

**KELLY** TRACTOR CO.

Service Information System

Shutdown SIS

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Product: TRUCK ENGINE  
Model: C15 TRUCK ENGINE MXS  
Configuration: C15 On-highway Truck MXS00001-UP

## Disassembly and Assembly

### C15 On-highway Engines

Media Number -REN9403-09

Publication Date -01/02/2008

Date Updated -20/02/2008

i02112573

## Fuel Priming Pump - Remove and Install

SMCS - 1258-010

### Removal Procedure

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#### NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Refer to Special Publication, NENG2500, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar products.

Dispose of all fluids according to local regulations and mandates.

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#### NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

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1. Turn the fuel supply to the "OFF" position.
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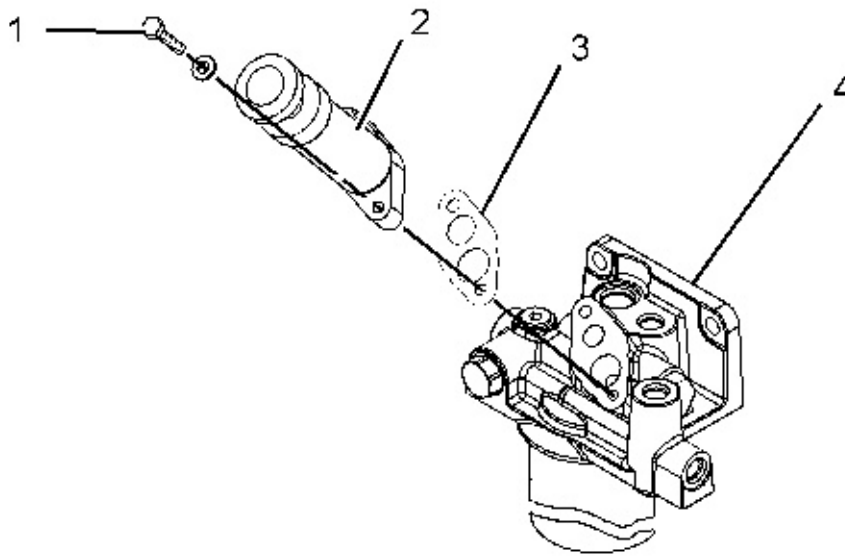


Illustration 1

g01075873

2. Remove bolts (1). Remove fuel priming pump assembly (2) from fuel filter base (4) .
3. Remove gasket (3) from the fuel priming pump assembly and the fuel filter base.

## Installation Procedure

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### NOTICE

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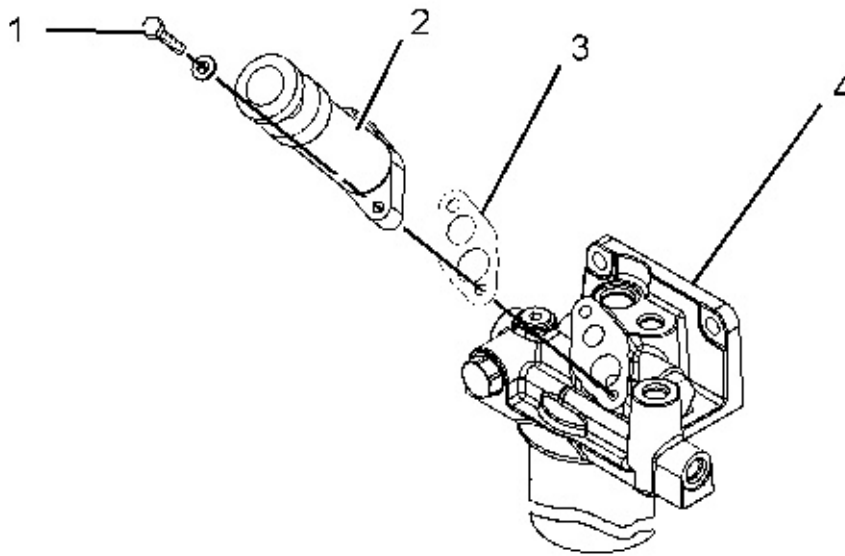


Illustration 2

g01075873

1. Position gasket (3) on fuel filter base (4) .
2. Position fuel priming pump assembly (2) on the fuel filter base and install bolts (1). Tighten the bolts to a torque of  $15 \pm 3$  N·m ( $11 \pm 2$  lb ft).
3. Turn the fuel supply to the "ON" position.
4. Remove the air from the system. Refer to Testing and Adjusting, "Fuel System - Prime".

