	9050144	8104002	DISC	WELD-ON	PRIMED	STRAIGHT	2-5/16" EASY LATCH COUPLER WITH BYPASS SOLENOID KIT	PAGE O-18
4	9050252	8101022	DRUM	BOLT-ON 5-HOLE STD.	PRIMED	STRAIGHT	8" 4-BOLT CHANNEL BRACKET	PAGE O-18



ACTUATING COUPLERS • 12,500 LB. CAPACITY •



# ACTUATOR COUPLERS • 20,000 LB. CAPACITY •

## Brake Actuator 20K 2-5/16" & Channel Bracket Couplers



ACTUATING COUPLERS • 20,000 LB. CAPACITY •

### MODEL DA20 20,000 LB G.V.W.R. - ACTUATOR

\*20,000 POUND CAPACITY, MAXIMUM GVWR, 2,000 POUND TONGUE LOAD. GVWR LIMITED TO BALL RATING.

\* NOTE: ACTUATOR CAPACITY IS DEGRADED TO THE LOWEST COMPONENT CAPACITY RATING.

REF NO.	ITEM NO	ID NO	BRAKE TYPE	MOUNT	FINISH	POSITION	DESCRIPTION	DIAGRAM
1	9050006	8202222	DRUM	WELD-ON	PRIMED	STRAIGHT	50° A-FRAME 8" 4-BOLT CHANNEL BRACKET	PAGE O-18
2	9050005	8202022	DRUM	WELD-ON	PRIMED	STRAIGHT	8" 4-BOLT CHANNEL BRACKET	PAGE O-18
3	9050193	8202052	DRUM	WELD-ON	PRIMED	STRAIGHT	FLAT PLATE	PAGE O-18
4	9050087	8202802	DRUM	WELD-ON	PRIMED	STRAIGHT	2-5/16" EASY LATCH COUPLER	PAGE O-18
5	9050001	8203102	DISC	WELD-ON	PRIMED	STRAIGHT	2-5/16" EASY LATCH COUPLER	PAGE O-18



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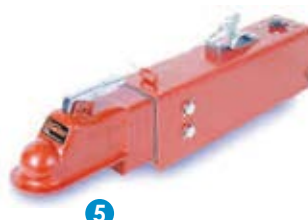
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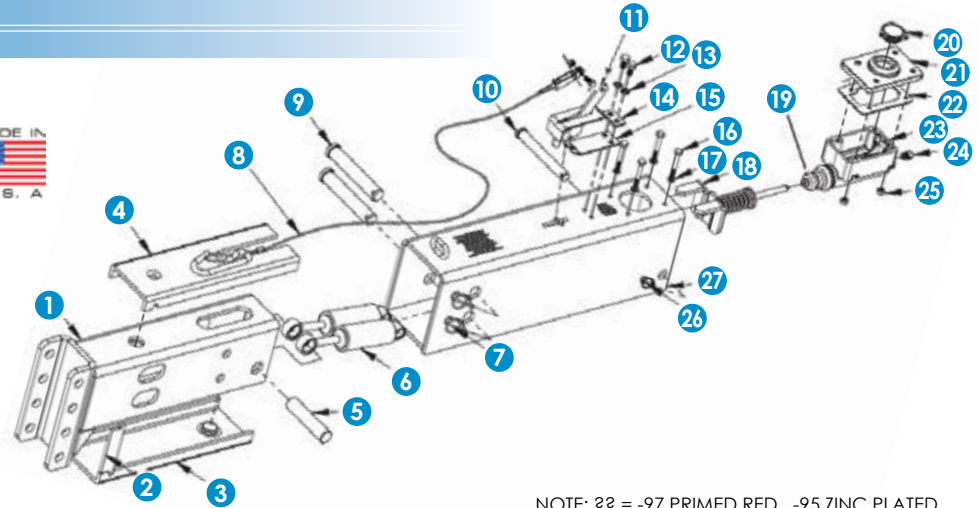
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# ACTUATOR COUPLERS • 12K & 20K LB. CAPACITY

## Brake Actuator 12.5K & 20K



Doing Our Best to Provide You the Best



\*DA10 12,500 pound capacity, maximum GVWR, 1,200 pound tongue load. GVWR limited to ball rating.

\*DA20 20,000 pound capacity, maximum GVWR, 2,000 pound tongue load. GVWR limited to ball rating.

\*NOTE: Actuator capacity is degraded to the lowest component capacity rating.

NOTE: ?? = -97 PRIMED RED -95 ZINC PLATED

DA10 12.5K ACTUATOR COMPONENT DIAGRAM

DA20 20K ACTUATOR COMPONENT DIAGRAM

REF NO.	ITEM NO.	QTY.	DESCRIPTION	REF NO.	ITEM NO.	QTY.	DESCRIPTION
1	11058-??	1	INNER SLIDE TUBE CHANNEL DOWN	1	11042-??	1	INNER SLIDE TUBE CHANNEL DOWN
	11053-??	1	INNER SLIDE TUBE CHANNEL CENTER		11040-??	1	INNER SLIDE TUBE CHANNEL CENTER
	11063-??	1	INNER SLIDE TUBE CHANNEL UP		11050-??	1	INNER SLIDE TUBE CHANNEL UP
2	***10964	2	DA10 SPACER	2	***10964	2	DA20 SPACER
3	***10966	1	DA10 SLIDE CHANNEL BOTTOM	3	***10963	1	DA20 SLIDE CHANNEL BOTTOM
4	***10965	1	DA10 SLIDE CHANNEL TOP	4	***10962	1	DA20 SLIDE CHANNEL TOP
5	05973-95	1	FRONT SHOCK PIN	5	03409-95	1	FRONT SHOCK PIN
6	SB12426	2	SHOCK ABSORBER	6	SB12426	2	SHOCK ABSORBER
	5482	1	MASTER CYLINDER REPAIR KIT (DISC)		5482	1	MASTER CYLINDER REPAIR KIT (DISC)
	5398	1	MASTER CYLINDER REPAIR KIT (DRUM)		5398	1	MASTER CYLINDER REPAIR KIT (DRUM)
7	12397	2	RUE RING LOCK COTTER 7/8 SHAFT	7	12397	2	RUE RING LOCK COTTER 7/8 SHAFT
8	05408	1	ACTUATOR SAFETY CABLE	8	05408	1	ACTUATOR SAFETY CABLE
9	05986-95	2	COLD HEADED CLEVIS PIN 0.875	9	03411-95	2	COLD HEADED CLEVIS PIN 0.875
10	05974-95	1	COLD HEADED CLEVIS PIN 0.625	10	03411-95	1	COLD HEADED CLEVIS PIN 0.625
11	05951	1	EMERGENCY LEVER	11	05951	1	EMERGENCY LEVER
12	05961	2	BOLT 0.313NC X .625 HEX HEAD GRADE 5	12	05961	2	BOLT 0.313NC X .625 HEX HEAD GRADE 5
13	05424	2	WASHER 0.313 EXTERNAL TOOTH LOCK	13	05424	2	WASHER 0.313 EXTERNAL TOOTH LOCK
14	03866-95	1	EMERGENCY LEVER GUIDE	14	03866-95	1	EMERGENCY LEVER GUIDE
15	05693-95	1	SAFETY LEVER SPRING	15	05693-95	1	SAFETY LEVER SPRING
16	00618	4	BOLT 0.25NC X 2.00 HEX HEAD GRADE 5	16	00618	4	BOLT 0.25NC X 2.00 HEX HEAD GRADE 5
17	00057	4	WASHER 0.25 SPRING LOCK	17	00057	4	WASHER 0.25 SPRING LOCK
18	05989	1	PUSH ROD ASSEMBLY DA10	18	03534	1	PUSH ROD ASSEMBLY DA20
	12891	1	PUSH ROD ASSEMBLY 1.25" BORE MASTER CYLINDER		11724	1	PUSH ROD ASSEMBLY 1.25" BORE MASTER CYLINDER
19	05687	1	REPLACEMENT MASTER CYLINDER BOOT	19	05687	1	REPLACEMENT MASTER CYLINDER BOOT
20	03876	1	MASTER CYLINDER CAP ASSEMBLY	20	03876	1	MASTER CYLINDER CAP ASSEMBLY
	05849		REPLACEMENT O-RING		05849		REPLACEMENT O-RING
21	12557	1	FILL PLATE FOR MASTER CYLINDER	21	12557	1	FILL PLATE FOR MASTER CYLINDER
22	09153	1	CORK GASKET MASTER CYLINDER	22	09153	1	CORK GASKET MASTER CYLINDER
23	5650	1	DRUM BRAKES MASTER CYLINDER KIT	23	5650	1	DRUM BRAKES MASTER CYLINDER KIT
	5672	-	DISC BRAKES MASTER CYLINDER KIT		5672	-	DISC BRAKES MASTER CYLINDER KIT
	5783	-	1.25" BORE ALUMINUM MASTER CYLINDER KIT (DISC)		5783	-	1.25" BORE ALUMINUM MASTER CYLINDER KIT (DISC)
24**	05679	1	BRAKE FITTING 0.125 FULL FLOW	24**	05679	1	BRAKE FITTING 0.125 FULL FLOW
25	00062	4	NUT 0.25NC HEX	25	00062	4	NUT 0.25NC HEX
26	12396	1	RUE RING LOCK COTTER 5/8 SHAFT	26	12396	1	RUE RING LOCK COTTER 5/8 SHAFT
27	11068-??	1	DA10 OUTER CASE	27	03412-??	1	DA20 OUTER CASE
** Optional Substitutions:			SB12099	** Optional Substitutions:			SB12099 0.031 ORIFICE BRAKE FITTING
			SB12100				SB12100 0.024 ORIFICE BRAKE FITTING
			SB12098				SB12098 0.016 ORIFICE BRAKE FITTING

