

CARCO®

INSTALLATION AND PARTS MANUAL

MODEL 70A

FOR

JOHN DEERE 850C 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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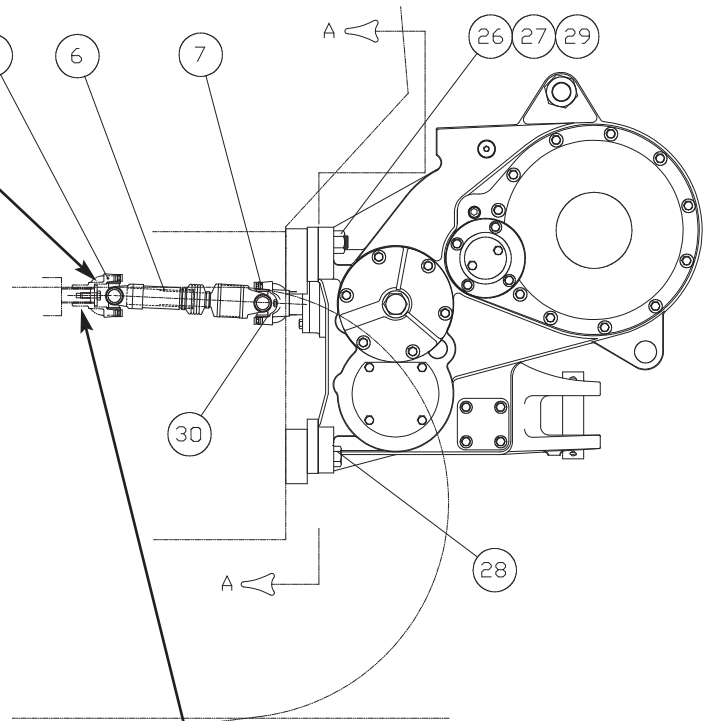
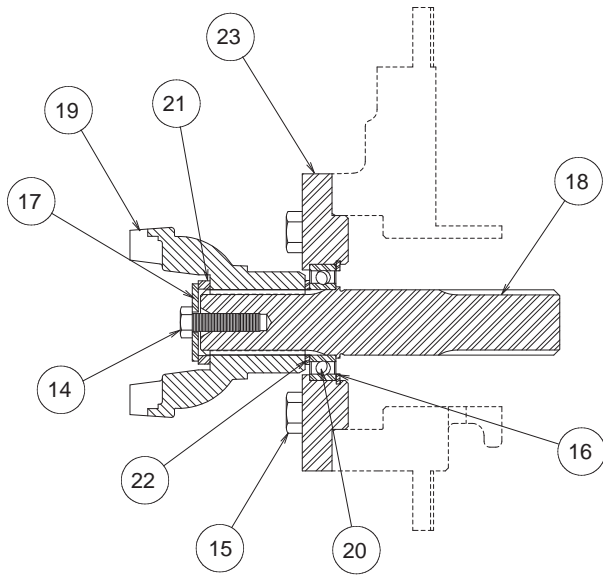
MODEL NUMBER DESCRIPTION

70A	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 70A
MOUNTING GROUP
JOHN DEERE 850C**

