

NO: 21-02-99

SUBJECT: Shift Quality Improvements

DATE: Feb. 12, 1999

OVERVIEW:

This bulletin involves selectively erasing and reprogramming the Transmission Control Module (TCM) with new software (calibration changes).

NOTE: THIS INFORMATION APPLIES TO VEHICLES EQUIPPED WITH A 45RFE TRANSMISSION.

SYMPTOM/CONDITION:

Several improvements in shift quality have been made to address the following concerns:

1. Slow (1 1/2 to 2 seconds) park/neutral to drive engagement. This condition may occur after the first key "ON" or once after subsequent key "ON's" with a soak time of several minutes or more.

NOTE: THIS WILL NOT ADDRESS LONG ENGAGEMENT TIMES DUE TO PUMP LOSS OF PRIME.

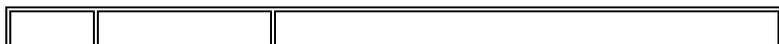
2. Neutral coastdown bump at approximately 8 miles per hour. This may occur if a customer coasts to a stop with the transmission in neutral.
3. Neutral to drive engagement harshness with the vehicle rolling between 5 and 10 miles per hour. This may occur if a customer is coasting in neutral within the specified speed range and shifts the transmission into drive.
4. Harsh (light throttle) 1 - 2 shift between 10 and 15 miles per hour.
5. Low speed (10 - 12 mph) light throttle tip in bump.
6. Drone at approximately 40 - 45 mph in 4th gear with EMCC engaged.

DIAGNOSIS:

Using the Mopar Diagnostic System (MDS/MDS2) and or the Diagnostic Scan Tool (DRB III®) with the appropriate Diagnostic Procedures Manual, verify all engine/transmission systems are functioning as designed. If Diagnostic Trouble Codes (DTC's) are present, record them on the repair order and repair as necessary before proceeding further with this bulletin. If no DTC's are present and the customer has described any of the above symptoms, perform the Repair Procedure.

NOTE: WHENEVER A TRANSMISSION CONTROL MODULE (TCM) IS REPLACED DUE TO FAILURE, THE SOFTWARE OF THE REPLACEMENT CONTROLLER MUST BE VERIFIED FOR THE LATEST REVISION LEVEL. USE THE FLASH PROCEDURE TO UPDATE REPLACED CONTROLLERS AS NECESSARY.

PARTS REQUIRED:



Qty	Part No.	Description
1	04669020	Label, Authorized Software Update
1	04275086	Label, Authorized Modification

EQUIPMENT REQUIRED:

Qty	Part No.	Description
1	CH6000	Scan Tool (DRB III®)
1	CH7035	General Purpose Interface Bus Cable (GPIB)
1	CH7000/7001	J1962 Cable
1	-	MDS1 or MDS2

NOTE: THE MDS1/MDS2 AND DRB III® ARE REQUIRED TO PERFORM PART OF THIS REPAIR. IF USING THE MDS1 AND DRB III® THE MDS MUST BE OPERATING AT RELEASE 21 OR HIGHER AND TIL CD RELEASE 1178 OR HIGHER MUST BE INSTALLED. IF USING THE MDS2 AND DRB III® THE SYSTEM MUST BE OPERATING AT CIS CD2029 OR HIGHER.

REPAIR PROCEDURE:

MDS1 PROCEDURE

1. Connect the MDS1 (Mopar Diagnostic System) and DRB III® (Scan Tool) to the vehicle and power them up.
2. Use the arrow keys and select #2 CONNECT TO MDS1 OR MDS2 on the DRB III® MAIN MENU SCREEN.
3. Use the arrow keys and select MDS DIAGNOSTICS OR DRB III⁷ UPDATE on the DRB III® MAIN MENU SCREEN.
4. Use the arrow keys and select DIAGNOSTIC MENU on the MDS1, then press NEXT MENU.
5. Use the arrow keys and select VEHICLE CONTROLLER PROGRAMMING on the MDS1, then press NEXT MENU.
6. Use the arrow keys and select PROGRAMMING OF ALL OTHER CONTROLLERS USING THE MDS1 & DRB III® on the MDS, then press NEXT MENU.
7. Follow the steps presented on the MDS1 and DRB III® that will allow the DRB III® to obtain the current part number of the PCM.
8. The MDS1 will display the vehicle's PCM part number and the replacement part number(s). Press NEXT MENU to begin programming.

