



# INSTALLATION AND PARTS MANUAL MODEL H85VS FOR JOHN DEERE 850J/K 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 LIT2598.

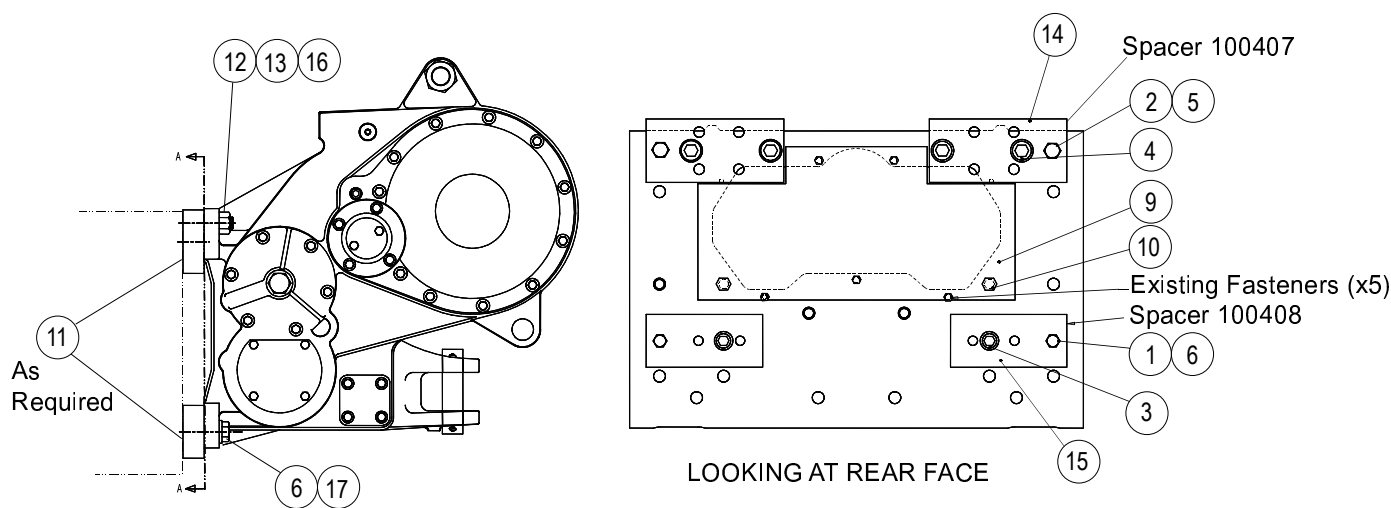
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## **PACCAR WINCH**

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H85VS  
MOUNTING GROUP  
JOHN DEERE 850J/K



ITEM	PART NO.	DESCRIPTION	QTY.
1	103580	CAPSCREW, HEX HD (1-8 X 3 1/2, G8, Z)	2
2	101872	CAPSCREW, HEX HD (1 1/4 -7 x 3 1/2, G8, Z)	2
3	69580	CAPSCREW, SOCKET HEAD (1 1/4 -7 x 2, G8, Z)	2
4	31189	CAPSCREW, SOCKET HEAD (1 1/4 -7 x 3 1/2, G8, Z)	4
5	101206	WASHER , HARD (1 1/4)	2
6	101205	WASHER HARD (1 in.)	2
9	109428	DUST SHIELD	1
10	102883	CAPSCREW, HEX HD (1-8 X 1 1/2 , G8, Z)	2
11	100501	SHIM (AS REQUIRED)	6
12	70768	NUT, HEX (1 1/8 - 7, G8, Z)	4
13	27802	STUD, (1 1/8 - 7 x 4 1/4, G8)	2
14	100407	UPPER WINCH MOUNTING ADAPTER	2
15	100408	LOWER WINCH MOUNTING ADAPTER	2
16	27803	WASHER, HARDENED (1 1/4")	4
17	102597	CAPSCREW, HEX HD (1-8 X 3, G8, Z)	4

## INSTALLATION INSTRUCTIONS

### CAUTION

Cleanliness is of utmost importance when working on hydraulic equipment. Contamination may cause damage to close tolerances of the hydraulic components which may result in erratic operation and reduced service life.