\*\*\* Optional Configurations

\*\*\* Optional Configurations

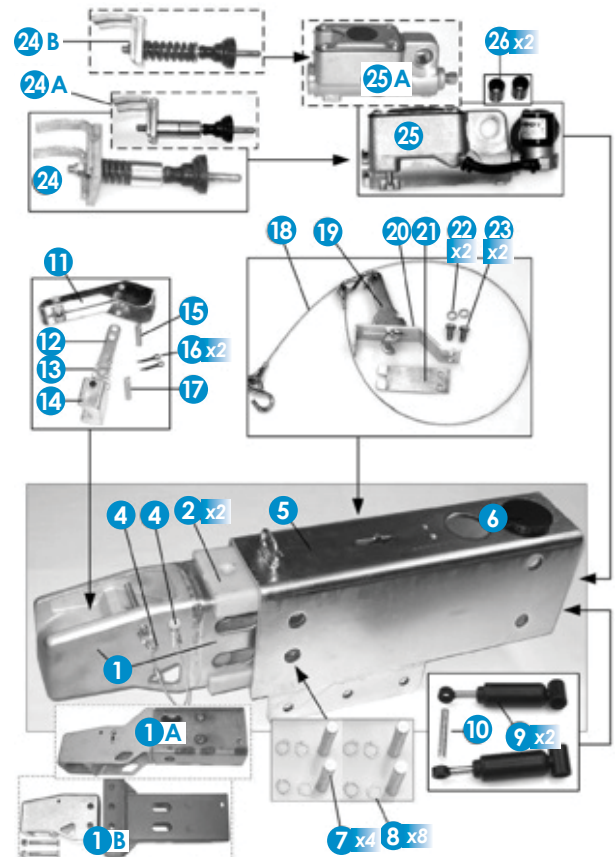
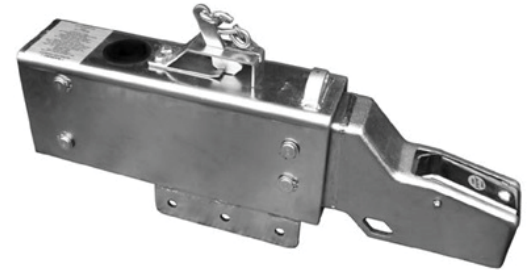
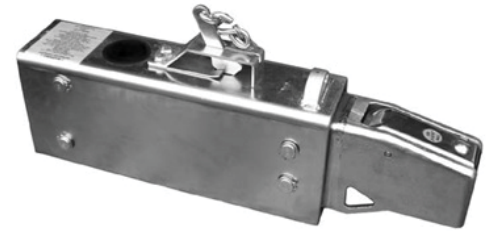
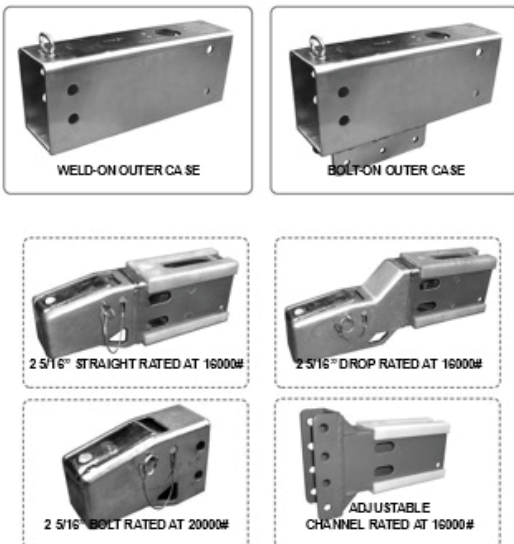
# ACTUATOR COUPLERS • 16K LB. CAPACITY •

## MODEL A-160 ACTUATOR - 16K 2-5/16" COUPLER

16,000 POUND CAPACITY, MAXIMUM GVWR, 1,600 POUND TONGUE LOAD.  
GVWR LIMITED TO BALL RATING.

REF NO.	ID NO.	PARTS	QTY
1	19050S	IM, STRAIGHT, PLATED	1
1A	19050D	IM, DROP, PLATED	1
1B	19050B	I&M 2, BBOOLLT-SO N9/,1W6/-C12O UX P4L.5E"R +, I2N LNOECCR S NLUIDTES	1
2	19023	SLIDE BEARING	2
3	19041	LANYARD, HITCH PIN, SAFETY	1
4	19059	RIVET, SNAP, LANYARD	1
5	19034	OUTER CASE ASSEMBLY, BOLT-ON	1
6	19010	CAP, PLASTIC	1
7	19014	PIN, SHOCK ABSORBER, REAR	4
8	32262	RETAINER RING	8
9	32306	SHOCK ABSORBER	2
10	19003	PIN, SHOCK ABSORBER, FRONT	1
11	19066	LATCH HANDLE W/ DEAD BOLT	1
12	19067	LINK, BALL LOCK/LATCH	1
13	19068	SPRING, LINK, LATCH HANDLE	1
14	19069	BALL LOCK SUPPORT	1
15	19092	PIN, LATCH HANDLE	1
16	19091	COTTER PIN, LATCH PIN	2
17	19072	PIN, BALL LOCK SUPPORT	1
18	19005	BREAKAWAY CABLE ASSEMBLY	1
19	19006	B REAKAWAY LEVER	1
20	19011	LEVER GUIDE	1
20A	32522	DECAL, BREAKAWAY LEVER, RED/GREEN	1
21	19012	SAFETY STOP PLATE	1
22	19009	TOOTH WASHER	2
23	19008	BOLT, HEX 5/16 - 18, 1/2"	2
24	19073	TANDEM DISC PUSH ROD ASSY	1
24A	19074	TRIPLE DISC PUSH ROD ASSY	1
24B	19075	DRUM BRAKE PUSH ROD ASSY	1
25	34762	M/C-E-DISC ASSY	1
25A	32747	M/C-S, 1" DRUM ASSY	1
26	19018	SPACER, M/C,A160	2
27	34500	SOLENOID VALVE WITH FITTINGS	1
28	34508	REVERSE VALVE DRAIN TUBE	1
29	32269	NYLON CABLE TIE	2

### AVAILABLE CONFIGURATIONS:



# ELECTRIC OVER HYDRAULIC

## HYDRASTAR®

**CONVERSION SYSTEM**  
Works with FORD, DODGE and GM Factory Brake Controllers.

- 1-3 Brakes
- Brake Actuator for DISC or DRUM Brakes!
- Complies with CFR-393 Federal Braking Requirement.
- Meets All D.O.T. Regulations.
- 2-Year Limited Warranty



Note: 9500067 Is Required If Line Kit 9500014 Or 9500015 Is Selected.