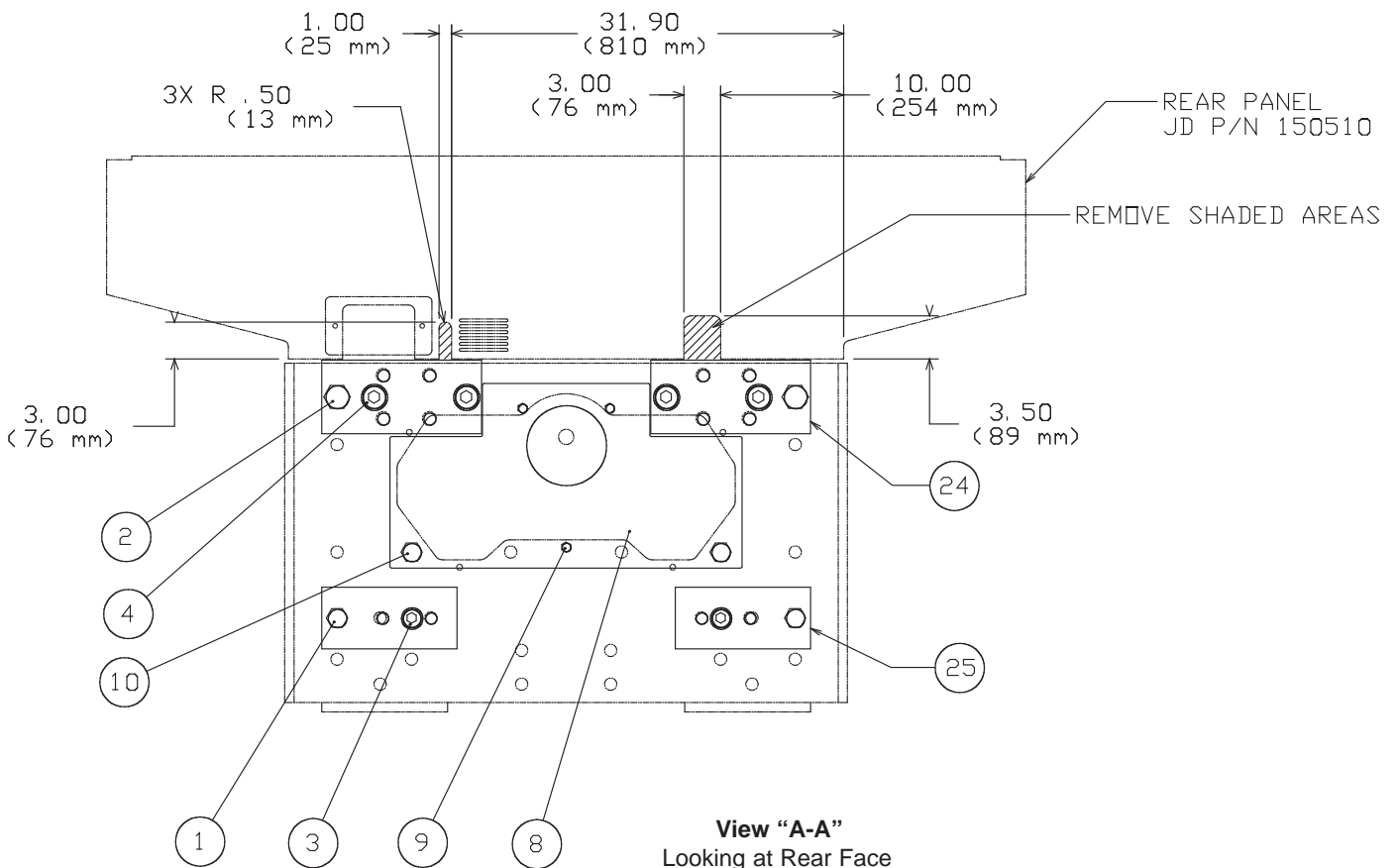
John Deere P/N
T185656 Yoke
M41029 Snap Ring
T163182 Washer
19M8011 Capscrew

(Torque to 105 lb-ft)



John Deere P/N
AT190950 Rear Auxilliary Drive Kit
is Required.
(also request T184154 instructions)

Winch Input



INSTRUCTIONS:

1. PTO rotation is counterclockwise (CCW) as viewed from the rear of the tractor.
2. Rework the tractor rear panel as shown in view AA for control cable clearance.
3. Remove paint, rust, dirt and grease from the mounting surfaces of the tractor, winch and winch adapters.
4. Install tractor spacer blocks, items 24 and 25, onto tractor using fasteners, items 1, 2, 3 and 4. Apply Loctite 271 to threads and tighten as follows:
 - 1 – 8 Hex Head 680 lb•ft (920 N•m)
 - 1¼ - 7 Hex Head 1360 lb•ft (1840 N•m)
 - 1 – 8 Socket Head 865 lb•ft (1175 N•m)
 - 1¼ - 7 Socket Head 1750 lb•ft (2375 N•m)
- i** **Note:** Using a straight edge, insure all tractor spacers are flat and even with each other, within .030 in. (.8 mm) when installed. Install shims, item 13, as required, between spacers and tractor face.
5. Install the drive shaft assembly, item 6, onto the winch input splined yoke using cap and bolt kit, item 7. Apply Loctite 242 to threads and tighten nuts to 22 lb•ft (30 N•m) torque.
6. Install dust shield, item 8, to tractor rear face using fasteners, items 9 and 10. Apply Loctite 271 and torque as follows:
 - 1" – 8 UNC 480 lb•ft (650 N•m)
 - M12 X 1.75 80 lb•ft (110 N•m)
7. Tilt the tractor cab platform to gain access to the auxiliary drive (PTO).

