



Parts Manual

35D, 50D Revolving Clamps

Fork Clamps

Bale Clamps

Drum Clamps

Multi-Purpose/Rigid Arm Clamps

Clamps without Arms

P/N 672360

cascade[®]
corporation

B

HOW TO USE THIS MANUAL

Introduction

This manual illustrates service replacement parts for standard production Cascade 35D and 50D Revolving Clamps.

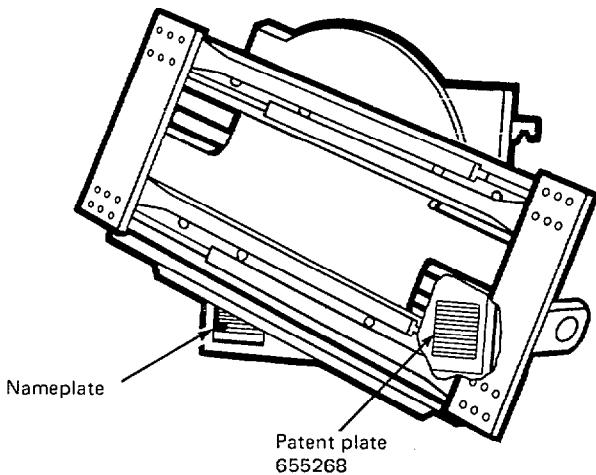
The parts manuals for attachments designed by the Application Engineering Department have an A.E.D. designation on the cover of the manual.

This standard attachment manual is not interchangeable with an A.E.D. Manual since it does not reflect the special engineering of an A.E.D. attachment.

To locate a service replacement part for a standard attachment follow the steps below.

1. Locate Nameplate

The nameplate is attached to the lower right front face of the baseplate. If the nameplate is missing, all of the necessary information is stamped into the frame at the same location.



2. Note the Serial Number

Record the six-digit Serial Number. See the example.

3. Refer to Serial Number Index

Locate your Serial Number in the Serial Number Index on the following page.

IMPORTANT: DO NOT USE THIS MANUAL TO ORDER PARTS FOR AN A.E.D. ATTACHMENT. Contact Cascade Corporation to obtain the correct parts manual. You must supply the serial number and all additional equipment numbers to order the correct parts manual.

4. Ordering

To order service replacement parts contact:


Parts Depot
Cascade Corporation
2501 Sheridan Ave.
Springfield, Ohio 45505
Telephone: (513) 322-1199
Telex: 205413

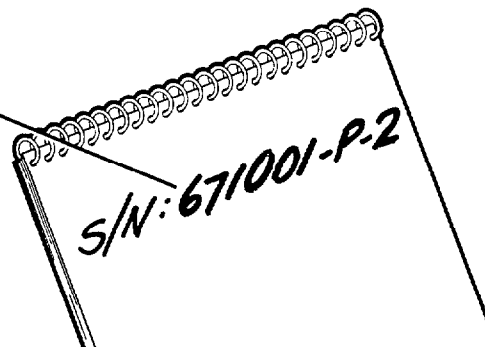
To order parts or service manuals contact:

Technical Publication Dept.
Cascade Corporation
2201 N.E. 201
Portland, Oregon 97230
Telephone: 1-800-547-5266
or
503-666-1511

5. For Your Convenience

... we have supplied a parts ordering log located on the last page. Use this log as a permanent record of parts ordered from this manual.

		Cascade LIFT TRUCK ATTACHMENT	
SERIAL NUMBER	671001-P-2	WEIGHT	
CATALOG NUMBER	35D-CN-20F	LBS.	
ADDITIONAL EQUIPMENT			
ADDITIONAL EQUIPMENT			
ADDITIONAL EQUIPMENT			
ATTACHMENT CAPACITY			
<input type="text"/> POUNDS AT		<input type="text"/> INCH LOAD CENTER	
<small>CAPACITY OF TRUCK AND ATTACHMENT COMBINATION MAY BE LESS THAN ATTACHMENT CAPACITY SHOWN ABOVE. CONSULT TRUCK NAMEPLATE.</small>			
<small>FOR SERVICE AND PARTS LITERATURE CONTACT</small> Cascade Corporation <small>503/6661511 PORTLAND, OREGON, U.S.A.</small>			



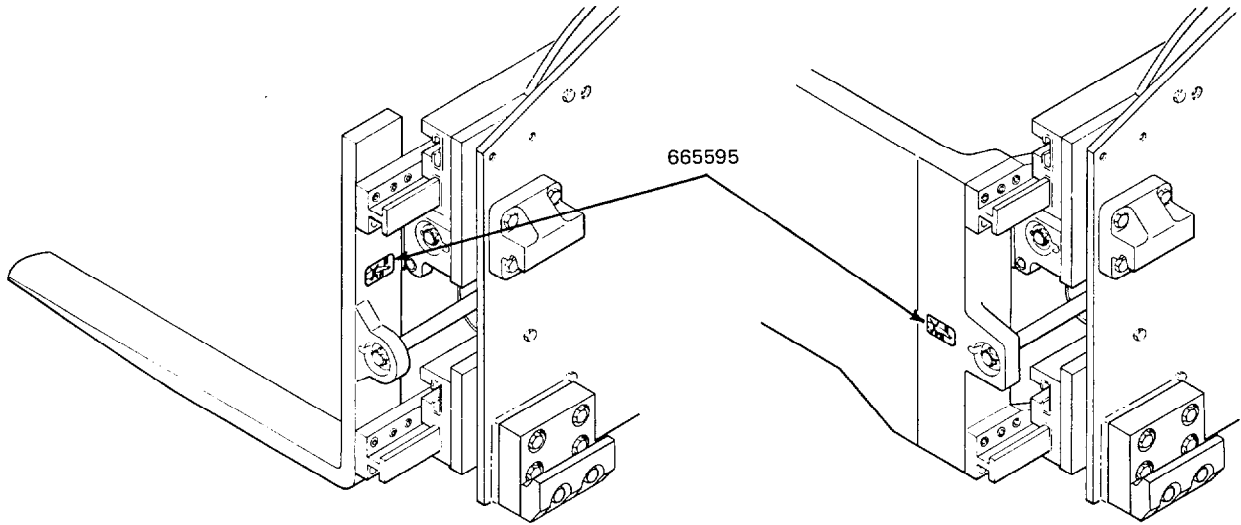
Serial Number Index

Serial Number	Model	Frame Group Page	Rotator Group Page	Cylinder Page	Drive Group Page	Revolving Connection Page	Arm Group Page	Mounting Group Page	Solenoid Adaption Page	180° Stop Group Page
670964	50D	1A	2A	3	4	7	8	9	10	11
670965	50D	1A	2A	3	4	7	8	9	10	11
670966	50D	1A	2A	3	4	7	8	9A	10	11
670967	50D	1A	2A	3	4	7	8	9A	10	11
670968	50D	1A	2A	3	4	7	8A	9	10	11
670969	50D	1A	2A	3	4	7	8A	9	10	11
670970	50D	1A	2A	3	4	7	8A	9A	10	11
670971	50D	1A	2A	3	4	7	8A	9A	10	11
670972	50D	1A	2A	3	4	7	8A	9	10	11
670973	50D	1A	2A	3	4	7	8A	9	10	11
670974	50D	1A	2A	3	4	7	8A	9A	10	11
670975	50D	1A	2A	3	4	7	8A	9A	10	11
670976	50D	1A	2A	3	4	7	8C	9	10	11
670977	50D	1A	2A	3	4	7	8C	9	10	11
670978	50D	1A	2A	3	4	7	8C	9A	10	11
670979	50D	1A	2A	3	4	7	8C	9A	10	11
670980	50D	1A	2A	3	4	7	8C	9	10	11
670981	50D	1A	2A	3	4	7	8C	9	10	11
670982	50D	1A	2A	3	4	7	8C	9A	10	11
670983	50D	1A	2A	3	4	7	8C	9A	10	11
670984	50D	1A	2A	3	4	7	8C	9	10	11
670985	50D	1A	2A	3	4	7	8C	9A	10	11
670986	50D	1A	2A	3	4	7	8C	9A	10	11
670987	50D	1A	2A	3	4	7	8C	9A	10	11
670988	50D	1A	2A	3	4	7	8B	9	10	11
670989	50D	1A	2A	3	4	7	8B	9	10	11
670990	50D	1A	2A	3	4	7	8B	9A	10	11
670991	50D	1A	2A	3	4	7	8B	9A	10	11
670992	50D	1A	2A	3	4	7	8B	9	10	11
670993	50D	1A	2A	3	4	7	8B	9	10	11
670994	50D	1A	2A	3	4	7	8B	9A	10	11
670995	50D	1A	2A	3	4	7	8B	9A	10	11
670996	50D	1A	2A	3	4	7	8B	9	10	11
670997	50D	1A	2A	3	4	7	8B	9	10	11
670998	50D	1A	2A	3	4	7	8B	9A	10	11
670999	50D	1A	2A	3	4	7	8B	9A	10	11
671001	35D	1	2	3	4	7	8	9	10	11
671002	35D	1	2	3	4	7	8	9	10	11
671003	35D	1	2	3	4	7	8A	9	10	11
671004	35D	1	2	3	4	7	8A	9	10	11
671005	35D	1	2	3	4	7	8A	9	10	11
671006	35D	1	2	3	4	7	8A	9	10	11
671007	35D	1	2	3	4	7	8A	9	10	11
671008	35D	1	2	3	4	7	8A	9	10	11
671009	35D	1	2	3	4	7	8C	9	10	11

Serial Number Index

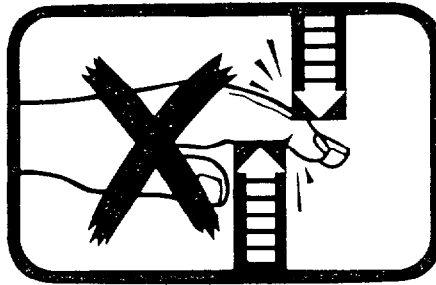
Serial Number	Model	Frame Group Page	Rotator Group Page	Cylinder Page	Drive Group Page	Revolving Connection Page	Arm Group Page	Mounting Group Page	Solenoid Adaption Page	180° Stop Group Page
671010	35D	1	2	3	4	7	8C	9	10	11
671011	35D	1	2	3	4	7	8C	9	10	11
671012	35D	1	2	3	4	7	8C	9	10	11
671013	35D	1	2	3	4	7	8C	9	10	11
671014	35D	1	2	3	4	7	8C	9	10	11
671015	35D	1	2	3	4	7	8B	9	10	11
671016	35D	1	2	3	4	7	8B	9	10	11
671017	35D	1	2	3	4	7	8B	9	10	11
671018	35D	1	2	3	4	7	8B	9	10	11
671019	35D	1	2	3	4	7	8B	9	10	11
671020	35D	1	2	3	4	7	8B	9	10	11
671021	35D	1	2	3	4	7	8D	9	10	11
671022	35D	1	2	3	4	7	8D	9	10	11
671023	35D	1	2	3	4	7	8D	9	10	11
671024	35D	1	2	3	4	7	8D	9	10	11