MODEL ID NO.	ITEM NO.	ID NO.
1000 PSI (HBA-10)	7010001	381-7065
1200 PSI (HBA-12)	7010009	381-7066
1600 PSI (HBA-16)	7010002	381-7067

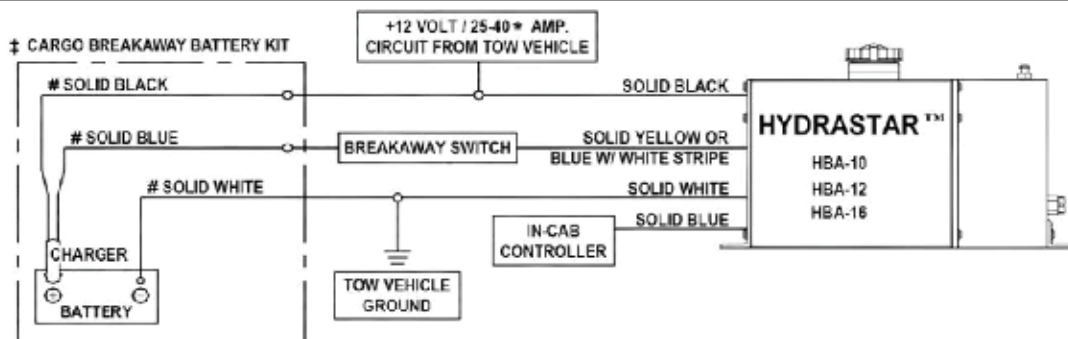
### FEATURES AND BENEFITS:

- 2 Year Warranty From Date Of Purchase
- Sealed, Extruded, Anodized Aluminum Housing (Not Cast Or Plastic)
- Dimensions: 11.8" L X 3" W X 7.3" H
- Trailer Mounted
- 12 V Dc Operation
- Solid State Electronics
- Uses Dot 3 Or Dot 4 Brake Fluid
- Easy To Install, (4) 12Ga Wires
- Black - Constant Power
- Blue - Brake Controller
- White - Ground
- Yellow - Break-Away
- Available In 1000,1200, And 1600 Psi For Any Trailer Configuration With 1-3 Axles
- Meets All Dot Regulations
- Complies With Cfr-393 Braking Requirements

The Hydrastar Electric Over Hydraulic (EOH) Trailer Brake Actuator Gives You The Reliability And Confidence You Expect And Need From Your Trailer Braking System. With Hydrastar You Get The Fastest Response Time For Shorter Stopping Distance, So In Emergency Situations And In Your Day To Day Towing, You Can Control Those Precious Fractions Of A Second That Matter When It Comes To Stopping Your Trailer.

Industry Leading Hydrastar Actuators Are Easy To Install And Meet All Dot And Federal Braking Requirements - Unlike Surge Brakes, Which Are Illegal In Many States. Hydrastar Has Improved The Stopping Performance For Trailers Hauling Boats, Rv/Towables, Horses, Cars, Construction And Farm Equipment, And Many Other Loads.

### ELECTRICAL SCHEMATIC



\* = COLD TEMPERATURE ( BELOW 0° F ) APPLICATIONS REQUIRE 40 AMP.

‡ = THIS ELECTRICAL SCHEMATIC REPRESENTS THE USE OF A CARLISLE BREAKAWAY BATTERY KIT. PLEASE NOTE THAT IF YOU ARE USING A DIFFERENT BREAKAWAY BATTERY KIT, THERE MAY BE A DIFFERENT NUMBER OF WIRES AND THE CHARGING +12VOLT, BREAKAWAY, AND GROUND CIRCUITS MAY BE IDENTIFIED BY COLORS OTHER THAN THOSE DEPICTED IN THIS SCHEMATIC. PLEASE CONSULT THE MANUFACTURER'S INSTRUCTIONS TO IDENTIFY THE AFOREMENTIONED CIRCUITS.

# = CIRCUITS FOR THE CARLISLE BREAKAWAY BATTERY KITS WILL BE IDENTIFIED AS FOLLOWS:

CHARGING +12 VOLT CIRCUIT - BLACK  
BREAKAWAY CIRCUIT - BLUE  
GROUND CIRCUIT - WHITE

# ELECTRIC OVER HYDRAULIC

# HYDRASTAR®

## CONVERSION SYSTEM

Works with FORD, DODGE and GM Factory Brake Controllers.

- 1-3 Brakes
- Brake Actuator for DISC or DRUM Brakes!
- Complies with CFR-393 Federal Braking Requirement.
- Meets All D.O.T. Regulations.
- 2-Year Limited Warranty

MODEL ID NO.	ITEM NO.	ID NO.
1000 PSI (MHBA-10)	-	481-8065
1200 PSI (MHBA-12)	-	481-8066
1600 PSI (MHBA-16)	7010018	481-8067



## Included In The Kit:



496-82 - Break-A-Way System - For 1, 2 ,Or 3 Axle Trailers, To Activate Brakes Upon Separation Of Trailer And Tow Vehicle. Includes 12 Volt, 5 Amp/Hr Battery With Built In Charger, Weather Resistant Heavy Duty Polymer Case To Protect Battery/Charger, And Break Away Switch With 7.5 In. Lead Wires. Dimensions 5 In. X 4.125 In. X 4 In.



496-210 - 7 Way Insulated Trailer Harness - 7 Way Plastic Connector Molded To Heavy Duty 7 Way Insulated Cable. Made With Self-Cleaning Contact And Molded To Encapsulate Terminals And Wires To Form Weather Resistant, Non-Corrosive Assembly. Black And White Wires-10 Gauge, Blue Wire -12 Gauge, Brown/Red/Green/ Yellow Wires 14 Gauge. Molded Connector Can Be Used With Thermo-Plastic Or Metal Car End Connectors.



471-8025 - 7 Pole Junction Box - Weatherproof And Corrosion Resistant Construction Makes Wire Installation And Diagnosing A Problem Easy Complete With Hardware And 7 Color Coded Studs With Nuts. Mounts With 2 5/16 In. Holes. Length 6 3/4 In. Height 2 1/4 In. Width 3 1/2 In.



Qty (4) - Adhesive-Backed Mounting Pads Provide Secure Mounting For Cable Ties Where Drilling A Hole Is Impractical With Black Cable Ties.



496-180 - 6 Ft Split Wire Loom - Provides Abrasion Protection For Trailer Wiring. Allows Leads In And Out At Any Point For Easy Installation.



700-115 - Mounting Hardware - Qty (8) #10 Mounting Hardware For Installation Of To Trailer.



304-7170 - Wiring Hardware - Wiring Hardware Constructed With Adhesive Lined Heat Shrink Tubing Ideal For Any Leads Exposed To Moisture.

- Qty (9) - 10 /12 Gauge Ring Connectors
- Qty (8) - 12 /14 Gauge Ring Connectors
- Qty (1) - 10 /12 To 12/14 Gauge Butt Connector
- Qty (1) - 10 /12 To 12/14 Gauge Butt Connector
- Qty (1) - 10 /12 To 10/12 Gauge Butt Connector

Additional Options:

Qty (1) - 10 Gauge Ground Wire For Grounding Of Hydrastar To Trailer Including Self-Tapping Screw For Installation.



381-7073 - Hba-Cam - Allows Hydrastar Braking System To Be Compatible With Some Factory Installed Brake Controllers.



43-9035 - 1/4 In. Brake Line Adapter



394-56 - Drawrite Activator In Cab Brake Controller- Small Compact Design For 2, 4, 6 And 8 Brake Systems. Easy, Push Button Adjustment For "Output" And "Sync." Digital Display With No Leveling Required And Mounts In Any Direction.



304-7169 - Mounting Bracket



# ELECTRIC OVER HYDRAULIC



## Braking Performance You Can Depend On Stop After Stop.



**Dexter Axle Brake Actuator Provides 1,000 Psi (For Drum Brakes) And 1,600 Psi (For Disc Brakes) Of Pressure For 1-3 Axles.**



AXLE TYPE APPLICATION	MODEL ID NO.	ITEM NO.	ID NO.
DRUM	1000 PSI (DX-1000)	7010004	K71-650-00
DISC	1600 PSI (DX-1600)	7010005	K71-651-00

**The Dexter Actuators ARE NOT Compatible With The GM Integrated Brake Controller.**

## WORKS WITH FORD AND DODGE FACTORY BRAKE CONTROLLERS

**7010004 Dexter K71-650-00** 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 Housing Provides A Weather Tight Seal. Five Year Limited Warranty.

**7010005 Dexter K71-651-00** Electro/Hydraulic Brake Actuator Provides 1600 Psi Of Pressure For 1-3 Axles Equipped With Disc Brakes. Brake Fluid Pressure Is Proportional To The Electronic Brake Controller Signal. Sealed Housing Provides A Weather Tight Seal. Five Year Limited Warranty.

Meets Or Exceeds All D.o.t. Regulations And Federal Braking Requirements.

All Stainless Steel Fasteners For Superior Corrosion Resistance.

Goretite® Seals Protect The Circuit Board From Water And Provide Protection Against The Elements.

Finned Housing Design Helps Dissipate Heat More Efficiently For Long-Lasting Durability.

Incorporates Enhanced Wiring Protection To Prevent Possible Damage To The Unit If Wired Improperly.

Solid State Electronics For Improved Performance And Compatibility With Most Aftermarket And Oem Integrated Electric Brake Controllers On The Market.

Large Brake Fluid Reservoir And Self-Priming Pump Reduce The Time Required For Brake Bleeding While Preventing The System From Running Dry During The Process.

Unrestricted By Brake Fluid Displacement Requirements Eliminating The Risk Of Starving Brakes For Fluid.

Allows For Use On Single, Tandem, Or Tripler Axle Configurations Regardless Of Capacity.