8. Install the auxiliary drive shaft, John Deere P/N AT190950 into the rear hydrostatic pump per John Deere specifications. (see John Deere P/N T184154)
- i** **Note:** Some tractor hydraulic oil may be lost during this procedure.
9. Attach to tractor end of double u-joint assembly using fasteners, item 7 and apply Loctite 271 and torque to 55 lb•ft (75 N•m).

! 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. Reposition the hydrostatic pump hoses as required to provide clearance for the winch drive shaft. Secure the hoses with clamps and tie straps as required.

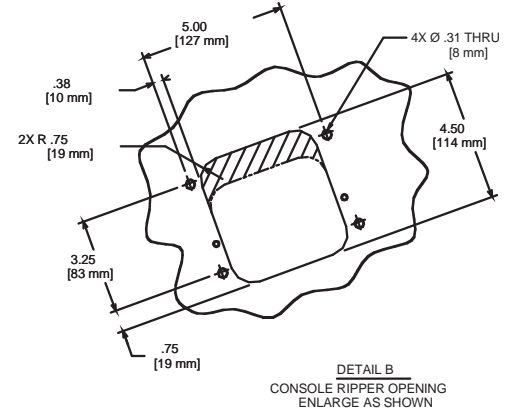
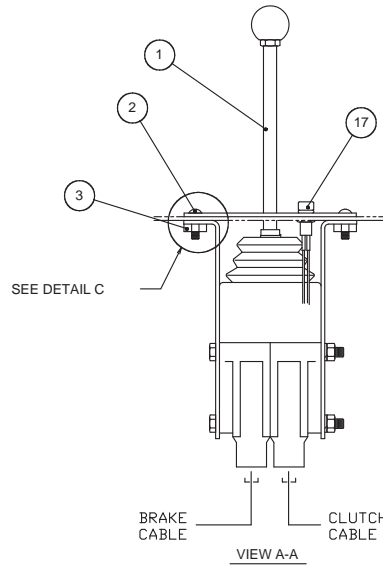
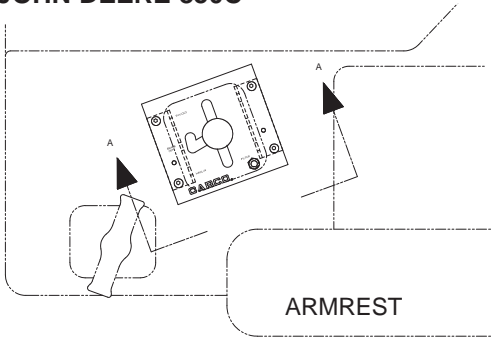
! WARNING !

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

ITEM	PART NO	DESCRIPTION	QTY
1	103580	CAPSCREW, HEX HD (1 - 8 X 3-1/2, G8)	2
2	101872	CAPSCREW, HEX HD (1-1/4 - 7 X 3-1/2, G8)	2
3	69580	CAPSCREW, HEX SOCKET HD (1 - 8 X 2, G8)	2
4	31189	CAPSCREW, HEX SOCKET HD (1-1/4 - 7 X 2, G8)	4
6	103422	DRIVE SHAFT ASSY	1
7	101838	CAP & BOLT KIT (S/N below 0201025 use only 1)*	2
8	100405	DUST SHIELD	1
9	26216	SCREW, METRIC HEX HD (M12 X 1.75 X 30mm, G5)	3
10	102883	CAPSCREW, HEX HD (1 - 8 X 1-1/2, G8)	2
11	29425	FERRULE (7/8) (NOT SHOWN)	1
12	70198	TRIM - SOLD IN 12 in (305 mm) INCREMENTS	1
13	100501	SHIM	A/R
14	104132	CAPSCREW, HEX HD (3/8 - 16 X 1-1/4, G8)	1
15	104174	CAPSCREW, HEX HD (1/2 - 13 X 1-1/4, G8)	4
16	70516	RETAINING RING	1
17	69443	WASHER, YOKE RETAINER	1
18	69473	PTO SHAFT	1
19	104938	SPLINED YOKE	1
20	69475	BALL BEARING	1
21	69477	SPACER	1
22	69342	WASHER	1
23	69488	CARRIER	1
24	100407	SPACER, UPPER	2
25	100408	SPACER, LOWER	2
26	27802	STUD	4
27	70768	NUT, HEX (1-1/8 - 7, G8)	4
28	102597	CAPSCREW, HEX HD (1 - 8 X 3, G8)	4
29	27803	WASHER, HARD (1-1/8)	4
30	102399	U-JOINT KIT	1

