

CARCO®

INSTALLATION AND PARTS MANUAL

MODEL 50B with ELECTRONIC CONTROLS FOR D5N & D6N PS 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.

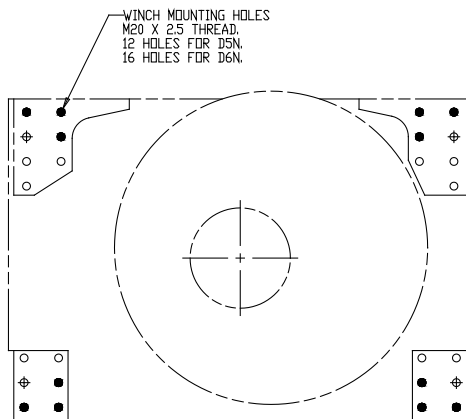
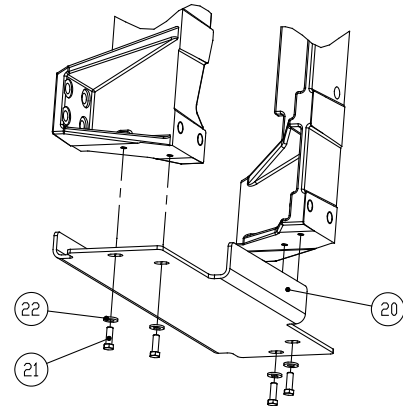
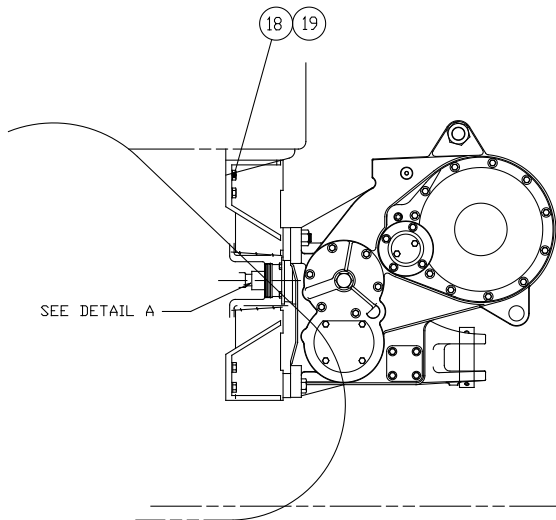
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MODEL NUMBER DESCRIPTION

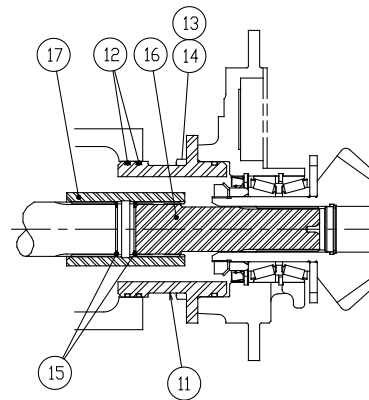
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Basic Winch Model	Bevel Gear Ratio D-2.11:1 E-2.79:1	0-Overwind	0-Standard Brake	1-With Freespool	0-Four Shaft Winch 1-Three Shaft Winch	0-No Fairlead	E-Electronic Control

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



VIEW OF TRACTOR REAR FACE

● BOTH D5N AND D6N.
⊕ D6N ONLY.

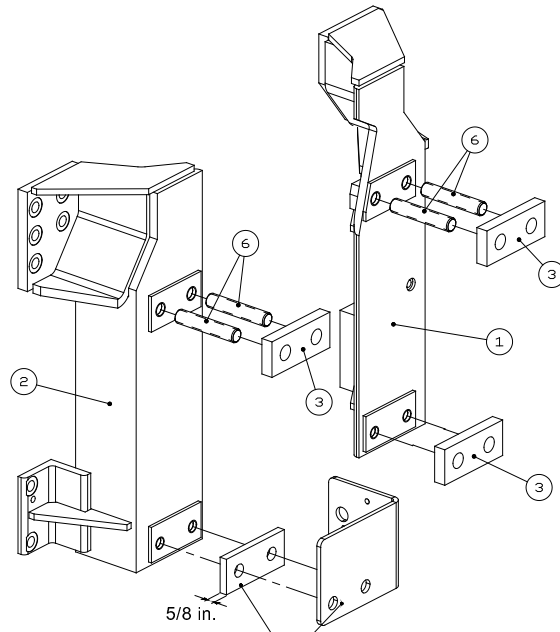
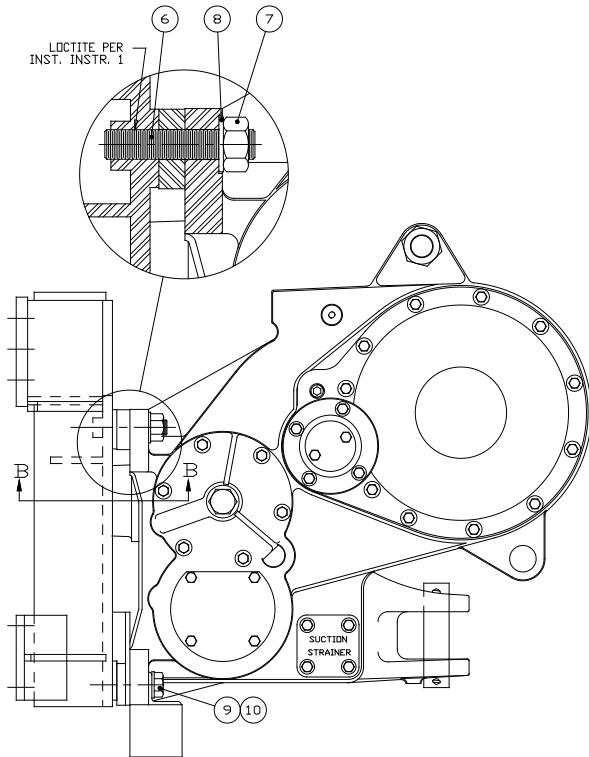


DETAIL A

ITEM	PART NO.	DESCRIPTION	QTY.
1	104387	MOUNTING BRACKET RH, CAST	1
2	104386	MOUNTING BRACKET LH, CAST	1
3	104045	SPACER (1.00 IN. THICK)	4
6	100655	STUD, 1-1/8 - 7 x 5.75 GD B7	4
7	104143	NUT, HEX 1-1/8 - 7 GD 8 Z	4
8	103484	WASHER, HARDENED (1-1/8)	4
9	103640	CAPSCREW, HEX HD 1 - 8 x 4 GD 8 Z	4
10	101205	WASHER, HARDENED 1, Z	4
11	104042	PILOT, PTO	1
12	69850	O-RING	3
13	104320	CAPSCREW, HEX HD, 1/2 - 13 UNC x 1.00, GD 8 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 HD, M20 x 2.5 x 50, GD 10.9 Z	12-16
19	103261	WASHER, M20 NOM, HARD, Z	12-16
20	104091	GUARD	1
21	104322	CAPSCREW, HEX HD, 1/2 - 13 NC x 1-1/2, GD 8 Z	4
22	102987	WASHER, 1/2, HARD, Z	4

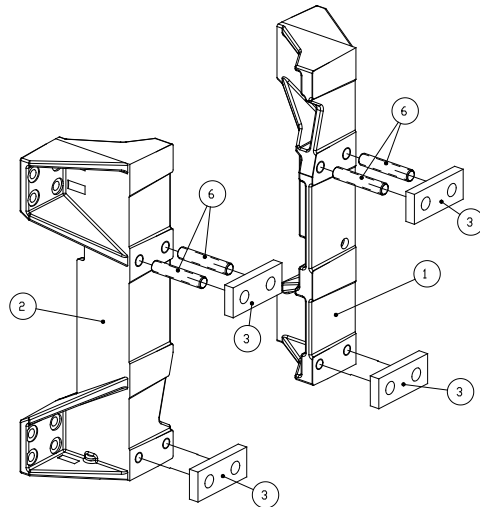
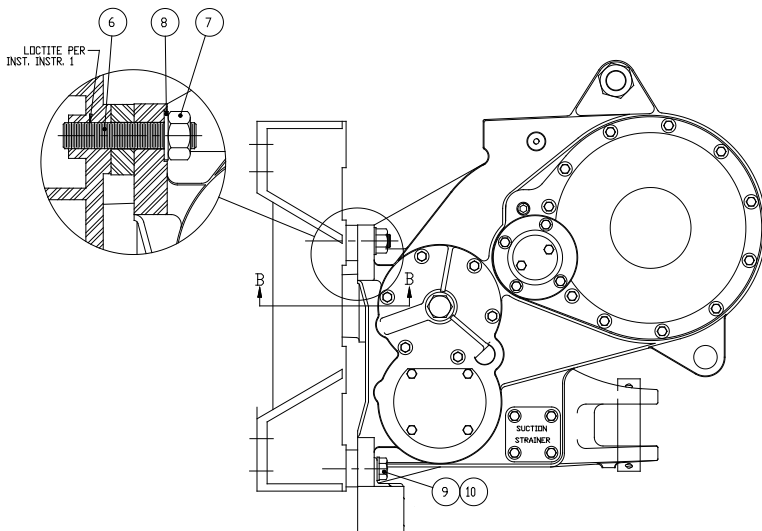
**MODEL 50B
ADAPTER GROUP
D5N & D6N**

Early Fabricated Mounting Brackets



NO LONGER USED
AFTER MID-YEAR 2003

Current Fabricated Mounting Brackets



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	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

The above components should be purchased through Caterpillar.

