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Service Information Bulletin

SUBJECT	DATE
TCM Programming Instruction	March 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0140	DT12 Transmission	Programming After Complete Transmission Replacement	These are new procedures.
		Programming After TCM/AMT Replacement Only	



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2 Programming After Complete Transmission Replacement

Prior to starting the programming of the unit, please ensure:

- Unit is on level ground
- Transmission air supply tank has between 827 to 896 kPa (120 to 130 psi) of air pressure
- Driveshaft is properly installed
- Erase any/all prior VIN/ESN information in DiagnosticLink[®] Professional
 1. Connect to the truck to program the TCM to the truck's information.
 2. Download the unit VIN/ESN information from the mainframe and select "Next" on the bottom right of the programming screen.
 3. Highlight the TCM in the upper portion of the screen and select "Update Device Software" from the choices in the middle of the screen.
 4. Highlight the software version that appears in the lower half of the window and click on the "Next" box.

NOTE: The upper half of the next window that appears contains all of the information on the reprogramming that is about to occur.

5. Verify that the information is correct and then click on the "Start" box.
6. After programming the TCM, check for any software updates for the remaining modules and complete, if necessary.
7. Switch the ignition OFF; wait two minutes. Switch the ignition ON (key ON, engine OFF); wait two minutes. Switch the ignition OFF; wait two minutes. Switch the ignition ON (key ON, engine OFF), then Go to step 8.
8. Complete TCM Release Lock procedure in DiagnosticLink.
9. While connected to the truck, go to Actions -> Transmission -> TCM Release Lock.

NOTE: At the bottom of the box that pops up will be a button that reads "Release Lock."

10. Click on "Release Lock." Once complete, screen will show "Successfully released transport security." Go to step 11.
11. To complete a Clutch Learn procedure while connected to the truck, go to Actions -> Transmission -> Transmission Learn Procedure.
12. Select Learn Clutch Only from the dropdown menu at the bottom and click on "Start."

NOTE: The TCM will then learn the clutch values.

NOTE: The vehicle needs to be on level ground when viewing or calibrating this data.

13. To complete Tilt Sensor calibration while connected to the truck, go to Service Routines and then select the Tilt Sensor tab.

NOTE: The sensor can be recalibrated by activating the "Calibrate" button on the bottom right hand corner of the panel. The routine only takes a few seconds to complete.

14. The service routine is a key ON, engine OFF procedure.

3 Programming After TCM/AMT Replacement Only

Prior to starting the programming of the unit, please ensure:

- Unit is on level ground
- Transmission air supply tank has between 827 to 896 kPa (120 to 130 psi) of air pressure
- Driveshaft is properly installed
- Erase any and all prior VIN/ESN information in DiagnosticLink[®] Professional
 1. Connect to the truck to program the TCM to the truck's information.
 2. Download the unit VIN/ESN information from the mainframe and select "Next" on the bottom right of the programming screen.
 3. Highlight the TCM in the upper portion of the screen and select "Update Device Software" from the choices in the middle of the screen.
 4. Highlight the software version that appears in the lower half of the window and click on the "Next" box.

NOTE: The upper half of the next window that appears contains all the information on the reprogramming that is about to occur.

5. Verify that the information is correct and then click on the "Start" box.
6. After programming the TCM, check for any software updates for the remaining modules and complete, if necessary.
7. Switch the ignition OFF; wait two minutes. Switch the ignition ON (key ON, engine OFF); wait two minutes. Switch the ignition OFF; wait two minutes. Switch the ignition ON (key ON, engine OFF), then Go to step 8.
8. Complete TCM replacement procedure in DiagnosticLink. While connected to the truck, go to Actions -> Transmission -> TCM Replacement.
9. At the bottom of the box that pops up will be a dropdown menu to select the correct transmission type. Once the correct transmission type has been selected, click on "Set Transmission Type."
10. Click "Yes" on the warning box that pops up to start the TCM Replacement Routine.
11. Once the routine is complete, cycle the ignition key off and allow the modules to completely power down to allow the data to be written into the TCM's memory.
12. Switch the ignition ON (key ON, engine OFF), and verify the correct transmission type in the identification window.
13. Complete transmission and Clutch Learn procedures. While connected to the truck, go to Actions -> Transmission -> Transmission Learn Procedure.

NOTE: During the transmission learn procedure, the TCM will first learn the clutch values, then the rail, the split, the range, and finally the gear.

14. Select Learn Transmission and Clutch from the drop down menu at the bottom and click on "Start."



WARNING: ENGINE EXHAUST

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.



WARNING: PERSONAL INJURY

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.

NOTE: If the engine is not started within the allocated time, the gear learn portion of the procedure will fail. If this occurs, the engine WILL be allowed to start, however the vehicle will be immobile since gear positions were not learned. If this occurs, simply rerun the test.

15. After the clutch values have been learned, there will be a request to start the engine to continue with the TCM learn procedure. There is a ten-second window for the engine to start. It is important that the engine is started within this ten-second window. Please follow the prompt to start the engine from the DASH DISPLAY, not the computer.

NOTE: While the gear learn portion of the procedure is running, there may be some rocking and jerking of the vehicle and cab as shifts are made. Always remain in the vehicle while running the transmission learn procedure.

16. Final transmission learn procedure results will display in the information window. At this time, a command will be given to turn the ignition OFF and wait. There needs to be an adequate amount of time with the key in the OFF position so the TCM can power down effectively and write the learned values into memory.
17. After a successful memory write, a command will be given to cycle the ignition. Turn the ignition ON. A checkmark will appear with the text “TCM Learn: Procedure can start”. This indicates that the learn procedure was successfully performed.
18. Complete tilt sensor calibration. While connected to the truck, go to Service Routines and then select the Tilt Sensor tab.

NOTE: The vehicle needs to be on level ground when viewing or calibrating this data.

19. The service routine is a Key ON, Engine OFF procedure.
20. The sensor can be recalibrated by activating the “Calibrate” button on the bottom right hand corner of the panel. The routine only takes a few seconds to complete.