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## Disassembly and Assembly

### C15 On-highway Engines

Media Number -REN9403-09

Publication Date -01/02/2008

Date Updated -20/02/2008

i02121646

## Fuel Filter Base - Remove

SMCS - 1262-011

### Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	185-3630	Strap Wrench	1

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Dispose of all fluids according to local regulations and mandates.

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#### NOTICE

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1. Turn the fuel supply to the "OFF" position.

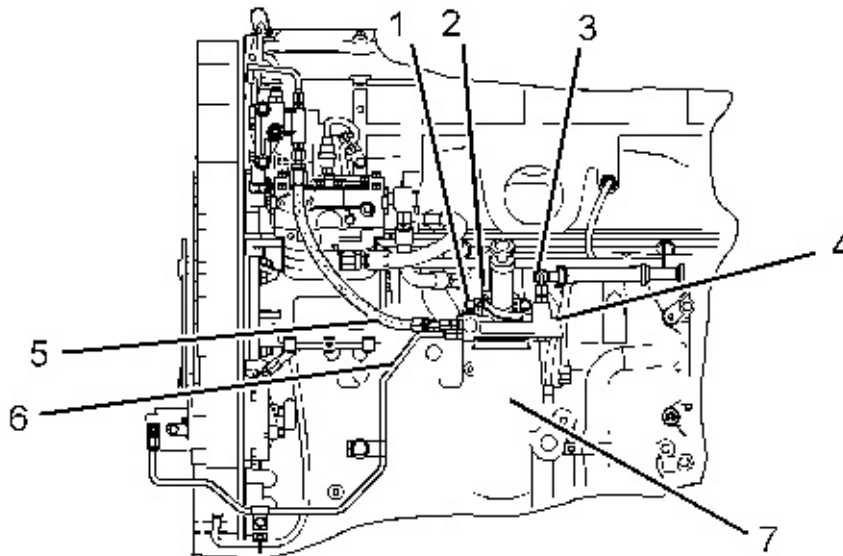


Illustration 1

g01080654

2. Disconnect hose assembly (3) from fuel filter base (4) .
3. Disconnect hose assembly (5) .
4. Disconnect tube assembly (6) .
5. Disconnect the harness assembly from fuel pressure sensor (3). Remove the fuel pressure sensor from the fuel filter base.
6. Use Tooling (A) to remove fuel filter (7) from fuel filter base (4) .
7. Remove bolts (1) and remove the fuel filter base.

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## Disassembly and Assembly

### C15 On-highway Engines

Media Number -REN9403-09

Publication Date -01/02/2008

Date Updated -20/02/2008

i02086029

## Fuel Filter Base - Disassemble

SMCS - 1262-015

## Disassembly Procedure

### Start By:

- A. Remove the fuel filter base. Refer to Disassembly and Assembly, "Fuel Filter Base - Remove".

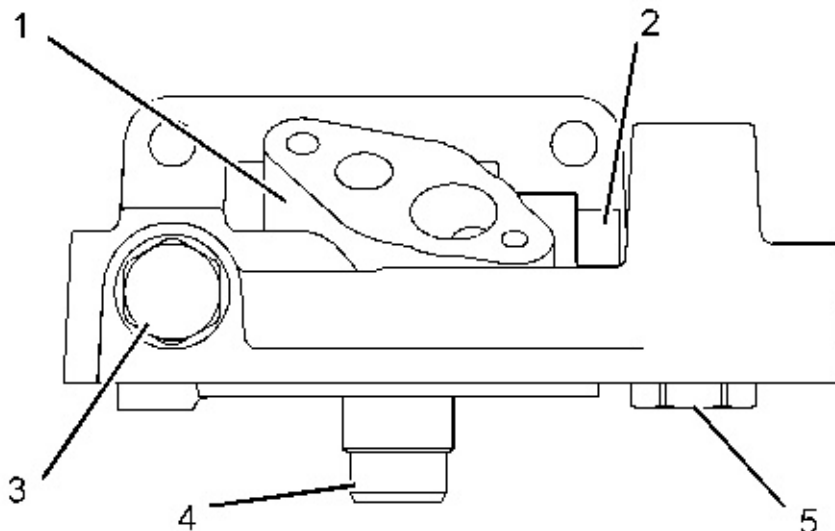
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### NOTICE

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Illustration 1

g01063845

1. Remove fuel bypass valve (2) from fuel filter base assembly (1). Remove the O-ring seals from the fuel bypass valve.
2. Remove fuel check valve (5) from fuel filter base assembly (1). Remove the O-ring seals from the fuel check valve.
3. Remove fitting (3) from fuel filter base assembly (1). Remove the O-ring seals from the fitting.
4. If necessary, remove hollow stud (4) from fuel filter base assembly (1) .

