

This Field Service Bulletin replaces bulletin, "FSB 255-023, SRA and TSS Connector Pin Replacement", PV729-FSB255-023\_V (USA52828) dated (04/2012).

| Date   | Group      | No.        | Release   | Page |
|--------|------------|------------|-----------|------|
| 4.2012 | <b>255</b> | <b>023</b> | <b>02</b> | 1(8) |

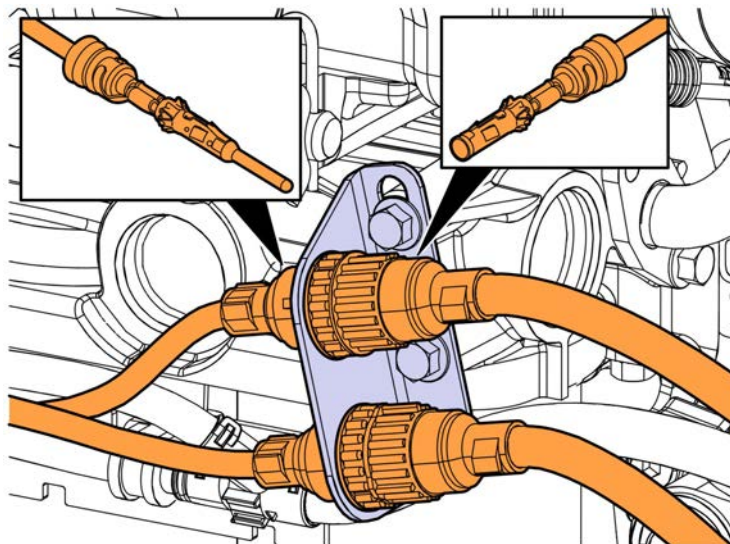
### Connector Pin, Replacement

VN, VHD, VT, VAH  
D11, D13, D16

## FSB 255-023, Connector Pin, Replacement

(April 2012)

Severe fretting damage of the Engine Variable Geometry Turbocharger Actuator (Engine VGT Actuator) harness and Turbine Shaft Speed Sensor (TSS) connectors may cause an unreliable signal to the engine VGT Actuator on certain VOLVO VN, VHD, VT, and VAH trucks. An unreliable signal to the engine VGT Actuator will generate Diagnostic Trouble Codes (DTCs). If DTCs are logged and pin fretting is identified as the cause, the engine VGT Actuator and TSS connector pin and socket contacts should be replaced. Replacement of the pin and socket contacts will eliminate pin fretting and increase the reliability of the signal to the engine VGT Actuator.



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Service personnel: Please circulate, read and initial

| Service Manager | Warranty Administrator | Workshop Foreman | Service Technicians |  |  |  |  |  |  |
|-----------------|------------------------|------------------|---------------------|--|--|--|--|--|--|
|                 |                        |                  |                     |  |  |  |  |  |  |

## Required Parts

| Connector Pin Replacement Parts |             |                                  |                    |
|---------------------------------|-------------|----------------------------------|--------------------|
| Item #                          | Part Number | Description                      | Crimp Jaw Position |
| 1                               | 984945      | Pin, Eng VGT Actuator Conn       | B                  |
| 2                               | 3963409     | Socket, Eng VGT Actuator Conn    | B                  |
| 3                               | 984946      | Pin, TSS Connector               | A                  |
| 4                               | 11039671    | Socket, TSS Connector            | A                  |
| 5                               | 20734499    | Wire Seal, Eng VGT Actuator Conn | N/A                |
| 6                               | 25325008    | Wire Seal, TSS Connector         | N/A                |

| Connector Pin Replacement Tools |             |                                                |
|---------------------------------|-------------|------------------------------------------------|
| Item #                          | Part Number | Description                                    |
| 1                               | 9808646     | Extraction Tool, Engine VGT Actuator Connector |
| 2                               | 9809774     | Extraction Tool, TSS Connector                 |
| 3                               | 88890003    | Crimp Pliers                                   |
| 4                               | 88890004    | Crimp Jaw                                      |

