



# Service Repair Manual

## **Models**

305.5E2CR Mini Hydraulic  
Excavator

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Product: MINI HYD EXCAVATOR

Model: 305.5E2 CR MINI HYD EXCAVATOR EJX

Configuration: 305.5E2 CR Mini Hydraulic Excavator EJX00001-UP (MACHINE) POWERED BY C2.4 Engine

## Disassembly and Assembly

### C1.7, C1.8 and C2.4 Tier 4 Interim and EU Stage 3A Engines for Caterpillar Built Machines

Media Number -UENR0128-11

Publication Date -01/08/2015

Date Updated -09/06/2016

i05243376

## Governor and Camshaft - Remove

SMCS - 1264-011; 1265-011; 1716-011

### Removal Procedure

#### Start By:

- a. Remove the idler gear.
- b. Remove the fuel injection pump.

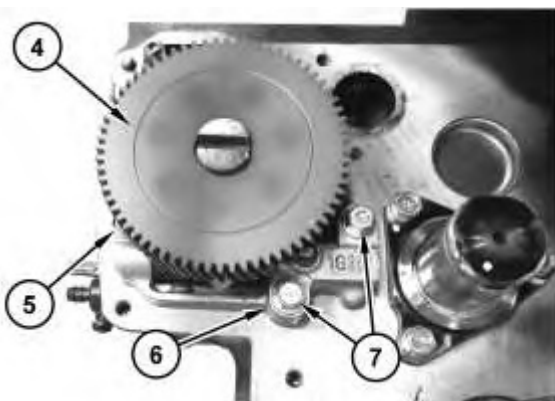
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#### NOTICE

**Keep all parts clean from contaminants.**

**Contaminants may cause rapid wear and shortened component life.**

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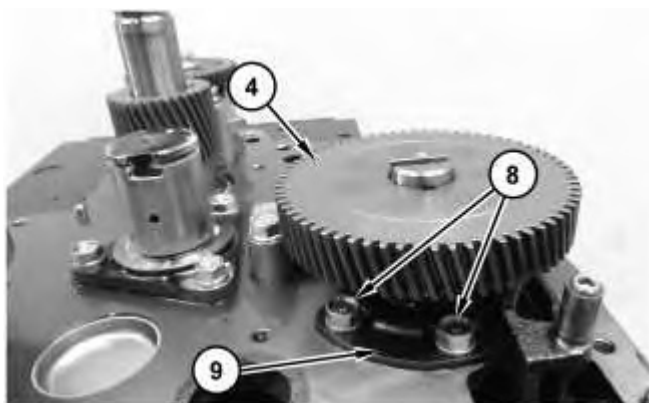


Illustration 2

1. Remove bolts (7) and loosen bolt (5) from bracket (6) from camshaft (4).
2. Remove bolts (8) and bracket (9) that hold the camshaft (4) in the cylinder block.

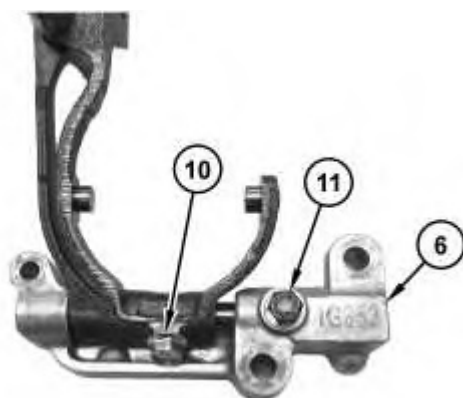


Illustration 3



Illustration 4

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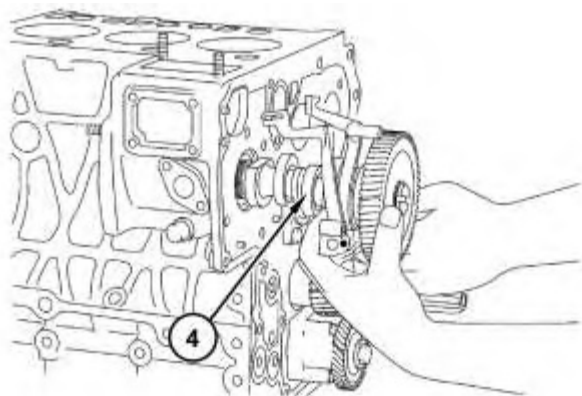


Illustration 5

g02840060

3. Lift camshaft (4) and bracket (6) as one unit.
4. Remove camshaft (4).
5. Remove bolt (10) and the washer. Remove bolt (11) from bracket (6).

