PARTS & OPERATORS MANUAL

dp WINCH

Pull Ahead !

62AAX2L1A & 62AAX2R1A HYDRAULIC WINCHES

dp MANUFACTURING, INC. 5647 S. 122nd E. Ave. Tulsa Oklahoma 74146 Tel. 918-250-2450 Fax 918-250-0690

Rev. 12/2/97

RELEASE DATE_____SERIAL NUMBER_____

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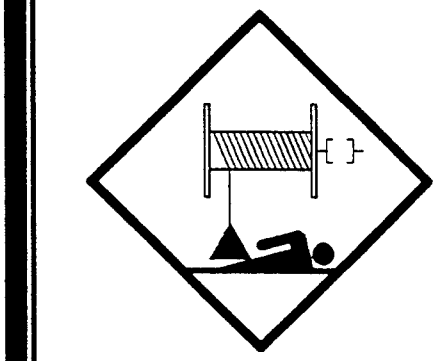
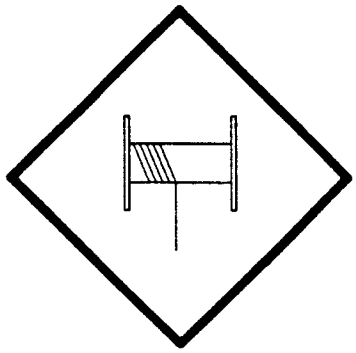


DANGER

DO NOT DISENGAGE
WINCH UNDER LOAD

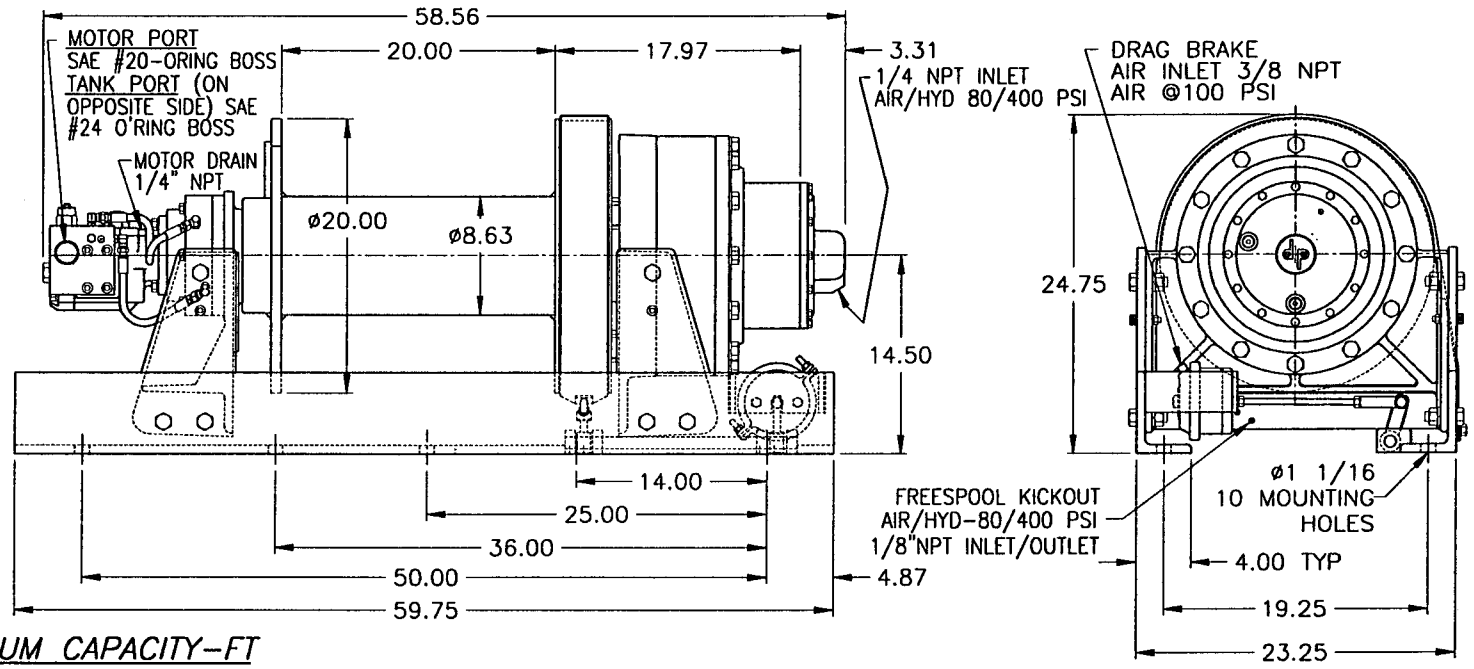


DANGER

THE LAST FIVE
WRAPS OF WIRE ROPE
MUST BE LEFT ON
THE DRUM TO ASSIST
THE WIRE ROPE CLAMP IN
HOLDING THE LOAD

WARNING

WINCHES ARE NOT
TO BE USED FOR
THE LIFTING OR
MOVING OF
PERSONS



DRUM CAPACITY–FT

LAYER	ø7/8 WIRE ROPE	ø1 WIRE ROPE
1	51	45
2	112	100
3	182	164
4	251	238
5	350	✳321
6	✳448	–

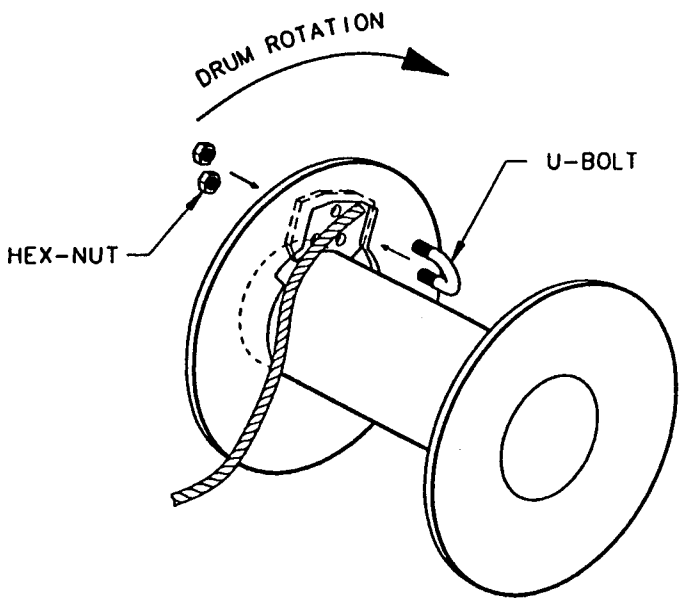
62AAX2L1A WINCH

9/16/97

Drum capacities are in accordance wth SAE J706. Actual capacities are usually up to 10% greater than those shown.
✳Last layer capacity does not meet SAE J706.

