

CARCO®

INSTALLATION AND PARTS MANUAL MODEL 50B WITH ELECTRONIC CONTROLS FOR D5M & D6M PS TRACTORS

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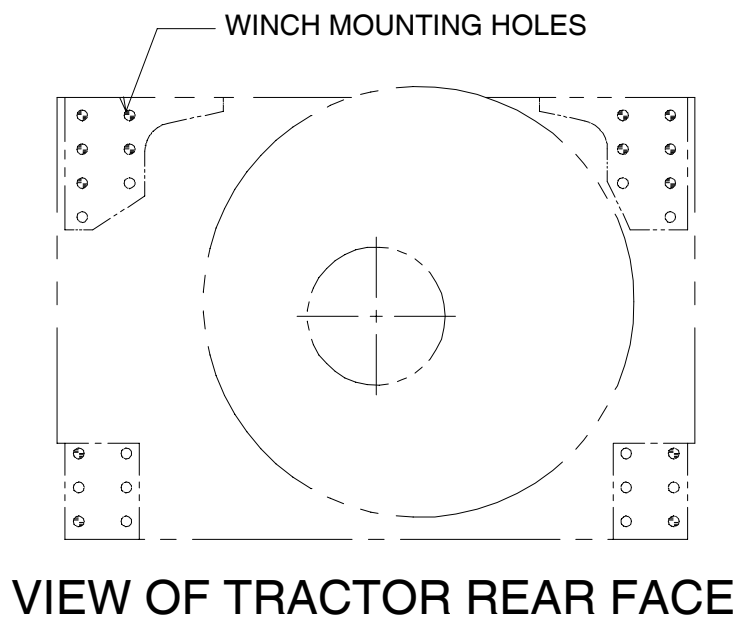
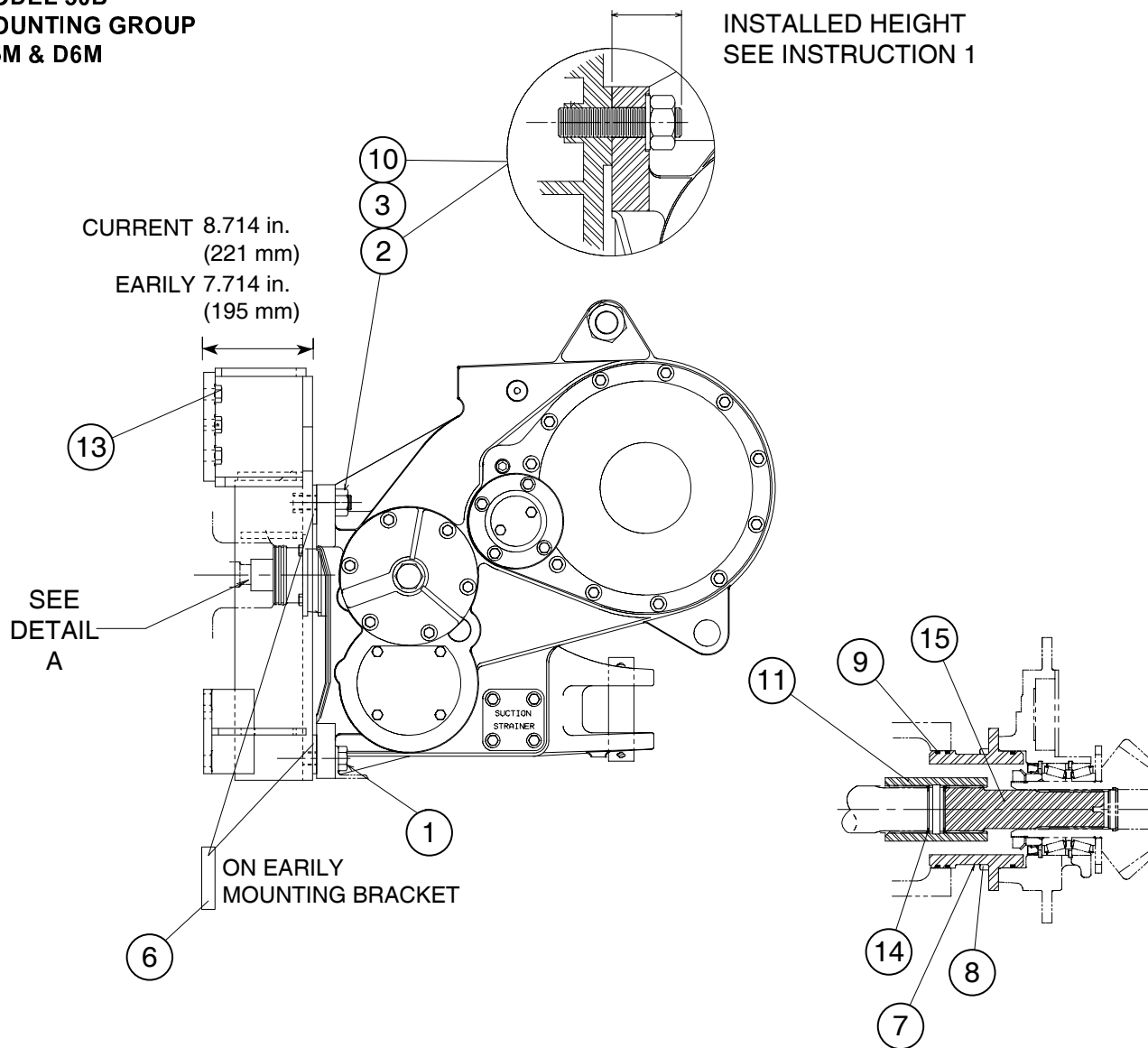
MODEL NUMBER DESCRIPTION

50B	B	0	0	1	0	0	E
Basic Winch Model	Bevel Gear Ratio B-1.27:1 C-1.64:1 D-2.11:1 E-2.79:1	0-Overwind 1-Underwind	0-Standard Brake	0-Without Freespool 1-With Freespool	0-Four Shaft Winch 1-Three Shaft Winch	0-No Fairlead 3-3 Roller Fairlead 4-4 Roller Fairlead	E-Electronic Control

PACCAR WINCH

**MODEL 50B
MOUNTING GROUP
D5M & D6M**

INSTALLED HEIGHT
SEE INSTRUCTION 1



INSTRUCTIONS

1. Apply Loctite 271 or 277 to threads of studs, [3], and install into winch adapter brackets, [4 and 5], to the height of 3.68 in. (94 mm) for early mounting brackets and 2.68 in (68 mm) for current mounting brackets.
2. PTO rotation is counterclockwise (CCW) as viewed from rear of tractor.
3. Remove paint, rust, dirt and grease from mounting surfaces of tractor, winch and winch adapters. Early mounting brackets measure 7.714 in. (195 mm) and require spacers, [6]. Current mounting brackets measure 8.714 in. (221 mm) and do not require spacers.
4. Coat splines of PTO shaft, [15], with multi-purpose grease and install into bevel pinion gear of winch.
5. Install retaining rings, [14], in coupling, [11]. Place coupling over PTO shaft with beveled end away from winch.
6. Install o-rings, [9], onto PTO pilot, [7]. 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. Coat PTO pilot o-rings and splines of tractor PTO with multi-purpose grease and install winch on the tractor while moving winch bevel gears to align the splines.
9. Apply Loctite 242 or 243 to threads of studs, [3], and capscrews, [1, 12 & 13], and tighten as follows:
 - A) Tighten nuts, [2], to 986 lb-ft (1300 N-m).
 - B) Tighten, [1], to 680 lb-ft (900 N-m).
 - C) Tighten, [12 & 13], to 340 lb-ft (460 N-m).

⚠ CAUTION ⚠

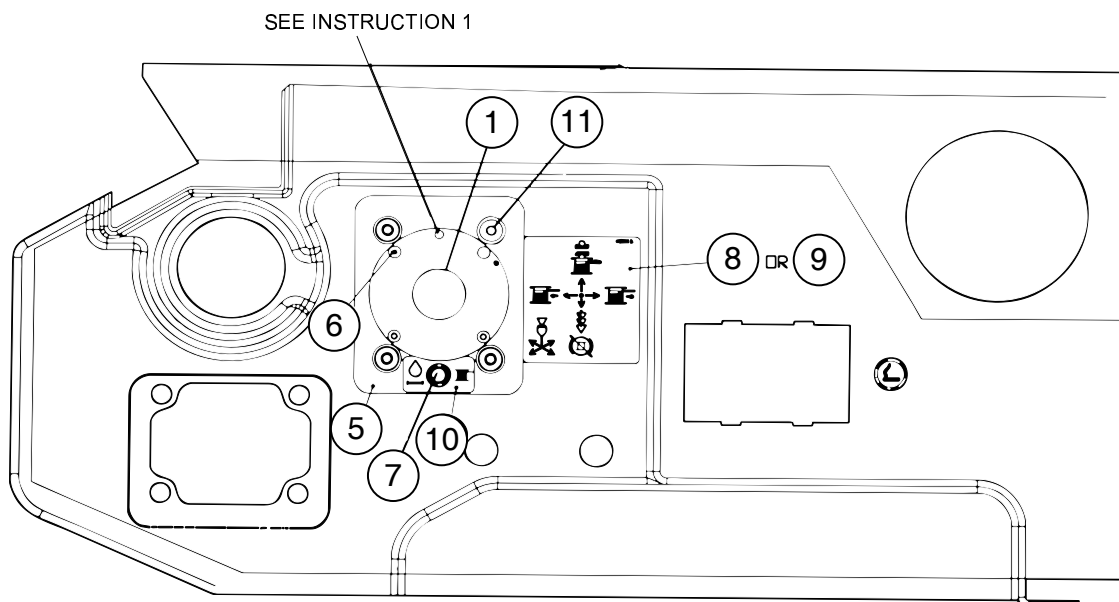
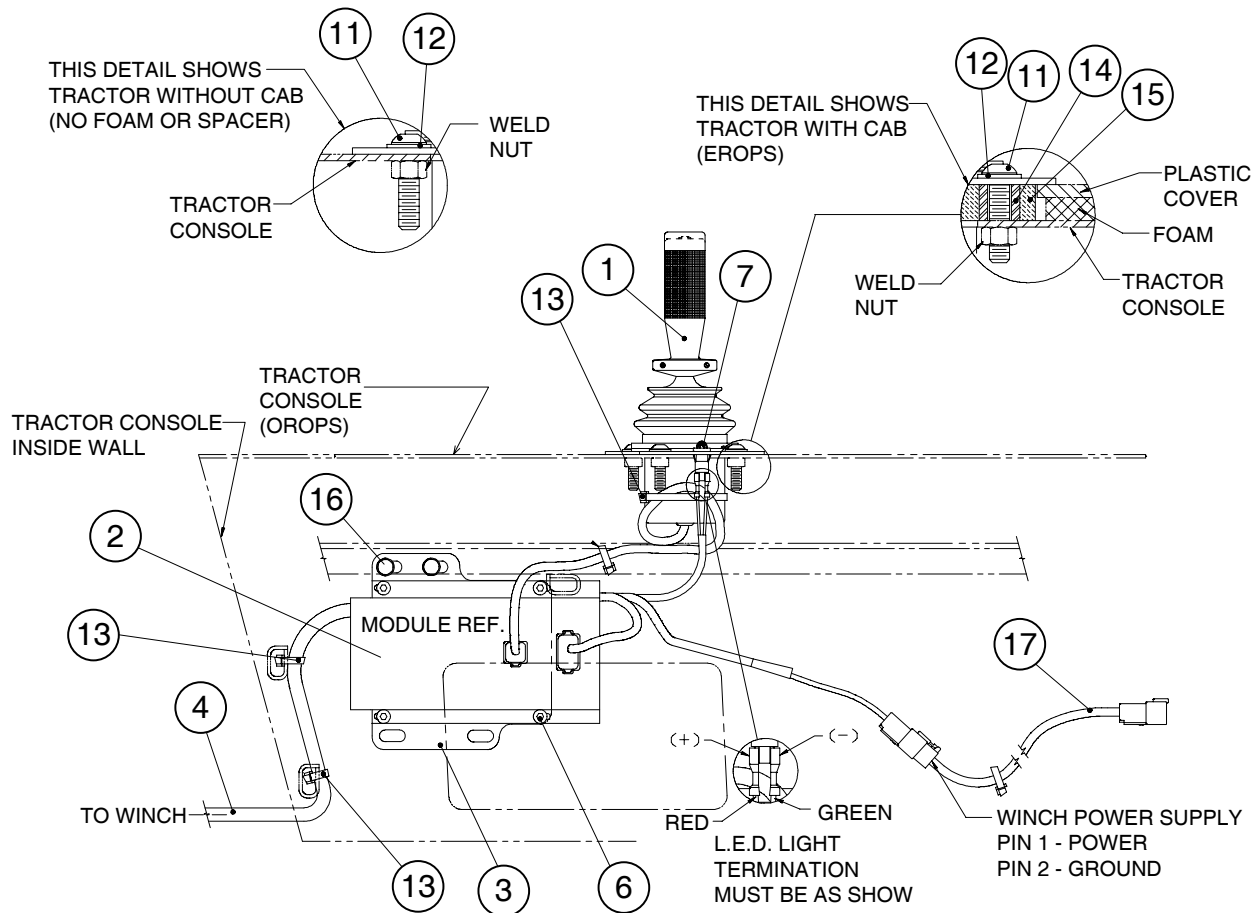
Fill winch with to proper level with recommended oil **BEFORE** operating. Component damage may occur if winch is operated without oil.

