

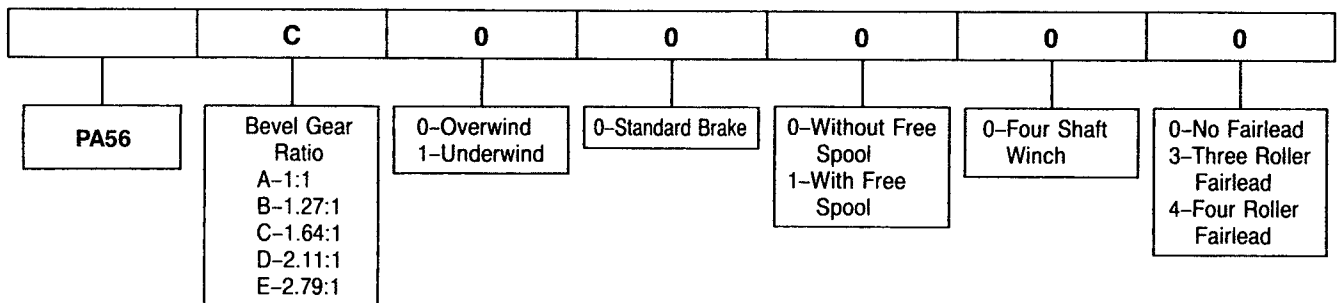
INSTALLATION AND PARTS MANUAL

MODEL PA56 FOR D6H PS TRACTORS

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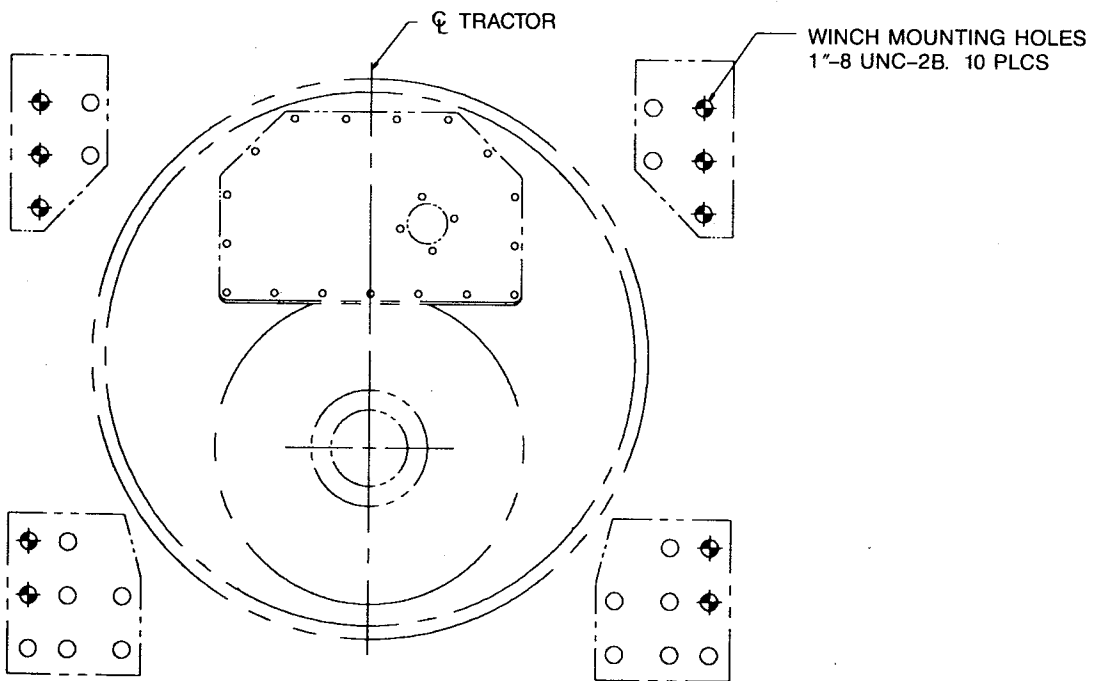
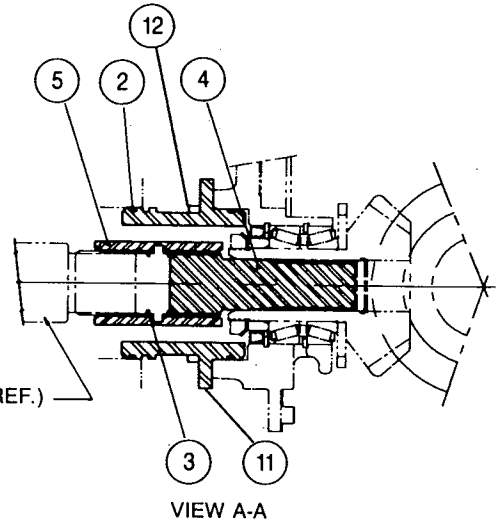
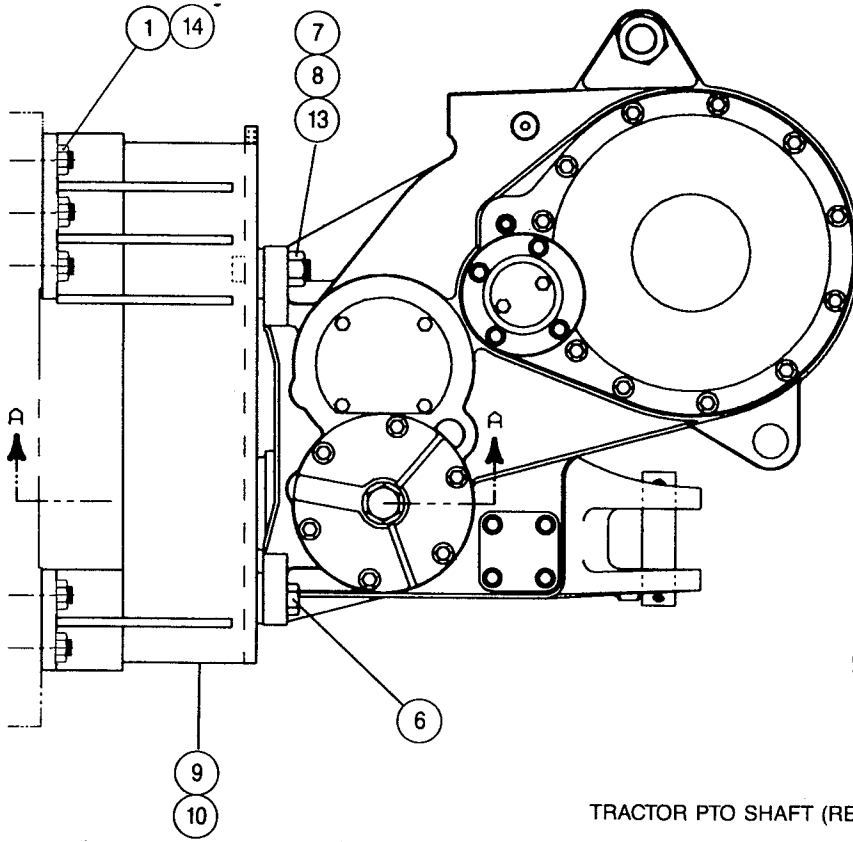
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MODEL



PACCAR WINCH DIVISIONS

**MODEL PA56
MOUNTING GROUP
D6H PS**



VIEW LOOKING AT TRACTOR REAR FACE

INSTRUCTIONS

1. PTO rotation is counterclockwise (CCW) as viewed from rear of tractor.
2. Remove and discard tractor PTO cover.
3. Remove paint, rust, dirt and grease from mounting surfaces of tractor, winch and winch adapters.
4. Coat splines of PTO shaft, Item 4, with multi-purpose grease and install into bevel pinion gear of winch.
5. Install retaining rings, Item 3, in coupling, Item 5. Place coupling over PTO shaft with beveled end away from winch.
6. Install o-rings, Item 2, onto PTO pilot Item 11. Note: As the same PTO pilot may be used on several adaptations, usually only one o-ring groove will engage and seal in the tractor PTO opening.
7. Remove winch top cover to gain access to the bevel gears.
8. Apply Loc-tite 271 to threads and install studs, Item 8, into winch adapter to a height of 2½ in. (64 mm).
9. Apply Loctite 271 to threads and install studs, item 1, into the rear face of the tractor to a height of 1.80 in. (46 mm).
10. Apply Loctite 242 to the threads of the capscrews, item 6 and studs, item, 8, then install the winch adapter brackets onto the winch. At this time, only tighten the capscrews, item 6, and nuts, item 7, to approximately 50 lb.·ft. (68 N·m) torque.
11. Apply Loctite 242 to the threads of studs, item 1. Apply multi-purpose grease to the PTO pilot o-rings and PTO shaft splines, then install the winch onto the tractor while moving the bevel gears to align the PTO shaft splines. Tighten nuts, item 14 and capscrews, item 6, to 640 lb.·ft. (868 N·m) torque.

⚠ WARNING

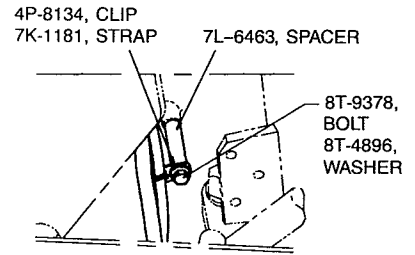
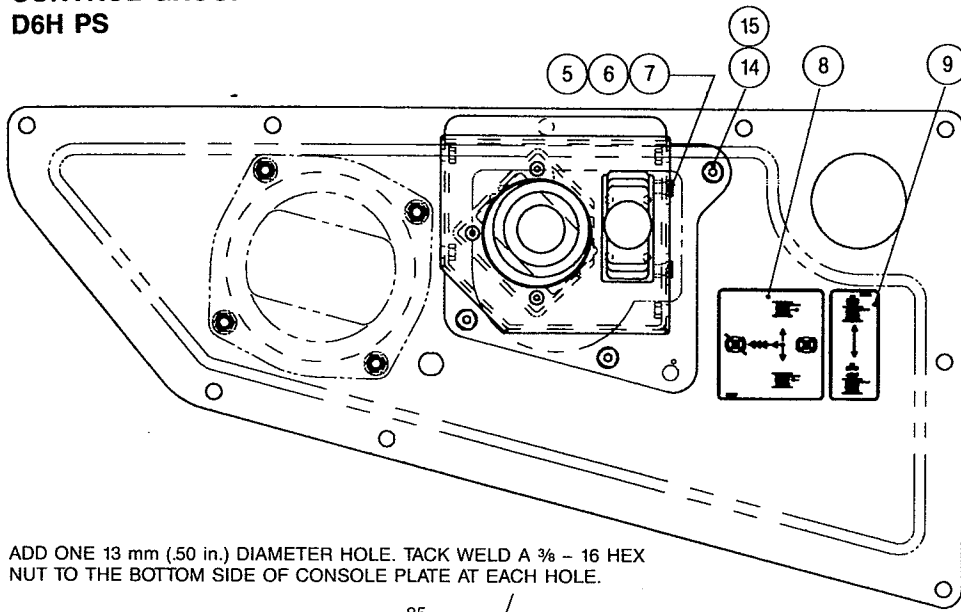
Winch and adapters weigh approximately 2,500 lb (1,135 kg). Make certain that lifting equipment has adequate capacity. Failure to use adequate lifting equipment may result in property damage, personal injury or death.

⚠ CAUTION

Fill winch to proper level with recommended oil BEFORE starting tractor. Winch bearing and gear damage may result if tractor is run without oil in winch.

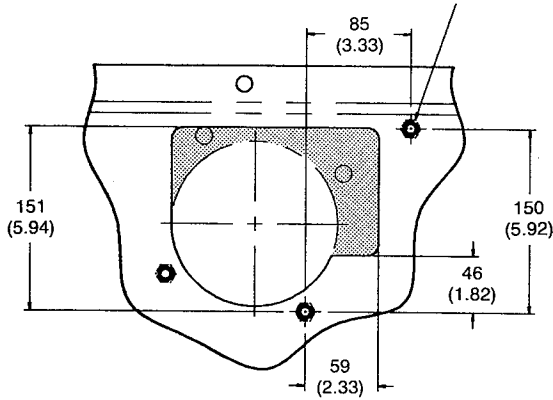
ITEM	PART NO.	DESCRIPTION	QTY.
1	119-0171	STUD (1 – 8 × 3¼ Gd8)	10
2	8S-5654	O-RING	2
3	002-3455	RETAINING RING	2
4	118-6595	PTO SHAFT	1
5	118-5863	COUPLING	1
6	7X-0405	CAPSCREW, HEX HEAD (1 – 8 × 2¾ Gd8)	4
7	7X-0450	NUT, HEX (1½ – 7)	4
8	133-9224	STUD (1½ – 7 × 4¾)	4
9	118-6929	ADAPTER, RH	1
10	118-6930	ADAPTER, LH	1
11	118-6537	PILOT, PTO	1
12	5P-2228	CAPSCREW, HEX HEAD (½ – 13 × 1)	4
13	119-1551	WASHER, HARDENED, 1½	4
14	6V-8190	NUT, HEX (1 – 8)	10

**MODEL PA56
CONTROL GROUP
D6H PS**

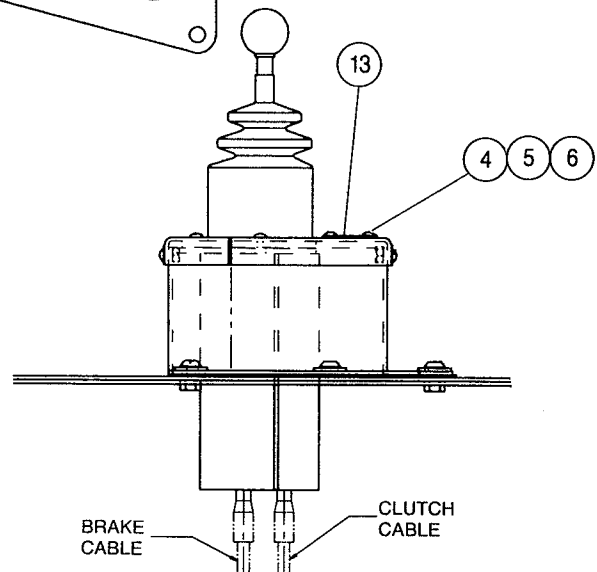


**VIEW AA
INSIDE RH FENDER**

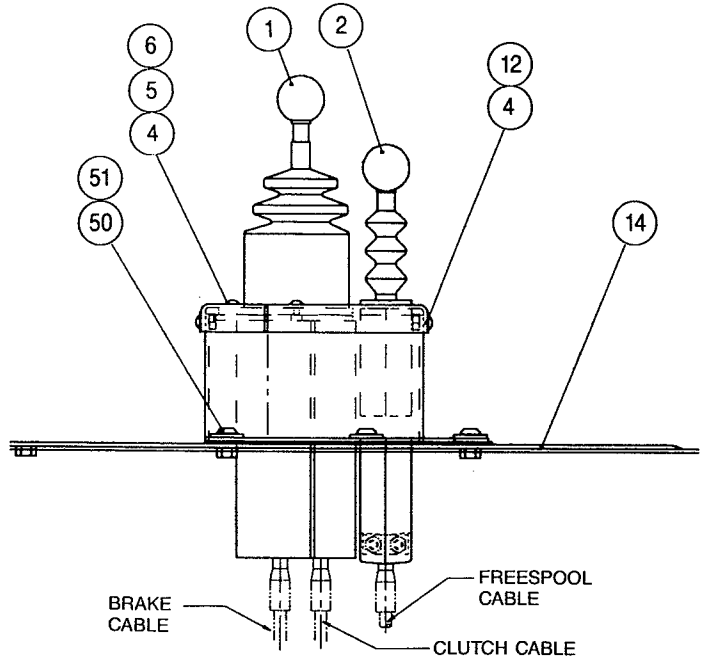
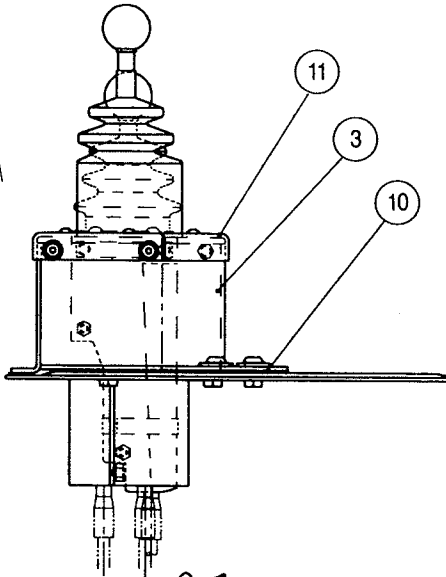
ADD ONE 13 mm (.50 in.) DIAMETER HOLE. TACK WELD A 3/8 - 16 HEX NUT TO THE BOTTOM SIDE OF CONSOLE PLATE AT EACH HOLE.