WIRE ROPE DIA IN.	LAYER	LOW GEAR		HIGH GEAR		WIRE ROPE DIA IN.	LAYER	LOW GEAR		HIGH GEAR	
		LINE PULL LBS	LINE SPEED FPM	LINE PULL LBS	LINE SPEED FPM			LINE PULL LBS	LINE SPEED FPM	LINE PULL LBS	LINE SPEED FPM
7/8	1	60000	35	9940	225	1	1	60000	36	9810	228
	2	50700	42	8390	267		2	49700	43	8120	275
	3	43800	48	7260	308		3	42400	50	6930	323
	4	38600	55	6400	350		4	37000	58	6040	370
	5	34500	61	5720	391		5	32800	65	5360	418
	6	31200	68	5170	432		6	–	–	–	–

NOTE: Model 62 Performance based on 80 GPM @ 2400 PSI

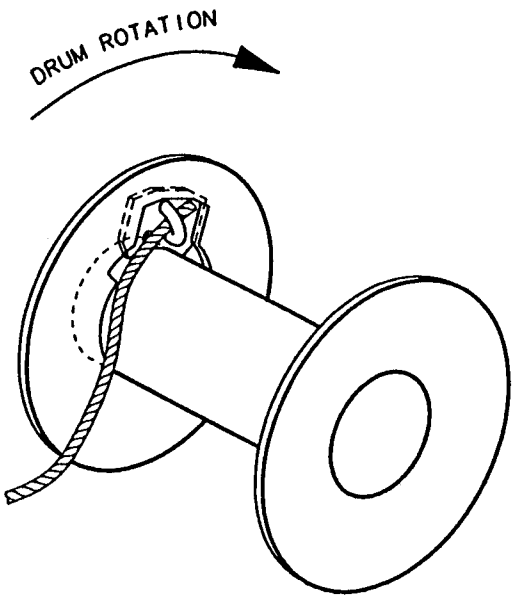


STEP 1

ALIGN WIRE ROPE BETWEEN PROPER HOLES ACCORDING TO DRUM ROTATION. INSERT U-BOLT INTO HOLES AND THREAD ON NUTS FROM BACK OF FLANGE.

CAUTION:

IF WINCH WIRE ROPE IS NOT INSTALLED FOR THE CORRECT DRUM ROTATION, THE WINCH BRAKE VALVE WILL NOT HOLD THE LOAD.



STEP 2

ONCE NUTS ARE TIGHTENED SECURE, THE WIRE ROPE IS PROPERLY INSTALLED.

CAUTION:

DO NOT OPERATE WINCH WITH LESS THAN 5 FULL WIRE ROPE WRAPS ON THE DRUM.

WIRE ROPE INSTALLATION

COMMERCIAL INTERTECH MOTOR

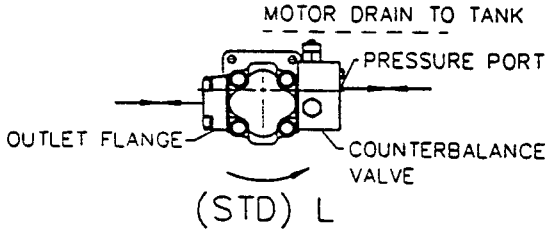
TO REVERSE WIRE ROPE PULL IN DIRECTION

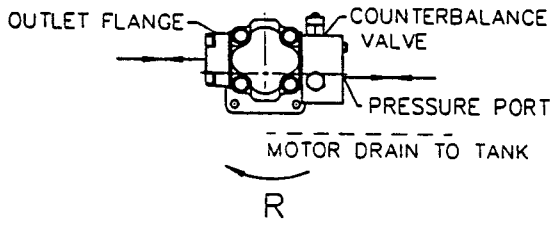
METHOD 1

REMOVE THE COUNTERBALANCE VALVE AND OUTLET FLANGE.
REMOVE THE MOTOR MOUNTING BOLTS AND ROTATE THE MOTOR 180°.
REASSEMBLE MOTOR, COUNTERBALANCE VALVE, AND OUTLET FLANGE.

METHOD 2

SWITCH POSITIONS OF COUNTERBALANCE VALVE AND OUTLET FLANGE.
NOTE: HOSES GOING TO BRAKE HOUSING MAY NEED TO BE LONGER.





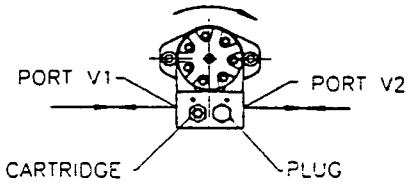
CHAR-LYNN MOTORS

(STD) L

L PRESSURE TO V1 ROTATES WINCH DRUM CLOCKWISE WHEN VIEWED FROM MOTOR END.

R PRESSURE TO V2 ROTATES WINCH DRUM COUNTER CLOCKWISE WHEN VIEWED FROM MOTOR END.

TO REVERSE WIRE ROPE PULL DIRECTION, SWITCH POSITIONS OF CARTRIDGE AND PLUG.



(STD) L

L PRESSURE TO V1 ROTATES WINCH DRUM COUNTER CLOCKWISE WHEN VIEWED FROM MOTOR END.

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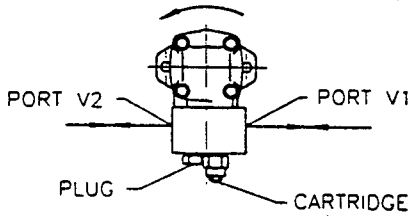
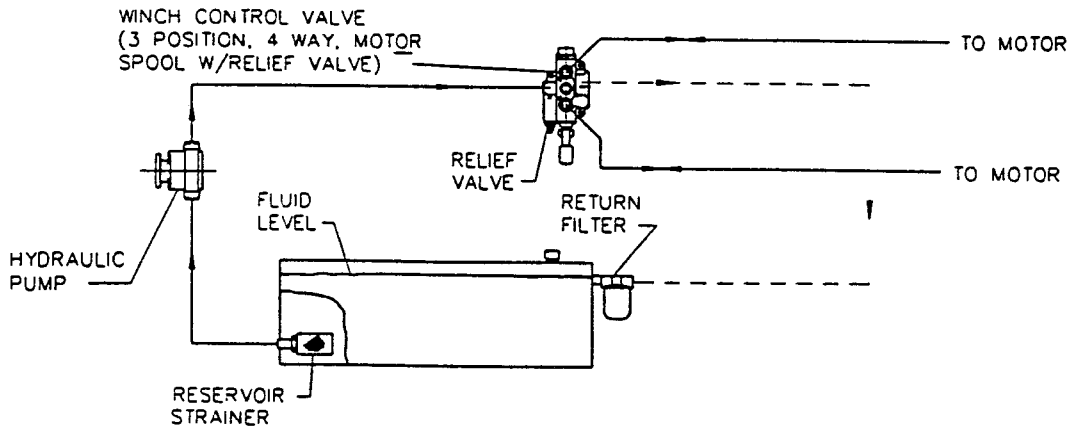


