1958 - 1959 Corvette: Service Bulletin: Vacuum Modulation System Inspection

Subject: Vacuum Modulation System Inspection
Model and Year: 1958-1959 Powerglide and 1957 Thru 1959 Turboglide Transmissions
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TO: ALL CHEVROLET DEALERS

A vacuum modulation system, which varies transmission mainline oil pressure in accordance with engine torque output, is incorporated in 1958 and 1959 model Powerglide and 1957 through 1959 model Turboglide transmissions. With mainline pressure so modulated, adequate pressure to apply the bands and clutches is assured under all operating conditions, resulting in satisfactory band and clutch life and producing the smoothest possible shifts.

For satisfactory transmission operation, the vacuum modulation system must be functioning properly. Whenever a transmission is being checked for any malfunction or re-built for any reason whatever, the vacuum modulation system should be inspected for the following conditions:

COLLAPSED OR RESTRICTED MODULATOR HOSES

Partial collapse or restriction of the modulator hoses or pipes results in a very slow build-up of mainline pressure on acceleration, resulting in momentary band or clutch slippage, thereby shortening their life. Complete collapse or restriction of the hose causes loss of mainline pressure buildup, resulting in band or clutch slippage on acceleration under heavy loads, resulting in premature and possible repeat clutch failures.

A check for modulator line restriction should be made as follows, as a visual inspection will not reveal restrictions caused by collapsing of the inner walls of the hose.

> With vehicle on hoist, parking brake securely applied, transmission selector in "D" range and engine running and a vacuum gauge connected to the transmission end of the modulator line, note vacuum reading with engine idling. Open the throttle momentarily by rotating the transmission TV lever. The vacuum gauge reading should drop instantaneously and simultaneously as the throttle is opened. If any delay in vacuum drop is noted, the vacuum hoses and pipes should be removed and checked for partial restriction.

AIR LEAKS

Any air leaks into the vacuum lines, or a disconnected line, will result in harsh Neutral to Reverse and Neutral to Low shifts and also very severe automatic upshifts and downshifts, particularly the closed throttle downshift.

A check for leaks can be made by attaching a vacuum gauge, first at the vacuum take-off on the intake manifold, then at the modulator hose at the transmission. With engine running at a constant speed, the vacuum gauge reading should be the same at both points. If any difference in gauge reading is noted, the hoses and pipes should be carefully inspected for cracks or damage. This inspection should also include the distributor vacuum advance circuit which on some models is Tee'd into the transmission modulator circuit. All damaged hoses or pipes should be replaced.

RUPTURED VACUUM MODULATOR DIAPHRAGM

This will be evidenced by low transmission oil level, excessive exhaust smoke and also harsh N to R or N to D shifts. If diaphragm is ruptured, modulator assembly should be replaced.

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Only 7/32" diameter oil resistant hose, which will withstand 24" vacuum for prolonged periods without collapsing, should be used in the transmission vacuum modulator circuit. This hose is available in bulk, part #3760278, through Parts and Accessories Department.