1. Remove plate from rear face of tractor. Retain 5 existing fasteners for reuse.
2. Remove winch adapter blocks (items 14 and 15) from winch. Retain capscrews for re-use. Discard shipping brackets.
3. Remove studs (item 13) from mounting adapter plates. Retain studs for reuse.
4. Remove paint from mounting surfaces on winch adapters and tractor face
5. Clean adapter plates, capscrews, and studs.
6. Install upper and lower winch adapters (items 14 and 15) on tractor using fasteners (items 1-4) and washers (items 5-6.) Leave capscrews finger tight.
7. Install dust shield (item 9) to tractor rear face using 5 existing fasteners. Install 2 additional capscrews item 10. Torque dust shield fasteners to specification below:

TORQUE SPECIFICATIONS		
FASTENER SIZE	TORQUE (FT-LB)	TORQUE (NM)
1 - 8 HEX HEAD UNC	480	650
M12 X 1.75	80	110

Remove fasteners (items 1-4) and washers item (5-6.) Coat fasteners with Loctite 271 or equivalent. Reinstall, and torque to table below. **NOTE:** Ensure rear face is flat with .030" across mounting area. If surface is not flat install shims (item 11) as required between adapters and tractor face.

TORQUE SPECIFICATIONS		
FASTENER SIZE	TORQUE (FT-LB)	TORQUE (NM)
1 - 8 HEX HEAD UNC	680	920
1-1/4 HEX HEAD UNC	1360	1845
1 - 8 SOCKET HEAD UNC	865	1175
1-1/4 SOCKET HEAD UNC	1750	2375

8. Apply Loctite 242 or equivalent to threads on one end of studs (item 13 retained from step 3.) Reinstall studs into top winch mounting holes in adapter plates as shown until the end of the stud thread bottoms on the edge of the holes.

### WARNING

The winch weighs approximately 2,625 lbs (1,191 kg). Ensure your lifting equipment has adequate capacity and use proper lifting techniques to eliminate the possibility of damage or injury.

9. Lift winch and guide top winch mounting holes over studs. Secure with nuts (item 12) and washers (item 16) retained from step 2. Leave nuts finger tight.
10. Install lower winch mounting capscrews and washer (items 17 and 18) retained from step 2.
11. Tighten winch mounting nuts and capscrews per torque table.

TORQUE SPECIFICATIONS		
FASTENER SIZE	TORQUE (FT-LB)	TORQUE (NM)
NUT, HEX (1-1/8 - 7)	960	1300
CAPSCREW, HEX HD (1-8 X 3 G8 Z)	680	920

