

CARCO®

INSTALLATION AND PARTS MANUAL

MODEL 50B

FOR

JOHN DEERE 700H PS TRACTORS

NOTE: This manual covers mounting and control group installation, and parts specific to this winch on the specified tractor. For all other winch parts, refer to Winch Parts Manual, Publication LIT2115.

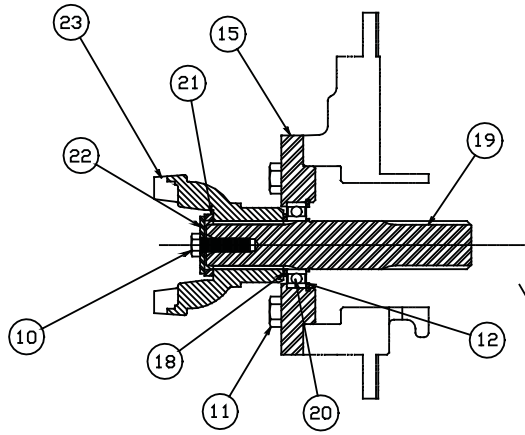
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MODEL NUMBER DESCRIPTION

50B	C	0	0	0	0	0
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 4 - 4 ROLLER

**MODEL 50B
MOUNTING GROUP
700H**

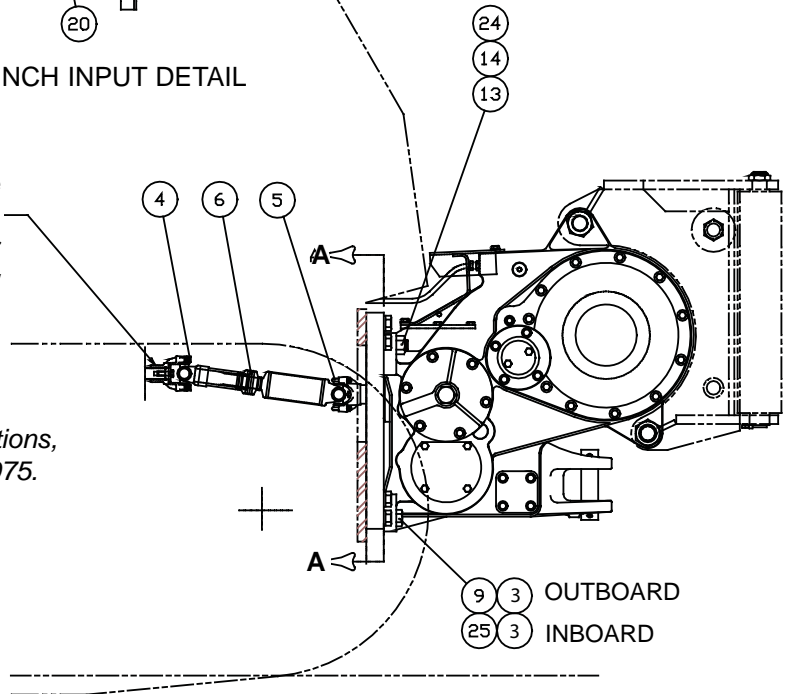


WINCH INPUT DETAIL

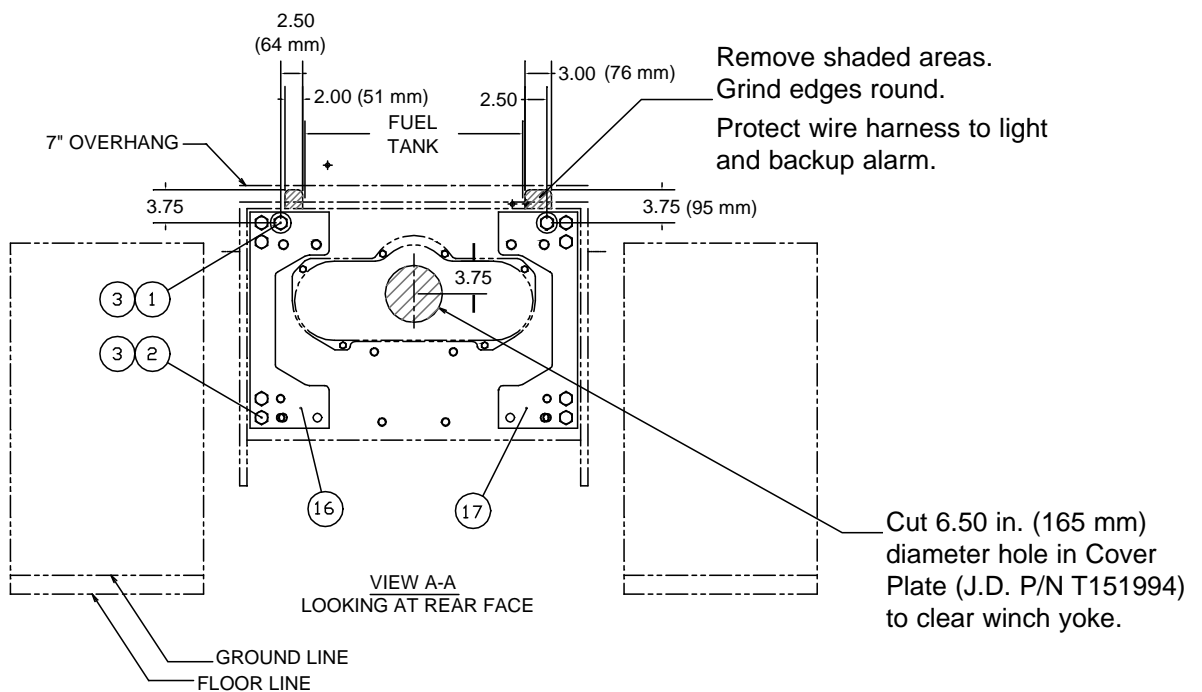
John Deere Part Nos.
T185656 Yoke
M41029 Snap Ring
T163182 Washer
19M8011 Capscrew