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## Disassembly and Assembly

### C15 On-highway Engines

Media Number -REN9403-09

Publication Date -01/02/2008

Date Updated -20/02/2008

i02086033

## Fuel Filter Base - Assemble

SMCS - 1262-016

### Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	155-0695	Thread Lock Compound	-

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#### NOTICE

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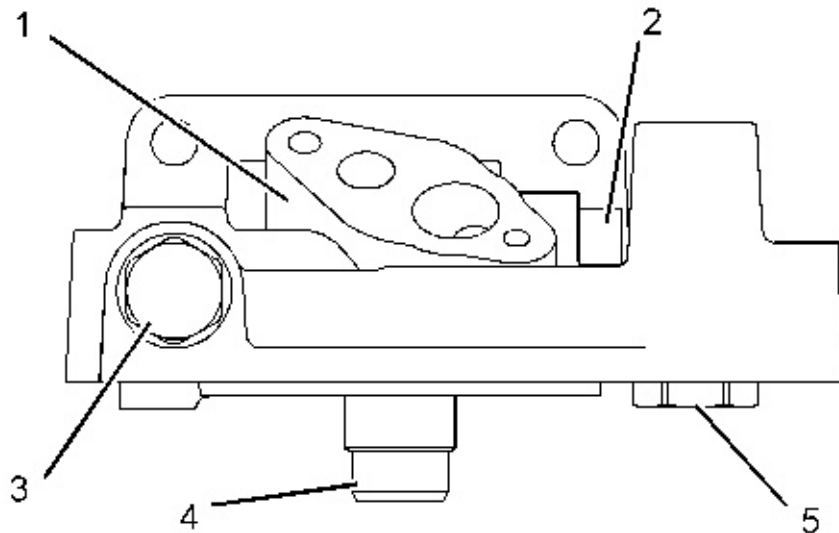


Illustration 1

g01063845

1. Install the O-ring seals on fuel bypass valve (2). Install the fuel bypass valve in fuel filter base assembly (1) .
2. Install the O-ring seals on fuel check valve (5). Install the fuel check valve in fuel filter base assembly (1). Tighten the fuel check valve to a torque of  $35 \pm 3$  N·m ( $26 \pm 2$  lb ft).
3. Install the O-ring seals on fitting (3). Install the fitting in fuel filter base assembly (1) .
4. If necessary, install hollow stud (4) to fuel filter base assembly (1). Tighten the hollow stud to a torque of  $70 \pm 15$  N·m ( $52 \pm 11$  lb ft).

**Note:** Apply Tooling (A) to the first  $7.6 \pm 0.8$  mm ( $0.30 \pm 0.03$  inch) of threads at the base end of the taperlock stud.

**End By:** Install the fuel filter base. Refer to Disassembly and Assembly, "Fuel Filter Base - Install".

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## Disassembly and Assembly

### C15 On-highway Engines

Media Number -REN9403-09

Publication Date -01/02/2008

Date Updated -20/02/2008

i02121648

## Fuel Filter Base - Install

SMCS - 1262-012

### Installation Procedure

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#### NOTICE

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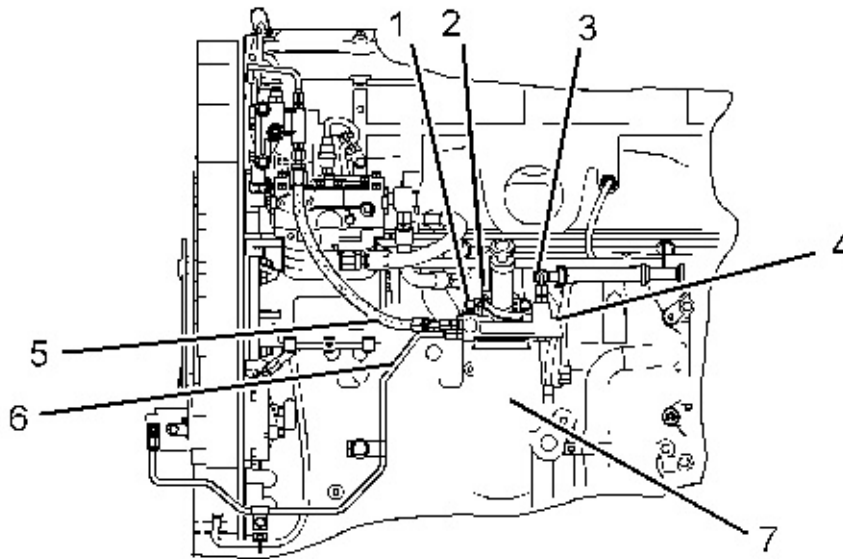


