

CARCO®

INSTALLATION AND PARTS MANUAL

MODEL 50B WITH ELECTRONIC CONTROLS FOR D6N SERIES Tier 4 TRACTORS

NOTE: This manual covers winch installation and parts, specific to the tractor or tractors listed above. For all other common winch parts, refer to Carco Winch Parts Manual LIT2115.

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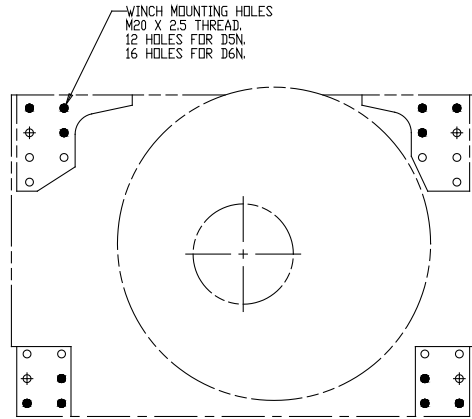
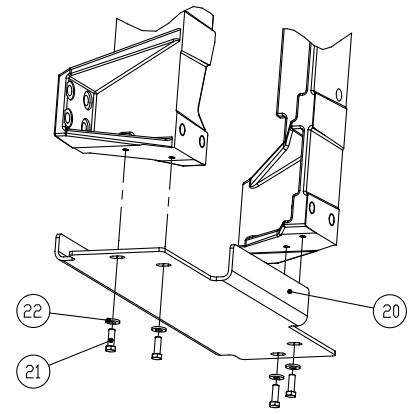
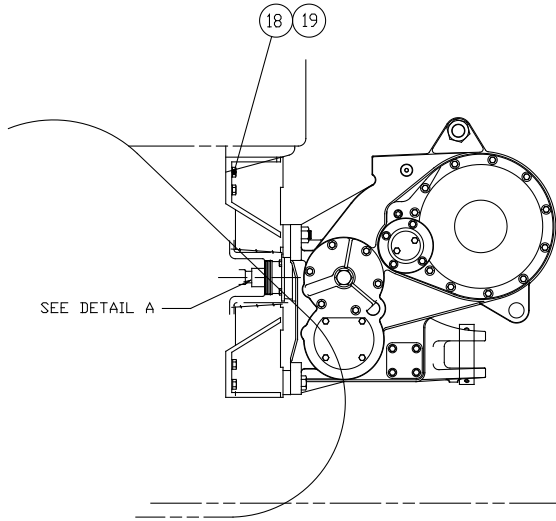
MODEL NUMBER DESCRIPTION

50B	D	0	0	1	0	0	E
Basic Winch Model	Bevel Gear Ratio D-2.11:1 E-2.79:1	0-Overwind	0-Standard Brake	1-With Freespool	0-Four Shaft Winch 1-Three Shaft Winch	0-No Fairlead	E-Electronic Control

PACCAR WINCH

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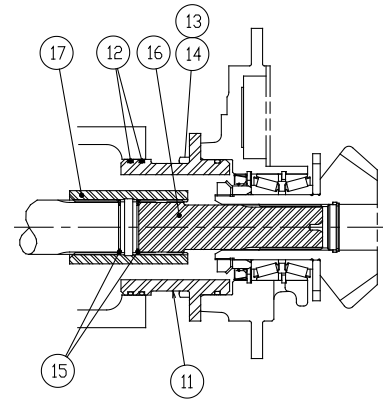
**MODEL50B
MOUNTING GROUP
D5N & D6N**



VIEW OF TRACTOR REAR FACE

WINCH MOUNTING HOLES
M20 X 2.5 THREAD.
12 HOLES FOR D5N.
16 HOLES FOR D6N.

● BOTH D5N AND D6N.
⊕ D6N ONLY.

