

than one stall check is required, operate the engine at approximately 1,000 rpm in neutral for 20 seconds to cool the transmission fluid between runs. If engine speed exceeds the maximum limits shown, release the accelerator immediately since transmission clutch slippage is indicated.

Stall Speed Above Specification

If stall speed exceeds the maximum specified in chart by more than 200 rpm, transmission clutch slippage is indicated. Follow the transmission oil pressure and air pressure checks outlined in this section to determine the cause of slippage.

Stall Speed Below Specification

Low stall speeds with a properly tuned engine indicate torque converter stator clutch problems. A road test will be necessary to identify the exact problem.

If stall speeds are 250-350 rpm below specification, and the vehicle operates properly at highway speeds, but has poor through-gear acceleration, the stator overrunning clutch is slipping.

If stall speed and acceleration are normal, but abnormally high throttle opening is required to maintain highway speeds, the stator clutch has seized.

Both of these stator defects require replacement of the torque converter.

Noise

A whining or siren-like noise due to fluid flow is normal during stall operation with some converters; however, loud metallic noises from loose parts or interference within the assembly indicate a defective torque converter. To confirm that the noise originates within the converter, operate the vehicle at light throttle in D and N on a hoist and listen under the transmission bell housing.

CLUTCH AND SERVO AIR PRESSURE TESTS

A "NO DRIVE" condition might exist even with correct fluid pressure, because of inoperative clutches or bands. The inoperative units, clutches, bands, and servos can be located through a series of tests by substituting air pressure for fluid pressure (Fig. 3).

The front and rear clutches, kickdown servo, and low-reverse servo may be tested by applying air pressure to their respective passages after the valve body assembly has been removed. To make air pressure tests, proceed as follows:

Compressed air supply must be free of all dirt or moisture. Use a pressure of 30 psi.

Front Clutch

Apply air pressure to front clutch "apply" passage and listen for a dull "thud" which indicates that front clutch is operating. Hold air pressure on for a few seconds and inspect system for excessive oil leaks.

Rear Clutch

Apply air pressure to rear clutch "apply" passage and listen for a dull "thud" which indicates that rear clutch is operating. Also inspect for excessive oil leaks. If a dull "thud" cannot be heard in the clutches, place finger tips on clutch housing and again apply air pressure. Movement of piston can be felt as the clutch is applied.

Kickdown Servo (Front)

Direct air pressure into front servo "apply" passage. Operation of servo is indicated by a tightening of front band. Spring tension on servo piston should release the band.

Low and Reverse Servo (Rear)

Direct air pressure into rear servo "apply" passage. Operation of servo is indicated by a tightening of rear band. Spring tension on servo piston should release the band.

If clutches and servos operate properly, no upshift or erratic shift conditions indicate that malfunctions exist in the valve body.

FLUID LEAKAGE—TRANSMISSION CONVERTER HOUSING AREA

(1) Check for Source of Leakage.

Since fluid leakage at or around the converter area may originate from an engine oil leak, the area should be examined closely. Factory fill fluid is dyed red and, therefore, can be distinguished from engine oil.

(2) Prior to removing the transmission, perform the following checks:

When leakage is determined to originate from the

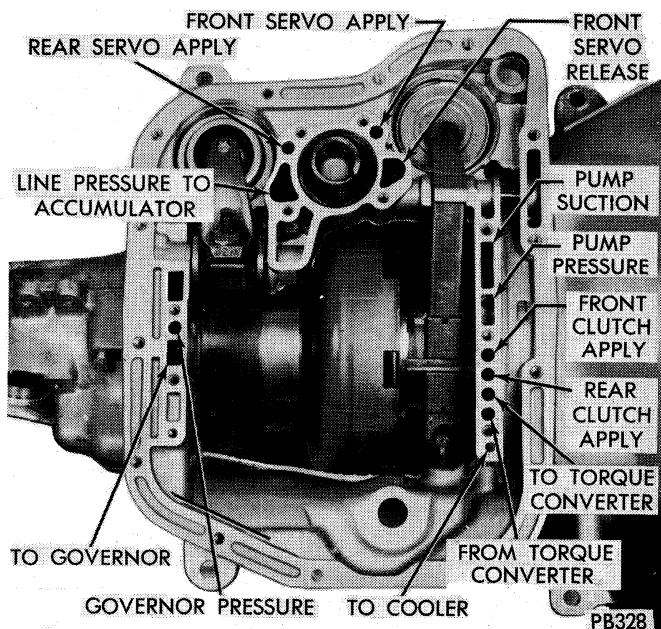


Fig. 3—Air Pressure Tests