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Service Information Bulletin

SUBJECT	DATE
SPN 520970 FMI 7 (TCM)	August 2015

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0084	DT12	SPN 520970 FMI 7	Updates include measuring of clutch.
DDC-SVC-MAN-0140	Transmission		



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2 SPN 520970/FMI 7

Clutch - Unable to Open Fully

Check as follows:

1. Connect DiagnosticLink[®] 8.01 or higher; SPN 520999/FMI 7 (AMT Clutch Control - Mechanical Error) may also be present when this fault occurs.



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.



WARNING: ENGINE EXHAUST

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

2. Start the engine and idle for two minutes.
3. Is the transmission air supply pressure greater than 689 kPa (100 psi)?
 - a. Yes; Go to step 6.
 - b. No; Go to step 4.
4. Shut the engine OFF.
5. Inspect transmission air supply lines and fittings for leaks; repair as necessary. Repeat all steps in this procedure.
6. Under the Actions menu, select transmission heading and then choose Clutch Apply Leak Test; execute routine. Does the result indicate a successful completion, test pass? Note that test may have to be performed three times in order to get a "pass" result.
 - a. Yes; if fault is inactive, release vehicle. If fault is active, Go to step 7.
 - b. No; Go to step 7.
7. Under Instrumentation tab, select Transmission Learned Values. Is Instrument Learn Value Clutch Minimum greater than 33 mm or Clutch Maximum greater than 51mm?

DiagnosticLink - Engineering - Offline ((3AKJGLDR1GSGV7215) 7-8-2015 1522:22)

File Edit View Log Parameters Actions Tools Help

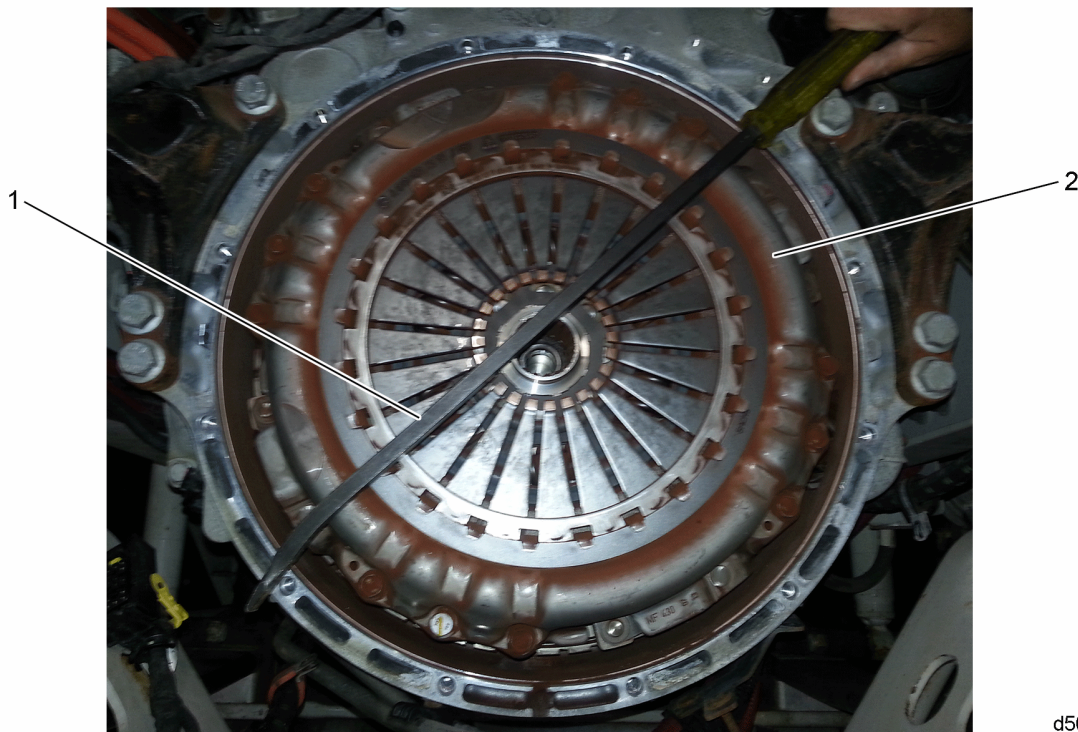
Instrumentation Engine: DDEC13-DD15 Transmission: DT12-DT12 DA