Provides Braking Power When Moving The Trailer In Reverse.

Eliminates The Feeling Of Being Pushed By The Trailer Which Reduces The Possibility Of Jackknife Situations.

Eliminates Brake Drag Commonly Experienced When Using Surge Actuator Systems In Downhill Towing.



ITEM NO.	ID NO.	DESCRIPTION
6550028	034-285-00	9-AMP/HOUR BREAKAWAY BATTERY AND CHARGER KIT

\*Note: Requires 6550028. Separate Purchase.

9500067

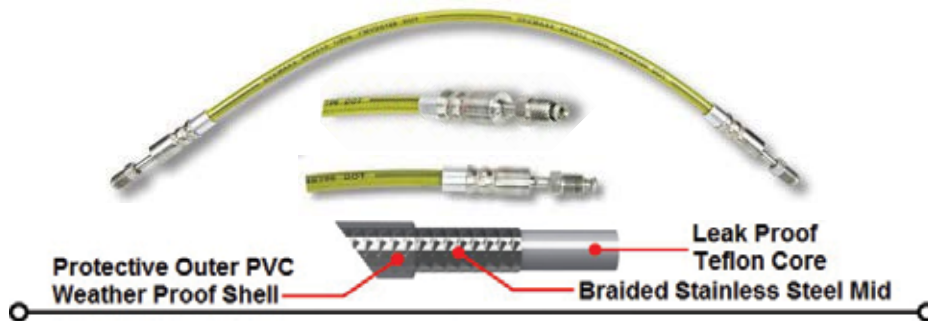


9500067 Is Required If Hydraulic Line Kit 9500014 Or 9500015 Is Selected.

ITEM NO.	ID NO.	DESCRIPTION
6500012	058-008-00	INERTIA-ACTIVATED ELECTRIC BRAKE CONTROLLER. SEE PAGE O-2 FOR MORE DETAILS.



# HYRAULIC BRAKE HOSES



## STAINLESS STEEL BRAIDED

Low and High Temperature Ranges -70°C (-94°F) to +260°C (+500°F) • Bursting Strength 15, 110psi

ITEM NO.	ID NO.	LENGTH	END	DESCRIPTION
9500084	DOT-SSFL-18"	12"	3/16"	DOT APPROVED STAINLESS STEEL BRAIDED FLEX LINE WITH TEFLON CORE. SS INVERTED FLARE MALE ON BOTH ENDS.
9500085	DOT-SSFL-24"	16"	3/16"	
9500086	DOT-SSFL-30"	18"	3/16"	
9500087	DOT-SSFL-36"	24"	3/16"	



## RUBBER FLEX HOSE

Low and High Temperature Ranges -50°C (-58°F) to +121°C (+250°F) • Bursting Strength 10, 950psi

ITEM NO.	ID NO.	LENGTH	END	DESCRIPTION
9500089	DOT-RFL-12"	12"	3/16"	DOT APPROVED RUBBER FLEX LINE BRASS INVERTED FLARE MALE ON BOTH ENDS.
9500090	DOT-RFL-16"	16"	3/16"	
9500091	DOT-RFL-18"	18"	3/16"	
9500092	DOT-RFL-24"	24"	3/16"	
9500093	DOT-RFL-36"	36"	3/16"	
9500094	DOT-RFL-38"	38"	3/16"	
9500095	DOT-RFL-60"	60"	3/16"	
9500096	DOT-RFL-72"	72"	3/16"	
9500097	DOT-RFL-78"	78"	3/16"	
9500098	DOT-RFL-220"	220"	3/16"	
9500099	DOT-RFL-240"	240"	3/16"	
9500100	DOT-RFL-260"	260"	3/16"	
9500101	DOT-RFL-280"	280"	3/16"	
9500102	DOT-RFL-312"	312"	3/16"	

# HYDRAULIC BRAKE LINE KITS • DRUM

Hydraulic Line Kits Come Complete With All Fittings Needed To Connect Hydraulic Brake Axles. Kits Begin With A Basic Single Line Kit And With The Additional "Add-On" Kit You Can Plumb More Brakes. Choose From Steel (With Alum Galvan Finish), Stainless Steel, Torsion Or Dot Approved "Flex" Line Kits. The Standard

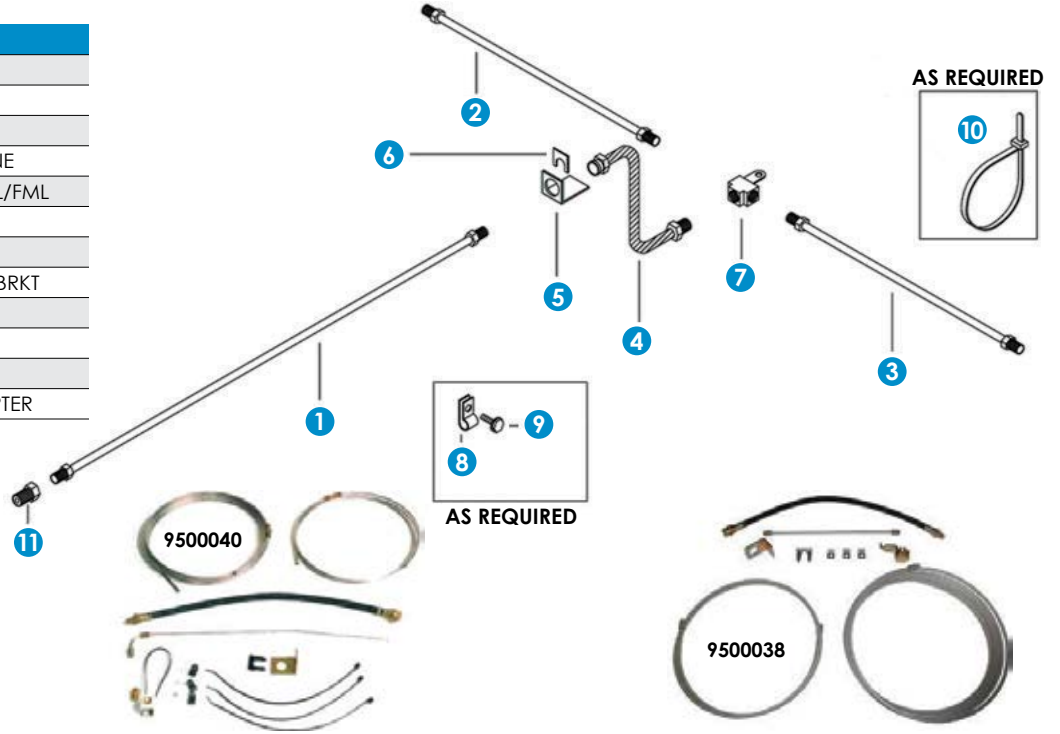
Hydraulic Brake Line Kits Listed Below Are Designed To Be Used On Trailers Using Either Surge Brake Actuators Or Power Brake Actuators And Are Manufactured Using Double Wall Brazed Low Carbon Steel Tubing In Accordance With Sae J527.



ITEM NO.	ID NO.	DESCRIPTION
9500038	AG-100SA	LINE KIT - SINGLE AXLE DRUM 3/16" X 15'
9500040	S-100SA	LINE KIT - SINGLE AXLE DRUM STAINLESS STL 3/16" X 15'

**Choose This Line Kit For A Single Axle Drum Trailer. For A Tandem, Add-On One Of The Kits Below. I.e., If You Select Ag-100Sa, Then For A Tandem Select Ag-130Sa Also.**

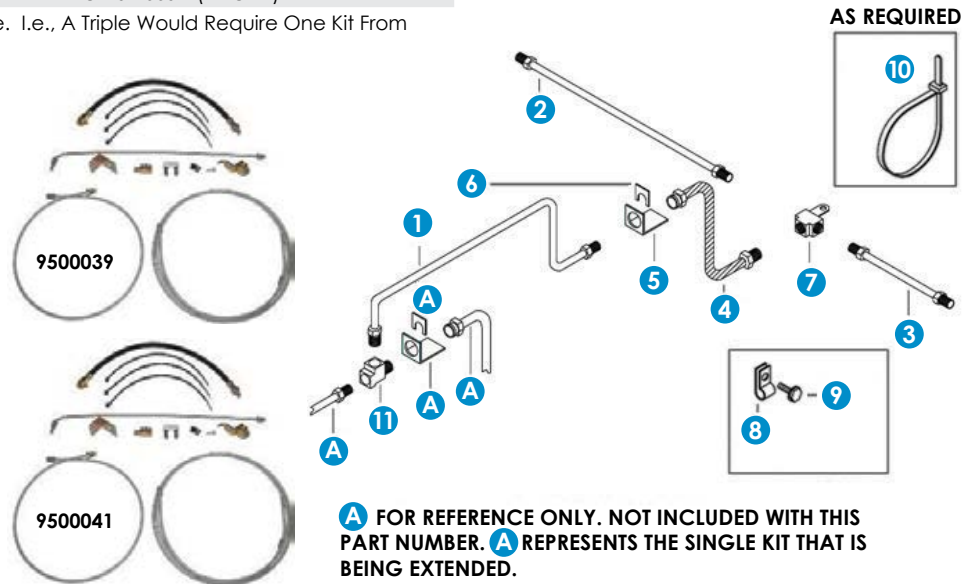
DRUM		
REF NO.	QTY	DESCRIPTION
1	1	3/16" X 15' BRAKE LINE
2	1	3/16" X 72" BRAKE LINE
3	1	3/16" X 17.5" BRAKE LINE
4	1	18" FLEX BRAKE LINE ML/FML
5	1	HOSE BRACKET
6	3	HOSE CLIP
7	3	3/16" IF UNION TEE W/ BRKT
8	3	TUBE CLAMP
9	3	SELF TAB SCREW
10	3	AXLE STRAP
11	1	1/8 MPT X 3/16 IF ADAPTER



