



Mack Trucks, Inc.
Greensboro, NC USA

Field Service Bulletin Trucks

This Field Service Bulletin replaces bulletin, "EGR Differential Pressure Sensor Pin Fretting", PV729-FSB293-007 (USA41828) dated (04/2010).

Date	Group	No.	Release	Page
7.2012	293	007	03	1(9)

EGR Differential Pressure Sensor Pin Fretting

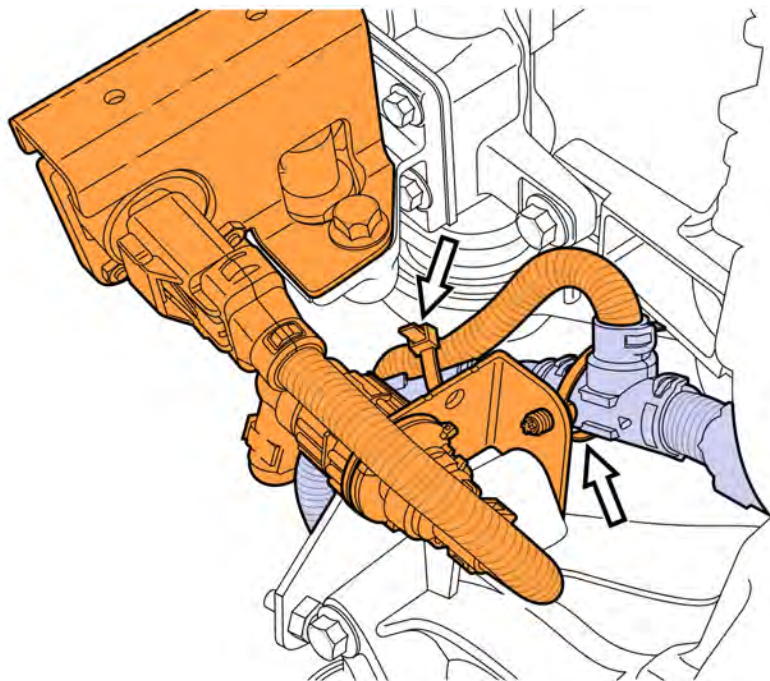
CHU, CXU, GU, MRU
MP8

FSB 293-007, EGR Differential Pressure Sensor Pin Fretting

(July 2012)

Severe fretting damage of the engine exhaust gas recirculation differential pressure sensor's (EGR differential pressure sensor) connector may cause an unreliable signal to the sensor on MACK MP8 EPA2007 engines. The unreliable signal will generate diagnostic trouble codes (DTC's) MID 128 PID 411 FMI 3, 5, 12. If these DTC's are logged and pin fretting is identified as the cause of the DTC's; the EGR differential pressure sensor, part number 21442662 should be replaced by the upgraded EGR differential pressure sensor 21713917 with a potted pigtail, potted connector. The EGR differential sensor wiring harness kit 21560217 is used to replace the existing connector from the differential EGR sensor with a four-pin DIN connector. The new EGR differential pressure sensor with the kit will eliminate pin fretting and increase the reliability of the EGR differential pressure sensor signal.

Note: This bulletin does not apply to Mack Trucks Australia.



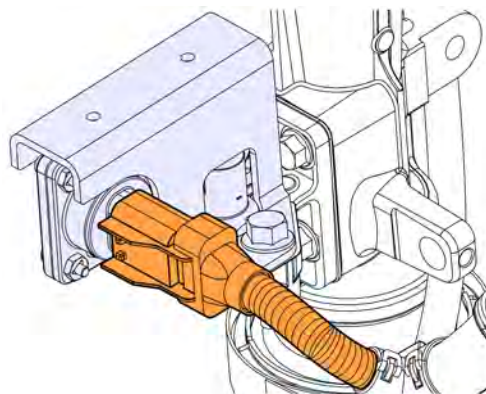
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EGR Differential Pressure Sensor Wiring Harness Kit 21560217			
Item	Description	Part Number	QTY
1	Brown wire w/Pre-crimped terminal and wire	N/A	1
2	White/Brown wire w/Pre-crimped terminal and wire	N/A	1
3	White/Green wire w/Pre-crimped terminal and wire	N/A	1
4	DIN four-pin Connector Housing	984849	1
5	Sealing Plug	970771	1
6	Backshell	3985598	1
7	Shrink Splice	6781769	3
8	Convuluted Tubing 150mm (5.9 in)	20739102	1
9	Bracket	21573079	1
10	Connector Attachment Ring	3963413	1
11	M8 Fastener	946470	1
12	Cable Tie	948211	1
13	Cable Tie	980881	1
14	Retainer	25375554	1

