



INSTRUCTION BULLETIN

No. 340052
Machine: 830
Published: 4-97/00
System: HYDRAULICS

NOTE: DO NOT DISCARD the Parts List from the Instruction Bulletin. Place the Parts List in the appropriate place in your machine manual for future reference. Retaining the Parts List will make it easier to reorder individual parts and will save you the cost of ordering an entire kit.

NOTE: Numbers in parenthesis () are reference numbers for parts listed in Bill of Materials.

Installation Instructions for Kit number 760096

SYNOPSIS / PROBLEM:

This kit contains the parts needed to install a thermo bypass kit on the model 830 sweeper. Installation of this kit will allow the hydraulic oil to bypass the oil cooler during cold weather operation. Please follow step-by-step instructions.

SPECIAL TOOLS / CONSIDERATIONS: The cab will have to be tilted forward to install the thermo bypass kit. An *overhead-motorized trolley crane* must be used to tilt the cab. **DO NOT** attempt to tilt the cab without this type of lifting device.

(Estimated time to complete: 4 hours)

PREPARATION:

FOR SAFETY: Before leaving or servicing machine, stop on level surface and set parking brake. Then turn off machine and remove key.

1. Disconnect battery cables from machine and remove the battery.



WARNING: Always disconnect battery cables from machine before working on electrical components.

2. Remove the M20 hex nut and washer from both rear corners of the cab.
3. Use a lifting eye on top of the cab and a chain from the overhead hoist. Lift the cab and move the trolley of the crane forward at the same time.
4. The cab is tilted all the way when the safety cable is tight.
5. Leave the crane hooked up while working on the Thermal bypass kit.

INSTALLATION:

(Refer to FIG. 1 and 2)

1. Mark and drill a .210 diameter hole in the cooler package mount tube under the front of the engine. This hole will be used to mount the hydraulic hose clamp (2) later. (Refer to FIG. 1)
2. Remove and discard the hydraulic hose (762302) leading to the 90° fitting on top of the hydraulic oil cooler and over to the return manifold. (Refer to FIG. 1 and 2)
3. Remove and discard the 90° fitting on top of the hydraulic oil cooler. Install the new straight fitting (8) in place of the fitting just removed. Hand tighten firmly. (Refer to FIG. 1 and 2)

4. Install the tee fitting (3) into the straight fitting (8). Hand tighten firmly. (Refer to FIG. 1 and 2)
5. Remove and discard the hydraulic hose (762301) leading to the 90° fitting on the bottom of the hydraulic oil cooler and over to the return manifold. Leave the 90° fitting installed in the bottom of the hydraulic oil cooler. (Refer to FIG. 1 and 2)
6. Sub-assemble the hydraulic fittings (10, 11, and 4) into the Thermal bypass valve (9). See diagram in FIG. 1. (Refer to FIG. 1 and 2)
7. Mount the Thermal bypass subassembly on top of the hydraulic cooler. The 90° fitting with the swivel end (4) is installed on the forward facing port on the tee fitting (3) on the top of the hydraulic oil cooler. (Refer to FIG. 1 and 2)
8. Install one end of the new hydraulic hose (6) on the open port of the tee (3) on top of the hydraulic oil cooler. Connect the other end of this hose (6) to the open port on the hydraulic filter. Install the hose clamp (2) and screw (1) around this hose. Use the hole drilled earlier to mount the clamp on cooler package mount tube. (Refer to FIG. 1 and 2)
9. Install one end of the new hydraulic hose (5) on the straight fitting in the Thermal bypass subassembly. Connect the other end of this hose (5) to the open port on the return manifold. Check to see that the "O" rings are in place. (Refer to FIG. 1 and 2)
10. Install one end of the new hydraulic hose (7) on the downward pointing 90° fitting of the Thermal bypass subassembly on top of the hydraulic cooler. Other end of this hose (7) is connected to the 90° fitting on the **bottom** of the hydraulic oil cooler. (Refer to FIG. 1 and 2)
11. Check the hydraulic fluid reservoir for proper fluid level after installation of this kit.
(Refer to FIG. 1 and 2)