ADD-ON KITS		
ITEM NO.	ID NO.	DESCRIPTION
9500039*	AG-130SA	LINE KIT - ADD FOR AG-100SA (ABOVE)
9500041*	S-130SA	LINE KIT - ADD FOR S-100SA (ABOVE)

\* Add One Of These Kits For Each Additional Axle. I.e., A Triple Would Require One Kit From Above Plus Two Of The Matching Add-On Kits.

DRUM		
REF NO.	QTY	DESCRIPTION
1	1	3/16" X 30" BRAKE LINE
2	1	3/16" X 72" BRAKE LINE
3	1	3/16" X 17.5" BRAKE LINE
4	1	18" FLEX BRAKE LINE ML/FML
5	1	HOSE BRACKET
6	1	HOSE CLIP
7	1	3/16" IF UNION TEE W/ BRKT
8	1	TUBE CLAMP
9	1	SELF TAB SCREW
10	3	AXLE STRAP
11	1	3/16" IF ADAPTER TEE



**A FOR REFERENCE ONLY. NOT INCLUDED WITH THIS PART NUMBER. A REPRESENTS THE SINGLE KIT THAT IS BEING EXTENDED.**

HYDRAULIC BRAKE LINE KITS • DRUM



# HYDRAULIC BRAKE LINE KITS • DISC

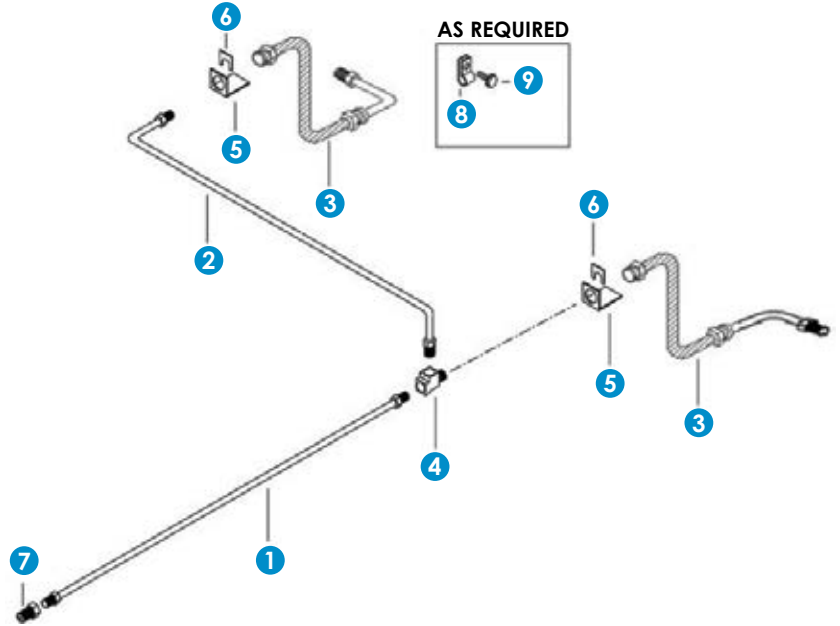
Hydraulic Line Kits Come Complete With All Fittings Needed To Connect Hydraulic Brake Axles. Kits Begin With A Basic Single Line Kit And With The Additional "Add-On" Kit You Can Plumb More Brakes. Choose From Steel (With Alum Galvan Finish), Stainless Steel, Torsion Or Dot Approved "Flex" Line Kits. The Standard

Hydraulic Brake Line Kits Listed Below Are Designed To Be Used On Trailers Using Either Surge Brake Actuators Or Power Brake Actuators And Are Manufactured Using Double Wall Brazed Low Carbon Steel Tubing In Accordance With Sae J527.

ITEM NO.	ID NO.	DESCRIPTION
9500044	AG-701-TR	LINE KIT - SINGLE AXLE TORFLEX OR DISC DELUXE 3/16" X 15'

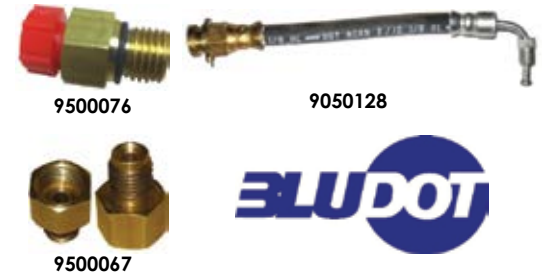
Choose This Line Kit For A Single Axle Torflex Or Disc Trailer. For A Tandem, Add-On One Of The Kits Below. I.e., If You Select Ag-701-Tr, Then For A Tandem Select Ag-700-Ak Also.

DISC		
REF NO.	QTY	DESCRIPTION
1	1	3/16" X 15' BRAKE LINE
2	1	3/16" X 72" BRAKE LINE
3	2	3/16" X 5" BRAKE LINE WITH 13" FLEX BRAKE LINE ML/FML WITH SWIVEL ENDS ON HOSE
4	1	3/16" IF STREET TEE
5	2	HOSE BRKT
6	2	HOSE CLIP
7	1	1/8 MPT X 3/16 IF ADAPTER
8	4	TUBE CLAMP
9	4	SELF TAB SCREW

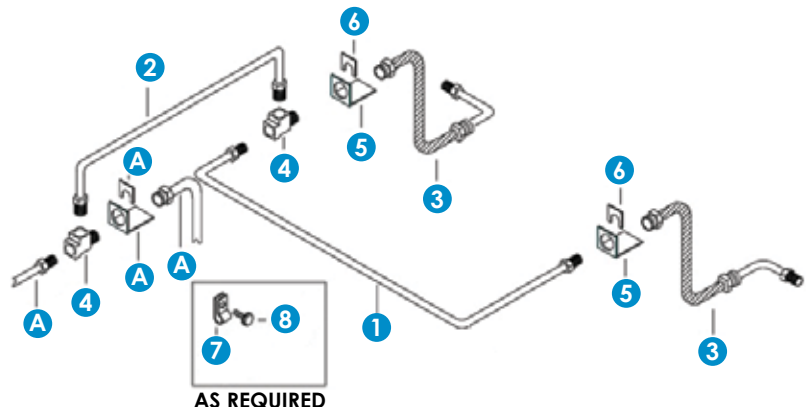


ADD-ON KITS		
ITEM NO.	ID NO.	DESCRIPTION
9500076	192-7089	HYDRAULIC LINE ADAPTER FOR USE WITH 10K-12K DISC BRAKES
9050128	18018-SF	HYDRAULIC HOSE OPTION 90° SWIVEL MALE 3/8"-24 X 3/8"-24 FEMALE 18" LONG
9500067	7828	HYDRAULIC ADAPTER 1/4" FEMALE 3/16" MALE INVERTED FLARE FOR DEXTER ACTUATORS
9500045*	AG-700-AK	LINE KIT - ADD FOR AG-701-TR (ABOVE)

\* Add One Of These Kits For Each Additional Axle. I.e., A Triple Would Require One Kit From Above Plus Two Of The Matching Add-On Kits.



DISC		
REF NO.	QTY	DESCRIPTION
1	1	3/16" X 72" BRAKE LINE
2	1	3/16" X 30" BRAKE LINE
3	2	3/16" X 5" BRAKE LINE WITH 13" FLEX BRAKE LINE ML/FML WITH SWIVEL ENDS ON HOSE
4	2	3/16" IF STREET TEE
5	2	HOSE BRKT
6	2	HOSE CLIP
7	2	TUBE CLAMP
8	2	SELF TAB SCREW



**A** FOR REFERENCE ONLY. NOT INCLUDED WITH THIS PART NUMBER. **A** REPRESENTS THE SINGLE KIT THAT IS BEING EXTENDED.

# HYDRAULIC BRAKE LINE KITS • FLEXIBLE

Designed To Be Used On Trailers With Either Surge Brake Actuators Or Powered Brake Actuators, Such As The Electric Over Hydraulic. Can Be Used With Drum Or Disc Brakes. Brake Lines Are Dot Flexible Hoses Approved For Use On All Trailers. All Fittings Are Brass For Ultimate Corrosion Resistance. Do Not Exceed 3,000 Psi.