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 cap screws (9) and install lower spacer blocks and cap screws onto mounting brackets.
 - d. Tighten nuts (7) to 600 lb.-ft. (815 (n-m) torque. Tighten cap screws (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.

Tractor Transmission Filter Relocation

The D5N and D6N series tractors are built with a transmission filter group installed at the top left corner of the tractor rear face. The filter group must be repositioned to allow room for the installation of the winch. Refer to the Transmission Filter and Lines Group on pages 5-7 for filter relocation information.

In early 2003, the Caterpillar factory in Grenoble, France changed the external transmission filter from the original "canister-type" filter to a "spin-on type" filter group, Caterpillar P/N 238-6809 on all non-winch ready tractors. Winch ready tractors continued to use the canister-type filter group. The new spin-on filter group is not compatible with the filter relocation kit mentioned above and requires the dealer to purchase and retrofit the early, canister type filter group, Caterpillar 178-0568, unless the tractor was ordered "winch ready" from the Caterpillar factory. The chart below provides the beginning tractor serial numbers equipped with the spin-on filter group if not ordered "winch ready".

Model	Serial Number Prefix	Beginning Serial Number
D5N XL	AGG	700
D5N LGP	AKD	663
D6N XK	ALH	347
D6N XL	AKM	676
D6N LGP	ALR	324
D6N LGP	ALY	706

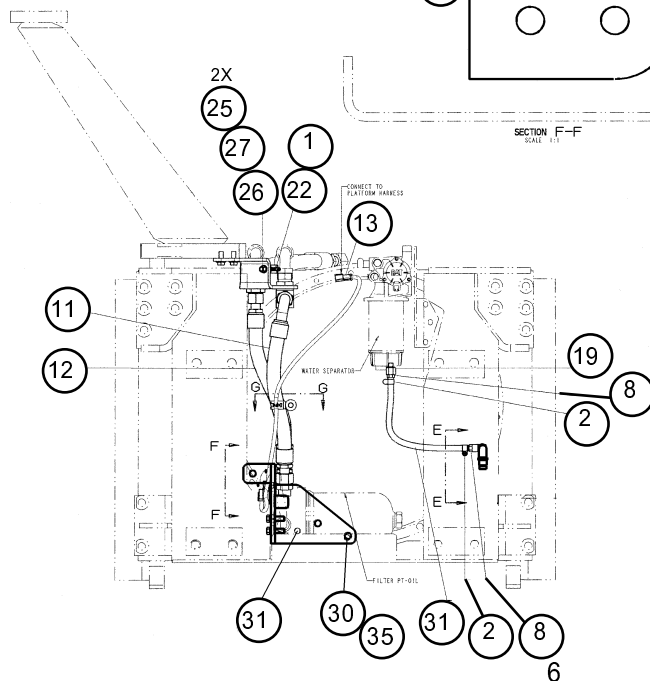
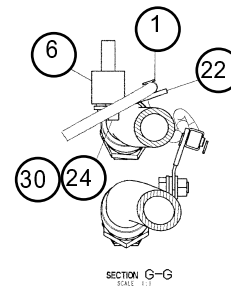
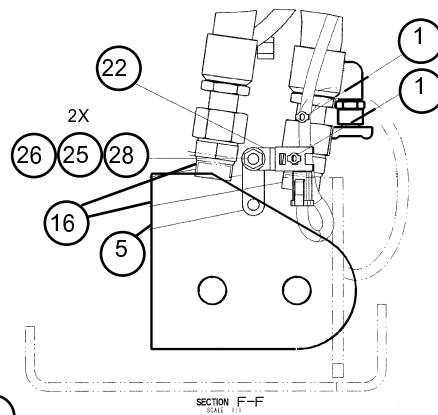
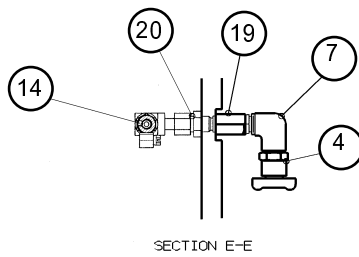
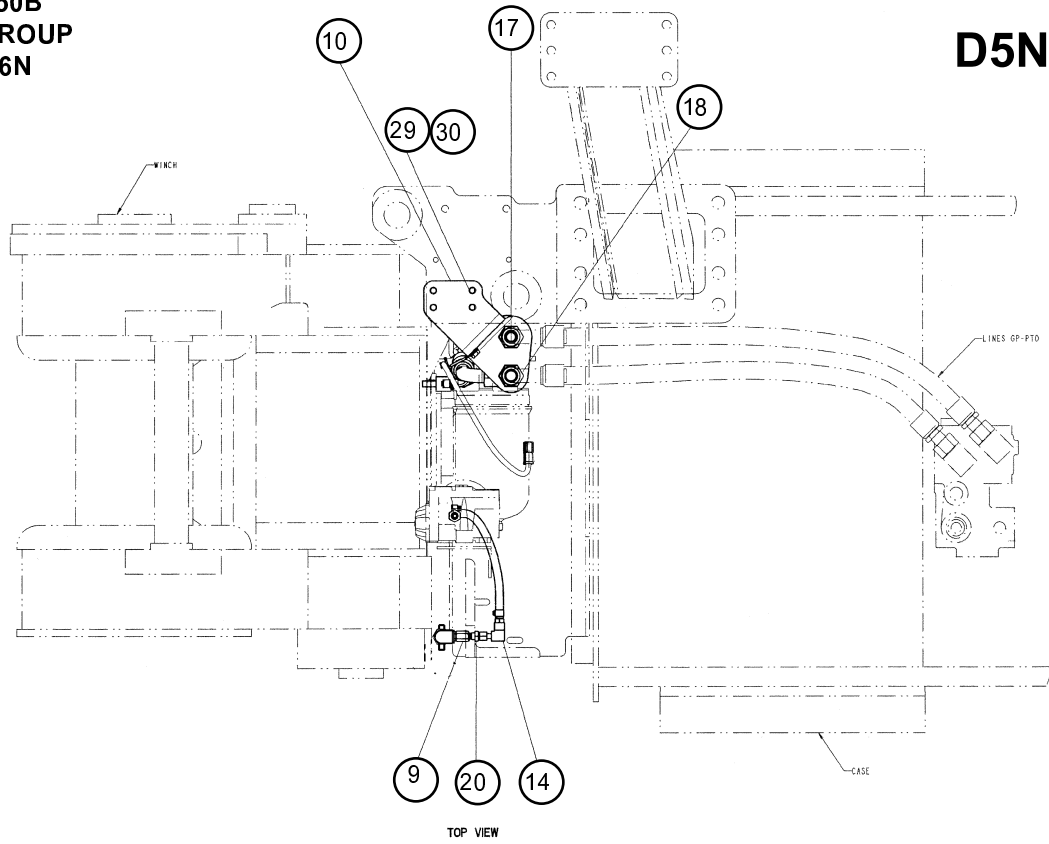
If the tractors listed above were NOT ordered "WINCH READY" from the Caterpillar factory, they will require the installation of the transmission filter relocation kit, Caterpillar P/N 189-3144, AND the canister-type filter group, Caterpillar P/N 178-0568.

