

**TECHNICAL BULLETIN
No. 0106**

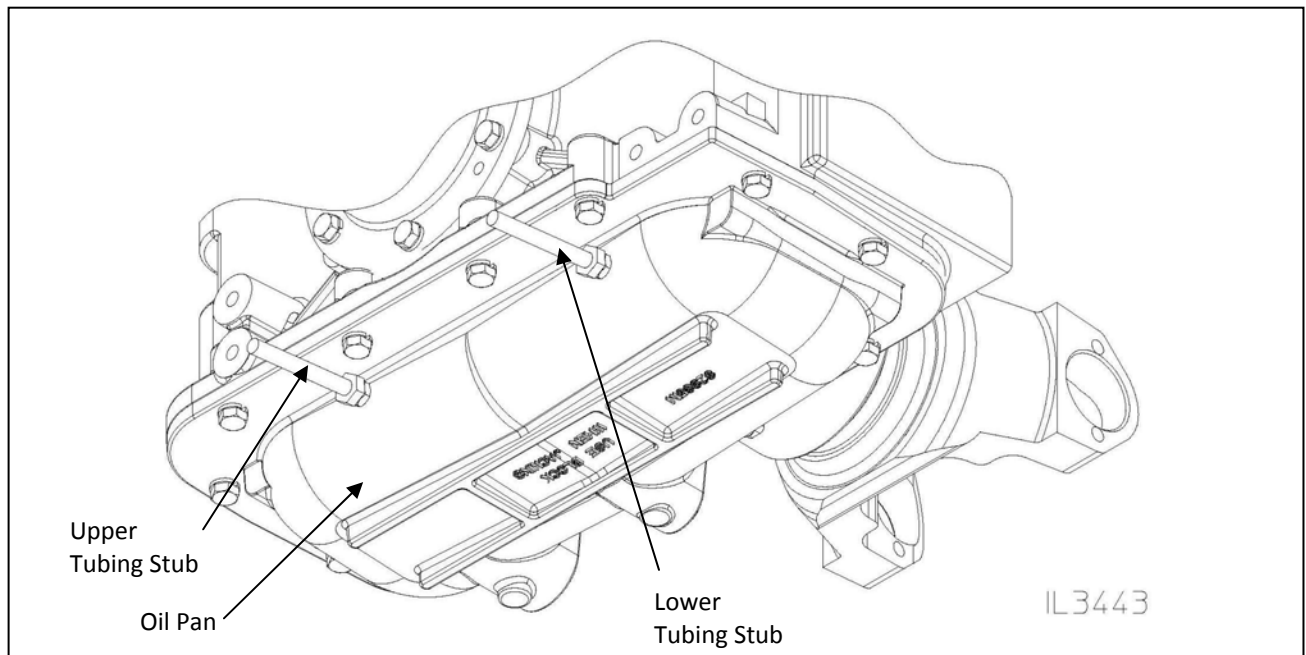
**Oil Cooler Provision
C20/TC20 Transmissions**

Effective November 20, 2009, all C20/TC20 transmissions are equipped with an oil cooler provision.

Note that the oil cooler provision consists of a copper cooling line inside the transmission oil pan.

1. Two (2) 3/8-inch copper tubing stubs extend from the transmission oil pan (see Figure 1) for connection to a water supply (see Step 2). Tubing stubs may be shortened as necessary for best fit; however, sufficient length must be available for use with compression fittings. If tubing stubs are shortened, the cut end must be deburred to ensure full inside diameter of the tube is visible.

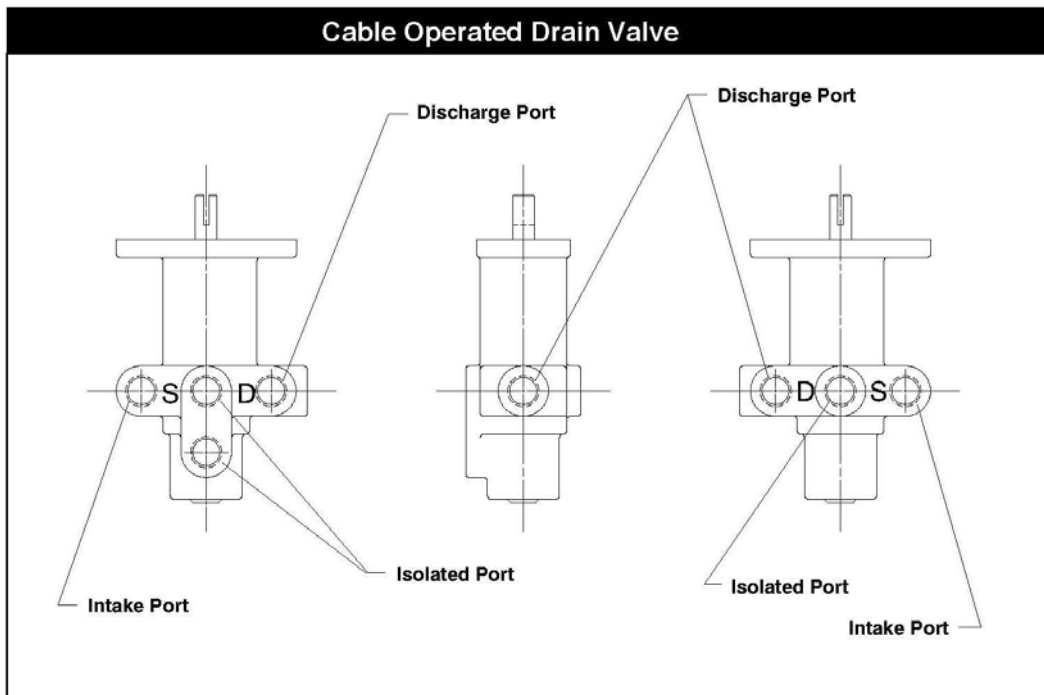
Figure 1. Oil Cooler Tubing Stubs



2. Connect oil cooler to a water supply as follows:
 - a. On units equipped with a Waterous cable operated drain valve (see Figure 2), connect one tubing stub to a “Discharge” port on the drain valve and the other tubing stub to an “Intake” port. **DO NOT** connect either stub to an “Isolated” port.
 - b. On units not equipped with a Waterous drain valve, connect one tubing stub to an opening on the pump discharge. Connect the other tubing stub to an opening on the pump intake. Openings must be 1/4-inch NPT minimum to ensure adequate water flow through the cooler. **Provisions must be made to drain the cooler at the lower tubing stub.**

IMPORTANT: Use 3/8-inch minimum tubing and fittings to connect to tubing stubs. Make sure all plumbing lines are free of low points to ensure proper drainage.

Figure 2. Watrous Drain Valves



Explanation of Drain Ports

Discharge Ports (3 Openings)

All pump and accessory passages which are normally under full discharge pressure.

Intake Ports (2 Openings)

All pump and accessory passages which are connected to pump intake.

Isolated Ports (3 Openings)

Pump passages such as a first stage discharge and second stage intake are connected here. These ports are not connected to pump intake and are not under full discharge pressure.

3. Check for fluid and water leaks.

NOTE: The information in this technical bulletin was current at the time of printing. Watrous reserves the right to change this information.