⚠ WARNING ⚠

Winch and adapters weigh approximately 2,500 lb (1134 kg). Make certain that lifting equipment has adequate capacity. Failure to use adequate lifting equipment may result in property damage, personal injury or death.

ITEM	PART NO.	DESCRIPTION	QTY.
1	31037	CAPSCREW, HEX HD. (1-8 X 3 1/2 G8) EARLY MTG. BRKT.	4
	69970	CAPSCREW, HEX HD. (1-8 X 2 1/2 G8) CURRENT MTG. BRKT.	4
2	70768	NUT, HEX (1 1/8 - 7)	4
3	100655	STUD (1 1/8 - 7 X 5 3/4 G8) EARLY MTG. BRKT.	4
	100654	STUD (1 1/8 - 7 X 4 3/4 G8) CURRENT MTG. BRKT.	4
4	101476	MTG. BRKT. RH, EARLY REQUIRES ITEMS 1, 3, 6	1
	102238	MTG. BRKT. RH, CURRENT DOES NOT USE ITEM 6	1
5	101477	MTG. BRKT. LH, EARLY REQUIRES ITEMS 1, 3, 6	1
	102239	MTG. BRKT. LH, CURRENT DOES NOT USE ITEM 6	1
6	69053	SPACER, USED WITH EARLY MTG. BRKT. ONLY	4
7	69089	PILOT, PTO	1
8	22697	CAPSCREW, HEX HEAD (1/2 - 13 X 1)	4
9	69850	O-RING	3
10	27802	WASHER, HARDENED (1 1/8)	4
11	69056	COUPLING	1
12	100646	CAPSCREW, HEX HEAD (HM20 - 2.5 X 45 mm G8/10.9)	4
13	26648	CAPSCREW, HEX HEAD (HM20 - 2.5 X 50 mm G8/10.9)	10
14	68870	RETAINING RING	2
15	68807	PTO SHAFT	1

MODEL 50B
CONTROL GROUP
D5M/D6M PS



CONTROL INSTALLATION INSTRUCTION

MODEL 50B CONTROL GROUP D5M/D6M PS

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

1. Attach the dual axis controller, [1], to the control mounting plate, [5], with button head capscrews, [6]. The small indentation, made by a drill point, must be located as shown to maintain proper control orientation.
2. Remove the ripper control lever group (if equipped) from the control console.
3. Install the dual axis controller/mounting plate assembly into the console with fasteners, [11, 12 & 14]. Spacer, [14], is only used between the plastic console cover and the console on tractors that are factory equipped with a cab.
4. Install the control module, [2], onto the mounting plate, [3], with button head capscrews, [6].
5. Install the control module/mounting plate onto the console structure in a position that will not interfere with the tractor control linkage and within the reach of the controller wiring harness.
6. Connect the dual axis controller harness to the control module. Install the main winch harness from the winch to the control module. Secure the harness to the console structure with tie straps as required to prevent interference with tractor linkage or chafing.
7. Connect harness spade connectors to the filter indicator light terminals. The red wire must be connected to the positive terminal.
8. Insure the tractor power is off then connect the harness to the tractor power supply circuit. If your winch is equipped with the current control module [102501], then use number 198 located in the main fuse panel. If your control module is the eariler style, [102258], (rectangular with plug in end) then you must fabricate the power supply circuit shown on page 6.
9. Install the instruction decal, [8 or 9], near the dual axis controller.
10. Fill the winch to the proper level with recommended oil. Refer to specifications found in the Operators and Preventive Maintenance Manual.
11. Start the tractor and operate at low engine speed. Insure that the winch operates in all functions. Refer to the Operation and Preventive Maintenance Manual.

⚠ CAUTION ⚠

Avoid routing wiring harness near moving shafts or linkage that may cause damage to the harness or restrict free movement of tractor components.

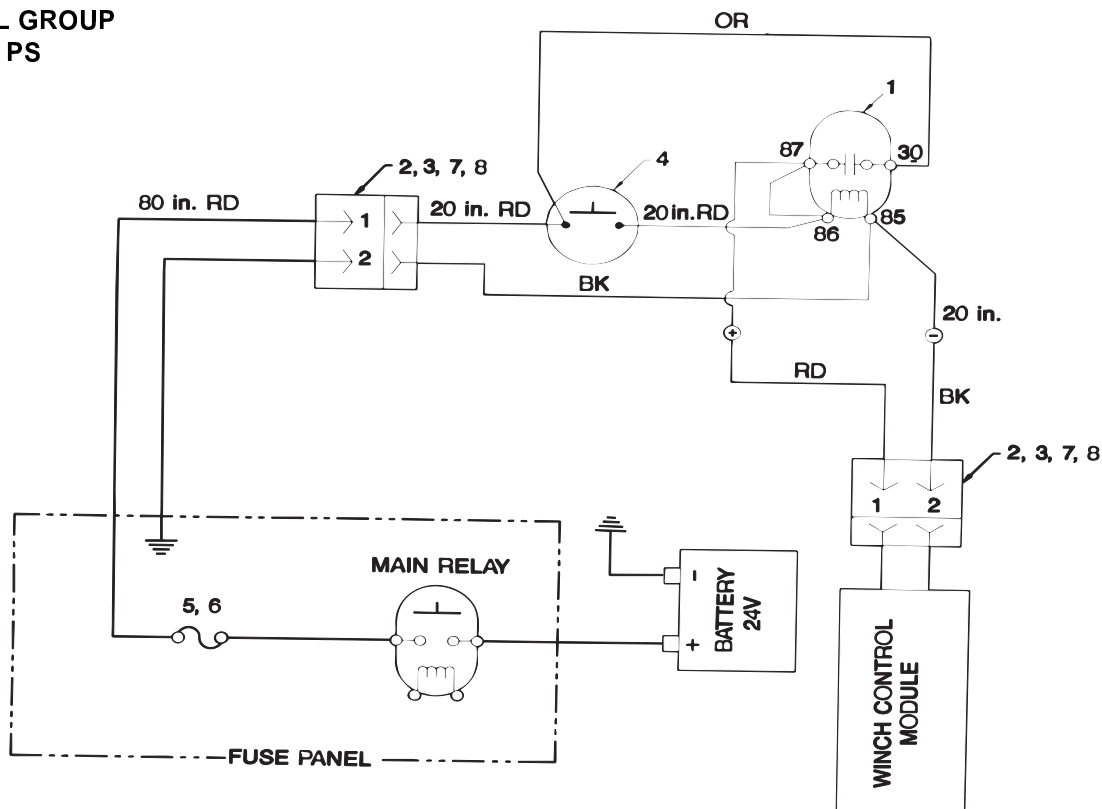
ITEM NO.	PART NO.	DESCRIPTION	QTY
1	101815	DUAL AXIS CONTROLLER, EARLY	1
	107640	DUAL AXIS CONTROLLER, CURRENT *	1
2	102258	CONTROL MODULE, EARLY DESIGN	1
	102501	CONTROL MODULE, CURRENT DESIGN ***	1
3	101384	MOUNTING PLATE	1
4	100732	WIRING HARNESS	1
5	101194	CONTROLLER MOUNTING PLATE	1
6	101817	CAPSCREW, BUTTON HEAD (10 - 24 X 1/2)	8
7	100792	INDICATOR LIGHT	1
8	100816	DECAL, CONTROL WITH FREESPOOL **	1
9	100824	DECAL, CONTROL WITHOUT FREESPOOL **	1
10	100822	DECAL, FILTER INDICATOR LIGHT	1
11	100844	CAPSCREW, BUTTON HEAD (3/8 - 16 X 1-1/2)	4
12	100652	WASHER, NARROW (3/8)	6
13	32489	WIRE TIE STRAP	AR
14	101195	SPACER (USED WITH CAB OPTION)	4
15	101196	GASKET (USED WITH CAB OPTION)	1
16	104135	CAPSCREW, HEX HEAD (3/8 - 16 X 3/4 G8 Z)	2

* IF USING CONTROLLER, 107640, WITH EARLY CONTROL MODULE 102258, ORDER ADAPTER HARNESS 102599.

** SELECT ONLY ONE DECAL

*** IF USING CONTROL MODULE, 102501, WITH CONTROLLER 101815, ORDER ADAPTER HARNESS 102599.

**MODEL 50B
CONTROL GROUP
D5M/D6M PS**



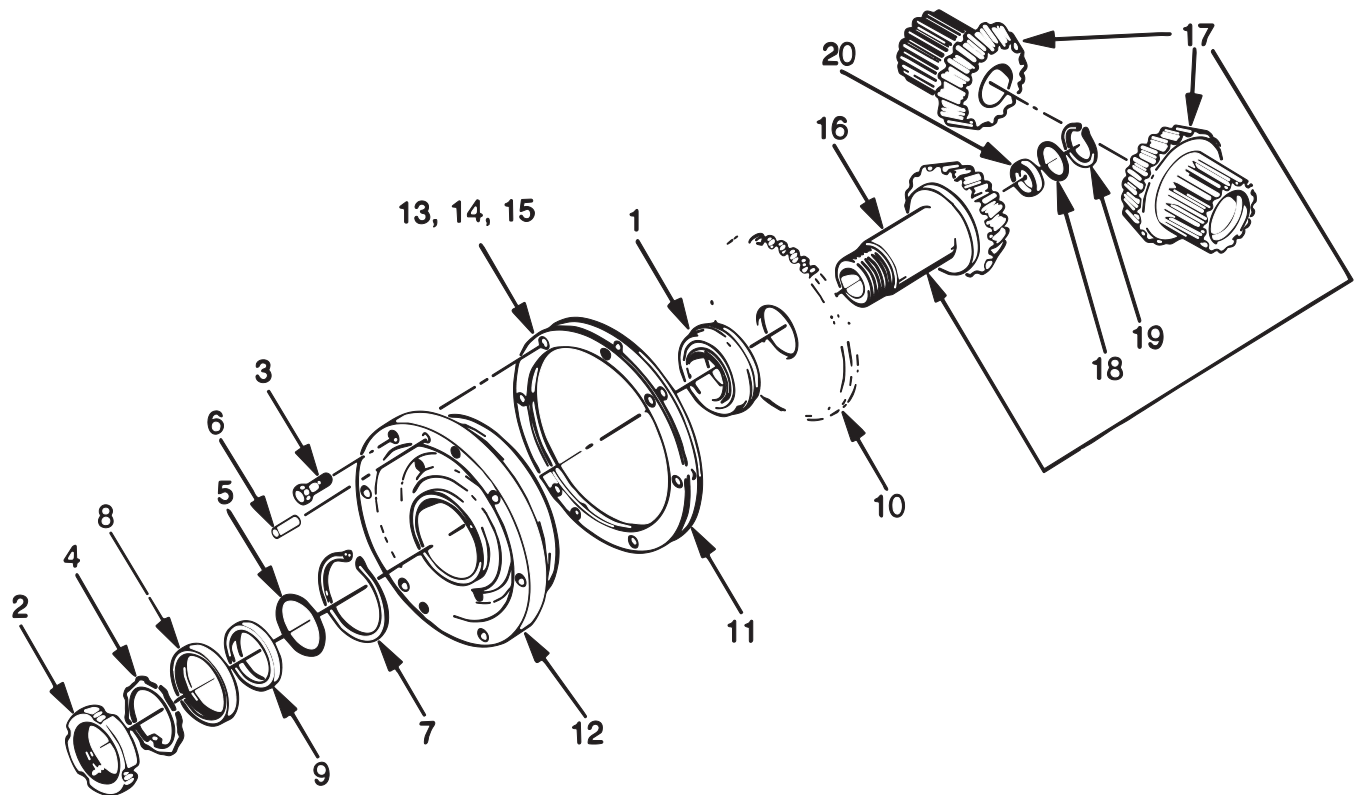
**PARTS REQUIRED FOR LATCHING RELAY CIRCUIT
MUST BE OBTAINED THROUGH THE LOCAL CATER-
PILLAR DEALER**