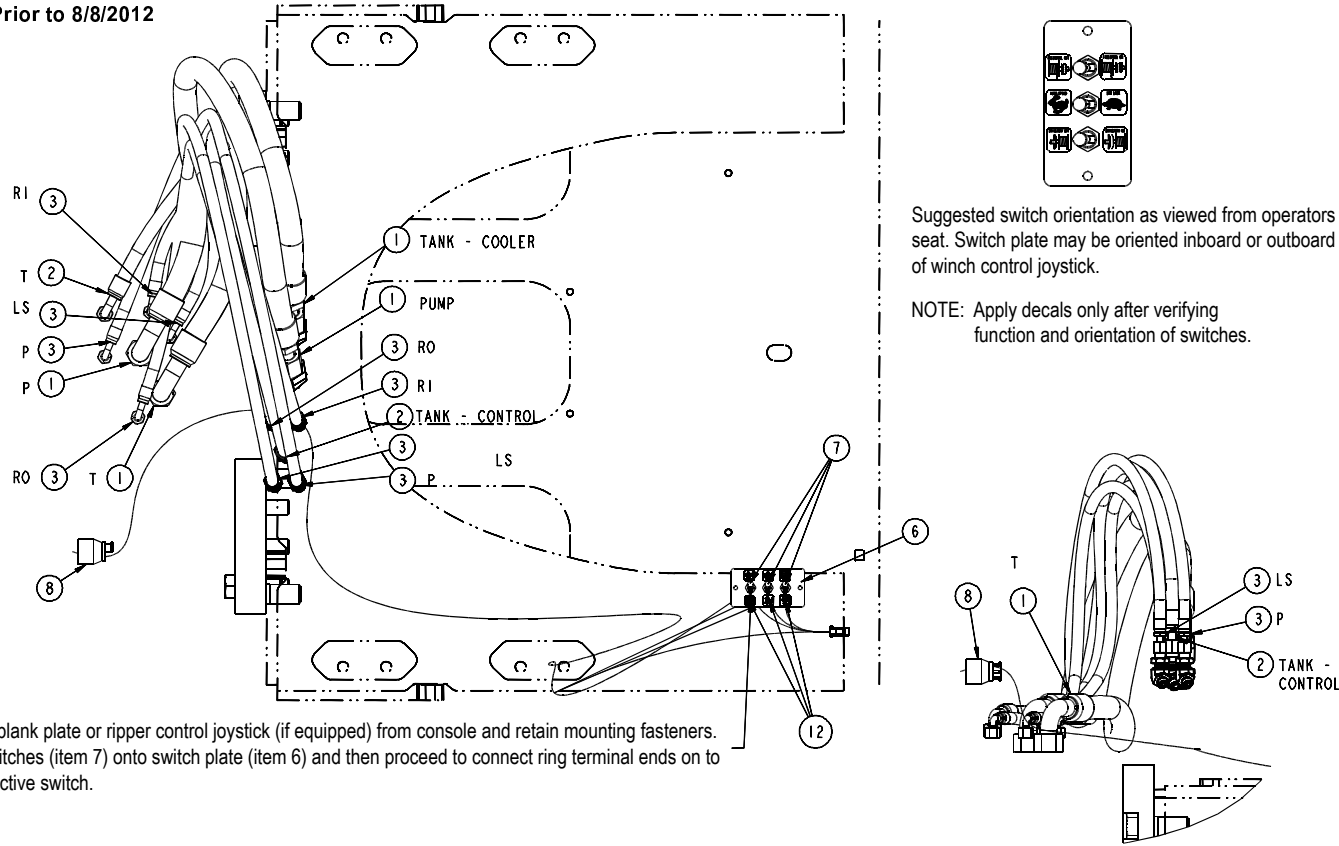
12. Fill winch with oil per operator's manual.

### WARNING

Fill the winch to the proper level with the recommended oil BEFORE operating the winch. Component damage may occur if the winch is operated without oil.

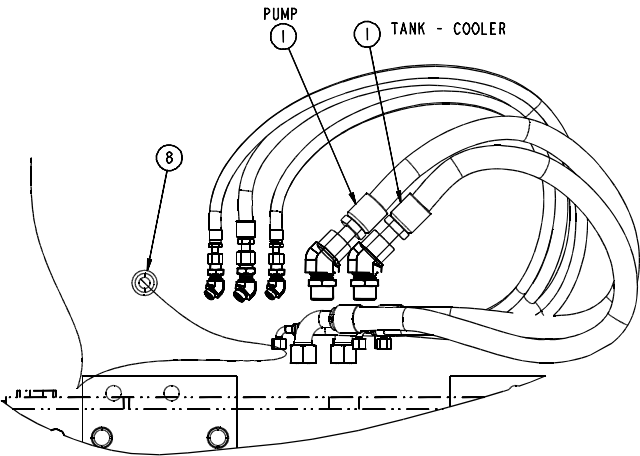
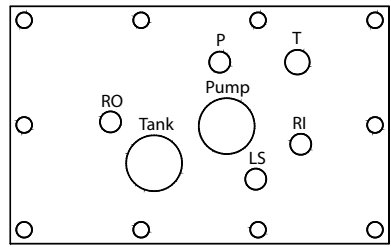
H85VS  
CONTROL GROUP  
JOHN DEERE 850J/K

Prior to 8/8/2012



Remove blank plate or ripper control joystick (if equipped) from console and retain mounting fasteners. Install switches (item 7) onto switch plate (item 6) and then proceed to connect ring terminal ends on to the respective switch.