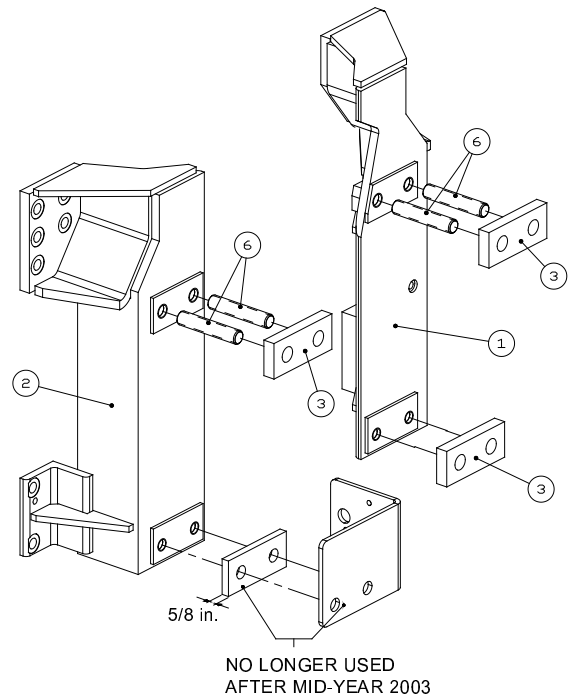
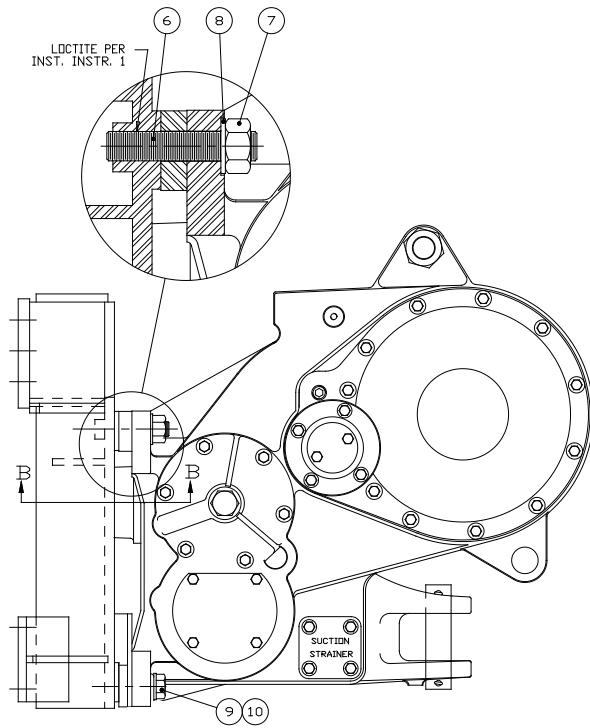


DETAIL A

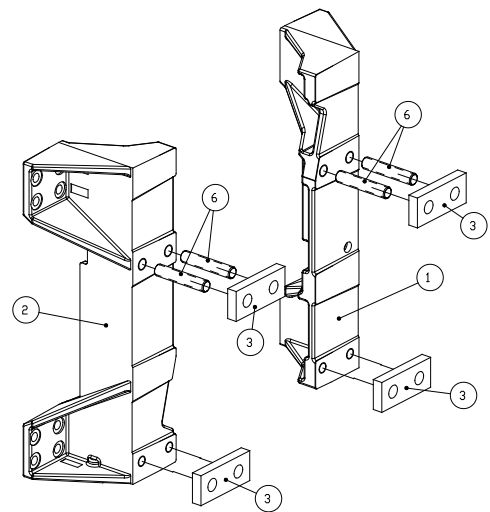
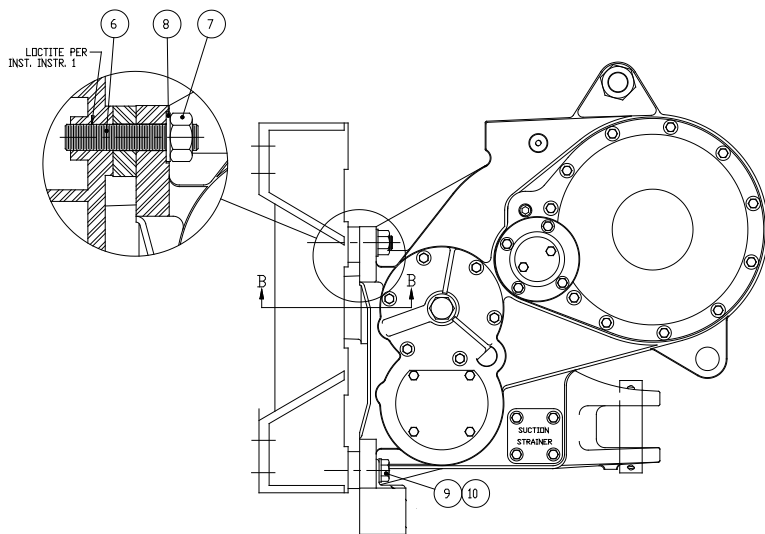
ITEM	PART NO.	DESCRIPTION	QTY
1	104387	MOUNTING BRACKET, RH	1
2	104386	MOUNTING BRACKET, LH	1
3	109000	SPACER PLATE	4
6	100655	STUD, 1-1/8 - 7 X 5.75 GD B7	4
7	104143	NUT, HEX 1-1/8 - 7 GD8 Z	4
8	103484	WASHER, HARDENED (1-1/8)	4
9	103640	CAPSCREW, HEX HEAD (1 - 8 X 4 GD8 Z)	4
10	101205	WASHER, HARDENED 1, Z	4
11	104042	PILOT, PTO	1
12	69850	O-RING	3
13	104320	CAPSCREW, HEX HEAD ((1/2 - 13 X 1 GD8 Z)	4
14	100859	WASHER, 1/2 NOM, HARD, Z	4
15	68870	RETAINING RING	2
16	104041	SHAFT, PTO	1
17	69056	COUPLING	1
18	104169	CAPSCREW, HEX HEAD (M20 X 2.5 X 50 GD 10.9 Z)	16
19	103261	WASHER M20 HARD Z	16
20	104091	GUARD	1
21	104320	CAPSCREW, HEX HEAD (1/2 - 13 X 1 GD8 Z)	4
22	102987	WASHER, HARD, 1/2 Z	4