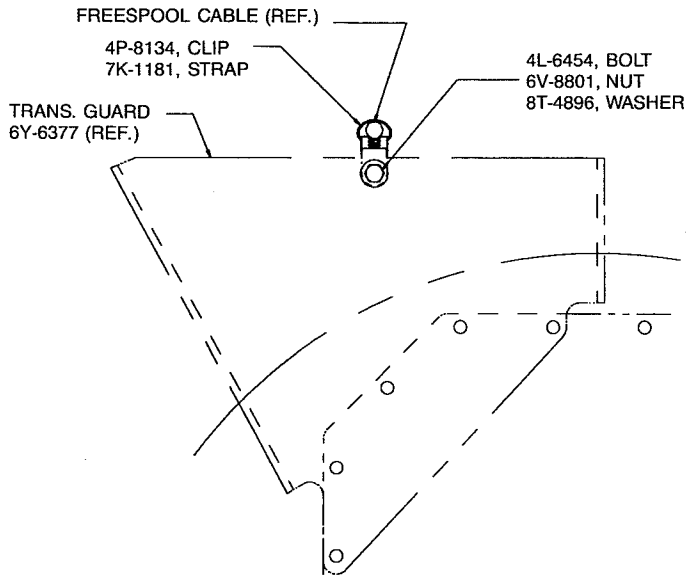
CONSOLE OPENING DETAIL



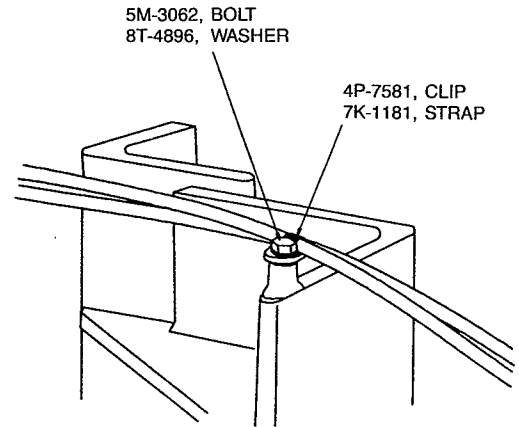
WITHOUT FREESPOOL



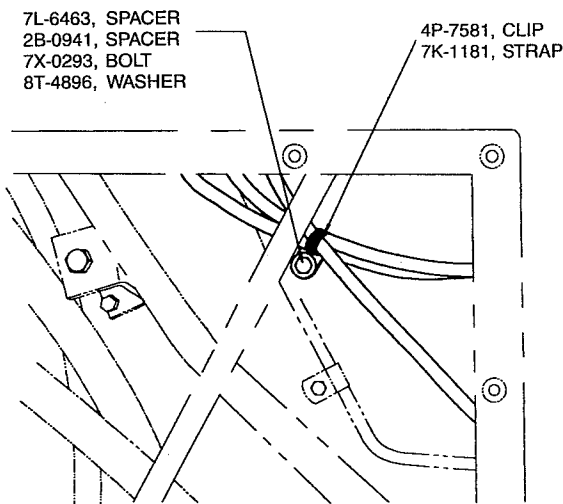
NOTE:
Attach cables per Caterpillar Drawing 120-8911 Installation Group.



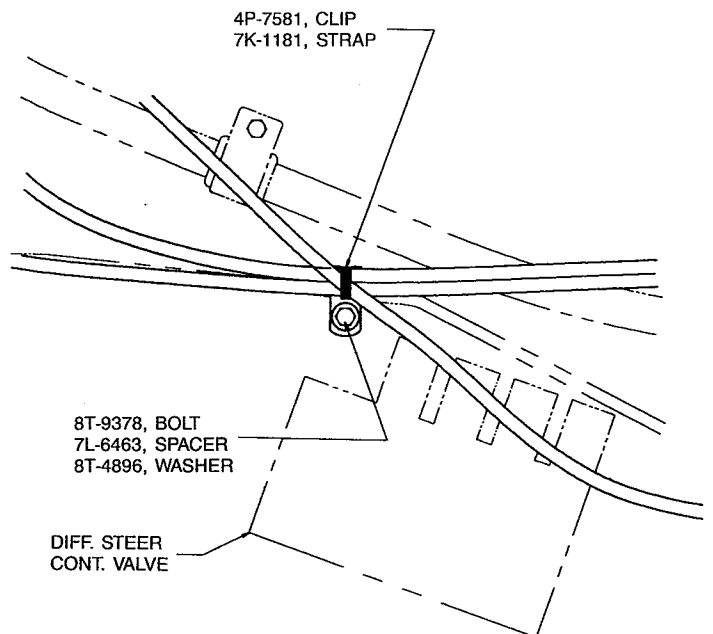
**VIEW OF TRACTOR
REAR FACE**



**TOP OF RH WINCH
ADAPTER BRACKET**



**TOP OF CASE
BELOW PLATFORM
CLUTCH/BRAKE STEERING
ONLY**



**TOP OF CASE
BELOW PLATFORM
DIFFERENTIAL STEERING
ONLY**

CONTROL INSTALLATION INSTRUCTION

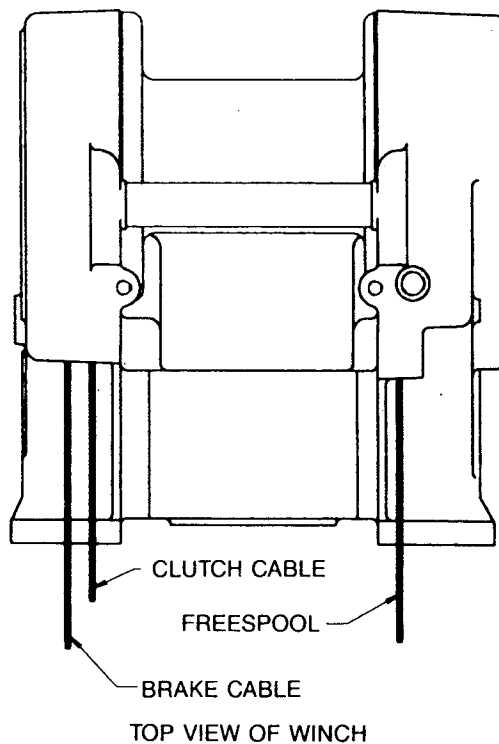
Note: These instructions are provided as a general guide. Tractor options, application requirements or local regulations may require deviation from these recommendations.

1. Modify the right hand console cover by removing the shaded area as shown.
2. Install the gasket, item 10, to the bottom of the control bracket, item 3.
3. Install the control bracket onto the right hand console plate, item 14, using button head capscrews and washers, items 50 and 51.
4. Carefully route control cables from winch to underside of right hand console.

CAUTION

Avoid routing cables near moving shafts or linkage which may cause damage to cables or restrict free movement of tractor components.

5. Route the control cables up through the opening of the control bracket and install cables into controllers as follows:



Power Shift Control – Dual Axis

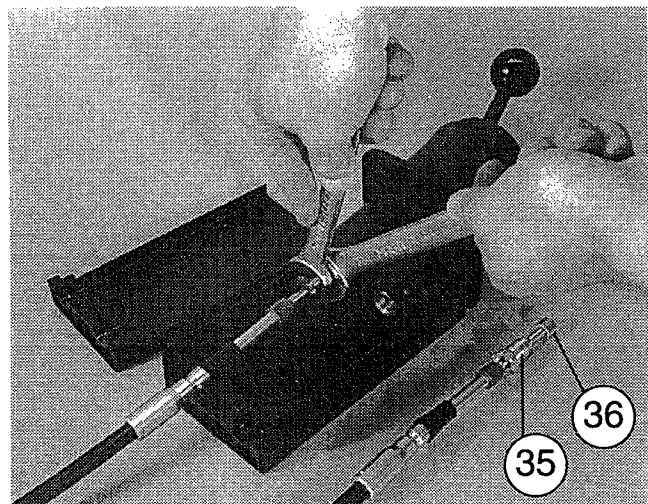
1. Remove the six through-bolts, item 34, from the control stand and separate the two cable support

housings, items 37 & 38. From each plunger, remove the sliding lock screw and threaded bushing, items 35 & 36.

2. Install the sliding lock screw, item 35, onto the control cables. Apply two drops of Loctite 242 to the cable threads and install the threaded bushing, item 36, onto the cable core until the end of the cable core is level with the end of the bushing.
3. Hold the controller in your left hand with the knob end up and the mounting bolts located at 6, 9 and 12 o'clock positions. Mark the plunger closest to the 6 o'clock position as the "clutch" control. Mark the plunger closest to the 12 o'clock position as the "brake" control. The "clipped" corner of the control will be installed toward the rear of the tractor.
4. Install the brake cable to the "brake" control plunger and the clutch cable into "clutch" control plunger. Move the control lever to extend the plungers far enough to expose the wrench flats. With a wrench, hold the plunger as you tighten the sliding lock screw to 50 lb•ft (68 N•m) torque. Photo 1

CAUTION

Tightening the sliding lock screw without holding the plunger with a wrench will result in damage to the control assembly.

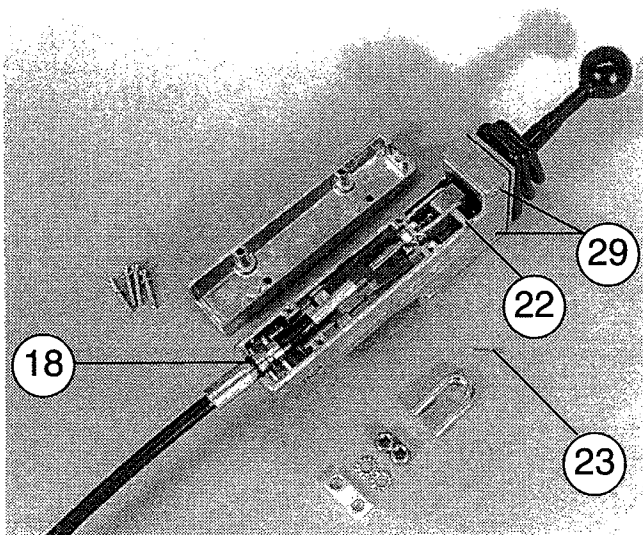


5. Install the cable support housings, items 37 & 38, onto the controller. Place the groove of the control cable housings into the saddle of the cable anchors, items 39 & 40. Install the six through-bolts, washers, lockwashers and nuts, items 31, 33, 34 & 41. Evenly tighten the bolts to 85 lb•in. (10 N•m) torque.
6. Insert the controller/cables sub-assembly from the bottom into the opening of the control bracket cover,

item 11, and secure with three button, socket-head capscrews, lockwashers and nuts, items 4, 5 & 6. If the winch is equipped with freespool, install the freespool controller/cable sub-assembly at this time. If not equipped with freespool, install the cover/controllers sub-assembly onto the control bracket with four capscrews, item 4.

Freespool Control Lever

1. Remove the knob, item 32, and the four oval head machine screws and lockwashers, items 16 & 17, from the long lever housing cover and remove the cover.
2. Prepare the control cable for installation by installing the o-ring, item 18, over the control lever end of the cable. The control lever end is identified by the u-bolt groove in the cable housing.
3. Install one nut, item 19, onto the cable core followed by the lockwasher, item 31.
4. Install the clevis, item 21, and one more nut, item 19, onto the cable. The cable core end must extend beyond the nut by $\frac{7}{32}$ in. (5.5 mm). Tighten the first nut to secure the clevis in this position.
5. Slip the clevis over the bellcrank of the lever and install the clevis pin, item 22, and secure in place with cotter pin, item 23. Photo 2
6. Remove the u-bolt, item 24, from the housing.
7. Position the o-ring, item 18, on the control cable housing so that when the cable is lowered into place, the o-ring fits in the groove in the housing.
8. Install the u-bolt, item 24, over the cable and through the housing. Install the spacer, item 25, over the u-bolt followed by the lockwashers and nuts, items 20 & 26. Tighten the u-bolt nuts to 90 lb-in. (10 N-m) torque.
9. Install the cover onto the housing with the four oval head machine screws and lockwashers, items 16 & 17.
10. Remove the two through-bolts and nuts, items 19 and 29, from the top two mounting holes of the lever housing.
11. Remove the four oval head machine screws, item 27, from the boot retainer plate, item 30. Remove the boot, item 28, and boot retainer plate.
12. Secure the lever to the control bracket with capscrews, nuts and lockwashers, items 5, 6 and 7. The long cover of the lever housing must face toward the operator.
13. Install the control bracket cover/controller sub-assembly onto the control bracket base using four button, socket-head capscrews and washers, items 4 and 12. Install the boot and retainer plate, items 28 and 30, removed in step 11 above. Secure the boot retainer plate with machine screws, item 27. Install the knob, item 32, onto the lever.

