Technical Bulletin # 1377

Transmission: *41TE, 42LE*
Subject: *Clutch Volume Index (CVI's)*
Application: *Chrysler*
Issue Date: *April, 2011*

41TE, 42LE
Clutch Volume Index (CVI's)

The L-R clutch volume is updated when doing a 2-1 or 3-1 coast downshift. The transmission temperature must be between 70 – 120°F. The clutch volume should be between 35 and 83.

The 2-4 clutch volume is updated when doing a 1-2 shift. The transmission temperature must be above 80°F (above 110°F beginning with 97 MY vehicles). The clutch volume should be between 20 and 77.

The OD clutch volume is updated when doing a 2-3 shift. The transmission temperature must be above 80°F (above 110°F beginning with 97 MY vehicles). The clutch volume should be between 48 and 150.

The UD clutch volume is updated when doing a 4-3 or 4-2 shift. The transmission temperature must be above 80°F (above 110°F beginning with 97 MY vehicles). The clutch volume should be between 24 and 70.

To execute the shift logic, the controller must maintain a continuous record of each clutch element apply status. This is done by tracking the instantaneous fluid volumes in each clutch circuit. Instantaneous fluid volumes are tracked using predetermined flow rates and learned "clutch fill volumes". This is particularly useful for closely-spaced shifts or change-mind shifts.

Learned clutch fill volumes represent the volume of fluid that is required to stroke a clutch piston to the point where zero clutch pack clearance is obtained, without stroking the accumulator or picking up any torque load on the clutch. This learned fill volume is updated for each clutch elements as it wears and clutch pack clearance increases.

The DRB, Clutch Volume Index (CVI) display, can be used to view learned CVIs for each clutch. The normal range for clutch fill volumes are shown below.

* LR = 35-83
* OD = 48-150
* 2-4 = 20-77
* UD = 24-70