Illustration 1

g01080654

1. Position fuel filter base (4) on the cylinder block. Install bolts (1) .
2. Install fuel filter (7) on the fuel filter base. Follow the directions on the fuel filter for the correct installation procedure. Do not overtighten the fuel filter.
3. Connect hose assembly (3) to the fuel filter base.
4. Connect hose assembly (5) to the fuel filter base.
5. Connect tube assembly (6) to the fuel filter base.
6. Install fuel pressure sensor (3). Connect the harness assembly to the fuel pressure sensor.
7. Turn the fuel supply to the "ON" position.
8. Remove the air from the system. Refer to Testing and Adjusting, "Fuel System - Prime".

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## Disassembly and Assembly

### C15 On-highway Engines

Media Number -REN9403-09

Publication Date -01/02/2008

Date Updated -20/02/2008

i02112624

## Fuel Transfer Pump - Remove

SMCS - 1256-011

### Removal Procedure

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#### NOTICE

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Dispose of all fluids according to local regulations and mandates.

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#### NOTICE

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1. Turn the fuel shutoff valve to the "OFF" position.
  2. Disconnect the fuel supply line at the fuel transfer pump.
-

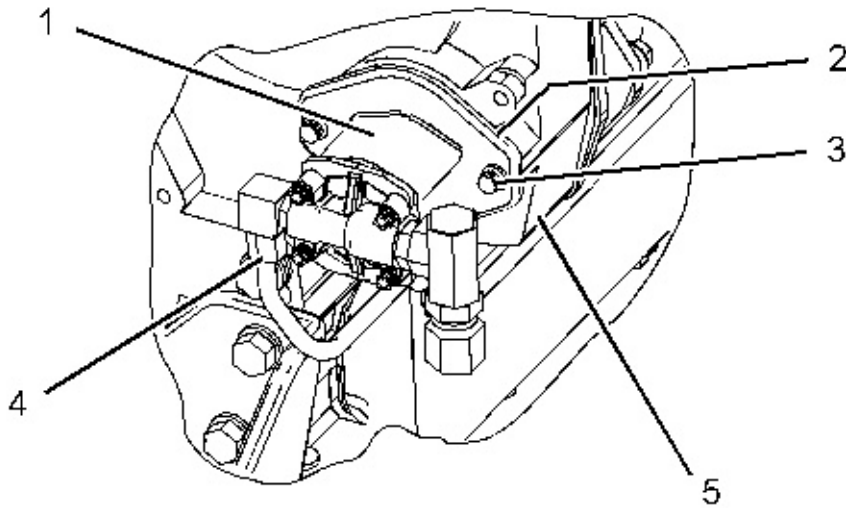


Illustration 1

g01075935

3. Disconnect tube assembly (4) .
4. Remove bolts (3) .
5. Remove fuel transfer pump (1) from front housing (5) .
6. Remove O-ring seal (2) from the fuel transfer pump.

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## Disassembly and Assembly

### C15 On-highway Engines

Media Number -REN9403-09

Publication Date -01/02/2008

Date Updated -20/02/2008

i02112625

## Fuel Transfer Pump - Install

SMCS - 1256-012

### Installation Procedure

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#### NOTICE

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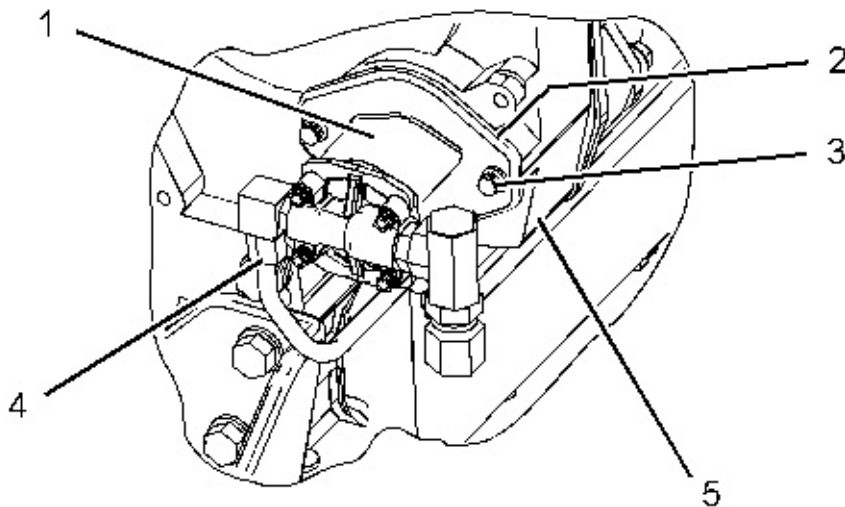