Safety Decals



CLAMPS WITHOUT ARMS
 FORKS
 DRUM ARMS

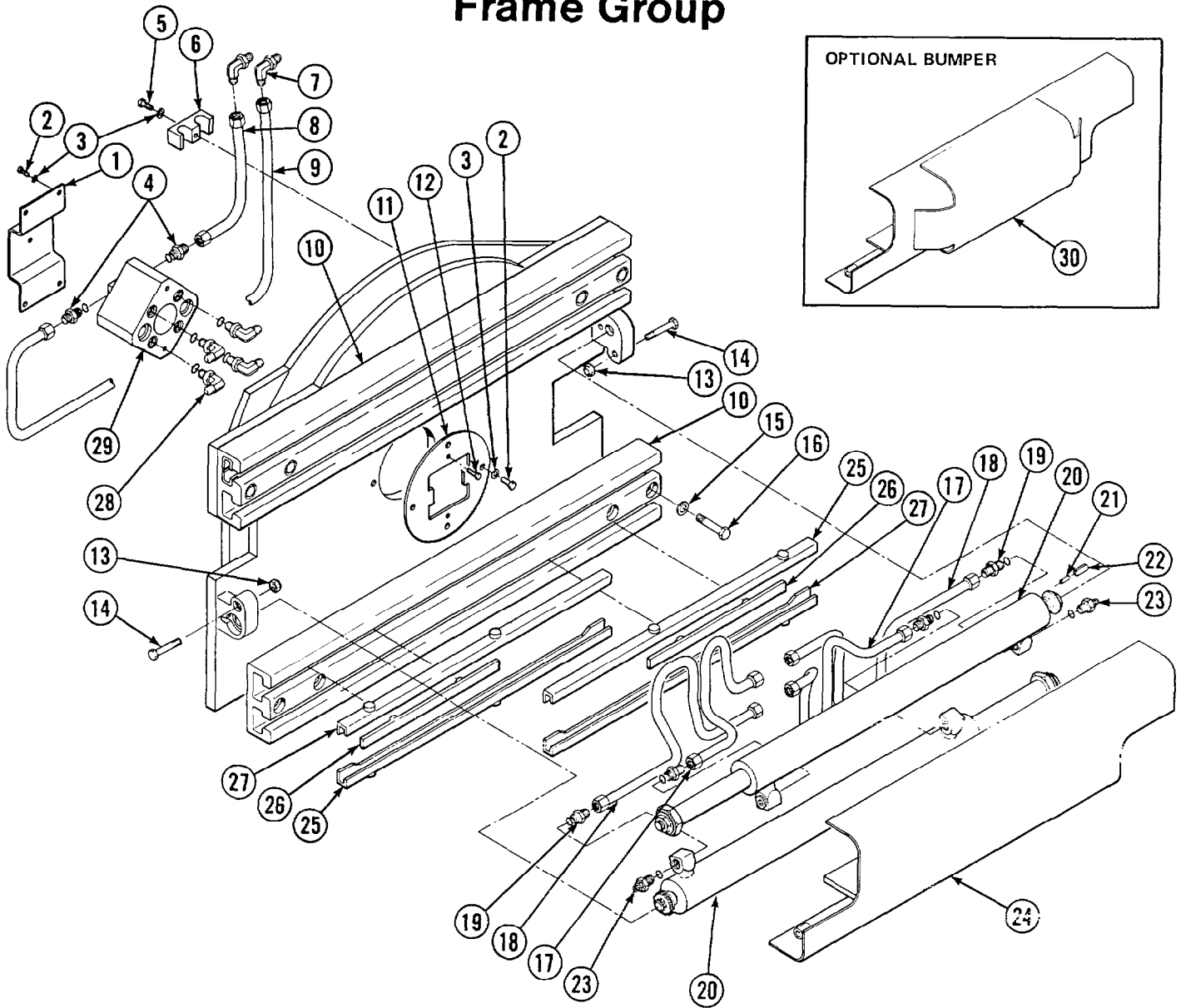
BALE ARMS
 MULTI-PURPOSE/RIGID ARMS



QTY.	PART NO.	DESCRIPTION
2	665595	No Hand Hold Decal



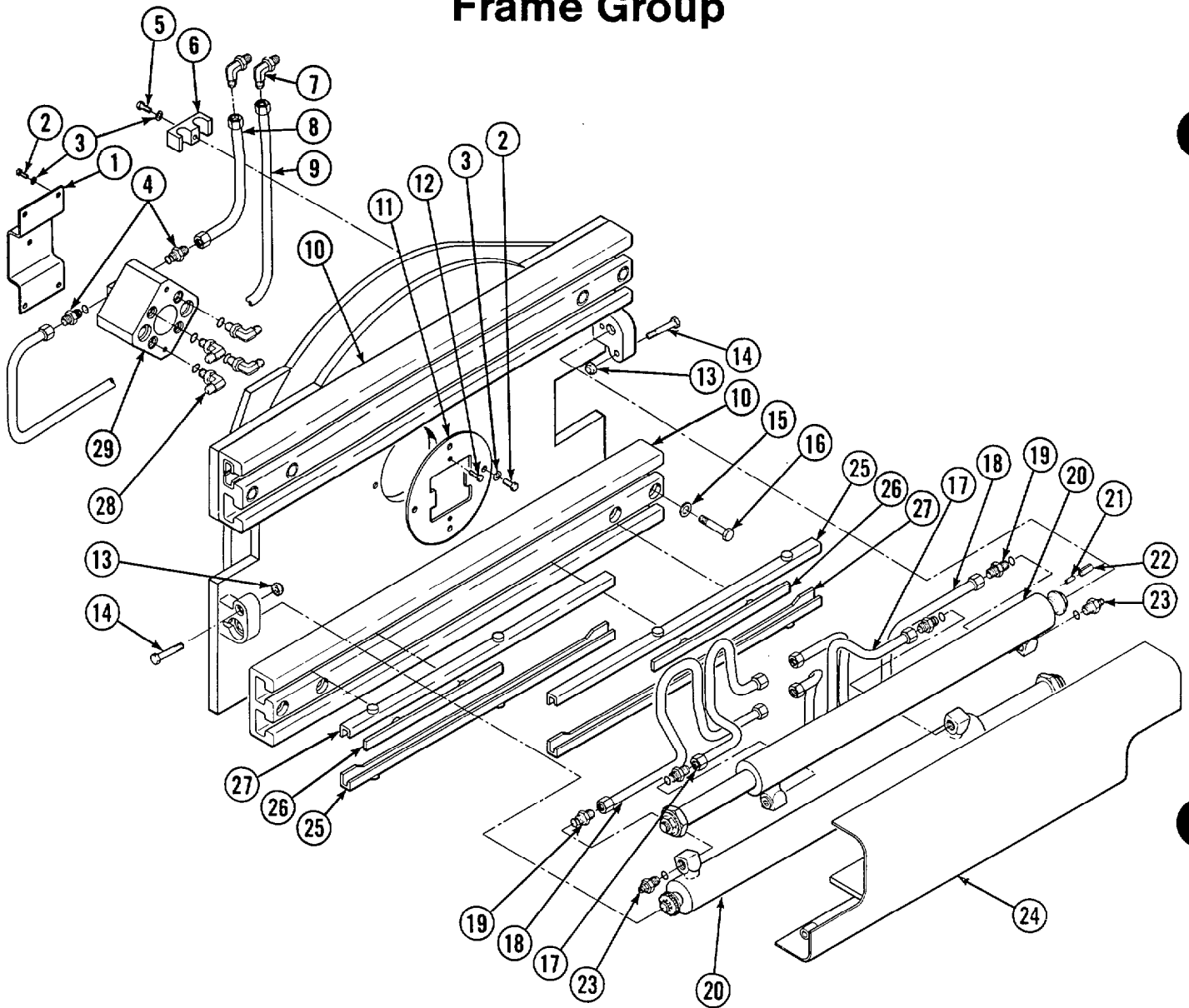
Frame Group



35D							
REF. NO.	QTY.	PART NO.	DESCRIPTION	REF. NO.	QTY.	PART NO.	DESCRIPTION
		670946	Frame Group	17	2	670943	Tube
1	1	670939	Bracket	18	2	670947	Tube
2	8	3574	Capscrew, 5/16 NC x .62	19	4	611288	Fitting, 6-8
3	9	6287	Lockwasher	● 20	2	667911	Cylinder
4	2	662187	Fitting, 8-6	21	2	7861	Roll Pin - Inner
5	1	3578	Capscrew, 5/16 NC x 1.25	22	2	7962	Roll Pin - Outer
6	1	629511	Bracket	■ 23	2	667609	Restrictor Cartridge
7	2	2440	Fitting, 8-8	24	1	667908	Bumper
8	1	670945	Tube	25	4	668910	Bearing
9	1	670944	Tube		4	667907	Bearing, Heavy Duty
10	2	667904	Frame	26	4	667663	Bearing
11	1	670938	Plate	27	4	668911	Bearing
12	2	4466	Capscrew, 3/8 NC x .50		4	667906	Bearing, Heavy Duty
13	2	665707	Nut	28	4	601676	Fitting, 6-6
14	2	3659	Capscrew, 1/2 NC x 2.50	◆ 29	1	670940	Revolving Connection
15	8	667910	Washer	30	1	671519	Bumper, Optional
16	8	667909	Capscrew, 1/2 NC x 3.00				

- See page 3 for replacement parts breakdown.
- See page 6 for replacement parts breakdown.
- ◆ See page 7 for replacement parts breakdown.