BILL OF MATERIALS FOR THERMO BYPASS KIT 760096

Ref.	TENNANT Part No.	Description	Qty.
1	12459	Scr, hxfrm, M6x20	1
2	41016	Clamp, cable, 2.25" diam.	1
3	762415	Ftg, hyd, 16 s5olo-s	1
4	762416	Ftg, hyd, 16 AEL60-s	1
5	762418	Hose, hyd, f881j9js201616, 70" L	1
6	762419	Hose, hyd, f881jsj7201616, 57" L	1
7	762420	Hose, hyd, f881jsjs201616, 32.5" L	1
8	762421	Ftg, hyd, 20-16, f5og5-s	1
9	762422	Thermal bypass valve, (Bruning)	1
10	762481	Ftg, hyd, 16 f5olo-s	1
11	762482	Ftg, hyd, 16 c5olo-s	1

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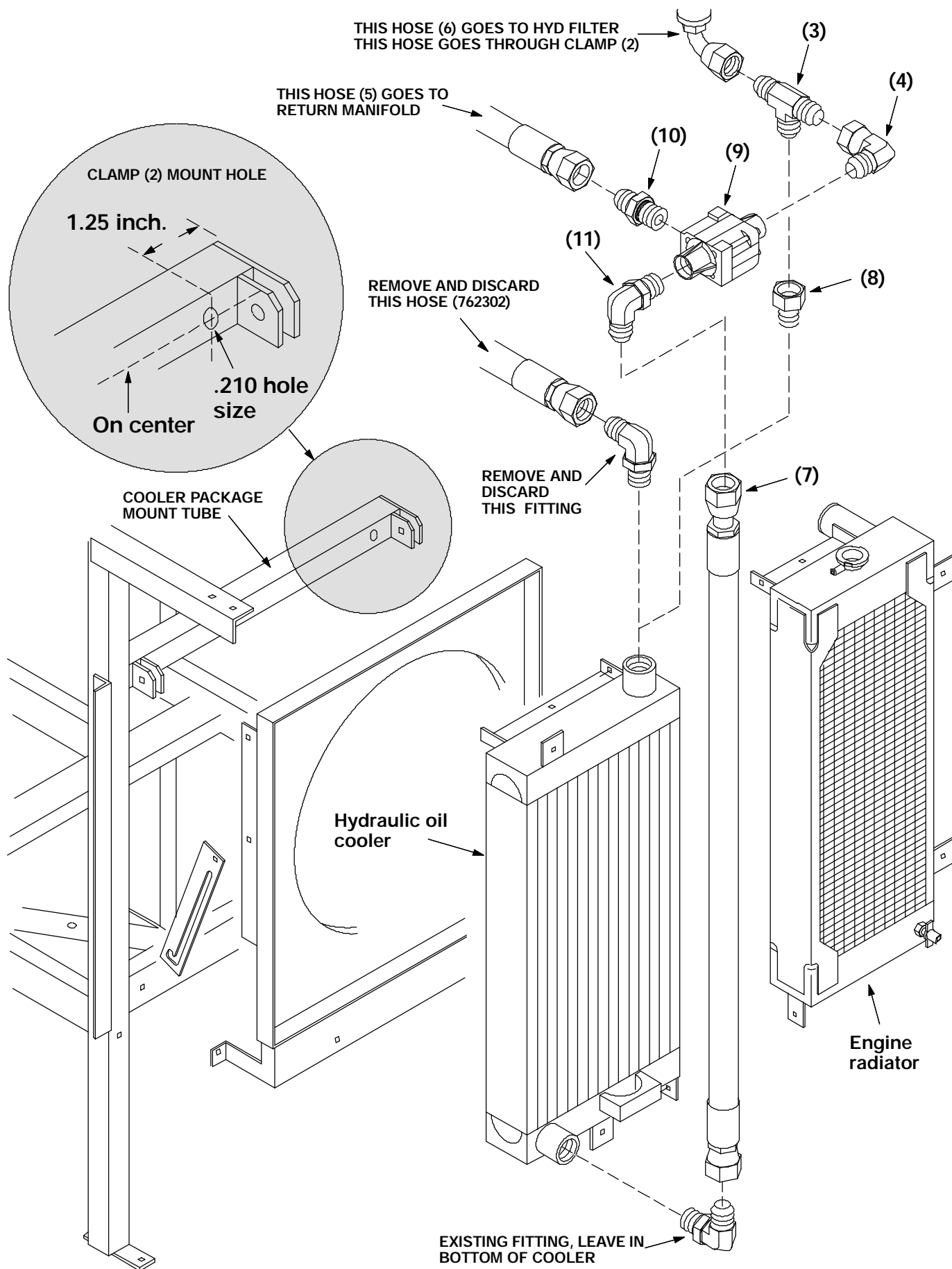