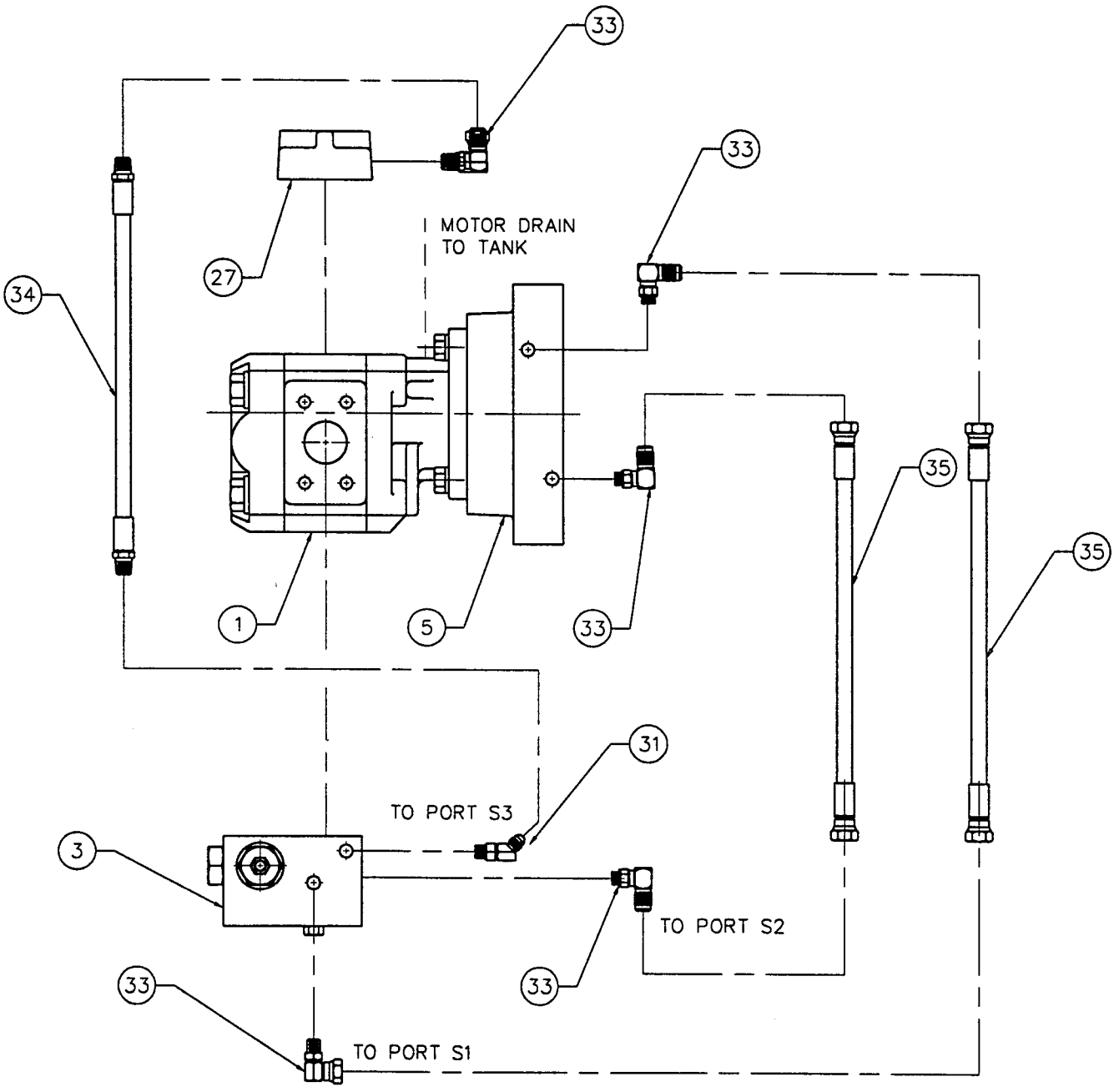
TYPICAL WINCH HYDRAULIC SYSTEM



ALL UTILITY UNITS ARE BI-DIRECTIONAL WITHOUT MANIPULATION OF CARTRIDGE, AND OR PLUG LOCATIONS.

NOTE: IF TENSIONER AND, OR FAIRLEAD OPTIONS EXIST, THEN REVERSAL OF THEIR POSITION IN RELATION TO WINCH MUST TAKE PLACE BEFORE REVERSAL OF WIRE ROPE PULL DIRECTION CAN OCCUR.

WINCH PLUMBING DIAGRAM



SEE 1.10186 MOTOR END INSTALLATION
BILL OF MATERIALS

SERVICE INSTRUCTIONS DP BRAKE

GENERAL:

The winch is fully hydraulic with a multi disc wet brake. The brake is spring applied and hydraulically released, and will automatically set any time the winch control valve is in neutral or in case of power failure. When the hydraulic pressure is less than 270 psi, the brake will set.Hydraulic power must be restored before brake will release.Maximum brake torque is achieved at 0 psi.**(These winches are not to be used for moving or lifting people.)**

DISASSEMBLY OF BRAKE
(REFER TO MOTOR END INSTALLATION DRAWING 1.10186)

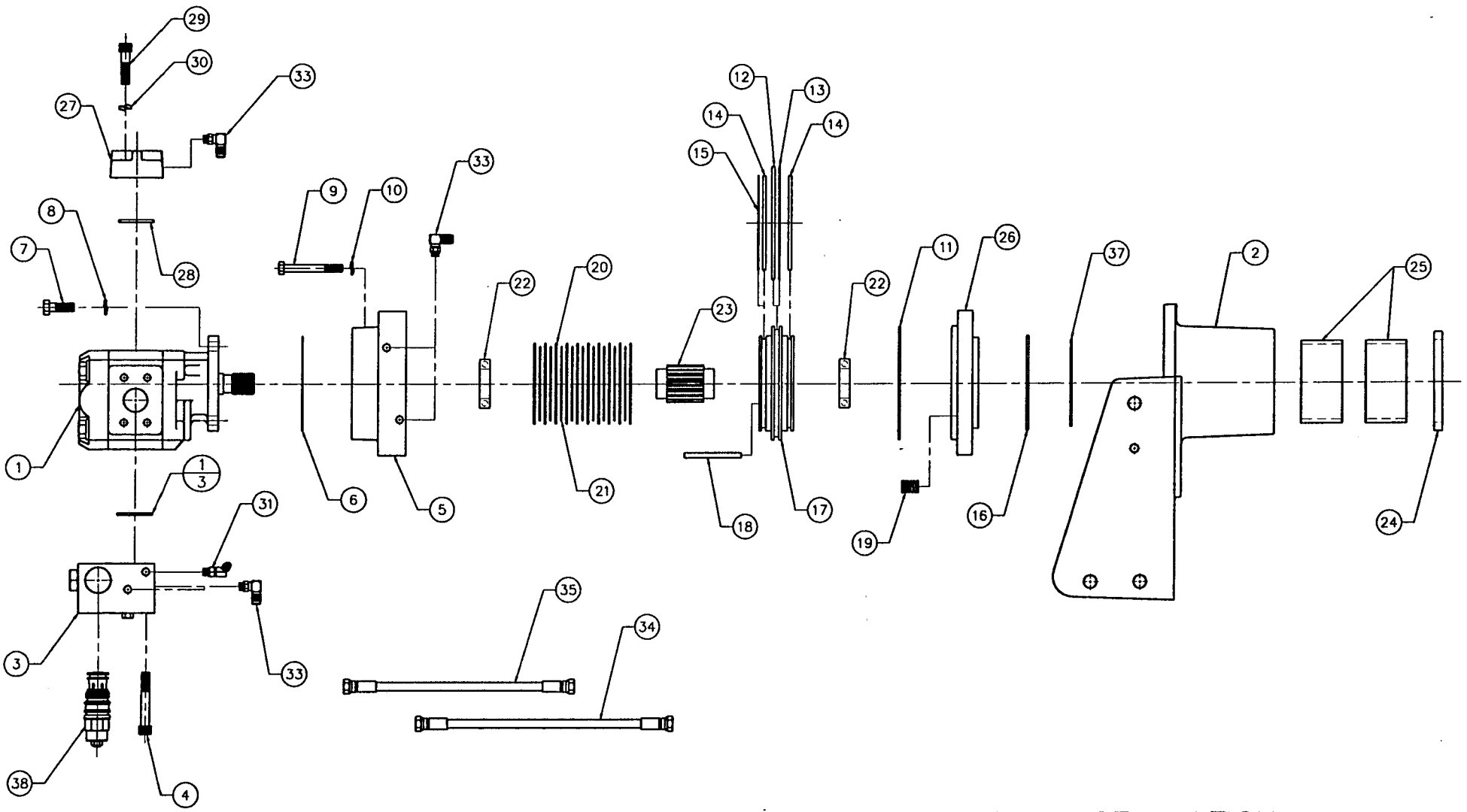
1. Disconnect brake hoses (item 34 & 35) at connections (item 33) on brake housing (item 5). wrap hose ends to prevent dirt contamination.
2. Disconnect motor from brake housing (item 5) by removing four capscrews (item 7), and lock washers (item 8). Allow oil to drain.
3. Remove outer brake housing (item 5) by removing six capscrews (item 9) and lock washers (item 10). **CAUTION: Since housing is under spring loading of approximately 3,500 lbs., the capscrews should be loosened evenly until spring force has been relieved.**
4. In removing housing (item 5), the bearing (item 22) may come with it or remain on brake shaft (item 23), or the brake shaft may also slide out.
5. Remove o-ring (item 11) from brake adapter (item 26).
6. Remove friction plates (item 20), drive plates (item 21), and dowel pins (item 18) from piston (item 17).
7. Remove piston (item 17) from brake adapter (item 26) being careful not to damage o-rings on piston. Next, remove o-rings and back-up rings (item 12, 13, 14, & 15) from piston.
8. Finally, remove springs (item 19) and bearing (item 22) from brake adapter (item 26).