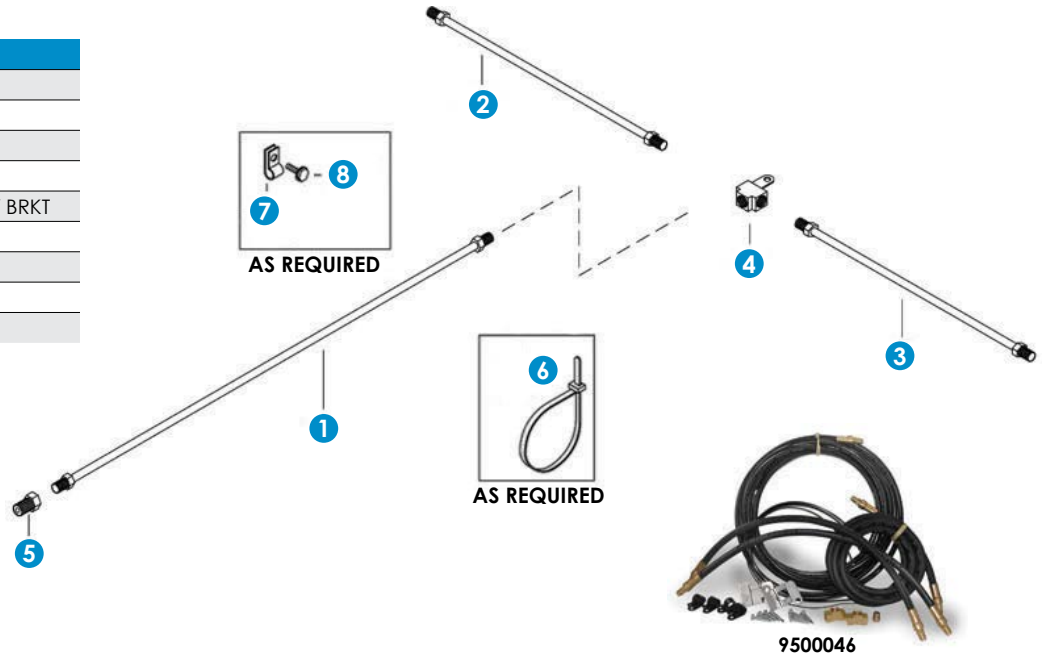


ITEM NO.	ID NO.	DESCRIPTION
9500046	F-100-SA	LINE KIT - SINGLE AXLE "D.O.T. FLEX LINE"

Choose This Line Kit For A Single Axle Drum Or Disc Brake Trailer. For A Tandem, Add-On The Kit Below. I.e., If You Select F-100-Sa, Then For A Tandem Select F-130-Sa Also.

## FLEXIBLE • DISC OR DRUM

REF NO.	QTY	DESCRIPTION
1	1 EA	72" FLEX BRAKE LINE
2	1 EA	48" FLEX BRAKE LINE
3	1 EA	18" FLEX BRAKE LINE
4	1 EA	3/16" IF UNION TEE W/ BRKT
5	1 EA	3/16" IF ADAPTER TEE
6	3 EA	TUBE CLAMP
7	3 EA	SELF-TAP SCREW
8	3 EA	TIE STRAP

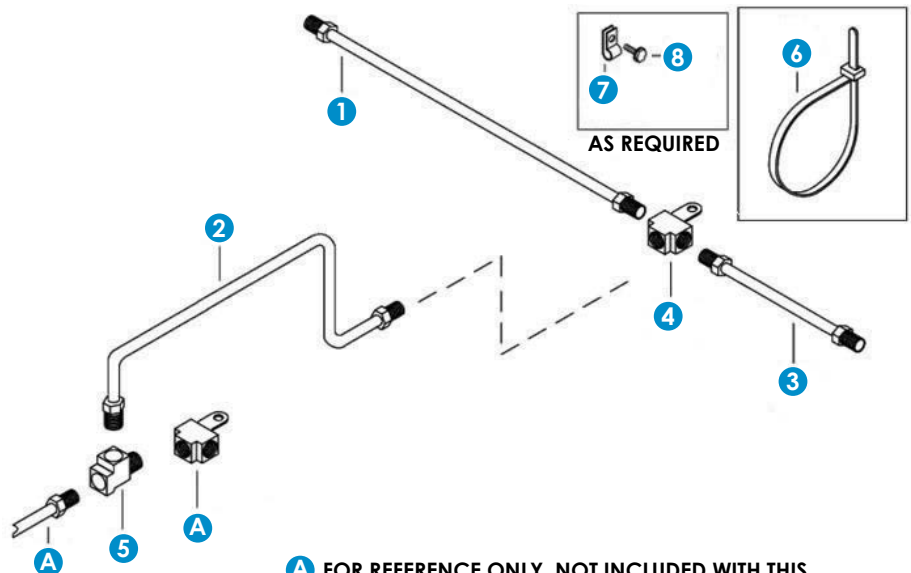


## ADD-ON KITS

ITEM NO.	ID NO.	DESCRIPTION
9500047	F-130-SA	LINE KIT - ADD FOR F-100-SA

\* Add One Of These Kits For Each Additional Axle. I.e., A Triple Would Require One Kit From Above Plus Two Of These Add-On Kits.

REF NO.	QTY	DESCRIPTION
1	1	72" FLEX BRAKE LINE
2	1	48" FLEX BRAKE LINE
3	1	18" FLEX BRAKE LINE
4	1	3/16" IF UNION TEE W/ BRKT
5	3	TUBE CLAMP
6	3	SELF-TAP SCREW
7	3	TIE STRAP
8	1	1/8 MPT X 3/16 IF ADAPTER



**A** FOR REFERENCE ONLY. NOT INCLUDED WITH THIS PART NUMBER. **A** REPRESENTS THE SINGLE KIT THAT IS BEING EXTENDED.

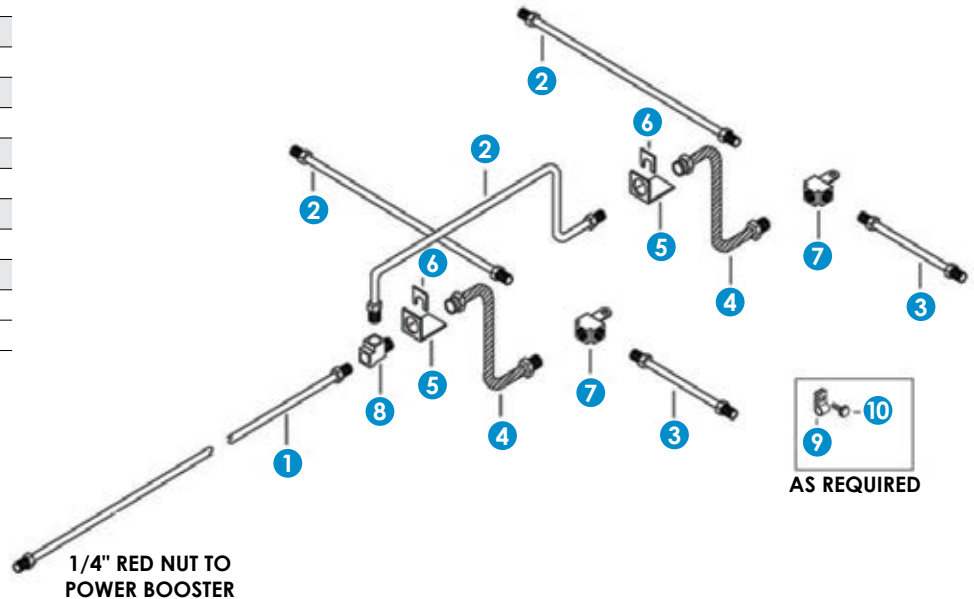
# HYDRAULIC BRAKE LINE KITS • FLEXIBLE

Designed To Be Used On Longer Trailers. Includes 25 Feet Of Main Line Verses 15 Feet In The Standard Kit. Disc Kit Includes Hoses Designed To Be Used With Disc Brake Calipers With 7/16-20 Male Ends Avoiding The Use Of Additional Fittings.

DRUM		
ITEM NO.	ID NO.	DESCRIPTION
9500015	T-1002	LINE KIT - TANDEM DUAL DRUM BRAKES

Choose This Line Kit For A Tandem Dual Wheel Drum Brake Trailer.