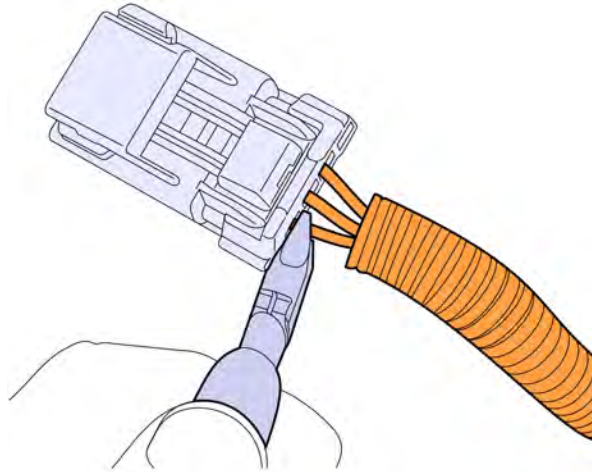
Procedure

You must read and understand the precautions and guidelines in Service Information, group 29, "General Safety Practices, Engine" before performing this procedure. If you are not properly trained and certified in this procedure, ask your supervisor for training before you perform it.

- 1 Secure the vehicle for service by parking it on a flat level surface, applying the parking brake, chocking the rear wheel, and placing the transmission in neutral or park.
- 2 Remove all cables from ground (negative) battery terminals to prevent personal injury from electrical shock.
- 3 Locate EGR differential pressure sensor and disconnect harness.

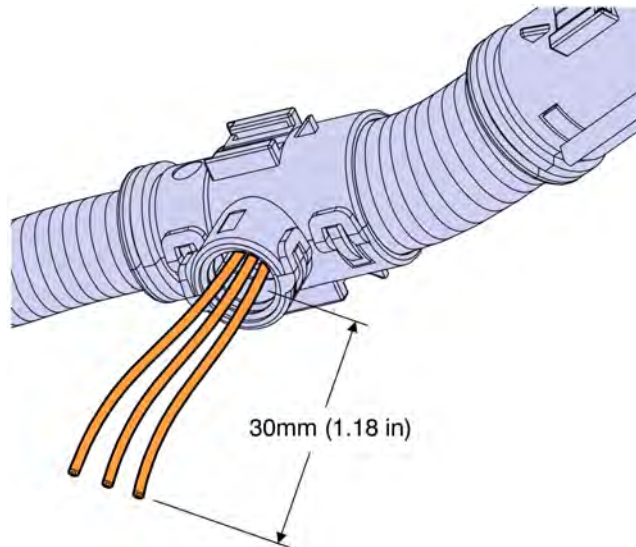


- 4 Remove backshell and cut harness wires to EGR differential pressure sensor at the back of the connector.



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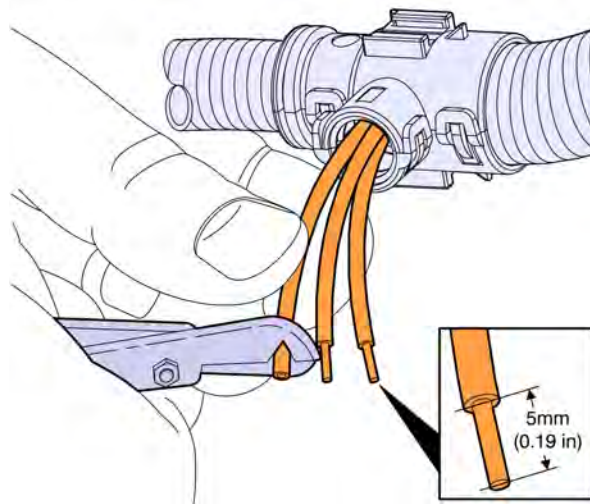
- 5 Remove convoluted tubing and cut wires to 30mm (1.18 in) from the front edge of the T-fitting.



