



Parts Manual

Model _____ Paper Roll Clamp

Serial Number _____ 66G-RDP-112

cascade®
corporation

For Technical Assistance call: 800-227-2233, Fax: 888-329-8207

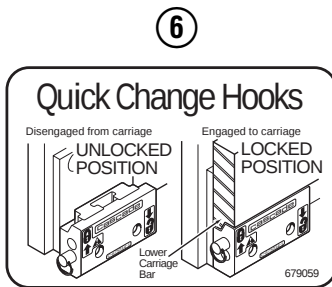
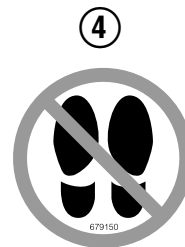
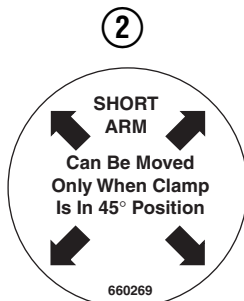
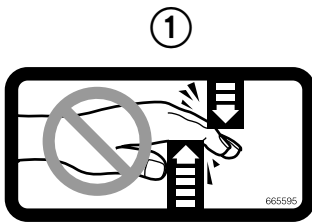
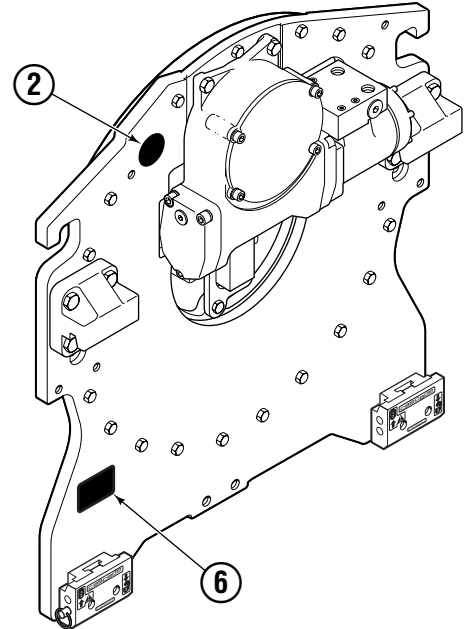
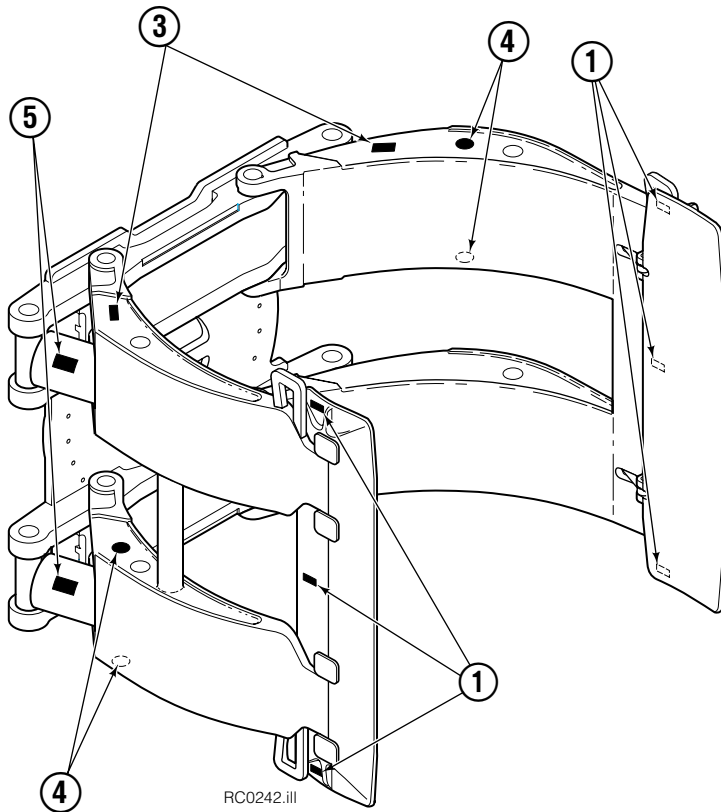
To Order Parts call: 888-227-2233, Fax: 888-329-0234

OR

Write: Cascade Corporation, P.O. Box 20187, Portland, OR 97220

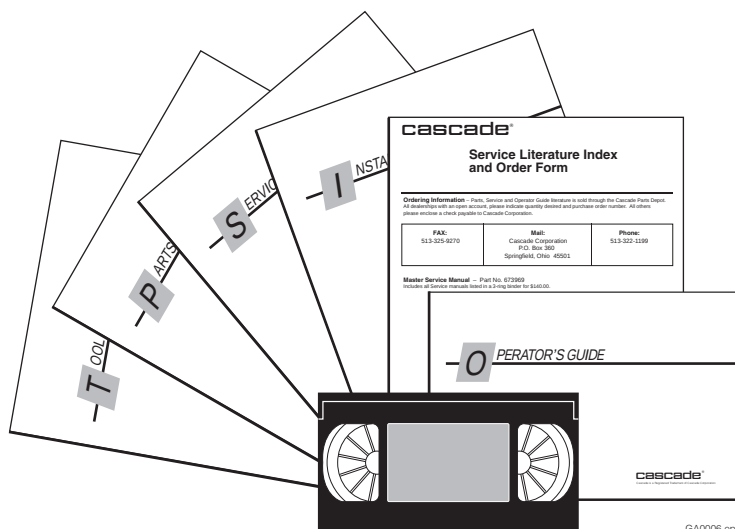
Internet: www.cascorp.com

Decals



66G				
REF	QTY	PART NO.	DESCRIPTION	
1	4	665595	No Hand Hold Decal	
2	2	660269	Short Arm Rotation Position Decal	
3	6	656038	Caution Decal	
4	4	679150	No Step Decal	
5	4	665677	Trapped Pressure Decal	
6	1	679059	Quick-Change Hook Decal	
7	1	671167	Oil Fill Tag (not shown)	
		212926	Decal Kit, (items 1–7)	

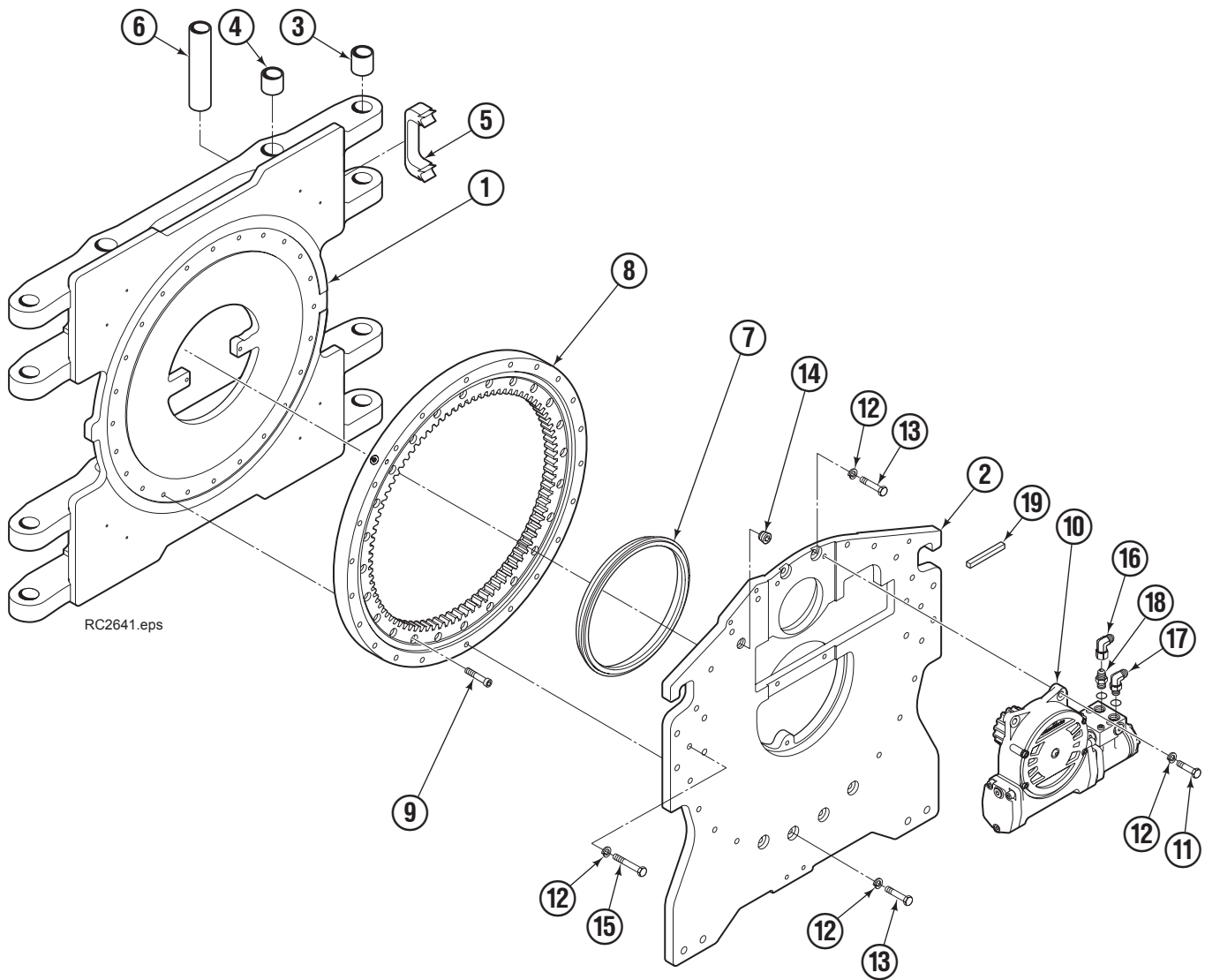
Publications



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66G	
PART NO.	DESCRIPTION
	Parts Manual
213744	Service Manual
210135	Operator's Guide
212420	Installation Instructions - Fixed Frame
677555	Driver Training Video - VHS
679929	Tool Catalog
673964	Literature Index Order Form

Frame Group



REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		6022315	Frame Group ▲	12	28	683822	Lockwasher
1	1	6022316	Frame	13	6	209684	Capscrew
2	1	6041257	Baseplate	14	1	6605	Fitting,
3	8	211718	Bearing	15	18	213900	Capscrew
4	8	211717	Bearing	16	1	2680	Fitting ■
5	4	211712	Hose Guard	17	1	641404	Fitting ■
6	4	209987	Spacer	18	1	611288	Fitting ■
7	1	209944	Seal	19	1	669344	Stop Block Kit
8	1	213983	Bearing Assembly			212905	Bearing Service Kit (items 3,4,6)
9	24	213902	Capscrew			212907	Pin Service Kit (items 4, 6)
10	1	6001026	Drive Group - 2.2 c.i. Motor ●			212908	Pin Service Kit (item 3)
11	4	211689	Capscrew			216440	Bearing Kit (items 8,9,12,13,15)