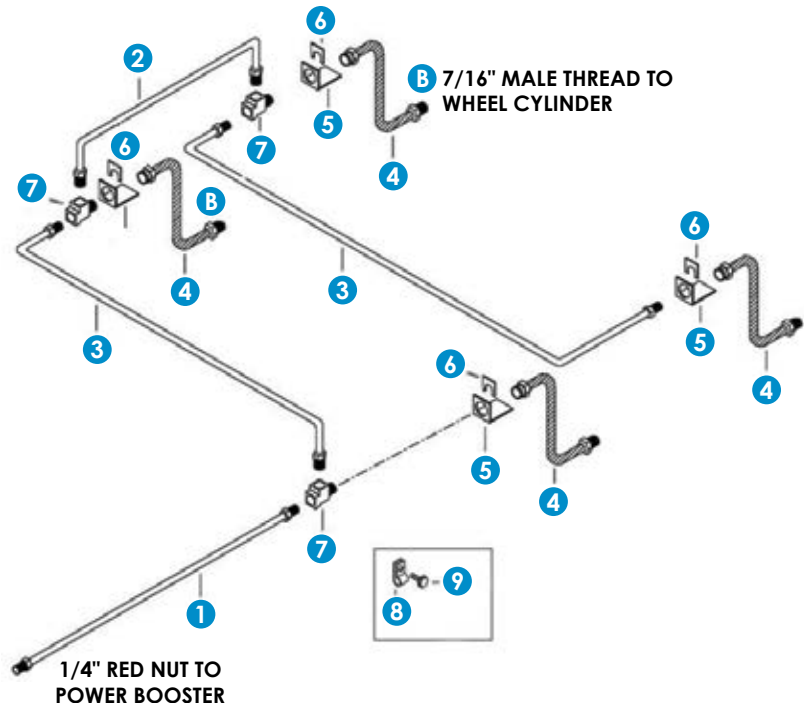
REF NO.	QTY	DESCRIPTION
1	1	3/16" X 25' BRAKE LINE
2	3	3/16" X 51" BRAKE LINE
3	2	3/16" X 60" BRAKE LINE
4	2	18" FLEX BRAKE LINE ML/FML
5	2	HOSE BRKT
6	2	HOSE CLIP
7	2	3/16" IF UNION TEE W/ BRKT
8	1	3/16" IF STREET TEE
9	8	TUBE CLAMP
10	8	SELF-TAP SCREW



DRUM		
ITEM NO.	ID NO.	DESCRIPTION
9500014	T-1002D	LINE KIT - TANDEM DUAL DISC BRAKES OR TORFLEX AXLE

Choose This Line Kit For A Tandem Dual Wheel Disc Brake Or Torflex Axle Trailer.

REF NO.	QTY	DESCRIPTION
1	1	3/16" X 25' BRAKE LINE
2	1	3/16" X 51" BRAKE LINE
3	2	3/16" X 60" BRAKE LINE
4	4	18" X 7/16-20 FLEX LINE ML/FML
5	4	HOSE BRKT
6	4	HOSE CLIP
7	3	3/16" IF STREET TEE
8	8	TUBE CLAMP
9	8	SELF-TAP SCREW



ABS Blink Codes provides faults with the ABS Air System.



*Sealco* Commercial Vehicle Products



215 East Watkins Street Phoenix, Arizona 85004 602/253-1007 Fax 800/222-2334

TIS0205-04

## ABS & RSS Basic Blink Code Diagnostics





Feb. 2013

These procedures can be used on North American designated WABCO ABS ECUs installed after February 2001 and Roll Stability Systems Plus (2M And 1M with black plastic tops). The constant power circuit (normally the blue wire) must be used to initiate fault display. This circuit must triggered on and off in proper sequence to start the display.

### Typical Circuit Triggers

1. Turning the key on a properly wired tractor connected to the trailer.
2. Switching the blue power using a light tester or other suitable means. Battery chargers and many other AC converters can cause the ABS to react erratically. A 12 volt battery is the recommended source for a tester.

### Start The Active Fault Display

<b>1.</b> Power on to the blue wire for no more than five seconds  Warn Lamp 	<b>2.</b> Turn power off for three to five seconds.  Warn Lamp 	<b>3.</b> Turn the power on. The lamp stays on for a moment.  Warn Lamp 	<b>4.</b> After a short delay the warn lamp will flash several quick times followed by a longer pause. Count the quick flashes to get the fault number. The sequence will be repeated three times.  Warn Lamp 
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### Fault Number Chart

Blink Code Counts	Cause On Anti-Lock Brake Systems	Cause On Roll Stability Systems	Location	Checks
3	Sensor BU1	Sensor C	Determine sensor location from configuration or follow cabling from port (where marked on valve) to the wheel end.  *Not applicable to 2S1M valves.	Check cabling for short or no circuit, hub for excessive runout, exciter ring for damage, and sensor gap.
4	Sensor YE1	Sensor D		
5	Sensor BU2	*Sensor E		
6	Sensor YE2	*Sensor F		
7	External Modulator	External Modulator	External modulator and/or cable	Check the cable for connection and continuity. Verify valve function.
9	Internal Modulator	*Internal Modulator H2	Internal Inlet Control #2	Verify proper installation. If code continues, contact Meritor WABCO for assistance.
10	Internal Modulator	Internal Modulator H1	Internal Inlet Control #1	
11	Internal Modulator	No Speed Failure	Internal Outlet Control	
12	N/A	Control Pressure	External Air Supply	Verify proper pressure to control line.
13	N/A	Supply Pressure	External Air Supply	Verify proper pressure to reservoir.
14	Power Supply	Power Supply	Power Supply, Cabling, And/Or Connectors	Verify electrical installation, power supply and EOL has passed (RSS only).
15	ECU Failure	ECU Failure Or EOL	Internal ECU Failure Or On RSS Incomplete End Of Line Test	Verify Proper Installation And On RSS That ECU Passed End Of Line (EOL) Test.
16	SAEJ1708 Failure	SAEJ1708 Failure	ECU Internal Failure	Internal failure. Contact Meritor WABCO for assistance.
17	SAE J2497 (PLC) Failure	SAE J2497 (PLC) Failure	ECU Internal Failure	
18	Generic I/O Failure	Generic I/O Failure	Cabling	Verify proper electrical installation and power supply.
19	N/A	Load Sensing	Load Sensor, Sensor Adjustment Or Cabling	Verify proper mechanical and parameter settings.
20	N/A	Roll Stability	Accelerometer	Verify proper installation. If code continues, contact Meritor WABCO for assistance."

# ABS TRAILER KITS

Meritor Wabco Has Been A Trailer Abs Technology Leader Since 1993 With ABS Offered As Standard Equipment At All Major Trailer Oem's. Enhanced Easy-Stop™ ABS Provides Unparalleled Trailer Monitoring And Control Capabilities To Fleet And Owner-Operators With System Configurations To Meet Virtually Any

Trailer Application – Basic, Standard, And Premium. These Kits Provide Increased Directional Stability While Meeting Fmvss-121 Requirements For ABS Air Brake Systems And Offer The Benefits Of Reduced Tire Flat Spotting And Trailer Swing.

ITEM NO	ID NO	DESCRIPTION
6050017-02	2S/1M	TANDEM AXLE ABS KIT - ONE ABS AXLE 2 SENSORS / 1 MODULATOR
6050018-02	4S/2M	TANDEM AXLE ABS KIT - TWO ABS AXLES 4 SENSORS / 2 MODULATORS
6050008		AIR TUBING - 3/8" BLUE 100-FT BOX
6050009		AIR TUBING - 3/8" RED 100-FT BOX



**Hoosier Tank**  
& Manufacturing, Inc.



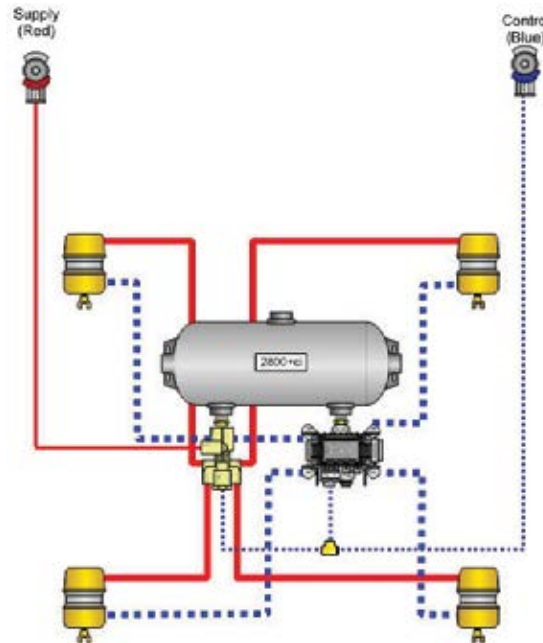
**MERITOR WABCO**

Note: 6S/3M For Triple ABS Axle Application Is Available. Ask Your Sales Representative For Details.

