

# Field Service Bulletin Trucks

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OBD2013 Conical Injector Kits D13H VAH, VHD, VN

## FSB 237-018, OBD2013 Conical Injector Kits

#### (May 2013)

In the event that a single injector failure or an engine stumble under load is experienced on an OBD2013 D13H engine with a vehicle build date before May 4, 2013 (engine serial number clean point 1027785), all six injectors are required to be replaced. New injector kits are available (part number 85137080) to upgrade to the new NCV coated injectors. Kit contains six injectors, six injector sleeves, six O-rings, six hold down bolts and graphite paste to address these failures as necessary. Along with the installation of the injector kit the engine control module (ECM) programming is required and fuel tank ventilation filter kit needs to be installed.

**Note:** For the current procedure for replacing conical injectors and stainless steel sleeves, see service bulletin 237-60, Unit injector and Sleeve, Replacement (Conical). Failure to follow the procedure exactly can result in denial of warranty.

#### **Overview**

- 1 Verify injectors have not already been updated to the latest part number (22027808). If injectors have been updated, this bulletin does not apply. Follow normal repair procedures.
- 2 Refer to service bulletin 237-60 for injector and sleeve replacement.

**Note:** When replacing injectors, the ECM must be programmed with the new injector trim codes. The code is printed on top of the injector electrical connector. The programming is performed using Premium Tech Tool (PTT) and is necessary to ensure that engine timing and emission levels are correct. **Do not enter the new trim codes until after ECM programming is complete.** 

3 If the vehicle is not equipped with fuel tank filter vents, use procedure in Field Service Bulletin FSB 234-014 to install fuel tank ventilation filter.

#### **Required Parts**

Injector Kit — part number 85137080

Ventilation Filter Kit — part number 85136403 for on-highway applications, part number 21882780 for off-road applications

Note: For on-highway applications, one ventilation filter kit is required for each fuel tank.

#### **Required Tools**

Premium Tech Tool version 2.01.51 or higher

Diagnostic Connector 88890304

Communication Interface 88890300 with firmware 1.12.0.2 or higher

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### **ECM Programming Procedure**

#### ▲ DANGER

Do not attempt to repair or service this vehicle without having sufficient training, the correct service literature and the proper tools. Failure to follow this could make the vehicle unsafe and lead to serious personal injury or death.

Note: Information is subject to change without notice.

Illustrations are used for reference only and may differ slightly from the actual engine version. However, key components addressed in this information are represented as accurately as possible.

You must read and understand the precautions and guidelines in Service Information, Function 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 Connect PTT to the vehicle diagnostics connector using the 16 pin OBD cable 88890304 and Communication Interface 88890300. Connect the PC to a functional LAN or modem connection and a 120 Volt AC source (do not use intermediate storage).
- 2 Turn the ignition switch "ON".
- 3 Log in to PTT and Identify Vehicle.

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4 Once the vehicle has been identified, enter the work order number information, then click Start Work.

Vork Order Number	
Enter a work order number or select a re	ecently used work order number in the list.
Enter work order number:	
Select a recently used work order:	
Work Order No User ID Date	
Enter Notes:	
	Start Work Cancel

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5 From the Main Menu select Program and **then** Program Electronic Control Unit 1700-08-03-39. Then click Start.

ech Tool									
Tech Tool	Links	Help	)						
Product	Pro	duct I	History	Diagnose	Test	Calibrate	Program	Impact	
Progr	ram								
Select a	in opera	tion ar	nd click S	tart					
1700-	-08-03-3	9 Prog	gram Elec	tronic Control L	nit				
1700-	-22-03-0	3 Para	ameter, p	rogramming					
1700-	-22-03-2	28 Acce	essory Kit						
1700-	-22-03-1	12 Rep	lace Elec	tronic Control U	nit				
1700-	22-03-1	13 Prog	gram with	Stored Softwar	Ð				
1700-	-08-03-4	0 Han	dle Com	ponent					
2841-	-22-03-0	4 Crea	ate Engin	e Label					

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6 Select Engine Control Module from the list.