All Instruments	Chart	Cruise Control	Data Stream	EGR	Engine Brake	FIS Fuel Quantity	Mechanical	Switches	TCM Global Status
Transmission									
Transmission Learned Values									
Splitter group sensor learned minimum value					mm Actual position value clutch				
17.060					34.900				
Splitter group sensor learned maximum value					mm Learned value clutch minimum				
22.980					35.170				
Range group sensor learned minimum value					mm Clutch limit stop maximum value				
16.560					51.670				
Range group sensor learned maximum value					mm Status clutch calibration				
44.640					learned values available				
Gear actuator sensor learned minimum value at selector position with minimum se...					mm Actual position value splitter				
17.410					17				
Gear actuator sensor learned maximum value at selector lower middle position					mm Actual position value rail				
49.170					23				
Gear actuator sensor learned neutral position value					mm Actual position value range				
33.860					16				
Selector sensor learned minimum value					mm Transmission learn status				
14.680					learned values available				
Selector sensor learned maximum value					mm				
33.160									

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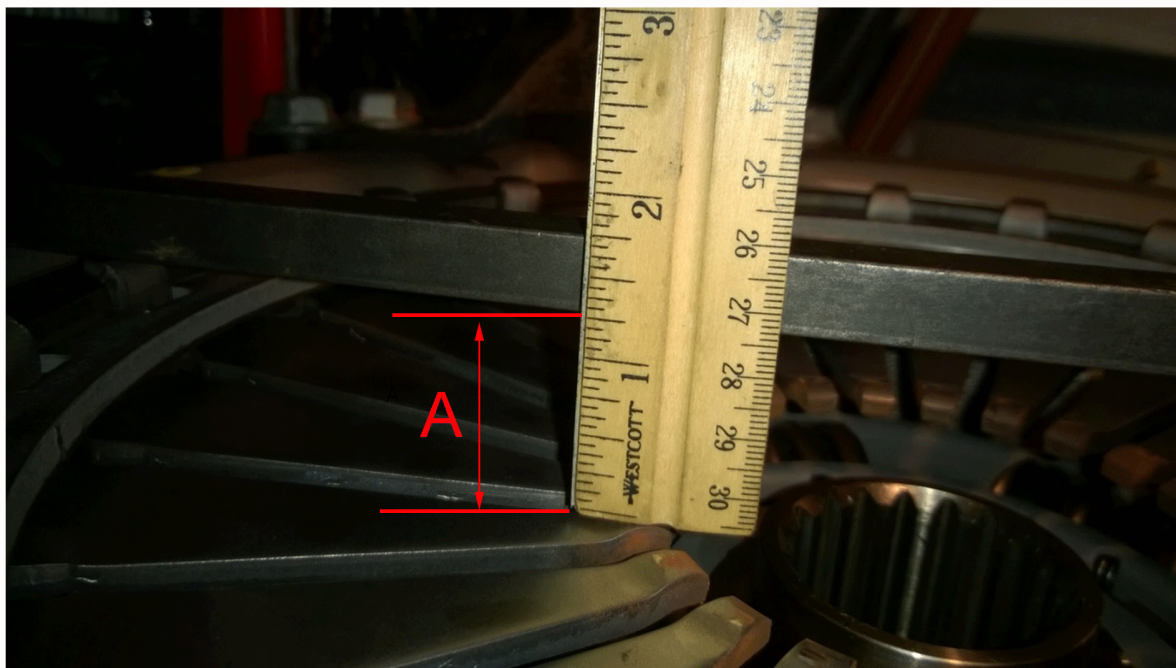
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- a. Yes; Go to step 8.
 - b. No; obtain a driving log file and contact the Detroit™ Customer Support Center at 855-253-0428 for further assistance.
8. Remove transmission. Refer to section "Removal of the Transmission".
 9. Keep the pressure plate and clutch disk installed on the engine.
 - a. Lay a straightedge (1) on the raised portions on the pressure plate (2).



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- b. Use a ruler to measure the distance (A) from the straightedge to the contact apex of each release finger.



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10. Is the measurement greater than one inch or pressure plate fingers warped?
 - a. Yes; replace pressure plate, pressure plate mounting bolts and clutch disc. Refer to section "Removal of the Clutch".
 - b. No; replace the Concentric Pneumatic Clutch Actuator (CPCA). Refer to section "Removal of the Clutch Actuator Assembly".