Lines Group - Tractor

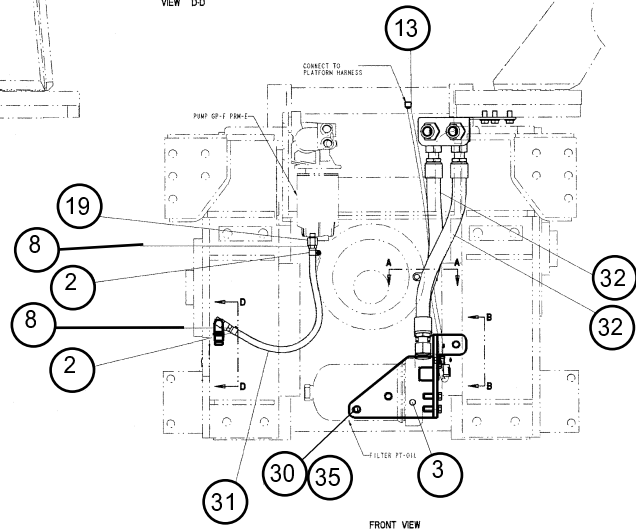
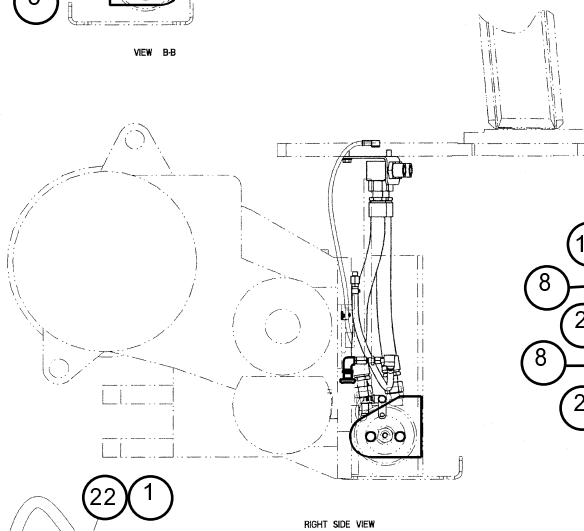
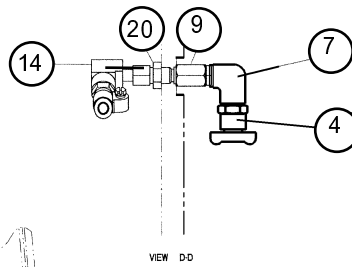
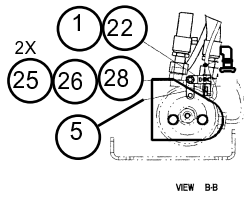
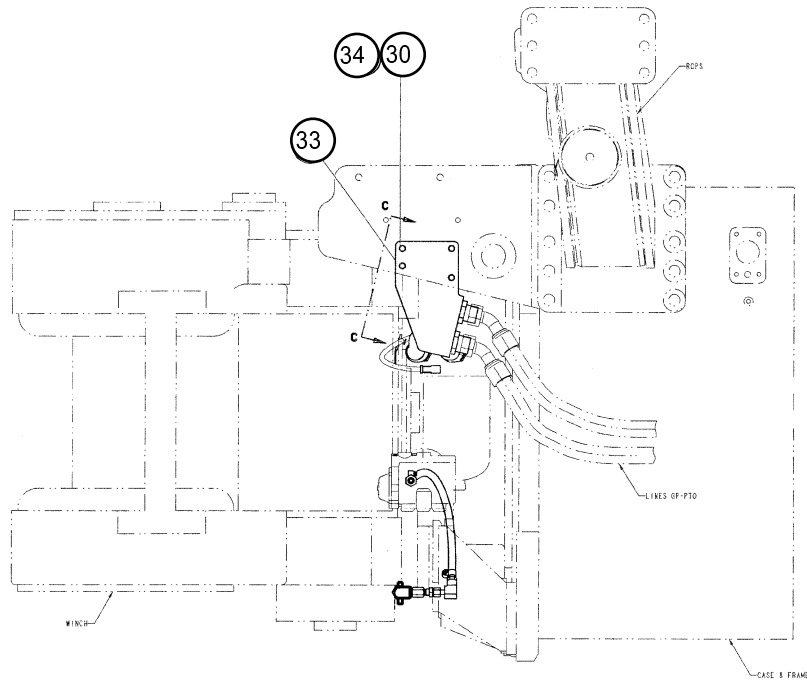
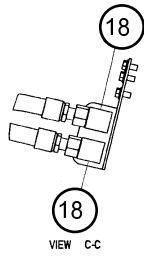
ITEM	PART NO.	DESCRIPTION	QTY
1	32489	STRAP, CABLE	4
2	104709	CLAMP-HOSE	2
3	104807	BRACKET	1
4	104861	DRAIN VALVE	1
5	104649	PLATE	1
6	104650	SPACER	1
7	104860	ELBOW	1
8	104701	CONNECTOR ASSEMBLY	2
9	104655	ADAPTER ASSEMBLY	1
10	104657	BRACKET	1
11	104663	HOSE ASSEMBLY	1
12	104662	HOSE ASSEMBLY	1
13	104706	HARNESS ASSEMBLY	1
14	104708	ELBOW - 90° ORFS	1
16	104660	CONNECTOR ASSEMBLY	2
17	104651	UNION ASSEMBLY	1
18	104659	ELBOW ASSEMBLY	2
19	104702	ADAPTER ASSEMBLY	1
20	100775	LOCKNUT (9/16 - 18)	1
22	104703	CLIP	3
24	104131	BOLT (1/2-13 X 2 1/2 GD 8 ZINC PLATED)	1
25	102126	WASHER-HARD (M10)	4
26	104718	NUT (M10 X 1.5)	2
27	104719	BOLT (M10 X 1.5 X 25 GD 10.9 ZINC PLATED)	1
28	103230	BOLT (M10 X 1.5 X 20 GD 10.9 ZINC PLATED)	1
29	103935	BOLT (M12 X 1.75 X 30 GD 10.9 ZINC PLATED)	4
30	100859	WASHER-HARD (1/2)	5
31	104707	HOSE	1
32	104695	HOSE ASSEMBLY	2
33	104696	BRACKET	1
34	104691	BOLT (M12 X 1.75 X 25 GD 10.9 ZINC PLATED)	4
35	103824	BOLT (M12 X 1.75 X 60 GD 10.9 ZINC PLATED)	3

**MODEL 50B
LINES GROUP
D5N & D6N**

D5N



D6N



MODEL 50B **CONTROL GROUP** **D5N & D6N**

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

The control installation instructions are divided into two major revisions that apply to "N" series tractors that were built either before or after September, 2004 as listed below:

Tractor Model	S/N Prefix	Control Group 1	Control Group 2
D5N XL	AGG	up to 1334	1335 & above
D5N LGP	AKD	up to 1134	1135 & above
D6N XK	ALH	up to 734	735 & above
D6N XL	AKM	up to 1234	1235 & above
D6N LGP	ALR	up to 634	635 & above
D6N LGP	ALY	up to 1334	1335 & above

Control Group 1

The winches shipped prior to March 2004 installed the electronic control module inside the tractor console. The March 2004 and later winches have the control module installed under a heavy steel guard on top of the winch. The first installation procedure listed below describes the early type with the control module installed inside the tractor console.

1. Install the winch controller (1) into the controller mounting plate (5) using button head capscrews (6). The small indentation made by a drill point must be installed at the twelve o'clock position, away from the operator and the hole for the filter by-pass indicator light at the six o'clock position, toward the operator. Install the filter by-pass indicator light (7) into the controller mounting plate.
2. In order for the controller lever to reach through the plastic control console cover, the controller mounting plate must be elevated above the console top plate. Using four pieces of approximately ½ in. (13 mm) steel tubing approximately 2 in. (50 mm) long, install the controller mounting plate sub-assembly above the hole for the ripper control lever using four 3/8 X 3 in. (10 x 75mm) long capscrews, washers and nuts as shown in photograph 1 below.

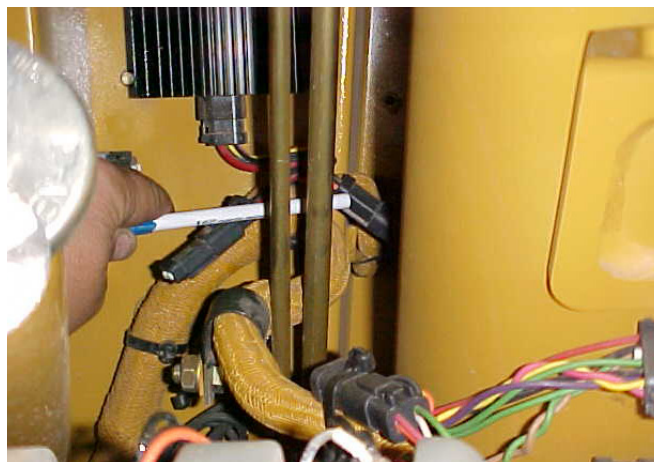
Note: Make certain all wiring harness connector pins, plugs and sockets are clean. Pins must be straight to align with the respective socket. Dirty connectors and bent pins will prevent reliable operation of the winch.