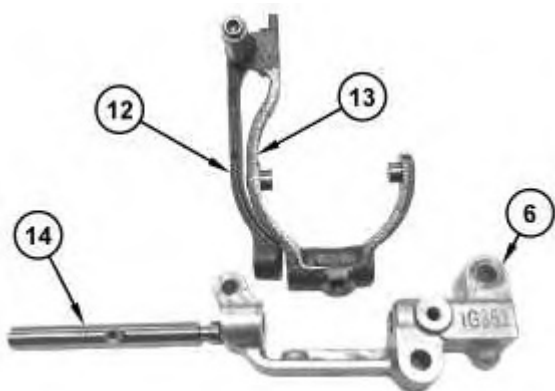


Illustration 6

g02729574

6. Remove shaft (14) from brackets (6), (12), and (13).

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Configuration: 305.5E2 CR Mini Hydraulic Excavator EJX00001-UP (MACHINE) POWERED BY C2.4 Engine

## Disassembly and Assembly

### C1.7, C1.8 and C2.4 Tier 4 Interim and EU Stage 3A Engines for Caterpillar Built Machines

Media Number -UENR0128-11

Publication Date -01/08/2015

Date Updated -09/06/2016

i05243388

## Governor and Camshaft - Install

SMCS - 1264-012; 1265-012; 1716-012

## Installation Procedure

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### NOTICE

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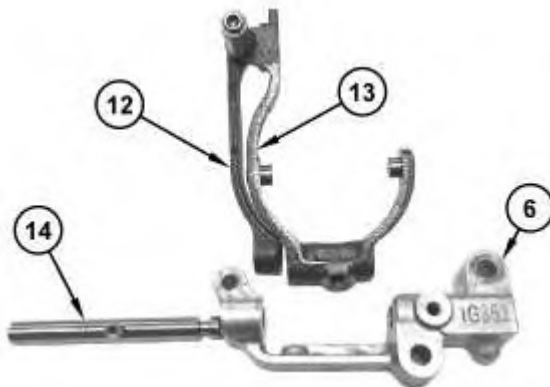


Illustration 1

g02729574

1. Position brackets (13) and (12) in line with bracket (6) and install shaft (14).
-

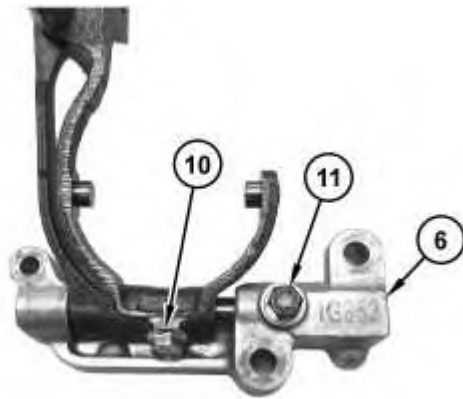


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Illustration 2

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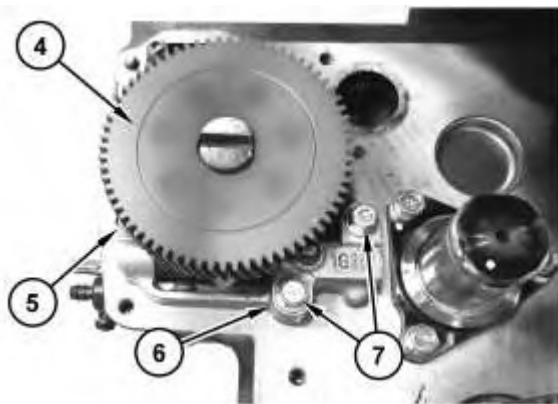


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Illustration 3

g02729573

2. Install bolt (11) into bracket (6). Install the washer and bolt (10).
3. Install camshaft (4).
4. Lift camshaft (4) and install bracket (6) as a unit.



