



Mack Models

Mack Model GR-Granite , PI-Pinnacle , AN-Anthem , CHU-Pinnacle, Axle back , CXU-Pinnacle, Axle forward , GU-Granite , TD-Titan

Volvo Models

Volvo Model VNR , VT , VNX , VNL , VNM , VHD , VAH

Engine family

Engine family 11L Engine , 13L Engine , 16L Engine , MP7 , MP8 , MP10

Emission Standard

Emission Standard US07 , US10 , US14 , US15 , US16 , US17 , OBD2017 , 2018

**** SOLUTION ****

Title Automated Manual Transmission Gearbox Will Not Shift To High Range After Gearbox Repair; MID 130 PSID 24 FMI 1, P1072-92 Unintentional Disengagement Of High Range - **US07 And Newer Emissions, Model Year 2008 And Newer**

Cause REMAN gearboxes may have the incorrect high range synchronizer hub installed.

There are several tooth designs (tooth spacing/pitch) for the high range synchronizer cone and its mating parts. There is only one tooth design used in North America (NA). There have been instances where REMAN short gearboxes, synchronizer kits or range housings kits have gotten the incorrect mating parts installed. The resulting mismatch between the two components will cause the unit to not shift into high range. The unit will pass calibration and all shifting tests when installed in the truck because the teeth will mesh just enough to allow the calibration and tests to pass, however in operation the inability of the unit to fully engage will cause a complaint/symptom of grinding when shifting to high range or wont shift to high range (Gears R2 and 7-12). In either case the unit cannot engage the high range cone and transfer power to the driveline. The unit will operate normally in the lower gears (R1-6).

Solution Inspection of the tooth spacing for the components prior to installation will eliminate any potential mismatch of components and extended diagnostic time resulting from the incorrect components.

The correct tooth spacing is approximately 10 millimeters from the center of each tooth on the high range synchronizer center hub.



The Part Number for the correct center hub is 21448626.

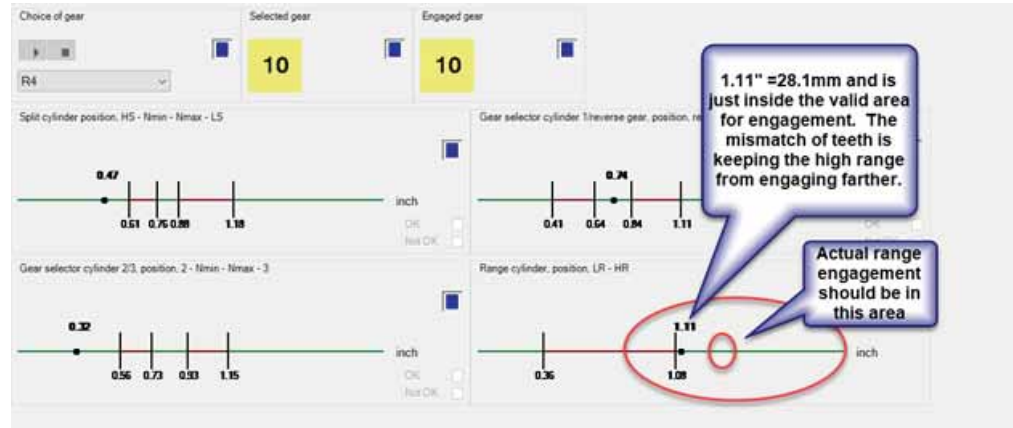


The incorrect fine tooth hubs have a Part Number of 21753650.



What you will see in Tech tool if the unit gets assembled this way.

Reviewing the Gears Test (4311-08-04-01) , calibration values (4320-07-03-01) or the Range Solenoid Test (4320-08-03-02) screens, the high range engagement will show to be barely within the valid calibration/engagement area. The teeth will mesh just enough to allow a good calibration and test results however the teeth are not engaged and the torque applied to the unit will force the range out of gear.



The average high range engaged position is 33 mm (1.31 inches) range.

Solution visibility	Dealer distribution
Support Area	Americas
Function(s)/component(s) affected	
Function affected	gear shifting , engagement
Function Group	
Function Group	43 gearbox
Customer effect	
Main customer effect	acceleration/speed , efficiency/abnormal behavior
Noise	grinding
Road behaviour	driveability
Fault code(s)	
OBID 2013 Diagnostic Trouble Codes	P1072-92
NA_MIDs	MID 130 PSID 24 FMI 1
Conditions	
Vehicle operating mode	when driving
Frequency of occurrence of problem	random

Other conditions after a workshop procedure on the vehicle

Administration

Author UT9268H

Dealer ID UT9268H

Last modified by A241298

Creation date 17-10-2018 15:10

Date of last update 06-11-2018 22:11

Review date 17-10-2019 00:10

Status Published

NA_Reviewer UT9268h

NA_Author_Group GTT