3. Route the wiring harness (4) under the console and attach the spade connectors to the filter bypass indicator light (7) that has been installed in the controller mounting plate (as shown) or may be installed in the

console cover for better visibility. The indicator light terminals are not polarity sensitive.



4. Install the control module (3) in a convenient location below the console in a position that will not interfere with the tractor control linkage and permit attachment of the controller six pin connector. Install the eight-pin harness connector to the control module. Install the six pin connector from the controller to the control module. Install the twelve-pin connector to the winch. Route the two conductor power supply toward the left side of the tractor cab platform. You will need to fabricate a two conductor extension to reach from the tractor power lead located near the tractor battery (shown in photo 2 below) to connect with the winch power supply lead of the winch harness. Insure the tractor power supply is off before you connect the power lead to the harness. Bundle and restrain loose wires to prevent abrasion and interference with tractor controls.



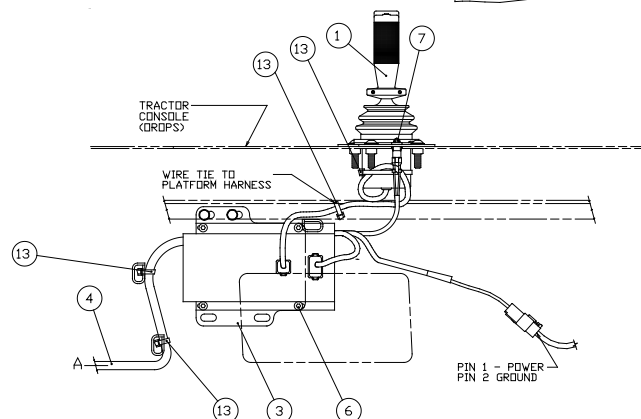
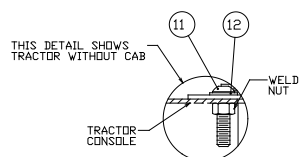
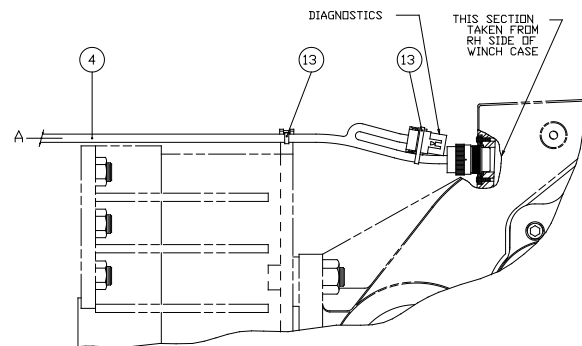
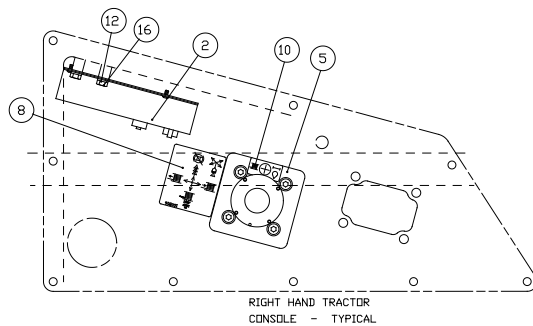
5. Modify the control console cover as shown in photograph 3 to permit installation over the controller handle. Drill a .50 in. (12.5 mm) hole in the console cover near the controller for the filter by-pass indicator light if not installed in the controller mounting plate.

**MODEL 50B
CONTROL GROUP
D5N & D6N**

6. Install the control operation and warning labels (8, 10) next to the controller and indicator light.
7. Fill the winch to the proper level with recommended oil. Refer to the specifications found in the Operation and Preventive Maintenance Manual or the Service Manual.
8. Start the tractor and operate the engine at low RPM for several minutes to allow the winch control system pressure to stabilize. Operate the winch in all functions as instructed in the Operation and Preventive Maintenance Manual.



ITEM	PART NO.	DESCRIPTION	QTY.
1	107640	DUAL AXIS CONTROLLER	1
2	102501	CONTROL MODULE	1
3	101384	MOUNTING PLATE	1
4	100732	WIRING HARNESS	1
5	101194	PLATE, CONTROLLER MOUNTING	1
6	101817	CAPSCREW, BUTTON HD 10-24 x 1/2 SS	8
7	100792	INDICATOR LIGHT	1
8	100816	DECAL, CONTROL (W/FREESPOOL)	1
10	100822	DECAL, FILTER	1
11	100844	CAPSCREW, BUTTON HD	4
12	101440	FLATWASHER, 3/8	6
13	32489	WIRE TIE	6
16	104135	CAPSCREW, HEX HD 3/8 - 18 x 3/4 GD 8 Z	2



MODEL 50B CONTROL GROUP D5N & D6N

The following control installation procedure pertains to the winches built after March, 2004 with the control module mounted under a heavy steel guard on top of the winch.

1. Attach the dual axis controller (1) to the control bracket cover (4) with button head capscrews (9). The small indentation made by a drill point in the controller mounting flange must be located at the top, twelve o'clock position, away from the operator to maintain proper control orientation. Install the filter by-pass indicator light (10) into the cover (4).
2. Remove the ripper control lever group (if equipped) from the tractor control console. Install the control bracket (2) and gasket (3) to the tractor console with button head capscrews and washers (5, 6).

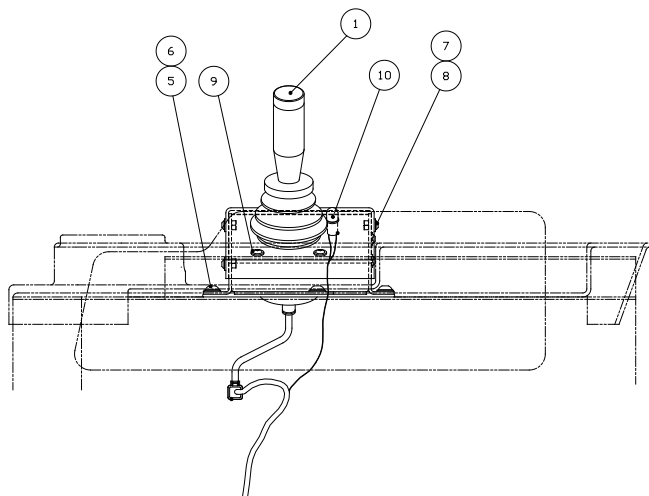
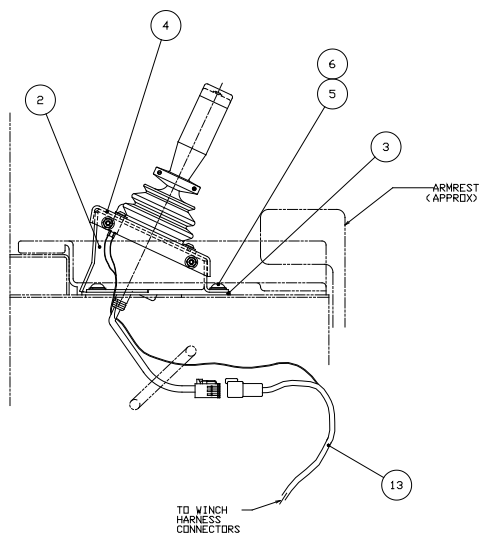
Note: Make certain all wiring harness connector pins, plugs and sockets are clean. Pins must be straight to align with the respective socket. Dirty connectors and bent pins will prevent reliable operation of the winch.

3. Install the wiring harness (13) six pin connector to the controller and the spade connectors to the filter by-pass light. The indicator light terminals are not polarity specific. The other end of this harness will

connect to the eight-pin connector of the wiring harness attached to the winch-mounted control module.