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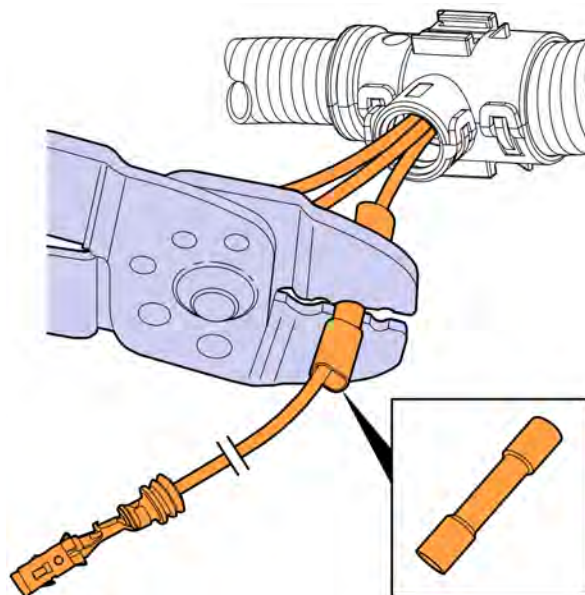
- Strip 5mm (0.2 in) of insulation from the end of each wire and pre-crimped terminal assembly.

Note: The wire colors may be obscured by paint overspray during manufacturing. Clean wires or trace wires to splice joint for proper color matching during wire splicing.



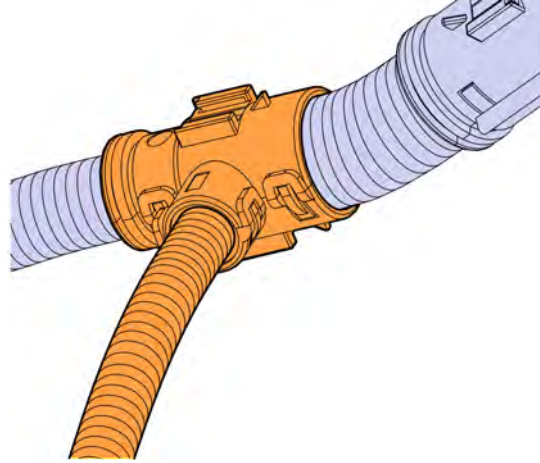
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- Using crimp tool, join the appropriate pre-crimped terminal and wire with shrink splice 6781769 to the corresponding stripped wire at the T-fitting, (Brn to Brn, W/Brn to W/Brn, and W/Grn to W/Grn).



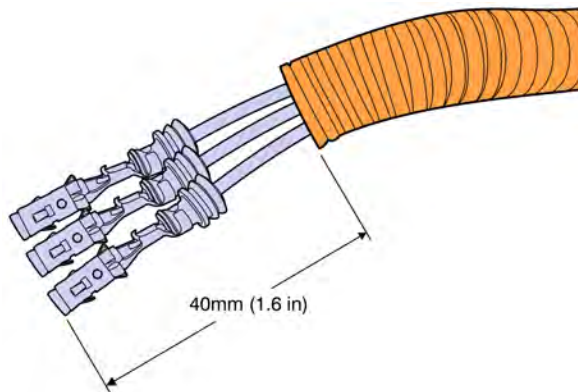
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- 8 Using hot air gun, heat shrink butt splices until sealant is visible around ends of splices.
- 9 Insert the spliced wires through the end of the convoluted tubing 20739102 until the terminals exit the other end.
- 10 Open the T-fitting and assemble convoluted tubing to the T-fitting. Snap the T-fitting tight around the convoluted tubing.



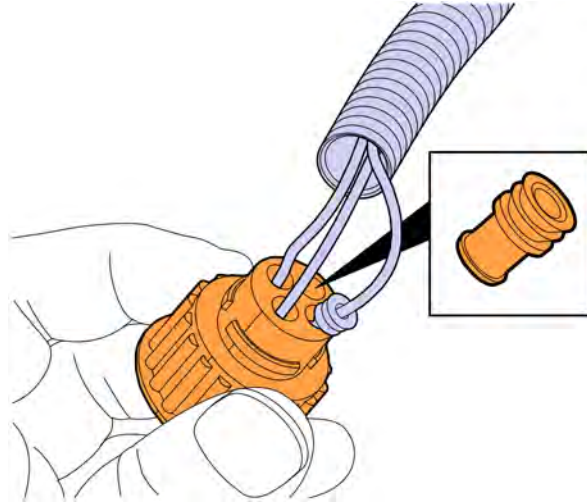
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- 11 Push convoluted tubing back from the end of the pre-crimped terminal 40mm (1.6 in).