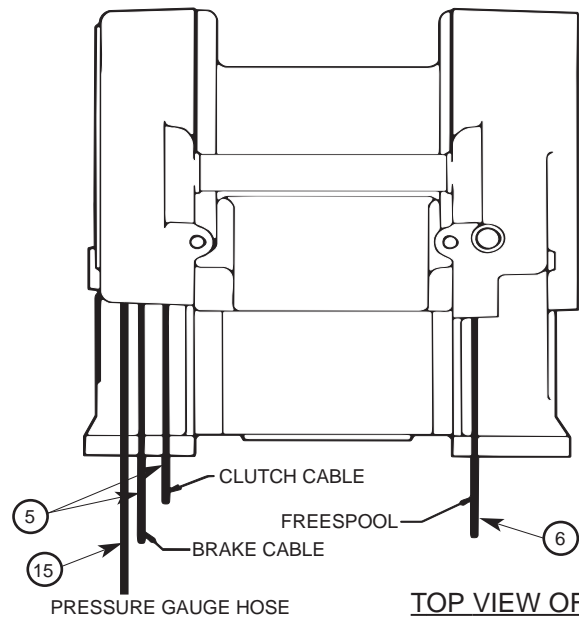
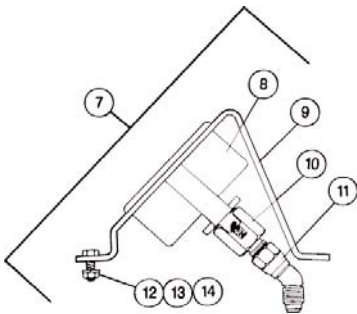
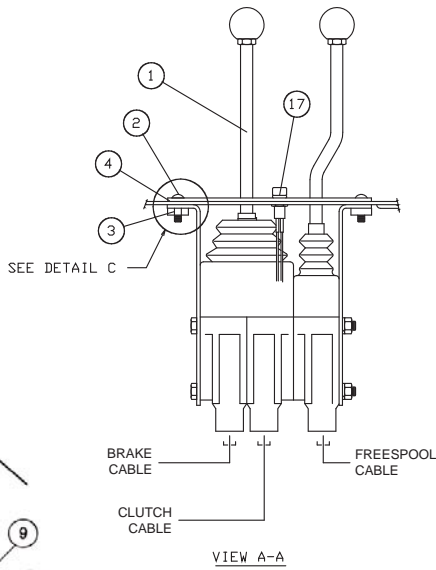
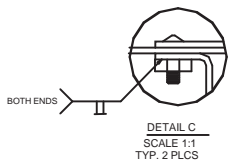
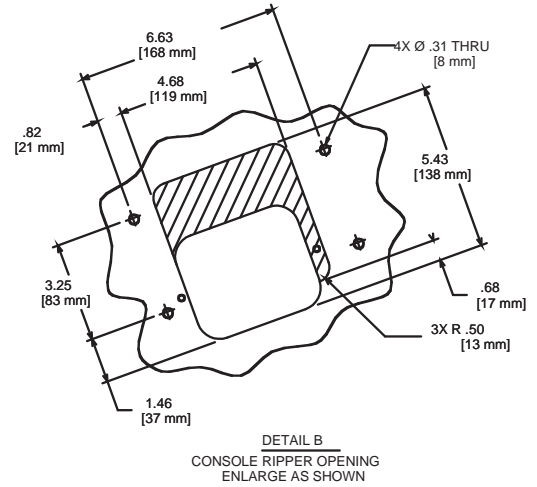
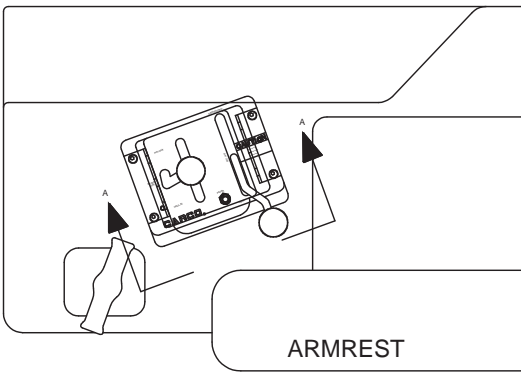
* **NOTE:** 70A winches prior to S/N 0201025 use:
Qty 1, Item 19, Yoke, P/N. 68796;
qty 1, U-Bolt Kit, P/N. 69030 for winch end drive shaft installation.
101838 Cap & Bolt Kit (S/N below 0201025 use only 1)