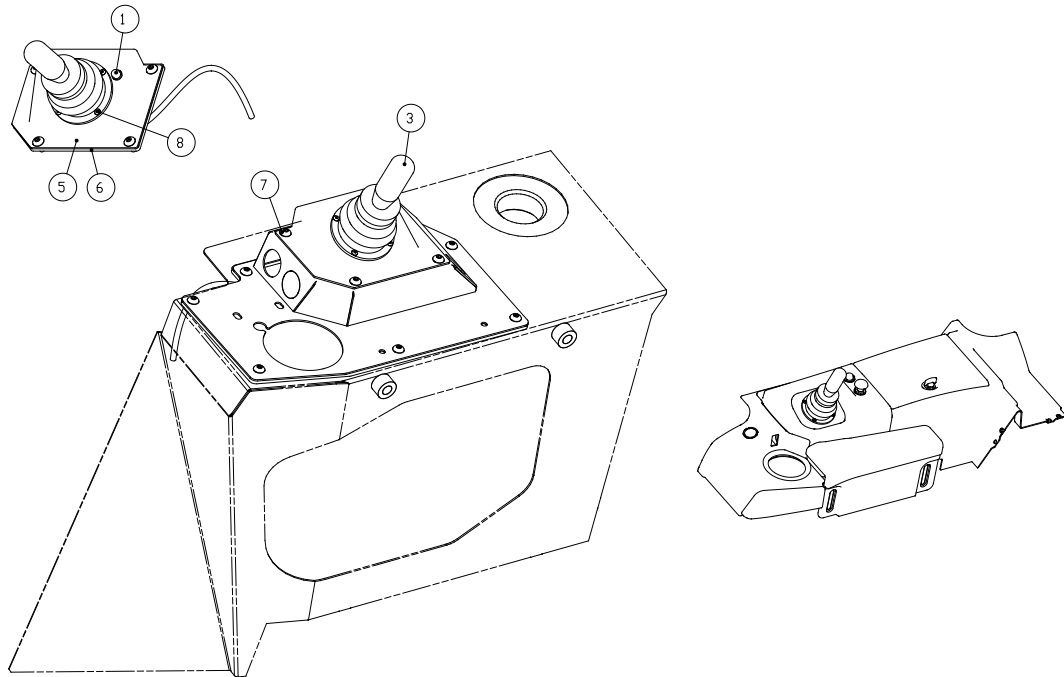
4. Install the two conductor harness (14, not shown) that will connect the power lead of the winch harness to the power supply plug located on the left side of the tractor cab platform, near the battery. Photograph 2, above, shows the location of the tractor power supply plug. Bundle and restrain loose wires to prevent abrasion and interference with tractor controls.
5. Replace the existing tractor console cover with winch console cover, P/N 105739. Install the control operation and filter warning labels (11, 12) to the console cover near the control lever.
6. Fill winch to proper level with recommended oil. Refer to the specifications found in the Operation and Preventive Maintenance Manual or the Service Manual.
7. Start the tractor and operate the engine at low RPM for several minutes to allow the winch control system pressure to stabilize. Operate the winch in all functions as instructed in the Operation and Preventive Maintenance Manual.

ITEM	PART NO.	DESCRIPTION	QTY.
1	107640	CONTROL, DUAL AXIS	1
2	104048	BRACKET	1
3	104049	GASKET	1
4	105329	COVER	1
5	100642	CAPSCREW, BUTTON HD, M10 x 1.5 x 25mm	3
6	101440	FLATWASHER, 3/8 NOM. HARD. Z	3
7	100643	CAPSCREW, BUTTON HD, M6 x 1.0 x 25MM	3
8	100857	WASHER, 1/4 NOM. HARD. Z	3
9	101817	CAPSCREW, BUTTON HD, #10-24, SS	4
10	100792	INDICATOR LIGHT	1
11	100816	DECAL (not shown)	1
12	100824	DECAL (not shown)	1
13	105954	WIRING HARNESS	1
14	105404	WIRING HARNESS (not shown)	1
15	32489	ZIP TIE (not shown)	8



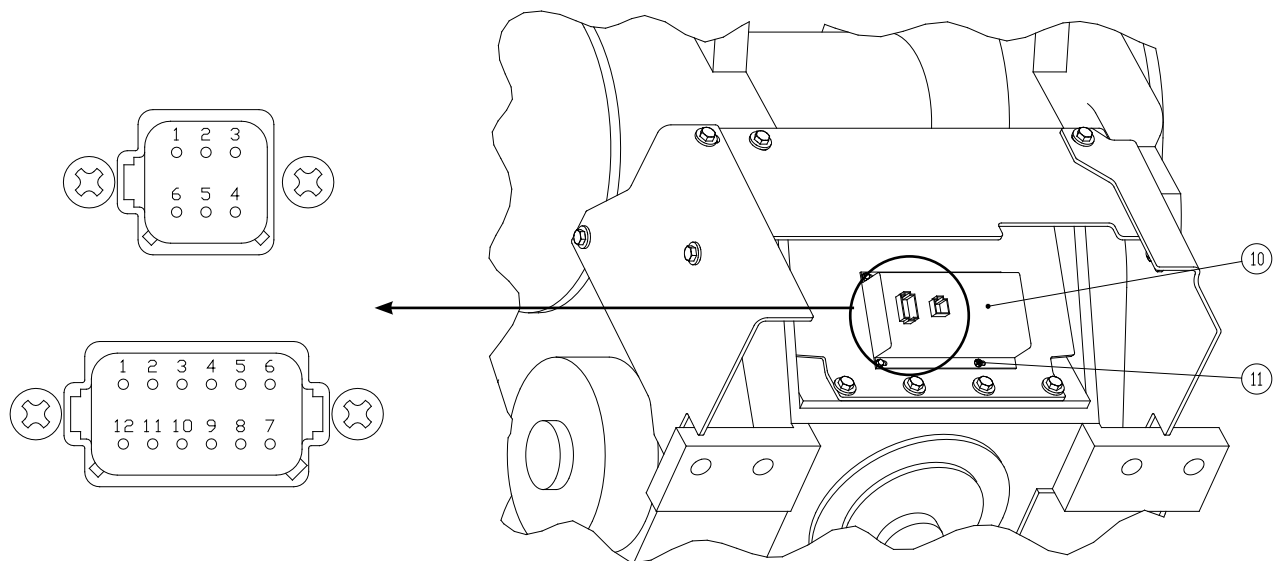
Control Group 2

These instructions pertain to the “N” series tractors built beginning September 2004. Caterpillar made changes to the tractor control console and wiring harness that improve the winch control installation.



ITEM	PART NO.	DESCRIPTION	QTY.
1	100792	LIGHT	1
2	100816	DECAL, CONTROL	1
3	107640	CONTROLLER, DUAL AXIS	1
4	102247	DECAL, FILTER LIGHT	1
5	104841	BRACKET	1
6	104842	GASKET	1
7	105284	CAPSCREW, TM8- 1.25-20	4
8	101817	CAPSCREW, B019-050 NC SS	4
9	104848	HARNESS, WINCH/MODULE	1
10	102501	CONTROL MODULE	1
11	104847	SCREW, SELF TAP, HEX HD, 10-24 x 1/2	4
12	105954	HARNESS, CONTROLLER/MODULE	1