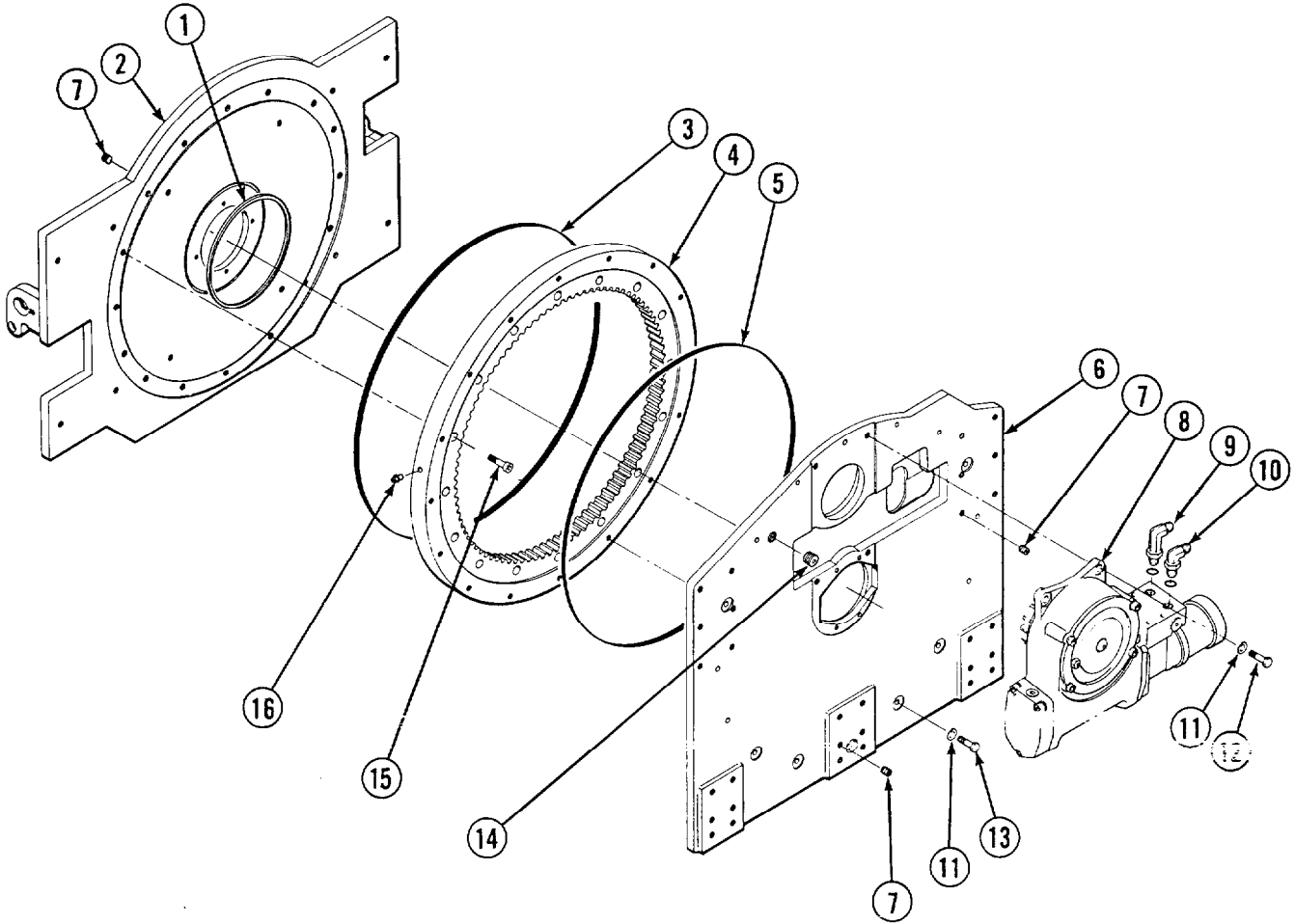
Frame Group



50D							
REF. NO.	QTY.	PART NO.	DESCRIPTION	REF. NO.	QTY.	PART NO.	DESCRIPTION
		670935	Frame Group	17	2	670937	Tube
1	1	670939	Bracket	18	2	670936	Tube
2	8	3574	Capscrew, 5/16 NC x .62	19	4	611288	Fitting, 6-8
3	9	6287	Lockwasher	● 20	2	667666	Cylinder
4	2	662187	Fitting, 8-6	21	2	7882	Roll Pin - Inner
5	1	3578	Capscrew, 5/16 NC x 1.25	22	2	7961	Roll Pin - Outer
6	1	629511	Bracket	■ 23	2	667609	Restrictor Cartridge
7	2	2440	Fitting, 8-8	24	1	667664	Bumper
8	1	670945	Tube	25	4	668904	Bearing
9	1	670944	Tube		4	667662	Bearing, Heavy Duty
10	2	667659	Frame	26	4	667663	Bearing
11	1	670938	Plate	27	4	668905	Bearing
12	2	4466	Capscrew, 3/8 NC x .50		4	667661	Bearing, Heavy Duty
13	2	665707	Nut	28	4	601676	Fitting, 6-6
14	2	3660	Capscrew, 1/2 NC x 2.75	◆ 29	1	670940	Revolving Connection
15	8	667225	Washer				
16	8	667644	Capscrew, 5/8 NC x 3.25				

- See page 3 for replacement parts breakdown.
- See page 6 for replacement parts breakdown.
- ◆ See page 7 for replacement parts breakdown.

Rotator Group

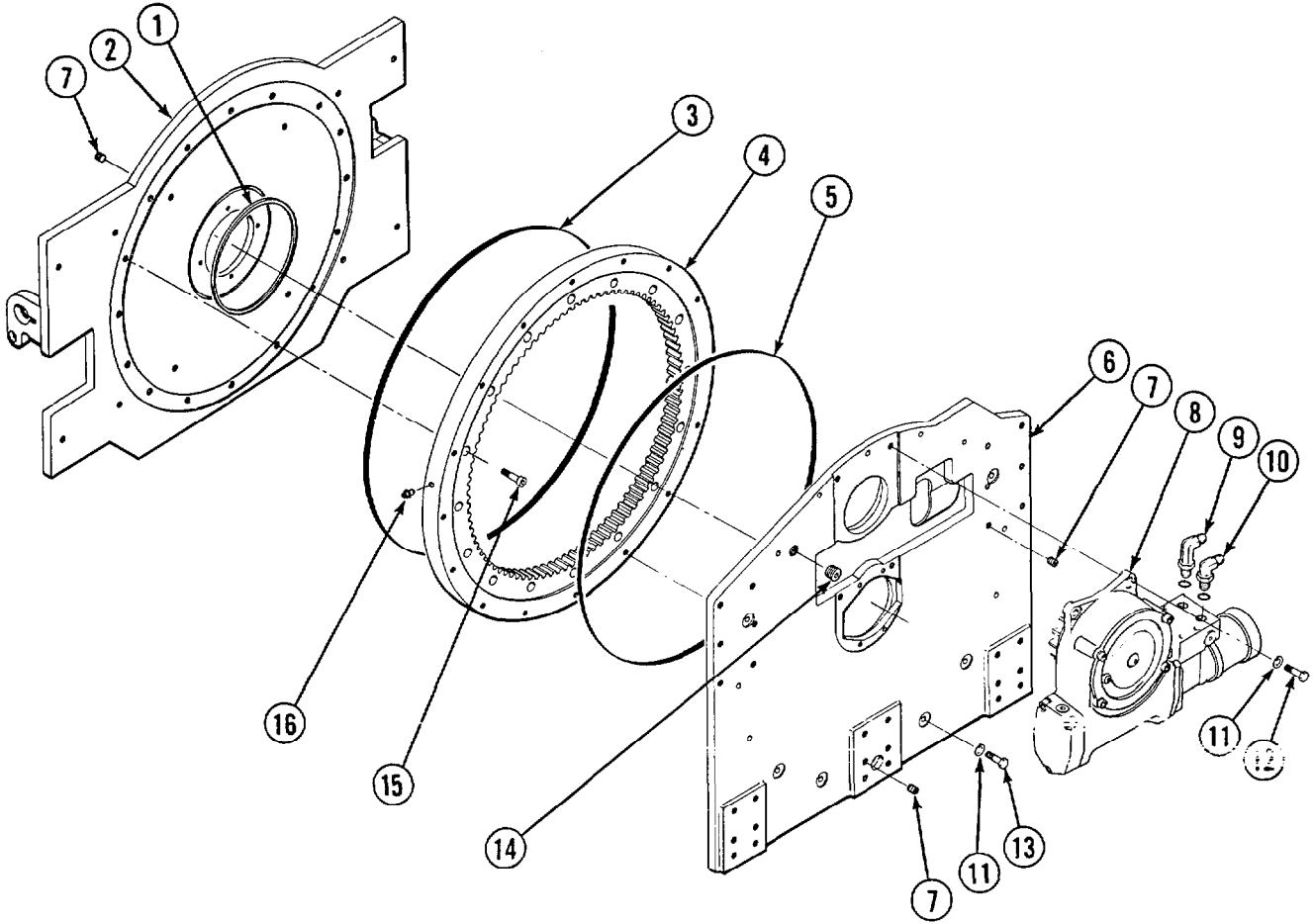


35D			
REF. NO.	QTY.	PART NO.	DESCRIPTION
1	1	670931	Seal
2	1	670933	Faceplate
3	1	670513	Seal
◆ 4	1	672828	Bearing Assembly
5	1	670514	Seal
6	1	670926	Baseplate
7	8	631385	Plug
● 8	1	670505	Drive Group
9	1	660385	Fitting
10	1	601250	Fitting
11	18	6290	Lockwasher
12	4	661742	Capscrew, 1/2 NC x 1.25 GR5
13	16	640013	Capscrew, 1/2 NC x 1.75 GR5
14	1	6605	Plug
◆ 15	16	669322	Capscrew, 1/2 NC x 1.5
16	1	7401	Grease Fitting
		672481	Bearing Service Kit

- Includes items 3 and 5.
- See page 4 for replacement parts breakdown.
- ◆ Included in Bearing Service Kit 672481.



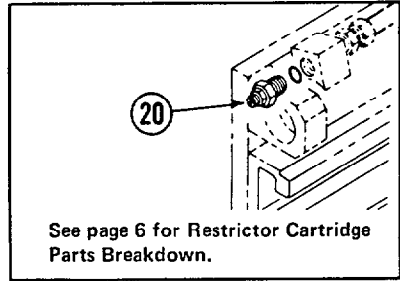
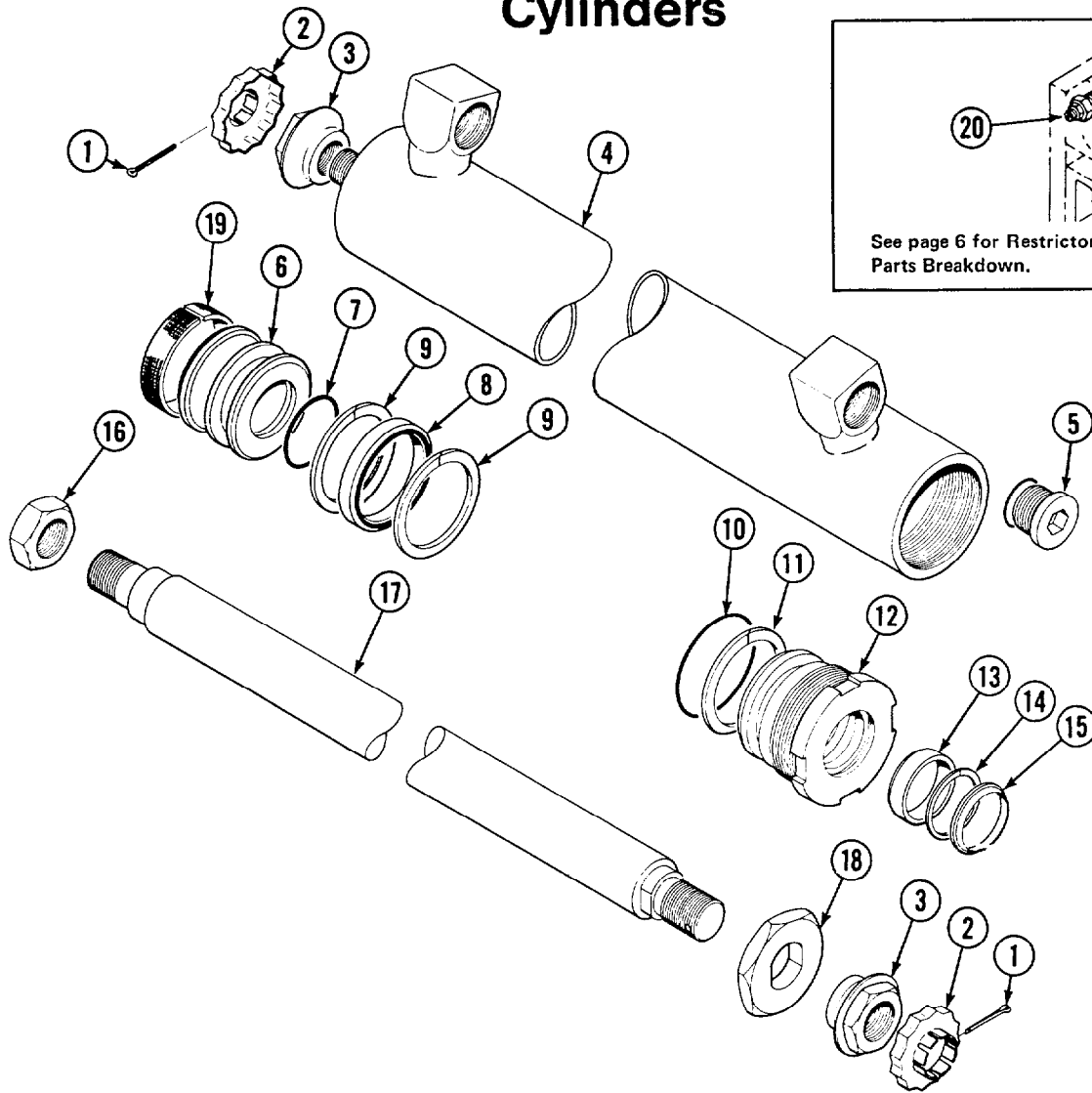
Rotator Group