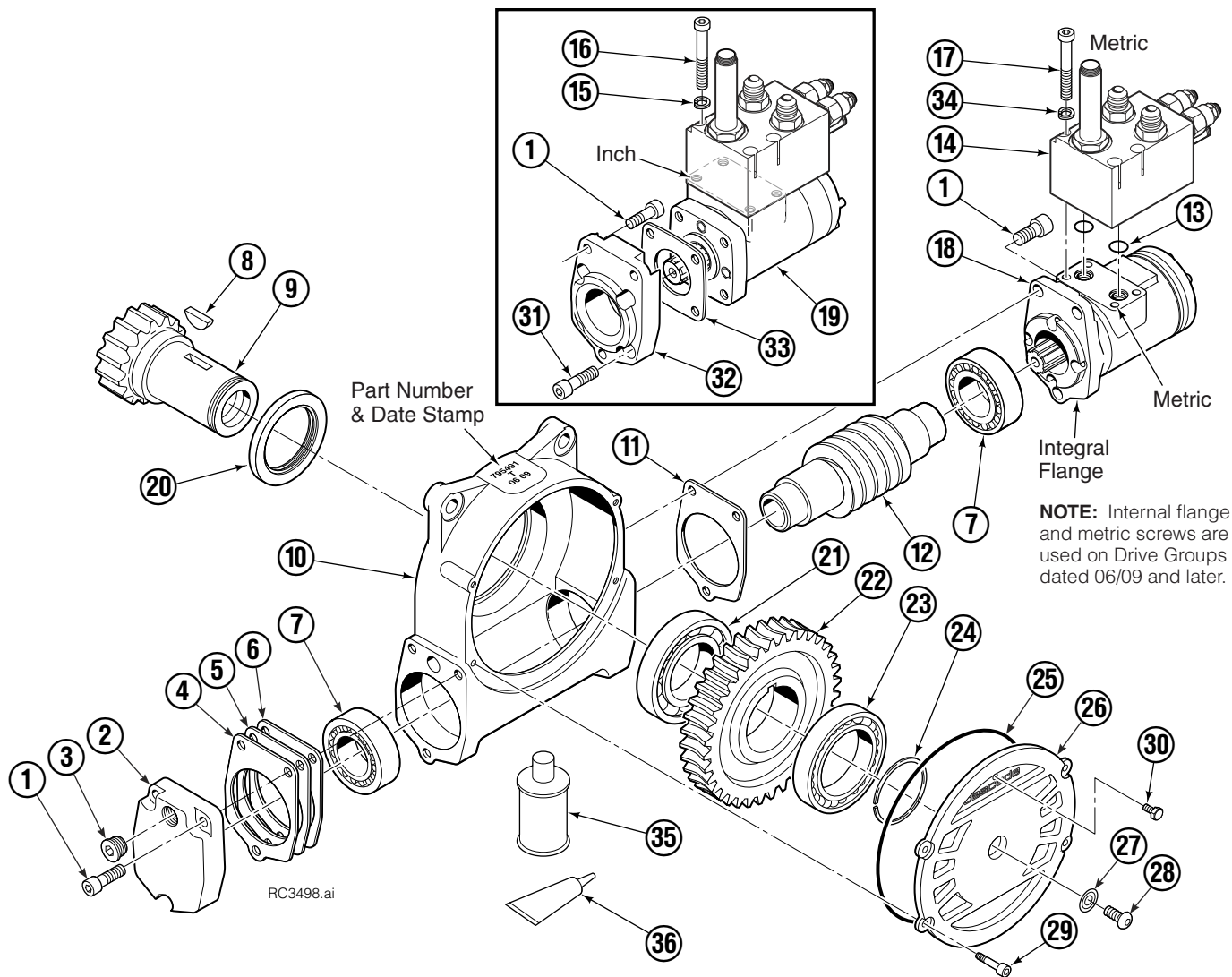
▲ Maximum roll handling capacity.

● See Drive Group page for parts breakdown.

■ Included in Fitting Group 6229513

Reference: S-4650, S-4506, S-4188, S-4733.
Common Parts Groups 213986-R1.
Baseplate Group 6041256.

Drive Group



REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		6001026	Drive Group with 2.2 c.i. Motor	19	1	210139	Drive Motor – 2.2 c.i. ■
1	6	769570	Capscrew, M12 x 25	20	1	3014870	Seal
2	1	676855	Cover	21	1	6033892	Bearing ★
3	1	604510	Fitting, 6	22	1	675609	Worm Gear
4	●	670574	Shim – .010" (brown)	23	1	670581	Bearing
5	●	671757	Shim – .015" (pink)	24	1	7214	Snap Ring
6	●	671758	Shim – .020" (yellow)	25	1	643423	O-Ring
7	2	670579	Bearing	26	1	775552	Cover
8	1	670582	Key	27	1	783609	Seal
9	1	670506	Pinion	28	1	783608	Capscrew, M10 x 16
10	1	775551	Housing	29	4	200882	Capscrew, M8 x 20
11	1	686465	Gasket	30	1	644010	Relief Fitting
12	1	675608	Worm	31	4	4468	Capscrew, 3/8 x .75
13	2	2705	O-Ring	32	1	775553	Adapter
14	1	6001035	Valve Assembly without Coils ♦	33	1	670575	Gasket
15	4	6444	Lockwasher	34	4	787384	Lockwasher
16	4	607061	Capscrew, 5/16 x 2.25	35	1	656300	Gear Box Lube – 48 oz.
17	4	768799	Capscrew, M8 x 55	36	1	668184	Sealant
18	1	6097948	Drive Motor – 2.2 c.i. ■			670578	Shim Service Kit (items 4-6, 11, 25, 36)

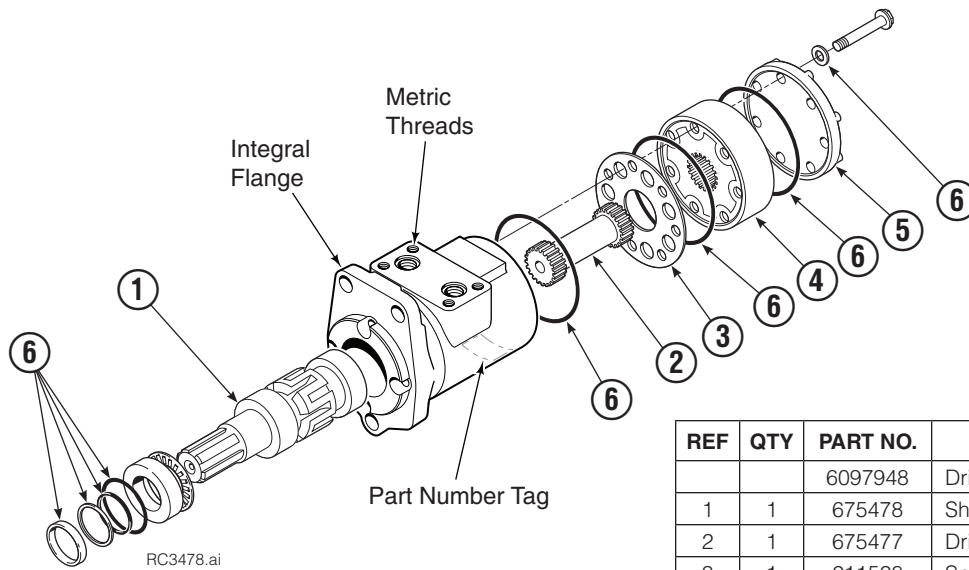
● Quantity as required.

♦ See Valve page for parts breakdown.

■ See Drive Motor page for parts breakdown.

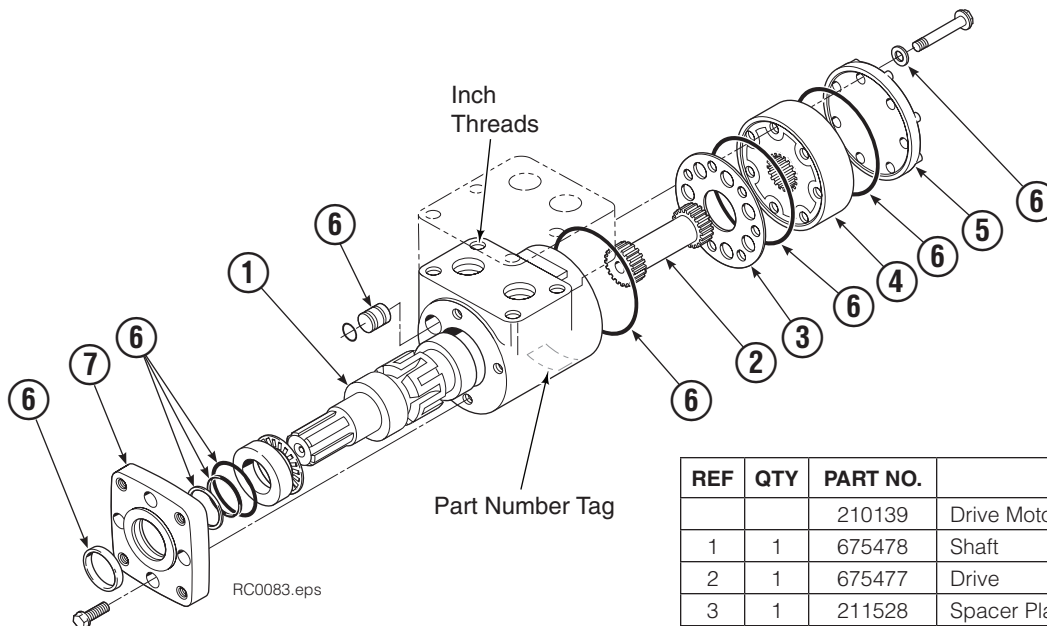
★ For service replacement use Bearing 670580.

Drive Motor



REF	QTY	PART NO.	DESCRIPTION
		6097948	Drive Motor – 2.2 c.i.
1	1	675478	Shaft
2	1	675477	Drive
3	1	211528	Spacer Plate
4	1	210137	Gerotor Set
5	1	211527	End Cap
6	1	206405	Service Kit ●

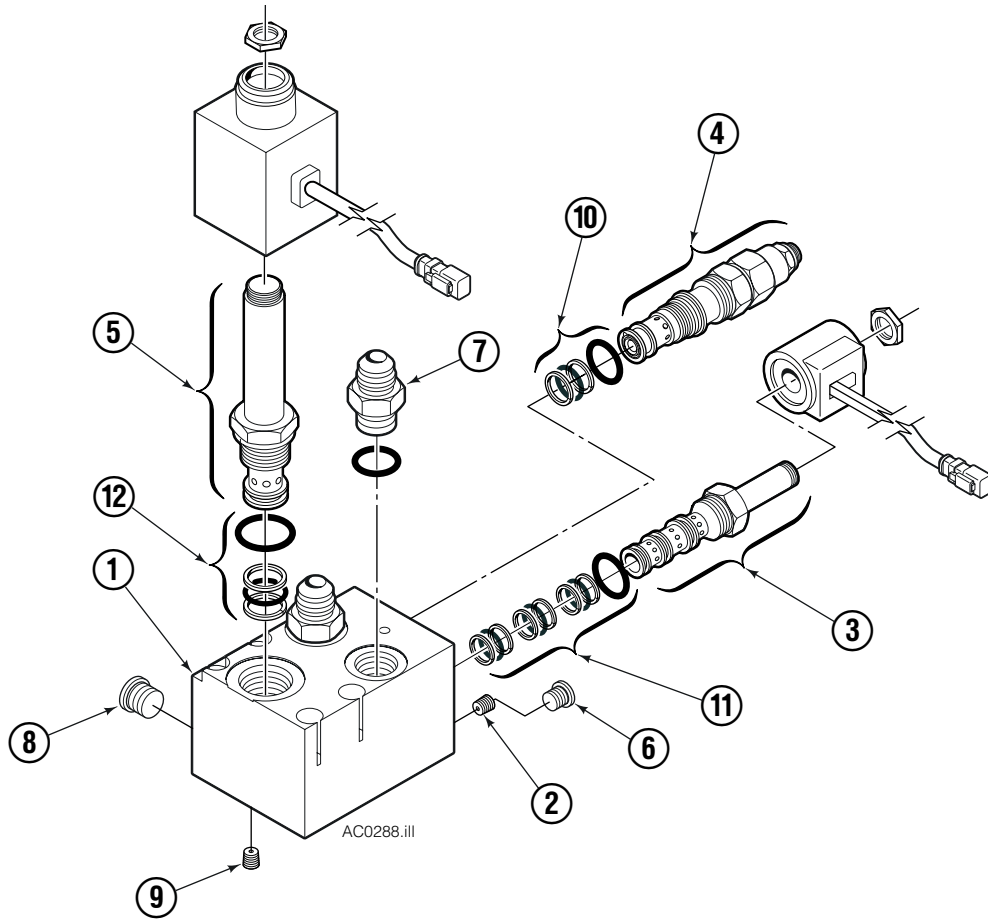
● Compatible with water glycol based hydraulic fluids.
 Cascade provides service replacement parts for the listed parts only. Due to cost, if other parts need replacement, the complete drive motor should be replaced.