ASSEMBLY OF BRAKE

1. Lubricate all o-rings and back-up rings with clean hydraulic oil used in the system.
2. Clean all parts thoroughly and visually examine for cuts, dents or other damage before assembly. Repair or replace parts with such defects.
3. Install bearing (item 22) into brake adapter (item 26) and insert twelve springs (item 19) into holes in adapter. Next install shaft (item 23) into bearing (item 22).
4. Insert dowel pins (item 18) into respective holes in brake adapter (item 26).
5. Assemble o-rings and back up rings (item 12, 13, 14, & 15) on piston (item 17). Place back up rings as illustrated.
6. Insert piston (item 17) fitted with seals into brake adapter (item 26) and over dowel pins (item 18) and tap down until piston face is resting against springs (item 19).
7. Insert a friction plate (item 20) alternating with a drive plate (item 21) into piston (item 17) and over shaft (item 23) until all plates are in place in sequence illustrated.
8. Next, place bearing (item 22) onto brake shaft (item 23).
9. Place o-ring (item 11) in position on brake adapter (item 26). Finally and with care not to pinch o-ring seals on piston, slide the housing (item 5) into place over the dowel pins (item 18) and tap down until firm. Install lock washers (item 10) and capscrews (item 9) in place until all six shoulder up. proceed to tighten evenly against spring pressure until housing face (item 5) is in full contact and capscrews are torqued to 50 ft. lbs.
10. The motor, and o-ring (item 6) can now be reinstalled on the housing (item 5). Then insert into brake housing (item 5) and secure with capscrews (item 7), lock washers (item 8).
    Reconnect brake hoses (item 34 & 35) as shown on winch plumbing diagram, (same as motor end installation).
11. Refill winch with oil through gear end cover fill port (refer to gear end installation drawing). Allow time for oil to travel through brake end.
12. Before running winch, loosen adapter connections (item 33) at brake slightly to bleed air from brake release hoses (item 34 & 35) with hydraulic oil under pressure. Retighten connections and winch is ready to operate. (Note: pressure should not exceed 100 psi during bleeding.)

BRAKE TROUBLE SHOOTING

1. Brake will not release:
   (a) Insufficient system pressure to brake. (b) Damaged o-rings or back up ring seals (item 12, 13, 14, or 15).
   (c) Damaged piston (item 17). (d) Damaged seal surfaces within housing (item 5).
   (e) Damaged bearing (item 22). (f) Friction or drive plates (items 20 or 21) warped or heat damaged.
2. Brake will not apply or applies but torque low:
   (a) Damaged springs (item 19), either broken or heat damaged and having taken a permanent set.
   (b) Friction plates (item 20) worn out.
3. Oil leaks externally from brake. (a) Damaged o-ring seal (item 11).