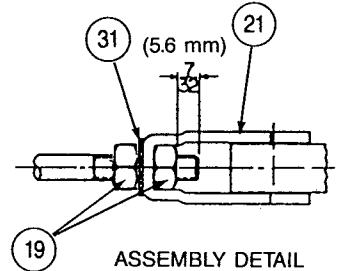
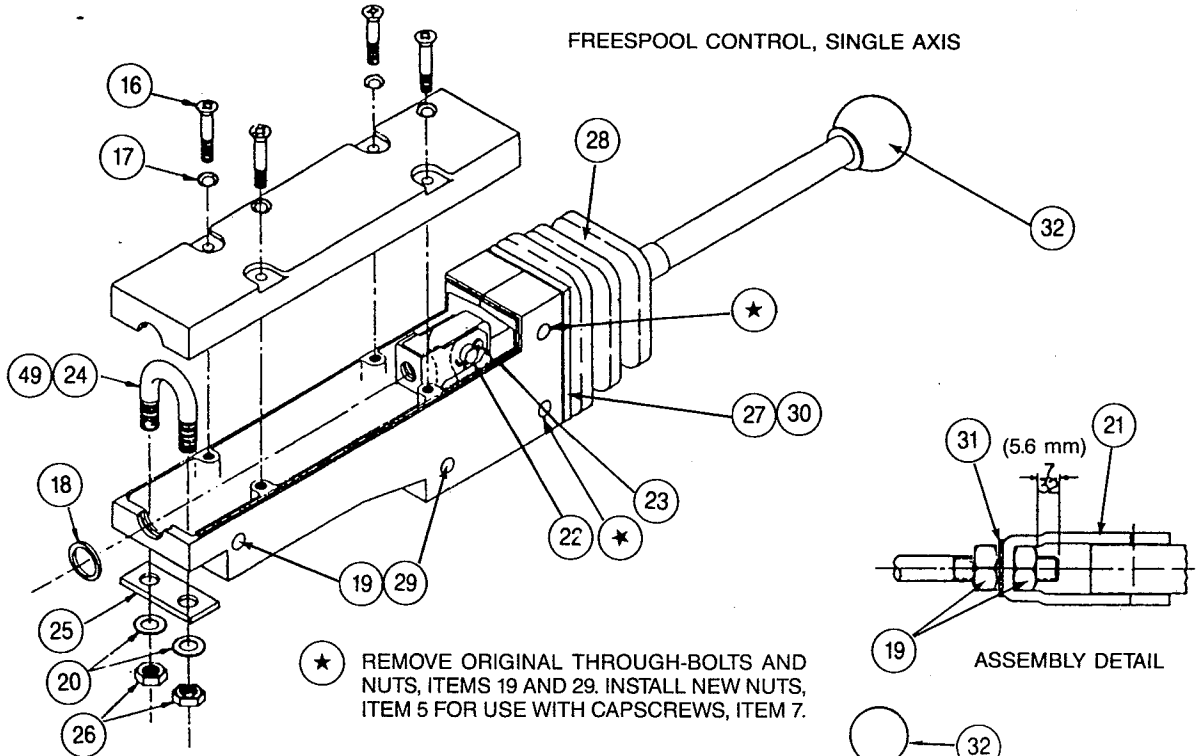


General Instructions

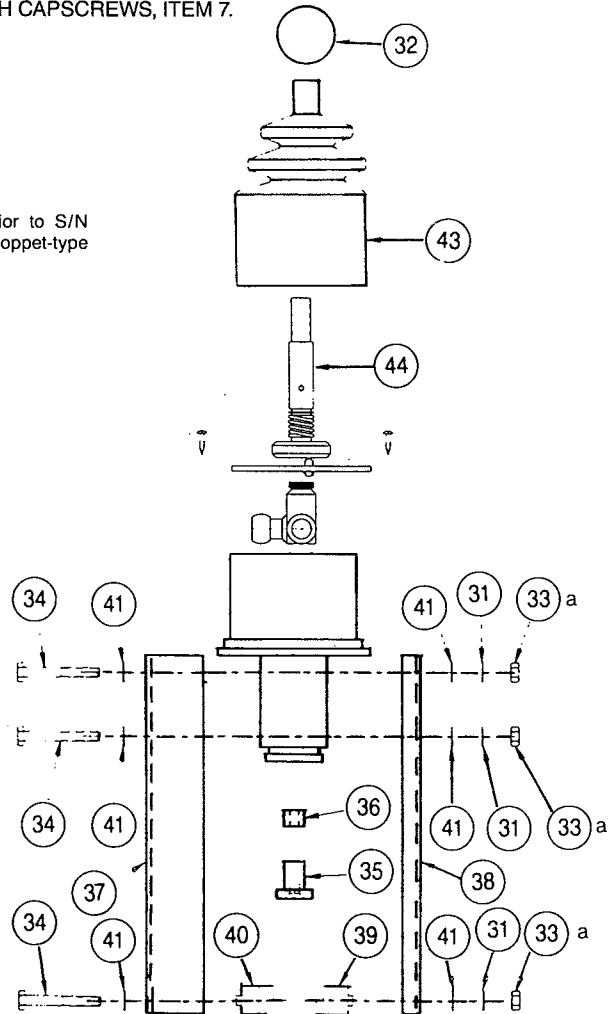
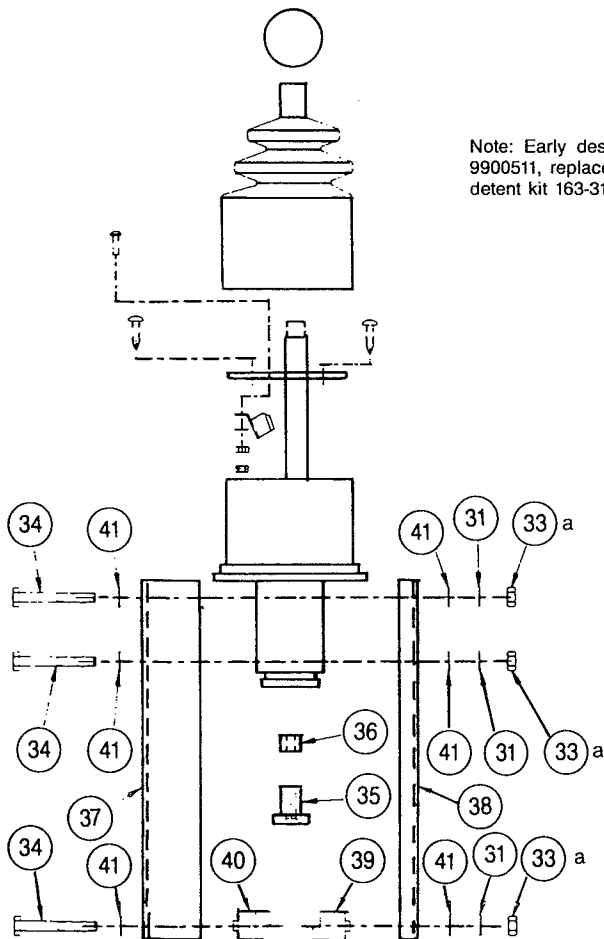
1. Install the control instruction self-adhesive decal(s), items 8 and 9, onto the console cover to the rear of the control bracket.
2. Fill winch to proper level with recommended oil. Refer to oil specifications found in the Operation and Preventive Maintenance Manual, publication SEBU 6884 (Paccar Winch PC-209).
3. Verify proper control cable and operating pressure adjustment by following the procedures found in the Operation and Preventive Maintenance Manual, publication SEBU 6884 (Paccar Winch PC-209) or the service manual, publication SENR 5358 (Paccar Winch PC-210).

**MODEL PA56
CONTROL GROUP
D6H PS**

FREESPOOL CONTROL, SINGLE AXIS



Note: Early design; prior to S/N 9900511, replaced by poppet-type detent kit 163-3198.

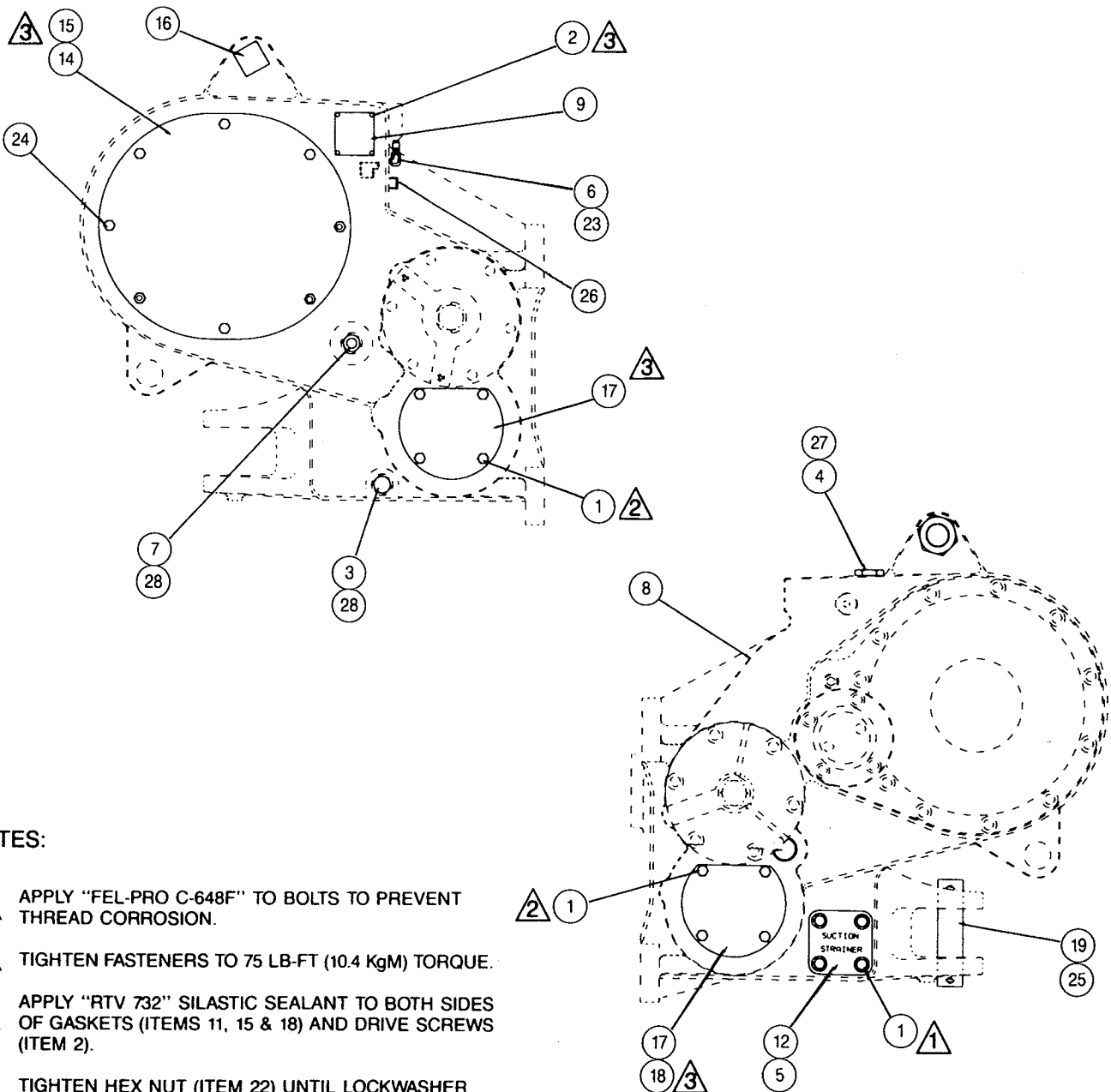
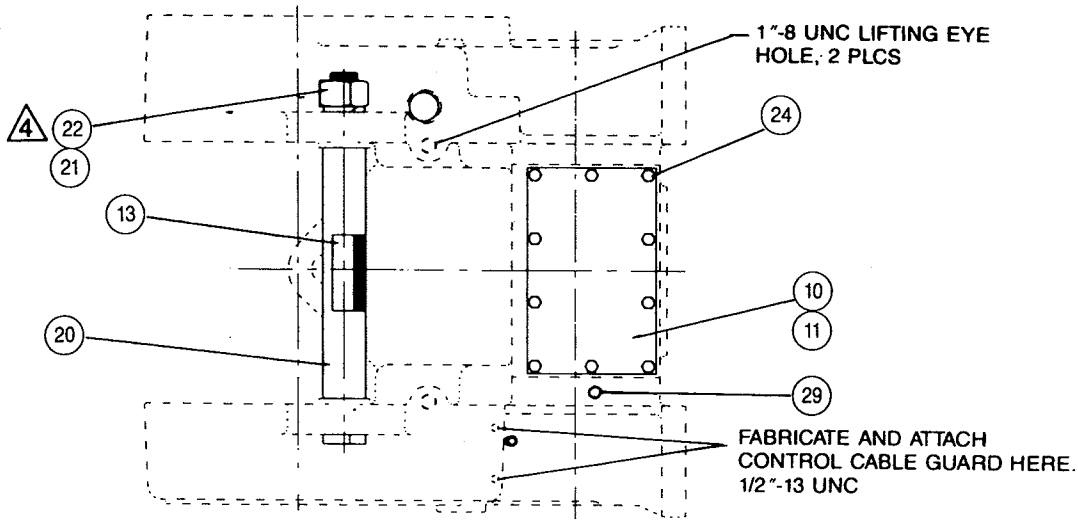


MODEL PA56
CONTROL GROUP
D6H PS

ITEM	PART NO.	DESCRIPTION	QTY.	
			W/FREESPOOL	W/O FREESPOOL
1	123-4432	CONTROL, DUAL AXIS - EARLY DESIGN*	1	1
	163-3199	CONTROL, DUAL AXIS - NEW DESIGN	1	1
2	123-4433	CONTROL, FREESPOOL, SINGLE AXIS	1	—
3	128-1994	CONTROL BRACKET BASE	1	1
4	123-4435	CAPSCREW, BUTTON SOCKET HEAD	7	11
5	6V-8185	NUT (1/4-20)	7	5
6	3B-4504	LOCKWASHER (1/4)	5	7
7	8T-9368	CAPSCREW, HEX HEAD (1/4-20 x 2 1/4)	2	—
8	123-4439	DECAL, POWERSHIFT CONTROL	1	1
9	123-4440	DECAL, FREESPOOL CONTROL	1	—
10	128-1995	GASKET	1	1
11	128-1996	CONTROL BRACKET COVER	1	1
12	8T-4205	WASHER (1/4)	4	4
13	126-2826	COVER	—	1
14	128-1997	CONSOLE PLATE	1	1
15	123-4424	CONTROL CABLE - 90 in. (2286 mm)	3	2
16	126-5992	MACHINE SCREW, CSK, OVAL HEAD (8-32 x 1 1/4)	4	—
17	9F-5602	LOCKWASHER, CSK (8)	4	—
18	8F-9206	O-RING	1	—
19	9S-8748	NUT (1/4-28)	6	—
20	7H-3937	LOCKWASHER, EXTERNAL TOOTH (5/16)	2	—
21	126-2799	CLEVIS	1	—
22	126-2800	CLEVIS PIN	1	—
23	3B-4604	COTTER PIN (1/16 x 1/2)	1	—
24	126-2798	U-BOLT	1	—
25	126-2801	U-BOLT SPACER	1	—
26	6V-8186	NUT (5/16-24)	2	—
27	126-5990	MACHINE SCREW, CSK, OVAL HEAD (8-32 x 1/2)	4	—
28	126-2825	BOOT, FREESPOOL LEVER	1	—
29	126-5991	MACHINE SCREW, FLSTR HEAD (1/4-28 x 1 7/16)	4	—
30	126-2802	BOOT RETAINER PLATE	1	—
31	1H-3338	LOCKWASHER, EXTERNAL TOOTH (1/4)	7	6
32	7R-5874	KNOB	2	1
33	6V-8185	NUT (1/4-20)	6	6
34	8T-9367	CAPSCREW, HEX HEAD (1/4-20 x 2)	6	6
35	126-2821	SLIDING LOCKSCREW	2	2
36	126-2822	CABLE BUSHING	2	2
37	126-2823	CABLE SUPPORT HOUSING, OUTER	1	1
38	126-2824	CABLE SUPPORT HOUSING, INNER	1	1
39	126-2818	CABLE ANCHOR, OUTER	1	1
40	126-2820	CABLE ANCHOR, INNER	1	1
41	8T-4205	WASHER, FLAT-THIN (1/4)	12	12
42	126-2803	CABLE CLAMP	1	1
43	163-3201	BOOT	1	1
44	163-3198	BRAKE-OFF DETENT KIT*	1	—

*Note: Early design; prior to S/N 9900511, replaced by poppet-type detent kit 163-3198. Kit replaces early design spring clip design with poppet-type detent mechanism for better retention in BRAKE-OFF position. Kit includes boot, spring, restrictor plate, poppet latch, jam nut screws and washers. Control lever shaft NOT included in kit and NOT available separately.