NOTE: The latching relay circuit described below must be fabricated by the installing dealer and is NOT furnished with the winch. The latching relay circuit provides protection for the control module circuitry from a very short duration, high voltage surge that occurs immediately after energizing the starter motor. This circuit is not necessary when using the current control module, 102501, which has additional surge protection circuitry.

- Install the relay [1] to the console structure in a position that will not interfere with the control linkage and be near the control module for convenient wire installation.
- Install the fuse holder and fuse [5 & 6] into the tractor main fuse panel that will receive power from the main relay. The control circuit must receive power only when the key switch is on. Do not power the control circuit directly from the battery in a "hot all the time" condition.
- Install the switch [4] into the console, next to the horn switch. Remove the horn symbol from the button of the new switch and engrave a "WINCH" symbol or word in its place.
- Assemble the harness wires with plugs and receptacles [2, 3, 7 & 8] as shown in the illustration.

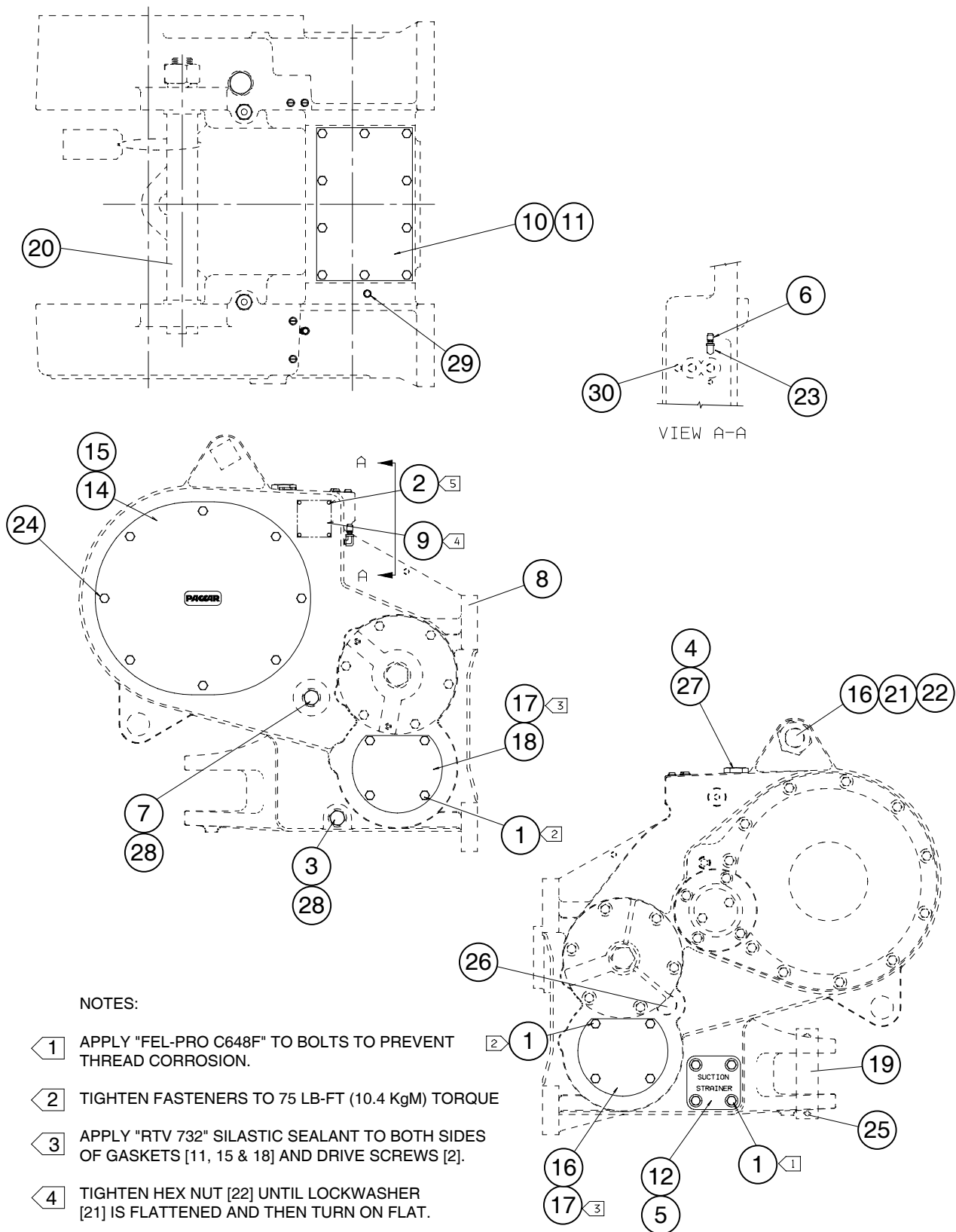
ITEM	PART NO.	DESCRIPTION	QTY.
1	3E-5239	RELAY	1
2	102-8807	PLUG	2
3	102-8802	RECEPTACLE	2
4	3T-2357	SWITCH	1
5	4K-5122	FUSE HOLDER	1
6	3K-8782	FUSE HOLDER	1
7	8T-8729	PIN	4
8	8T-8730	SOCKET	4
-	APPROXIMATELY 12 FT. (4 M) RED, 18 GA. ELECTRIC WIRE		1
-	APPROXIMATELY 12 FT. (4) BLACK, 18 GA. ELECTRIC WIRE		1
-	APPROXIMATELY 2 FT. (.6 M) ORANGE, 18 GA. ELECRIC WIRE		1
-	CRIMP-ON RING AND SPADE WIRE TERMINALS AS REQUIRED		AR

**MODEL 50B
BEVEL GEAR GROUP
D5M & D6M**



ITEM	PART NO.	DESCRIPTION	QTY.
1	70077	BEARING ASSEMBLY	1
2	24816	BEARING LOCKNUT	1
3	22697	CAPSCREW, HEX HEAD (1/2 - 13 X 1)	6
4	11418	BEARING LOCKWASHER	1
5	74992	O-RING	1
6	10318	DOWEL PIN	1
7	70163	RETAINING RING	1
8	70168	OIL SEAL	1
9	70382	SEAL SPACER SLEEVE	1
10	69947	PUMP DRIVE PINION	1
11	69946	SHIM GASKET	1
12	69961	BEVEL PINION CARRIER	1
13	69945	SHIM .005 in. (.13 mm)	2-AR
14	69827	SHIM .007 in. (.18 mm)	2-AR
15	69826	SHIM .020 in. (.51 mm)	2-AR
16	70354	BEVEL PINION - 18T STANDARD SPEED - 3 SHAFT	1
	70355	BEVEL PINION - 14T SLOW SPEED - 4 SHAFT	1
17	29072	BEVEL GEAR SET - 18/38T STD. SPD. - 2 BVL.GRS. 1 BVL. PN.	1
	29073	BEVEL GEAR SET - 14/39T SLO. SPD. - 2 BVL.GRS. 1 BVL. PN.	1
18	70133	O-RING	1
19	70161	RETAINING RING	1
20	70357	PLUG, BEVEL PINION	1

MODEL 50B
WINCH CASE & COVERS
D5M & D6M



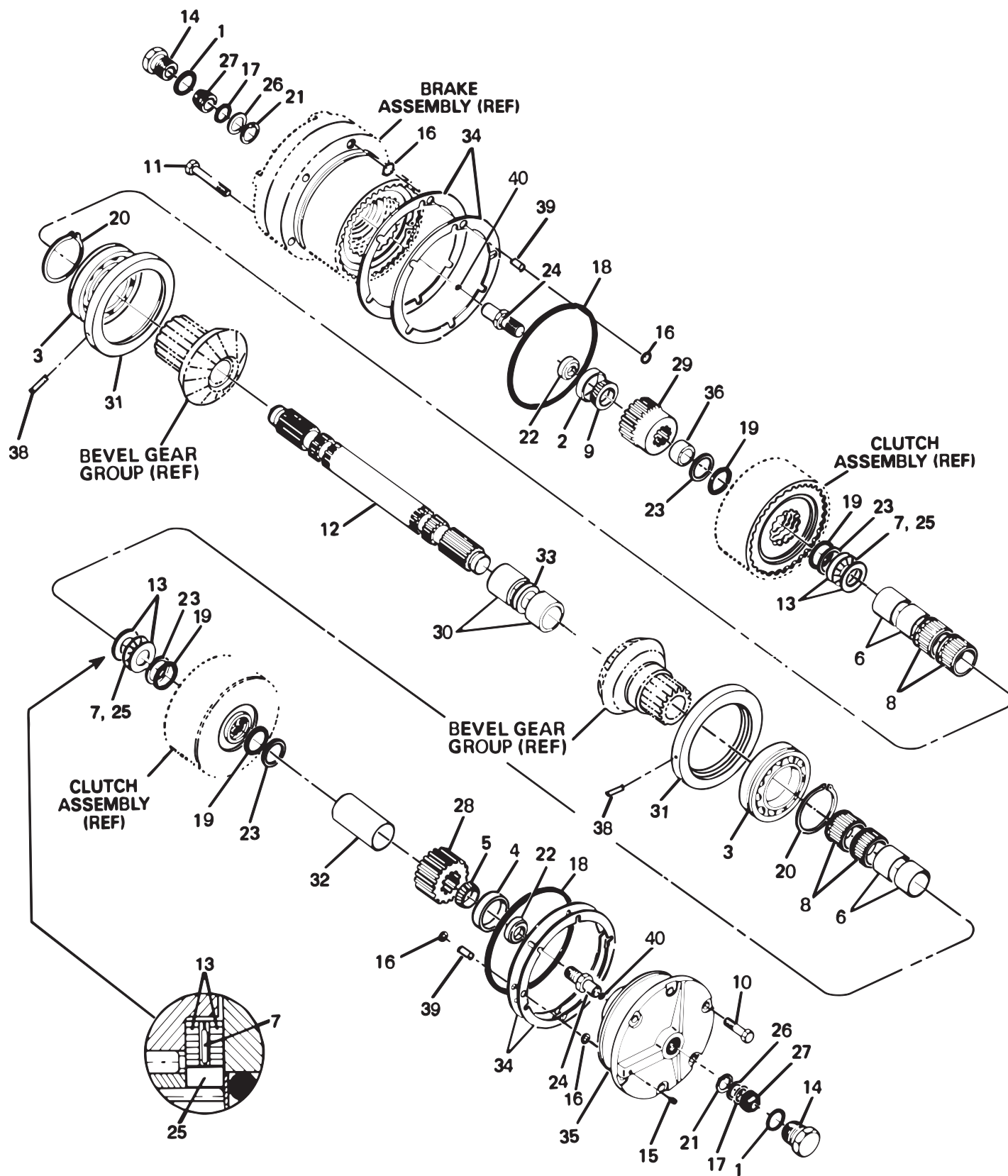
**MODEL 50B
WINCH CASE & COVERS
D5M & D6M**