Torque to 105 LB•FT (142 N•m)

NOTE: For new tractor installations,
order John Deere Code No. 7975.
Includes pump drive adapter.



9 3 OUTBOARD
25 3 INBOARD



INSTRUCTIONS

1. PTO rotation is counterclockwise (CCW) as viewed from the rear of the tractor.
2. Modify the tractor rear panel as shown in view A-A for clearance with the control cables.
3. Remove any paint, dirt or rust from the mating surfaces of the winch adapters and the tractor rear face.
4. Remove the spacers, items 16 and 17, and install to the tractor using fasteners, items 1, 2 and 3. Apply Loctite 271 or equivalent to clean, dry threads and torque to 590 lb•ft (800 N•m).
5. Install the double U-joint driveline assembly, item 6, onto the winch input end yoke, item 23, using U-bolt kit, item 5. Torque hex nuts to 22 lb•ft (30 N•m).
6. Tilt the tractor cab platform to aid access to the hydro-static pump and rear auxiliary attachment drive.
7. Install the rear auxiliary attachment drive and drive yoke per Deere's recommendations, if not previously installed. (Note: A small amount of hydraulic fluid will be lost during this procedure.)
8. Modify the tractor rear dust shield as shown in view A-A to provide clearance with the winch adapters. Using the existing fasteners, apply Loctite 271 to clean, dry threads and torque to 80 lb•ft (110 N•m).
9. Carefully guide the winch and driveline into position on the winch adapters and attach the driveline to the trac-

tor drive yoke, using the cap and bolt kit, item 4. Apply Loctite 271 to clean, dry threads and torque to 55 lb•ft (75 N•m). Note: Hoses may need to be repositioned to allow clearance with the winch driveline. Reposition smaller hoses to allow needed clearance, and secure them with clamps or wire ties.

⚠ WARNING ⚠

Winch weighs approximately 2100 lb (953 kg) without oil, cable or tractor adapters. Make certain lifting equipment has adequate capacity to eliminate the possibility of damage or injury. Attempting to lift the winch with inadequate equipment may result in personal injury or property damage.

10. Apply Loctite 271 to clean, dry threads of winch mounting fasteners and torque as follows:
 - 1 1/8 – 7 UNC980 lb•ft (1,330 N•m)
 - 1 – 8 UNC680 lb•ft (900 N•m)
 - M24-3.0590 lb•ft (800 N•m)
11. Fill the winch to the proper level with the recommended oil before starting the tractor. Refer to the winch service manual for oil recommendations.

⚠ WARNING ⚠

Fill the winch to the proper level with the recommended oil BEFORE starting the tractor engine. Bearing and gear damage may result if the tractor and winch is run without oil.