Effective 8/8/2012



ITEM	PART NO.	DESCRIPTION	QTY.
1	105973	HOSE ASSEMBLY - 16 ORFS 90° X 38 INCH (965mm)	2
2	105974	HOSE ASSEMBLY - 10 ORFS 90° X 50 INCH (1270mm)	1
3	105975	HOSE ASSEMBLY - 6 ORFS 90° X 50 INCH (1270mm)	4
-	103079	CABLE TIE	8
6	109390	SWITCH PLATE	1
7	109811	TOGGLE SWITCH	3
8	105972	WIRING HARNESS	1
9	32489	BLACK STRAP	4
12	105680	CONTROL DECAL	1
18	70198	TRIM	2 Ft.

## INSTALLATION INSTRUCTIONS



**Cleanliness is of utmost importance when working on hydraulic equipment. Contamination may cause damage to close tolerances of the hydraulic components which may result in erratic operation and reduced service life.**

The following steps apply to tractors sold as 'Winch Ready,' meaning all winch control components are installed. For 'Non-Winch Ready' tractors, refer to John Deere publication T215517 – Winch plumbing information.

1. Remove block off plate or ripper control joystick (if equipped) from console. Retain mounting fasteners. Ripper control joystick may be removed completely or secured underneath console using cable ties.
2. Install switches (item 7) onto switch plate (item 6.)
3. Install switch housing and switch assembly in cab operation console using factory hardware removed in step 1.
4. Connect wiring harness (item 8) power plug to tractor power socket underneath cab operator console.
5. Attach wiring harness leads with ring terminal connectors to switch terminals as follows:
  - a. Red and Orange wire pair to DRUM CLUTCH switch
  - b. Purple and Orange wire pair to LOW LOCK switch
  - c. Blue and Orange wire pair to FREESPOOL switch
6. Remove lower rear fuel tank cover from tractor.
7. Route "winch end" of wiring harness under fuel tank to rear of tractor and out to winch.
8. Remove hose connection shipping caps from winch and tractor bulkhead plate.
9. Connect hydraulic power PUMP and RETURN hoses (item 1) from bulkhead fittings on winch to bulkhead fittings in tractor bulkhead plate as shown here and in John Deere instruction manual T215517.

10. Connect hydraulic control hoses (items 2 and 3) from bulkhead fittings on winch to bulkhead fitting in tractor bulkhead plate as shown here and in John Deere instruction manual T215517.
11. Connect wiring harness (item 8) plug to winch electrical socket, at connector X26 on main tractor harness.
12. Check winch oil level and tractor hydraulic oil level. Top off as required.