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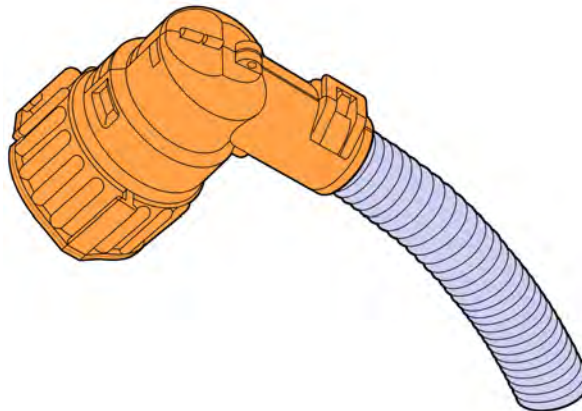
12 Assemble the pre-crimped terminal and wire assemblies to DIN connector housing 984849 as shown in table below. Assemble sealing plug 970771 to connector housing position 3.



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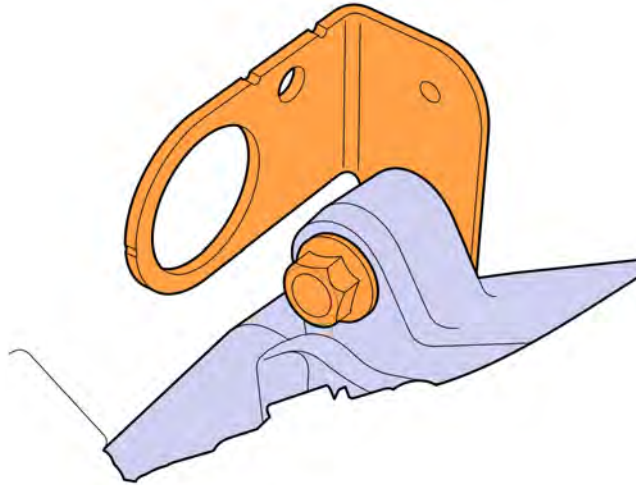
DIN Connector Housing Wire Assembly and Plug Positions	
Wire Assembly	Plug Position
White/Green (+5V)	DIN Connector Position 1
Brown (Signal)	DIN Connector Position 2
White/Brown (GND)	DIN Connector Position 4
Sealing Plug	DIN Connector Position 3

13 Assemble backshell 3985598 to convoluted tubing and Din connector. Snap backshell assembly tight around convoluted tubing and DIN connector.



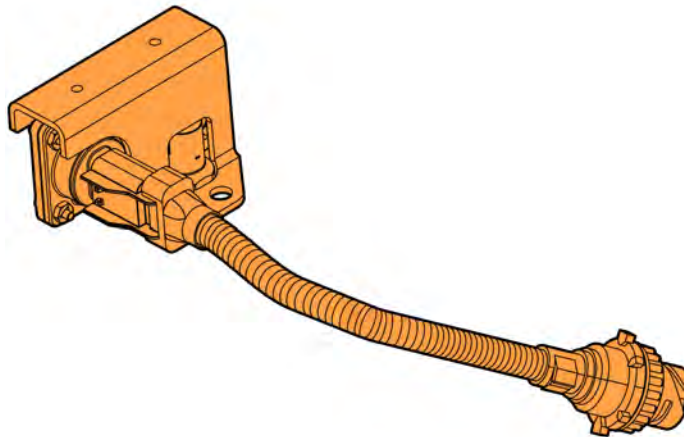
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- 14 Assemble bracket 21573079 to coolant pump housing using fastener 946470. Tighten fastener to $24 \pm 4\text{Nm}$ ($18 \pm 3\text{ lb-ft}$).



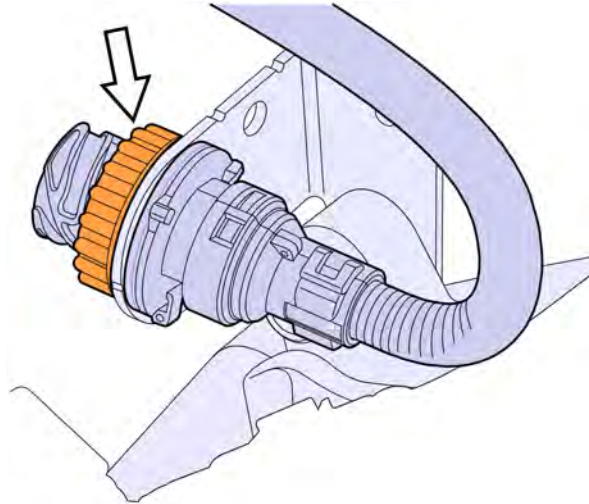
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- 15 Remove old EGR differential pressure sensor 21442662.
16 Install new EGR differential pressure sensor 21713917 with existing hardware. Tighten fasteners to $24 \pm 4\text{Nm}$ ($18 \pm 3\text{ lb-ft}$).