REF	QTY	PART NO.	DESCRIPTION
		210139	Drive Motor – 2.2 c.i.
1	1	675478	Shaft
2	1	675477	Drive
3	1	211528	Spacer Plate
4	1	210137	Gerotor Set
5	1	211527	End Cap
6	1	206405	Service Kit ●
7	1	685090	Flange

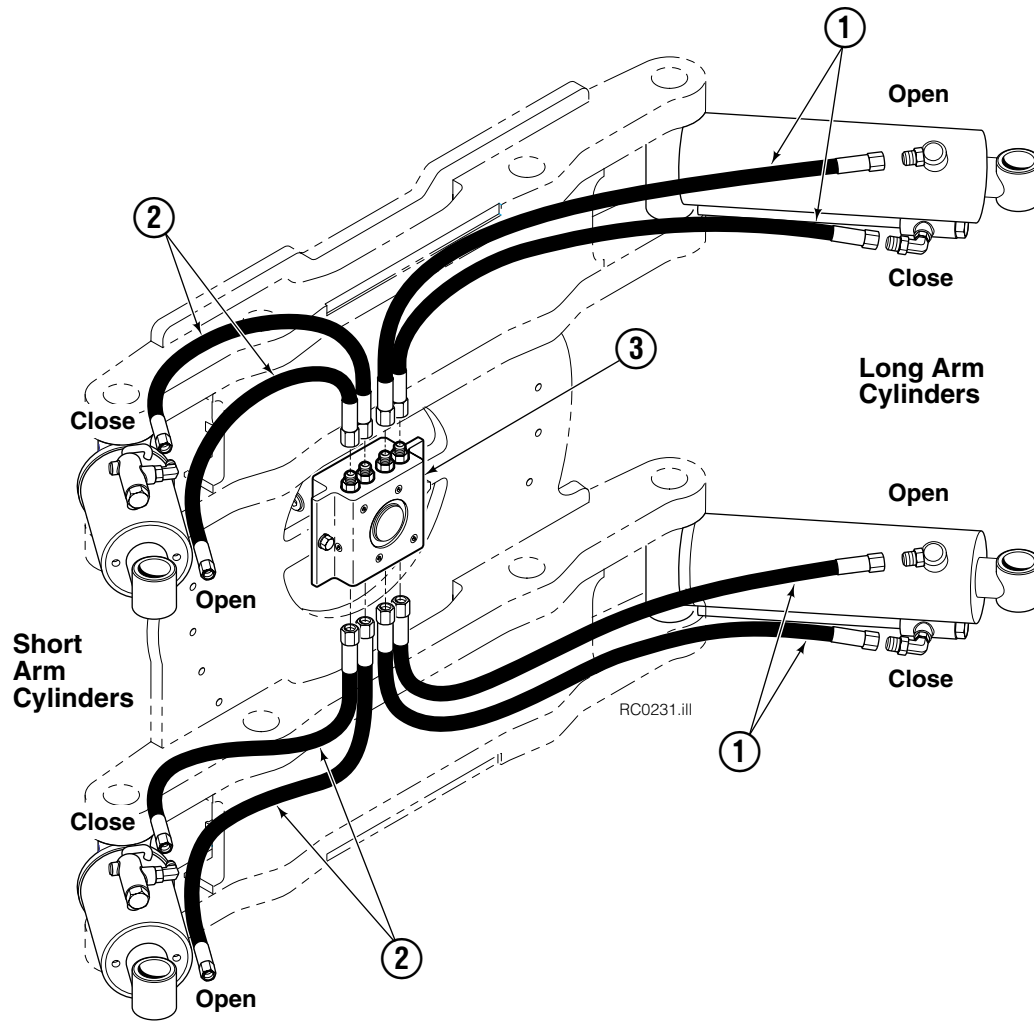
● Compatible with water glycol based hydraulic fluids.
 Cascade provides service replacement parts for the listed parts only. Due to cost, if other parts need replacement, the complete drive motor should be replaced.

Solenoid Valve



REF	QTY	PART NO.	DESCRIPTION
		6001035	Valve Assembly without Coils R4
1	1	220565	Valve Body
2	4	220641	Orifice
3	1	220627	Solenoid Valve
4	2	6003173	Valve
5	1	221722	Solenoid Valve
6	1	663694	Fitting, 3
7	2	601377	Fitting, 8
8	1	604510	Fitting, 6
9	1	228698	Orifice
10	2	667516	Service Kit
11	1	221049	Service Kit
12	1	6031791	Service Kit

Hosing Group Positioned Short Arm



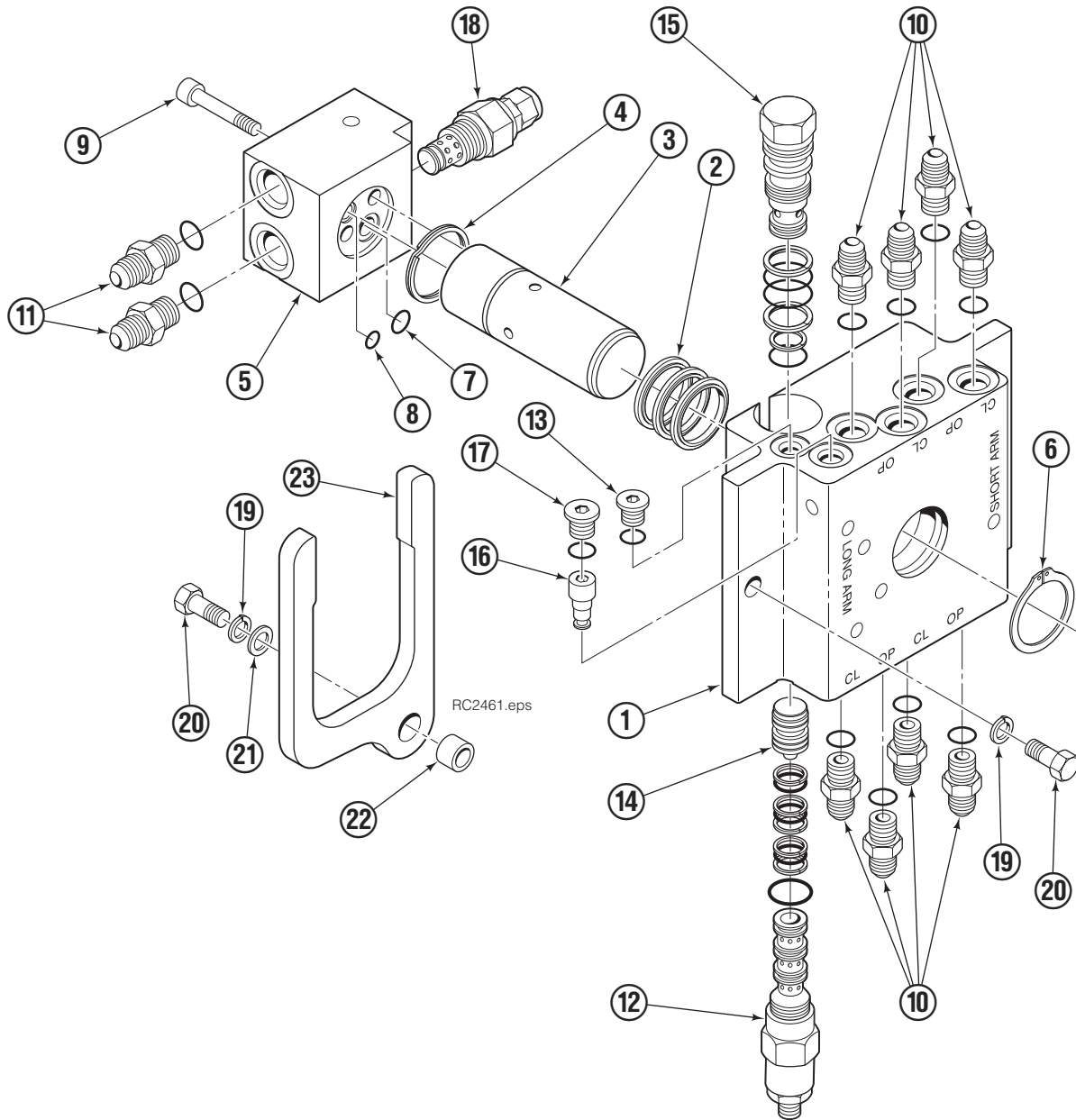
66G			
REF	QTY	PART NO.	DESCRIPTION
		6024027	Hose Group, 51 in. ■
1	4	675955	Hose, 32.5 in.
2	4	213989	Hose, 23.5 in.
3	1	▲	Revolving Connection

■ Maximum roll handling capacity.

▲ See Revolving Connection page for part number.

Reference: S-4192, S-4193.

Revolving Connection Split Long Arm / Fixed Frame

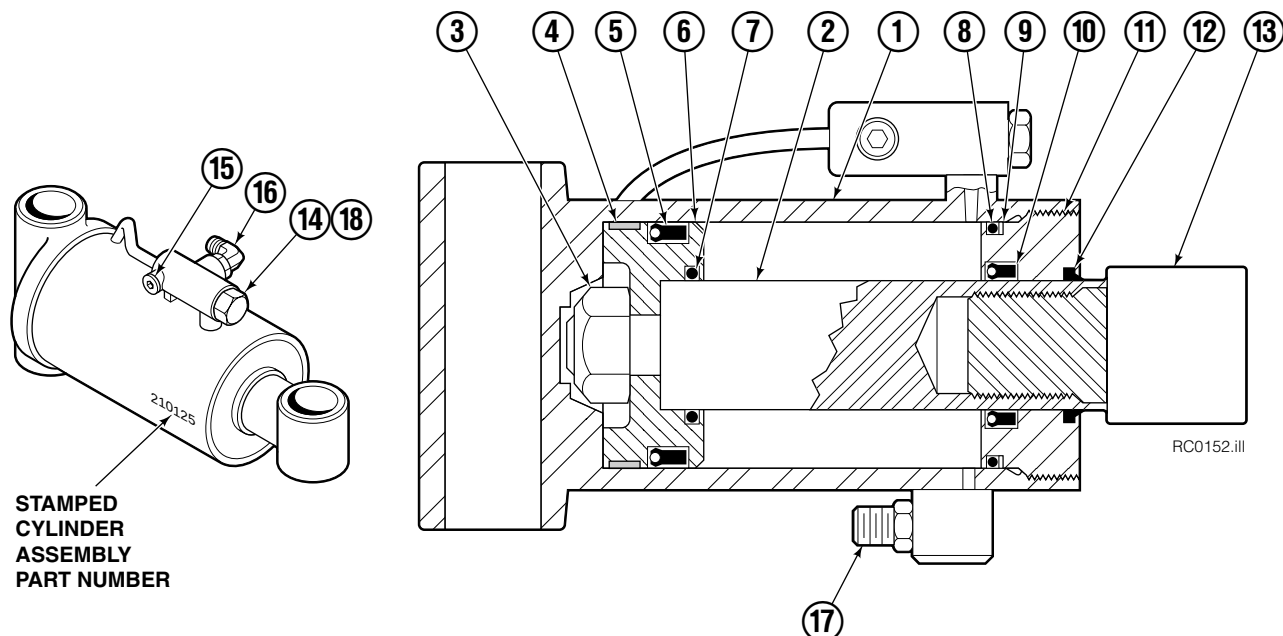


REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		6024038	Revolving Connection Group	12	1	227331	Sequence Valve
		6025646	Revolving Connection Assembly ■	13	1	663694	Fitting, 3
1	1	6025059	Valve Body	14	1	227320	Spool Assembly ◆
2	3	214649	Seal ◆	15	1	6024293	Flow Divider Cartridge
3	1	6025608	Shaft	16	1	220865	Shuttle Check
4	1	7341	Retaining Ring ◆	17	1	609234	Fitting, 4
5	1	227416	End Block	18	1	222251	Relief Valve
6	1	3138	Retaining Ring ◆	19	3	681238	Lockwasher, M10
7	1	564448	O-Ring ◆	20	3	215480	Capscrew, M10 x 25
8	1	684587	O-Ring ◆	21	1	206322	Washer, M10
9	2	766123	Capscrew, M8 x 50 ◆	22	1	212725	Spacer
10	8	604511	Fitting, 6-6	23	1	211909	End Block Retainer
11	2	601377	Fitting, 8-8				

■ Includes items 1-18.

◆ Included in Seal Kit 227665.

Long Arm Cylinder



66G			
REF	QTY	51 in. ■ PART NO.	DESCRIPTION
		6022427	Cylinder Assembly
1	1	4195-350	Shell
2	1	4130-335	Rod

■ Maximum roll handling capacity.