ITEM	PART NO.	DESCRIPTION	QTY.
1	22697	CAPSCREW, HEX HEAD (1/2-13 X 1)	12
2	70053	DRIVE SCREW	4
3	70118	PLUG, DRAIN (MAY BE SUBSTITUTED FOR ITEM 7)	1
4	29825	PLUG, OIL FILL (INCLUDES ITEM 27)	1
5	22586	O-RING **	2
6	11106	VENT PLUG	1
7	70193	SIGHT GAUGE (INCLUDES ITEM 28)	1
8	27752	WINCH CASE - STANDARD PTO	1
9	100268	SERIAL NUMBER DATA PLATE	1
10	27805	COVER, TOP ACCESS	1
11	27806	GASKET	1
12	70305	STRAINER COVER	1
14	69951	COVER, SIDE ACCESS	1
15	69950	GASKET	1
16	28772	TIE BOLT	1
17	27807	COVER, LOWER ACCESS	2
18	27808	GASKET	2
19	36618	DRAW BAR PIN	1
20	27804	SPACER TUBE	1
21	27666	LOCKWASHER (1 3/4)	1
22	27655	NUT, HEX HEAD (1 3/4 NC)	1
23	13708	ELBOW	2
24	27745	CAPSCREW, HEX HEAD (1/2-13 X 1) SS*	15
25	70148	COTTER PIN (3/8 X 3 IN.)	2
26	70191	EXPANSION PLUG - 3 SHAFT ONLY	1
27	31608	O-RING - FOR OIL FILL PLUG	1
28	31607	O-RING - FOR OIL DRAIN & LEVEL PLUG	2
29	23377	PLUG (3/8 NPT SQ HD)	1
30	18009	PLUG (1/4 NPT SQ HD)	1

*SS = SELF-SEALING MATERIAL PREAPPLIED TO THREADS

** = EARLY COVERS USE ONE O-RING, 22586

MODEL 50B
CLUTCH SHAFT GROUP
D5M & D6M

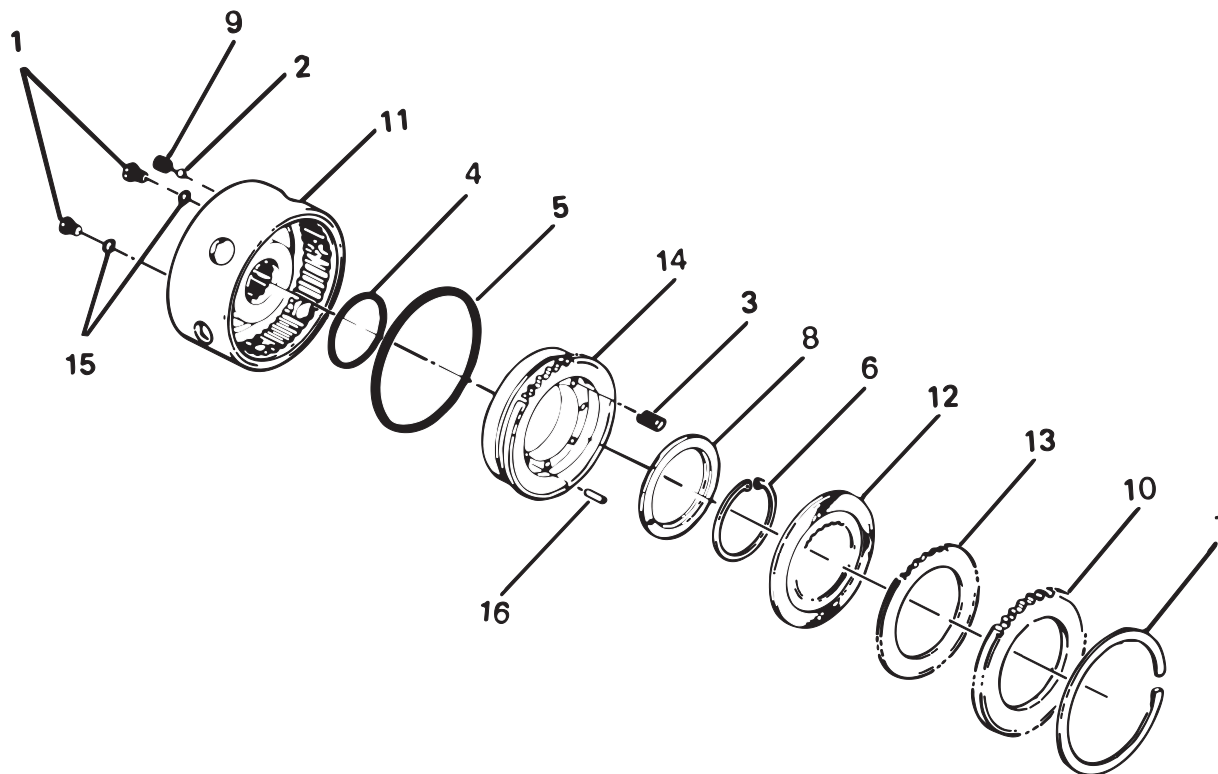


MODEL 50B
CLUTCH SHAFT GROUP
D5M & D6M

ITEM	PART NO.	DESCRIPTION	QTY.
1	31608	O-RING (PART OF ITEM 14)	2
2	18049	BEARING CUP	1
3	70073	BALL BEARING - STD PTO	2
4	70075	BEARING CUP	1
5	70076	BEARING CONE	1
6	70083	NEEDLE BEARING - INNER RACE	4
7	11891	THRUST BEARING	2
8	70084	NEEDLE BEARING	4
9	18048	BEARING CONE	1
10	22697	CAPSCREW, HEX HEAD (1/2 - 13 X 1)	6
11	24710	CAPSCREW, HEX HEAD (1/2 - 13 X 3)	6
12	69997	CLUTCH SHAFT - 4 SHAFT	1
	69597	CLUTCH SHAFT - 3 SHAFT	1
13	11897	THRUST BEARING RACE	4
14	29825	PLUG (CONTAINS ITEM 1)	2
15	70120	PLUG (1/4 NPT EARLY)	1
	26686	PLUG, -6 ORB HEX (CURRENT)	1
16	72097	O-RING	8
17	18170	O-RING	2
18	21833	O-RING	2
19	25023	O-RING	4
20	70158	RETAINING RING	2
21	70160	RETAINING RING	2
22	70361	BEARING RETAINER	2
23	25024	BACK-UP RING	4
24	101198	ROTARY SEAL SHAFT	2
25	70379	THRUST BEARING SPACER	2
26	70333	BACK-UP WASHER	2
27	70334	ROTARY SEAL	2
28	69991	PINION GEAR - 18 TEETH - 4 SHAFT	1
	70291	PINION GEAR - 15 TEETH - 3 SHAFT	1
29	70292	BRAKE HUB	1
30	69690	BEVEL GEAR SPACER	2
31	70376	BEARING CARRIER	2
32	69983	PINION SPACER - 4 SHAFT	1
	69045	PINION SPACER - 3 SHAFT	1
33	70247	SHIM SET	1
34	27844	SHIM, .005 in. (.13 mm)	2-AR
	27845	SHIM, .007 in. (.18 mm)	2-AR
	27846	SHIM, .020 in. (.51 mm)	2-AR
35	100971	CLUTCH SHAFT BEARING CARRIER - 4 SHAFT	1
	100972	CLUTCH SHAFT BEARING CARRIER - 3 SHAFT	1
36	69045	BRAKE HUB SPACER	1
38	75267	ROLLPIN	2
39	70358	SLEEVE	4
40	100851	ORIFICE PLUG	2

AR = AS REQUIRED

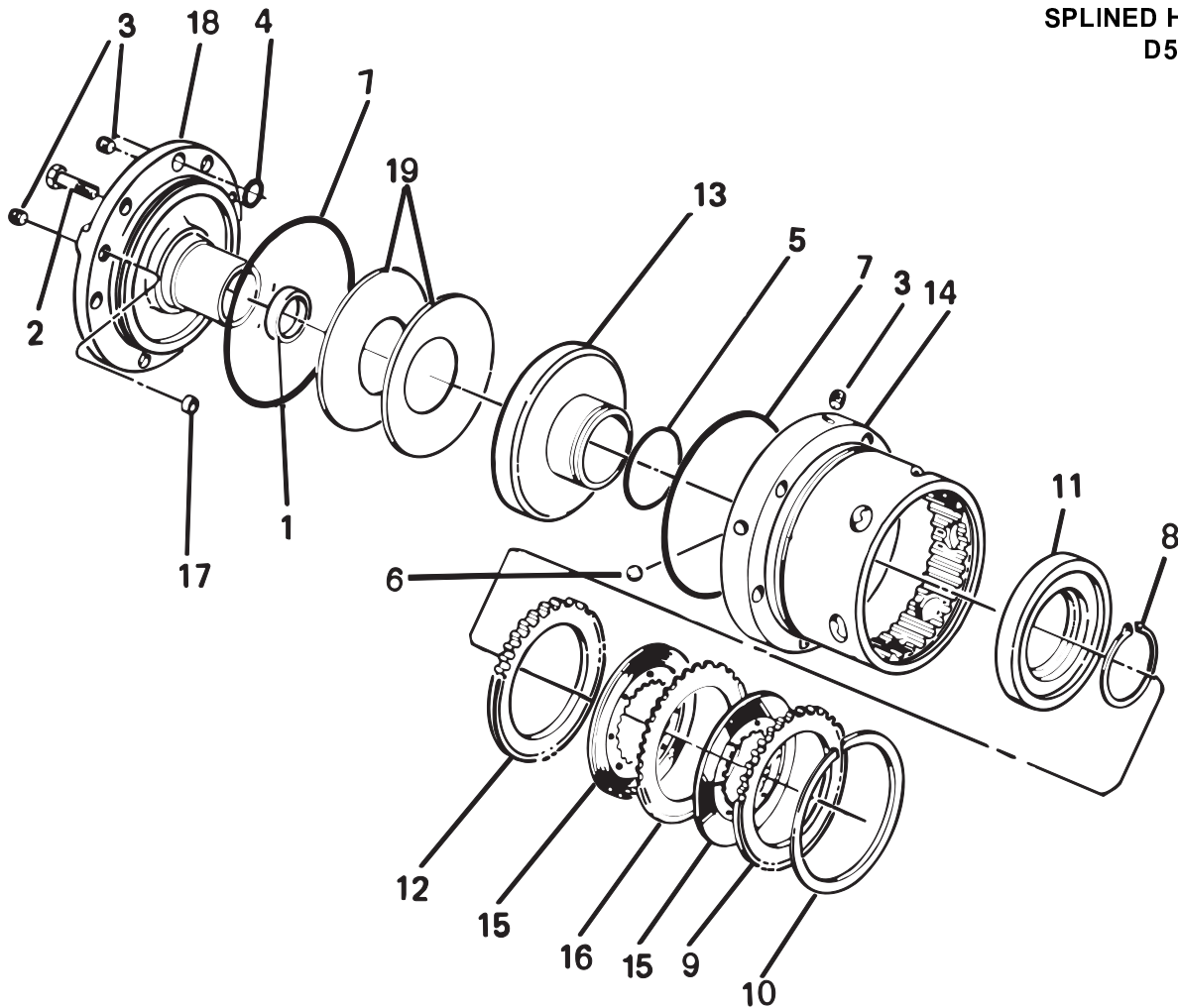
**MODEL 50B
CLUTCH ASSEMBLY
SPLINED HOUSING
D5M & D6M**



ITEM	PART NO.	DESCRIPTION	QTY.
-	81968	CLUTCH ASSEMBLY - INCLUDES 1 - 16	
1	70177	PLUG (-3 ORB)	2
2	70126	STEEL CHECK BALL (.25 in.)	1
3	70130	SPRING	8
4	77367	O-RING	1
5	22357	O-RING	1
6	70170	RETAINING RING	1
7	26147	RETAINING RING	1
8	70328	SPRING RETAINER	1
9	70241	CHECK VALVE SEAT	1
10	26755	PRESSURE PLATE	1
11	28866	CLUTCH HOUSING *	1
12	70636	DISC - FRICTION, BRONZE	5
13	27861	DISC - STEEL .093 in. (2.36 mm)	4
14	70306	CLUTCH PISTON	1
15	70724	O-RING	2
16	70862	PIN	1

* 28866 includes a basic housing 70299 with two (2) steel balls 70126 driven into cross-drilled passages.