## Procedure

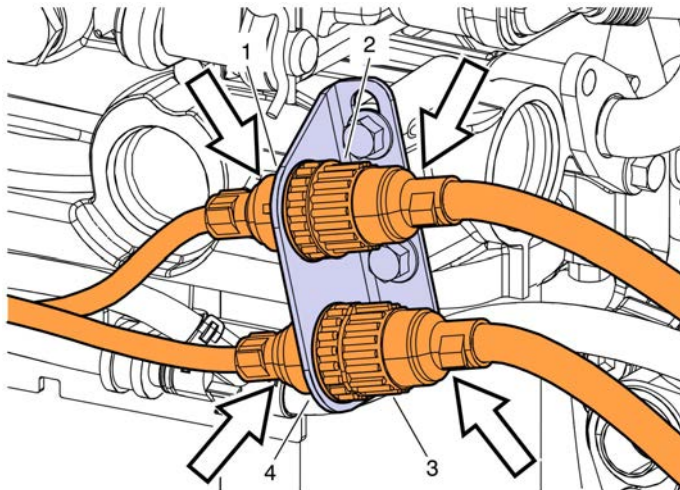
You must read and understand the precautions and guidelines in Service Information, group 20, "General Safety Practices, Engine" before performing this procedure. If you are not properly trained and certified in this procedure, ask your supervisor for training before you perform it.

- 1 Raise the hood.
- 2 Disconnect all cables from the negative (ground) battery terminals to prevent personal injury from electrical shock and prevent damage to electrical components.
- 3 Disconnect both harness couplers.

**Note:** The connectors shown are for reference only. Your actual configuration may be different, depending on truck model and components.

**Note:** In the event the connectors or harnesses are damaged, replace engine VGT Actuator component connector (Item 1, Figure below) with part number 984944, engine VGT Actuator engine harness connector (Item 2) with part number 3963412, and replace TSS engine harness connector (Item 3) with part number 984849. The TSS component connector (Item 4) is not available as a replacement item. Replace the TSS component connector as an assembly (see IMPACT for the appropriate part number). Additionally, plug seal part number 970771 is required to seal any unused pin and socket locations of the connector housings.

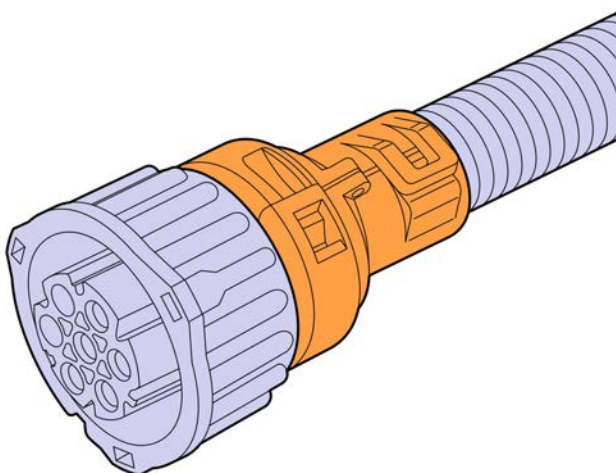
- 4 Remove harnesses from the mounting bracket.



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- 5 Remove the conduit clamps from both harness sections.

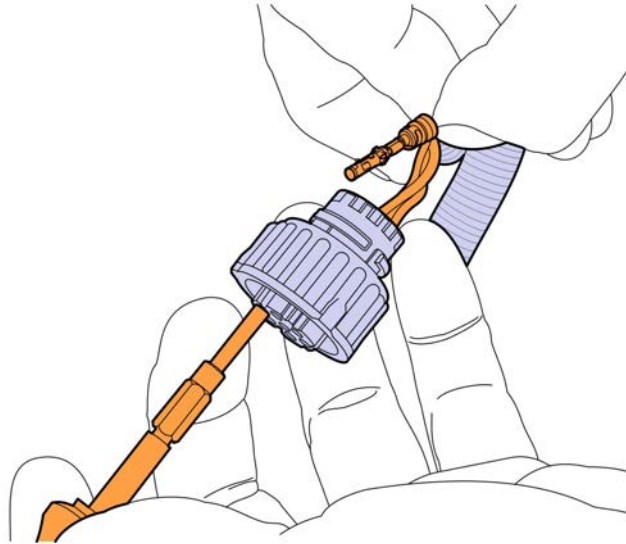
**Note:** The engine VGT Actuator harness connector is shown for reference only. The procedure is the same for the TSS harness connectors.