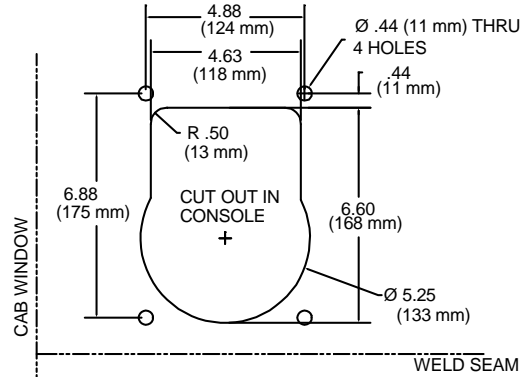
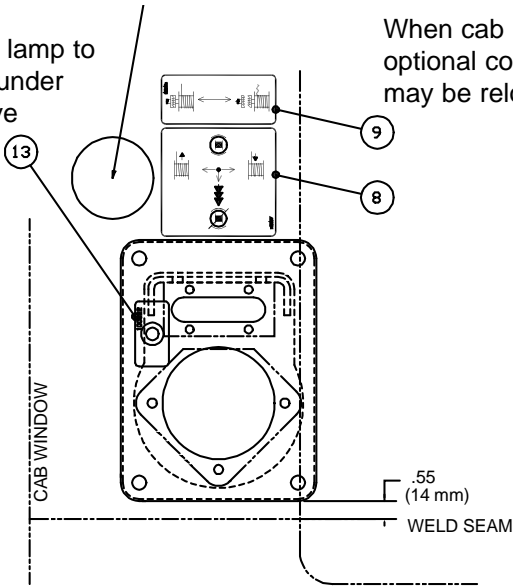
ITEM NO.	PART NO.	DESCRIPTION	QTY.
1	31809	CAPSCREW (M24-30 X 60mm HX HD, G8)	2
2	70181	CAPSCREW (M24-30 X 80mm HX HD, G8)	8
3	101205	WASHER, HARD (1 in)	14
4	101838	BEARING CAP AND BOLT KIT	1
5	69030	U-BOLT ASSEMBLY KIT	1
6	102835	DOUBLE U-JOINT DRIVELINE ASSY	1
7	29424	FERRULE (3/4 in)	1
8	70198	TRIM (16 in LONG)	1
9	70689	CAPSCREW (1 - 8 UNC X 3 in, HX HD, G8)	2
10	11776	CAPSCREW (3/8 - 16 UNC X 1 1/4, HX HD, G5)	1
11	13938	CAPSCREW (1/2 - 13 UNC X 1 1/4, HX HD, G5)	4
12	32104	RETAINING RING	1
13	70768	HEX NUT (1 1/8 - 7 UNC)	4
14	27802	STUD	4
15	69410	BEARING CARRIER	1
16	102832	SPACER, LH	1
17	102833	SPACER, RH	1
18	69530	SUPPORT WASHER	1
19	69548	PTO SHAFT	1
20	69549	BEARING	1
21	69550	SPACER	1
22	69551	WASHER	1
23	69031	END YOKE	1
24	27803	WASHER, HARD (1 1/8 in)	4
25	107556	CAPSCREW, METRIC HX HD (M24 X 3.0 - 120 mm, G8)	2

**MODEL 50B
CONTROL GROUP
700H**

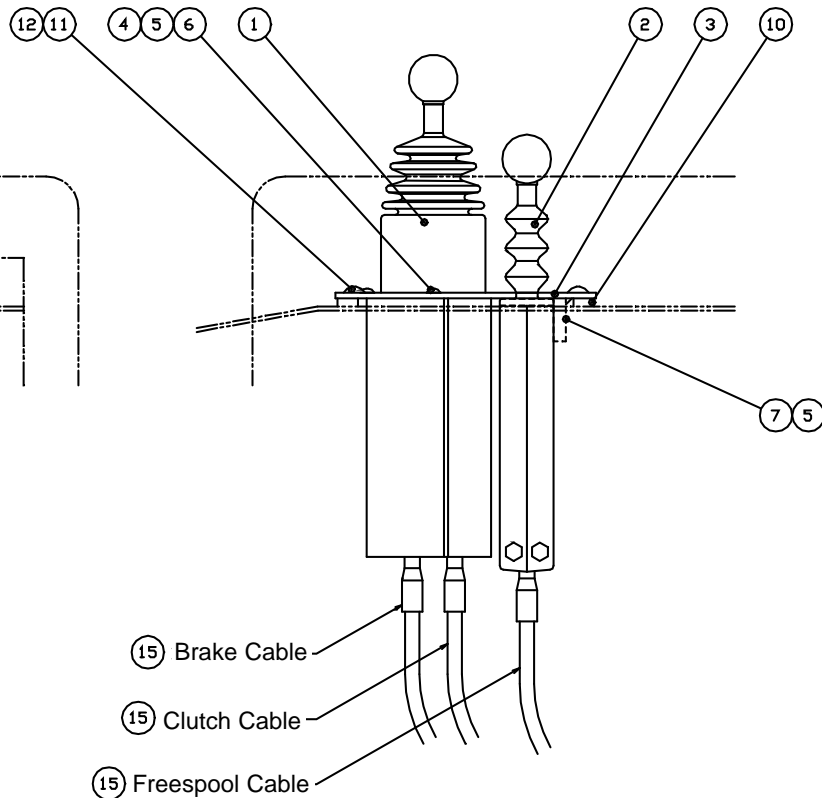
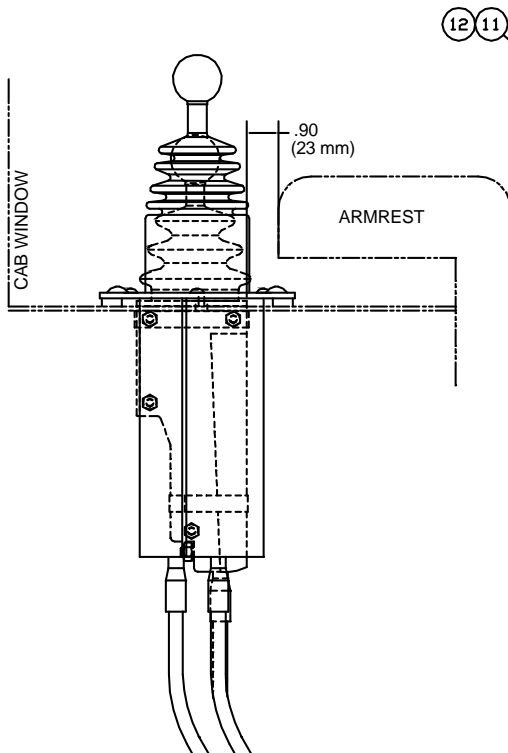
Optional pressure gauge location
2.5/2.56 (64/65 mm) diameter