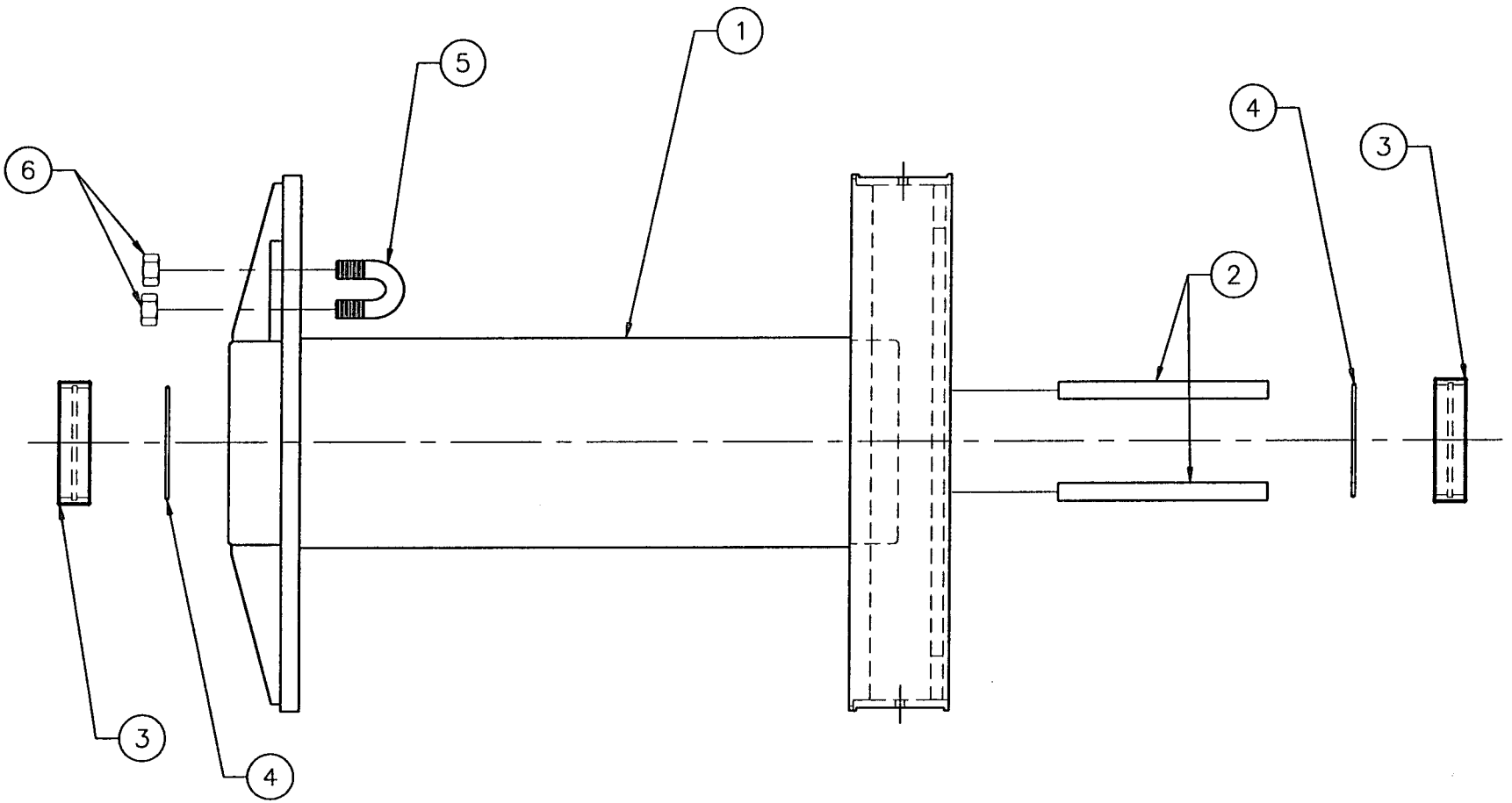


MOTOR END INSTALLATION
1.10186

1.10186 PARTS LIST
MOTOR END INSTALLATION

LOC.	PART NO.	DESCRIPTION	QTY.
1.	73032	MOTOR - HYDRAULIC	1
2.	11782	SUPPORT - MOTOR END	1
3.	11541	VALVE - COUNTERBALANCE	1
1.	9962	O-RING - 1 7/8 I.D. x 1/8 SECTION	1
4.	1455	CAP SCREW - SOCKET HEAD - 1/2 - 13NC x 3 1/4	4
5.	11515	HOUSING - BRAKE	1
6.	9620	O-RING - 5 I.D. x 3/32 SECTION	1
7.	1403	CAP SCREW - HEX HEAD - 1/2-13 NC x 1 1/2 - GRADE 5	4
8.	1495	WASHER - LOCK - 1/2	4
9.	1387	CAP SCREW - HEX HEAD - 7/16-14 NC x 3-1/2 - GRADE 8	6
10.	1388	WASHER - LOCK - 7/16	6
11.	9844#	O-RING - 6-3/4 I.D. x 1/8 SECTION	1
12.	9853#	O-RING - 6-1/2 I.D. x 3/16 SECTION	1
13.	9854#	RING - BACK-UP - 6-1/4 I.D.	1
14.	9851#	O-RING - 5-3/8 I.D. x 3/16 SECTION	2
15.	9852#	RING - BACK-UP - 5-3/8 I.D.	1
16.	9843	O-RING - 5-1/2 I.D. x 1/8 SECTION	1
17.	11443	PISTON - BRAKE	1
18.	3263	PIN - DOWEL - 5/16 x 3-1/2	2
19.	2319**	SPRING - COMPRESSION	12
20.	11603**	PLATE - DISC - FRICTION	10
21.	3159**	PLATE - DRIVE - BRAKE	9
22.	81434	BEARING - BALL - 1-3/4 I.D.	2
23.	~~11688~~ 11750	SHAFT - BRAKE	1
24.	9889	SEAL - 5 I.D. x 6 x 1/2	1
25.	11372	BEARING - BRONZE - 4-1/2 I.D.	2
26.	11775	ADAPTER - BRAKE	1
27.	12454	MANIFOLD - VALVE/MOTOR	1
28.	9962	O-RING - 1-7/8 I.D. x 1/8	1
29.	1458	CAP SCREW - SOCKET HEAD - 1/2-13NC x 1 3/4	4
30.	1144	WASHER - LOCK - HI COLLAR - 1/2	4
31.	76029	ADAPTER - 45° - #4 O-RING/#4 MJIC	1
33.	76017	ADAPTER - 90° - #4 O-RING/#4 MJIC	5
34.	75038	HOSE - 1/4 - R1 x 12"	1
35.	75009	HOSE - 1/4 - R1 x 10"	2
36.	10708*	TAG - WARNING	1
37.	3328	RING - RETAINING - 5 x .111T	1
38.	70034	CARTRIDGE - C'BAL - VALVE	1
39.	1157	CAPLUG - #4 RED - 1/4	1
40.	1179	CAPLUG - PLASTIC 20 - S I.D.	1

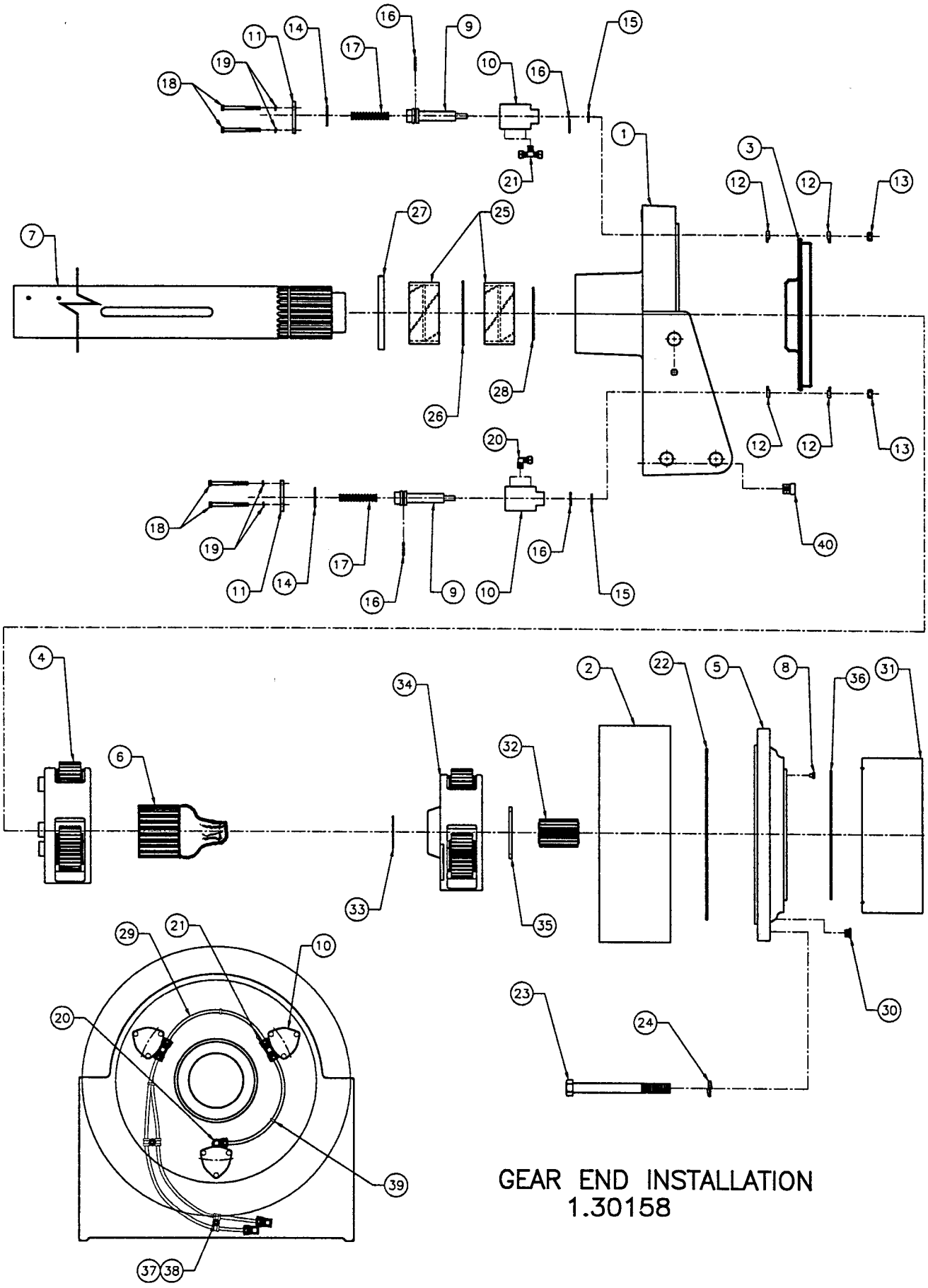
* NOT SHOWN ON EXPLODED DRAWING.
** THESE ITEMS SOLD IN 9400 KIT ONLY.
# THESE ITEMS SOLD IN 9406 KIT ONLY.



