



**\*\* SOLUTION \*\***

Title Mack Chassis - Diagnostic Trouble Code ( DTC ) SPN4094, Check List - **US10 Emissions**

**Mack Models**

**Mack Model** LEU , LR , MRU - TerraPro , CHU - Pinnacle, Axle back , CXU - Pinnacle, Axle front , GU - Granite , TD - Titan

**Emission Standard**

Emission Standard US10

**\*\* SOLUTION \*\***

**Cause** Limited amount of information available.

**Solution** **EM-USA10 4094 Check-list**

**Vehicle Information**

What is the application of this unit?  
\_\_\_\_\_

Is customer adding DEF more than usual? less than usual? No difference noted?  
\_\_\_\_\_

What are the operating conditions when unit faults?  
\_\_\_\_\_

Engine failures that could have contaminated the system with oil, fuel or coolant?  
\_\_\_\_\_

What are the total engine hours? \_\_\_\_\_ total idle hours? \_\_\_\_\_

Is the customer adding excessive fluids? Oil \_\_\_\_\_ Coolant \_\_\_\_\_

Has engine power or fuel economy changed recently? \_\_\_\_\_

**Engine Checks**

Perform cylinder balance test with engine at normal operating temperature. Results?  
\_\_\_\_\_

Any hard start/stumble complaints? \_\_\_\_\_

EGR DP Checked per [SNM 11-09A](#).

EGR cooler inspected? \_\_\_\_\_

EGR valve open and close properly? Disconnect piping to verify \_\_\_\_\_

128 (EMS) and 233(ACM) have current Software? \_\_\_\_\_

DEF added to fuel tank can cause corrosion of fuel system. Condition of filters and overflow? \_\_\_\_\_

Turbocharger function checks complete? \_\_\_\_\_

Remove inlet to DPF, with engine at normal operating temp, snap throttle. Any excessive smoke? \_\_\_\_\_

Remove the inlet to SCR, With engine at normal operating temp snap throttle. Any smoke? \_\_\_\_\_

Light smoke at DPF inlet during acceleration is OK, no smoke should exit DPF.  
 Any signs of soot in piping or stacks, any signs on Nox sensors? \_\_\_\_\_  
 Crystal build up in SCR inlet or pipes? \_\_\_\_\_

**SCR - DEF Operations**

DEF quality check with refractometer (results) \_\_\_\_\_  
 DEF Dosing Pressure: PSI \_\_\_\_\_ Percentage \_\_\_\_\_  
 Doser flow test: Test #2 \_\_\_\_\_ Test #3 \_\_\_\_\_  
 Nox sensor replaced recently? \_\_\_\_\_  
 Nox conversion test completed? \_\_\_\_\_

**Regen Data**

Does the unit complete a soot regen? \_\_\_\_\_  
 What is your maximum T 1: \_\_\_\_\_ T 2: \_\_\_\_\_ and T 3: \_\_\_\_\_ temperatures?  
 Boost pressure? \_\_\_\_\_ PSI. Boost sensor part# \_\_\_\_\_  
 Turbocharger wheel Speed? \_\_\_\_\_  
 Turbocharger VGT position? \_\_\_\_\_ Turbo serial# \_\_\_\_\_  
 Engine Load? \_\_\_\_\_  
 DPF last serviced/inspected? \_\_\_\_\_ Part # DPF \_\_\_\_\_  
 DOC last serviced/inspected? \_\_\_\_\_ Part # DOC \_\_\_\_\_  
 AHI system to include 7th injector serviced/inspected/tested? \_\_\_\_\_

**Overview**

All basic diagnostics should be completed prior to opening a TSS case (**NON Warranty**).  
**The 4 hour limit still applies for Warranty purposes.** Pressure/smoke test the complete intake and exhaust systems. There is zero tolerance for leaks in these systems. Next, go over all the wiring harnesses Chassis and After-treatment. Load test the batteries, validate all battery power and grounds. Next check the chassis air supply system to be sure the COALESCING type air dryer cartridge has been serviced. Repair any leaks, electrical and air system issues before starting diagnostics on the After-treatment system. Complete diagnostics and repair on any other active DTC'S that may be related.

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Solution visibility	<b>Dealer distribution</b>
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**Function(s)/component(s) affected**

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Function affected	EGR
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**Function Group**

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Function Group	293 EGR (Exhaust Gas Recirculation)
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**Customer effect**

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Main customer effect	soot , regeneration , fault code/display
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**Fault Codes And Error Codes**

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US10 Fault Codes (SPN-FMI Format)	SPN 4094
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**Administration**

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Dealer ID	A241298
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