**MODEL 50B
CONTROL GROUP
D5N & D6N**



DT15-12PA PINOUT

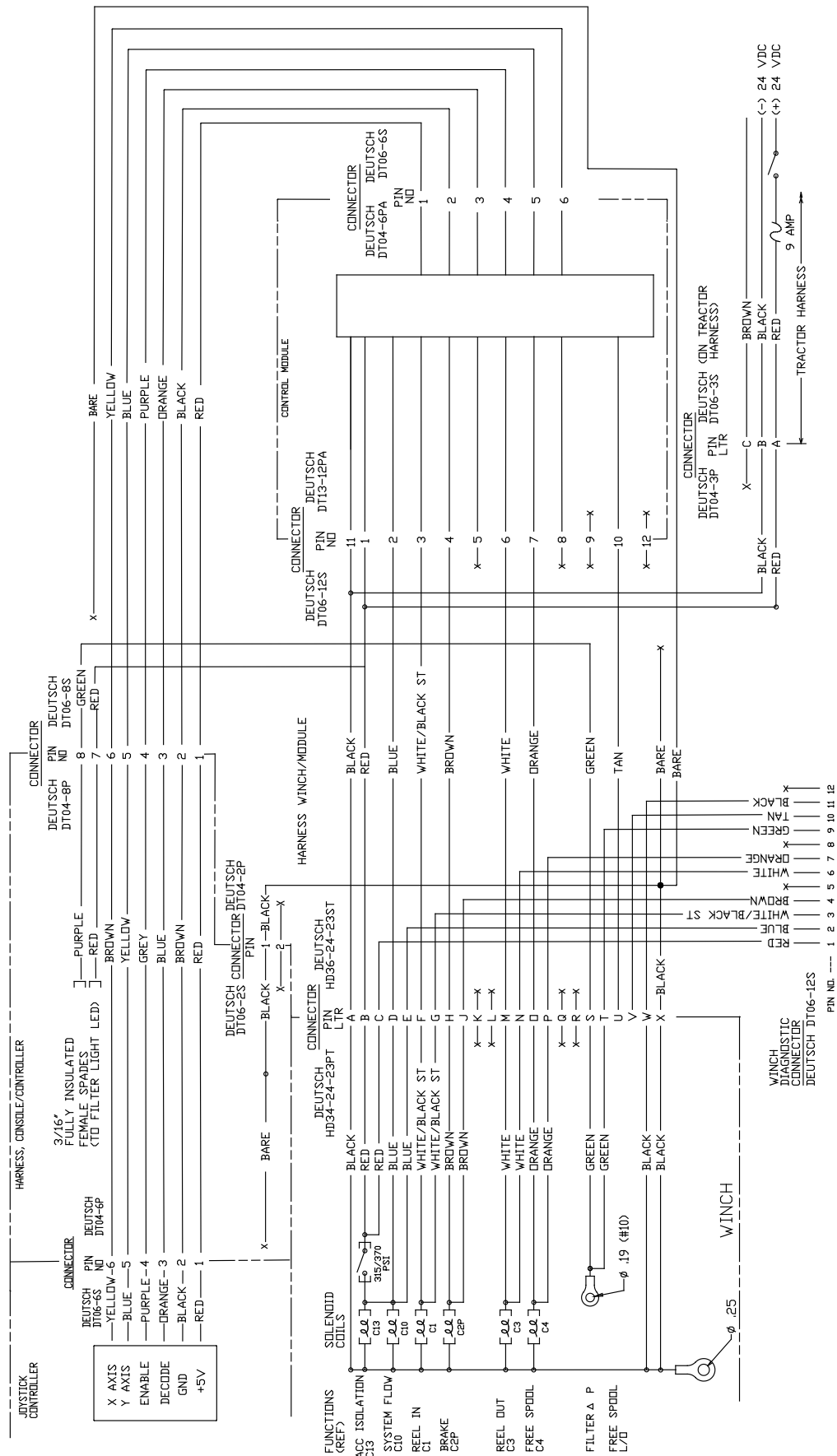
- | | |
|----------------|----------------------|
| 1. (+) BATTERY | 7. FREESPOOL |
| 2. SYSTEM FLOW | 8. NOT USED |
| 3. REEL IN | 9. NOT USED |
| 4. BRAKE | 10. FREESPOOL STATUS |
| 5. NOT USED | 11. (-) BATTERY |
| 6. REEL OUT | 12. NOT USED |

DT04-6S PINOUT

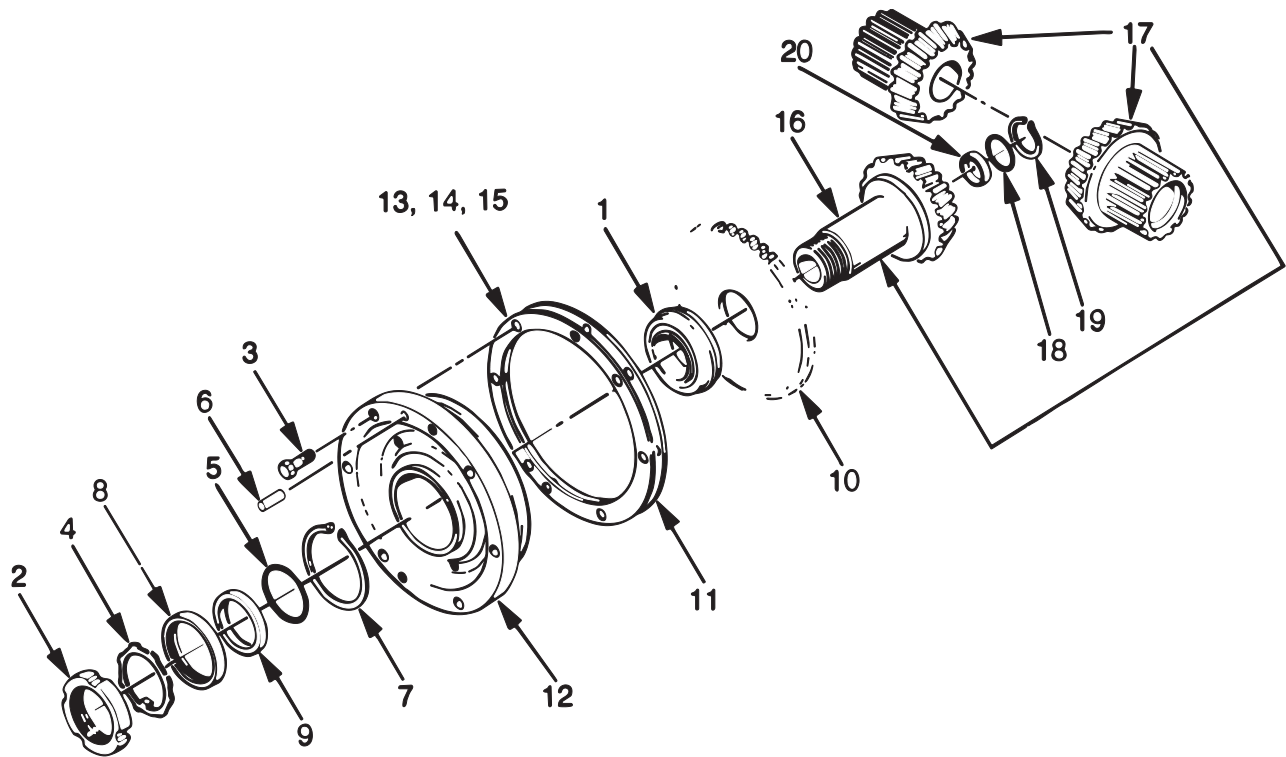
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|------------------|
| 1. (+)5V SUPPLY |
| 2. GROUND |
| 3. DUAL DECODE |
| 4. ENABLE BUTTON |
| 5. Y AXIS |
| 6. X AXIS |

1. Install the controller (3) to the control bracket (5) using button head capscrews (8). The small indentation made by a drill point in the controller mounting flange must be located at the top, twelve o'clock position, away from the operator to maintain proper control orientation. Install the filter by-pass indicator light (1) to the bracket. Place the control bracket gasket (6) onto the tractor console.
2. Pass wiring harness (105954) from the winch up through the tractor console and install the six-pin connector to the controller plug and the spade connectors to the indicator light. The indicator terminals are not polarity sensitive.
3. Install the control bracket onto the console and gasket using button-head capscrews (7).
4. Install special winch specific console cover (105740). Install operating decal (2) and warning light decal (4) onto cover next to controller.
5. If not already installed on the winch, install wiring harness (104848) as follows: With tractor power turned off, connect the three-pin connector of the tractor power lead that is typically coiled and secured under the tractor fuel tank. Install the eight-pin and two-pin connector plugs of the winch harness to the cab harness (105954). Install the twelve-pin connector onto the control module. Install the six-pin connector for the controller to the control module. Install the screw-on harness connector to the winch. The diagnostic plug should remain capped. Bundle and restrain loose wires to prevent abrasion and interference with tractor controls.
6. Fill winch to proper level with recommended oil. Refer to the specifications found in the Operation and Preventive Maintenance Manual or the Service Manual.
7. Start the tractor and operate the engine at low RPM for several minutes to allow the winch control system pressure to stabilize. Operate the winch in all functions as instructed in the Operation and Preventive Maintenance Manual.

**MODEL 50B
CONTROL GROUP
D5N & D6N**



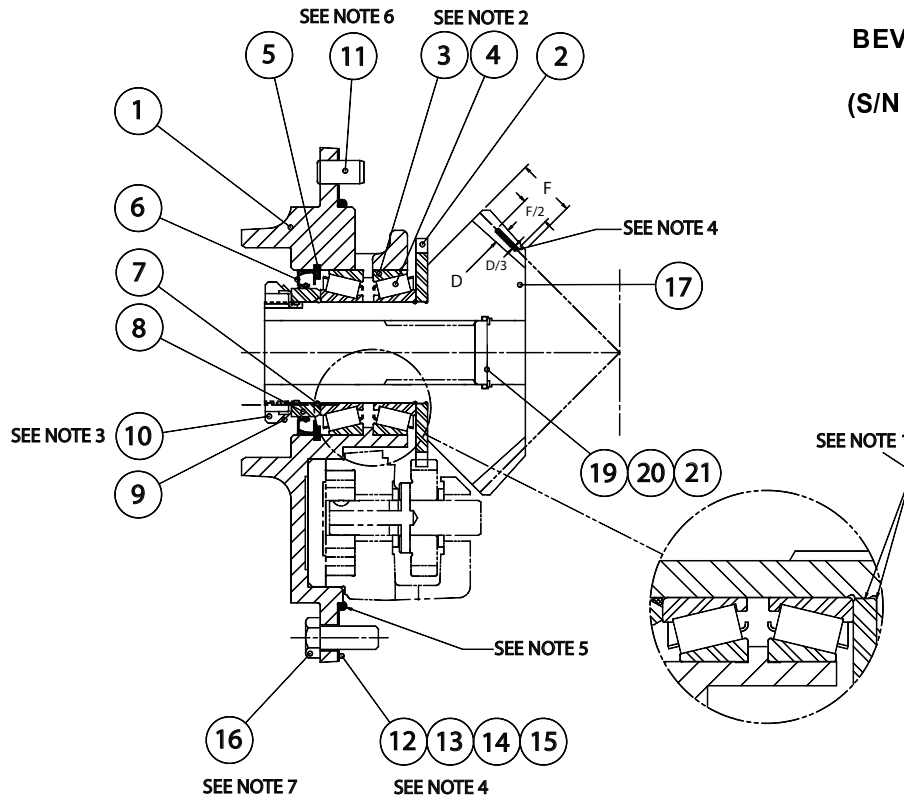
MODEL 50B
BEVEL GEAR GROUP
D5N & D6N
(S/N 0704589 AND BELOW)