**MODEL 70A
CONTROL GROUP
JOHN DEERE 850C**



**CONTROL GROUP WITHOUT
FREESPOOL**

**CONTROL GROUP WITH
FREESPOOL**



CONTROL INSTALLATION INSTRUCTIONS:

i NOTE: For tractors with standard control systems. If equipped with optional auxiliary hydraulic controls, refer to instructions on page 6 of this manual.

1. Modify the ripper control handle opening in the control console as shown in Detail B.
2. Disassemble the control stand, item 1. Weld tap blocks, item 3, to the bottom of the control stand angle brackets per Detail C. Reassemble the control stand, being careful to keep the dual-axis powershift section properly oriented against the freespool section. When assembled correctly, only the outer plunger of the dual-axis control should move downward when the control handle is placed in the brake-off position.
3. Route the control cables under the cab platform and up to the bottom of the console. Install the control cables into the control stand. Follow the control cable installation instructions found in the "Service Manual", publication PC-137.
4. Install the control stand, with cables attached, from the bottom of the control console. Modify the control stand angle brackets as required to provide clearance for the dozer linkage.

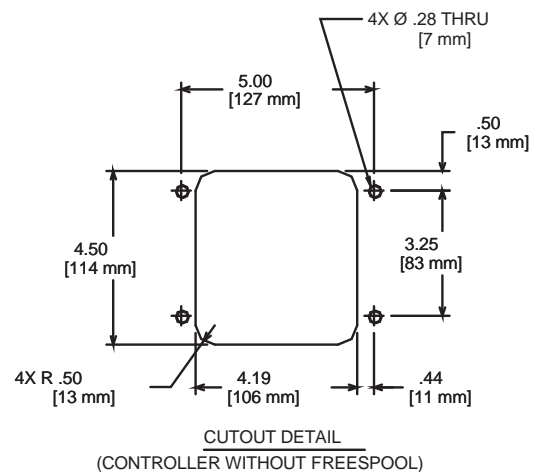
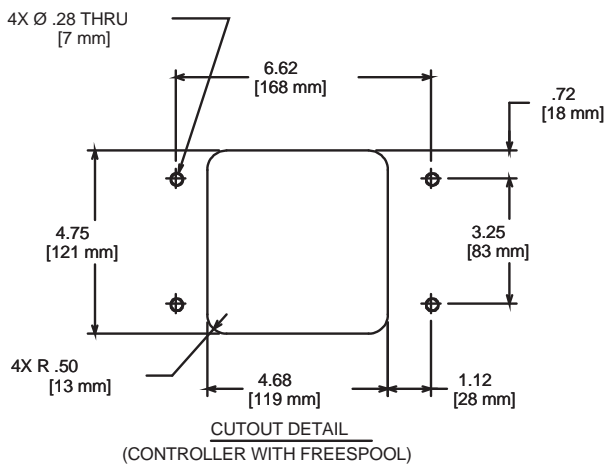
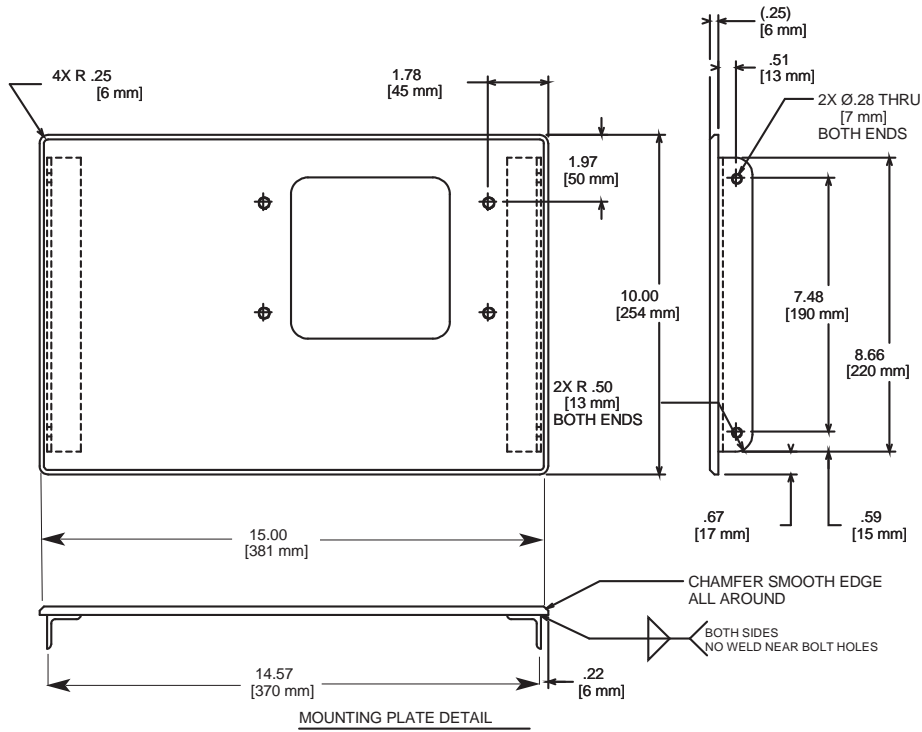
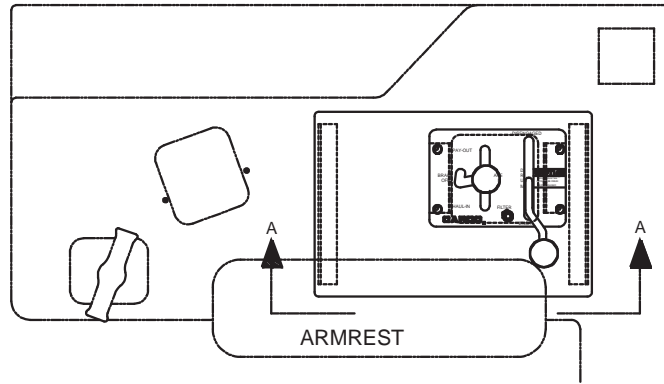
CAUTION

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

