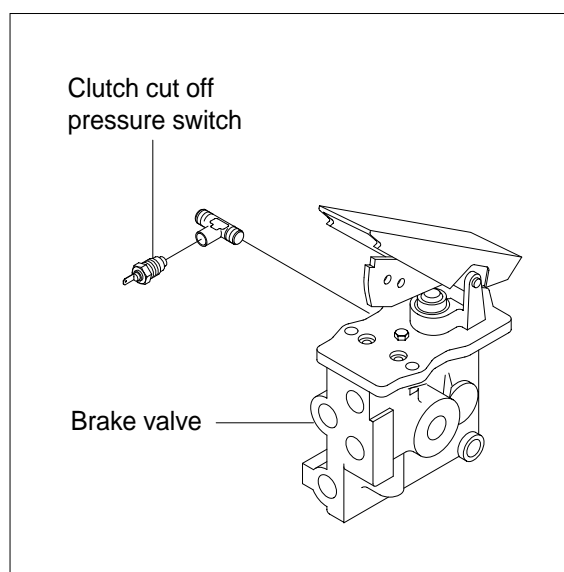


## GROUP 3 TESTS AND ADJUSTMENTS

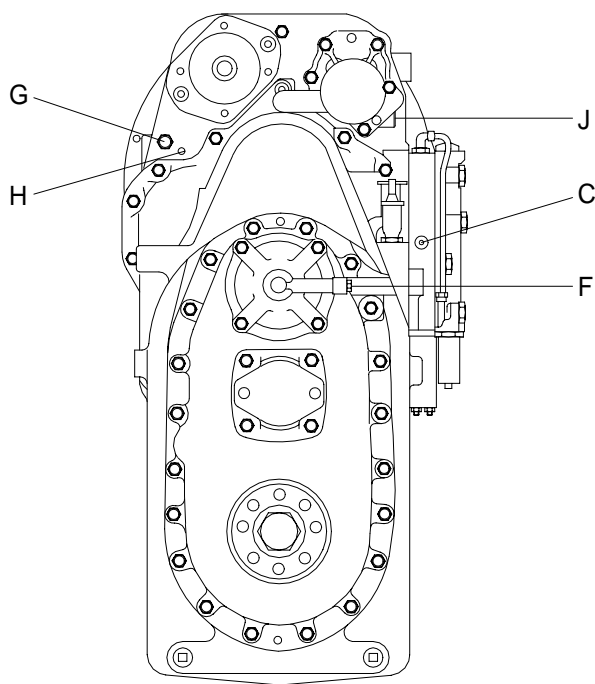
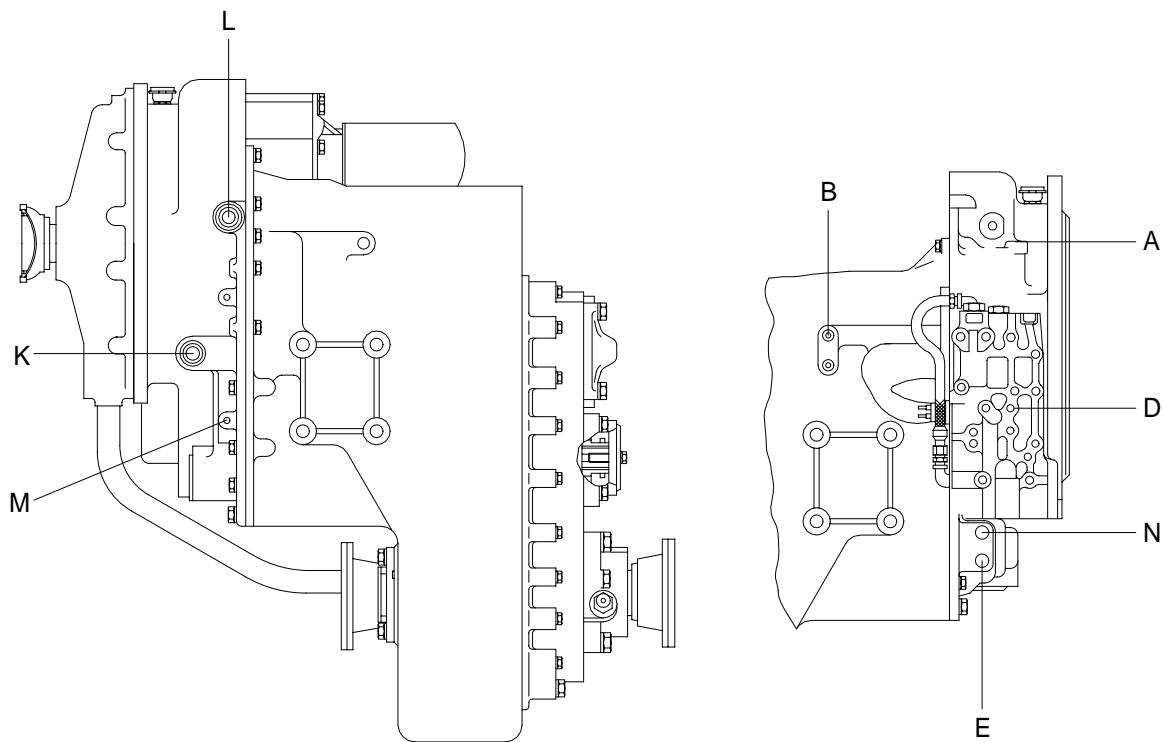
### 1. CLUTCH CUT-OFF PRESSURE SWITCH TEST

The setting pressure of the clutch cut-off pressure switch should be suited with the specification. The rated pressure is 25 kgf/cm<sup>2</sup>. For the detailed method for pressure adjusting, refer to page 4-22.