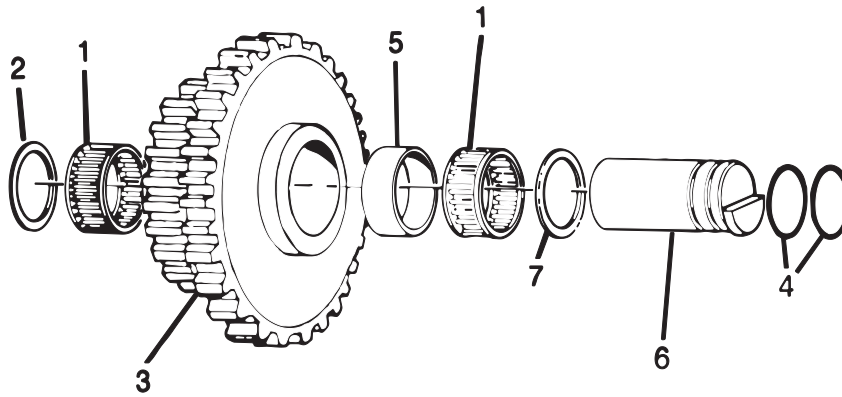
**MODEL 50B
BRAKE ASSEMBLY
SPLINED HOUSING
D5M & D6M**



ITEM	PART NO.	DESCRIPTION	QTY.
-	81960	BRAKE ASSEMBLY, STD - INCLUDES 1 - 20	
1	18049	BEARING CUP	1
2	21961	CAPSCREW, HEX HEAD (3/8 - 16 X 1)	2
3	70120	PLUG, HEX SOCKET (1/4 NPT - EARLY)*	4
	26686	PLUG, HEX HEAD (-6 ORB - CURRENT)*	3
4	22454	O-RING	3
5	10330	O-RING	1
6	70126	STEEL BALL	2
7	22358	O-RING	2
8	69807	RETAINING RING	1
9	26755	PRESSURE PLATE	1
10	26147	RETAINING RING	1
11	69976	PISTON RETAINER	1
12	70293	PRESSURE PLATE - INNER	1
13	69921	BRAKE PISTON	1
14	101885	BRAKE HOUSING - CURRENT (REQUIRES 1 OF ITEM 6)	1
15	70636	DISC - FRICTION - BRONZE	8
16	27861	DISC - STEEL - .093 lin (2.36 MM)	7
17	27843	INSERT - NOT USED IN CURRENT HOUSING	1
18	100973	BRAKE CARRIER	1
19	70255	BRAKE SPRING	2

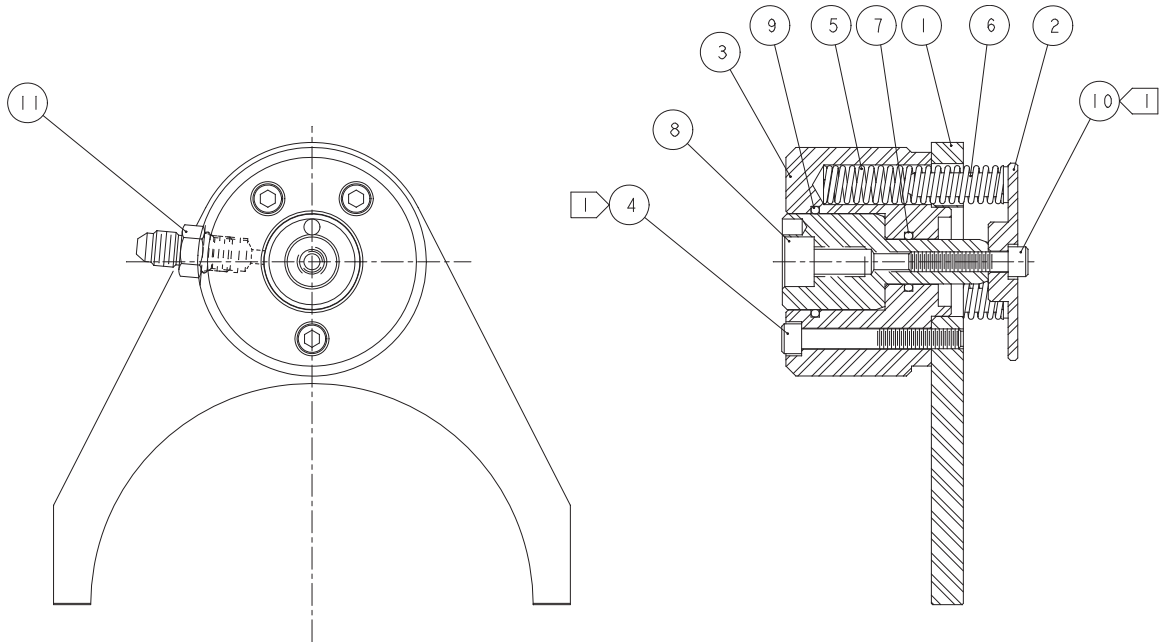
* Current brake housing may be visually distinguished from the early design by locating the -6 ORB plug at the "B" brake pressure port. The early design used a hex-socket head, 1/4 NPT plug.

MODEL 50B
FOURTH SHAFT GROUP
D5M & D6M



ITEM	PART NO.	DESCRIPTION	QTY.
1	70648	ROLLER BEARING	2
2	24581	THRUST WASHER - .062 in. (1.58 mm)	1
3	28925	CLUSTER GEAR 37/17 TEETH	1
4	13838	O-RING	2
5	28926	SPACER	1
6	69673	COUNTERSHAFT PIN	1
7	28924	THRUST WASHER - .217 in. (5.5 mm)	1

**MODEL 50B
FREESPOOL CYLINDER ASSEMBLY
D5M & D6M**

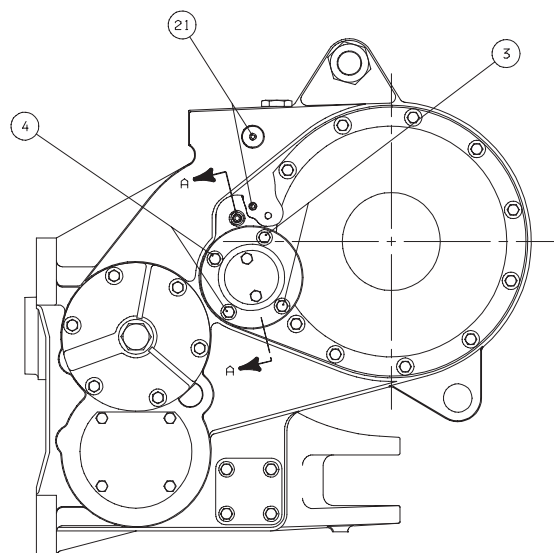
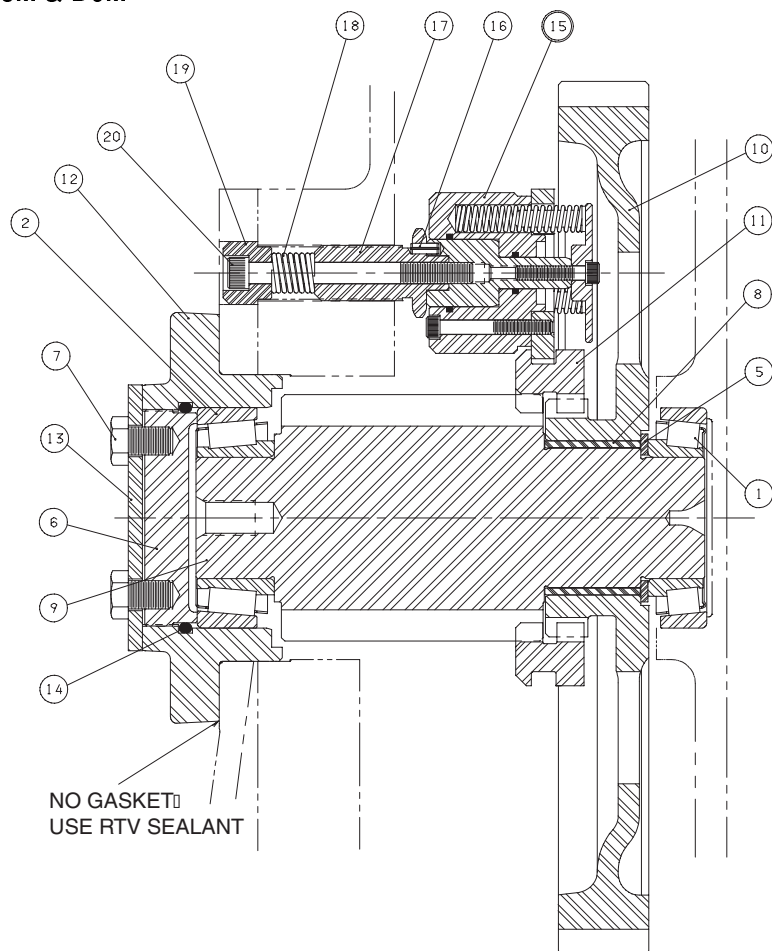


NOTE:

- 1 APPLY LOCTITE 242 TO CLEAN DRY THREADS OF ITEMS 4 & 10 AND TIGHTEN TO 13 LB•FT (18 N•m)

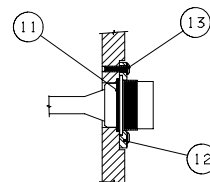
ITEM	PART NO.	DESCRIPTION	QTY.
-	82320	FREESPOOL CYLINDER ASSEMBLY	1
1	100804	YOKE	1
2	100805	CYLINDER RETAINER	1
3	100806	FREESPOOL CYLINDER	1
4	100823	CAPSCREW, SOC. HEAD (1/4 - 20 X 2)	1
5	100807	SPRING	3
6	100808	SPRING GUIDE	3
7	72097	O-RING	1
8	100809	CYLINDER ROD	1
9	23633	O-RING	1
10	101511	CAPSCREW, SOC. HEAD (1/4 - 20 X 1 1/4)	1
11	25864	ADAPTER	1

**MODEL 50B
IDLER SHAFT GROUP
WITH FREESPOOL
D5M & D6M**



ITEM	PART NO.	DESCRIPTION	QTY.
1	69013	BEARING ASSEMBLY	1
2	69014	BEARING ASSEMBLY	1
3	104174	CAPSCREW, HEX HEAD (1/2 - 13 X 1 1/4 G8 Z)	2
4	29855	CAPSCREW, HEX HEAD (1/2 - 13 X 2 G8 Z)	2
5	11892	THRUST WASHER	1
6	69592	ADJUSTER	1
7	103250	CAPSCREW (1/2 - 13 X 3/4 G8 Z)	2
8	70349	BUSHING	1
9	69984	SECOND REDUCTION PINION	1
10	101055	FIRST REDUCTION GEAR	1
11	69979	CLUTCH COLLAR	1
12	69974	CARRIER	1
13	69655	LOCK PLATE	1
14	25880	O-RING	1
15	82320	FREESPOOL CYLINDER ASSEMBLY - (REFER TO PAGE 15)	1
16	12026	ROLL PIN	1
17	100810	CYLINDER STUD	1
18	24916	SPRING	1
19	100812	BOLT RETAINER	1
20	102309	CAPSCREW, SOC. HEAD (3/8 - 16 X 4 1/4)	1
21	25915	SET SCREW, SOC. HEAD (1/2 - 20 X 1)	2

Note: No gasket used under carrier [12]. Use RTV silicone sealant.