DRUM INSTALLATION
1.20158

1.20158 PARTS LIST
DRUM INSTALLATION

LOC.	PART NO.	DESCRIPTION	QTY.
1	14152	DRUM	1
2	14247	KEY - SHAFT - OUTPUT	2
3	14153	SPACER - DRUM	2
4	9623	O-RING 4 1/2 I.D. x 1/8 SECTION	2
5	10782	U BOLT - 1"	1
6	1690	NUT - HEX - 3/4 - 10NC	2

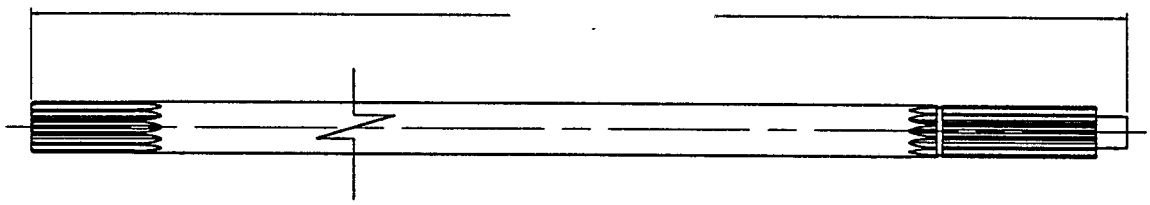


GEAR END INSTALLATION
1.30158

1.30158 PARTS LIST
GEAR END INSTALLATION

LOC.	PART NO.	DESCRIPTION	QTY.
1	14137	SUPPORT - GEAR END	1
2	14129	GEAR - RING	1
3	14147	CLUTCH - KICKOUT	1
4	14157	CARRIER - ASSEMBLY - FREE SPOOL	1
5	14150	ADAPTER - COVER	1
6	14130	GEAR - SUN	1
7	14136	SHAFT - OUTPUT	1
8	14138	SPACER	12
9	14144	PISTON - KICKOUT	3
10	14143	CYLINDER - KICKOUT	3
11	14145	CAP - CYLINDER - KICKOUT	3
12	14146	FORK HALF - KICKOUT	6
13	4300	NUT - SELF-LOCKING - 3/8 - 16UNC	3
14	9968	O-RING - 1 9/16 I.D. x 1 3/4 O.D. SECTION	3
15	9743	O-RING - 9/16 I.D. x 3/32 SECTION	3
16	9857	O-RING - 1 I.D. x 1 3/16 O.D. x 3/32	6
17	3703	SPRING - COMPRESSION	3
18	1210	CAP SCREW - HEX HEAD - 1/4 - 20NC x 3	9
19	1295	WASHER - LOCK - 1/4	9
20	78403	ADAPTER - 90°	4
21	78402	ADAPTER - TEE	4
22	9715	O-RING - 14 I.D. x 14 1/4 O.D. x 1/8 SECTION	2
23	1617	CAP SCREW - HEX HEAD - 3/4 - 10NC x 6 1/2	12
24	1695	WASHER - LOCK - 3/4	12
25	11372	BEARING - BRONZE - 4 1/2 I.D.	2
26	3328	RING - RETAINER - 5 x .111T	1
27	9889	SEAL - 5 I.D. x 6 x 1/2	1
28	3060	RING - RETAINER - 4 1/3x .109T	1
29	69095	TUBING - NYLON - 1/4 O.D. - AIR - DOT - COLD	4
30	76046	PLUG - O-RING	1
31	3126	GEAR - RING	1
32	13306	GEAR - SUN - SECONDARY - 15T	1
33	3041	RING - RETAINER - 2 7/16 X .078	1
34	12516	CARRIER ASSEMBLY - SECONDARY	1
35	13164	WASHER - THRUST - NYLON - 3 1/2 O.D. x 3/16	1
36	9695	O-RING - 8 3/4 I.D. x 1/8 SECTION	1
37	3128*	RIVET - POP OPEN	2
38	1051	CLAMP - TUBING - INSULATED - 1/4	4
39	3541	TIE CABLE - 6" LONG	3
40	14242	MANIFOLD - KICKOUT	2