5. Install spacer plate, item 4, if equipped with freespool control group, and gate plate, on top of the console. Secure the gate plate and spacer plate to the control stand with button head capscrews, item 2.
6. Install the filter bypass indicator light (if equipped), item 17, into the gate plate. Follow the installation instructions found in the "Service Manual", publication PC-137.
7. Install the pressure gauge kit (if equipped), item 7, in clear view of the operator.
8. Verify proper control cable and operating pressure adjustment by following the procedures found in the "Operator's Manual", publication PC-104, and the "Service Manual", publication PC-137.

ITEM	PART NO.	DESCRIPTION	QTY.	
			WITH FREESPOOL	WITHOUT FREESPOOL
1	69667	CONTROL STAND ASSEMBLY	1	-
	81965	CONTROL STAND ASSEMBLY	-	1
2	40240	CAPSCREW, BUTTON HD (1/4 - 20 X 1)	4	4
3	100473	TAP BLOCK	2	2
4	100472	SPACER PLATE	1	-
5	69800	CONTROL CABLE - 90 in. (2286 mm)	2	2
6	69798	CONTROL CABLE - 102 in. (2590 mm)	1	-
7	62058	PRESSURE GAUGE KIT (ITEMS 8-16)	1	1
8	27673	PRESSURE GAUGE	1	1
9	27651	BRACKET	1	1
10	27652	ADAPTER (1/4 NPT / -4 JIC)	1	1
11	70122	UNION, 45° (-4 JIC)	1	1
12	27683	CAPSCREW, HEX HD (5/16 - 18 X 1-1/4, GD5)	2	2
13	69640	LOCKWASHER (5/16)	2	2
14	69644	HEX NUT (5/16 - 18)	2	2
15	34196	HOSE ASSY, -4 X 96 in. (2438 mm)	1	1
16	25864	ADAPTER (-4 JIC TO -4 ORB) - NOT SHOWN	1	1
17	61914	FILTER INDICATOR LIGHT WIRING ASSEMBLY	1	1