50D			
REF. NO.	QTY.	PART NO.	DESCRIPTION
1	1	670931	Seal
2	1	670924	Faceplate
3	1	670513	Seal
◆ 4	1	672828	Bearing Assembly
5	1	670514	Seal
6	1	670926	Baseplate
7	8	631385	Plug
● 8	1	670505	Drive Group
9	1	660385	Fitting
10	1	601250	Fitting
11	18	6290	Lockwasher
12	4	661742	Capscrew, 1/2 NC x 1.25 GR5
13	16	640013	Capscrew, 1/2 NC x 1.75 GR5
14	1	6605	Plug
◆ 15	16	669322	Capscrew, 1/2 NC x 1.5
16	1	7401	Grease Fitting
		672481	Bearing Service Kit

- Includes items 3 and 5.
- See page 4 for replacement parts breakdown.
- ◆ Included in Bearing Service Kit 672481.

Cylinders



REF. NO.	QTY.	35D PART NO.	50D PART NO.	DESCRIPTION
		667911	667666	Cylinder Assy.
■ 1	2	6510	6511	Cotter Pin, 3/32 x 1.25
■ 2	2	667624	667667	Retainer
■ 3	2	667625	667668	Nut
4	1	553758	553760	Shell
5	1	602580	602580	Plug
6	1	670891	670893	Piston
● 7	1	2716	2716	O-Ring
● 8	1	662454	662457	Seal
● 9	2	638249	638250	Nylon Ring
● 10	1	2787	2791	O-Ring
● 11	1	615130	615134	Back-Up Ring
12	1	667917	667675	Retainer
● 13	1	662448	662448	Seal
● 14	1	638243	638246	Nylon Ring
● 15	1	636853	636853	Wiper
16	1	667623	667623	Nut
17	1	667914	667670	Rod
18	1	667626	667626	Washer
● 19	1	660761	660764	Bearing
◆ 20	2	667609	667609	Restrictor Cartridge
		667995	667723	Service Kit
		668926	668925	Nut Service Kit

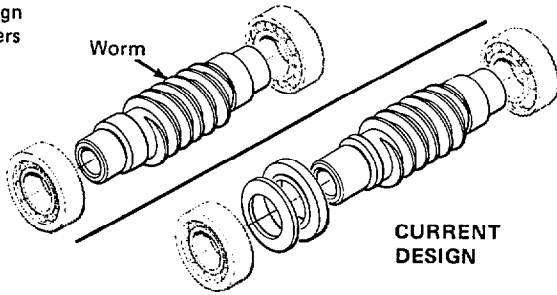
- Included in Service Kit.
- Included in Nut Service Kit.
- ◆ Not included in Cylinder Assembly. See page 6 for replacement parts breakdown.

Drive Group

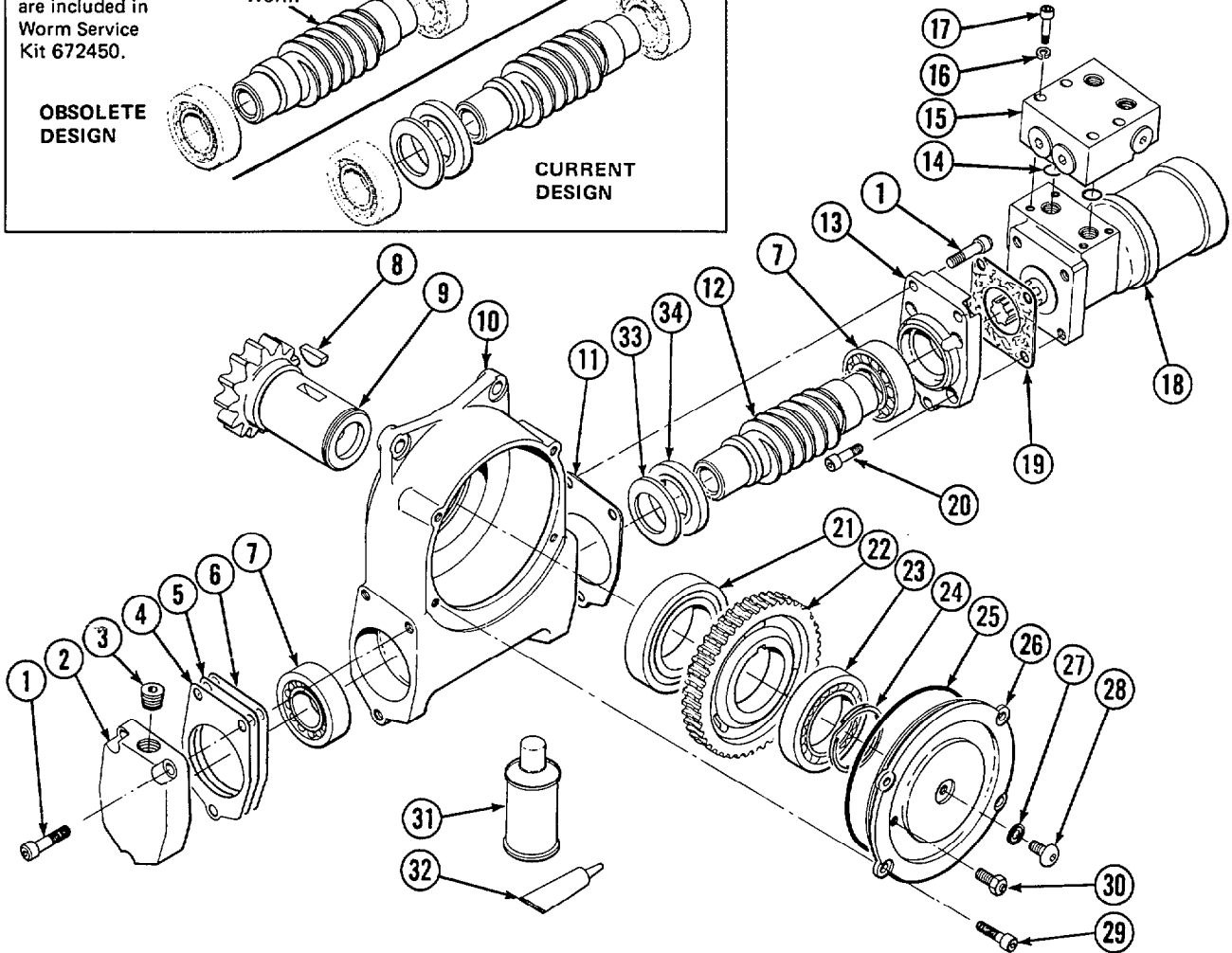
The obsolete design worm is not available. It must be replaced with the current design worm and end washers shown below.

The current design worm and washers are included in Worm Service Kit 672450.

OBSOLETE DESIGN



CURRENT DESIGN



REF. NO.	QTY.	PART NO.	DESCRIPTION	REF. NO.	QTY.	PART NO.	DESCRIPTION
		670505	Drive Group	19	1	670575	Gasket
1	6	607071	Capscrew, 7/16 NC x 1.0 GR8	20	4	4468	Capscrew, 3/8 NC x .75
2	1	670572	Cover	21	1	670580	Bearing
3	1	6609	Plug	22	1	670577	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	670567	Cover
8	1	670582	Key	27	1	670569	Seal
9	1	670506	Pinion	28	1	4874	Capscrew, 3/8 NC x .50 GR8
10	1	670565	Housing	29	4	671535	Capscrew, 5/16 NC x .75
11	1	670574	Shim - .010" (Brown)	30	1	644010	Relief Fitting
12	1	672447	Worm	31	1	656300	Gear Box Lube - 48 oz.
13	1	670570	Adapter	32	1	668184	Sealant
14	2	2705	Seal	33	1	672449	Washer Spring
◆ 15	1	670549	Check Valve	34	1	672448	Washer
16	4	6444	Lockwasher			† 670578	Shim Service Kit
17	4	607059	Capscrew, 5/16 NC x 1.75 GR8			671583	Bearing Service Kit
‡ 18	1	670548	Drive Motor			671584	Bearing Service Kit

● Quantity as required.

■ Included in Bearing Service Kit 671583.

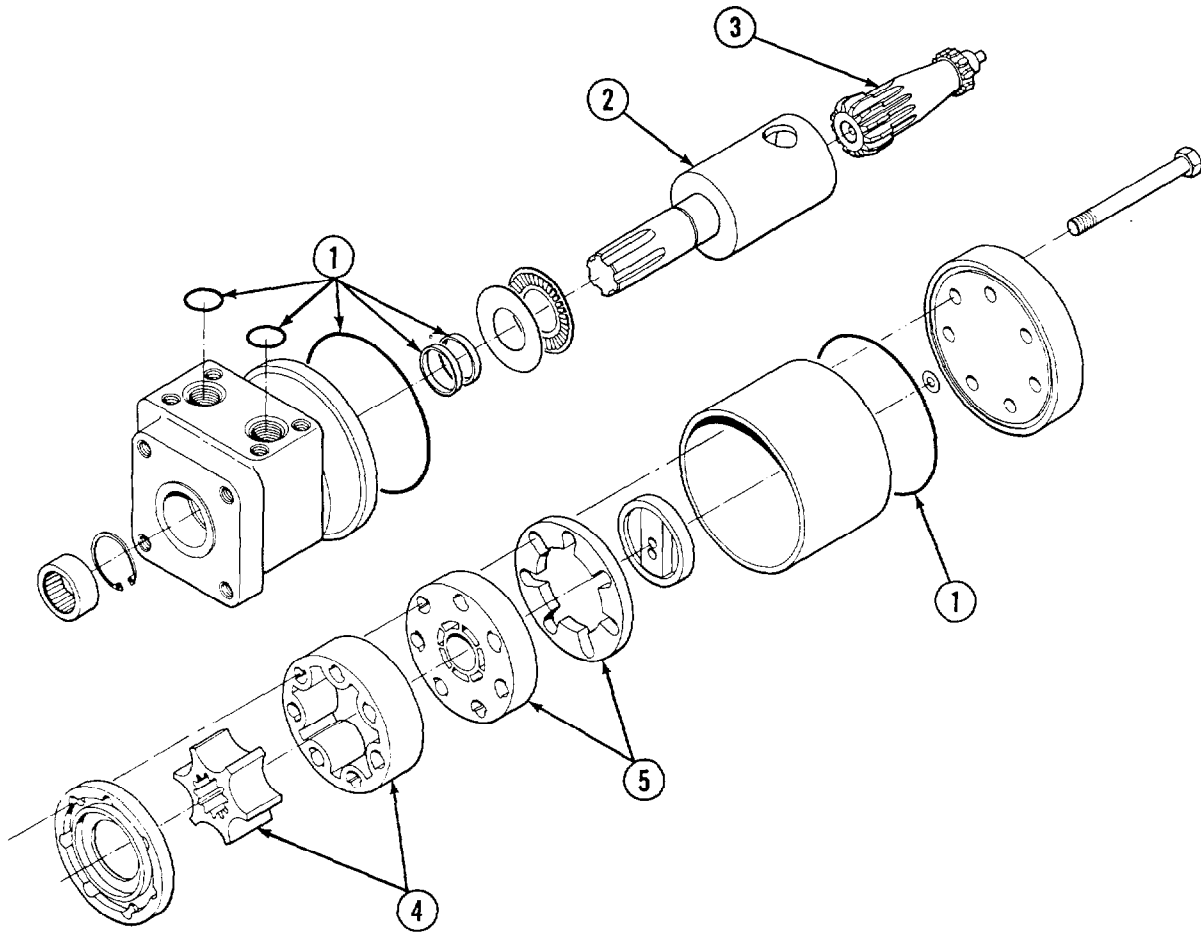
† Included in Bearing Service Kit 671584.

