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### Mack Models

**Mack Model** Cabover , LR , LEU , MRU-TerraPro , Conventional , CHU-Pinnacle, Axle back , C XU-Pinnacle, Axel forward , GU-Granite , TD-Titan

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### Volvo Models

**Volvo Model** Conventional , VNX , VNL , VNM , VHD , VAH

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### Engine family

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

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### Emission Standard

Emission Standard 2018 , OBD2017 , US17 , US16 , US15 , US10 , US13 OBD , US14

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### \*\* SOLUTION \*\*

**Title** EGR Fault Codes / Diagnostic Trouble Codes ( DTC's ) SPN 412 FMI 0,2,5, SPN 4752 FMI 7, SPN 2659 FMI 18 / P040A, P040B, P1121, P2457, P0401, P04D9

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**Cause** EGR Temperature Sensor Fault Codes can cause EGR Mass Flow and EGR Cooler Efficiency codes.

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**Solution** Vehicles may exhibit the Malfunction Indicator Lamp ( MIL ) and one or any combination of the following fault codes:

#### ECM - Engine Control Module

Fault Code	DTC	Description
SPN 412 FMI 0	P11 21	EGR Temperature Too High
SPN 412 FMI 2	P04 0B	EGR Temperature Sensor: Rationality Monitor
SPN 412 FMI 5	P04 0A	EGR Temperature Sensor: Open Circuit
SPN 2659 FMI 18	P04 01	Engine Exhaust Gas Recirculation 1 Valve Position Flow Insufficient Detected
SPN 4752 FMI 7	P24 57	EGR Cooler Efficiency Below Threshold
	P04 D9	Closed Loop EGR Control At Limit - Flow Too Low

EGR temperature sensor connector pin fretting can cause erroneous EGR temperature readings that affect other monitors such as EGR cooler efficiency and EGR mass flow. When the EGR faults are logged with many occurrences, correct the EGR temperature sensor faults first, then retest for the other faults.

- Inspect the EGR temperature sensor connector for pin damage, dust, oxidation, or corrosion and replace the sensor as necessary.
- Replace mating engine harness terminals at the EGR temp. Sensor connector. Refer to [SB371-54](#) ( Volvo ) or [SB371-50](#) ( Mack ).

Solution visibility [Dealer distribution](#)

## Function(s)/component(s) affected

Function affected engine , air supply , exhaust , EGR , CV electronic control unit , 1 1 0 EMS , 2 1 0 ACM , MID 128 – EMS , EECU , Diagnostic tool

## Function Group

Function Group 2 engine with mounting and equipment , 25 inlet and exhaust systems , 2841 Electronic Control Unit , 2846 Sensor , 293 EGR (Exhaust Gas Recirculation) , 2932 Cooler

## Customer effect

Main customer effect soot , regeneration , temperature , calibration/programming/pairing/missing operation , diagnostics/methodology , efficiency/abnormal behavior , fault code/display

Fluid implicated air

Lights/Messages on information display message on display , - - - - , - - / - -

Visual appearance fretted , oxidation

## Fault code(s)

US10 Fault Codes SPN 4752 , SPN 4752 FMI 7 , SPN 412 , SPN 412 FMI 2 , SPN 412 FMI 0 , SPN 412 FMI 5 , SPN 2659 , SPN 2659 FMI 18

OBD 2013 Diagnostic Trouble Codes POWERTRAIN , P0401 , P040A , P040B , P04D9 , P1121 , P2457

## Conditions

Vehicle operating mode when driving , when stationary

Frequency of occurrence of problem always

## Administration

Author UT0389H

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