Illustration 1

g01075935

1. Install O-ring seal (2) on fuel transfer pump (1). Lubricate the O-ring seal with clean engine oil.
2. Position the fuel transfer pump on front housing (5). Install bolts (3) .
3. Connect tube assembly (4) .
4. Connect the fuel supply line to the fuel transfer pump.
5. Turn the fuel supply valve to the "ON" position.
6. Remove the air from the fuel system. Refer to Testing and Adjusting, "Fuel System - Prime".


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## Disassembly and Assembly

### C15 On-highway Engines

Media Number -REN9403-09

Publication Date -01/02/2008

Date Updated -20/02/2008

i02112720

## Electronic Unit Injector - Remove

SMCS - 1290-011

### Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	5F-4764	Pry Bar	1

#### Start By:

- Remove the variable valve actuator. Refer to Disassembly and Assembly, "Valve Actuator (Variable) - Remove".
- Remove the rocker arms and the rocker arm shaft. Refer to Disassembly and Assembly, "Rocker Arm and Shaft - Remove".

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Dispose of all fluids according to local regulations and mandates.

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**NOTICE**

**Keep all parts clean from contaminants.**

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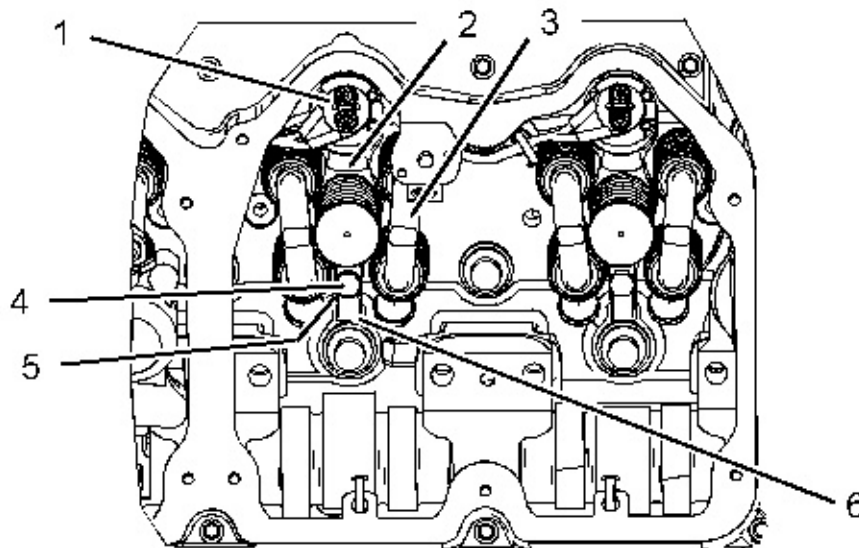


Illustration 1

g01076052

1. Disconnect harness assembly (1) .
2. Remove bridge assemblies (3) .

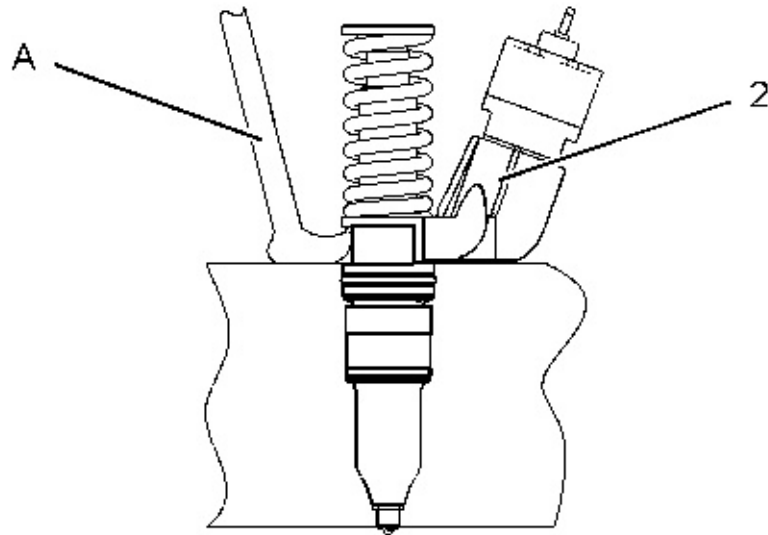
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**NOTICE**