★ Included in Shim Service Kit 670578.

◆ See page 6 for replacement parts breakdown.

‡ See page 5 for replacement parts breakdown.

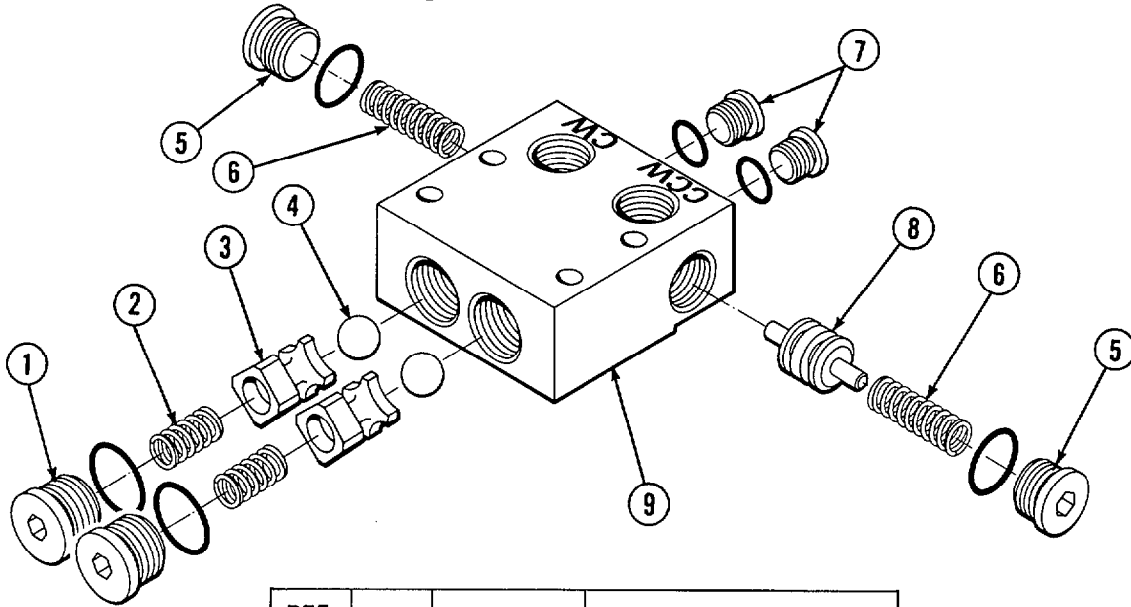
Drive Motor



REF. NO.	QTY.	PART NO.	DESCRIPTION
		670548	Drive Motor
1	1	671426	Seal Kit
2	1	671430	Coupling Shaft
3	1	671428	Drive Link
4	1	671427	Rotor Set
5	1	671429	Commutator Set

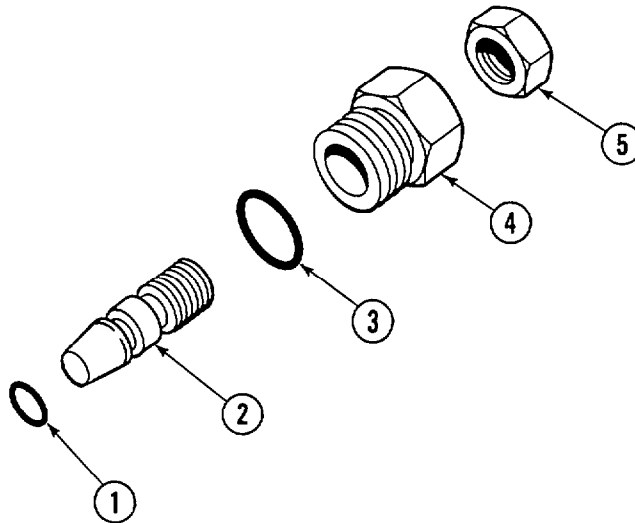


Check Valve



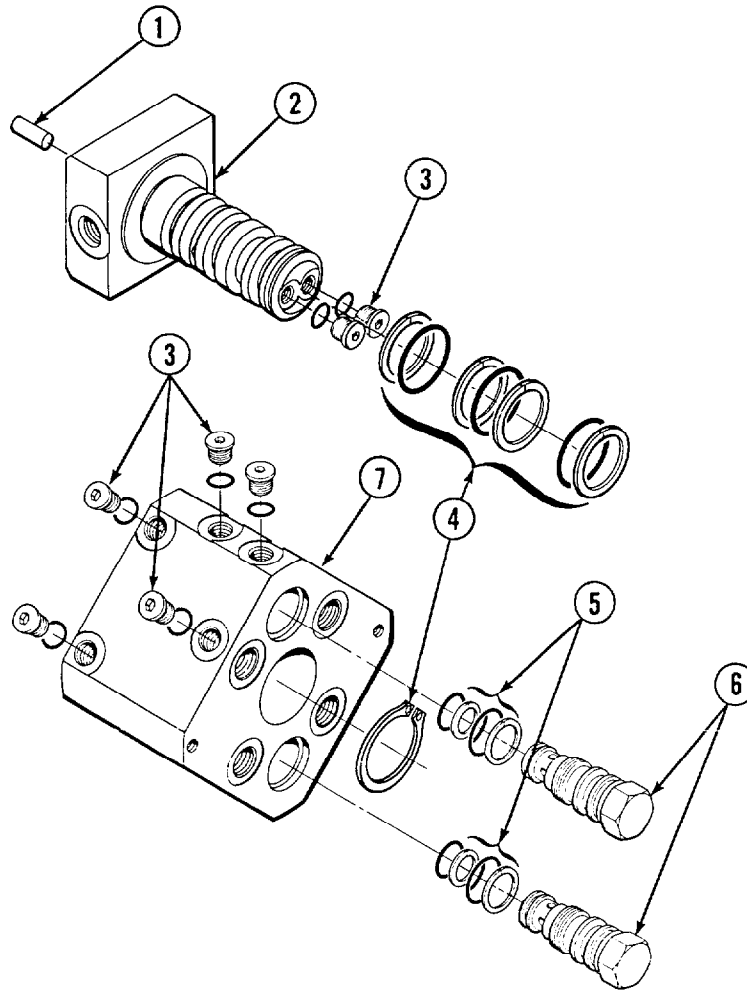
REF. NO.	QTY.	PART NO.	DESCRIPTION
		670549	Check Valve Assembly
1	2	609453	Plug
2	2	670552	Spring
3	2	670551	Guide
4	2	7020	Ball
5	2	602580	Plug
6	2	670554	Spring
7	2	604510	Plug
8	1	670553	Spool
9	1	670550	Body

Restrictor Cartridge



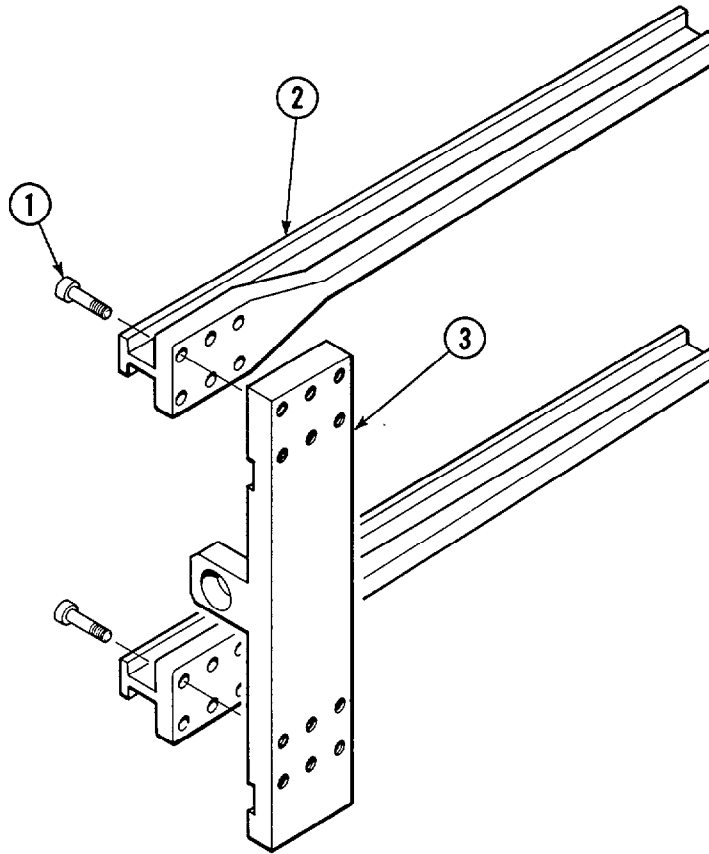
REF. NO.	QTY.	PART NO.	DESCRIPTION
	1	667609	Restrictor Cartridge
1	1	2701	O-ring
2	1	667611	Plunger
3	1	2841	O-ring
4	1	667610	Plug - Special
5	1	5716	Jam Nut


Revolving Connection



REF. NO.	QTY.	PART NO.	DESCRIPTION
		670940	Revolving Connection
1	1	606805	Dowel Pin
2	1	670942	Shaft
3	7	663694	Plug
4	1	660476	Shaft Service Kit
5	2	667516	Check Valve Service Kit
6	2	670918	Check Valve
7	1	670941	Body

Bolt-On Arm Bases



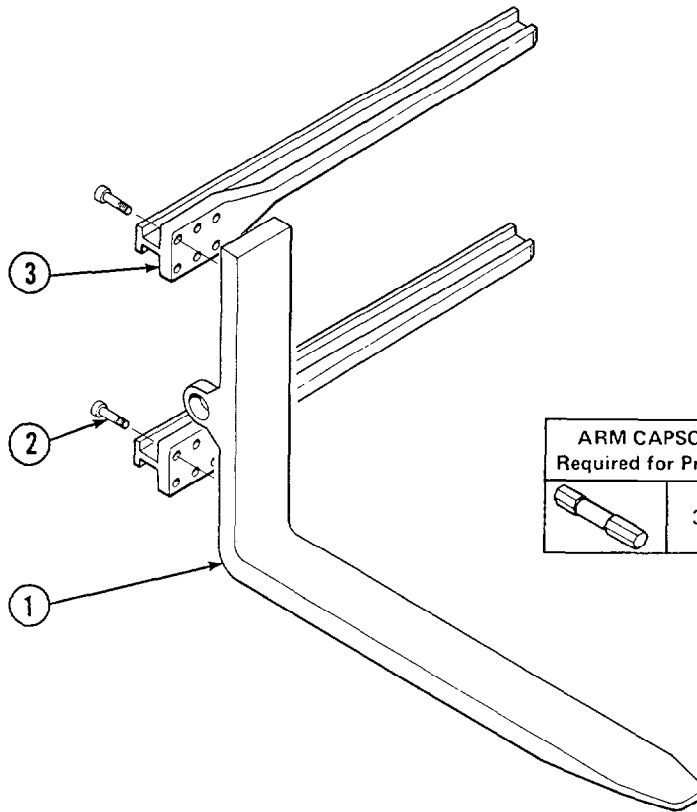
ARM CAPSCREW EXTENSION TOOL Required for Proper Torquing of Capscrews		
	35-50D	667699


REF. NO.	QTY.	35D PART NO.	50D PART NO.	DESCRIPTION
		●668329	●668328	Arm Base Assy. (pair)
1	24	607103	—	Capscrew, 3/4 NC x 1.50 GR8
	24	—	607105	Capscrew, 3/4 NC x 2.00 GR8
2	4	667905	667700	Arm Bar
3	2	668135	668134	Arm Base

● Includes items 1 and 3 only.