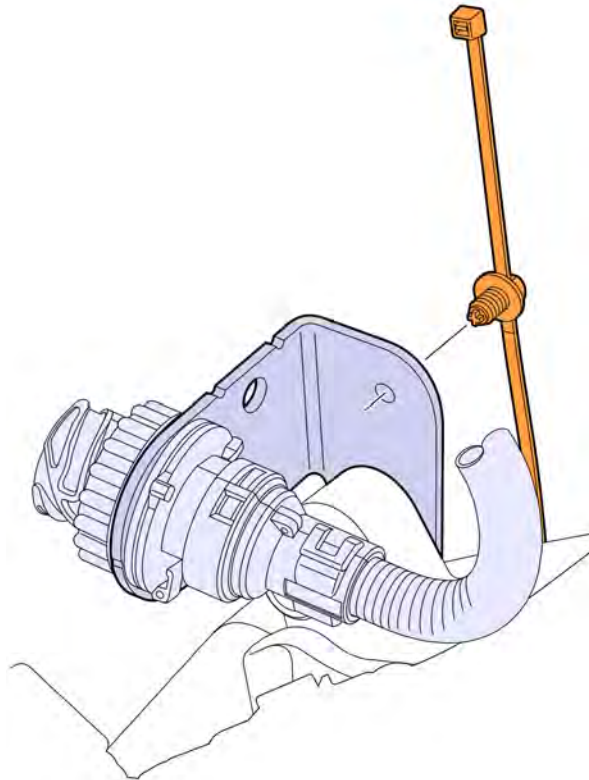
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17 Secure harness from EGR differential pressure sensor to bracket using connector attachment ring 3963413.



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18 Assemble cable tie (part number 980881) and bracket as shown in figure below.

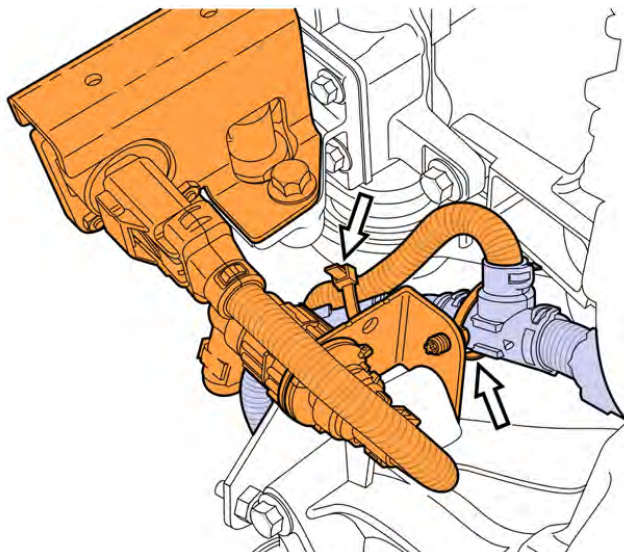


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19 Route DIN connector to bracket and assemble connectors.

Note: Route harness for DIN connector so that tubing does not make contact with metal parts.

20 Secure harness assembly for DIN connector using cable tie part numbers 980881 and 948211.



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21 Connect all ground cables to batteries.

22 Start engine, check for operation codes that may be present, and clear.

23 Perform a learned data reset in Premium Tech Tool (PTT) before returning to service.

Note: Due to the electronic control module's self-learning capabilities, it is necessary to reset the learned data parameters after replacing or servicing certain components. This allows the electronic control module to calibrate itself to the new component. Using Tech Tool, perform Calibrations 2549-07-03-01 Function Monitoring Parameters, reset the parameter related to the component replaced or serviced.

Reimbursement

This repair may be eligible for reimbursement if a product failure was experienced within time and mileage limits of the applicable Warranty coverage. Reimbursement is obtained via the normal claim handling process.

Claim Type (used only when uploading from the Dealer Bus. Sys.)	01
Labor Code	
Primary Labor Code	2732b-19-80 0.7 hrs.
Causal Part	21442662

MACK Trucks North America engages in a continuous program of testing and evaluating to provide the best possible product. MACK Trucks North America, however, is not committed to, or liable for updating existing chassis.