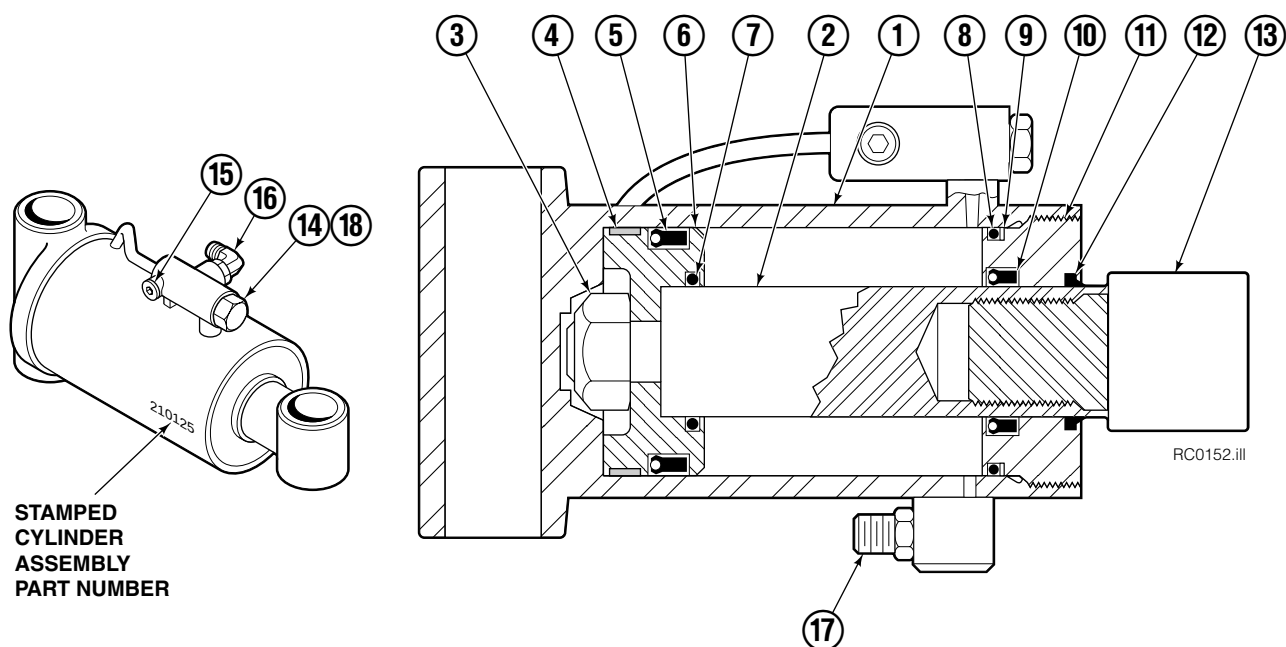
Common Parts

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
3	1	560997	Nut	12	1	564443	▲ Wiper
4	1	211295	▲ Wear Ring	13	1	209764	Rod End
5	1	564902	▲ Seal	14	1	659058	Check Valve
6	1	211292	Piston	15	1	609234	Fitting, 4
7	1	210087	▲ O-Ring	16	1	601676	Fitting, 6-6
8	1	564445	▲ O-Ring	17	1	604511	Fitting, 6-6
9	1	564446	▲ Back-Up Ring	18	1	667516	Check Valve Service Kit
10	1	564442	▲ Seal			210133	Cylinder Service Kit
11	1	209763	Retainer				

▲ Included in Service Kit 210133.

Reference: S-4195, LS-4454, S-4460.

Short Arm Cylinder



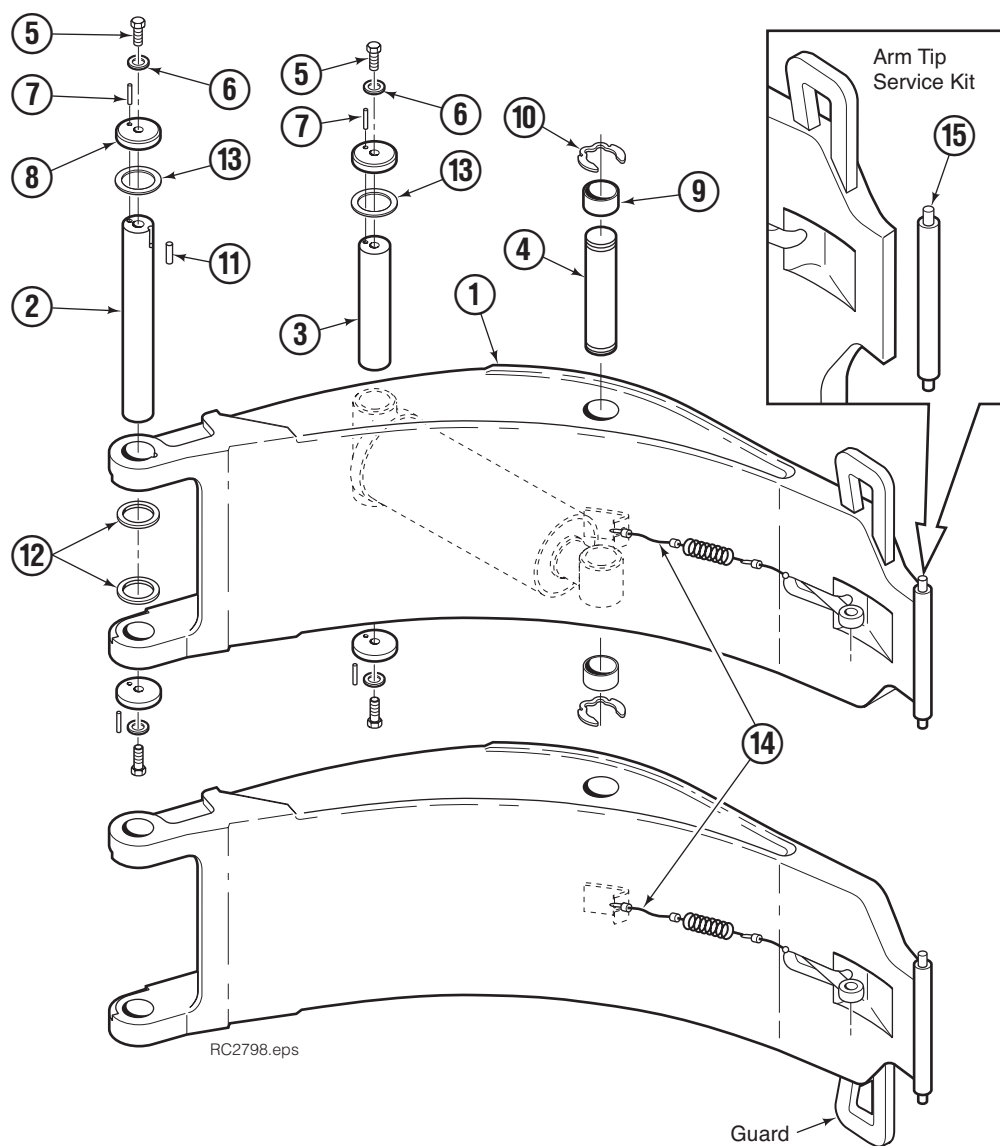
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REF	QTY	PART NO.	DESCRIPTION
		213639	Cylinder Assembly
1	1	4195-179	Shell
2	1	4130-163	Rod

Common Parts

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
3	1	560997	Nut	12	1	564443	▲ Wiper
4	1	211295	▲ Wear Ring	13	1	209764	Rod End
5	1	564902	▲ Seal	14	1	659058	Check Valve
6	1	211292	Piston	15	1	609234	Fitting, 4
7	1	210087	▲ O-Ring	16	1	601676	Fitting, 6-6
8	1	564445	▲ O-Ring	17	1	604511	Fitting, 6-6
9	1	564446	▲ Back-Up Ring	18	1	667516	Check Valve Service Kit
10	1	564442	▲ Seal			210133	Cylinder Service Kit
11	1	209763	Retainer				

▲ Included in Service Kit 210133.
Reference: S-4195, LS-4454, S-4460.

Split Long Arm Group

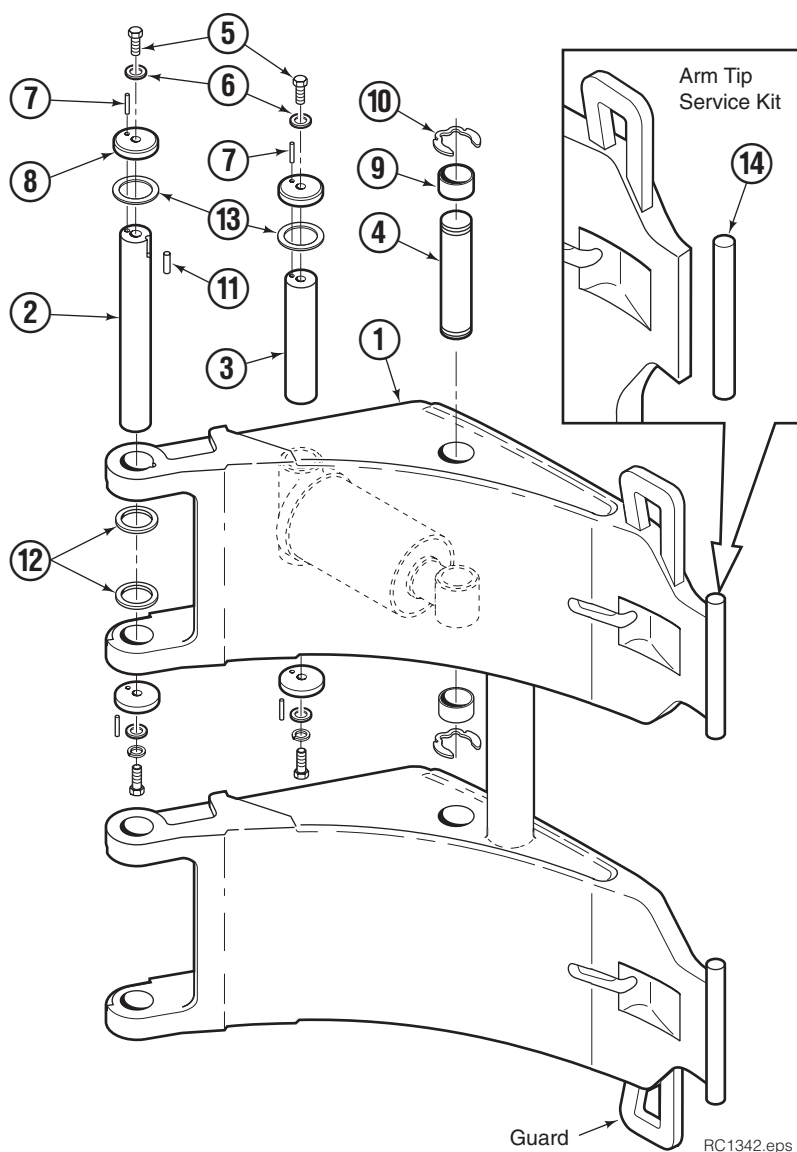


REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		6023892	Long Arm Group (R2) – 51 in. ■	8	8	6017339	Cap
1	1	6023891	Long Arm – LH ♦	9	4	210080	Bearing
	1	6023890	Long Arm – RH ♦	10	4	209986	Retaining Ring
2	2	6017336	Arm Pivot Pin	11	2	212382	Dowel Pin
3	2	6023679	Cylinder Pivot Pin	12	16	209941	Shim (.062 in.)
4	2	4175-150	Cylinder Rod Pivot Pin	13	8	213029	Shim
5	8	3007512	Capscrew, M12 x 25	14	2	4182-040	Cable
6	8	209019	Washer, M12	15	1	212903	Arm Tip Service Kit
7	8	209776	Dowel Pin				

■ Maximum roll handling capacity.

♦ Driver's view, clamp in horizontal position, Long Arm up,

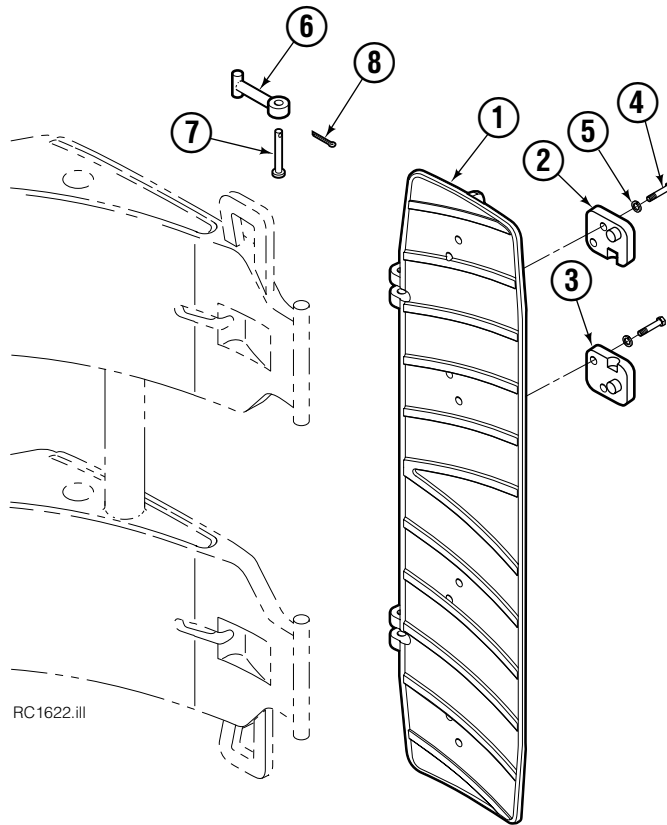
Short Arm Group



66G							
REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		6023825	Short Arm Group - 51 in. ■	8	8	6017339	Cap
1	1	6023824	Short Arm	9	4	210080	Bearing
2	2	6017336	Arm Pivot Pin	10	4	209986	Retaining Ring
3	2	6023679	Cylinder Pivot Pin	11	2	212382	Dowel Pin, 8 x 16 mm
4	2	4175-150	Cylinder Rod Pivot Pin	12	16	209941	Shim (.062)
5	8	3007512	Capscrew, M12 x 25	13	8	213029	Shim
6	8	209019	Washer, M12	14	2	212903	Arm Tip Repair Kit
7	8	209776	Roll Pin				

■ Maximum roll handling capacity.

