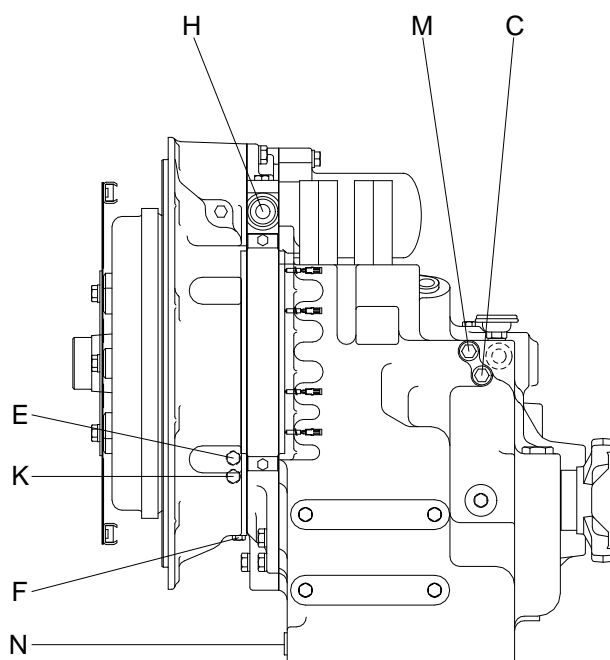


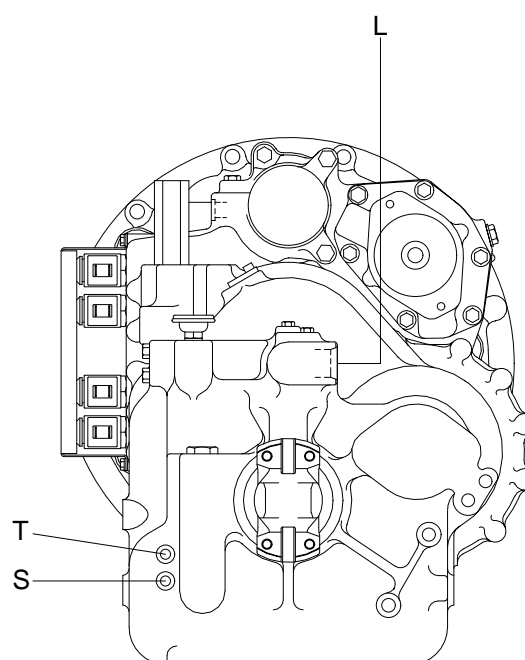
GROUP 3 TESTS AND ADJUSTMENTS

1. TRANSMISSION PUMP PRESSURE AND FLOW TESTING

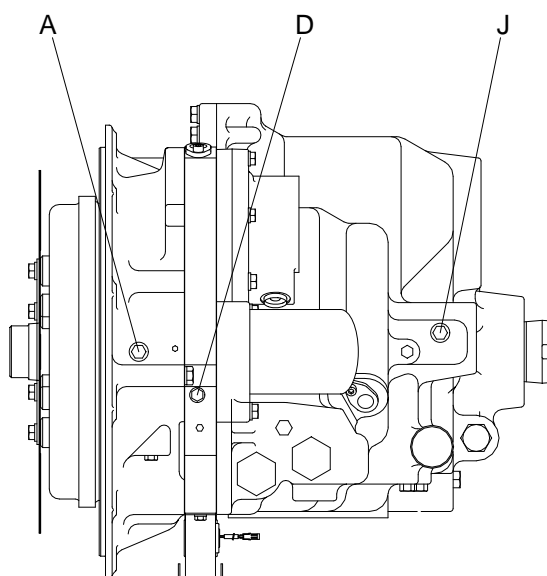
1) TEST PORT



LEFT SIDE VIEW



REAR SIDE VIEW



TOP VIEW

| Port | Description | Size |
|------|--------------------------------------|-------------|
| A | Regulator pressure check port | 1/8-27NPTF |
| C | Reverse clutch pressure | 3/8-24UNF |
| D | To cooler pressure | 1/8-27NPTF |
| E | 1st clutch pressure | 3/8-24UNF |
| F | 3rd clutch pressure | 3/8-24UNF |
| H | Port for converter out oil to cooler | 7/8-14UNF |
| J | From cooler pressure | 3/8-24UNF |
| K | 2nd clutch pressure | 3/8-24UNF |
| L | Port for lube oil from cooler | 1 1/16-12UN |
| M | Forward clutch pressure | 3/8-24UNF |
| N | Magnetic drain port | 3/4-14NPTF |
| S | Add oil level check port | 7/16-20UNF |
| T | Full oil level check port | 7/16-20UNF |

2) TESTING

Before testing is carried out, ensure that the oil is at the correct level and at normal operating temperature 82~104°C(180~220°F).

3) TORQUE CONVERTER STALL TEST

Mark the engine crankshaft pulley with chalk or reflective tape and check the maximum no-load speed of the engine using a stroboscopic tachometer.

(1) Put the machine against a solid barrier, such as a wall, and/or apply the parking brake switch and block the tracks.