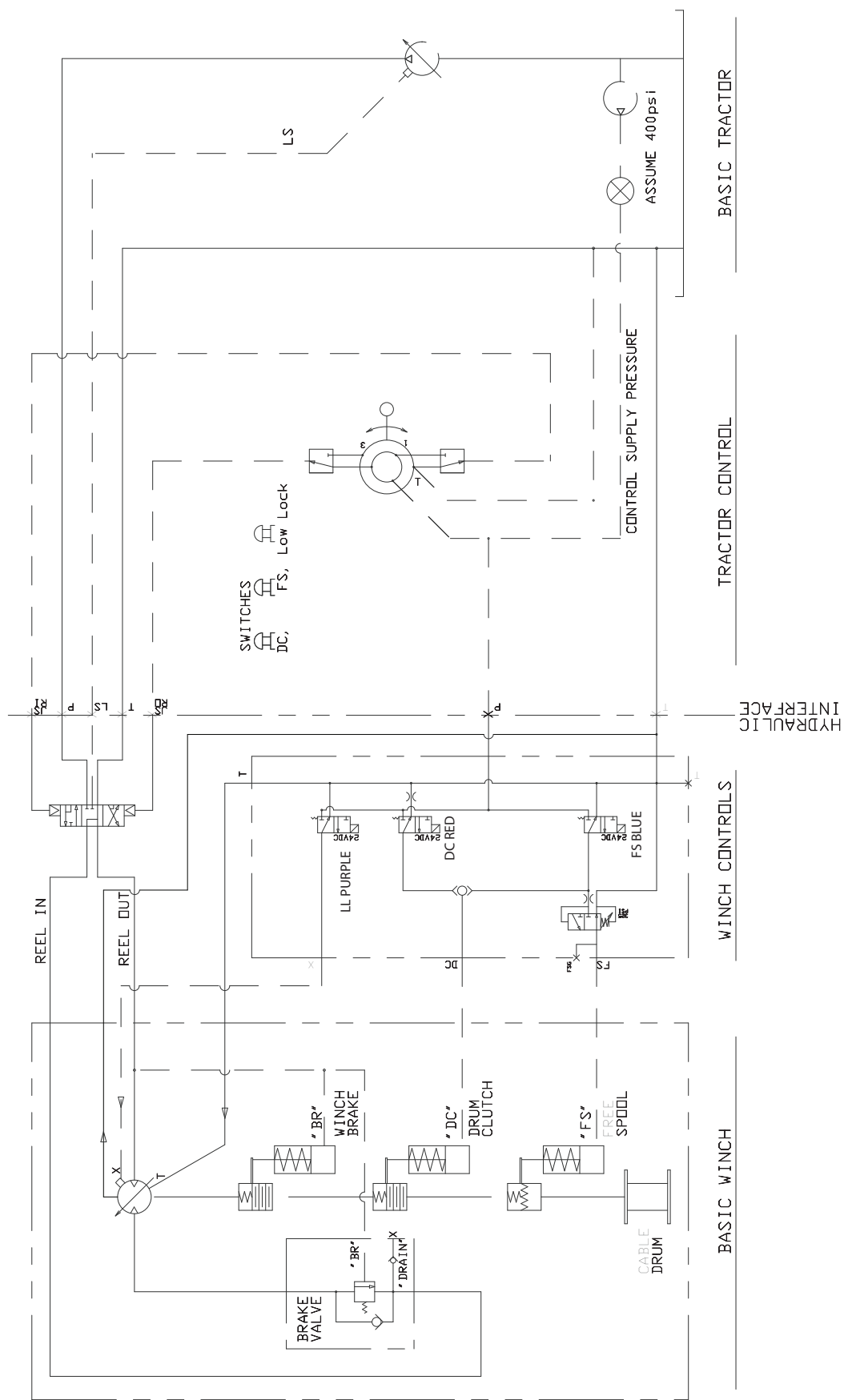
## ⚠ WARNING ⚠

**Fill the winch to the proper level with the recommended oil BEFORE operating the winch. Component damage may occur if the winch is operated without oil.**

13. Start tractor and test all functions per winch operator's manual. Ensure REEL-IN and REEL-OUT control operation is smooth and moving the lever toward the front of the operator's seat operates reel in and moving the lever to the rear of the tractor operates reel out. Ensure winch functions operate correctly and switch control function orientation is correct.
14. Clean appropriate areas and apply winch control decals (item 12.)
15. Bundle and secure wiring harness and control hoses using cable ties.
16. Cut 'trim' (item 18, not pictured) to appropriate lengths and install on any sheet metal edges where hoses or wiring harness may rub.
17. Re-install tractor lower fuel tank and cover plate.