WINCH CASE & COVERS



NOTES:

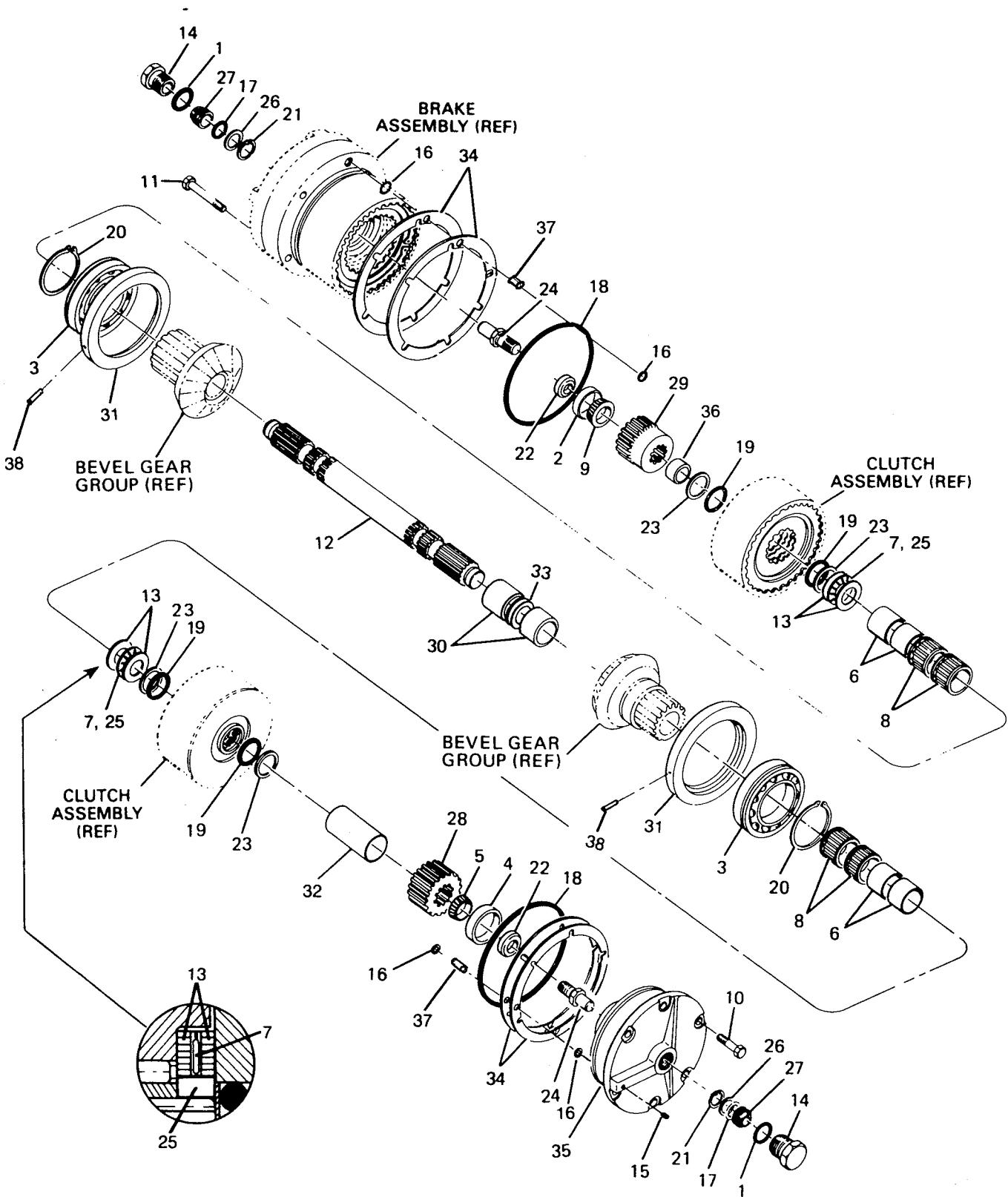
- 1 (triangle) APPLY "FEL-PRO C-648F" TO BOLTS TO PREVENT THREAD CORROSION.
- 2 (triangle) TIGHTEN FASTENERS TO 75 LB-FT (10.4 KgM) TORQUE.
- 3 (triangle) APPLY "RTV 732" SILASTIC SEALANT TO BOTH SIDES OF GASKETS (ITEMS 11, 15 & 18) AND DRIVE SCREWS (ITEM 2).
- 4 (triangle) TIGHTEN HEX NUT (ITEM 22) UNTIL LOCKWASHER (ITEM 21) IS FLATTENED AND THEN TURN ONE FLAT.

WINCH CASE & COVERS

ITEM	PART NO.	DESCRIPTION	QTY.
1	5P-2228	CAPSCREW, HEX HEAD (1/2 - 13 NC x 1)	12
2	7H-4543	DRIVE SCREW	4
3	5P-9436	PLUG, DRAIN (MAY BE SUBSTITUTED FOR ITEM 7)	1
4	5P-1403	PLUG, OIL FILL (INCLUDES ITEM 27)	1
5	6L-9965	O-RING	1
6	5F-5434	VENT PLUG	1
7	118-5783	SIGHT GAUGE (INCLUDES ITEM 28)	1
8	118-6972	WINCH CASE - LOW PTO	1
9	123-4417	SERIAL NUMBER DATA PLATE	1
10	118-6598	COVER, TOP ACCESS	1
11	118-6316	GASKET	1
12	120-7541	STRAINER COVER	1
13	123-4401	CAUTION LABEL	1
14	118-6588	COVER, SIDE ACCESS	1
15	120-7543	GASKET	1
16	118-6298	TIE BOLT	1
17	118-6597	COVER, LOWER ACCESS	2
18	118-6317	GASKET	2
19	118-8382	DRAW BAR PIN	1
20	118-6314	SPACER TUBE	1
21	119-1623	LOCKWASHER (1 3/4)	1
22	2B-2673	NUT, HEX HEAD (1 3/4 NC)	1
23	3B-8822	ELBOW (ONE, INSIDE WINCH CASE)	2
24	6K-7917	CAPSCREW, HEX HEAD (1/2 - 13 NC x 1 SS)*	15
25	3B-5320	COTTER PIN (3/8 x 3 in.)	2
26	5M-6214	PLUG (1/8 NPT SQHD)	1
27	6V-5065	O-RING - FOR OIL FILL PLUG	1
28	3D-2824	O-RING - FOR OIL DRAIN & LEVEL PLUG (ITEMS 3 & 7)	2
29	2B-7547	PLUG (3/8 NPT SQHD)	1

*SELF SEALING MATERIAL PREAPPLIED TO THREADS

CLUTCH SHAFT GROUP

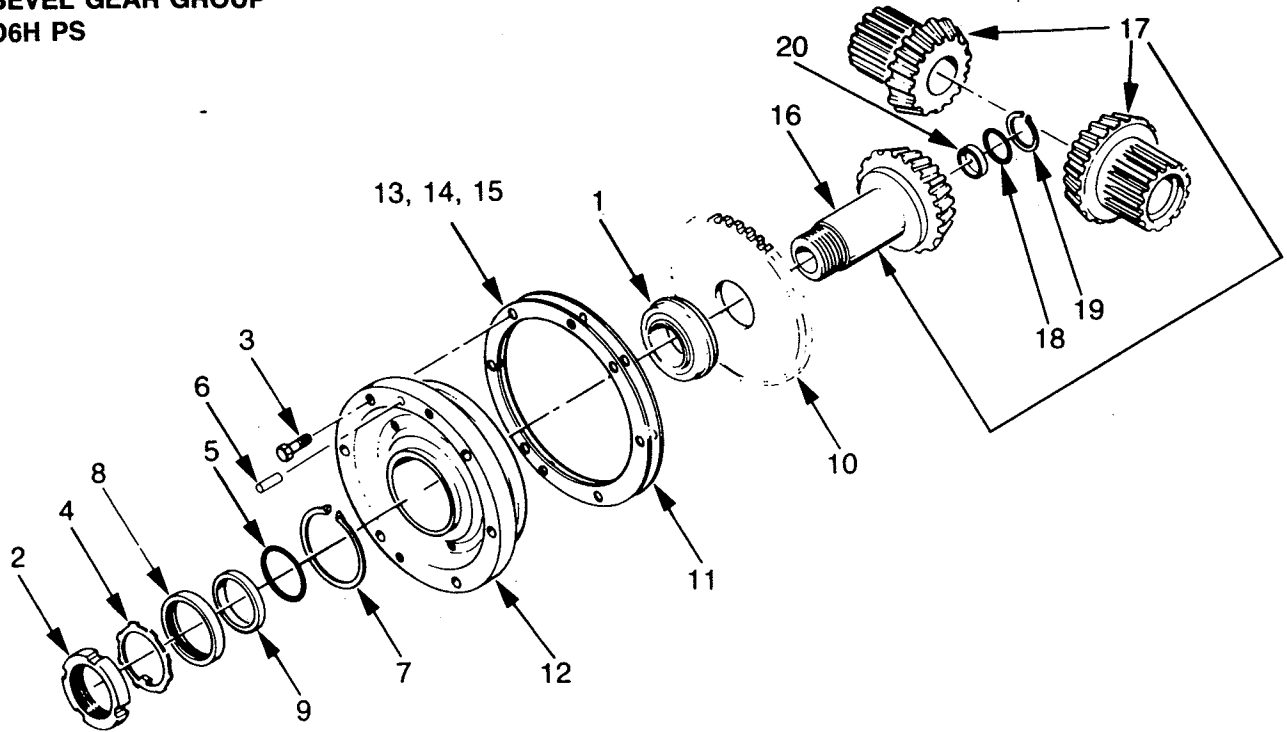


CLUTCH SHAFT GROUP

ITEM	PART NO.	DESCRIPTION	QTY.
1	2S-4078	O-RING (PART OF ITEM 14)	2
2	120-7630	BEARING CUP	1
3	119-2139	BALL BEARING, SHIELDED - LOW PTO	2
4	119-2140	BEARING CUP	1
5	120-7635	BEARING CONE	1
6	119-2206	NEEDLE BEARING - INNER RACE	4
7	119-1606	THRUST BEARING	2
8	119-2208	NEEDLE BEARING	4
9	119-1593	BEARING CONE	1
10	5P-2228	CAPSCREW, HEX HEAD (½ - 13 NC x 1)	6
11	7X-0326	CAPSCREW HEX HEAD (½ - 13 NC x 3)	6
12	118-7225	CLUTCH SHAFT - 4 SHAFT WINCH	1
13	120-7633	THRUST BEARING RACE	4
14	5P-1403	PLUG (CONTAINS ITEM 1)	2
15	102-0883	PLUG (¼ NPT) EARLY	1
	148-8407	PLUG, HEX, -6 ORB CURRENT	1
16	8M-4437	O-RING	8
17	120-7629	O-RING	2
18	119-1590	O-RING	2
19	119-1549	O-RING	4
20	119-1616	RETAINING RING	2
21	2D-6398	RETAINING RING	2
22	119-2171	BEARING RETAINER	2
23	119-1550	BACK-UP RING	4
24	147-2728	ROTARY SEAL SHAFT	2
25	118-5817	THRUST BEARING SPACER	2
26	119-1628	BACK-UP WASHER	2
27	119-2193	ROTARY SEAL	2
28	118-6582	PINION GEAR - 18 TEETH - 4 SHAFT WINCH	1
29	118-6568	BRAKE HUB	1
30	118-5858	BEVEL GEAR SPACER	2
31	118-5844	BEARING CARRIER	2
32	118-5852	PINION SPACER - 4 SHAFT WINCH	1
33	118-5848	SHIM SET	1
34	118-6647	SHIM .005 in. (.13 mm)	AR
	118-6599	SHIM .007 in. (.18 mm)	AR
	118-6600	SHIM .020 in. (.51 mm)	AR
35	118-6951	CLUTCH SHAFT BEARING CAR. - 4 SHAFT WINCH	1
36	118-5864	BRAKE HUB SPACER	1
37	120-7663	SLEEVE	4
38	4H-1440	ROLLPIN	2