Pad Group - Short Arm

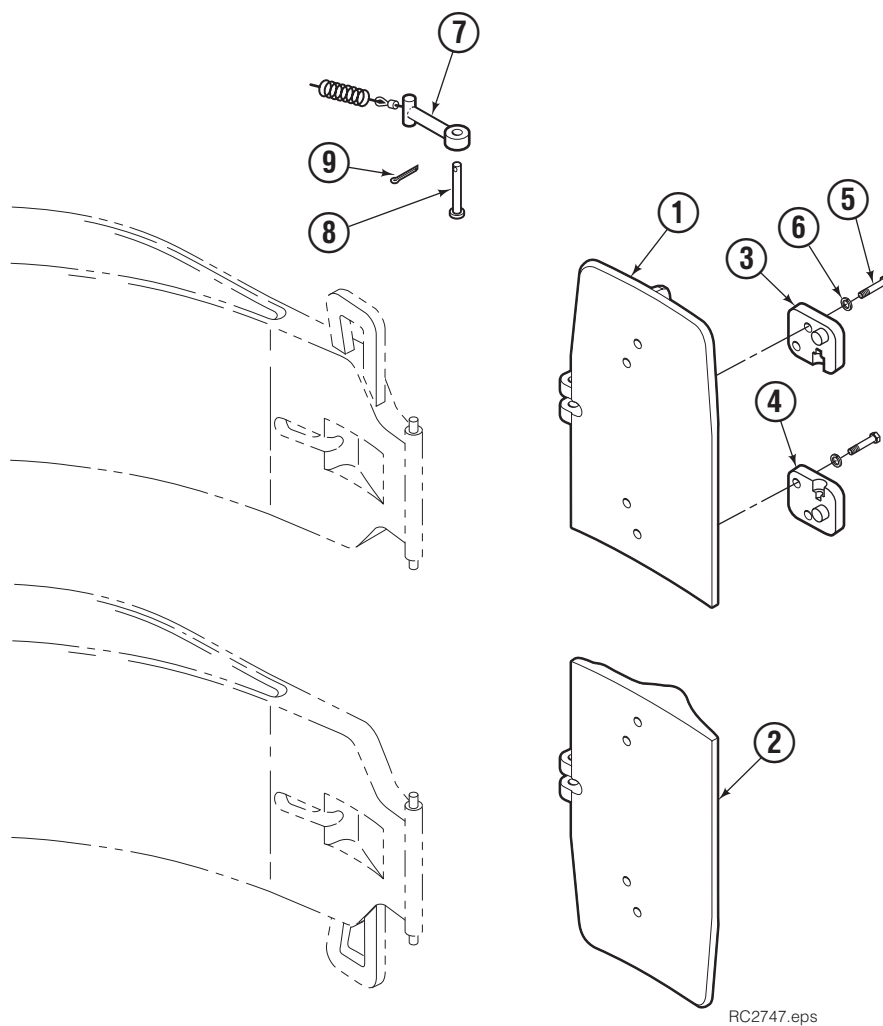


REF	QTY	PART NO.	DESCRIPTION
		209877	Standard Pad Group R1 ▲
1	1	209893	Pad, Standard
2	2	209904	Retainer, R.H. ▲
3	2	209905	Retainer, L.H. ▲
4	8	767810	Capscrew, M12
5	8	681473	Lockwasher, M12
6	2	209909	Link
7	2	674265	Clevis Pin
8	2	6525	Cotter Pin

▲ Driver's view, clamp in horizontal position, Short Arm up.

Reference: Common Parts 212935-R2 items 2-8. S-4176, S-4177.

Pad Group – Split Long Arm

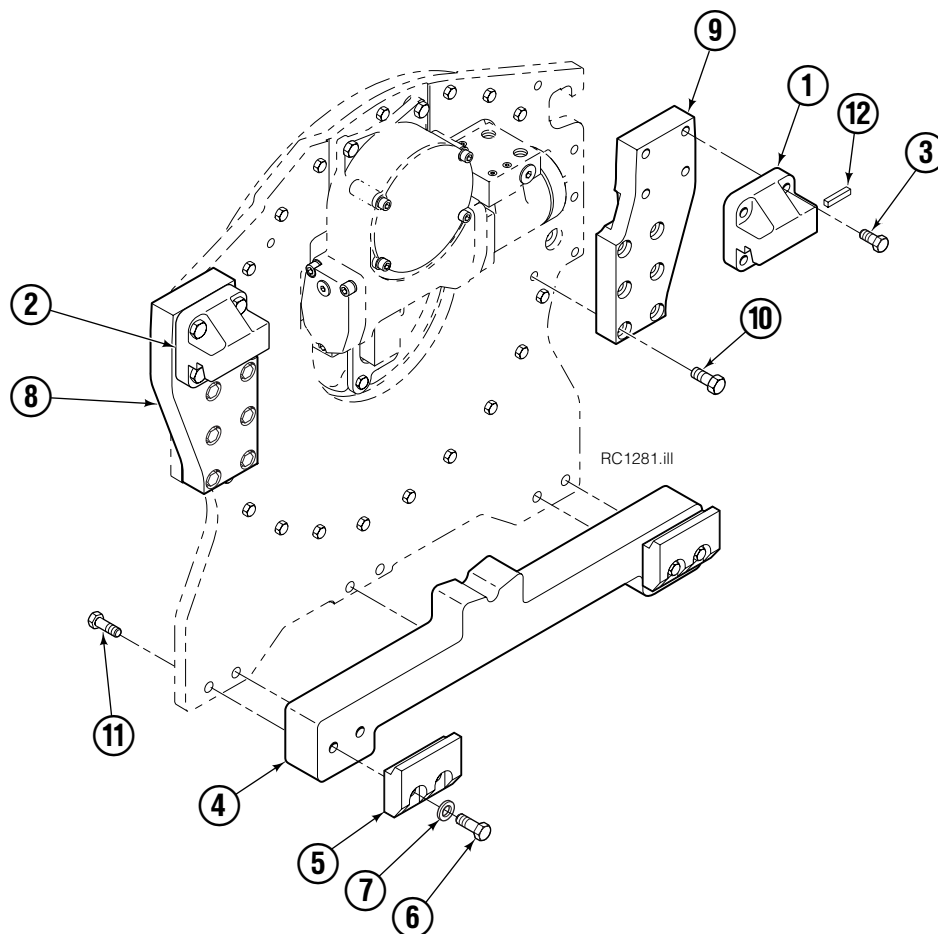


REF	QTY	PART NO.	DESCRIPTION
		209924	Pad Group – R4
1	1	213644	Pad – RH ▲
2	1	213645	Pad – LH ▲

REF	QTY	PART NO.	DESCRIPTION	REF	QTY	PART NO.	DESCRIPTION
		212934	Common Parts Group	6	8	681473	Lockwasher, M12
3	2	211997	Retainer – RH ▲	7	2	209916	Link
4	2	211998	Retainer – LH ▲	8	2	674265	Clevis Pin
5	8	767810	Capscrew, M12 x 25	9	2	6525	Cotter Pin

▲ Driver's view, clamp in horizontal position, Long Arm up.
Reference: S-4176, S-4177.

Mounting Group



REF	QTY	PART NO.	DESCRIPTION
		6041308	Mounting Group
1	1	675061	Upper Hook, R.H.
2	1	684877	Upper Hook, L.H.
3	8	679082	Capscrew, M20 x 35
4	1	390450	Spacer
5	2	679832	Lower Hook
6	4	779020	Capscrew, M20 x 45
7	4	670692	Washer
8	1	6022324	Spacer, L.H.
9	1	6022325	Spacer, R.H.
10	12	399276	Capscrew, M16 x 55
11	4	779011	Capscrew, M16 x 40
12	1	670704	Stop Block Kit

Reference: SK-7164.



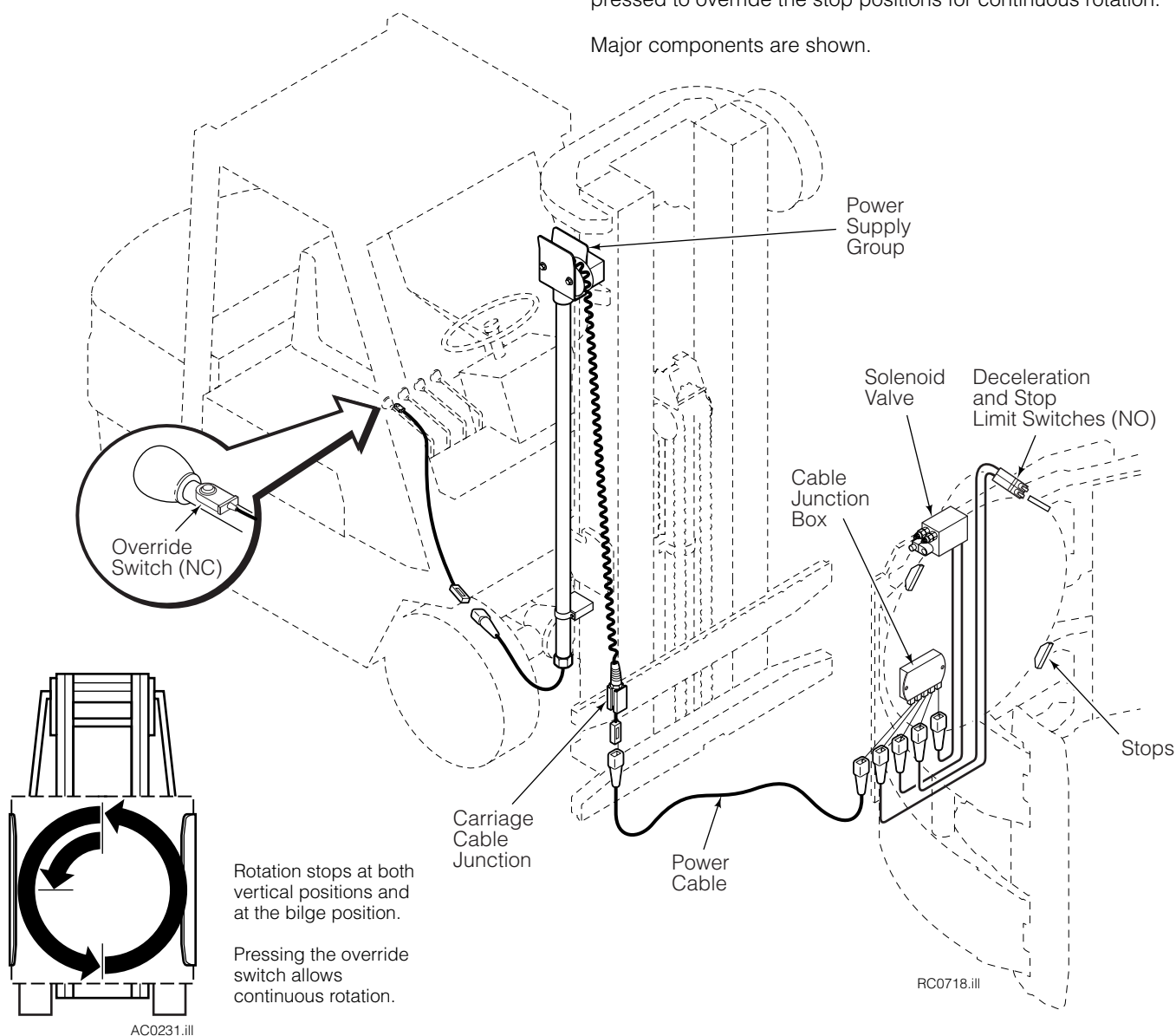
Installation Instructions

Electronic Rotational Control Group

This Manual provides installation instructions for Cascade Electronic Rotational Control Kits. Rotational Control provides accurate stops during rotation to position the attachment arms at true vertical or bilge position to reduce product damage of misclamped loads. An electrical supply

circuit such as Cascade's Power Supply (recommended) or Cable Reel is required to provide an electrical connection between the Electronic Rotational Control on the attachment and the truck electrical system. A normally closed pushbutton switch mounted on the truck ROTATE control lever is depressed to override the stop positions for continuous rotation.