Early Fabricated Mounting Brackets

MODEL 50B
ADAPTER GROUP
D5N & D6N



Current Fabricated Mounting Brackets



**MODEL 50B
ADAPTER & MOUNTING GROUP
D5N & D6N**

i NOTE: Due to interference with the winch mounting brackets, tractors equipped with the manual fuel priming pump, P/N 186-5814, must be converted to the electrical fuel priming pump, P/N 225-7654, by installing all the parts listed below:

QTY	CAT PART NO.	DESCRIPTION
1	150-4046	ADAPTER ASSEMBLY
1	8T-6869	BOLT
2	7X-2539	BOLT
1	178-7319	BRACKET ASSEMBLY
1	220-5946	CLIP
1	164-5562	CONNECTOR ASSEMBLY
1	251-3096	FILM-PRIMER SW
6	8T-9655	MOUNT
3	5C-7261	NUT
2	164-5619	PLUG ASSEMBLY
1	225-7654	PUMP GP PRIMING
2	191-1783	SPACER
1	191-1782	SPACER
1	165-5970	SWITCH AS-TOGGLE
3	9N-0869	WASHER-HARD
4	8T-4224	WASHER-HARD

Notes:

1. PTO rotation is counter clockwise (CW) as viewed from rear of tractor.
2. PTO pilot (11) is used in several applications. Usually only one o-ring (12) will engage and seal in the tractor PTO opening.
3. Ensure that installation operations are completed before Loctite thread locking compound hardens.
4. Remove paint, rust, dirt and oil from mounting surfaces of winch, tractor and winch adapter brackets. If necessary, clean tapped holes in tractor rear face to ensure full thread engagement.
5. All fasteners and tapped holes that will be used with thread locking compound must be thoroughly cleaned with solvent to remove all traces of oil.
6. Refer to illustrations on pages 1 and 2.

⚠ WARNING ⚠

Winch weighs approximately 2,200 lb (1000 kg). Make certain lifting equipment has adequate capacity. Failure to use adequate lifting equipment may result in property damage, injury or death.