COMPONENT	DESCRIPTION	6050017-02	6050018-02
6050010	ISOLATION PAD	2	2
6050091	ABS WARNING TAG	1	1
6050093	ABS WARNING TAG	1	1
6050096	MANUAL-2S/1M-4S	1	1
6050100	GLADHAND BLUE	1	1
6050101	GLADHAND RED	1	1
6050110	BULK HEAD ADAPT	2	2
6050120	DRAIN VALVE 1/4	2	2
6050121	PLUG	2	2
6050122	PLUG	2	2
6050123	NIPPLE	1	1
6050124	NIPPLE	1	1
6050125	FITTING	1	1
6050001	2S1M ECU	1	-
42321	4S2M ECU	-	1
6050059	ABS SENSOR PLUG	2	4
N/A	ECU PLUG	1	1

COMPONENT	DESCRIPTION	6050017-02	6050018-02
6050126	ELBOW	2	2
6050127	ELBOW	1	1
6050128	UNION TEE	2	2
6050150	40" AIR HOSE	4	4
6050151	72" AIR HOSE	4	4
7000157	WIRE LOOM CLAMP	8	8
7000273	CONN BUTT 16-14	2	2
7000287	TIE CABLE 7.5 5	8	8
7030032	BOLT HEX 3/8-24	4	4
7030200	SCREW #8 X 1/2	8	8
7030201	NUT 3/8-24 LOCK	4	4
8100382	GRMT 2 FLUSH MT	1	1
8100383	PLUG MOLDED STR	1	1
8100925	WARNING LIGHT	1	1
6050023	ABS LIGHT CABLE	1	1
6050006	AIR TANK	1	1
6050021	ABS POWER CABLE	1	1

There Are Many Configuration Options Possible That Can Apply For Your Use. We Have Provided The Most Common ABS Air Trailer Kits. If You Have An ABS Air Need That Is Unmet With These Basic Kits, Ask Your Sales Representative For Assistance.



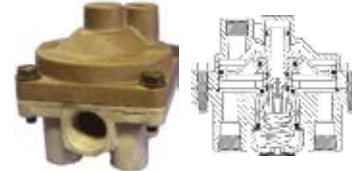
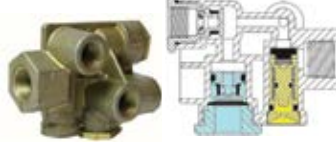
# ABS TRAILER KITS

## ELECTRONIC CONTROL UNIT (ECU) • ANTI-LOCK BRAKES (ABS) VALVE CONTROLLER

**6050001** - 2S1M Two Sensor One Modulator



**6050102** - ABS Air Valve RV-3103



**110415**  
Use 6050123 & 6050124 to install.

**42321** - 4S2M Four Sensor Two Modulator



**6050120** - Drain Valve 1/4" 5-FT Cable Fits Air Tank

**\*6050014** - Four Port Delivery Service NON-ABS Relay Valve



**6050121** - Air Valve Fitting 3/8" Plug Fits ABS Air Valves and Air Tank Ports



**6050122** - 3/4" Square Head Plug used on ECU or Tank



**6050126** - 3/8" Pipe x 1/4" Thread Push to Connect Elbow



**6050127** - 3/8" x 3/8" Elbow Push to Connect



**6050128** - 3/8" Union Tee Push to Connect

ABS Sensor Chamber Plug **6050059**



**6050124** - 3/4" x 3/4" Fitting Used to attach ECU to Tank



**6050123** - 3/4" x 1/2" Nipple Used to attach Air Valve and Tank



**6050125** - 3/8"x3/8" Male Fitting Push to Connect Fitting



**6050110** - Glad Hands 3/4" Bulk Head Adapter

### AIR SYSTEM GLADHAND METAL TAGS



**6050091**



**6050093**

### GLADHANDS



**050100** - Service (Blue)



**6050101** - Supply (Red)



**7030200** - #8 X 1/2 Self-Tap Screw



**7000157** - Clamp



**7030032** - 3/8"-24 x 1" Hex Bolt



**7000287** - Cable Tie



**6050021** - **6050023** - ABS Unit Power Cord & ABS Light Cable



**6050150** - 3/8" Swivel x 3/8" Rigid D.O.T. 40" Hose 225 P.S.I.

**6050151** - 3/8" Swivel x 3/8" Rigid D.O.T. 72" Hose 225 P.S.I.



**\*6050008** - Air Tubing - 3/8" Blue

**\*6050009** - Air Tubing - 3/8" Red



**6050010** - ABS System Tank Isolation Pads



**8100382** - Light Grommet



**8100925** - ABS Warning Light



**8100383** - Light Plug



**6050006** - Air Tank 2,800 CU IN (12 GAL)

\* Not included in any kit. Separate purchased required.



# TUFF BRAKES.

## WHEN PERFORMANCE COUNTS BLUDOT TRAILER BRAKE SYSTEMS DELIVER

Bludot designs and builds the highest quality, pre-packaged trailer brake line systems for manufacturing assembly lines, trailer maintenance and replacement parts. When performance counts, Bludot delivers. And we deliver fast—most of the time within 48 hours.

Order Bludot brake systems ready for the assembly line, pre-designed to your specifications, pre-packaged to your request, and delivered to your facility when you need it. Save time and money consolidating your brake line parts and kits with Bludot brake systems.

From hydraulic brake lines and kits, air/hydraulic, straight air, or flexible line kits, ABS and non-ABS system parts, along with a variety of controllers and components, Bludot is your brake line manufacturing, distribution or replacement source.



SEE IT ALL AT  
[WWW.TRAILERBRAKESYSTEMS.COM](http://WWW.TRAILERBRAKESYSTEMS.COM)

Call: 888-6-BLUDOT or 574-277-2306  
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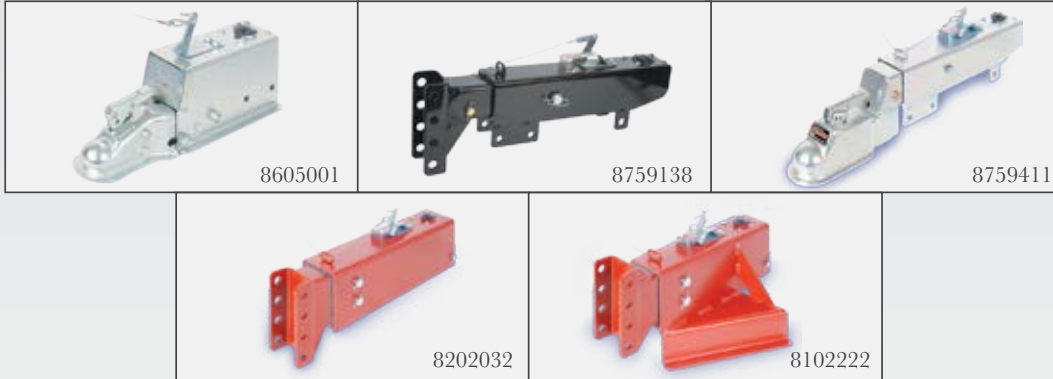
# Demco

Doing Our Best to Provide You the Best

## DEMCO TRAILER COMPONENTS

### Demco Actuators

Demco offers the widest selection of hydraulic brake actuators available today. Our mounts, including A-Frame, weld-on, bolt-on and several universal mounts are industry standard, offering an application suited to your needs.



PART DESCRIPTION	PART #
DA66B 6000 lb. G.V.W.R. Plated, top mount, lever lock coupler	8605001
DA91 8000 lb. G.V.W.R. Down, 3 hole standard, black	8759138
DA91 8000 lb. G.V.W.R. Down, 3 hole standard, zinc	8759411
DA20 20,000 lb. G.V.W.R. Down, weld on, primed	8202032
DA20 12,500 lb. G.V.W.R. Center, 50° mount, primed	8102222

### Demco eZ-Latch Couplers

Demco has an exclusive eZ-Latch coupler design which auto locks when dropped over it's appropriate sized standard hitch ball.

The eZ-Latch coupler is offered in an array of different hitch mounts in both 2" and 2 5/16" ball coupler sizes. Mounting configurations include: weld-on and bolt-on for 3" tube, A-frame weld-on, and bolt-on adjustment height channel mounts.



PART DESCRIPTION	PART #
2 5/16" eZ-Latch G.V.W.R.	15791-81
2 5/16" eZ-Latch 21,000 lb. G.V.W.R.	12660-97
2" eZ-Latch 10,000 lb. G.V.W.R.	12925
2 5/16" eZ-Latch 21,000 lb. G.V.W.R.	14040-81
2" eZ-Latch 10,000 lb. G.V.W.R.	12688-81