Bolt-On Pallet Forks



ARM CAPSCREW EXTENSION TOOL Required for Proper Torquing of Capscrews		
	35-50D	667699

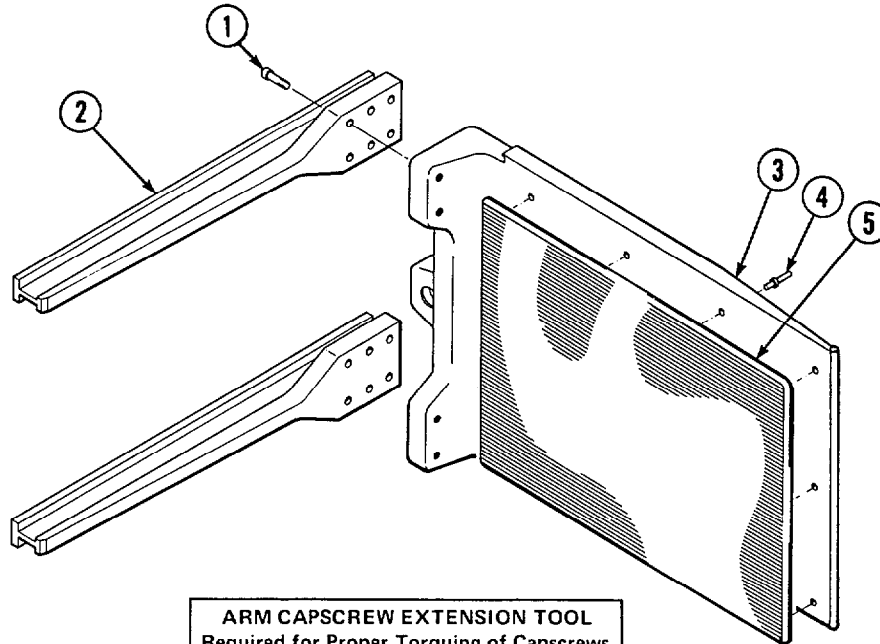
35D					
REF. NO.	QTY.	36" PART NO.	42" PART NO.	48" PART NO.	DESCRIPTION
		●670958	●670959	●670960	Pallet Fork Assy. (pair)
1	1	670951	670952	670953	Pallet Fork R.H.
	1	670948	670949	670950	Pallet Fork L.H.
2	24	607103	607103	607103	Capscrew, 3/4 NC x 1.50 GR8
3	4	667905	667905	667905	Arm Bar


●Includes Items 1 and 2 only

50D				
REF. NO.	QTY.	42" PART NO.	48" PART NO.	DESCRIPTION
		●670961	●670962	Pallet Fork Assy. (pair)
1	1	670956	670957	Pallet Fork R.H.
	1	670954	670955	Pallet Fork L.H.
2	24	607105	607105	Capscrew, 3/4 NC x 2.00 GR8
3	4	667700	667700	Arm Bar

●Includes Items 1 and 2 only

Bolt-on Multi-Purpose/Rigid Arms



ARM CAPSCREW EXTENSION TOOL Required for Proper Torquing of Capscrews		
	35-50D	667699

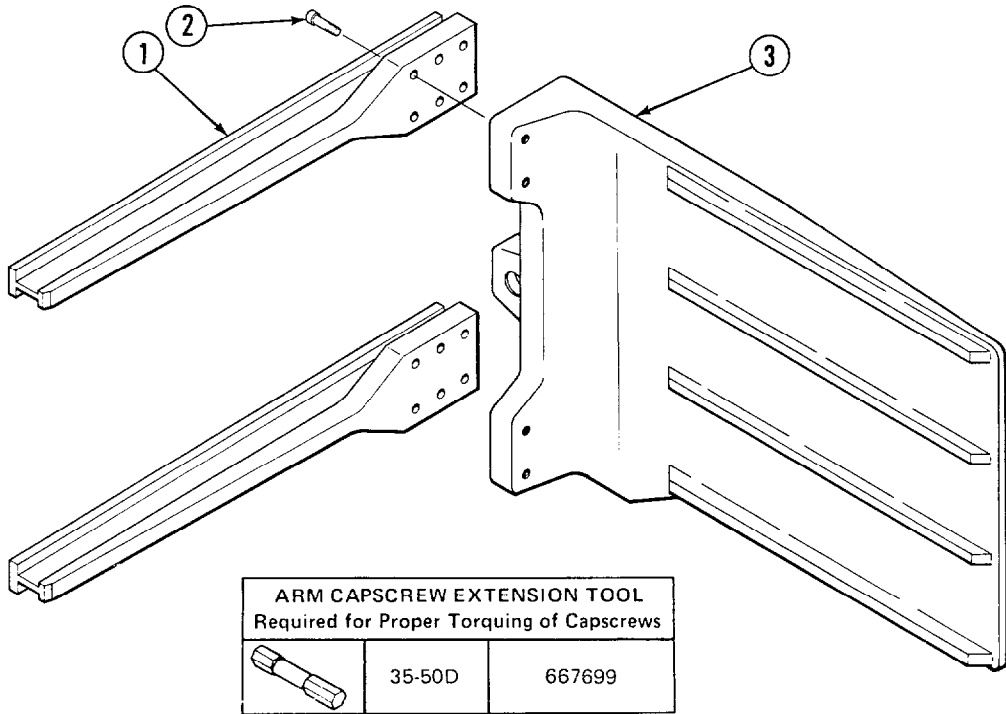
35D					
REF. NO.	QTY.	18 x 30 PART NO.	18 x 36 PART NO.	18 x 46 PART NO.	DESCRIPTION
		●671656	●671657	●671658	Arm Assy. (pair)
1	24	607103	607103	607103	Capscrew, 3/4 NC x 1.50 GR8
2	4	667905	667905	667905	Arm Bar
3	2	671672	671673	671674	Arm
4	12	667843	—	—	◆Rivet
	15	—	667843	—	◆Rivet
	18	—	—	667843	◆Rivet
5	2	667877	671686	667879	Contact Pad
		■669683	■672611	■669685	Service Kit, Contact Pad

- Includes items 1, 3, 4, and 5 only.
- Service Kit includes (1) Contact Pad and required rivets.
- ◆ Steel self-plugging rivets with steel mandrels, 3/16 dia. x 3/8-1/2 grip.

50D					
REF. NO.	QTY.	18 x 30 PART NO.	18 x 38 PART NO.	18 x 46 PART NO.	DESCRIPTION
		●671659	●671660	●671661	Arm Assy. (pair)
1	24	607105	607105	607105	Capscrew, 3/4 NC x 2.00 GR8
2	4	667700	667700	667700	Arm Bar
3	2	671675	671676	671677	Arm
4	12	667843	—	—	◆Rivet
	15	—	667843	—	◆Rivet
	18	—	—	667843	◆Rivet
5	2	667877	667878	667879	Contact Pad
		■669683	■669684	■669685	Service Kit, Contact Pad

- Includes items 1, 3, 4, and 5 only.
- Service Kit includes (1) Contact Pad and required rivets.
- ◆ Steel self-plugging rivets with steel mandrels, 3/16 dia. x 3/8-1/2 grip.

Bolt-On Bale Arms



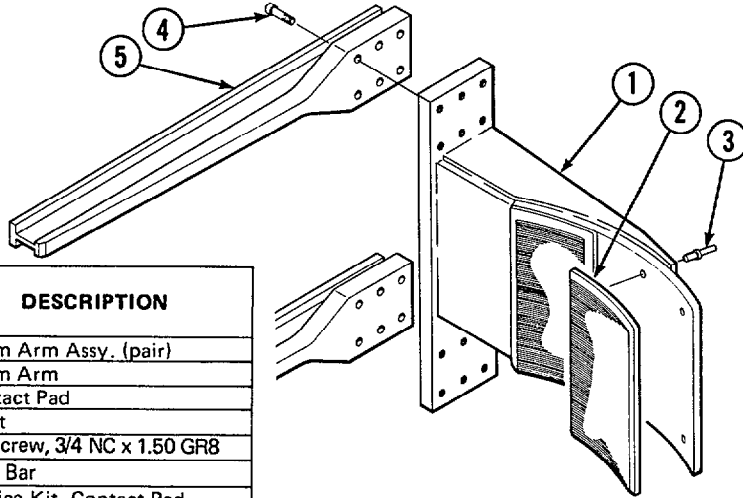
35D					
REF. NO.	QTY.	31" PART NO.	39" PART NO.	47" PART NO.	DESCRIPTION
		●671761	●671762	●671763	Bale Arm Assy. (pair)
1	4	667905	667905	667905	Arm Bar
2	24	670103	607103	607103	Capscrew, 3/4 NC x 1.50 GR8
3	2	671770	671771	671772	Arm

● Includes items 2 and 3 only.

50D					
REF. NO.	QTY.	31" PART NO.	39" PART NO.	47" PART NO.	DESCRIPTION
		●671765	●671766	●671767	Bale Arm Assy. (pair)
1	4	667700	667700	667700	Arm Bar
2	24	607105	607105	607105	Capscrew, 3/4 NC x 2.00 GR8
3	2	671774	671775	671776	Arm

● Includes items 2 and 3 only.