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Illustration 4

g02729570

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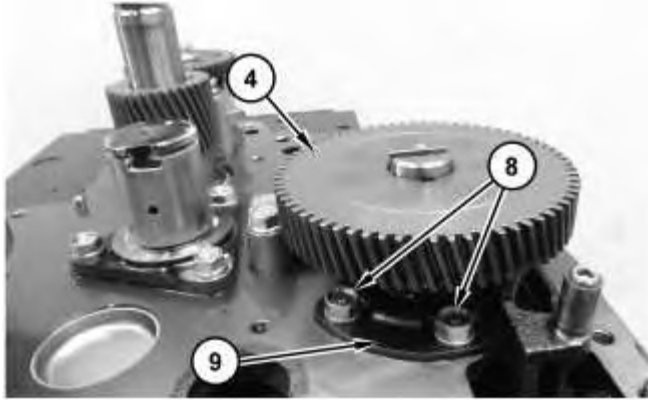


Illustration 5

g02729685

5. Lift camshaft (4). Position bracket (6) and bolt (5).
6. Install bracket (9) and bolts (8).
7. Install bolts (7) and tighten bolt (5) to secure camshaft (4).

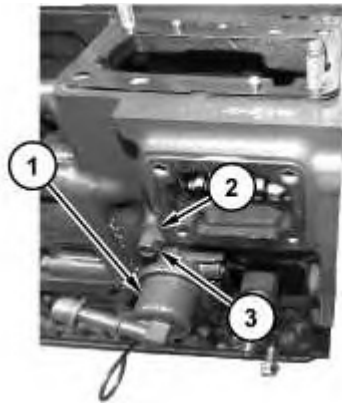


Illustration 6

g02729569

8. Install a new gasket (2) and position supply pump (1). Install bolts (2).

**End By:**

- a. Install the fuel injection pump.
- b. Install the idler gear.

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Product: MINI HYD EXCAVATOR

Model: 305.5E2 CR MINI HYD EXCAVATOR EJX

Configuration: 305.5E2 CR Mini Hydraulic Excavator EJX00001-UP (MACHINE) POWERED BY C2.4 Engine

**Disassembly and Assembly  
C1.7, C1.8 and C2.4 Tier 4 Interim and EU Stage 3A Engines for Caterpillar Built  
Machines**

Media Number -UENR0128-11

Publication Date -01/08/2015

Date Updated -09/06/2016

i05243381

## Governor and Camshaft - Disassemble

SMCS - 1264-015; 1265-015; 1716-015

### Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	8H-0663	Bearing Puller	1

**Start By:**

- a. Remove governor and camshaft.

---

**NOTICE**

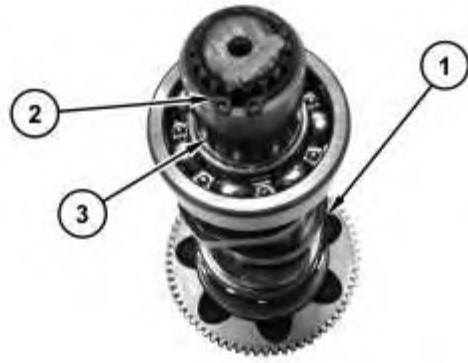
**Keep all parts clean from contaminants.**

**Contaminants may cause rapid wear and shortened component life.**

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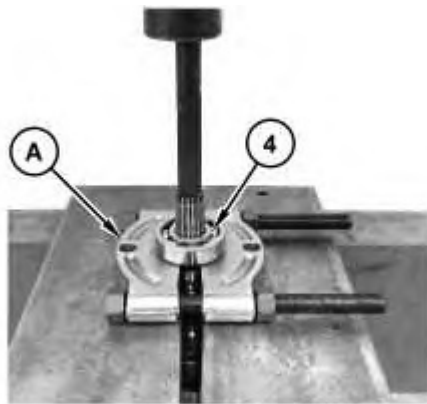


