Mack Models

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

Volvo Models

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

Engine family

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

Emission Standard

Emission Standard	2018 , OBD2017 , US17 , US16 , US15 , US13 OBD , US14

** SOLUTION **

Title	Diagnostic Trouble Code (DTC) P10AE Logged In TECU With ACTIVE Or INACTIVE Status, Fault Code Cannot Be Cleared; Possibly Accompanied By P105817 And P105818 - US10+OBD13 And Newer Emissions (16-Pin Diagnostic Connector), Commonly Model Year 2014 And Newer
Cause	P10AE81 may be generated in OBD13 and newer chassis. The code may show to be in Active or Inactive status and cannot be cleared if Active. P10AE81 may or may not be accompanied by P105817 and P105818 This fault is intended to prevent unintended movement that could result from a related mechanical failure in the gearbox. P10AE is generated when the Gearbox status is reported as Neutral, but the countershaft to mainshaft gear ratio results in speed signals that indicate that the transmission is NOT in neutral when the clutch is engaged. The active fault will cause the following symptoms: - Red STOP Lamp will be illuminated - If the vehicle is running when the fault occurs, the gearbox will not shift and will keep the clutch disengaged. - If the vehicle is shut down with the fault active, a no crank / no start condition may be observed if gearbox air pressure is too low when trying to restart the unit.
Solution	**DO NOT PROGRAM THE TECU TO TRY TO RESOLVE THIS FAULT** **1. If P10AE is ACTIVE and the engine will Crank and Run** **Main symptom:** The clutch will remain disengaged if a gear is selected via the gear selector **1.1.** Allow the unit to idle for 30-45 seconds.

1.2. Check the status of P10AE81.

> **1.2.1.** If the code is still **active** after idling: The gearbox should be investigated for possible mechnical issues
>
> **1.2.2.** If the code is **inactive** after idling: The code in this case was a ghost or intermittant fault. Items in Section 3 should be reviewed to confirm there are no other issues that need to be addressed.

2. Operate the vehicle if possible to evaluate mechanical condition.

3. Review the DTC Readout and follow the appropriate steps below:

> **3.1. If P10AE81, P105817 and P105818 all appear on the DTC Readout and are setting at the same time:** Replace the ribbon harness, proceed to Section E.
>
> **3.2. If P10AE81 is logged separately:** Inspect for mechanical failure
>
> > **3.2.1. If mechanical failure is noted:** Repair as required. (A true mechanical cause for this fault will likely never pass the monitor and allow the fault to become inactive)
> >
> > **3.2.2. If there is no mechanical issue present:** Replace the ribbon harness and proceed to Section 4.
> >
> > > • **NOTE:** High counts of P10AE81 with no indication of a mechanical issue make the internal transmission harness the likely cause.

4. Once the issue(s) has been corrected:

> **4.1.** Start and idle the truck for 30-45 seconds.
>
> **4.2.** Confirm P10AE81 is inactive.
>
> **4.3.** Clear all of the inactive faults.
>
> **4.4.** Road test and release the vehicle to service.

Solution visibility	Dealer distribution
Support Area	Americas , CBR

Function(s)/component(s) affected

Function affected	automatic transmission , engagement , 3 1 0 TECU

Function Group

Function Group	43 gearbox , 47 gearbox and reverse gear (or forward gear) combined system

Customer effect

Main customer effect	calibration/programming/pairing/missing operation , diagnostics/methodology , stop /start , fault code/display , loss of drive

Fault code(s)

OBD 2013 Diagnostic Trouble Codes	P1058-17 , P1058-18 , P10AE
NA_MIDs	MID 130 PSID 29 FMI 7 / P10AE81

Conditions

Vehicle operating mode	on start-up , engagement
Frequency of occurrence of problem	random
Engine speed	<500 rpm , 500 - 1000 rpm
Warning light/lamps /pictograms	red
Other conditions	after a workshop procedure on the vehicle

Administration

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