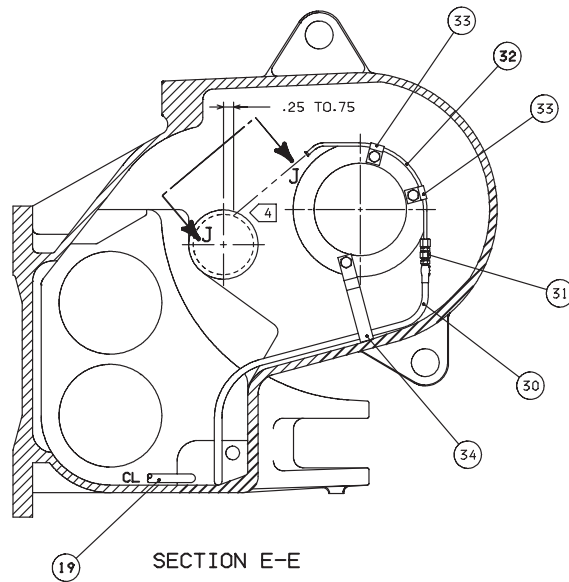
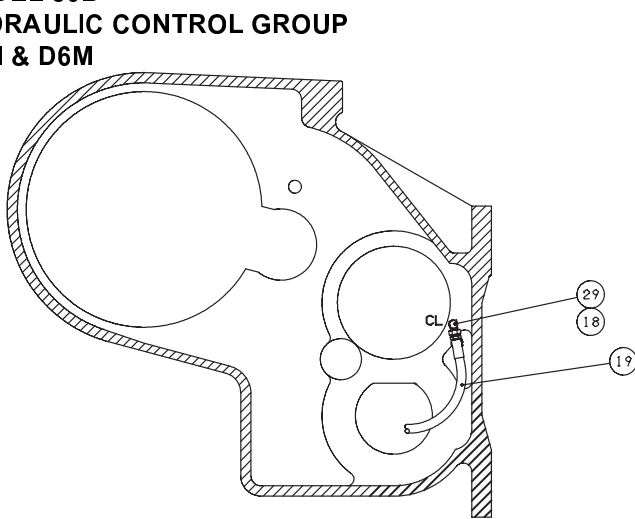
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ELBOW POINTED DOWN

SECTION F-F

- 17

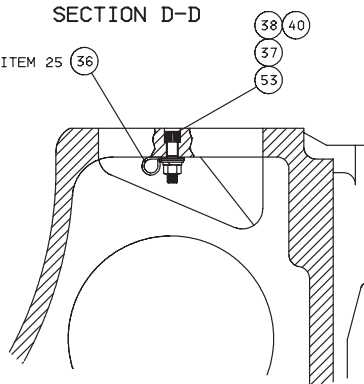
MODEL 50B
HYDRAULIC CONTROL GROUP
D5M & D6M



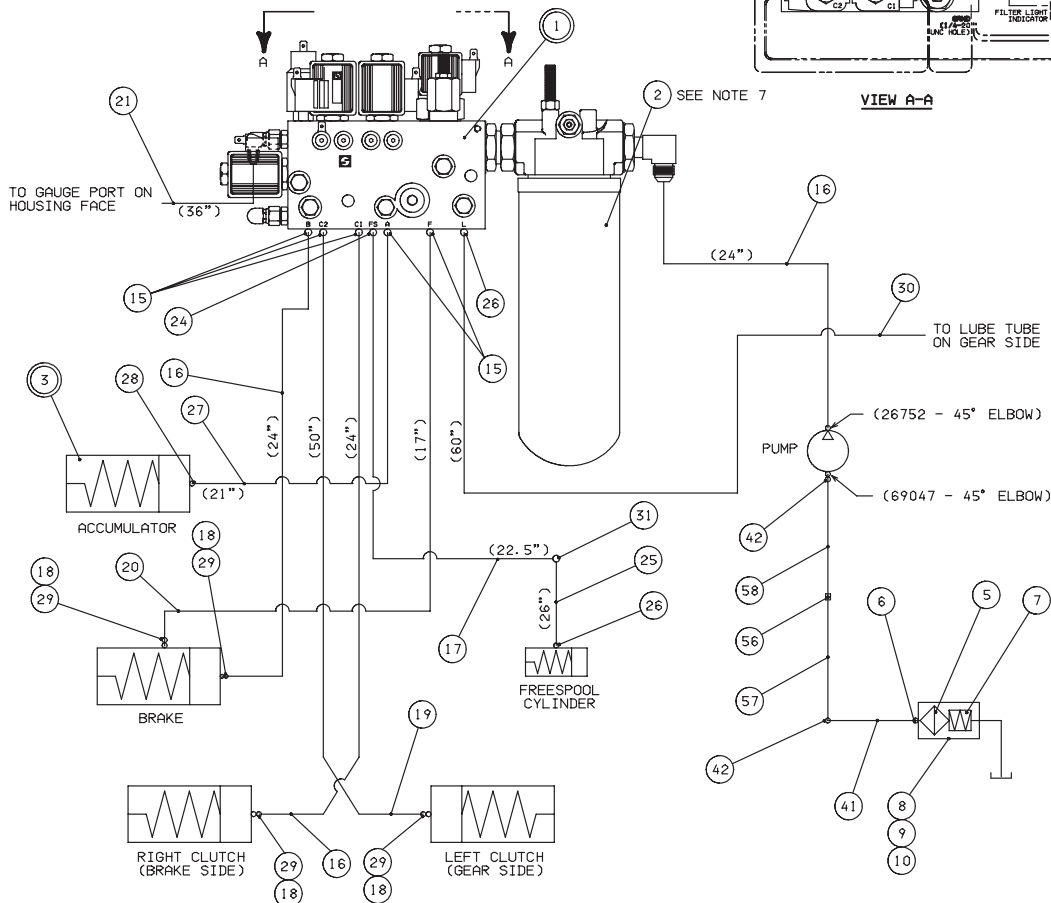
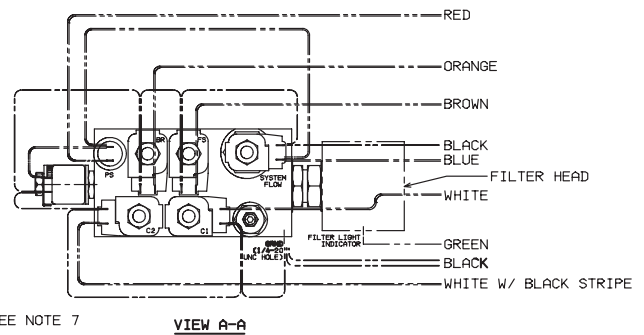
SECTION D-D