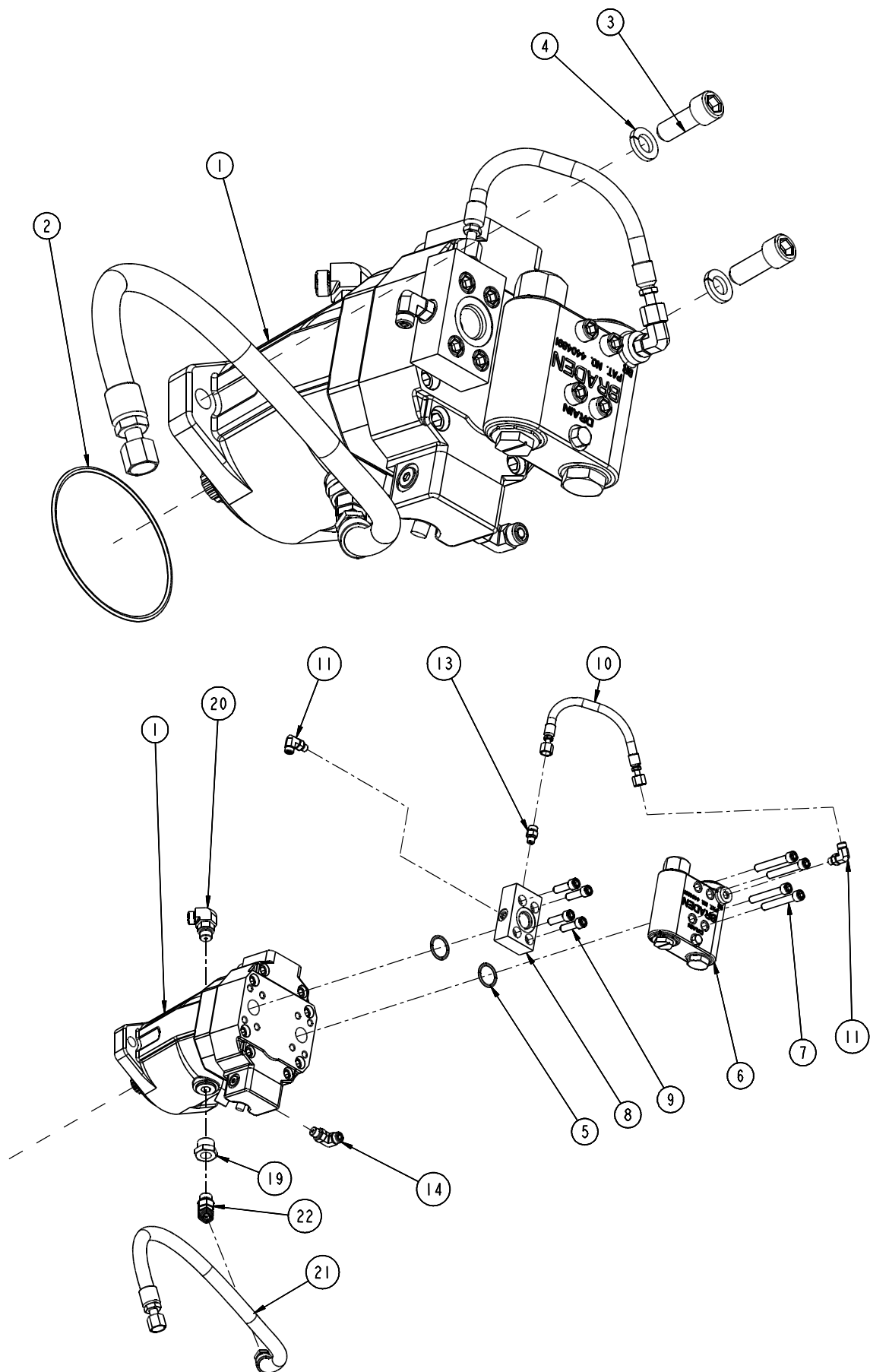
**NOTE:** *On initial startup, winch control and operation may be slow or unstable until all air has been purged from the hydraulic control circuit. Clearing all air from the system may require several minutes of operation. In extreme conditions, it may be desirable to manually "bleed" the various hydraulic control connections.*

TYPICAL H85VS  
HYDRAULIC CIRCUIT



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**H85VS  
HYDRAULIC MOTOR GROUP  
JOHN DEERE 850J/K**