Major components are shown.



cascade® corporation

For Technical Support . . .

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Internet: www.cascorp.com
Write: Cascade Corporation, PO Box 20187, Portland, OR 97294

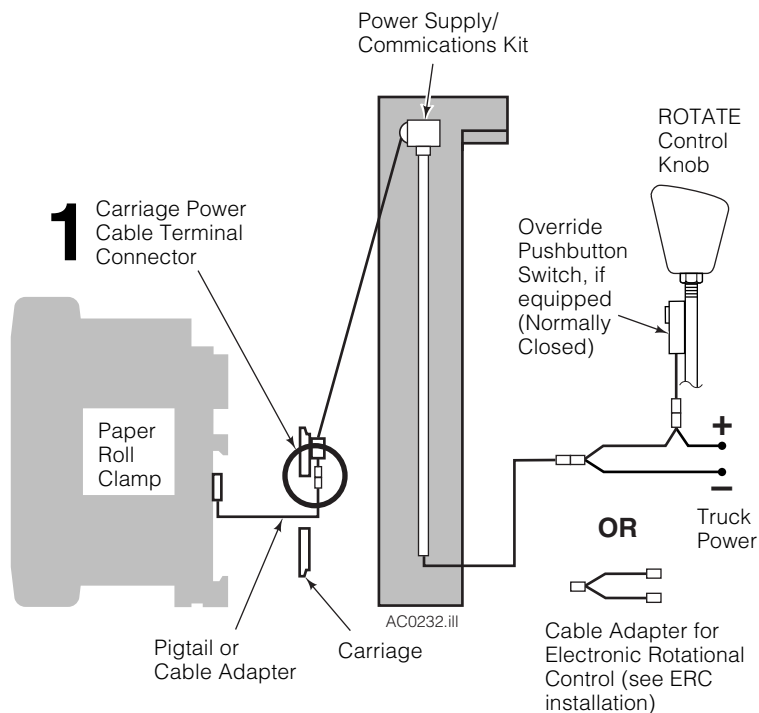
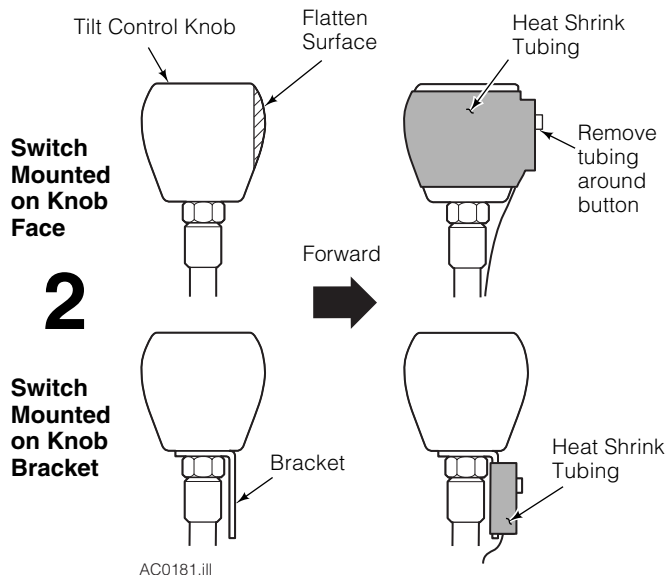
To Order Parts . . .

Call: 1-888-227-2233 Fax: 1-888-329-0234
Internet: www.cascorp.com
Write: Cascade Corporation, 2501 Sheridan Ave., Springfield, OH 45505

Cable, Switch Installation

- 1 Connect the power cable from the Electronic Rotational Control (ERC) enclosure on the back of the attachment to the power supply cable end at the truck carriage.
- 2 Install pushbutton switch on ROTATE control lever.

NOTE: This installation shows connection to Cascade's Power Supply/Communications Kit 228719 or 6001137 which includes components for over-the-mast electrical supply from the power cable to the carriage cable connection. See Installation Instructions 228179.



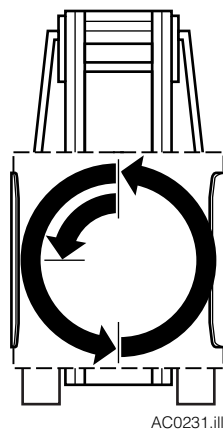
Operation and Adjustment

- 1 Test the installation before putting the truck in service. When rotating, attachment travel should stop at the vertical and bilge handling positions. Wait 3 seconds to rotate after stopping **OR** press the rotate override button to continue rotating.
 - If rotation **stops** at the vertical or bilge position, continue with step 2.
 - If rotation **stops momentarily and then continues** at the vertical or bilge positions:
 - A Reduce the hydraulic input pressure for the Rotate function.

OR

 - B Adjust both counterbalance cartridges CCW in 1/2 turn increments until rotation stop at the vertical and bilge position.
 - If rotation **does not stop** at the vertical or bilge positions:
 - A Inspect the wiring installation. Look for loose connections or pinched cables.
 - B The limit switch end rollers are not fully engaging the deceleration ramp and stop capscrew at the vertical or bilge position. Adjust the limit switch actuators to engage the ramp and stop capscrew. The ramp and stop can also be adjusted for precision of the stop position. The stop capscrew height is also adjustable.
- 2 To continue rotation, wait 3 seconds after stopping or the rotate override button must be pressed to continue rotation.

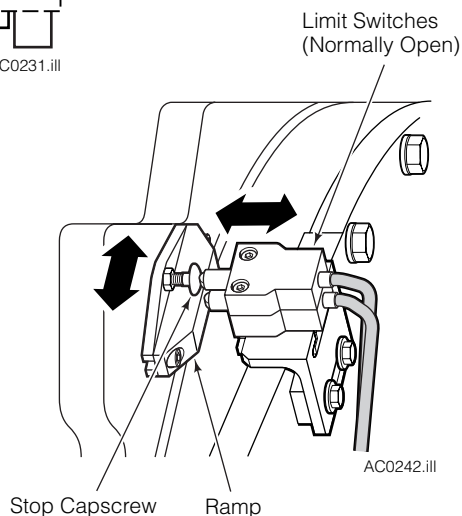
To rotate without stopping, press the override button.



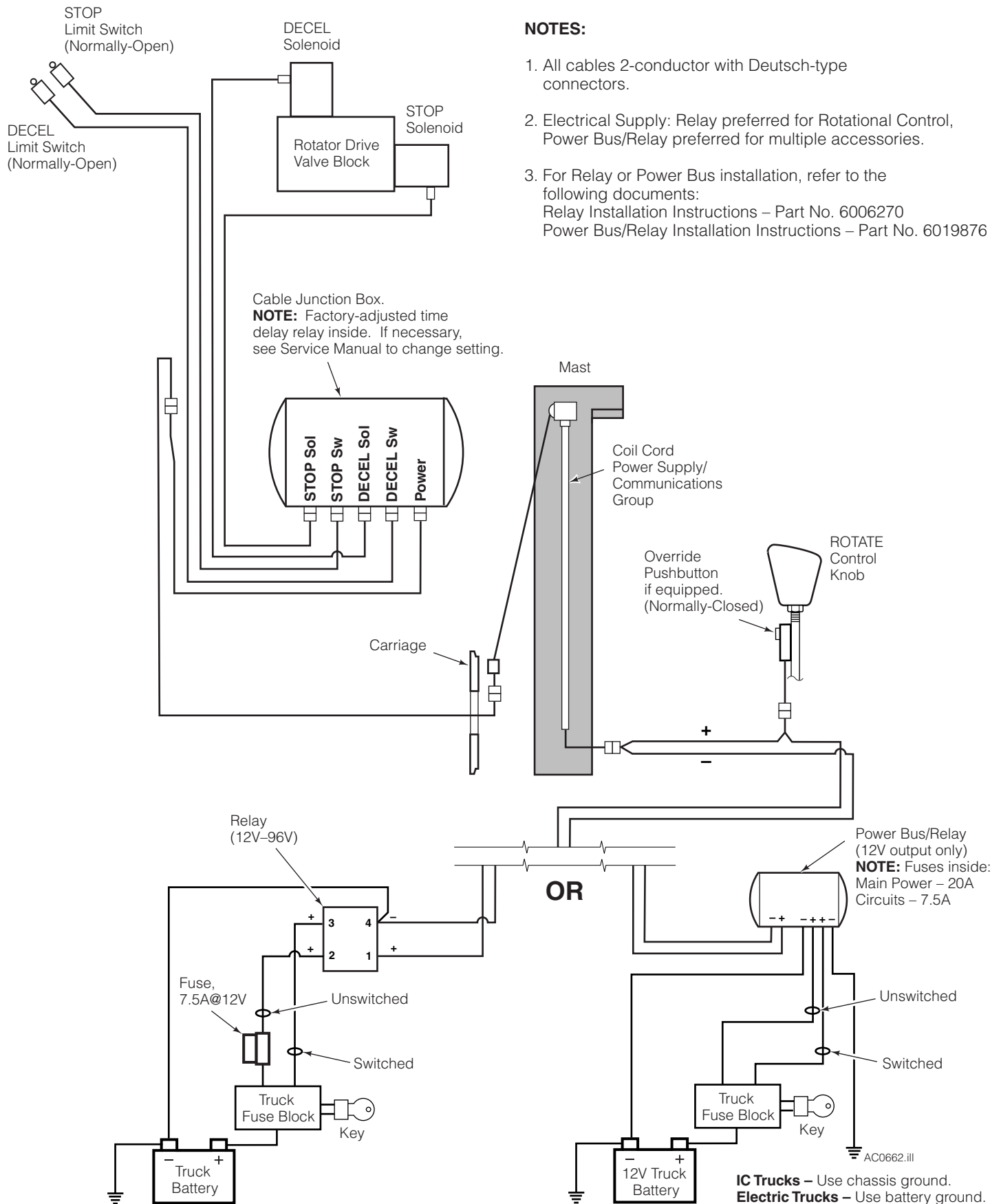
Rotation stops at both vertical positions and at the bilge position.

Pressing the override switch allows continuous rotation.

Wait 3 seconds or press override button to continue rotating.