ITEM	PART NO.	DESCRIPTION	QTY.
1	70077	BEARING ASSEMBLY	1
2	24816	BEARING LOCKNUT	1
3	104320	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	107298	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. (CODE D) *	1
	29073	BEVEL GEAR SET - 14/39T SLO. SPD. (CODE E) *	1
18	70133	O-RING	1
19	70161	RETAINING RING	1
20	70357	BEVEL PINION PLUG	1

* Bevel Gear Set includes (2) Bevel Gears and (1) Bevel Pinion

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



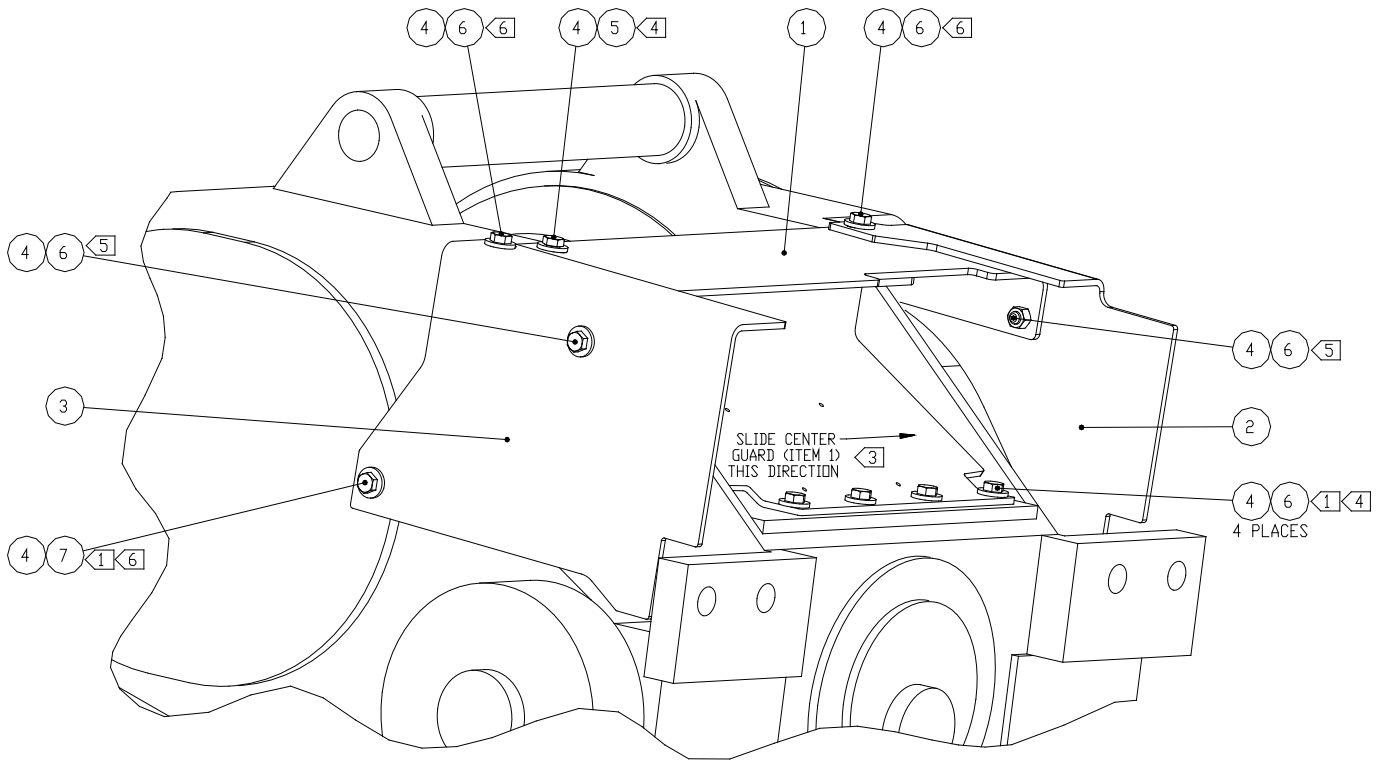
NOTES:

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 NO.	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 HD (1/2 - 13 X 1 1/4 in. G8, Z)	6
17	70354	BEVEL PINION - 18T STANDARD SPEED - 3 SHAFT	1
	70355	BEVEL PINION - 14T SLOW SPEED - 4 SHAFT	1
18	29072	BEVEL GEAR SET - 18/38T STD. SPD. (CODE D) * (NOT SHOWN)	1
	29073	BEVEL GEAR SET - 14/39T SLO. SPD. (CODE E) * (NOT SHOWN)	1
19	70133	O-RING	1
20	70161	RETAINING RING	1
21	70357	BEVEL PINION PLUG	1

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

GUARD GROUP



INSTALLATION INSTRUCTIONS:

1. Remove existing capscrews in locations marked with Note Designator "1".
2. Install guards (items 1, 2 and 3) using new capscrews (items 5, 6 and 7) and washers (item 4). Leave all capscrews several turns loose.
3. Slide center guard (item 1) as far to the left of the winch as it will go within the slack of the mounting holes.
4. Tighten capscrews that secure center guard only to the winch case as marked with Note Designator "4".
5. Tighten capscrews that secure side guards to center guard only as marked with Note Designator "5". (Same on both sides.)
6. Tighten remaining capscrews.

ITEM	PART NO.	DESCRIPTION	QTY.
1	104844	GUARD, CENTER	1
2	104845	GUARD, LH	1
3	104846	GUARD, RH	1
4	102987	WASHER, HARD, 1/2 Z	10
5	104320	CAPSCREW, HEX HEAD 1/2 - 13 x 1 GD 8 Z	1
6	104174	CAPSCREW, HEX HEAD 1/2 - 13 x 1-1/4 GD 8 Z	8
7	104322	CAPSCREW, HEX HEAD 1/2 - 13 x 1-1/2 GD 8 Z	1

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Winch Conversion Kits

There have been some changes made to the D5N/D6N tractor that affect the winch installation and there has been a change made to the mounting location of the winch electronic control module. The following information lists the parts that are required to make various winch conversions of electronically controlled Model 50B winches onto the D5N/D6N series tractors.

Moving a winch from D5M/D6M to D5N/D6N built before September 2004, use kit 63434. (Refer to Control Group 1 on page 8).

Moving a winch from D5M/D6M to D5N/D6N built September, 2004 or later, use kit 63763. (Refer to Control Group 2 on page 11).

Moving a winch that is equipped with the control module mounted inside the tractor console, from early D5N/D6N built before September, 2004 to D5N/D6N built September, 2004 or later, use kit 63764. (Refer to Control Group 2 on page 11). This kit contains the necessary parts to install the winch control module onto new winch guards and the new style tractor control console and wiring harness.

If moving a winch that is already equipped with the control module mounted onto the winch guards (external electronics) from an early production D5N/D6N built before September, 2004 to a current production D5N/D6N tractor built September, 2004 and later, order kit 63765 to obtain the new style control bracket parts that match the new style tractor control console.