Wire filter lamp to fuse box under stack valve

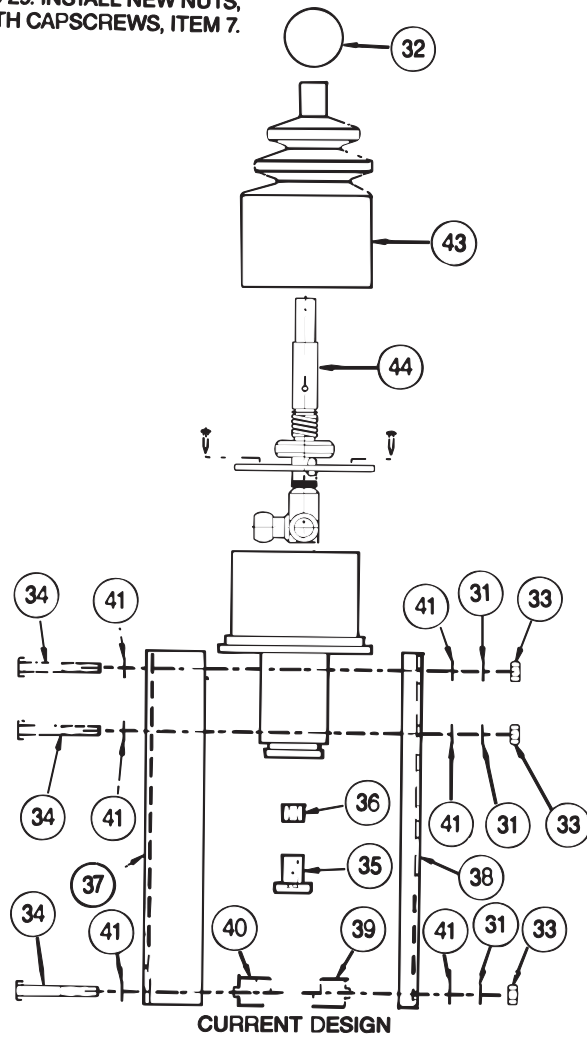
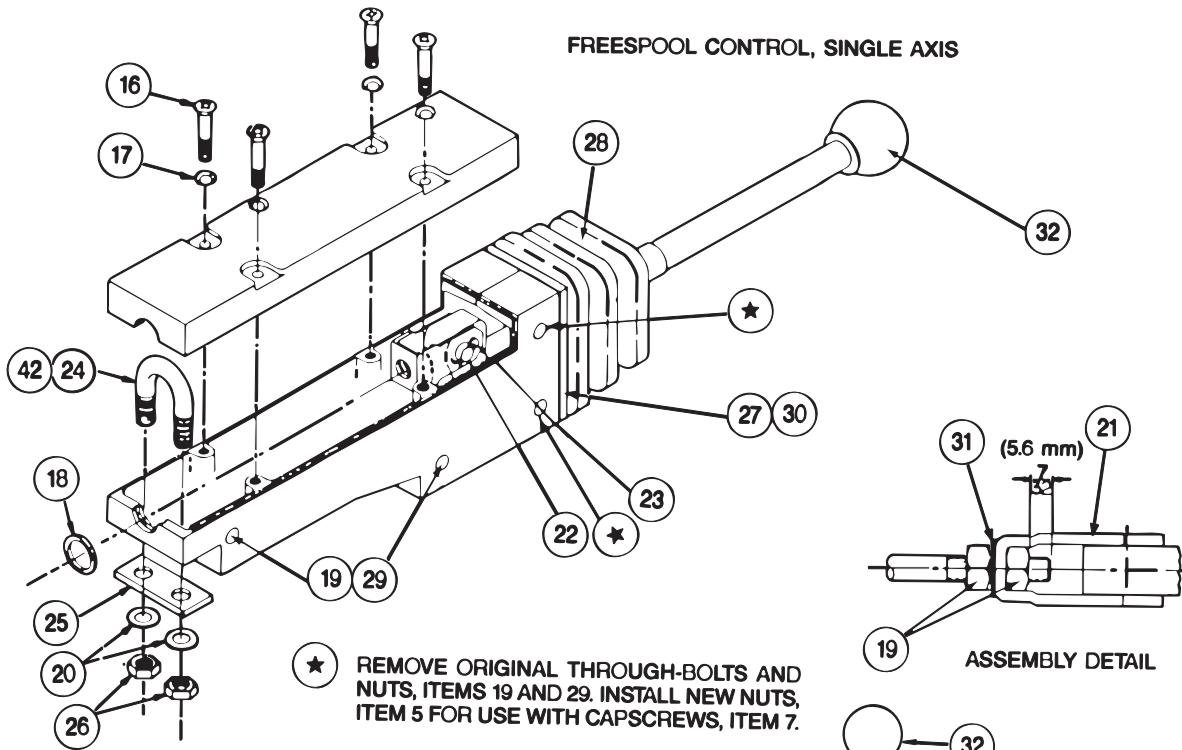
When cab is equipped with optional convenience tray, decals may be relocated to the window.