Installation Instruction:

1. Install the tractor transmission filter modification group that is appropriate for your model and serial number tractor. This must be done before the winch is installed due to restricted access once the winch is in place. Refer to tractor modification information on page 4.
2. Winches are typically shipped with the adapter brackets installed. If they have been removed, install the adapter brackets as described below:

⚠ CAUTION ⚠

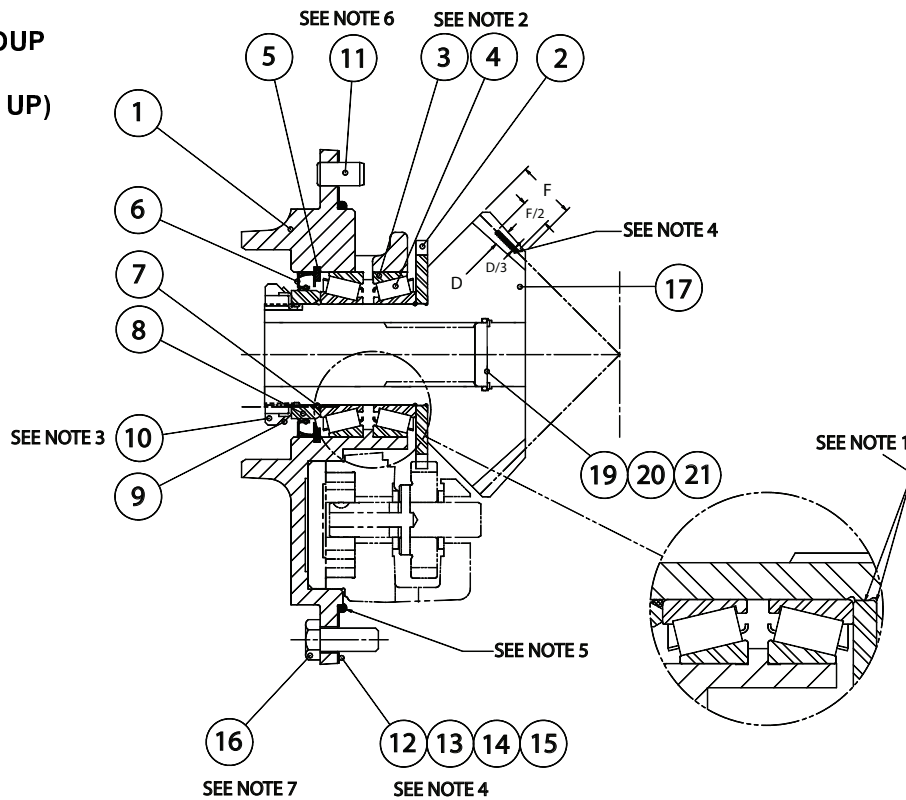
Winch adapter brackets weigh approximately 140 pounds (64 kg). Make certain lifting equipment has adequate capacity. Failure to use adequate lifting equipment may result in injury.

- a. Apply Loctite 271 or 277 or equivalent to approximately 1.5 in. (38 mm) of bracket-end of studs (6). Install the studs into the top winch mounting holes of brackets (1, 2) to a projected height of 3.75 in. (95 mm).
 - b. Place spacer blocks (3) over the studs and install mounting brackets onto winch. Install washers and nuts (7, 8) partially to hold brackets in place.
 - c. Apply Loctite 242, 243 or equivalent to capscrews (9) and install lower spacer blocks and capscrews onto mounting brackets.
 - d. Tighten nuts (7) to 600 lb.-ft. (815 (n-m) torque. Tighten capscrews (9) to 680 lb.-ft. (920 N-m) torque. If torque wrench adapters are not available for tightening the nuts (7) they may be reliably tightened as follows: Tighten nut with hand wrench to approximately 100 lb.-ft. (136 N-m) torque to remove all looseness from assembly. Mark the position of a wrench flat on each nut, then tighten each nut one (1) additional wrench flat.
3. Install o-rings (12) onto PTO pilot and coat with general purpose grease.
 4. Install two retaining rings (15) into grooves of coupling (17). Apply moly-type grease to splines of the PTO shaft (16) and install into the bevel pinion. Install coupling onto bevel pinion with the chamfered side toward the tractor.