(2) Put the transmission control lever in FORWARD(or REVERSE, as applicable).

(3) Put the transmission control lever in 3rd speed.

With the engine running, slowly increase engine speed to approximately one-half throttle and hold until transmission(Converter outlet) oil temperature reaches the operating range.

⚠ Do not operate the converter at stall condition longer than 30 seconds at one time, shift to neutral for 15seconds and repeat the procedure until desired temperature is reached. Excessive temperature(120°C, 248°F maximum) will cause damage to transmission clutches, fluid, converter, and seals.

· Torque converter stall speed is 1832 ± 50 rpm.

4) CLUTCH LEAKAGE TEST

Connect a flowmeter between the transmission and oil cooler. With the parking brake switch applied, test at 1800rpm transmission input direction spool in forward or reverse and range spool in 1st, 2nd or 3rd. Converter out flow should not exceed 2.5 GPM(9.5lpm) less than charging pump flow or a max difference of 1GPM(3.8lpm) between any two speeds. Record the flow rate. Repeat the test for each clutch pair.

5) CLUTCH PRESSURE TEST

Connect a pressure gauge to the clutch pressure tapping point A. Run the engine at idling speed, engage clutches in sequence(As in previous test) and note the gauge readings which should be as shown in technical data. Clutch pressure should be in 17~20bar(240~280psi).

Clutch pressure should not vary by more than 0.34bar(5psi) from one another. Any clutch showing a greater variation should be disassembled for servicing.

※ **Never use service brake while making clutch pressure checks.**

Units having brake actuated declutching in forward and/or reverse will not give a true reading.

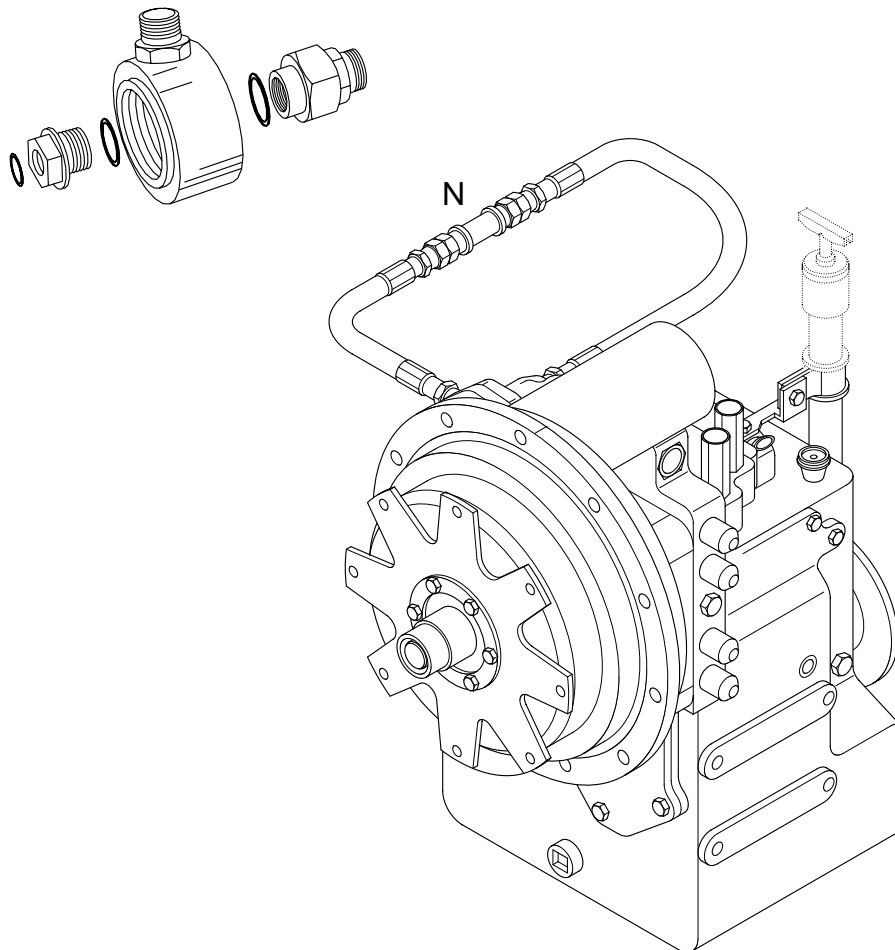
Always use parking brake when making clutch pressure checks.

6) PUMP FLOW TEST

Stop the engine and remove transmission oil filter. Assemble flow test tool by locating adapter(K) through center bore of body(L) and securing with adapter.

Screw body onto filter spigot on transmission and connect a flow meter(N) as shown.

Start the engine and run at 2000rpm. The flow meter will show the charging pump flow which should be as shown in technical data. A low reading indicates a worn charging pump or blocked suction strainer.



Specifications

- Oil temperature 82~104°C(180~220°F)
- Pump flow(Minimum) 14GPM

Low transmission charging pump flow can be caused by :

- Low oil level.
- Cold transmission oil.
- Plugged suction screen.
- Air leak in pump suction tube.
- Pump mounting cap screws loosen.
- Worn transmission charging pump.