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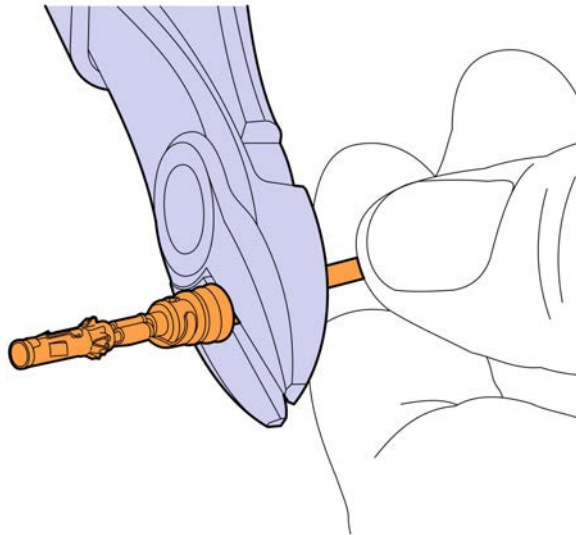
- 6 Using extraction tool 9808646 or 9809774, remove the defective pins from the connectors.

**Note:** Before removing terminals, note and document pin locations for reassembly purposes.



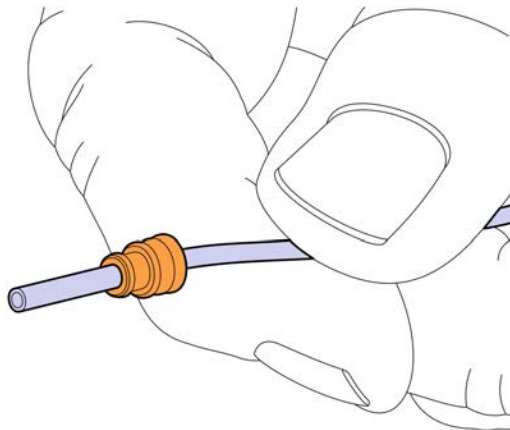
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- 7 Cut and remove old pins from the harnesses.



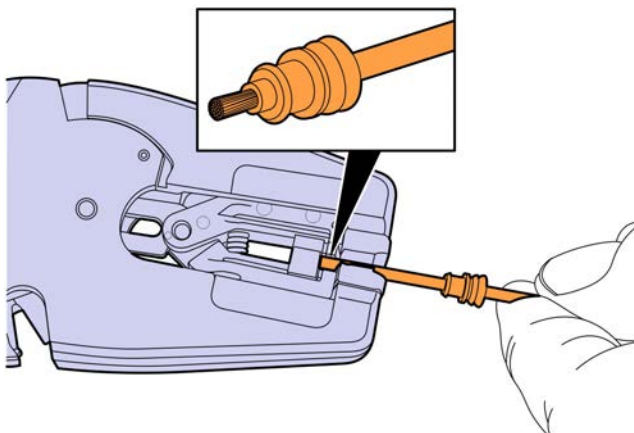
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- 8 Assemble the wire and the appropriate wire seal as shown in figure below.



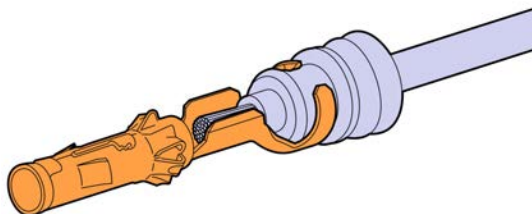
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- 9 Using a suitable wire stripper, strip 5 mm (0.2 in) of insulation from the end of each wire.



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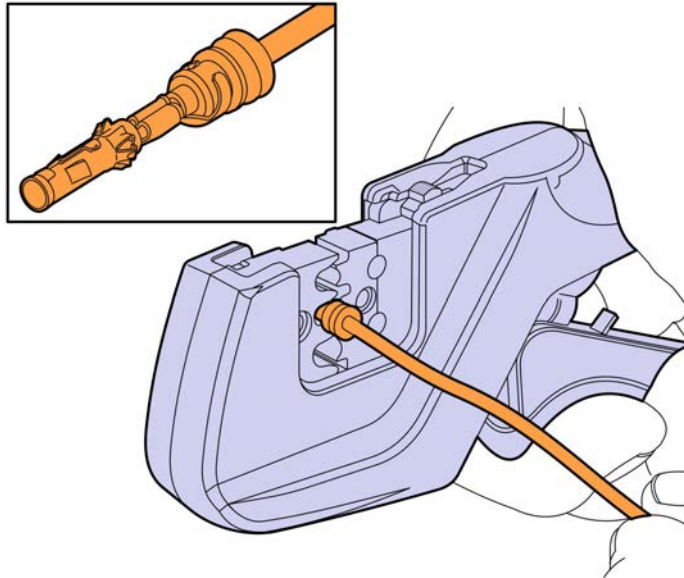
- 10 Pre-assemble the appropriate pin or socket contact with stripped wire and seal.