1. Align cover plate and gasket so the dual axis controller is approximately .9 (23 mm) from the armrest and the plate is .43 (11 mm) off of the weld seam.
2. Use the gasket as a template to mark the hole pattern and cut out in the console. Protect wire harness under console when cutting.
3. Refer to text in this manual for attachment of the cables to the controllers



FREESPOOL CONTROL, SINGLE AXIS



101850

**MODEL 50B
CONTROL GROUP
700H**

ITEM NO.	PART NO.	DESCRIPTION	QTY.	
			W/ FS	W/O FS
1	101850	CONTROL, DUAL AXIS	1	1
2	100056	CONTROL, SINGLE AXIS	1	-
3	103365	CONTROL MOUNTING PLATE	1	1
4	40240	CAPSCREW (1/4 - 20 UNC X 1 in, BUTTON HD, SS)	3	7
5	69645	HEX NUT (1/4 - 20 UNC)	11	15
6	23195	LOCKWASHER (1/4)	5	9
7	100968	CAPSCREW (1/4 - 20 UNC X 2 1/4, HX HD)	2	-
8	100107	DECAL, CONTROL	1	1
9	100131	DECAL, FREESPOOL	1	-
10	103366	GASKET	1	1
11	23630	CAPSCREW (3/8 - 16 UNC X 1 in, BUTTON HD)	4	4
12	70842	HEX LOCK NUT (3/8 - 16 UNC)	4	4
13	100822	DECAL, FILTER	1	1
14	100650	COVER	-	1
15	101204	CONTROL CABLE - 90 in.	3	2
16	100218	MACHINE SCREW (8 - 32 UNC X 1 1/4, CSK, OVAL HD)	4	-
17	100215	LOCKWASHER (#8)	4	-
18	12463	O-RING	1	-
19	11044	HEX NUT (1/4 - 28 UNF)	6	-
20	11011	LOCKWASHER, EXT. TOOTH (5/16)	2	-
21	100220	CLEVIS	1	-
22	100222	CLEVIS PIN	1	-
23	13816	COTTER PIN (1/16 X 1/2)	1	-
24	100221	U-BOLT	1	-
25	100223	U-BOLT SPACER	1	-
26	11048	HEX NUT (5/16 - 24 UNF)	2	-
27	100216	MACHINE SCREW (8 - 32 UNC X 1/2, CSK, OVAL HD)	4	-
28	100219	BOOT, FREESPOOL LEVER	1	-
29	100217	MACHINE SCREW (1/4 - 28 UNF X 1 7/16, FLSTR HD)	4	-
30	100224	BOOT RETAINER PLATE	1	-
31	12780	LOCKWASHER, EXT. TOOTH (1/4)	7	-
32	100240	KNOB	2	1
34	21462	CAPSCREW (1/4 - 20 UNC X 2 in, HX HD, G5)	6	6
35	100234	SLIDING LOCKSCREW	2	2
36	100235	CABLE BUSHING	2	2
37	100238	CABLE SUPPORT HOUSING, OUTER	1	1
38	100239	CABLE SUPPORT HOUSING, INNER	1	1
39	100236	CABLE ANCHOR, OUTER	1	1
40	100237	CABLE ANCHOR, INNER	1	1
41	11072	WASHER, FLAT - THIN (1/4)	20	24
42	100225	CABLE CLAMP	1	1
43	102261	BOOT, WINCH CONTROL LEVER	1	1
44	62997	BRAKE-OFF DETENT REPAIR KIT	1	1

CONTROL INSTALLATION INSTRUCTIONS

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

1. Install the gasket, item 10, to the bottom of control mounting plate, item 3.
2. Cut the opening in the RH console as defined in the drawing.
3. Carefully route the control cables from the winch to the underside of the RH console.