KIT 63764

P/N	DESCRIPTION	QTY.
104844	GUARD	1
104845	GUARD, LH	1
104846	GUARD, RH	1
102987	WASHER, HARD	10
104320	CAPSCREW, HEX HD 1/2 - 13 X 1 GD 8 Z	1
104174	CAPSCREW, HEX HD 1/2 - 13 X 1-1/4 GD 8 Z	8
104322	CAPSCREW, HEX HD 1/2 - 13 X 1-1/2 GD 8 Z	1
104847	SCREW, SELF-TAP 10 - 24 X 1/2	4
104848	WIRING HARNESS	1
32489	TIE STRAP, BLACK	1
100816	DEAL, CONTROL	1
102247	DECAL, FILTER	1
104841	BRACKET	1
104842	GASKET	1
105284	SCREW, SPECIAL	4
101817	CAPSCREW, BUTTON HD 10-24 X 1/2 SS	4
104843	WIRING HARNESS	1

KIT 63765

P/N	DESCRIPTION	QTY.
100816	DEAL, CONTROL	1
102247	DECAL, FILTER	1
104841	BRACKET	1
104842	GASKET	1
105284	SCREW, SPECIAL	4
101817	CAPSCREW, BUTTON HD 10-24 X 1/2 SS	4

KIT 63424

P/N	DESCRIPTION	QTY.
104045	SPACER	4
100656	STUD	4
104143	NUT, HEX 1-1/8	4
103484	WASHER, HARD, 1-1/8	4
104140	CAPSCREW, HEX 1-8 X 3-3/4 GD8 Z	4
101205	WASHER	4
104042	PILOT	1
69850	O-RING	1
104320	CAPSCREW, HEX HD 1/2 - 13 X 1 GD8 Z	4
100859	WASHER, 1/2	4
68018	DOC-REWORK	1
68019	DOC-REWORK, MTG BRACKETS	1
104274	CAPSCREW, HEX HD 1/2 - 13 X 4-3/4 GD8 Z	4
69850	O-RING	2
104169	CAPSCREW, HEX HD M20 - 2.5 X 50 GD 10.9	14
103261	WASHER, M20 HARD Z	14
104041	SHAFT	1
104091	GUARD	1
104322	CAPSCREW, HEX HD 1/2 - 13 X 1-1/2 GD8 Z	4
102987	WASHER, HARD, 1/2 Z	4
104048	BRACKET, CONTROL MOUNTING	1
104049	GASKET	1
105329	COVER	1
100642	CAPSCREW, BUTTON HD M10 - 1.5 X 25 SS	3
101440	WASHER, HARD, 3/8	3
100643	CAPSCREW, BUTTON HD M6 - 1.0 X 25 SS	3
100857	WASHER, 1/4	3
101817	CAPSCREW, 3/16 - 24 X 1/2 SS	4
100792	INDICATOR LIGHT - RED	1
100816	DECAL, CONTROL	1
100824	DECAL, CONTROL	1
104843	WIRING HARNESS	1
105404	WIRING HARNESS	1
32489	TIE STRAP, BLACK	8
32489	TIE STRAP, BLACK	4
104709	HOSE CLAMP	2
104861	VALVE, DRAIN	1
104649	PLATE	1
104650	SPACER	1
104860	ELBOW 90° -6 ORB/-4 NPT	1
104701	CONNECTOR	2
104655	ADAPTER, BULKHEAD	1
104657	BRACKET	1
104663	HOSE ASSEMBLY -16/ -16 X 19.8	1
104662	HOSE ASSEMBLY -16 X 19.8	1
104706	HARNESS, EXTENSION	1
104708	ELBOW, 90° ORFS	1
104660	ADAPTER, ORB-ORFS -16	2
104651	BULKHEAD UNION -16	1
104659	ELBOW, BULKHEAD UNION -16	2
104702	ADAPTER, ORB -5/ -6	1
100775	NUT, BULKHEAD ADAPTER -6	1
104703	CLIP-LADDER	3
104131	CAPSCREW, HEX HD 1/2 - 13 X 2-1/2 GD 8 Z	1
102126	WASHER, M10 HARD Z	4
104718	NUT, HEX M10 X 1.5 GD 10.9	2
104719	CAPSCREW, HEX M10 1.5 X 25 GD 10.9	1
103230	METRIC SCREW HEX M10 1.5 X 20 GD 8 Z	1
103935	CAPSCREW, HEX M12 - 1.75 X 30 GD 10.9 Z	4
100859	WASHER, 1/2	8
104707	HOSE, HYD	1
104695	HOSE ASSEMBLY - 16 X 22	2
104696	BRACKET	1
104691	CAPSCREW, M12 - 1.75 X 25 GD 10.9 Z	4
103824	CAPSCREW, M12 - 1.75 X 60 GD 10.9 Z	3
104807	BRACKET	1
104844	GUARD	1
104845	GUARD, LH	1
104846	GUARD, RH	1
102987	WASHER, HARD	10
104320	CAPSCREW, HEX HD 1/2 - 13 X 1 GD 8 Z	1
104174	CAPSCREW, HEX HD 1/2 - 13 X 1-1/4 GD 8 Z	8
104322	CAPSCREW, HEX HD 1/2 - 13 X 1-1/2 GD 8 Z	1
104847	SCREW, SELF-TAP 10 - 24 X 1/2	4
104848	WIRING HARNESS	1
32489	TIE STRAP, BLACK	1

KIT 63763

P/N	DESCRIPTION	QTY.
104045	SPACER	4
100656	STUD	4
104143	NUT, HEX 1-1/8	4
103484	WASHER, HARD, 1-1/8	4
104140	CAPSCREW, HEX 1-8 X 3-3/4 GD8 Z	4
101205	WASHER	4
104042	PILOT	1
69850	O-RING	1
104320	CAPSCREW, HEX HD 1/2 - 13 X 1 GD8 Z	4
100859	WASHER, 1/2	4
68018	DOC-REWORK	1
68019	DOC-REWORK, MTG BRACKETS	1
104274	CAPSCREW, HEX HD 1/2 - 13 X 4-3/4 GD8 Z	4
69850	O-RING	2
104169	CAPSCREW, HEX HD M20 - 2.5 X 50 GD 10.9	14
103261	WASHER, M20 HARD Z	14
104041	SHAFT	1
104091	GUARD	1
104322	CAPSCREW, HEX HD 1/2 - 13 X 1-1/2 GD8 Z	4
102987	WASHER, HARD, 1/2 Z	4
104844	GUARD	1
104845	GUARD, LH	1
104846	GUARD, RH	1
102987	WASHER, HARD	10
104320	CAPSCREW, HEX HD 1/2 - 13 X 1 GD 8 Z	1
104174	CAPSCREW, HEX HD 1/2 - 13 X 1-1/4 GD 8 Z	8
104322	CAPSCREW, HEX HD 1/2 - 13 X 1-1/2 GD 8 Z	1
104847	SCREW, SELF-TAP 10 - 24 X 1/2	4
104848	WIRING HARNESS	1
32489	TIE STRAP, BLACK	1
32489	TIE STRAP, BLACK	4
104709	HOSE CLAMP	2
104861	VALVE, DRAIN	1
104649	PLATE	1
104650	SPACER	1
104860	ELBOW 90° -6 ORB/-4 NPT	1
104701	CONNECTOR	2
104655	ADAPTER, BULKHEAD	1
104657	BRACKET	1
104663	HOSE ASSEMBLY -16/ -16 X 19.8	1
104662	HOSE ASSEMBLY -16 X 19.8	1
104706	HARNESS, EXTENSION	1
104708	ELBOW, 90° ORFS	1
104660	ADAPTER, ORB-ORFS -16	2
104651	BULKHEAD UNION -16	1
104659	ELBOW, BULKHEAD UNION -16	2
104702	ADAPTER, ORB -5/ -6	1
100775	NUT, BULKHEAD ADAPTER -6	1
104703	CLIP-LADDER	3
104131	CAPSCREW, HEX HD 1/2 - 13 X 2-1/2 GD 8 Z	1
102126	WASHER, M10 HARD Z	4
104718	NUT, HEX M10 X 1.5 GD 10.9	2
104719	CAPSCREW, HEX M10 1.5 X 25 GD 10.9	1
103230	METRIC SCREW HEX M10 1.5 X 20 GD 8 Z	1
103935	CAPSCREW, HEX M12 - 1.75 X 30 GD 10.9 Z	4
100859	WASHER, 1/2	8
104707	HOSE, HYD	1
104695	HOSE ASSEMBLY - 16 X 22	2
104696	BRACKET	1
104691	CAPSCREW, M12 - 1.75 X 25 GD 10.9 Z	4
103824	CAPSCREW, M12 - 1.75 X 60 GD 10.9 Z	3
104807	BRACKET	1
100816	DECAL, CONTROL	1
102247	DECAL, FILTER	1
104841	BRACKET	1
104842	GASKET	1
105284	SCREW, SPECIAL	4
101817	CAPSCREW, BUTTON HD 10-24 X 1/2 SS	4
104843	WIRING HARNESS	1
32489	TIE STRAP, BLACK	6