Bolt-On Two-Drum Arms

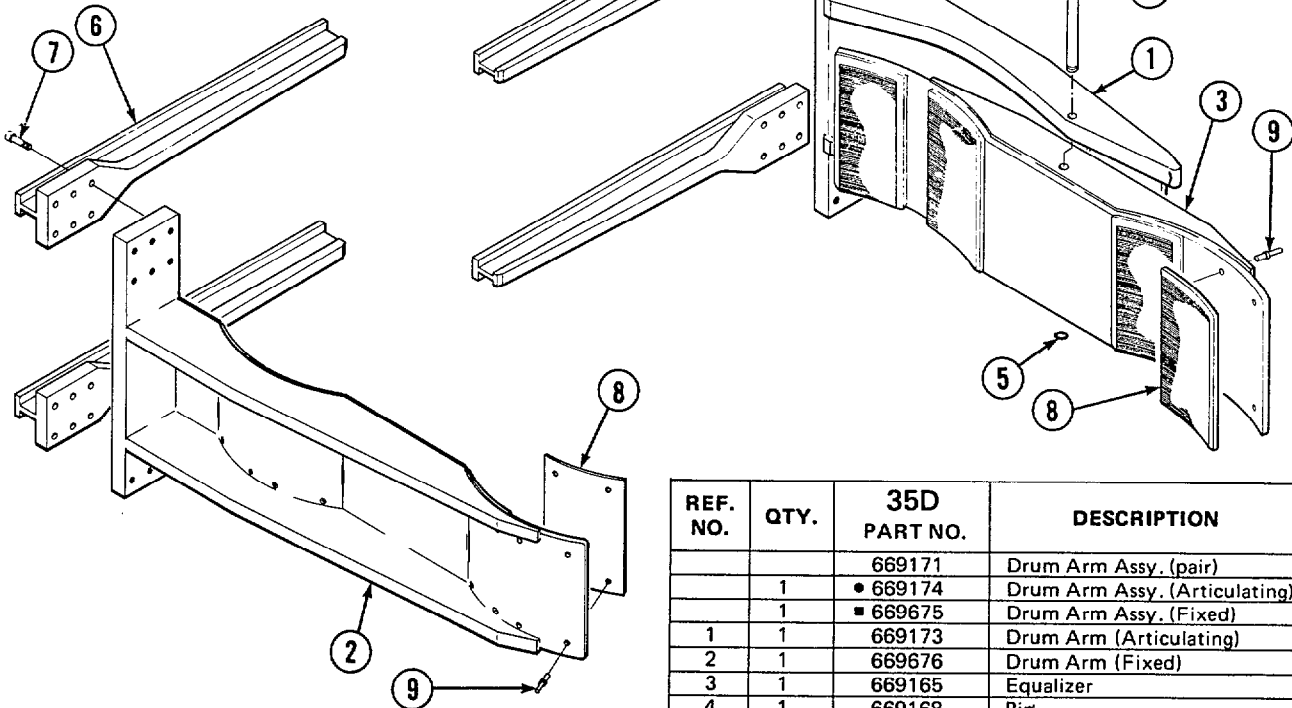


REF. NO.	QTY.	35D PART NO.	DESCRIPTION
		● 668401	Drum Arm Assy. (pair)
1	2	668403	Drum Arm
2	4	668404	Contact Pad
3	16	667843	◆ Rivet
4	24	607103	Capscrew, 3/4 NC x 1.50 GR8
5	4	667905	Arm Bar
		■ 669682	Service Kit, Contact Pad

- Includes items 1 through 4 only.
- Service Kit 669682 includes (1) Contact Pad and (4) Rivets.
- ◆ Steel self-plugging rivets with steel mandrels, 3/16 dia. x 3/8–1/2 grip.

Bolt-On Four-Drum Arms

ARM CAPSCREW EXTENSION TOOL Required for Proper Torquing of Capscrews		
	35-50D	667699



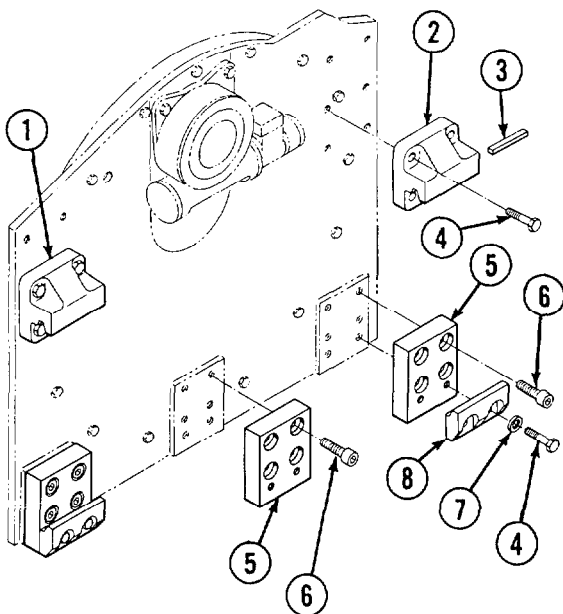
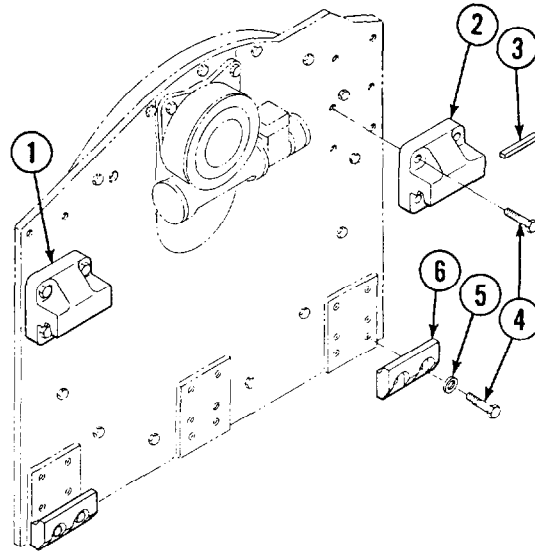
REF. NO.	QTY.	35D PART NO.	DESCRIPTION
		669171	Drum Arm Assy. (pair)
	1	● 669174	Drum Arm Assy. (Articulating)
	1	■ 669675	Drum Arm Assy. (Fixed)
1	1	669173	Drum Arm (Articulating)
2	1	669676	Drum Arm (Fixed)
3	1	669165	Equalizer
4	1	669168	Pin
5	2	7181	Retaining Ring
6	4	668017	Arm Bar
7	24	607103	Capscrew, 3/4 NC x 1.50 GR8
8	8	668404	Contact Pad
9	32	667843	◆ Rivet
		*669682	Service Kit, Contact Pad

- Includes items 1, 3, 4, 5, 7, 8 and 9.
- Includes items 2, 7, 8, and 9.
- * Service Kit 669682 includes (1) Contact Pad and (4) Rivets.
- ◆ Steel self-plugging rivets with steel mandrels, 3/16 dia. x 3/8–1/2 grip.



Mounting Groups

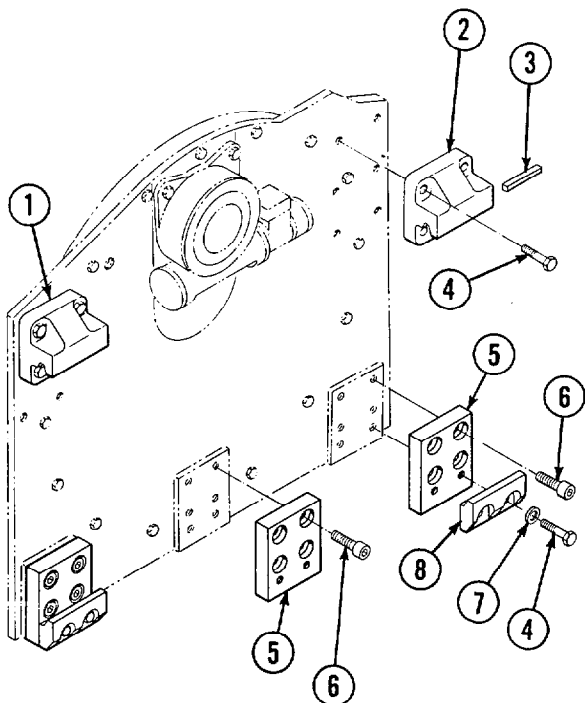
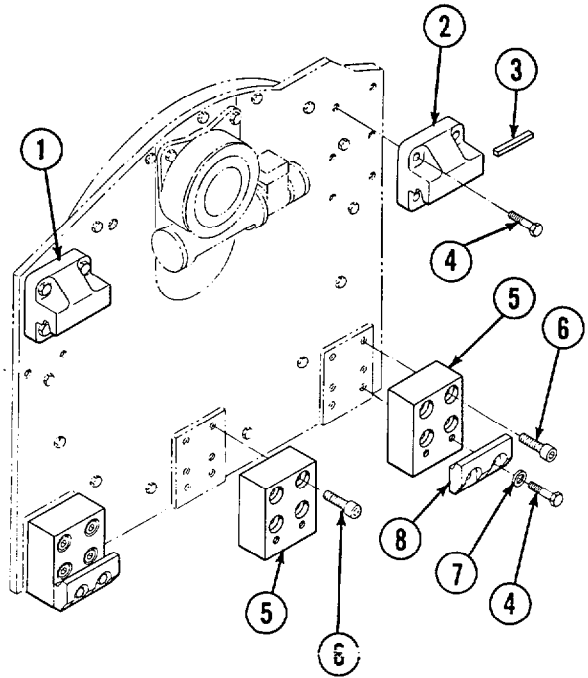
35/50D Class II, 4°			
REF. NO.	QTY.	PART NO.	DESCRIPTION
		670519	Mounting Group
1	1	670523	Upper Hook - L.H.
2	1	670524	Upper Hook - R.H.
3	1	669344	Stop Kit
4	12	667765	Capscrew, 5/8 NC x 1.5 GR5
5	4	667225	Washer
6	2	667370	Lower Hook



35/50D Class II, 0°			
REF. NO.	QTY.	PART NO.	DESCRIPTION
		670520	Mounting Group
1	1	670523	Upper Hook - L.H.
2	1	670524	Upper Hook - R.H.
3	1	669344	Stop Kit
4	12	667765	Capscrew, 5/8 NC x 1.5 GR5
5	3	670526	Adapter Plate
6	12	622467	Capscrew, 5/8 NC x 1.25
7	4	667225	Washer
8	2	667370	Lower Hook

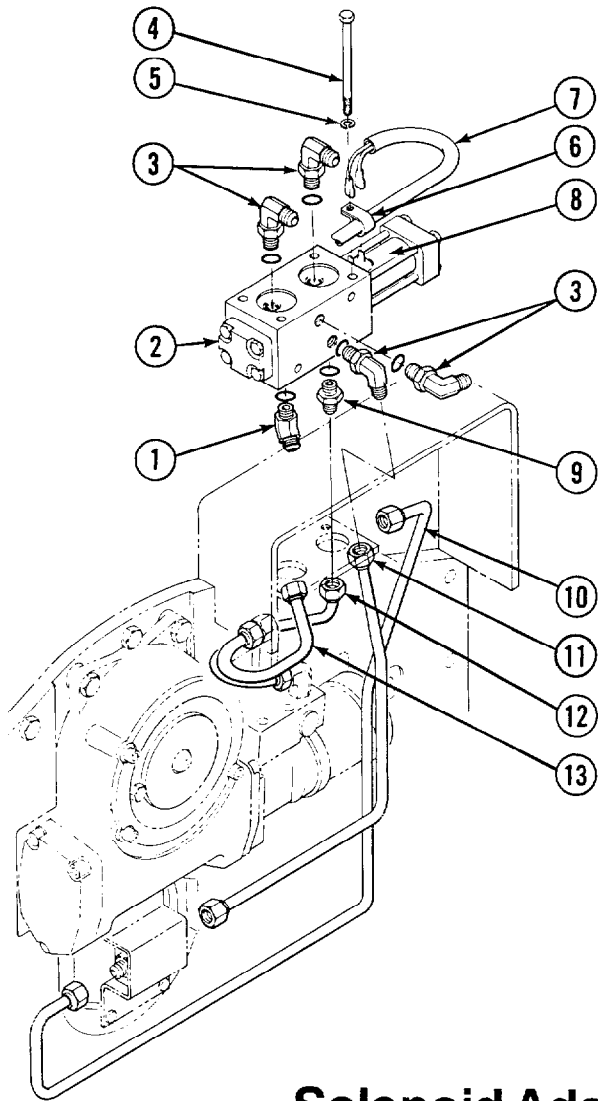
Mounting Groups

50D Class III, 4°			
REF. NO.	QTY.	PART NO.	DESCRIPTION
		670521	Mounting Group
1	1	670527	Upper Hook - L.H.
2	1	670528	Upper Hook - R.H.
3	1	669344	Stop Kit
4	12	667369	Capscrew, 5/8 NC x 1.25 GR5
5	3	670530	Adapter Plate
6	12	622467	Capscrew, 5/8 NC x 1.25
7	4	667225	Washer
8	2	667371	Lower Hook