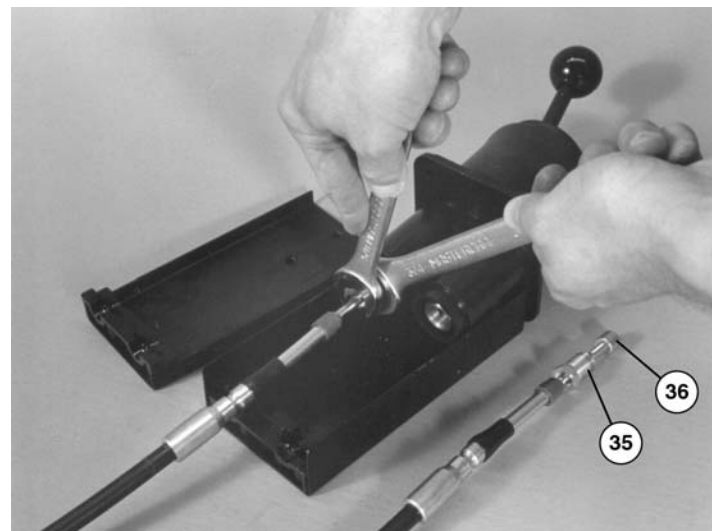
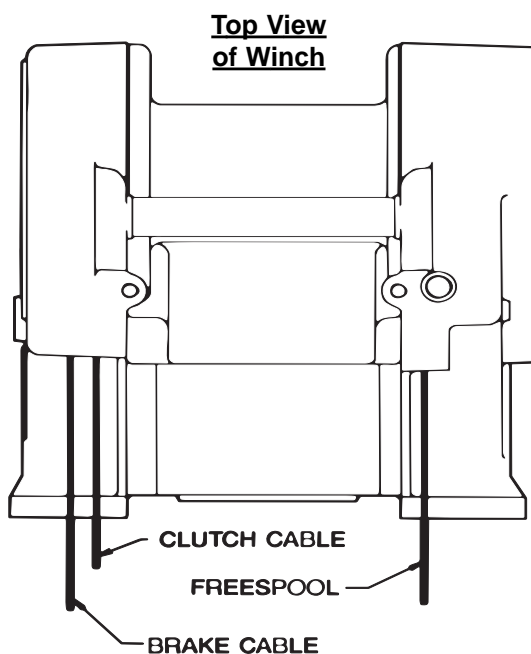
⚠ CAUTION ⚠

Avoid routing the control cables near moving shafts or linkages, which may cause damage to the cables or restrict free movement of tractor components.

3. Hold the controller in your left hand with the knob end up and the mounting bolts located at the 6, 9 and 12 o'clock positions. Mark the plunger nearest the 6 o'clock position as the "CLUTCH" control. Mark the plunger nearest the 12 o'clock position as the "BRAKE" control. The "clipped" corner of the controller will be positioned facing the rear of the tractor.
4. Install the brake cable to the "BRAKE" control plunger and the clutch cable to the "CLUTCH" control plunger. Move the control lever to extend the control plungers far enough to expose the wrench flats. With a wrench, hold the plunger and tighten the sliding lock screw to 50 lb•ft (70 N•m) torque.

⚠ CAUTION ⚠

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



4. Route the cables up through the console opening and install the cables to the controllers as follows:

Winch Power-Shift Control – Dual Axis

1. Remove the six through-bolts, item 34, from the controller and separate the two cable support housings, items 37 & 38. From each plunger, remove the sliding lock screw and threaded bushing, items 35 & 36.
2. Install the sliding lock screw, item 35, onto the control cables. Apply two drops of Loctite 242, or equivalent, to the cable threads and install the threaded bushing, item 36, onto the cable core until the end of the cable core is level with the end of the bushing.

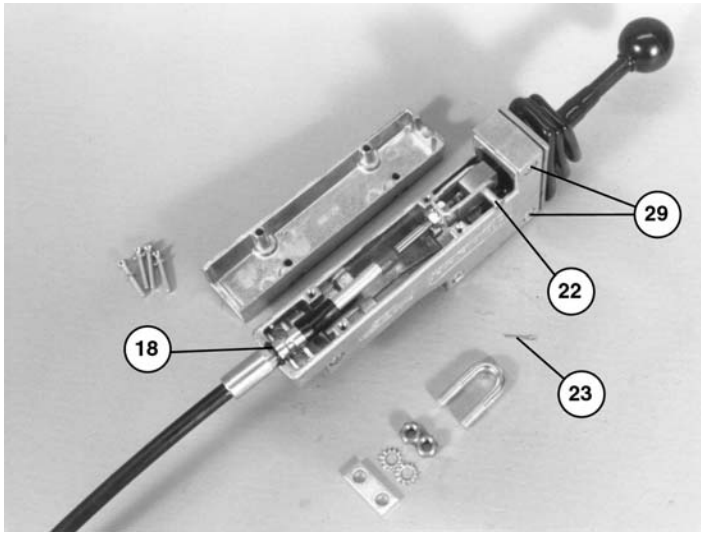
5. Install the cable support housings, items 37 & 38, onto the controller. Place the groove of the control cable sleeves into the saddle of the cable anchors, items 39 & 40. Install the fasteners, items 5, 31, 34 & 41. Evenly torque the nuts to 85 lb•in (10 N•m).
6. Insert the controller and cables into the bottom of the control mounting plate and secure with fasteners, items 4, 5 & 6.
7. If the winch is equipped with freespool, attach the freespool cable to the freespool controller per the following instructions.