**If the injector hold down bolt is loose during the removal procedure, inspect the injector bore for wear and debris. Replace the clamp and spacer.**

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3. Remove bolt (4), spacer (5), and clamp (6) .
  4. Place an identification mark on electronic unit injector (2) for installation purposes. Each electronic unit injector must be reinstalled in the original location in the cylinder head.
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Illustration 2

g01076047

5. Use Tooling (A) to pry beneath the base and free electronic unit injector (2) .
6. Remove the electronic unit injector from the cylinder head.


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## Disassembly and Assembly

### C15 On-highway Engines

Media Number -REN9403-09

Publication Date -01/02/2008

Date Updated -20/02/2008

i02877472

## Electronic Unit Injector - Install

SMCS - 1290-012

### Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
B	8T-2998	Lubricant	-
C	1U-5718	Vacuum Pump	1
	169-7372	Fluid Sampling Bottle	-
	4C-4057	Tube 7.9 mm (0.31 inch) OD	-
D	4C-5552	Large Bore Brush	1
E	4C-6774	Vacuum Gun Kit	1
F	8T-7765	Surface Reconditioning Pad	-

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### NOTICE

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1. Use Tooling (C) to remove the fuel and oil from the cylinder. Evacuate as much fuel and oil as possible from the cylinder before installing the electronic unit injector. Several evacuations may be necessary.

2. Use Tooling (D) to clean the carbon deposit from the inside of the electronic unit injector sleeve. Tooling (E) is available to clean loose material from the bore of the electronic unit injector sleeve and the cylinder.
3. Use Tooling (F) to clean the carbon from the seat area that is inside of the electronic unit injector sleeve.
4. Install the O-ring seals on the electronic unit injector. Lubricate the top two O-ring seals with a 50/50 mixture of clean engine oil and Tooling (B) .

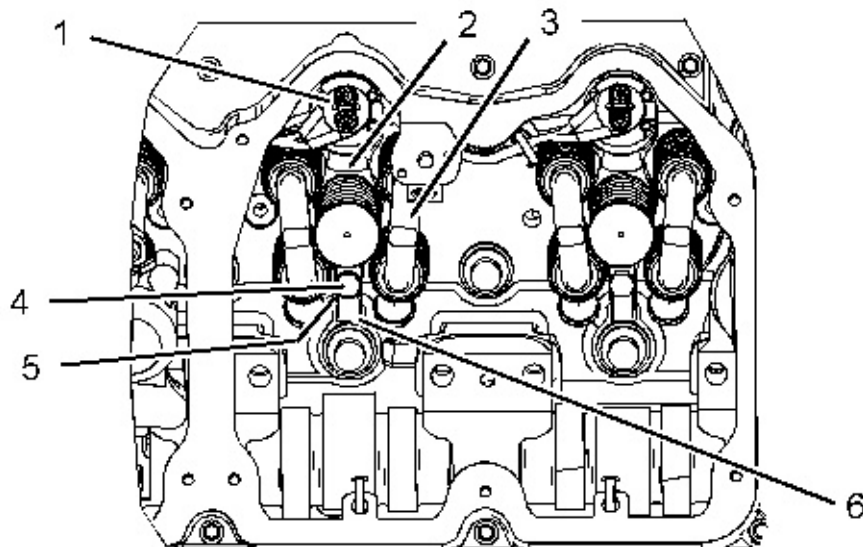


Illustration 1

g01076052

### NOTICE

**When an electronic unit injector is replaced, the new electronic injector code must be programmed into the engine's personality module software by using the calibration menu on the Electronic Service Tool. If the new electronic injector code is not entered, the characteristics of the previous electronic unit injector is assumed.**

**If it is not possible to immediately reprogram the electronic injector code into the personality module software, the engine will not be severely harmed. The new electronic injector code should be reprogrammed as quickly as possible in order to optimize engine performance.**

5. Install electronic unit injector (2) into the original location in the cylinder head.
6. Install spacer (5) , clamp (6) , and bolt (4) . Tighten the bolt to a torque of  $55 \pm 10$  N·m ( $41 \pm 7$  lb ft).