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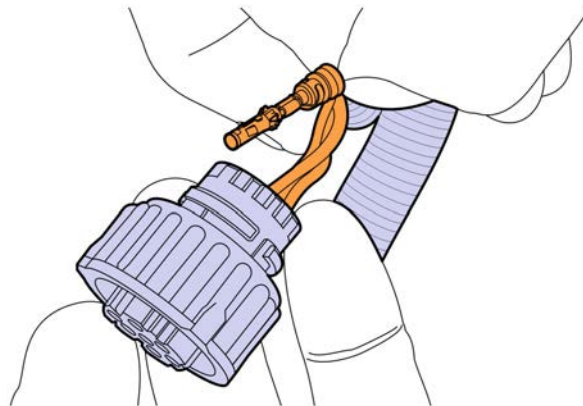
11 Using crimp pliers 88890003 and crimp jaw 88890004, crimp the pin or socket contact.

**Note:** See table on page 1 for the proper crimp jaw position.



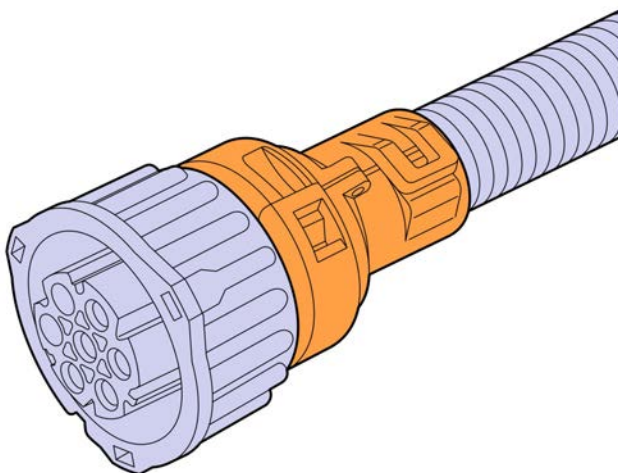
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12 Insert the crimped pin or socket in the correct position of the connector.



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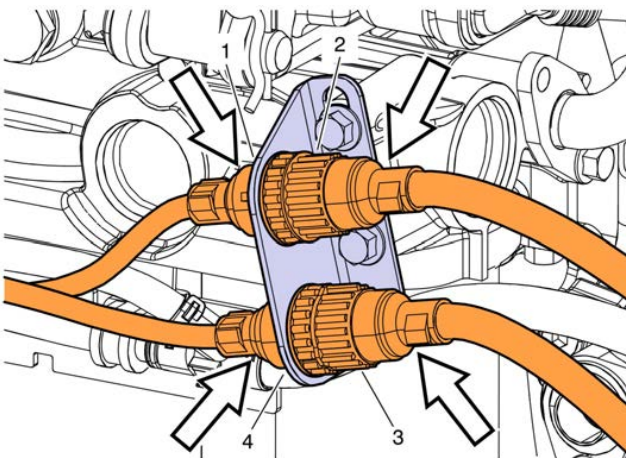
13 Install the conduit clamps.



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14 Install the harnesses onto the bracket and secure.

15 Connect the harnesses.



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16 Reconnect all previously removed cables to the negative (ground) battery terminals.

17 Lower hood.

### Reimbursement

|                                                                                                                                                                                                                                |                        |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| <b>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.</b> |                        |
| <b>Claim Type (used only when uploading from the Dealer Bus. Sys.)</b>                                                                                                                                                         | W                      |
| <b>Labor Code</b>                                                                                                                                                                                                              |                        |
| Primary Labor Code for engine VGT Actuator or TSS Harness Pins Replacement                                                                                                                                                     | 25578-2-00<br>0.7 hrs. |
| <b>Causal Part</b>                                                                                                                                                                                                             | 984945                 |

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