Rotational Control Electrical Hookup



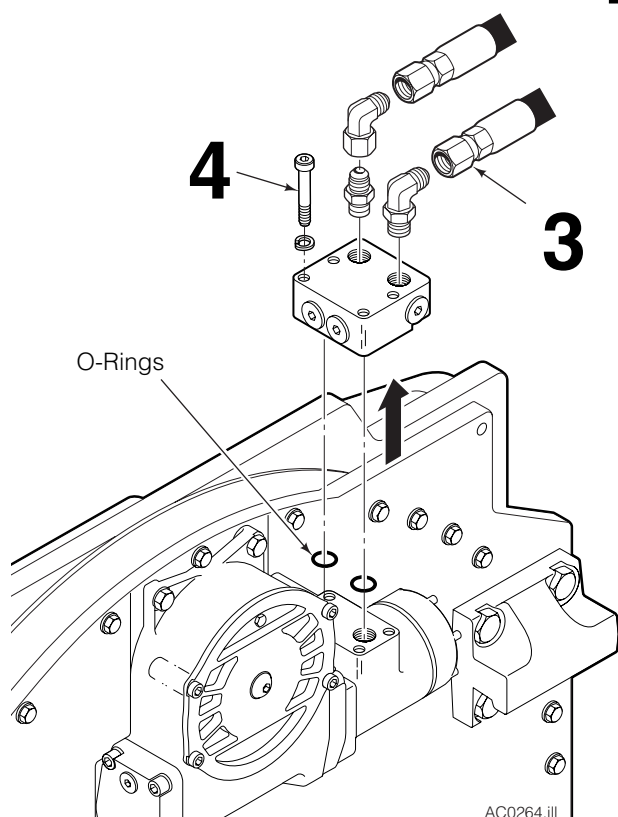
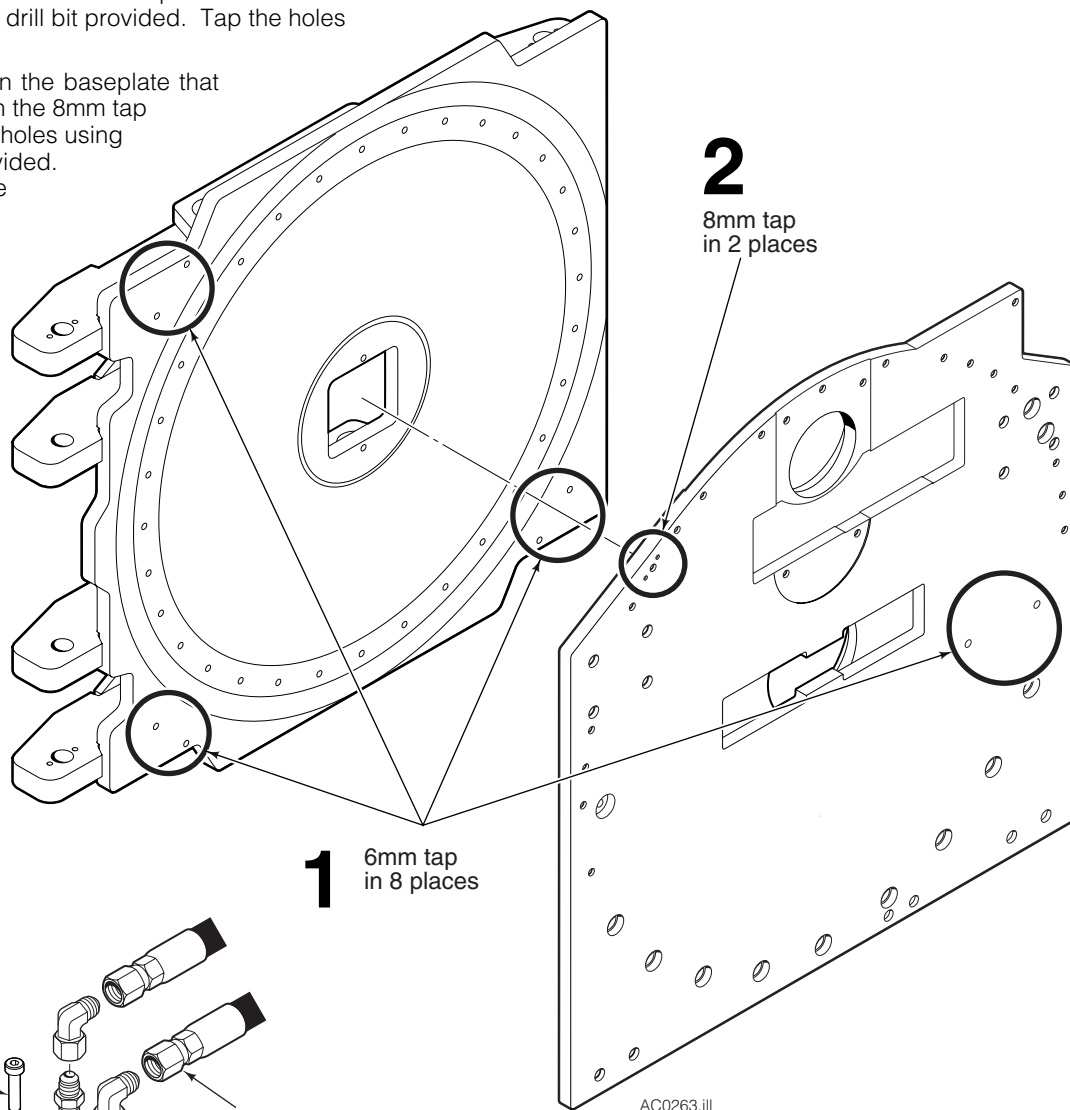
NOTES:

1. All cables 2-conductor with Deutsch-type connectors.
2. Electrical Supply: Relay preferred for Rotational Control, Power Bus/Relay preferred for multiple accessories.
3. For Relay or Power Bus installation, refer to the following documents:
Relay Installation Instructions – Part No. 6006270
Power Bus/Relay Installation Instructions – Part No. 6019876

Retrofit Installation

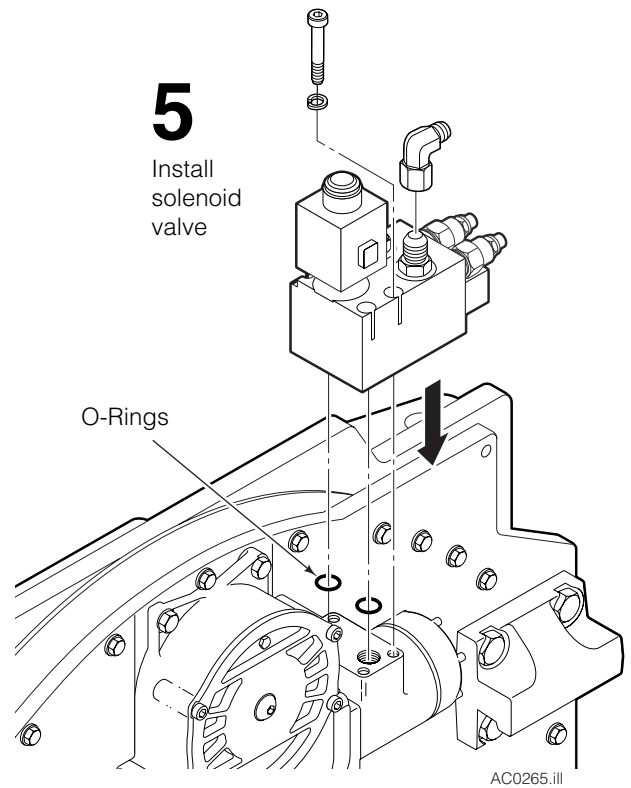
Rotational control is also available as a field installable kit for attachments that have predrilled faceplates and baseplates.

- 1** Locate the eight holes that need to be tapped with the 6mm tap provided. Six holes are located in the faceplate and two holes are located in the baseplate. Drill out the holes using the 5.3mm drill bit provided. Tap the holes using the 6mm tap.
- 2** Locate the two holes in the baseplate that need to be tapped with the 8mm tap provided. Drill out the holes using the 7.3mm drill bit provided. Tap the holes using the 8mm tap.

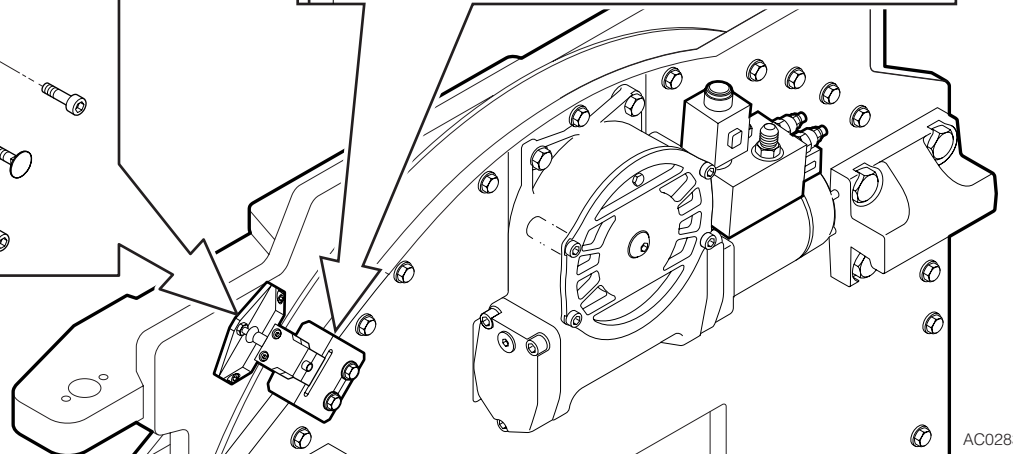
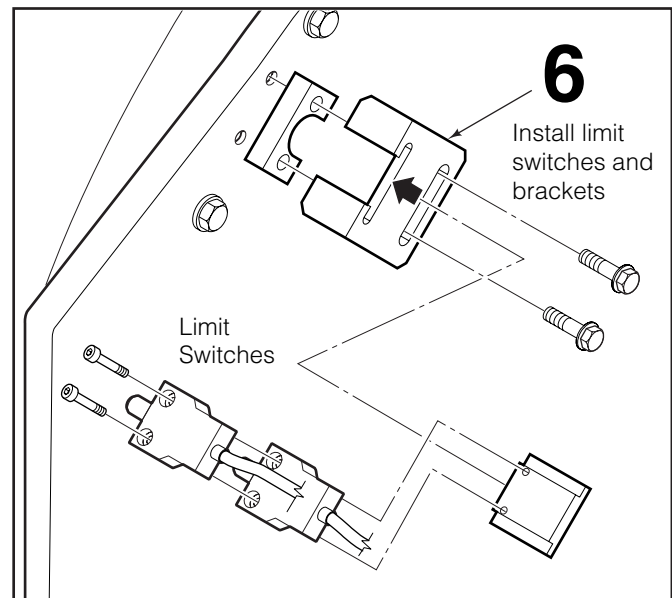
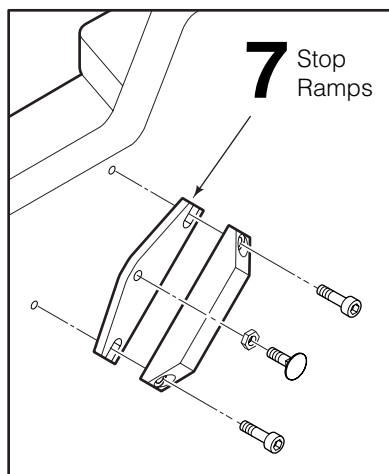


- 3** Disconnect hydraulic hoses to the drive group. Tag the hoses for reassembly.
- 4** Remove the four capscrews fastening the check valve to the drive group. Keep track of the two O-rings between the check valve and drive motor.

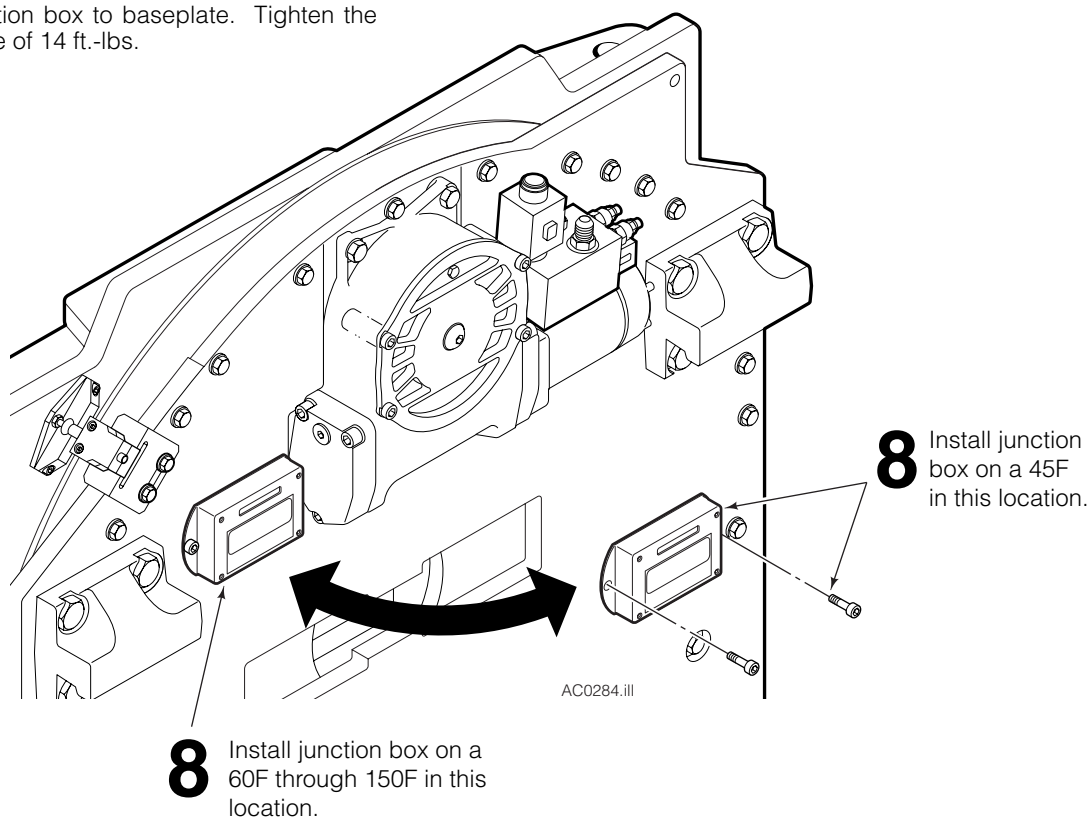
- 5** Install the new solenoid valve to the drive group. Place the two O-rings between the solenoid valve and drive motor and install the four capscrews. Tighten the capscrews to a torque of 20 ft.-lbs.