2. TRANSMISSION PUMP PRESSURE AND FLOW TESTING

1) TEST PORT



Port	Description
A	Regulated clutch pressure snap connector(Pressure switch)
B	Modulated forward clutch pressure
C	Reverse clutch pressure
D	2nd clutch pressure
E	3rd clutch pressure
F	1st clutch pressure
G	Converter outlet temperature
H	Converter outlet pressure
J	Converter inlet pressure
K	Port for lube oil from cooler
L	Port for converter out oil to cooler
M	Lube in pressure check point
N	Forward high(4th) clutch pressure

## 2) TESTING

Before testing is carried out, ensure that the oil is at the correct level and at normal operating temperature 80~ 95° C(180~ 200° 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.

Raise the loader arms and set the machine against fixed obstruction. Apply firmly the footbrake. Select forward 3th and, with the throttle fully open, check engine speed which should be as shown in technical data. Torque converter stall speed is  $2270 \pm 70$ rpm.

※ **Do not apply the clutch cut off switch during this test as the clutch disconnect will be activated and a false reading will result.**

Repeat the above test whilst simultaneously operating the loader arm raise service to blow off the main relief valve.

Engine speed should be as shown in technical data.

If engine speeds are appreciably below the stated figures, the engine is losing power and should be serviced or overhauled. Where the engine speed does not change significantly from the governed speed, check the transmission for clutch slippage or internal leakage. Above phenomenon is also indicated an incorrect torque converter.

## 4) CLUTCH LEAKAGE TEST

Connect a flowmeter between the transmission and oil cooler. With the parking brake firmly 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 2.5GPM(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.**

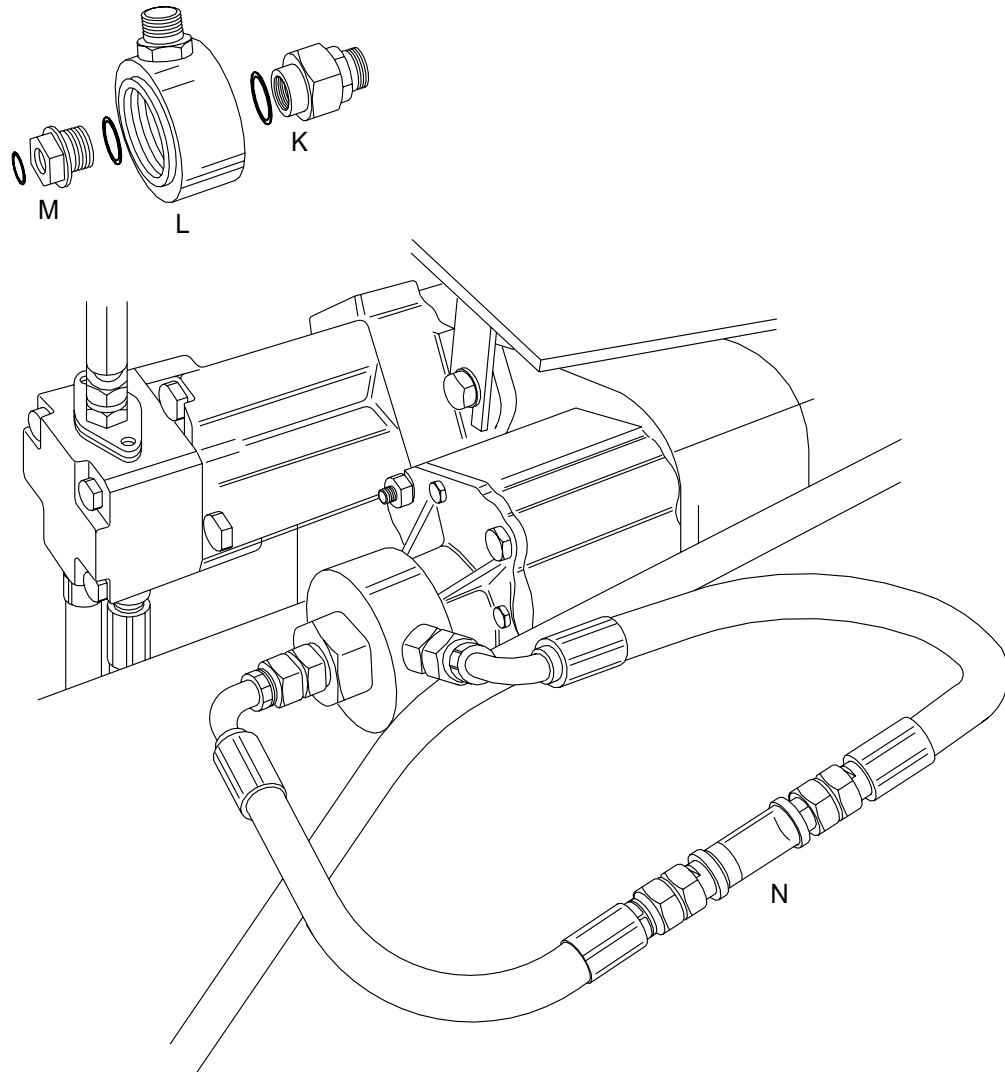
**Always use parking brake when making clutch pressure checks.**

## 6) PUMP FLOW TEST

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

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 pump flow which should be as shown in technical data. A low reading indicates a worn pump or blocked suction strainer.



### Specifications

- Oil temperature ..... 80~ 95° C(180~200° F)
- Pump flow(Minimum) ..... 17.5GPM

### Low transmission 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 pump.