**MODEL 70A
CONTROL GROUP
JOHN DEERE 850C**



CONTROL INSTALLATION INSTRUCTIONS:

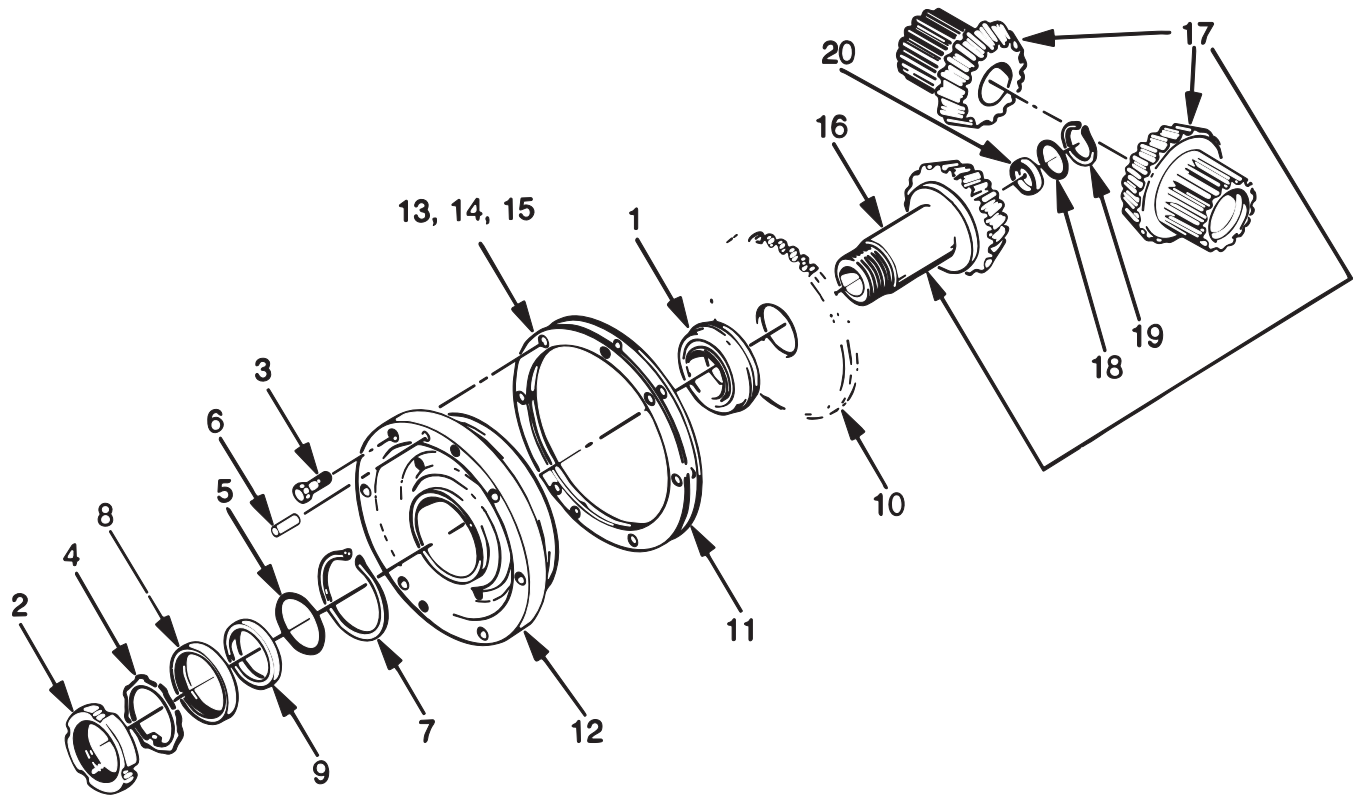
i NOTE: For tractors equipped with optional auxiliary hydraulic controls.

1. Remove the lunch box tray from the console and fabricate the mounting plate assembly as shown above.

2. Install the new mounting plate into the console, then install the control stand into the mounting plate, following the same procedures as shown on pages 4 and 5 of this manual.
3. The spacer plate, P/N 100472, is not required with this installation.