- 6** Install the limit switches and brackets to the baseplate. Tighten the baseplate bracket capscrews to a torque of 14 ft.-lbs.
- 7** Install the stop ramps to the faceplate. Tighten the stop capscrews to a torque of 3 ft.-lbs.

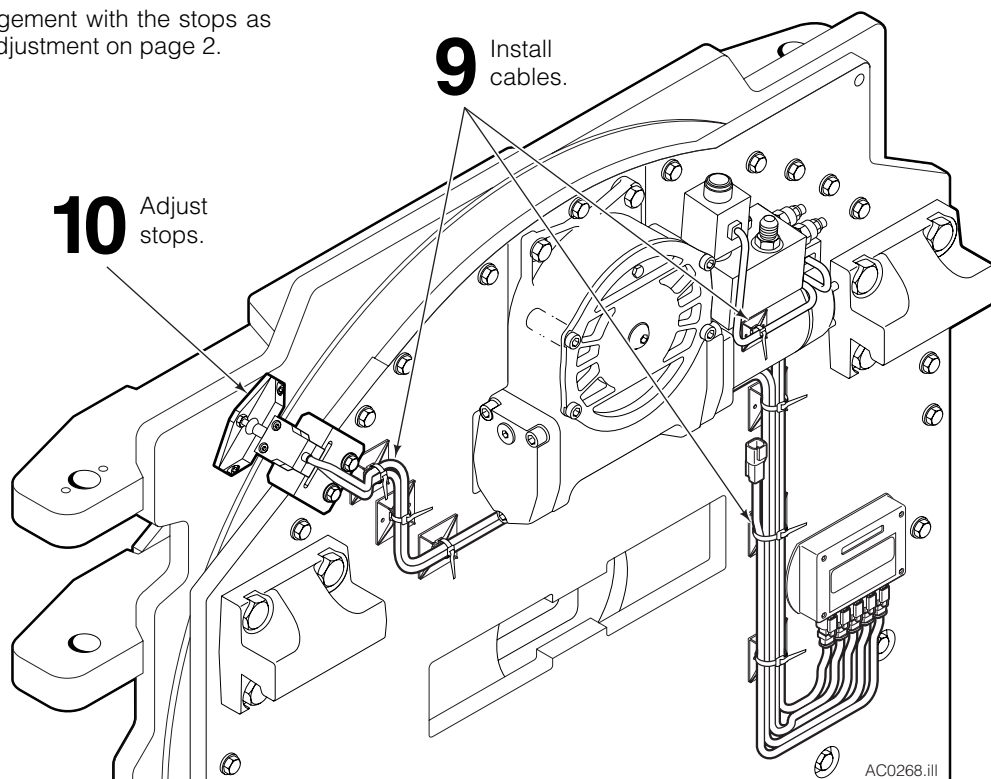


- 8** Install the cable junction box to baseplate. Tighten the capscrews to a torque of 14 ft.-lbs.

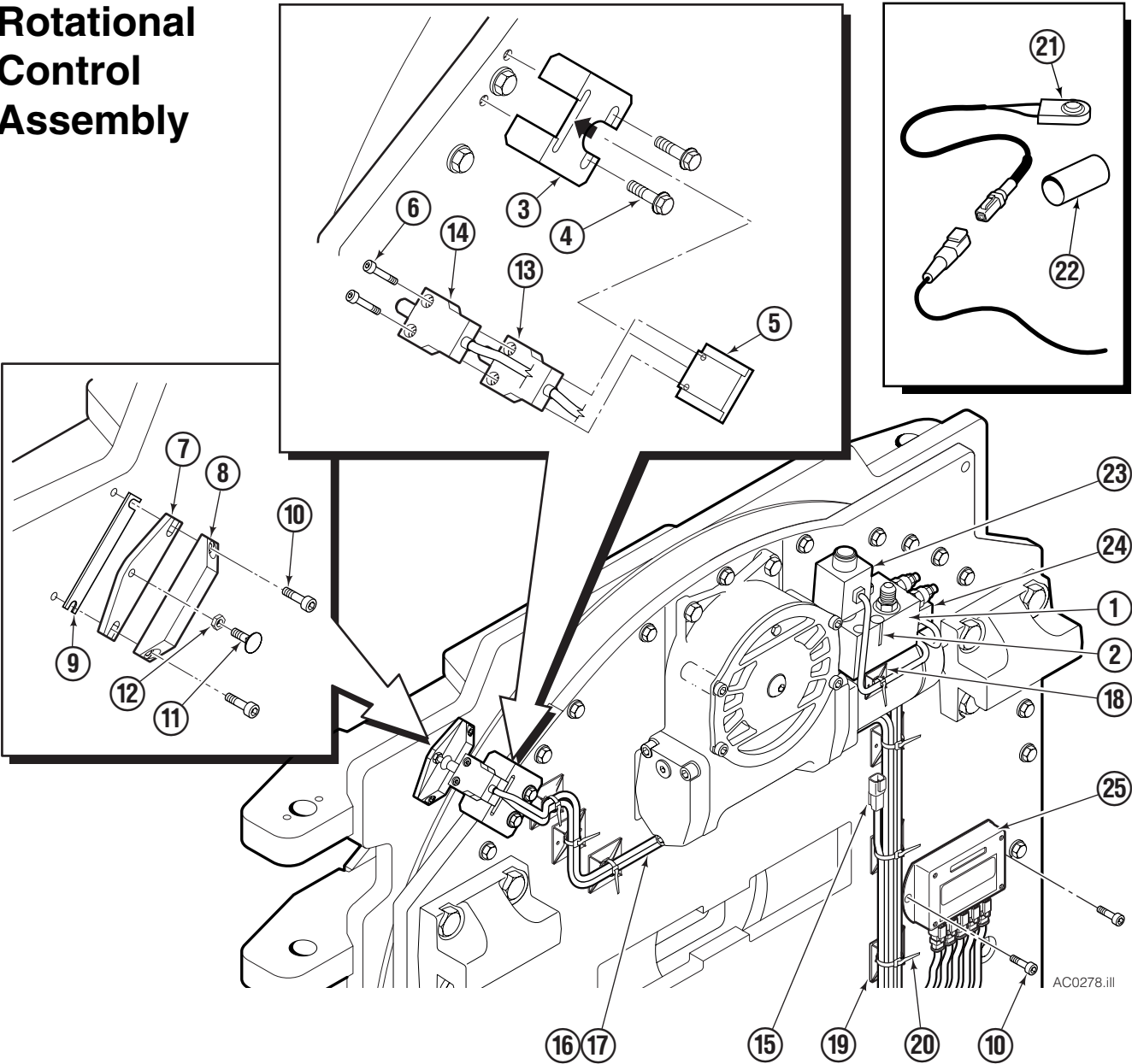


- 9** Install the cables. Use the adhesive blocks and wire ties to secure the wiring.

- 10** Adjust the limit switch engagement with the stops as described in Operation and Adjustment on page 2.



Rotational Control Assembly

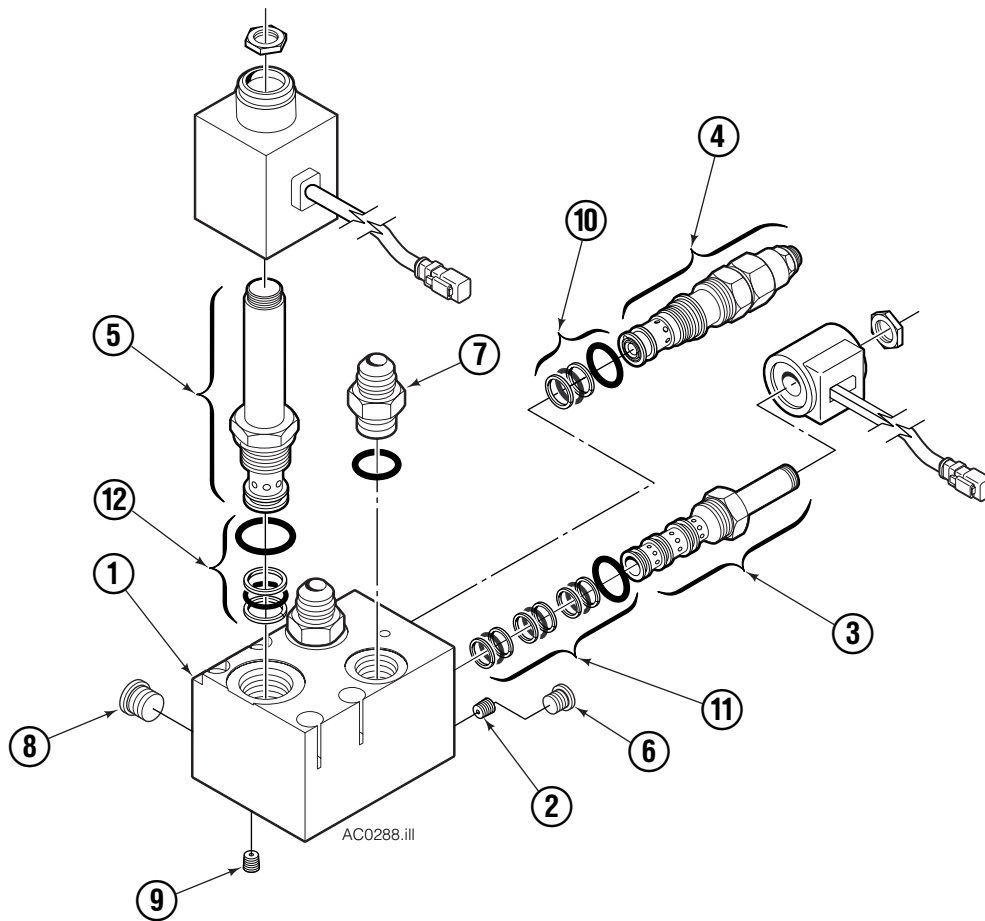


REF	QTY	PART NO.	DESCRIPTION
		228705	Rotational Control-12V
		228706	Rotational Control-24V
		228707	Rotational Control-36V
		228708	Rotational Control-48V
1	1	6001035	Valve Assembly without Coils
2	4	607060	Capscrew, 5/16 NC x 2.00 GR8
3	1	222021	Switch Mounting Bracket
4	2	6002668	Capscrew, M8 x 20
5	1	222020	Switch Mounting Plate
6	2	768784	Capscrew, M5 x 35
7	3	228700	Plate Stop
8	3	228701	Block Decel
9	3	6009228	Shim, .03 in.
10	8	761170	Capscrew, M6 x 20
11	3	228690	Capscrew, M6 x 20
12	3	765718	Nut, M6
13	1	222024	Switch/Cable Assy.
14	1	222256	Switch/Cable Assy.
15	1	222023	Power Cable
16	1	228720	Ext. Cable Assy.

REF	QTY	PART NO.	DESCRIPTION
17	1	228721	Ext. Cable Assy.
18	2	6002501	Cable Tie Anchor
19	7	6002451	Cable Tie Anchor
20	9	6002479	Cable Tie
21	1	6001663	Switch Assy
22	1	6001641	Shrink Tubing
23	1	6003161	Solenoid/Cable Assy.-12V
	1	6003162	Solenoid/Cable Assy.-24V
	1	6003163	Solenoid/Cable Assy.-36V
	1	6003164	Solenoid/Cable Assy.-48V
24	1	6003169	Solenoid/Cable Assy.-12V
	1	6003170	Solenoid/Cable Assy.-24V
	1	6003171	Solenoid/Cable Assy.-36V
	1	6003172	Solenoid/Cable Assy.-48V
25	1	227888	Relay Enclosure Assy.
		6009181	Thread Cutting Tap, M6 (not shown)
		6009182	Thread Cutting Tap, M8 (not shown)
		6009185	Twist Drill, 5.3mm (not shown)
		6009186	Twist Drill, 7.3mm (not shown)

Reference: Common Parts Groups 6001010, 6001012, 6009183.

Solenoid Valve



REF	QTY	PART NO.	DESCRIPTION
		6001035	Valve Assembly without Coils
1	1	220565	Valve Body
2	4	220641	Orifice
3	1	220627	Solenoid Valve
4	2	6003173	Valve
5	1	221722	Solenoid Valve
6	2	663694	Fitting, 3
7	3	601377	Fitting, 8
8	3	604510	Fitting, 6
9	3	228698	Orifice
10	2	667516	Service Kit
11	1	221049	Service Kit
12	1	6031791	Service Kit

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