NOTE: A NO UPDATES AVAILABLE MESSAGE MAY BE DISPLAYED. CHECK THE TCM PART NUMBER ON THE VEHICLE AND COMPARE IT TO THE PART NUMBER DISPLAYED ON THE MDS. IF NO UPDATES ARE AVAILABLE, FIRST CHECK YOUR DIAGNOSTIC EQUIPMENT FOR THE LATEST SOFTWARE LEVELS AS LISTED EARLIER IN THIS BULLETIN. IF THE LATEST SOFTWARE IS INSTALLED, ANOTHER VEHICLE CONDITION EXISTS THAT WILL REQUIRE FURTHER INVESTIGATION.

9. The MDS1 and DRB III® will prompt for any operator action needed during the remainder of the

reprogramming process.

NOTE: THE FOLLOWING STEPS ARE REQUIRED BY LAW.

10. Type the necessary information on the "Authorized Software Update Label" p/n 04669020 ([Figure 1](#)). Attach the label to the TCM and cover the label with the clear plastic overlay.
11. Type the necessary information on the "Authorized Modification Label" p/n 04275086 and attach the label near the VECI label ([Figure 2](#)).

MDS2 PROCEDURES

1. Log onto the MDS2 system.
2. Connect the MDS2 (Mopar Diagnostic System) and DRB III® (Scan Tool) to the vehicle and switch the ignition key to "ON".
3. Use the arrow keys and select #2 CONNECT TO MDS1 OR MDS2 on the DRB III® MAIN MENU SCREEN.
4. Use the arrow keys and select #2 RUN MDS2 APPLICATION on the DRB III® MAIN MENU SCREEN.

NOTE: ONCE MDS2, DRB III®, AND VEHICLE COMMUNICATION HAS BEEN ESTABLISHED, THE CANNOT READ VIN FROM DRB III® MESSAGE (ON THE MDS2) WILL BE REPLACED BY THE VEHICLE VIN. PRESS THE "OK" BUTTON ON THE MDS2 TO REQUEST A MDS2 SESSION FOR THE VEHICLE VIN INDICATED. PRESS THE "OK" BUTTON WHEN ASKED TO BEGIN SESSION.

5. Push the FLASH tab on the MDS2.

NOTE: A MESSAGE MAY APPEAR THAT INDICATES NO UPDATES ARE AVAILABLE. IF THIS OCCURS, MAKE SURE YOUR DIAGNOSTIC EQUIPMENT IS OPERATING AT THE LATEST SOFTWARE LEVEL AS LISTED EARLIER IN THIS BULLETIN. IF THE LATEST SOFTWARE IS INSTALLED, AND NO UPDATES ARE AVAILABLE, ANOTHER VEHICLE CONDITION EXISTS THAT WILL REQUIRE FURTHER INVESTIGATION.

6. Select READ PART NUMBERS FROM VEHICLE and click SHOW UPDATES on the MDS2.

NOTE: A MESSAGE MAY APPEAR THAT INDICATES NO UPDATES ARE AVAILABLE. IF THIS OCCURS, MAKE SURE YOUR DIAGNOSTIC EQUIPMENT IS OPERATING AT THE LATEST SOFTWARE LEVEL AS LISTED EARLIER IN THIS BULLETIN. IF THE LATEST SOFTWARE IS INSTALLED, AND NO UPDATES ARE AVAILABLE, ANOTHER VEHICLE CONDITION EXISTS THAT WILL REQUIRE FURTHER INVESTIGATION.

7. Select the new software part number with the light pen and click UPDATE CONTROLLER SOFTWARE.
8. The MDS2 and DRB III® will prompt for any operator action needed during the remainder of the reprogramming process.

NOTE: THE FOLLOWING STEPS ARE REQUIRED BY LAW.

9. Type the necessary information on the "Authorized Software Update Label" p/n 04669020 ([Figure 1](#)). Attach the label to the TCM and cover the label with the clear plastic overlay.
10. Type the necessary information on the "Authorized Modification Label" p/n 04275086 and attach the label near the VECI label ([Figure 2](#)).

POLICY:

Reimbursable within the provisions of the warranty.

TIME ALLOWANCE:

Labor Op. No.	Time
08-19-50-97	0.5 Hrs.

FAILURE CODE:

Code	Description
FM	Flash Module