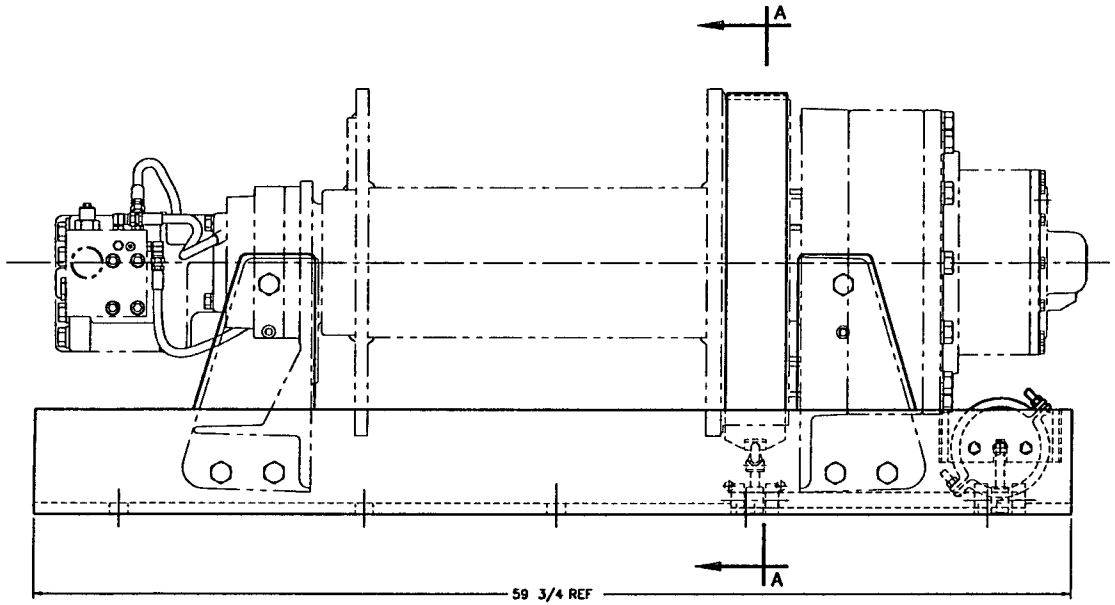
* NOT SHOWN ON EXPLODED DRAWING.