AR - AS REQUIRED

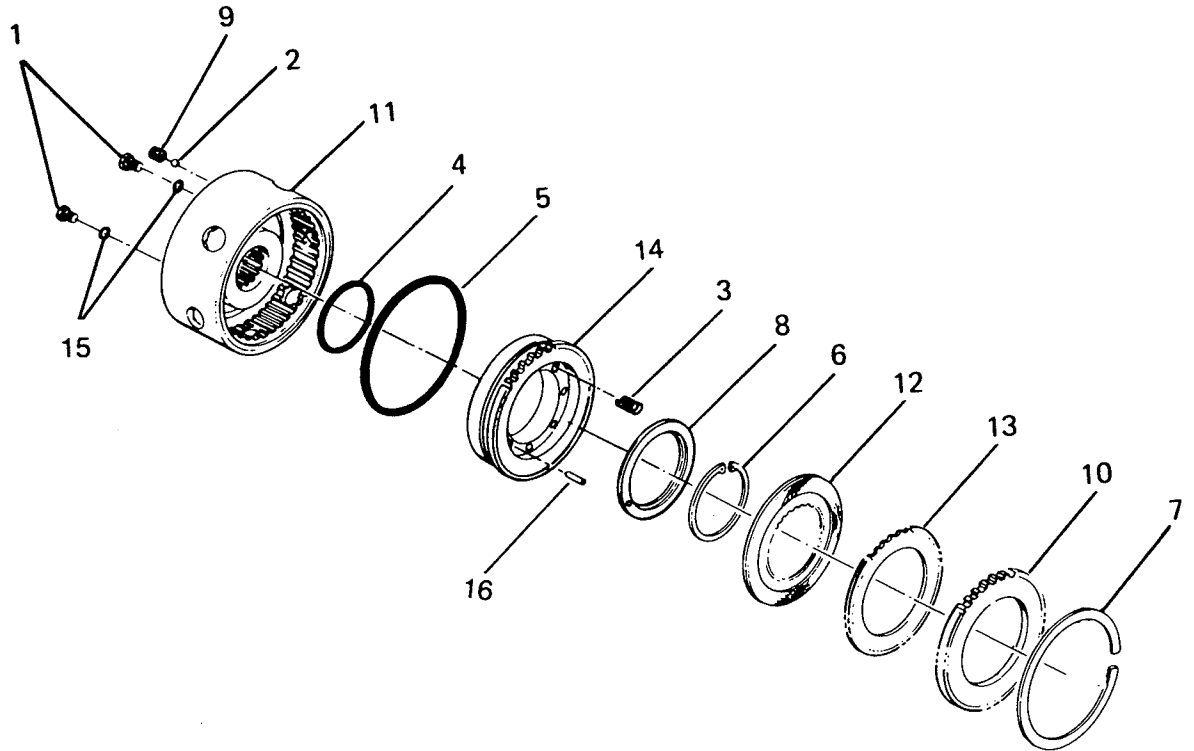
**MODEL PA56
BEVEL GEAR GROUP
D6H PS**



ITEM	PART NO.	DESCRIPTION	QTY.
1	119-2141	BEARING ASSEMBLY	1
2	119-1617	BEARING, LOCK NUT	1
3	5P-2228	CAPSCREW, HEX HEAD (1/2 - 13 x 1)	6
4	119-1618	LOCKWASHER	1
5	118-5804	O-RING	1
6	123-4403	DOWEL PIN	1
7	119-2157	RETAINING RING	1
8	120-7638	OIL SEAL	1
9	118-8381	SEAL SPACER	1
10	118-6589	PUMP DRIVE PINION	1
11	118-5854	SHIM GASKET	1
12	118-7222	CARRIER	1
13	118-5855	SHIM .005 in. (.13 mm)	2-AR
14	118-5856	SHIM .007 in. (.18 mm)	2-AR
15	118-5857	SHIM .020 in. (.51 mm)	2-AR
16	118-7219	BEVEL PINION 26T - STANDARD SPEED	1
	129-4652	BEVEL PINION 18T - SPECIAL RATIO	1
	118-7218	BEVEL PINION 14T - SLOW SPEED	1
17	119-2217	BEVEL GEAR SET - 33/26T - STANDARD SPEED *	1
	129-4653	BEVEL GEAR SET - 38/18T - SPECIAL RATIO *	1
	119-2213	BEVEL GEAR SET - 39/14T - SLOW SPEED *	1
18	6F-0249	O-RING	1
19	1J-6473	RETAINING RING	1
20	119-2191	PLUG, BEVEL PINION	1

* Bevel Gear Set includes one Bevel Pinion and two Bevel Gears.

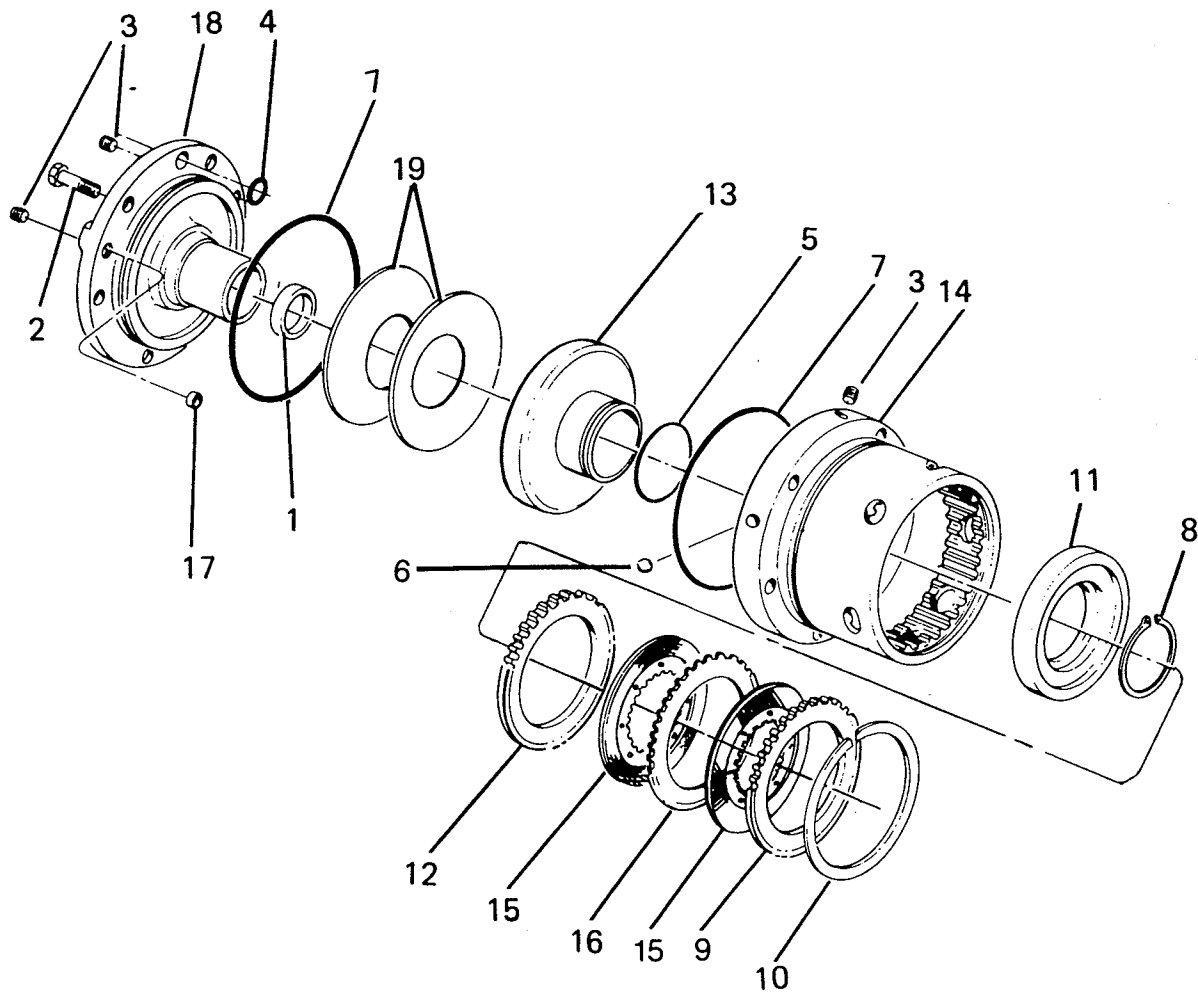
CLUTCH ASSEMBLY



ITEM	PART NO.	DESCRIPTION	QTY
—	118-7210	CLUTCH ASSEMBLY — INCLUDES ITEMS 1-16	
1	9S-8007	PLUG, O-RING FLUSH — INCLUDES ITEM 15	2
2	3Y-9267	STEEL BALL	1
3	118-5851	SPRING	8
4	5S-3676	O-RING	1
5	120-7669	O-RING	1
6	119-2195	RETAINING RING	1
7	119-1534	RETAINING RING	1
8	118-6566	SPRING RETAINER	1
9	118-5849	CHECK VALVE SEAT	1
10	118-6323	PRESSURE PLATE	1
11	118-8385	CLUTCH HOUSING*	1
12	118-6547	DISC — FRICTION, BRONZE	5
13	118-6302	DISC — STEEL .093 in. (2.36 mm)	4
14	118-6594	CLUTCH PISTON	1
15	119-2189	O-RING	2
16	5H-3182	PIN	1

*Part No. 118-8385 includes Housing 120-7697 with two (2) steel balls 3Y-9267 driven into drilled passages.

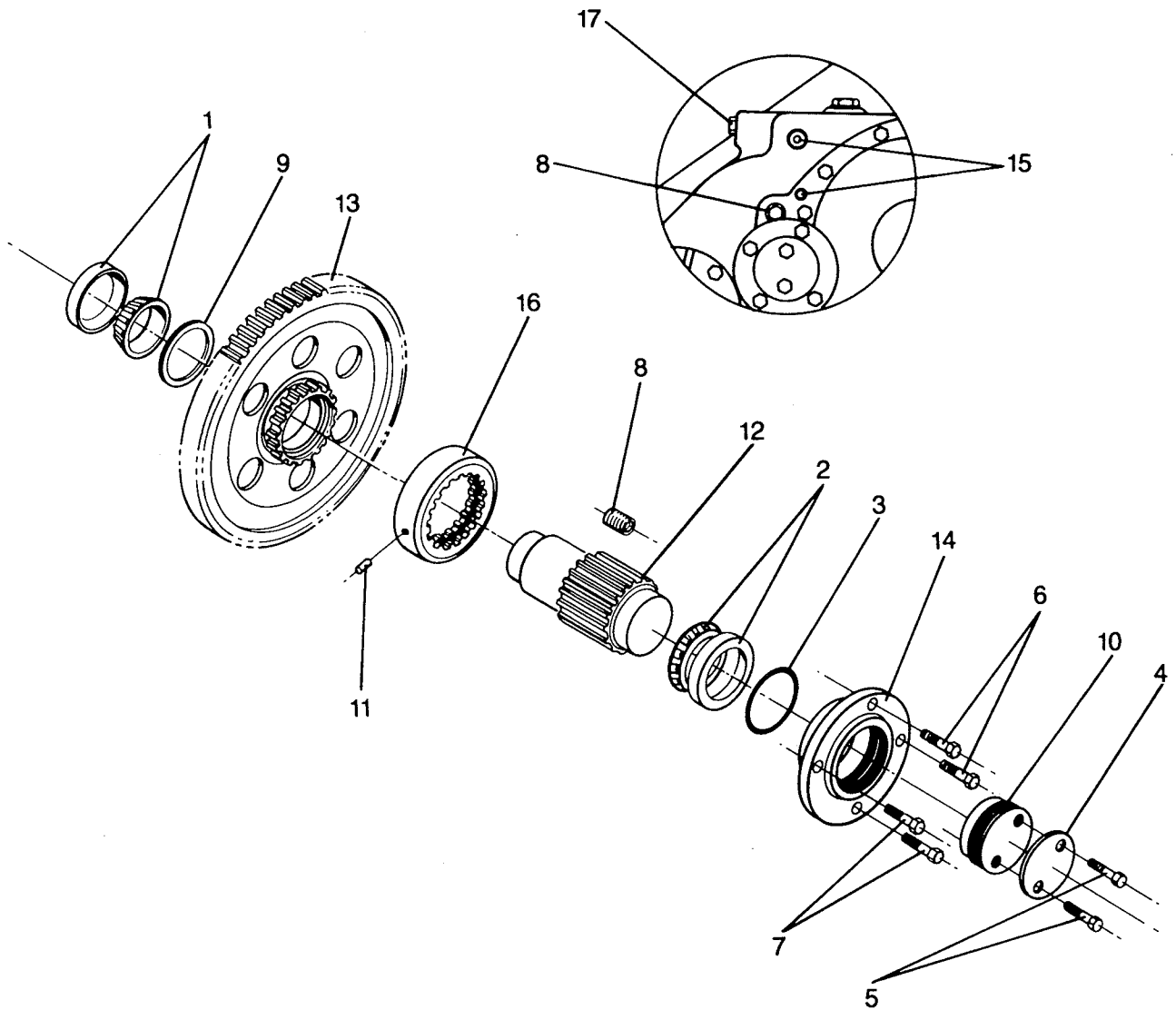
BRAKE ASSEMBLY - STANDARD



ITEM	PART NO.	DESCRIPTION	QTY
—	120-7698	BRAKE ASSEMBLY, STD — INCLUDES ITEMS 1-20	
1	120-7630	BEARING CUP	1
2	4L-6454	CAPSCREW, HEX HEAD (3/8 - 16 x 1)	2
3	102-0883	PLUG, HEX SOCKET (1/4 NPT - EARLY)*	4
	148-8407	PLUG, HEX HEAD (-6 ORB - CURRENT)*	3
4	119-1577	O-RING	3
5	4S-5898	O-RING	1
6	3Y-9267	STEEL BALL	2
7	119-1586	O-RING	2
8	123-4415	RETAINING RING	1
9	118-6323	PRESSURE PLATE — OUTER	1
10	119-1534	RETAINING RING	1
11	118-6587	PISTON RETAINER	1
12	118-5846	PRESSURE PLATE — INNER	1
13	118-6593	BRAKE PISTON	1
14	118-6949	EARLY (REQUIRES 2 OF ITEM 6)*	1
		CURRENT (REQUIRES 1 OF ITEM 6)*	1
15	118-6547	DISC — FRICTION BRONZE	8
16	118-6302	DISC STEEL — .093 in. (2.36 mm)	7
17	118-0550	INSERT — NOT USED IN CURRENT HOUSING*	1
18	118-7223	BRAKE CARRIER	1
19	119-2167	BRAKE SPRING	2

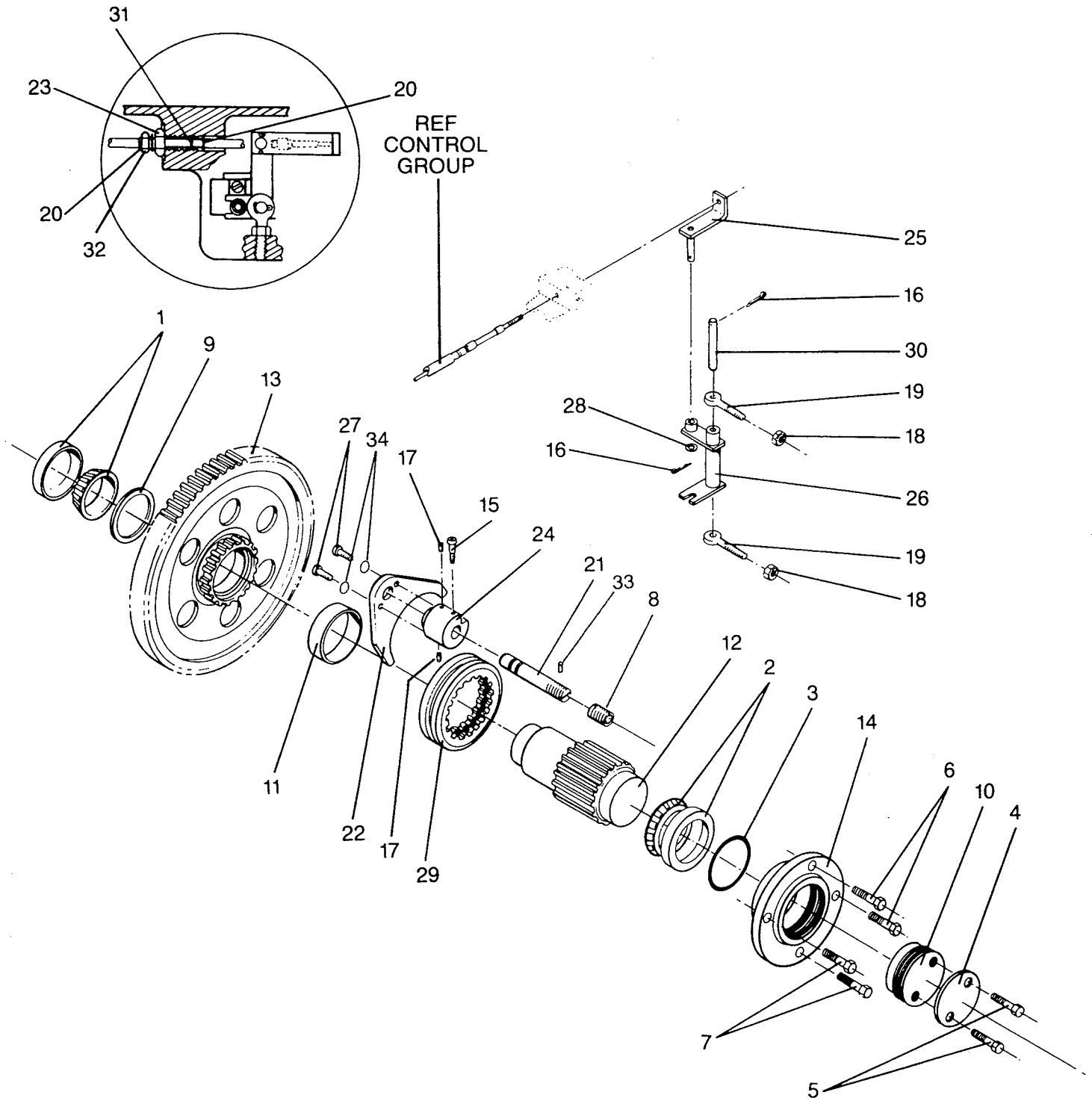
*Current brake housing may be visually distinguished from the early design by locating the -6 ORB plug in the "B" brake pressure port. The early design used a hex-socket head 1/4 NPT plug.