Tech Tool					
Tech Tool Links Help					
Product Product History	Diagnose	Test	Calibrate	Program	Impact
Select an Electronic Control Unit					
Control Unit					
Information display (MID 140)					
Vehicle ECU (MID 144)					
Radio (MID 206)					
Gear Selector ECU (MID 223)					
Aftertreatment Control Module (ACI	(N				
Engine Control Module (EMS)					
Transmission ECU (TECU)					

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7 Select Update Electronic Control Unit with latest software, then click Program.



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8 Certain conditions must be met to continue with programming: Battery voltage above 10V, Parking brake applied, and Ignition key in ON position with Engine not running. When all conditions are met, click Continue to proceed with programming.

	1700-08-03-39 Program control unit - Update software
1 📑 > 10 V 12.7 V 📀	
2 (P) = (P) = = (P) = <	Automatically checked conditions 1 Battery voltage above 10 V
3 🚱 🎧 = 0 rpm 🧼 0 rpm 💟	2 Parking brake applied 3 Ignition key in ON position. Engine not running

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9 Once Engine Control Module programming is complete, select 1700-22-03-03 Parameter, programming and click Start.

Tech Tool	Links	Help						
Product	Proc	luct History	Diagnose	Test	Calibrate	Program	Impact	
Prog	ram							
Select a	an opera	tion and click St	art					
1700	-08-03-3	9 Program Elec	tronic Control U	nit				
1700	-22-03-0	3 Parameter, pr	ogramming					
1700	-22-03-2	8 Accessory Kit						
1700	-22-03-1	2 Replace Elect	tronic Control Ur	nit				
1700	-22-03-1	3 Program with	Stored Software					
1700	-08-03-4	0 Handle Comp	onent					
2841	-22-03-0	4 Create Engine	e Label					
	22-03-1	O Change Lang	11200					

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10 Open Group View tab and scroll down to ID P1AM4, Trim Code, Injector Cylinder 1 and enter the injector trim code into the Value field. Repeat for all six injectors and click Continue.

		-			-					
roduct	Product Histo	ry Diagnose	e Test	Calibrate	Program	Impact				
700-2 elect Gro	2-03-03 Para up View or Control U stent Parameters	meter Prog Jnit View. Filter the Group View	rammin e parameter Control U	g information by Gi Jnit View	roup/Control U	Init and Type.				
Group:	All -	Type All	•							
ID	Name				Status	Min	Value	Max	Unit	Details
NSZ	Driver ID digits					0	3	3	N/A	
NTH	Driver ID reminder	time				0	30	250	min	
UD	Enable brake as er	ntry condition to id	lle shutdown				No			
P1AL1	Fan Gear Ratio					0.0	1,419,921.9	63,999,023.4	ppm	
P1AM4	Trim Code, Injector	r Cylinder 1					1	9		
P1AM5	Trim Code, Injector	r Cylinder 2						9		
P1AM6	Trim Code, Injector	r Cylinder 3						9		
P1AM7	Trim Code, Injector	r Cylinder 4						9		
P1AM8	Trim Code, Injector	r Cylinder 5						9		
P1AM9	Trim Code, Injector	r Cylinder 6						9		
P1ANA	Max Engine Speed	when Stationary				600	2,100	2,600	rpm	
PIAOC	Customer Road Sp	eed Limit				18.6	87.0	87.0	mph	
PIAOD	Road Speed Limit,	Max Vehicle Spe	ed in Secon	d Highest Gear		18.6	62.1	83.9	mph	
P1AOF	Cust data, engine	ECU password						10		
	Facing Fuel Date					0.00	0.00	54 61	1/min	-

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11 When programming is complete, click Exit to return to Main Menu, clear any diagnostic trouble codes (DTC) and Finish Work.

#### 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.