FIG. 1 - Thermal Bypass And Hose Assembly

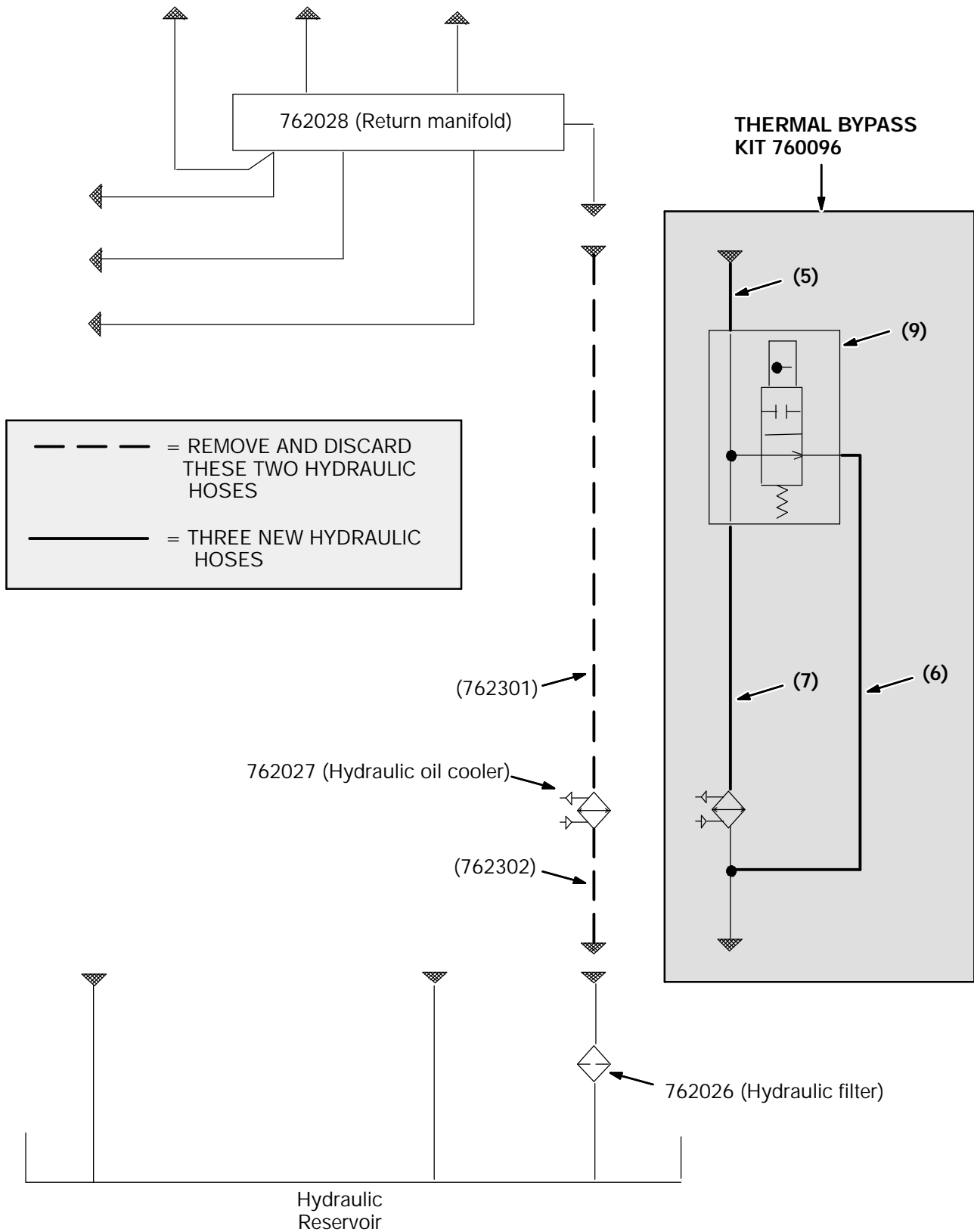


FIG. 2 - Hydraulic Schematic