**IDLER SHAFT GROUP
WITHOUT FREESPOOL**



ITEM	PART NO.	DESCRIPTION	QTY.
1	119-0160	BEARING ASSEMBLY — INNER	1
2	119-0162	BEARING ASSEMBLY — OUTER	1
3	119-1547	O-RING	1
4	118-5859	LOCK PLATE	1
5	8T-9383	CAPSCREW, HEX HEAD (1/2 - 13 x 3/4)	2
6	8T-8917	CAPSCREW, HEX HEAD (1/2 - 13 x 1 1/4)	2
7	8T-4835	CAPSCREW, HEX HEAD (1/2 - 13 x 2)	2
8	038-7338	PLUG, SOCKET HEAD	1
9	120-7633	THRUST WASHER	1
10	118-6535	ADJUSTER	1
11	5H-3193	ROLLPIN	1
12	118-6584	PINION, SECOND REDUCTION	1
13	118-6976	GEAR, FIRST REDUCTION	1
14	118-6917	CARRIER, IDLER SHAFT	1
15	064-1609	SCREW, SOCKET HEAD	2
16	118-6586	COLLAR	1
17	2H-3740	CAPSCREW HEX HEAD (3/4 - 16 x 1 1/4)	1

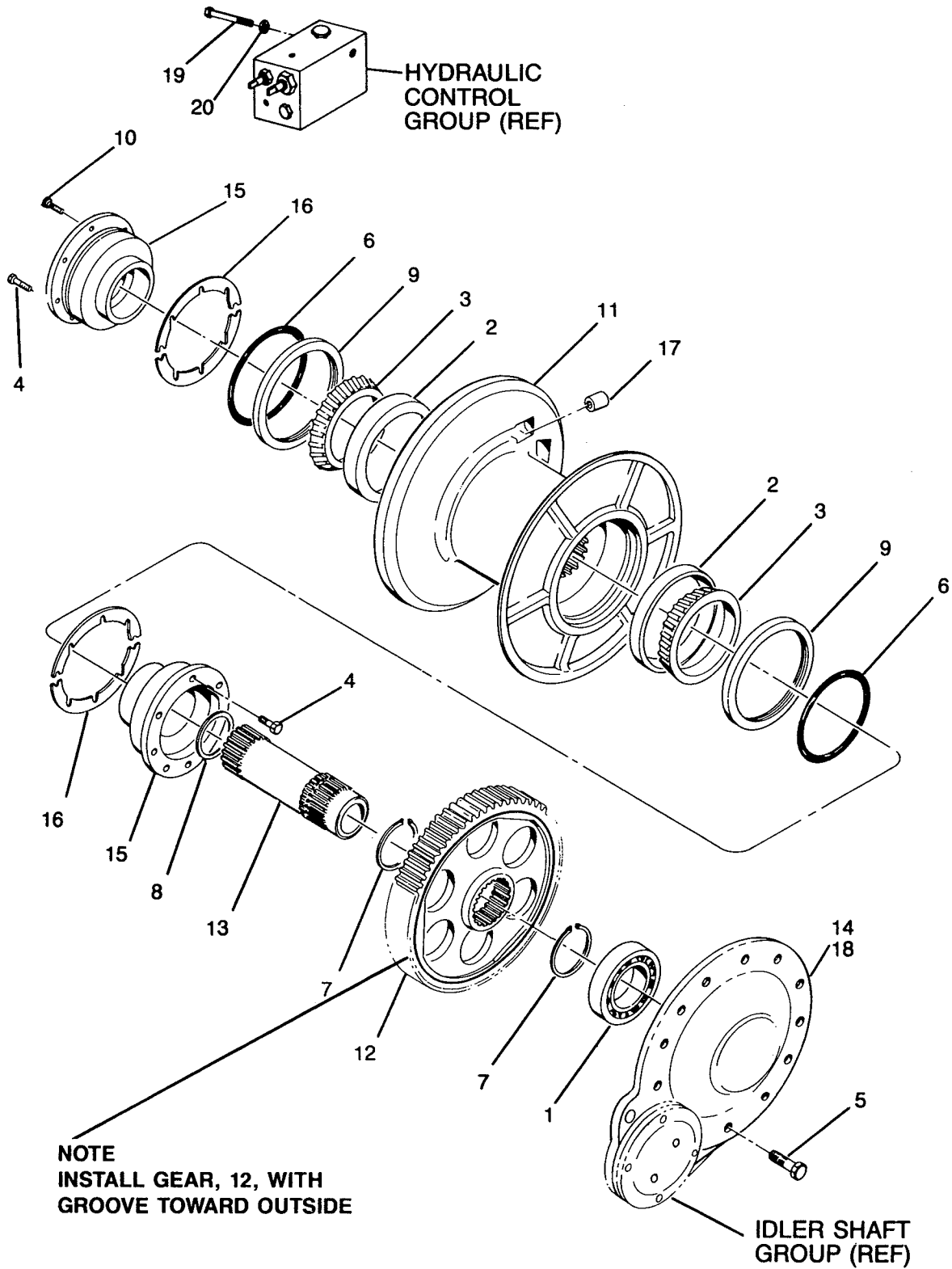
**IDLER SHAFT GROUP
WITH FREESPOOL**



**IDLER SHAFT GROUP
WITH FREESPOOL**

ITEM	PART NO.	DESCRIPTION	QTY.
1	119-0160	BEARING ASSEMBLY — INNER	1
2	119-0162	BEARING ASSEMBLY — OUTER	1
3	119-1547	O-RING	1
4	118-5859	LOCK PLATE	1
5	8T-9383	CAPSCREW, HEX HEAD (1/2 - 13 x 3/4)	2
6	8T-8917	CAPSCREW, HEX HEAD (1/2 - 13 x 1 1/4)	2
7	8T-4835	CAPSCREW, HEX HEAD (1/2 - 13 x 2)	2
8	038-7338	PLUG, SOCKET HEAD	1
9	120-7633	THRUST WASHER	1
10	118-6535	ADJUSTER	1
11	119-2170	BUSHING	1
12	118-6584	PINION, SECOND REDUCTION	1
13	118-7224	GEAR, FIRST REDUCTION	1
14	118-6917	CARRIER, IDLER SHAFT	1
15	039-2676	SHOULDER SCREW	1
16	9L-7469	COTTER PIN	2
17	119-1626	BALL PLUNGER	2
18	1B-4430	JAM NUT	2
19	2J-5038	ROD END	2
20	3K-9042	RETAINING RING	2
21	119-2184	SHIFT RAIL, INCLUDES ITEM 33	1
22	118-6567	YOKE	1
23	1D-5120	JAM NUT	1
24	118-5862	SHIFT COLLAR	1
25	118-6658	CABLE CONNECTOR	1
26	118-5785	BELLCRANK WELDMENT	1
27	0S-1594	CAPSCREW, HEX HEAD (3/8 - 16 x 1 G5)	2
28	4B-4280	WASHER (1/2)	1
29	118-6585	COLLAR	1
30	119-2210	PIN	1
31	5H-8853	O-RING	1
32	119-2209	CONTROL CABLE ADJUSTER	1
33	119-0570	NYLON PELLETT	1
34	3B-4506	LOCKWASHER (3/8)	2

CABLE DRUM GROUP

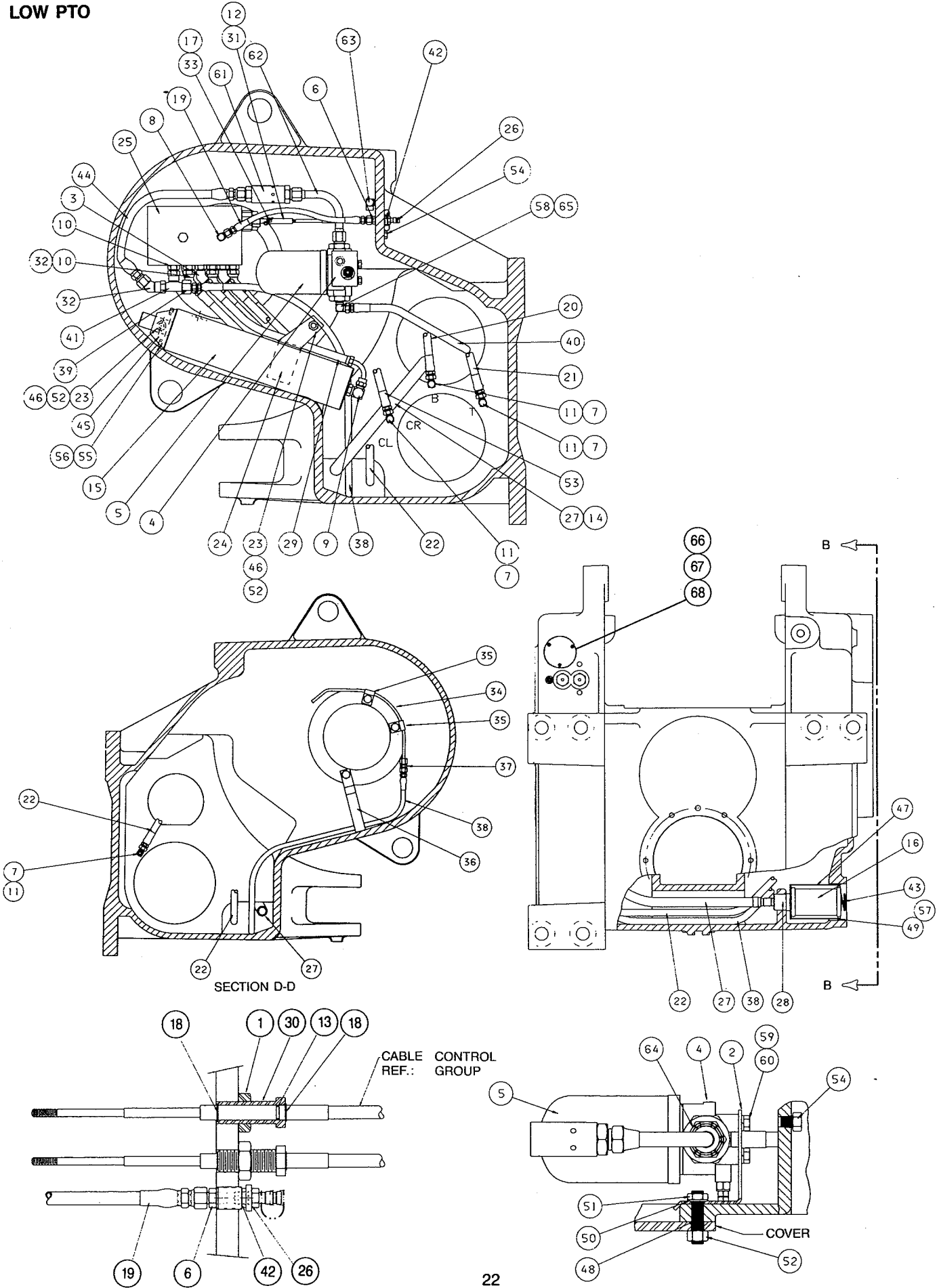


CABLE DRUM GROUP

ITEM	PART NO.	DESCRIPTION	QTY.
1	119-2137	BALL BEARING	1
2	119-2203	BEARING CUP	2
3	119-2204	BEARING CONE	2
4	6K-7917	CAPSCREW, HEX HEAD (1/2 - 13 x 1 - SS)	10
5	8T-8917	CAPSCREW, HEX HEAD (1/2 - 13 x 1 1/4)	11
6	1S-6119	O-RING	2
7	123-4416	RETAINING RING	2
8	7M-2275	RETAINING RING	1
9	118-5866	OIL SEAL	2
10	119-0561	CAPSCREW, SOCKET HEAD (1/2 - 13 x 1 - SS)	1
11	118-7229	CABLE DRUM	1
12	118-7215	GEAR, 2ND REDUCTION	1
13	118-6583	SHAFT, 2ND REDUCTION	1
14	118-6968	BEARING CARRIER, COVER	1
15	118-6975	BEARING CARRIER, DRUM	2
16	118-5847	SHIM SET - 1 pair ea., .005 in., .007 in., .020 in. (.13 mm, .18 mm, .51 mm)	1-2
17	118-6273	FERRULE — 3/4 in. (19 mm) WIRE ROPE	1
	118-6275	FERRULE — 7/8 in. (22 mm) WIRE ROPE	1
	118-6276	FERRULE — 1 in. (25 mm) WIRE ROPE	1
18	—	NO GASKET, USE DOW RTV 732 OR EQUIVALENT	—
19	119-0562	CAPSCREW, HEX HEAD (1/2 - 13 x 5 - SS)	1
20	4B-4280	WASHER (1/2)	1