CLIP TO FS HOSE, ITEM 25
 ORIENT AS SHOWN

VIEW G-G



SECTION E-E

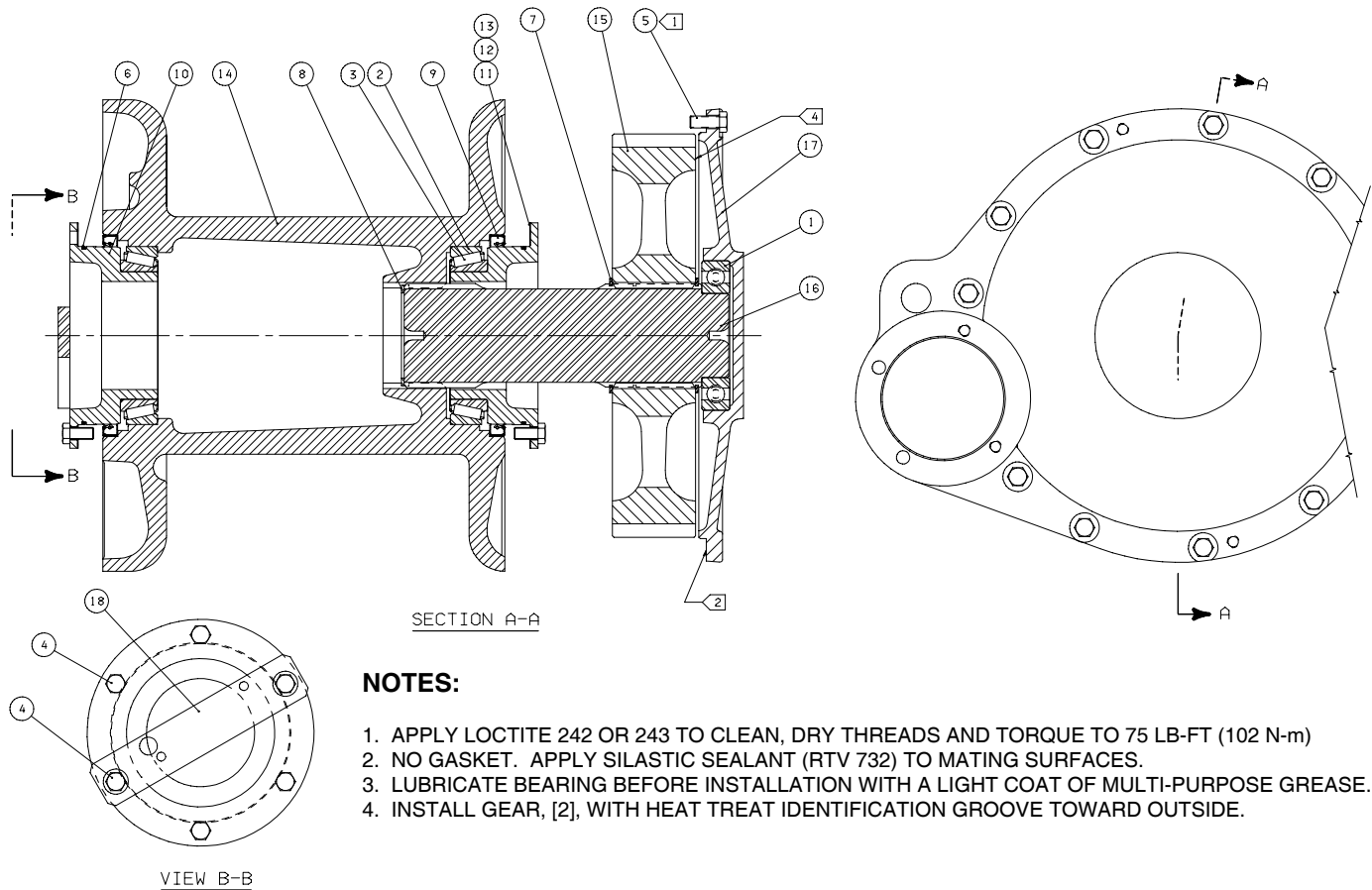


MODEL 50B
HYDRAULIC CONTROL GROUP
D5M & D6M

ITEM	PART NO.	DESCRIPTION	QTY.
1	82564	CONTROL VALVE SUB-ASSEMBLY ** (REFER TO PAGE 21)	1
2	100466	FILTER ELEMENT	1
3	81959	ACCUMULATOR ASSEMBLY (REFER TO PAGE 22)	1
4	82505	WIRING HARNESS *	1
5	70189	STRAINER	1
6	69051	CONNECTOR	1
7	26005	COMPRESSION SPRING	1
8	29020	STRAINER SHIELD	1
9	29021	SEAL RING, .25 in. (6.4 mm)	1
10	29023	SEAL RING, .06 in. (1.5 mm)	1-2 AR
11	13838	O-RING	1
12	100784	RETAINER FLANGE	1
13	100794	MACHINE SCREW, BUTTON SOC. HEAD (#10 - 3/4)	3
14	100800	CAPSCREW, HEX HEAD (3/8 - 16 X 1 1/2 G5)	2
15	69605	ELBOW, 45° ORB -8	5
16	70272	HOSE, -8, 24 in. (610 mm) B, F, CR	3
17	25749	HOSE, -4, 22.5 in. (572 mm) F/S	1
18	70106	ADAPTER 1/4 NPT -8	4
19	27989	HOSE, -8, 50 in. (1270 mm) CL	1
20	27979	HOSE, -8, 17 in. (432 mm) PUMP TO FILTER	1
21	40242	HOSE, -4, 36 in. (914 mm) GAUGE	1
22	26140	ELBOW, 90° -4, GAUGE PORT	1
23	21219	ADAPTER, -4	1
24	100265	ELBOW, 45° -4	1
25	100077	HOSE, -4, 26 in. (660 mm) F/S	1
26	25864	ADAPTER, ORB -4	2
27	27980	HOSE, -8, 21 in. (533 mm) A	1
28	70190	ELBOW, 90° ORB -8	1
29	29046	ELBOW, 90° -8	4
30	25893	HOSE, -4, 60 in. (1524 mm) LUBRICATION	1
31	25891	UNION, -4	2
32	100803	LUBRICATION TUBE	1
33	68994	CLAMP	2
34	68995	CLAMP	1
35	69782	CAPSCREW, HEX HEAD (3/8 - 16 X 1 1/4 G5)	3
36	100814	HOSE CLAMP	1
37	11780	NUT, HEX (3/8 - 16)	3
38	13920	WASHER (3/8)	3
39	PA4K8864	HOSE CLAMP	1
40	18003	LOCKWASHER (3/8)	2
41	27981	SUCTION HOSE	1
42	30997	CLAMP	2
43	100267	QUICK DISCONNECT, GAUGE PORT	1
44	100266	SLEEVE, GAUGE PORT	1
45	13708	ELBOW, 90° (1/8 NPT) VENT PORT, INSIDE	1
46	27848	ACCUMULATOR BRACKET	1
47	27847	MOUNTING ANGLE	1
48	27849	STUD (1/2 - 13 X 2 3/4)	2
49	11788	NUT, HEX (1/2 - 13)	2
50	11026	LOCKWASHER (1/2)	2
51	11766	CAPSCREW, HEX HEAD (5/16 - 18 X 7/8 G5)	2
52	11024	LOCKWASHER (5/16)	2
53	13544	CAPSCREW, SOC. HEAD (3/8 - 16 X 1 1/2)	1
54	22727	CAPSCREW, HEX HEAD (1/4 - 20 X 1/2)	1
55	11015	LOCKWASHER (1/4)	1
56	27990	UNION, SUCTION TUBE	1
57	27978	SUCTION TUBE, LOWER	1
58	27977	SUCTION TUBE, UPPER	1

AR - AS REQUIRED

**MODEL 50B
CABLE DRUM GROUP
D5M & D6M**



ITEM	PART NO.	DESCRIPTION	QTY.
1	70070	BALL BEARING	1
2	70078	BEARING CUP	2
3	70079	BEARING CONE	2
4	27745	CAPSCREW, HEX HEAD (1/2 - 13 X 1 W/SS)	12
5	13938	CAPSCREW, HEX HEAD (1/2 - 13 X 1 1/4)	11
6	70140	O-RING	2
7	70513	RETAINING RING, EXTERNAL	2
8	70164	RETAINING RING, INTERNAL	1
9	70167	SEAL	2
10	27311	BEARING CARRIER	2
11	70264	SHIM SET (1 pair each, .005, .007, .020 in. (.13, .18, .51 mm))	1-2 AR
14	69998	CABLE DRUM	1
15	68863	SECOND REDUCTION GEAR	1
16	69988	SECOND REDUCTION GEAR SHAFT	1
17	28954	BEARING CARRIER - COVER	1
18	100799	VALVE MOUNTING PLATE	1

AR - AS REQUIRED

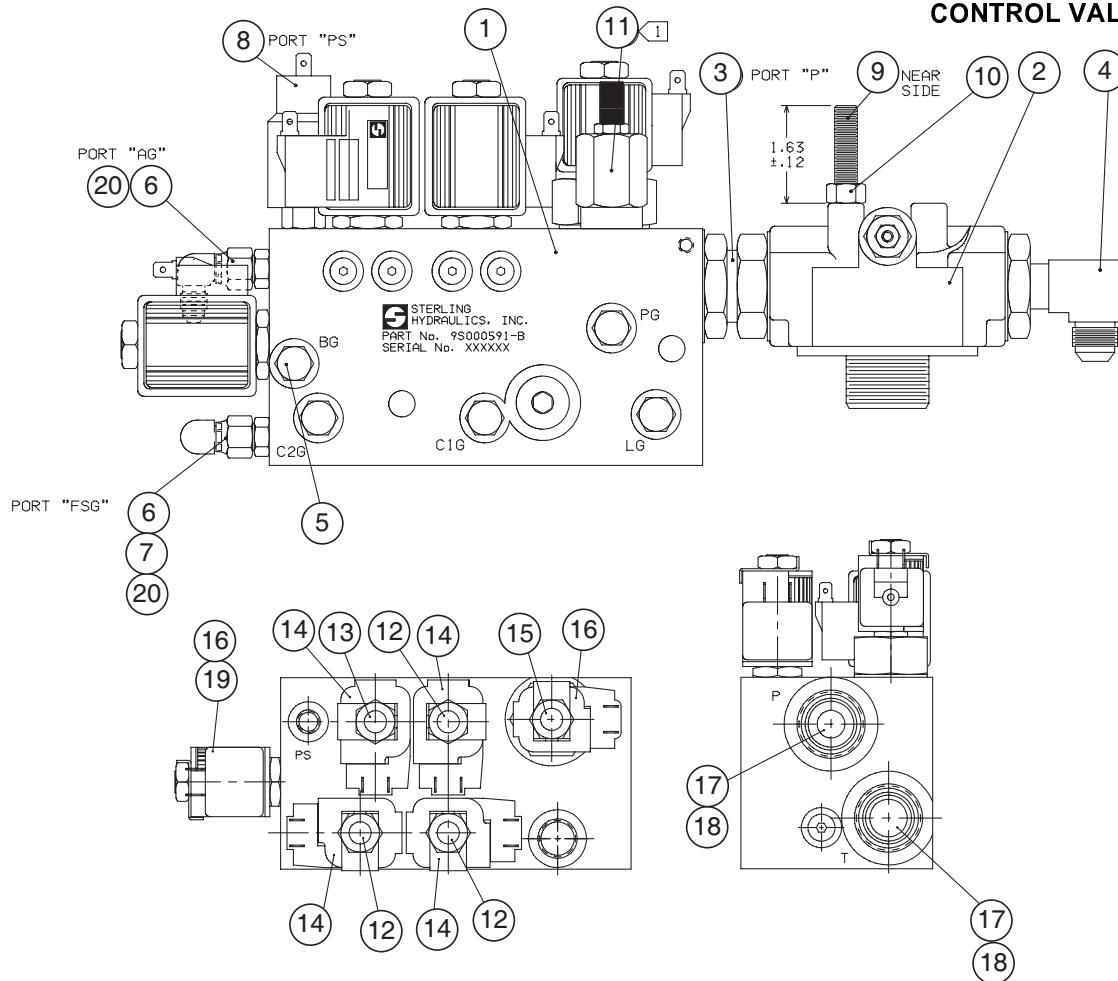
NOT SHOWN: CABLE FERRULE

3/4 in. (19 mm) WIRE ROPE

7/8 in. (22 mm) WIRE ROPE

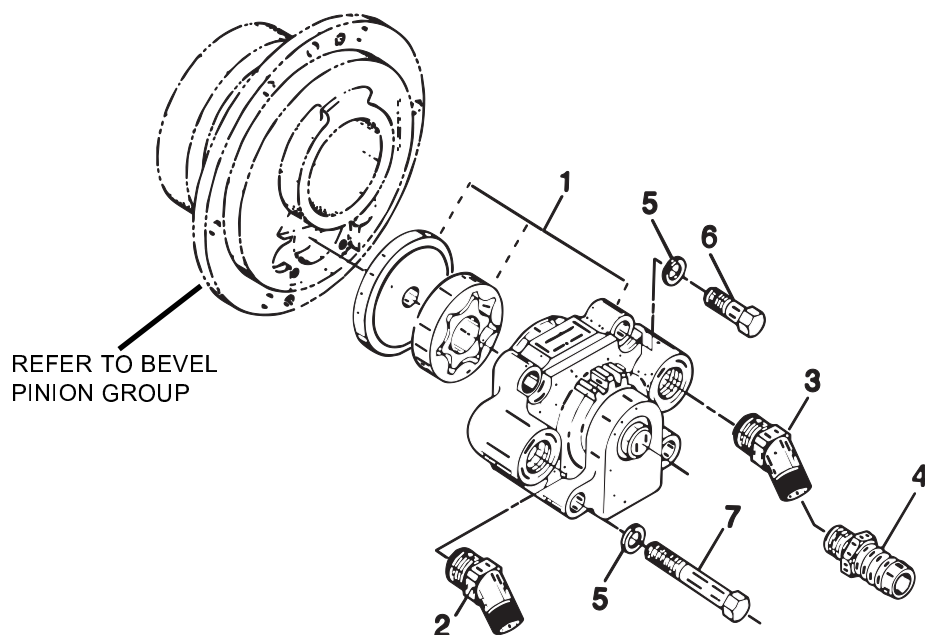
1 in. (25 mm) WIRE ROPE

**MODEL 50B
CONTROL VALVE ASSEMBLY
D5M & D6M**



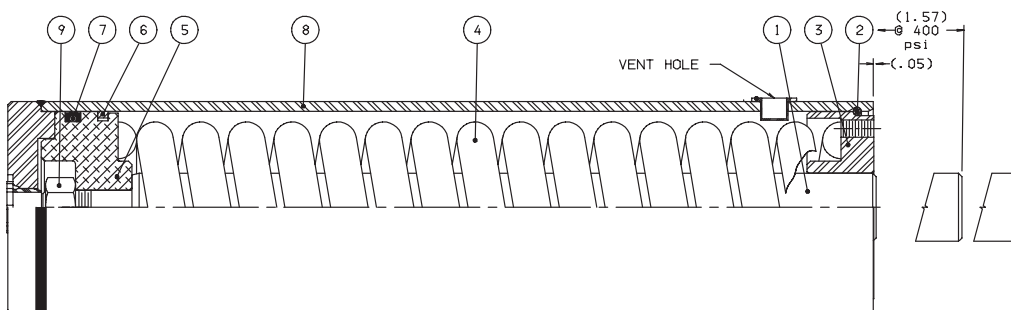
ITEM	PART NO.	DESCRIPTION	QTY.
1	82506	CONTROL VALVE - INCLUDES 12-19 & HOUSING	1
2	27390	FILTER HEAD	1
3	100797	UNION	1
4	100798	ELBOW, 90° -8	1
5	25663	PLUG, HEX HEAD, -4 ORB	5
6	25864	ADAPTER, -4 ORB	2
7	70182	CAP, -4	1
8	100544	PRESSURE SWITCH	1
9	100815	STUD (3/8 - 16 X)	1
10	11780	NUT, HEX (3/8 - 16)	2
11	100763	RELIEF VALVE	1
12	100757	SOLENOID VALVE, CLUTCH & F/S - W/O COIL	3
	82297	SEAL KIT	-
13	100759	PROPORTIONAL BRAKE SOLENOID VALVE - W/O COIL	1
	82297	SEAL KIT	-
14	100760	COIL FOR 12 & 13	4
15	100761	MAIN PRES. SOLENOID VALVE - W/O COIL	1
	82298	SEAL KIT	-
16	100762	COIL FOR 15 & 19	2
17	100765	CHECK VALVE	2
	82300	SEAL KIT	2
18	100766	CHECK VALVE RETAINER	2
19	101582	SOLENOID VALVE, ACCUMULATOR. ISOLATOR - W/O COIL	1
20	26410	ELBOW, 90° -4	2
21	82564	CONTROL VALVE ASSEMBLY- ALL ITEMS ABOVE	1