50D Class III, 0°			
REF. NO.	QTY.	PART NO.	DESCRIPTION
		670522	Mounting Group
1	1	670527	Upper Hook - L.H.
2	1	670528	Upper Hook - R.H.
3	1	669344	Stop Kit
4	12	667369	Capscrew, 5/8 NC x 1.25 GR5
5	3	670532	Adapter Plate
6	12	624337	Capscrew, 5/8 NC x 2.25
7	4	667225	Washer
8	2	667371	Lower Hook

Solenoid Adaption



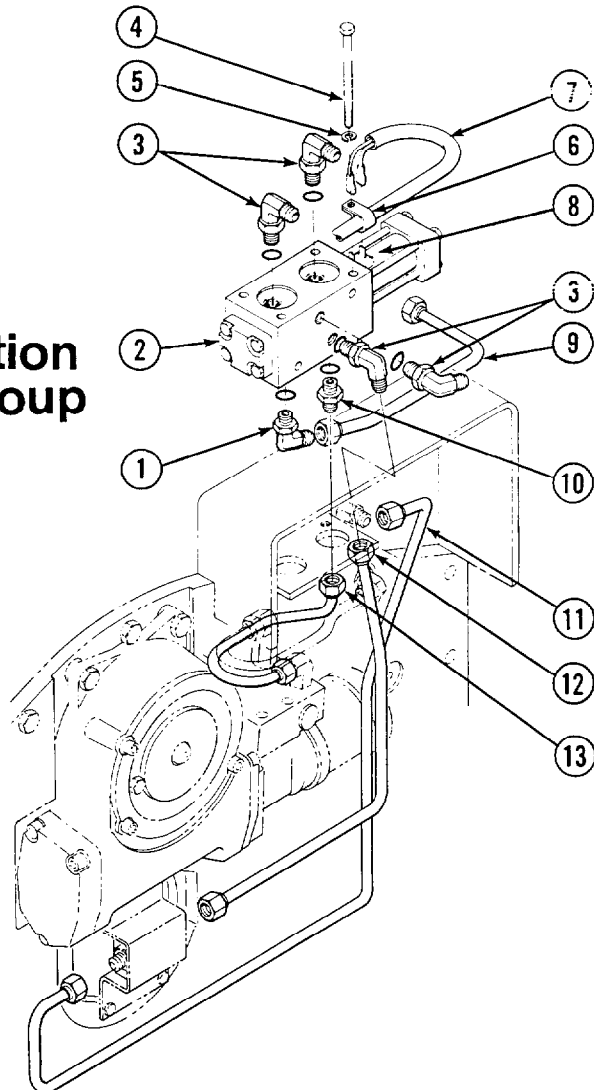
REF. NO.	QTY.	PART NO.	DESCRIPTION
		671520	Solenoid Adaption Group
1	1	651302	Fitting
■ 2	1	614089	Solenoid Valve - 12V
	1	614092	Solenoid Valve - 36V
	1	614093	Solenoid Valve - 48V
	1	614094	Solenoid Valve - 72V
3	4	651303	Fitting
4	3	3611	Capscrew, 3/8 NC x 3.00
5	3	6287	Lockwasher
6	1	•	Clamp
7	1	•	Pigtail
8	1	611458	Coil - 12 V
	1	611461	Coil - 36 V
	1	614097	Coil - 48 V
	1	614098	Coil - 72 V
9	1	662187	Fitting
10	1	671514	Tube
11	1	671515	Tube
12	1	671516	Tube
13	1	671512	Tube

- Customer supplied.
- Includes item 8.

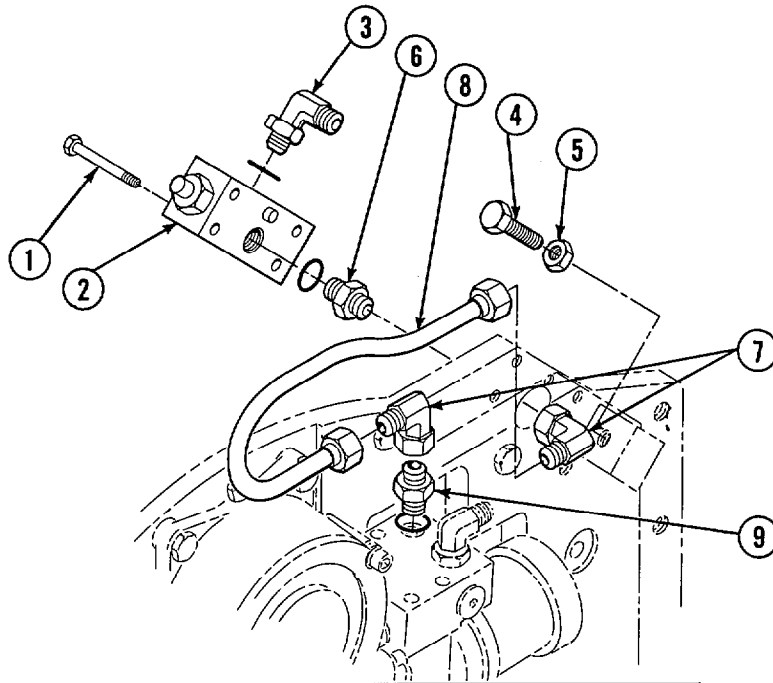
Solenoid Adaption for 180° Stop Group

REF. NO.	QTY.	PART NO.	DESCRIPTION
		671521	Solenoid Adaption Group
1	1	651303	Fitting
■ 2	1	614089	Solenoid Valve - 12V
	1	614092	Solenoid Valve - 36V
	1	614093	Solenoid Valve - 48V
	1	614094	Solenoid Valve - 72V
3	4	651303	Fitting
4	3	3611	Capscrew, 3/8 NC x 3.00
5	3	6287	Lockwasher
6	1	•	Clamp
7	1	•	Pigtail
8	1	611458	Coil - 12 V
	1	611461	Coil - 36 V
	1	614097	Coil - 48 V
	1	614098	Coil - 72 V
9	1	671513	Tube
10	1	662187	Fitting
11	1	671514	Tube
12	1	671515	Tube
13	1	671516	Tube

- Customer supplied.
- Includes item 8.

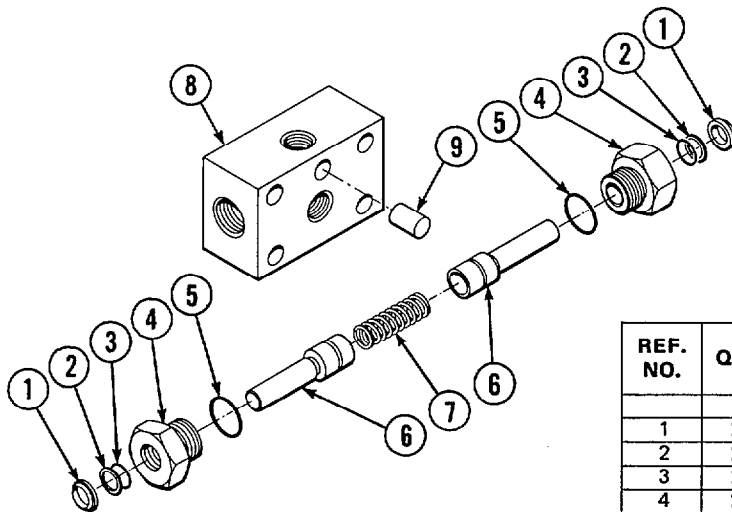


180° Stop Group



REF. NO.	QTY.	PART NO.	DESCRIPTION
		670545	Stop Group
1	4	670544	Capscrew, 3/8 NC x 1.75
2	1	670537	Stop Valve Assembly
3	1	651303	Fitting
4	2	3735	Capscrew, 3/4 NC x 1.75
5	2	5933	Nut, 3/4 NC
6	1	662187	Fitting
7	2	605761	Fitting
8	1	670543	Tube Assembly
9	1	601377	Fitting

Stop Valve



REF. NO.	QTY.	PART NO.	DESCRIPTION
		670537	Stop Valve Assembly
1	2	670541	Wiper Ring
2	2	615006	Back-Up Ring
3	2	2702	O-Ring
4	2	670540	Gland
5	2	2841	O-Ring
6	2	670539	Plunger
7	1	670542	Spring
8	1	670538	Body
9	1	611210	Pin

Recommended Spare Parts List

35D, 50D Revolving Clamps					
PART NUMBER		DESCRIPTION	ATTACHMENTS SERVICED		
35D	50D		1-5	6-13	20-50
		DRIVE GROUP			
672447	672447	Worm	0	1	2
670506	670506	Pinion	0	1	2
670581	670581	Bearing	0	1	1
7214	7214	Snap Ring	2	2	4
643423	643423	O-Ring	1	2	2
670548	670548	Drive Motor	0	1	1
671426	671426	Drive Motor Seal Kit	1	1	2
668184	668184	Sealant	1	1	2
671584	671584	Bearing Service Kit	1	1	2
671583	671583	Bearing Service Kit	1	2	2
656300	656300	Gear Box Lube	1	2	2
		FRAME GROUP			
670943	670936	Tube	0	1	2
670947	670937	Tube	0	1	2
670904	667659	Frame	0	1	2
667908	667664	Bumper	0	0	1
668910	668904	Bearing	4	8	12
667663	667663	Bearing	4	8	12
668911	668905	Bearing	4	8	12
		CYLINDER			
667911	667666	Cylinder Assembly	0	0	1
553758	553760	Shell	0	1	1
670891	670893	Piston	0	0	2
667917	667675	Retainer	0	0	2
667914	667670	Rod	0	1	2
668926	668925	Nut Service Kit	0	2	4
667995	667723	Service Kit	2	4	8
		CHECK VALVE			
670549	670549	Check Valve Assembly	0	1	1
		REVOLVING CONNECTION			
660476	660476	Shaft Service Kit	1	1	1
667516	667516	Check Valve Service Kit	2	4	4
		ARMS			
607103	607105	Cap screws	24	24	24
		TOOL			
667699	667699	Arm Cap screws	1	2	2
		PAINT			
668209	668209	Cascade Yellow, 12 oz. Aerosol Can	1	1	1



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