SS = Self Sealing

**HYDRAULIC CONTROL GROUP
LOW PTO**

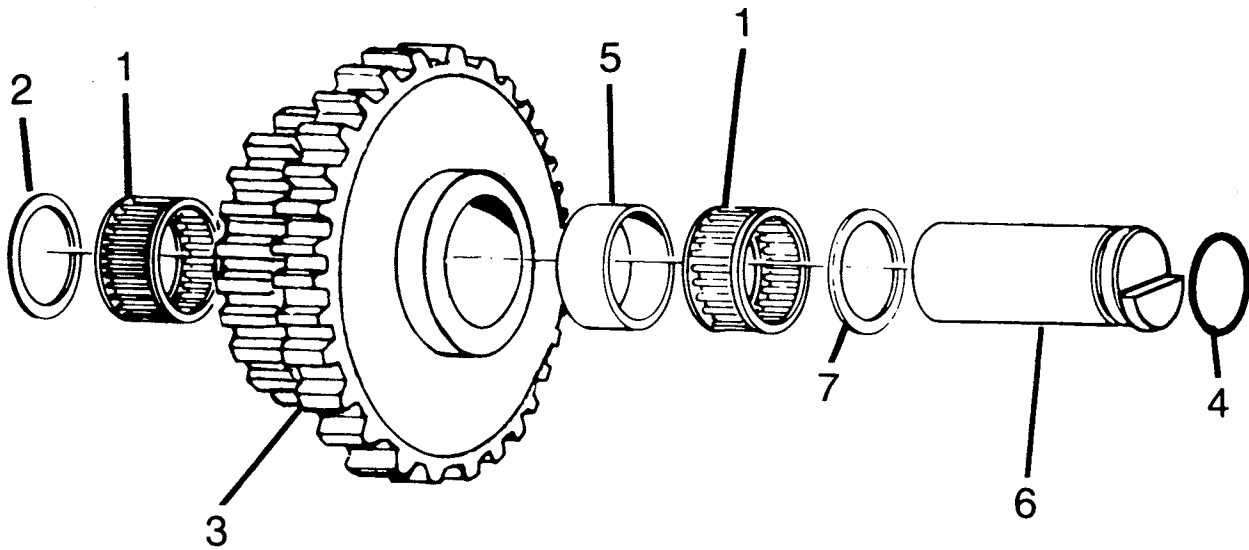


**HYDRAULIC CONTROL GROUP
LOW PTO**

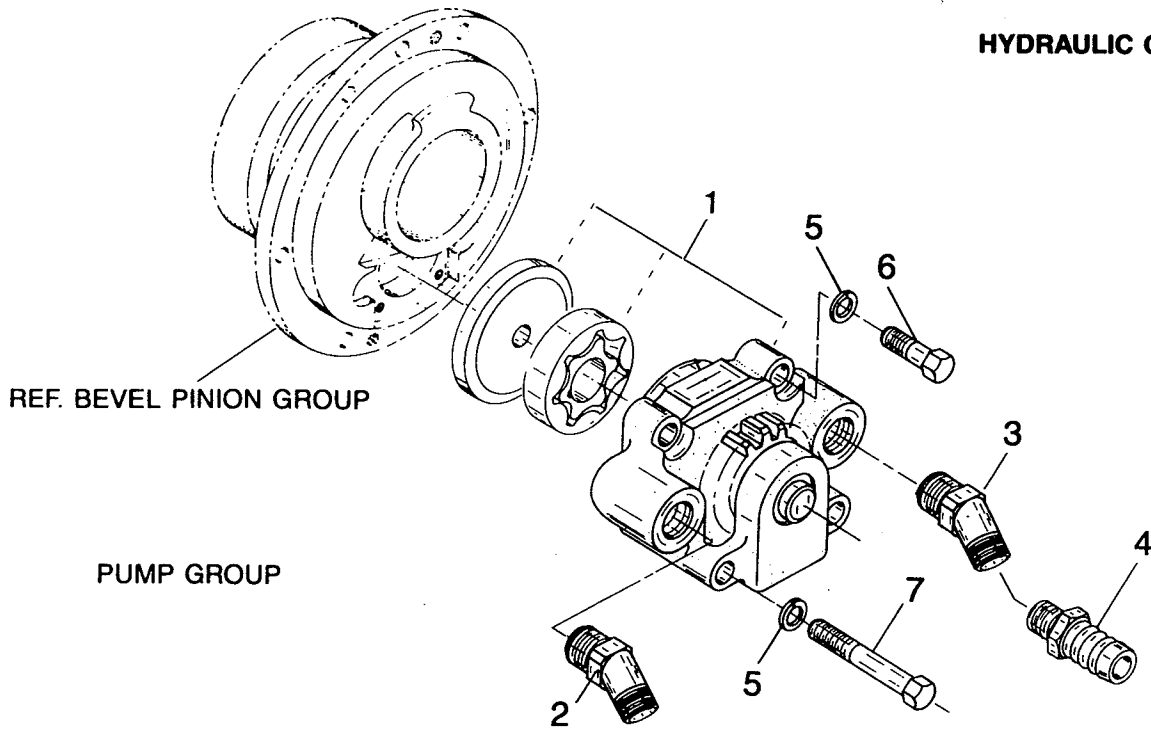
ITEM	PART NO.	DESCRIPTION	QTY.
1	1D-5120	JAM NUT (3/4 - 16)	2
2	118-6318	FILTER BRACKET	1
3	030-7943	ELBOW - 45° - 8 VALVE PORTS, A, B	2
	3K-0360	O-RING FOR ITEM 3	2
4	118-6321	FILTER HEAD	1
5	118-6322	FILTER ELEMENT	1
6	8L-6557	ADAPTER 1/8 - NPT - 4	1
7	061-9463	ADAPTER - 8	4
8	7J-4026	ELBOW - 90° - 4 VALVE PORT G	1
	3J-1907	O-RING FOR ITEM 8	1
9	030-7948	ELBOW - 90° - B	1
	3K-0360	O-RING FOR ITEM 9	1
10	8M-0505	ADAPTER VALVE PORTS P, T, C1, C2	4
	3K-0360	O-RING FOR ITEM 10	4
11	8M-0547	ADAPTER - 90° - 8	3
12	119-0131	CLEVIS YOKE	2
13	5H-8853	O-RING	2
14	9M-7958	CLAMP, SUCTION HOSE	1
15	118-7012	ACCUMULATOR ASSEMBLY - SPRING TYPE (REF. PG. 25)	1
16	119-2164	SUCTION STRAINER	1
17	119-0156	CLEVIS PIN	2
18	3K-9042	RETAINING RING	4
19	118-6332	HOSE - VALVE TO GAUGE PORT	1
20	119-0115	HOSE - 24 in. (610 mm) VALVE TO B	1
21	119-0116	HOSE - 32 in. (813 mm) VALVE TO T	1
22	119-0117	HOSE - 46 in. (1,168 mm) VALVE TO CL	1
23	3B-4508	LOCKWASHER (1/2)	2
24	118-6313	ACCUMULATOR CLAMP BRACKET	1
25	118-6978	CONTROL VALVE ASSEMBLY (REF. PG. 26)	1
26	158-6530	QUICK DISCONNECT	1
27	118-6264	SUCTION HOSE ASSEMBLY	1
28	118-6265	CONNECTOR	1
29	118-5853	HOSE - 16 in. (406 mm) VALVE TO ACCUMULATOR	1
30	119-2209	ADJUSTER, CONTROL CABLE	2
31	9M-1311	JAM NUT (1/4 - 28)	2
32	030-7963	ADAPTER - 45° - 8 VALVE PORTS P, T, C1, C2	4
33	119-0157	HITCH PIN	2

ITEM	PART NO.	DESCRIPTION	QTY.
34	118-6558	LUBE TUBE	1
35	119-0161	CLAMP, LUBE TUBE	2
36	118-6270	CLAMP, LUBE TUBE	1
37	3J-7355	UNION - 4	1
38	119-0122	HOSE, LUBRICATION	1
39	5P-5007	REDUCER - 8 - 4 VALVE PORT P	1
40	119-0118	HOSE - 17 in. (432 mm) PUMP TO FILTER	1
41	5P-3166	TEE, SWIVEL - 8 VALVE PORT P	1
42	127-7025	SLEEVE	1
43	119-1535	SPRING	1
44	119-0118	HOSE - 17 in. (432 mm) FLOW CONTROL TO VALVE	1
45	118-6308	ACCUMULATOR MOUNTING ANGLE	1
46	119-0549	STUD (1/2 - 13 x 2 3/4)	2
47	118-6283	SUCTION STRAINER SHIELD	1
48	119-1520	STUD (1/2 - 13 x 2 1/4)	1
49	118-6284	SEAL RING .25 in. (6.4 mm) THICK	1
50	3J-4818	LOCKWASHER, SHAKEPROOF (1/2)	1
51	3H-3680	JAM NUT (1/2 - 13)	1
52	1F-7958	HEX NUT (1/2 - 13)	5
53	118-6300	HOSE - 21 in. (533 mm) VALVE TO CR	1
54	5M-6214	PLUG 1/8 NPT	1
55	8T-9043	CAPSCREW, HEX HEAD (5/16 - 18 x 7/8)	2
56	3B-4505	LOCKWASHER (5/16)	2
57	118-6286	SEAL RING .06 in. (1.5 mm) THICK	1-2
58	119-0572	ADAPTER - 1/2 NPT	1
59	0S-0509	CAPSCREW, HEX HEAD (3/8 - 16 x 3/4)	2
60	3B-4506	LOCKWASHER (3/8)	2
61	118-6277	FLOW CONTROL VALVE	1
62	118-6278	TUBE ASSEMBLY - FLOW CONTROL	1
63	3B-8822	ELBOW	1
64	118-5843	ADAPTER - 8	1
65	4R-6450	ELBOW 90° 1/2 NPT - 8	1
66	—	PORT COVER	1
67	814-4986	O-RING	1
68	138-2407	CAPSCREW, BTN HD (10 - 24 x 5/8)	3

FOURTH SHAFT GROUP

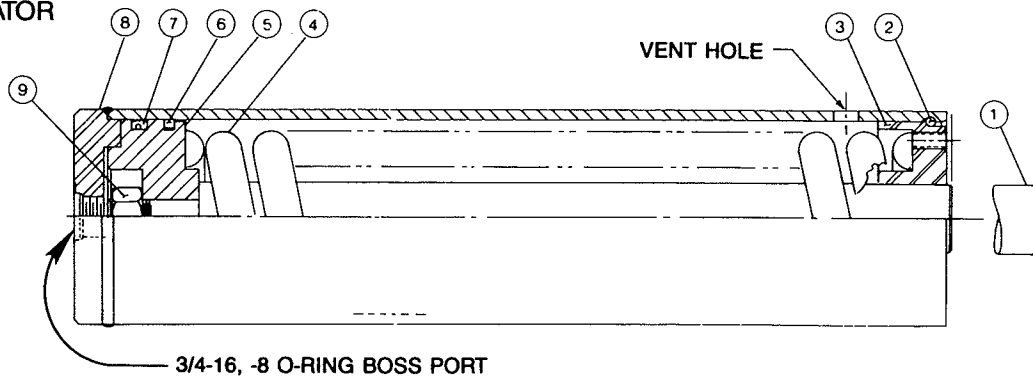


ITEM	PART NO.	DESCRIPTION	QTY
1	119-2173	ROLLER BEARING	2
2	119-1572	THRUST WASHER .062 in. (1.58 mm)	1
3	118-6651	CLUSTER GEAR 37/17 TEETH	1
4	8M-4986	O-RING	2
5	118-6297	SPACER	1
6	118-6533	COUNTERSHAFT PIN	1
7	118-6287	THRUST WASHER .217 in. (5.5 mm)	1



ITEM	PART NO.	DESCRIPTION	QTY
1	118-6979	PUMP ASSEMBLY	1
2	123-4411	ELBOW, 45° — 8 PRESSURE SIDE	1
3	3B-7731	ELBOW, 45° 1/2 NPT ADAPTER — LOW PTO	1
4	1H-9779	BARBED HOSE ADAPTER — LOW PTO	1
5	3B-4504	LOCKWASHER — 1/4	4
6	7x-0264	CAPSCREW, HEX HEAD 1/4 - 20 x 1 1/2 G8)	2
7	7x-0266	CAPSCREW, HEX HEAD 1/4 - 20 x 3 G8	2

ACCUMULATOR ASSEMBLY



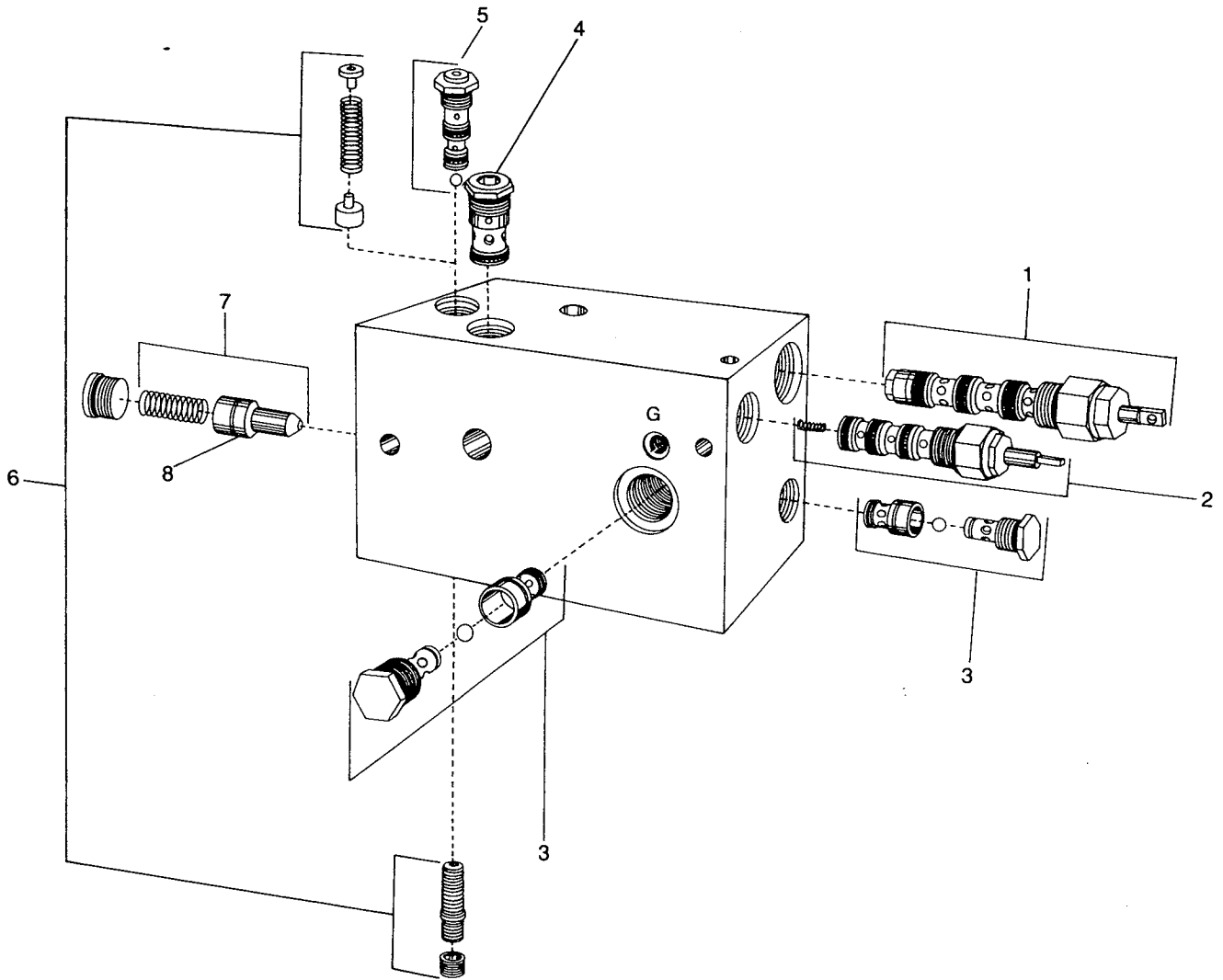
ITEM	PART NO.	DESCRIPTION	QTY
1	NSS	ROD	1
2	096-8139	RETAINING RING	1
3	NSS	ROD GUIDE	1
4	NSS	SPRING	1
5	NSS	PISTON	1
6	119-0554	CAST IRON PISTON RING	1
7	118-0552	SEAL ASSEMBLY	1
8	NSS	TUBE ASSEMBLY	1
9	NSS	NUT	1
—	123-4413	SEAL KIT (CONTAINS ITEMS 2, 6 & 7)	

NSS — Not Serviced Separately.