If not equipped with freespool, attach the freespool opening cover plate, item 14, to the control mounting plate with fasteners, 4, 5 & 6. Attach the control mounting plate to the console with fasteners, items 11 & 12.

**MODEL 50B
CONTROL GROUP
700H**

Freespool Control – Single Axis

1. Remove the knob, item 32, and the four oval head machine screws and lockwashers, items 16 & 17, from the housing cover on the long edge of the controller, and remove the cover.
2. Prepare the control cable for installation by installing the O-ring, item 18, over the cable sleeve on the controller end of the cable. The control lever end is identified by the U-bolt groove in the cable sleeve.
3. Install one hex nut, item 19, onto the cable core followed by the lockwasher, item 31.
4. Install the clevis, item 21, over the end of the cable core, followed by a second hex nut, item 21. The cable core must extend beyond the last hex nut by 7/32 in. (5.5 mm). Tighten the first nut to secure the clevis in this position.
5. Slip the clevis over the bellcrank of the lever and install the clevis pin, item 22. Secure the cable/clevis in place with the cotter pin, item 23.



6. Remove the U-bolt, item 24, from the housing.
7. Position the O-ring, item 18, on the control cable sleeve so that it settles in the O-ring groove in the housing when the U-bolt groove in the cable sleeve is aligned with the U-bolt mounting holes in the housing.
8. Install the U-bolt, item 24, over the cable and through the housing. Install the spacer, item 25, over the U-bolt, followed by the fasteners, items 20 & 26. Tighten the U-bolt nuts to 90 lb•in (10 N•m) torque.
9. Reinstall the cover onto the controller housing with the previously removed fasteners.
10. Remove the two through-bolts from the two upper mounting holes of the controller.
11. Insert the controller through the bottom of the mounting plate and secure through the housing with fasteners,

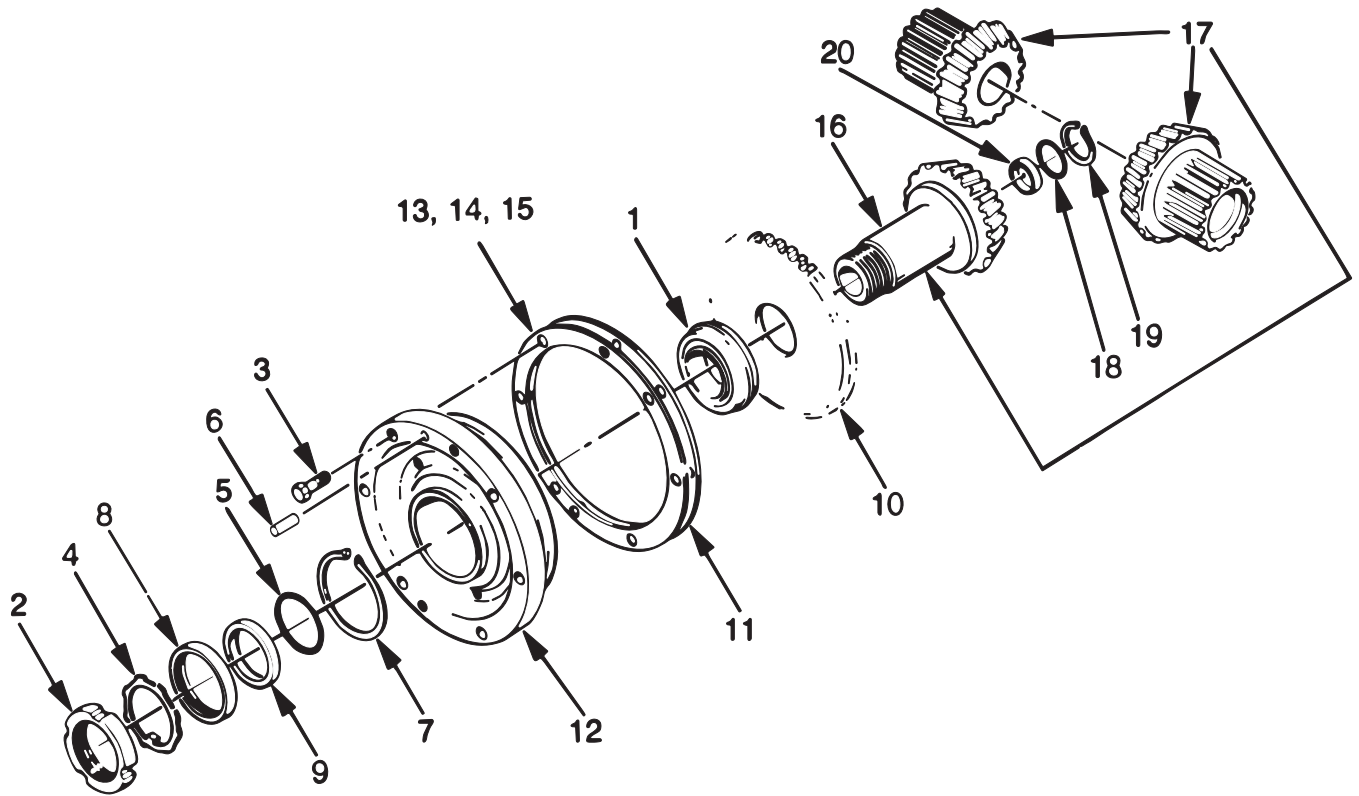
items 5, 6 & 7. Install the controller to the mounting plate such that the long cover of the controller housing is facing the operator.