**MODEL 50B
PUMP GROUP
D5M & D6M**



ITEM	PART NO.	DESCRIPTION	QTY.
1	68772	PUMP ASSEMBLY	1
2	26752	ELBOW, 45 -8, PRESSURE SIDE	1
3	27991	ELBOW, 45 SUCTION	1
4	27997	CAPSCREW, HEX HEAD (1/4 - 20 X 3 G8)	2
5	11015	LOCKWASHER (1/4)	4
6	27996	CAPSCREW, HEX HEAD (1/4 - 20 X 1 1/2 G8)	2

ACCUMULATOR ASSEMBLY - 81959

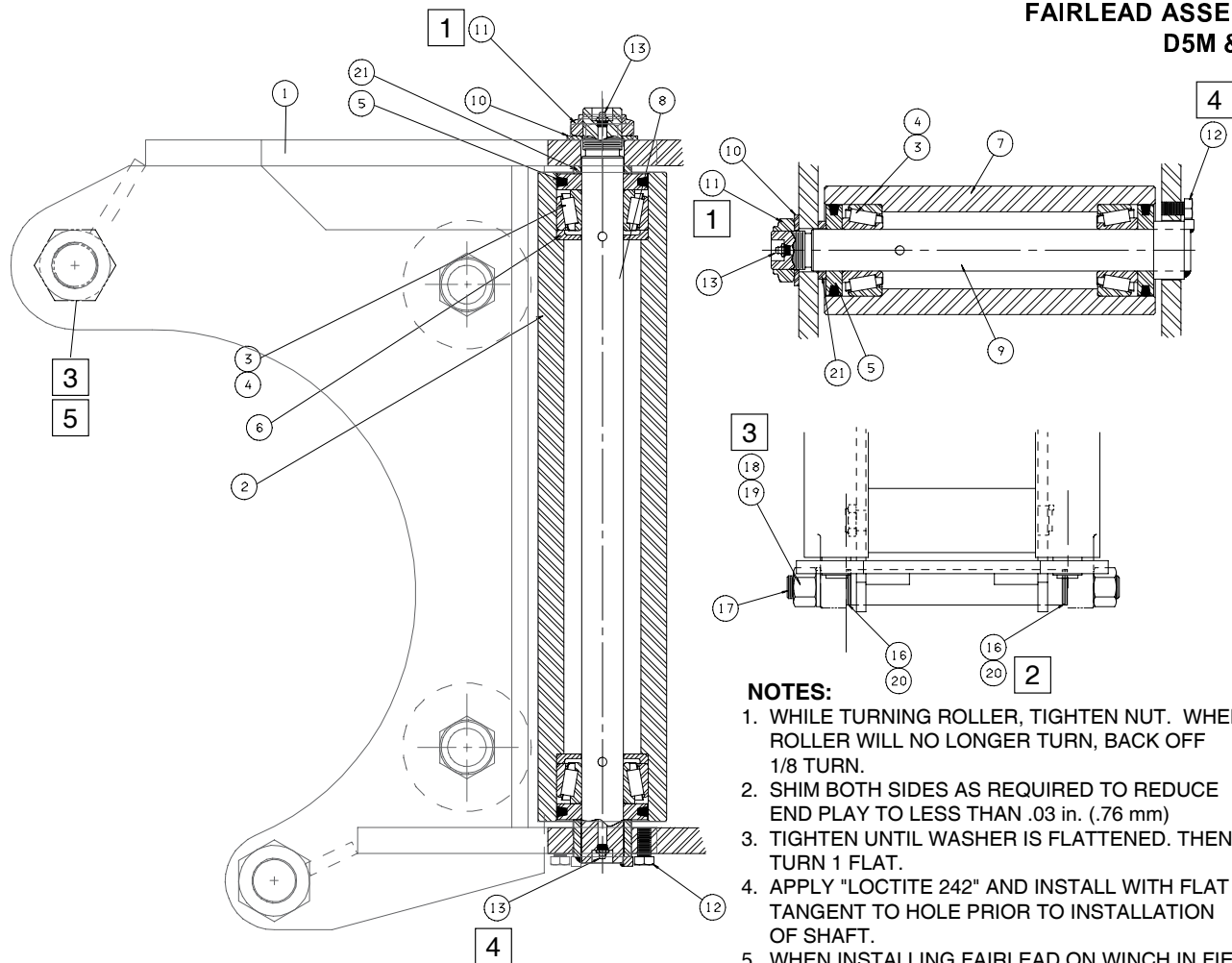


WARNING - DANGER

- 2,000 lb. (900KG) SPRING PRELOAD -
USE PRESS FOR DISASSEMBLY PER SERVICE
INSTRUCTIONS. SEVERE PERSONAL INJURY
OR DEATH MAY RESULT IF ROD GUIDE
REMOVAL IS ATTEMPTED WITHOUT A PRESS.

ITEM	PART NO.	DESCRIPTION	QTY.
1	NSS	ROD	1
2	27836	RETAINING RING	1
3	NSS	ROD GUIDE	1
4	NSS	SPRING	1
5	NSS	PISTON	1
6	27833	CAST IRON PISTON RING	1
7	27832	SEAL	1
8	NSS	BARREL ASSEMBLY	1
9	22702	NUT	1
-	62131	SEAL KIT (CONTAINS 2, 6 & 7)	

**MODEL 50B
FAIRLEAD ASSEMBLY
D5M & D6M**



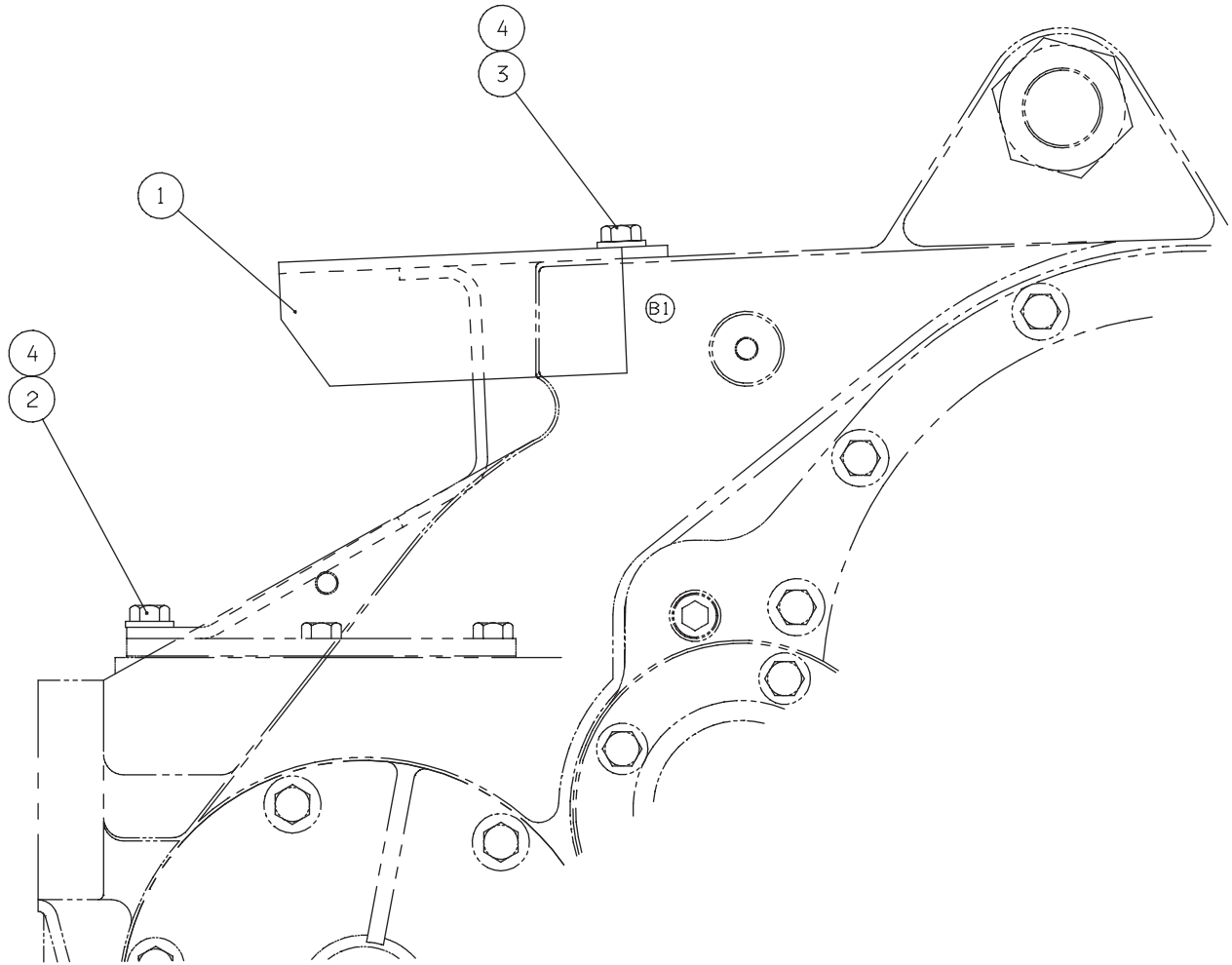
NOTES:

1. WHILE TURNING ROLLER, TIGHTEN NUT. WHEN ROLLER WILL NO LONGER TURN, BACK OFF 1/8 TURN.
2. SHIM BOTH SIDES AS REQUIRED TO REDUCE END PLAY TO LESS THAN .03 in. (.76 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 RE-USE UPPER TIE BOLT, [17], LOCKWASHER, [18], AND NUT, [19].

ITEM	PART NO.	DESCRIPTION	QUANTITY	
			3 ROLLER	4 ROLLER
	81970	3 ROLLER FAIRLEAD ASSEMBLY		
	81971	4 ROLLER FAIRLEAD ASSEMBLY		
1	27817	FAIRLEAD FRAME	1	1
2	36788	ROLLER - VERTICAL	2	2
3	70833	BEARING CONE	6	8
4	70834	BEARING CUP	6	8
5	70864	DUST GUARD ASSEMBLY	6	8
6	70865	GREASE RETAINER	4	4
7	27886	ROLLER - HORIZONTAL	1	2
8	36797	SHAFT - VERTICAL	2	2
9	27901	SHAFT - HORIZONTAL	1	2
10	70850	WASHER	3	4
11	70863	LOCK NUT	3	4
12	22729	CAPSCREW, HEX HEAD (1/2 - 13 X 3/4)	3	4
13	18047	GREASE FITTING	5	6
16	24912	WASHER - .030 in. (.8 mm)	5	6
17	28772	TIE BOLT	1	1
18	27666	LOCK WASHER (1-3/4)	1	1
19	27655	NUT, HEX (1 1/4 - 5)	1	1
20	25590	SHIM - .125 in. (3.18 mm)	6-AR	6-AR
21	70880	SPACER	3	4
	82751	4th ROLLER KIT, CONTAINS ONE EACH 7, 9, 10, 11, 12, 13, 21 AND TWO EACH 3, 4 & 5	1	-

AR - AS REQUIRED

MODEL 50B
CONTROL CABLE GUARD GROUP
D5M & D6M



ITEM	PART NO.	DESCRIPTION	QTY.
1	100774	CABLE GUARD	1
2	100783	CAPSCREW, HEX HEAD (1/2 - 13 X 1 1/4 SS*)	4
3	22697	CAPSCREW, HEX HEAD (1/2 - 13 X 1)	3
4	27248	WASHER, HARDENED (1/2)	7

* SS - SELF SEALING MATERIAL PREAPPLIED TO THREADS