**MODEL 50B
ADAPTER & MOUNTING GROUP
D5N & D6N**

5. Install two, 1 -8 UNC lifting eye-bolts into the top of the winch case. Lift winch into position and carefully align the winch PTO coupling with the tractor PTO shaft splines. It may be necessary to turn the winch bevel pinion by hand to assist alignment of the winch and tractor shaft. Remove the winch top cover to gain access to the bevel gears. Adjust winch position up/down and side-to-side to minimize loads on PTO shaft.
6. Apply Loctite 242, 243 or equivalent to the threads of capscrews (18) and install with washers (19). Evenly tighten capscrews (18) to 390 lb.-ft. (530 N-m) torque.
7. Fill winch to proper level with recommended transmission-drive train oil. Refer to the Operators and Preventive Maintenance Manual or Service Manual for recommended oil. Start tractor and check for leaks around PTO pilot. Listen for unusual gear train noise that may be caused by misaligned winch-to-tractor PTO shafts. If noise is detected, support weight of winch with hoist, loosen all winch mounting capscrews and reposition winch. Retighten mounting capscrews to specified torque after aligning winch.

**MODEL 50B
BEVEL GEAR GROUP
D5N & D6N
(S/N 0704590 AND UP)**



NOTES:

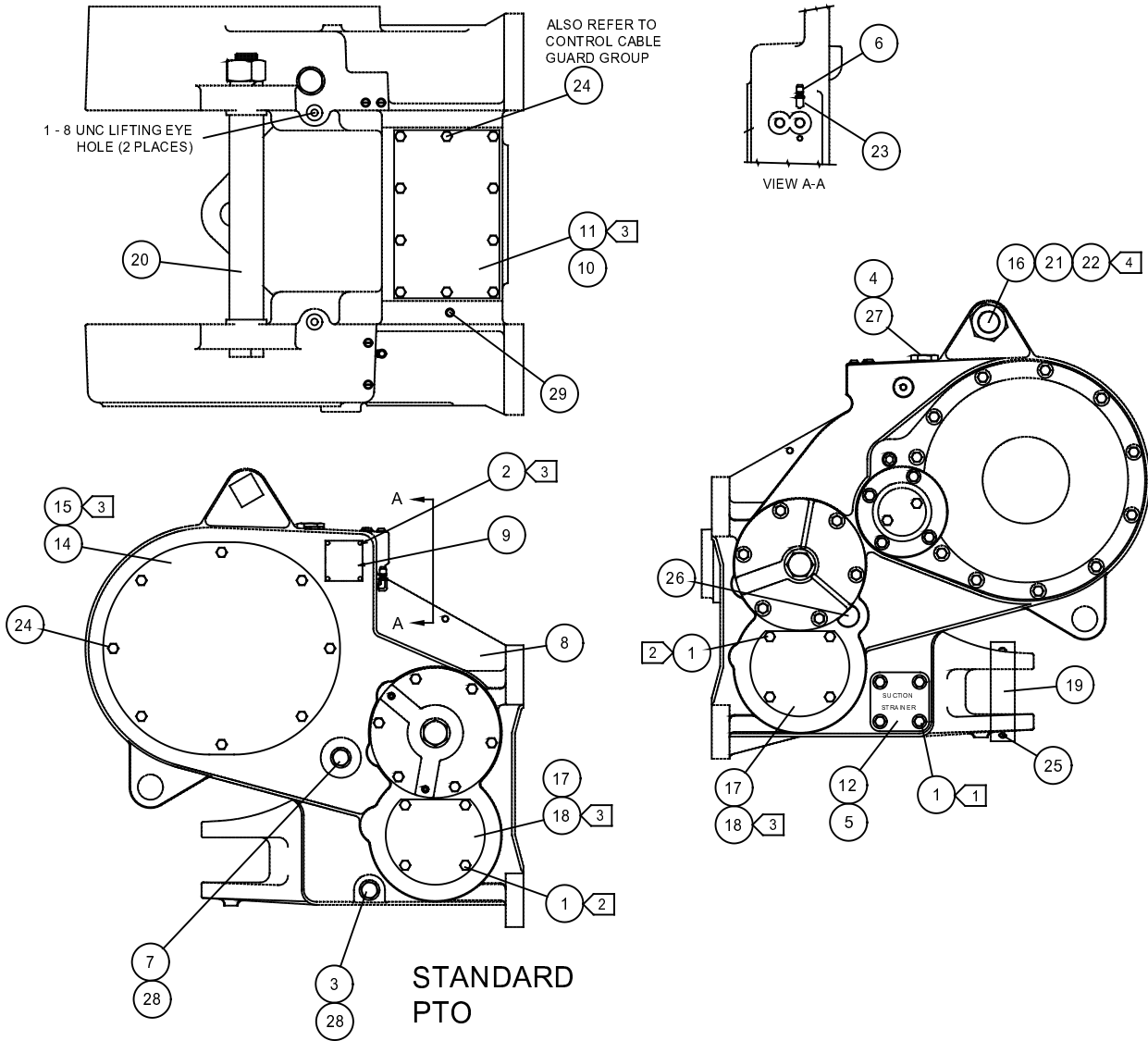
1. Clean bevel and pump pinions with Loctite solvent. Verify press fit before assembly. Apply Loctite 609 or equal to surfaces indicated in Detail A. Press pump drive pinion, item 2, onto bevel pinion and seat securely against shoulder. Allow proper cure time for Loctite before usage.
2. Apply a thin coat of multi-purpose grease to rollers. Do not pack solid.
3. Tighten nut to ensure parts are fully seated. Loosen nut to set the rolling torque of 10 lb-in (1.1 N-m). Pinion must turn smoothly by hand.
4. Shim as required for tooth contact pattern as shown. The pattern height