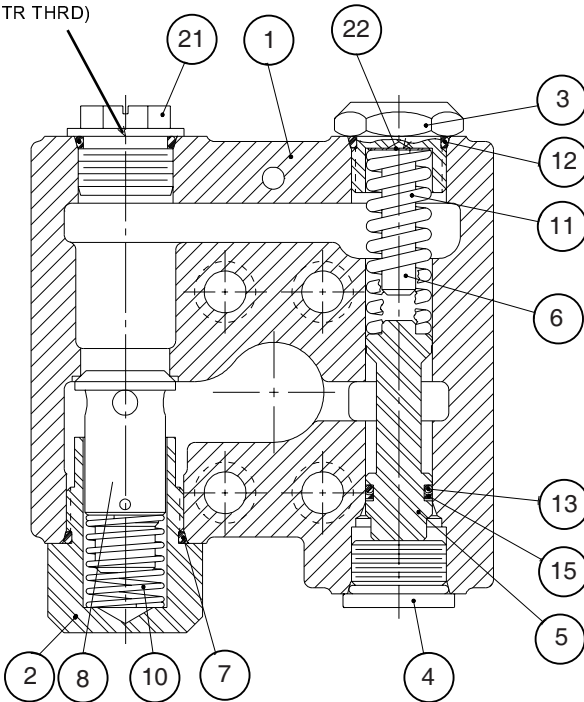


**H85VS  
HYDRAULIC MOTOR GROUP  
JOHN DEERE 850J/K**

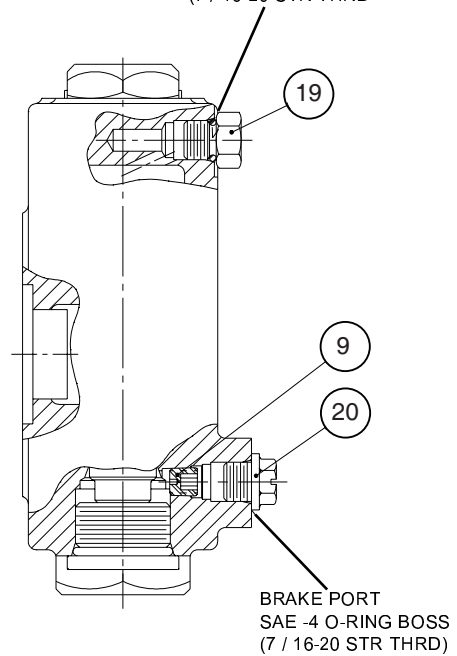
ITEM	PART NO.	DESCRIPTION	QTY.
1	105141	HYDRAULIC MOTOR	1
2	10330	O-RING	1
3	25352	CAPSCREW, SOCKET HEAD (% - 18 X 1¼, ASTM A574)	2
4	102423	LOCKWASHER (5/8 Z)	2
5	25366	O-RING	2
6	82133	BRAKE VALVE ASSEMBLY (SEE PAGE 10)	1
7	29399	CAPSCREW, SOCKET HEAD (7/16-14 X 2¼ ASTM A574 )	4
8	28964	MANIFOLD	1
9	21135	CAPSCREW, SOCKET HEAD (7/16-14 X 1-1/2 ASTM A574 Z)	4
10	104505	HOSE ASSY, -4 ORFS X 10 In. LONG (254MM)	1
11	27430	ADAPTER, 90° ELBOW ORS/ORB -4/-4	2
13	27428	ADAPTER, STRAIGHT ORS/ORB -4/-4	1
14	40107	ELBOW, 90° ORS/ORB -6/-6	1
19	101218	REDUCER, ORB	2
20	101282	ELBOW 90° -8/-8	1
21	101830	HOSE ASSEMBLY, -8 X 29 Inch (737mm)	1
22	101438	ELBOW, 45° -8/-8	1

**H85VS  
BRAKE VALVE ASSEMBLY  
JOHN DEERE 850J/K**

SAE -12 O-RING BOSS  
(1 1/16-12 STR THRD)



SAE -4 O-RING BOSS  
(7 / 16-20 STR THRD)



**ASSEMBLY INSTRUCTIONS:**

1. Tighten plug, item 19, to 25 lb•ft (34 N•m) torque.
2. Tighten plugs, items 2, 3 & 4 to 40 lb•ft (54 N•m) torque.

ITEM NO.	PART NO.	DESCRIPTION	QTY.
--	82133	BRAKE VALVE ASSEMBLY	1
1	NSS	BRAKE VALVE HOUSING	1
2	24424	VALVE SPRING RETAINER	1
3	104733	SPRING RETAINER	1
4	22450	PLUG	1
5	NSS	MAIN SPOOL	1
6	NSS	SPOOL STOP	1
7	24186	O-RING	1
8	24423	CHECK VALVE POPPET / RELIEF VALVE 6000 PSI (41,400 kPa)	1
9	24200	PILOT ORIFICE	1
10	24190	CHECK POPPET SPRING	1
11	104732	SPOOL SPRING	1
12	23601	O-RING	2
13	24193	O-RING	1
15	24195	BACK-UP RING	1
19	25663	PLUG	1
20	25403	SHIPPING PLUG	1
21	75288	SHIPPING PLUG	1
22	25661	SHIM, VALVE SPRING	AR

NSS - NOT SERVICED SEPARATELY  
AR - AS REQUIRED