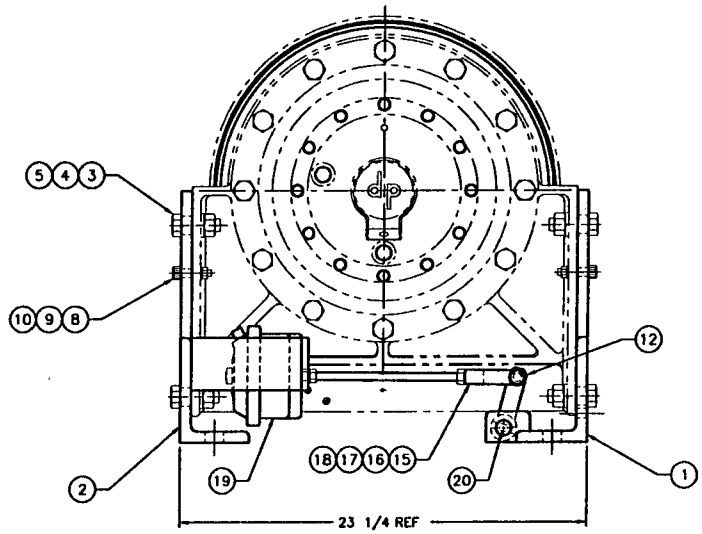


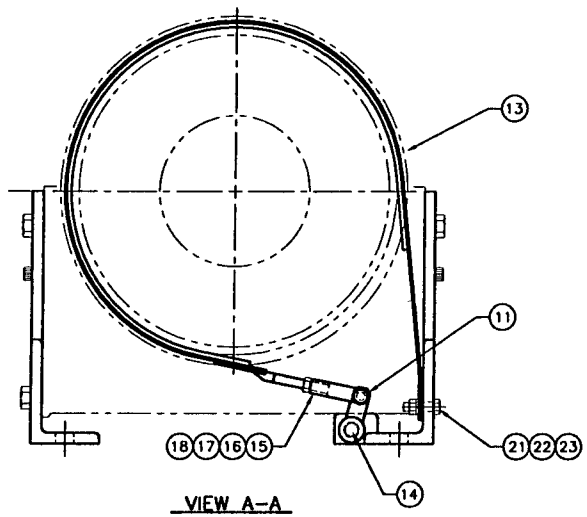
INPUT SHAFT INSTALLATION
1.40269

1.40269 PARTS LIST
INPUT SHAFT INSTALLATION

LOC.	PART NO.	DESCRIPTION	QTY.
1	14161	INPUT - SHAFT	1





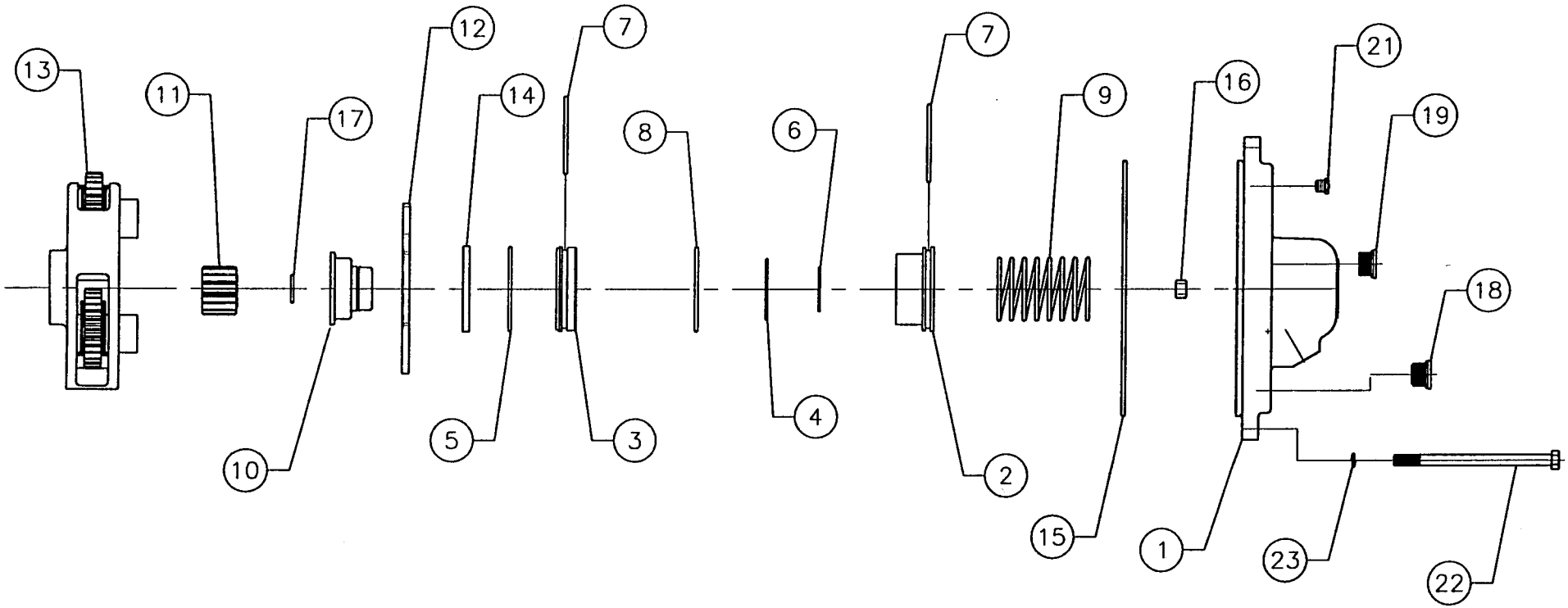


BASE MOUNT INSTALLATION 1.50305

1.50305 PARTS LIST
BASE MOUNT INSTALLATION

LOC.	PART NO.	DESCRIPTION	QTY.
1	14127	BASE ANGLE - FRONT	1
2	14126	BASE ANGLE - REAR	1
3	1605	CAP SCREW - HEX HEAD - 3/4 -10NC x 2 1/4 GRADE 5	12
4	1690	NUT - HEX - 3/4 - 10NC	12
5	1695	WASHER - LOCK - 3/4	12
6	10466*	PLATE - INFORMATION	1
7	1165*	RIVET - DRIVE	4
8	1477	SHOULDER BOLT - SOCKET HEAD - 1/2 x 1 1/4	4
9	1390	NUT - HEX - 3/8 - 16NC GRADE 2	4
10	1394	WASHER - FLAT - 3/8	4
11	14086	LEVER - BRAKE - BAND - 2" x 7/8" SPLINED BORE	1
12	14078	LEVER - BRAKE - BAND - 3" x 1" BORE	1
13	14234	BAND ASSEMBLY - BRAKE	1
14	14169	SHAFT - BRAKE - BAND	1
15	1076	YOKE - CLEVIS - 1/2 NF	2
16	3133	PIN - CLEVIS - 1/2" D x 1 1/2L	2
17	1013	PIN - COTTER - 1/8 x 1	2
18	1491	NUT - HEX - 1/2 - 20NF	2
19	3696	SPRING - PNEUMATIC - BRAKE - AIR - W/CLEVIS	1
20	3697	PIN - SPIROL - 3/8 x 1 1/2L - HEAVY DUTY	1
21	1404	CAP SCREW - HEX HEAD - 1/2 - 13NC x 1 3/4 - GRADE 8	2
22	1490	NUT-HEX - 1/2 - 12NC GRADE 2	2
23	1495	WASHER - LOCK - 1/2	2

* NOT SHOWN ON EXPLODED DRAWING.



GEAR END INSTALLATION
1.60133

1.60133 PARTS LIST
GEAR END COVER INSTALLATION

LOC.	PART NO.	DESCRIPTION	QTY.
1	14142	COVER - GEAR END	1
2	14141	PISTON - KICKOUT	1
3	14038	SLEEVE PISTON	1
4	14037	WASHER - THRUST	1
5	3632	RING - RETAINER – ROUND SECTION - 3 0.D. x .100 DIA.	1
6	3267	RING - RETAINER - 1 9/16 x .062T	1
7	9602	O-RING - 2 3/4 I.D. x 3 O.D. x 1/8 SECTION	2
8	9678	O-RING - 2 1/2 I.D. x 1/8 SECTION	1
9	2323	SPRING - COMPRESSION	1
10	14139	COUPLING - SPLINED	1
11	14131	GEAR - SUN	1
12	14140	PLATE - DRIVE	1
13	14165	CARRIER - ASSEMBLY	1
14	13164	WASHER - THRUST	1
15	9695	O-RING 8 3/4 I.D. x 1/8 SECTION	1
16	81612	BUSHING - BRONZE 5.8 O.D. x 3/8" I.D. x 3/8 L.	1
17	3321	RING - RETAINER – 7/8 x .08 ROUND SECTION	1
18	76343	PLUG - SOCKET HEAD - 0-RING BOSS - MAG #10	1
19	76344	PLUG - O-RING - BOSS - #10 - SOCKET HEAD - 7/8-14	1
20	1157	CAPLUG - #4 - RED - 1/4NPT	1
21	3059	VENT - RELIEF	1
22	1317	CAP SCREW - HEX HEAD - 3/8 - 16NC x 5 1/2 - GRADE 8	12
23	1395	WASHER - LOCK - 3/8	12

BOLT TORQUES

SIZE THREADS / IN. ↓	GRADE 5 *ft.lb.*	GRADE 8 *ft.lb.*
1/4 - 20	6	9
5/16 - 18	13	18
3/8 - 16	23	35
7/16 - 14	35	55
1/2 - 13	55	80
9/16 - 12	80	110
5/8 - 11	110	170
3/4 - 10	200	280
7/8 - 9	320	460
1 - 8	480	680
1-1/8 - 7	600	960
1-1/4 - 7	840	1360
1-3/8 - 6	1100	1780

NOTE: SUGGESTED TIGHTENING VALUES ONLY

UNLESS OTHERWISE NOTED.

WARRANTY

DP Manufacturing, Inc. warrants each product manufactured by it to be free from defects in material or workmanship for a period not to exceed one year from the date of shipment.

This warranty is limited to replacing any part or parts manufactured by DP manufacturing, Inc. and found, upon examination at our factory, to be defective due to materials or workmanship. Freight, express and/or installation charges shall be borne by the purchaser. Provided further, that the purchaser gives written notice to the factory of such defects, and that during said period the product was properly cared for and operated under normal conditions.

DP Manufacturing, Inc. will not warrant any part that has failed as a result of abuse, negligence, misuse, accident or installation made by other, nor, to any part made inoperative because of wear occasioned by use, nor any product which has been altered in any way so in our judgment affects its operation or reliability.

DP Manufacturing, Inc. will not be liable for loss of time to the purchaser while the product is out of service, nor for any labor or other expense, damage or loss, statutory or otherwise, occasioned, or claimed to be occasioned, by such defective parts or failure. the correction of such defects by repair or replacement shall constitute a fulfillment of all the company's obligation to the purchaser.

No employee, agent, distributor, or dealer of DP Manufacturing, Inc. shall have the right to modify or change this warranty without written authorization signed by an officer of DP Manufacturing, Inc.

This warranty is in lieu of all warranties expressed or implied and any and all other obligations or liabilities on its part contractual or otherwise.

DP Manufacturing, Inc. reserves the right to make changes and improvements in its products without incurring any obligation to install any such changes or improvements upon its products previously manufactured.

HOW TO ORDER PARTS

IMPORTANT: To insure satisfactory product performance after repairs, always use genuine DP Manufacturing replacement parts.

1. MODEL IDENTIFICATION

Always furnish the DP Model Number and Serial Number when ordering parts. This information is found on the product nameplate.

2. PART NUMBER AND DESCRIPTION

In addition to the serial number, always give the part number and description of each part ordered. If there is any doubt as to the correct part number and description, furnish a dimensional sketch or return the part to be replaced, transportation charges prepaid.

Your cooperation in furnishing as much information as possible will assist us in filling your orders correctly in the shortest possibly time.

Send orders to:

DP Manufacturing, Inc.
5647 South 122nd East Ave.
Tulsa, Oklahoma 74146
(918) 250-2450

OIL SPECIFICATIONS

HYDRAULIC SYSTEM

AMBIENT TEMP. RANGE	HYDRAULIC OIL
120°F to -15°F	SAE10WHydraulic
40°F to -50°F	MIL-L-46167 (OEA)

Filtration Level: 25 Micron or lower

Control Valve Type: 3-position-4-way Motor Spool

LUBRICATION

AMBIENT TEMP. RANGE	GEAR LUBRICANT*
120°F to 10°F	SAE 50
40°F to -25°F	75W90
30°F to -50°F	Conoco DN600 or Equiv.

Initial Change: After 6 weeks or 10 hours of operation.

Periodic Change: Lube should be changed on an annual basis or every 50 hours of operation.

* Maintain amount of lube at level plug.

* If unit is not mounted horizontally, consult factory for fill and drain.