12. Attach the completed control stand assembly to the console using fasteners, items 11 & 12.

GENERAL INSTRUCTIONS

1. Install the control decals, items 8 & 9, and the filter indicator decal, item 13, to the console cover. Clean and dry the area thoroughly, to which the decals will be applied. Wipe the area with rubbing alcohol and apply the decals as soon as the alcohol dries.
2. Verify proper control cable operating pressures. Perform adjustments as required by following the procedures found in the Operation and Preventive Maintenance Manual, publication PC-104, or the Service Manual, publication PC-137. Be sure the winch is filled with oil BEFORE performing these tests.

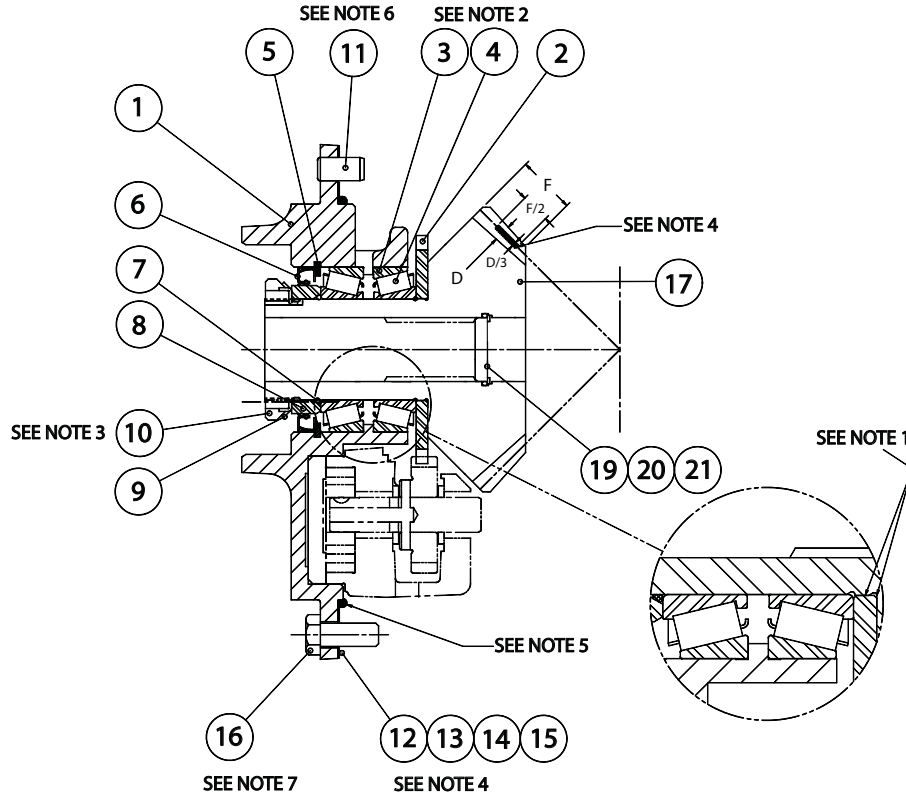
**MODEL 50B
BEVEL GEAR GROUP
700H
(S/N 0704589 AND BELOW)**



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	70355	BEVEL PINION - 14T	1
17	29073	BEVEL GEAR SET - 14/39T - 2 BEVEL GEARS, 1 BEVEL PINION	1
18	70133	O-RING	1
19	70161	RETAINING RING	1
20	70357	BEVEL PINION PLUG	1

AR - AS REQUIRED

**MODEL 50B
BEVEL GEAR GROUP
700H
(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	70355	BEVEL PINION - 14T	1
18	29073	BEVEL GEAR SET - 14/39T * (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