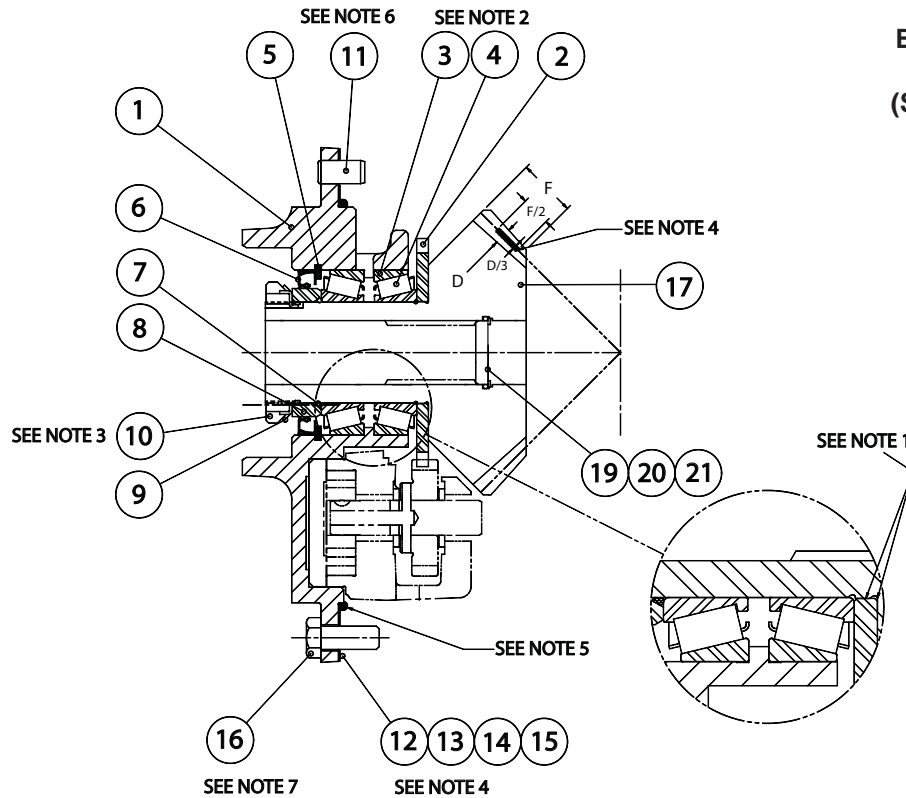
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MODEL 70A
 BEVEL GEAR GROUP
 JOHN DEERE 850C
 (S/N 0704589 AND BELOW)



ITEM	PART NO.	DESCRIPTION	QTY.
1	70077	BEARING ASSEMBLY	1
2	24816	BEARING, LOCK NUT	1
3	104320	CAPSCREW HEX HEAD (1/2 - 13 X 1)	6
4	11418	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	1
10	69947	PUMP DRIVE PINION	1
11	69946	SHIM GASKET	1
12	69961	CARRIER	1
13	69945	SHIM .005"	2-AR
14	69827	SHIM .007"	2-AR
15	69826	SHIM .020"	2-AR
16	69823	BEVEL PINION, 22T STANDARD SPEED	1
	69635	BEVEL PINION, 14T SLOW SPEED	1
17	29076	BEVEL GEAR SET, 36/22T STANDARD SPEED	1
	69834	BEVEL GEAR SET, 39/14T SLOW SPEED	1
18	69813	O-RING (STANDARD SPEED ONLY)	1
19	70162	RETAINING RING (STANDARD SPEED ONLY)	1
20	70626	BEVEL PINION PLUG (STANDARD SPEED ONLY)	1

**MODEL 70A
BEVEL GEAR GROUP
JOHN DEERE 850C
(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	69823	BEVEL PINION, 22T STANDARD SPEED	1
	69635	BEVEL PINION, 14T SLOW SPEED	1
18	29076	BEVEL GEAR SET, 36/22T STANDARD SPEED * (NOT SHOWN)	1
	69834	BEVEL GEAR SET, 39/14T SLOW SPEED * (NOT SHOWN)	1
19	69813	O-RING (STANDARD SPEED ONLY)	1
20	70162	RETAINING RING (STANDARD SPEED ONLY)	1
21	70626	BEVEL PINION PLUG (STANDARD SPEED ONLY)	1

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