- should be about 1/3 the whole depth, located midway between tip and root. It should be about 1/2 the face width shifted toward the toe. Set the backlash to .004 to .012 in. (.10 - .30 mm).
5. Apply approximately 3/16" (5 mm) bead of silastic sealant (RTV 732) to pilot diameter as indicated.
 6. Clean with Loctite solvent and apply Loctite 242 to dowel pin and insert into winch case.
 7. Clean with Loctite solvent and apply Loctite 242 to threads. Torque to 75 to 83 ft-lb (102 - 113 N-m).

ITEM	PART NO.	DESCRIPTION	QTY
1	106864	BEVEL PINION CARRIER	1
2	69947	PUMP PINION	1
3	70080	BEARING CUP	2
4	70081	BEARING CONE	2
5	70163	RETAINING RING	1
6	107298	OIL SEAL	1
7	74992	O-RING	1
8	70382	SEAL SPACER	1
9	11418	BEARING LOCKWASHER	1
10	24816	BEARING LOCKNUT	1
11	10318	DOWEL PIN	1
12	69946	SHIM, GASKET	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	104174	CAPSCREW, HEX HEAD, (1/2 - 13 X 1-1/4 GD8 Z)	6
17	70354	BEVEL PINION - 18T STANDARD SPEED - 3 SHAFT	1
18	29072	BEVEL GEAR SET - 18/38T STD SPD (CODE D) - (NOT SHOWN)	1
19	70133	O-RING	1
20	70161	RETAINING RING	1
21	70357	BEVEL PINION PLUG	1

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WINCH CASE AND COVERS



NOTES:

- 1 APPLY "FEL-PRO C648F" TO BOLTS TO PREVENT THREAD CORROSION.
- 2 TIGHTEN FASTENERS TO 75 LB•FT (10.4 Kg•M) TORQUE.
- 3 APPLY "RTV 732" SILASTIC SEALANT TO BOTH SIDES OF GASKETS (11, 15 & 18) AND DRIVE SCREWS (2).
- 4 TIGHTEN HEX NUT (22) UNTIL LOCKWASHER (21) IS FLATTENED AND THEN TURN ONE FLAT.

WINCH CASE AND COVERS

ITEM	PART NO.	DESCRIPTION	QTY
1	104320	CAPSCREW, HEX HEAD (1/2 - 13 X 1 GD8 Z)	12
2	70053	DRIVE SCREW	4
3	70118	PLUG	1
4	29825	PLUG	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
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 (1-34 NC)	2
23	13708	ELBOW	1
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 PLUB - 3 SHAFT ONLY	1
27	31608	O-RING - FOR OIL FILL PLUG	1
28	31607	O-RING - FOR OIL DRAIN & LEVEL PLUG/SIGHT GAUGE	2
29	23377	PLUG (3/8 NPT SQ HD)	1

*SS - SELF SEALING MATERIAL PREAPPLIED TO THREADS