⚠ DANGER

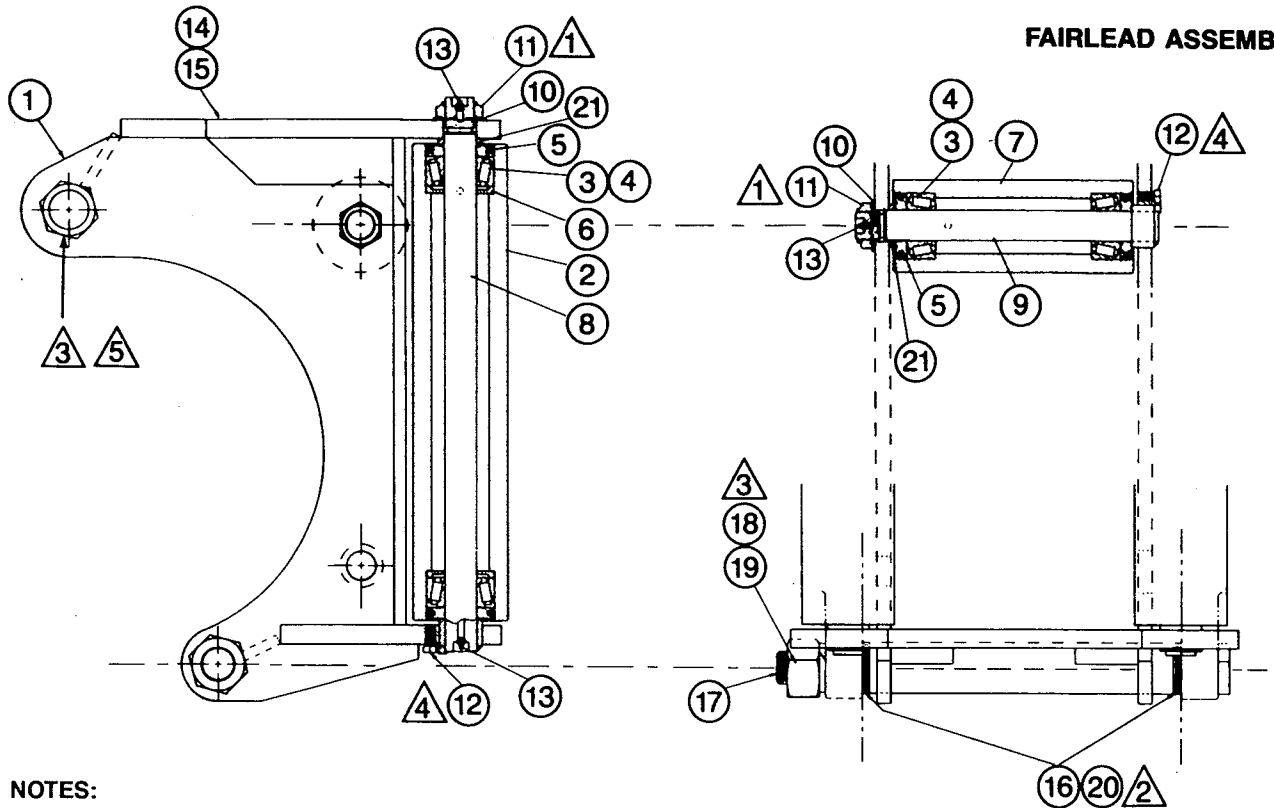
2,000 LB. (900 Kg) SPRING PRELOAD — USE PRESS FOR DISASSEMBLY PER SERVICE INSTRUCTIONS IN SERVICE MANUAL. PROPERTY DAMAGE, SEVERE PERSONAL INJURY OR DEATH MAY RESULT IF ROD GUIDE REMOVAL IS ATTEMPTED WITHOUT A PRESS.

CONTROL VALVE ASSEMBLY
118-6978



ITEM	PART NO.	DESCRIPTION	QTY.
1	119-1522	DIRECTIONAL CONTROL CARTRIDGE	1
	119-2129	SEAL KIT FOR ITEM 1	1
2	119-1523	BRAKE CONTROL CARTRIDGE	1
	119-2127	SEAL KIT FOR ITEM 2	1
3	119-1525	SHUTTLE VALVE ASSEMBLY	2
	119-1631	SEAL KIT FOR ITEM 3	2
4	119-0564	CHECK VALVE CARTRIDGE	1
	119-2126	SEAL KIT FOR ITEM 4	1
5	119-1527	DIFFERENTIAL UNLOADING PILOT VALVE CARTRIDGE	1
	119-1630	SEAL KIT FOR ITEM 5	1
6	119-0170	DIF. UNLOADING VALVE REPAIR KIT, INCLUDES ITEM 5	1
7	119-0169	UNLOADING POPPET ASSEMBLY	1
8	119-1577	O-RING	1

FAIRLEAD ASSEMBLY



NOTES:

- 1 WHILE TURNING ROLLER, TIGHTEN NUT. WHEN ROLLER WILL TURN NO LONGER, BACK NUT OFF 1/8 TURN.
- 2 SHIM BOTH SIDES AS REQUIRED TO REDUCE END PLAY TO LESS THAN .030 in. (.8 mm).
- 3 TIGHTEN UNTIL WASHER IS FLATTENED. THEN TURN 1 FLAT.
- 4 APPLY "LOCTITE 242" AND INSTALL WITH FLAT TANGENT TO HOLE PRIOR TO INSTALLATION OF SHAFT.
- 5 WHEN INSTALLING FAIRLEAD ON WINCH IN FIELD, REMOVE ORIGINAL CABLE GUARD SPACER TUBE AND REUSE UPPER TIE BOLT 118-6298, LOCK-WASHER 119-1623 AND NUT 2B-2673.

ITEM	PART NO.	DESCRIPTION	QUANTITY	
			3 ROLLER	4 ROLLER
	118-7211	3 ROLLER FAIRLEAD ASSEMBLY		
	118-7213	4 ROLLER FAIRLEAD ASSEMBLY		
1	118-6935	FAIRLEAD FRAME	1	1
2	118-6649	ROLLER - VERTICAL	2	2
3	119-2174	BEARING CONE	6	8
4	119-2175	BEARING CUP	6	8
5	118-5803	DUST GUARD ASSEMBLY	6	8
6	119-2186	GREASE RETAINER	4	4
7	124-0763	ROLLER - HORIZONTAL	1	2
8	118-6648	SHAFT - VERTICAL	2	2
9	118-6604	SHAFT - HORIZONTAL	1	2
10	119-2211	WASHER	3	4
11	5M-6667	LOCK NUT	3	4
12	8T-9383	CAPSCREW, HEX HEAD (1/2 - 13 x 3/4)	3	4
13	3B-8489	GREASE FITTING	5	6
16	120-7634	SHIM .030 in. (.8 mm)	4-AR	4-AR
17	118-6298	TIE BOLT	1	1
18	119-1623	LOCK WASHER	1	1
19	2B-2673	NUT, HEX HEAD	1	1
20	123-4420	SHIM .125 in. (3.18 mm)	6-AR	6-AR
21	120-7536	SPACER	3	4
*	174-4770	4TH ROLLER KIT INCLUDES 3, 4, 5, 7, 9-13 & 21	1	-

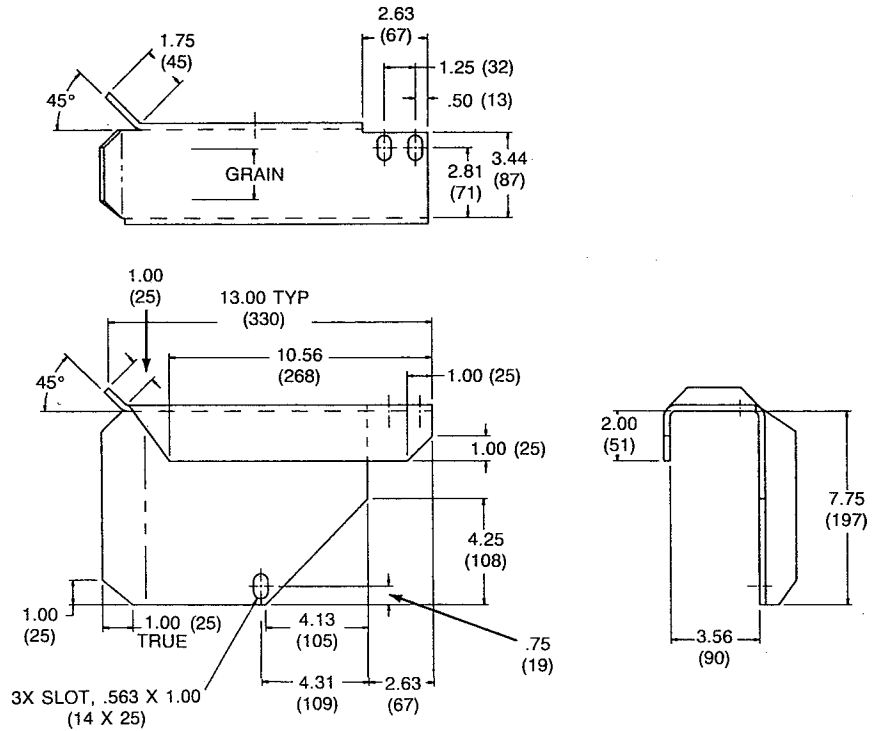
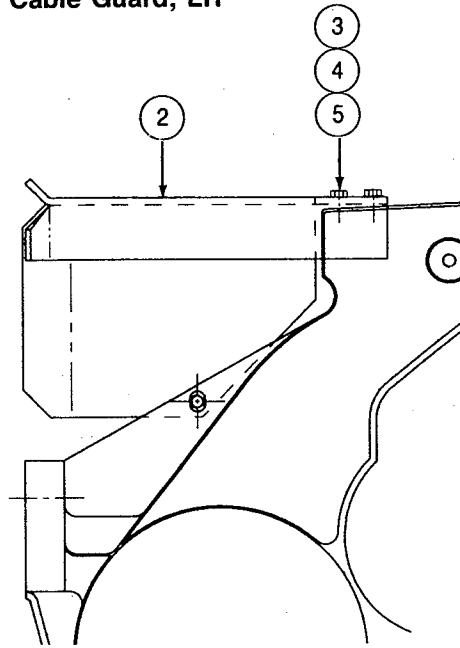
AR - AS REQUIRED

**CONTROL CABLE
GUARD GROUP**

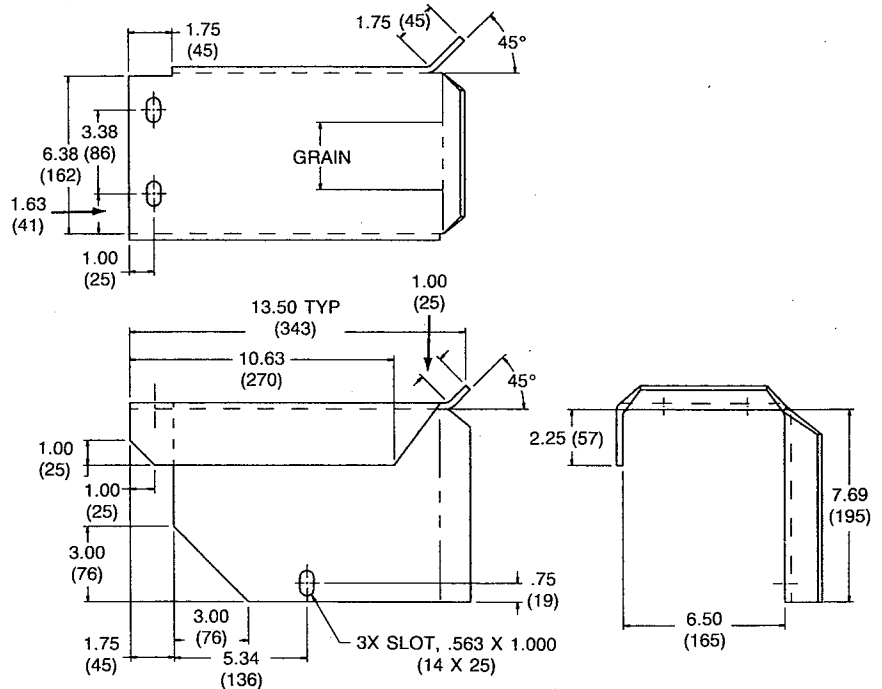
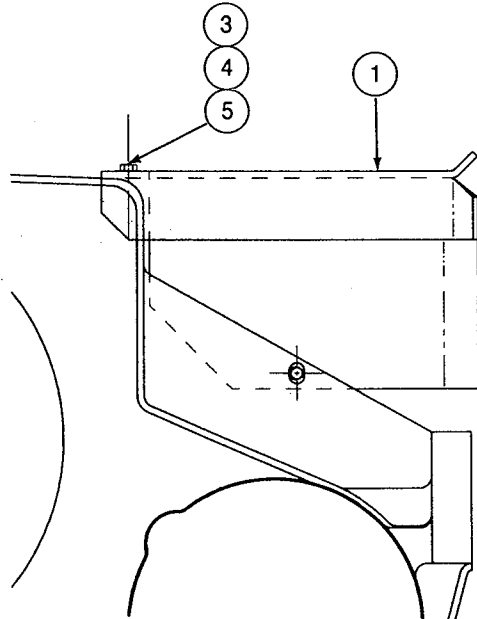
Material: Plate .25 in. (6 mm) thick, hot rolled, descaled,
ASTM A36 or AISI 1015.

Bend Radii: .25 in. (6 mm) minimum, corner notches
at bend lines to be 60°-90°.

Cable Guard, LH



Cable Guard, RH



ITEM	PART NO.	DESCRIPTION	QTY.
1	128-1999	CABLE GUARD, RH	1
2	128-1998	CABLE GUARD, LH	1
3	5P-2228	CAPSCREW, HEX HEAD (1/2 - 13 x 1)	6
4	3B-4508	LOCKWASHER, 1/2	6
5	8T-4223	WASHER (1/2)	6

Cable Guard Kit 128-2000, contains items 1-5 above.