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Illustration 1

g02730000

1. Remove retaining ring (2) and sleeve (3) from camshaft (1).
- 

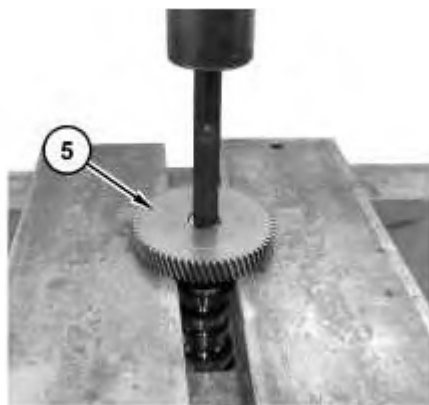


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Illustration 2

g02730288

2. Use a suitable press and Tooling (A) to remove bearing (4) from the camshaft.
- 



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Illustration 3

g02730296

3. Use a suitable press to remove gear (5) from the camshaft.
-

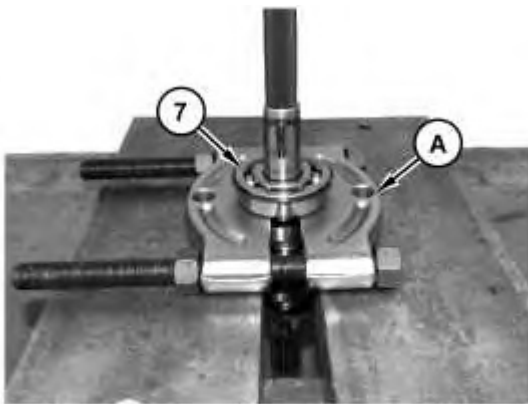


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Illustration 4

g02730303

4. Remove key (6) from the camshaft (1).
- 



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Illustration 5

g02730311

5. Use a suitable press and Tooling (A) to remove bearing (7).
- 



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Illustration 6

g02730316

6. Remove retaining ring (9) and remove bearing assembly (10) from gear (8).
-

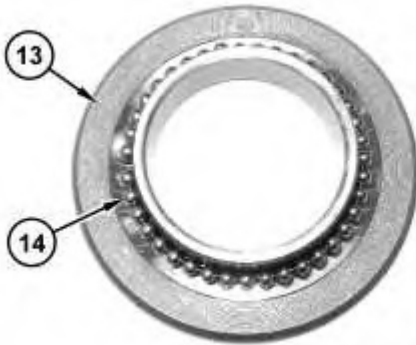


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Illustration 7

g02730320

7. Remove retaining ring (12) from the bearing assembly and remove collier (11).
- 

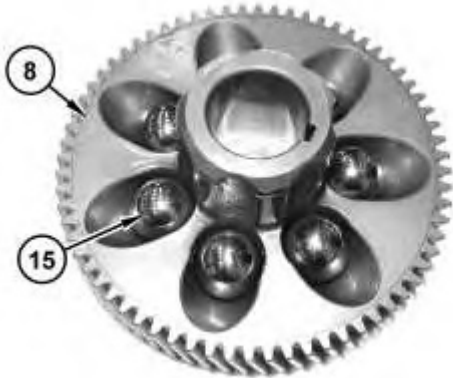


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Illustration 8

g02730325

8. Remove bearings (14) from race (13).
- 



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Illustration 9

g02730329

9. Remove ball bearings (15) from gear (8).
-

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Configuration: 305.5E2 CR Mini Hydraulic Excavator EJX00001-UP (MACHINE) POWERED BY C2.4 Engine

## Disassembly and Assembly

### C1.7, C1.8 and C2.4 Tier 4 Interim and EU Stage 3A Engines for Caterpillar Built Machines

Media Number -UENR0128-11

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Date Updated -09/06/2016

i05243386

## Governor and Camshaft - Assemble

SMCS - 1264-016; 1265-016; 1716-016

### Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	8H-0663	Bearing Puller	1

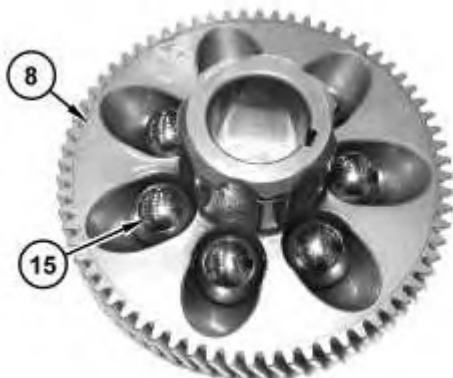
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### NOTICE

**Keep all parts clean from contaminants.**

**Contaminants may cause rapid wear and shortened component life.**

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Illustration 1

g02730329

1. Install ball bearings (15) in gear (8).
- 

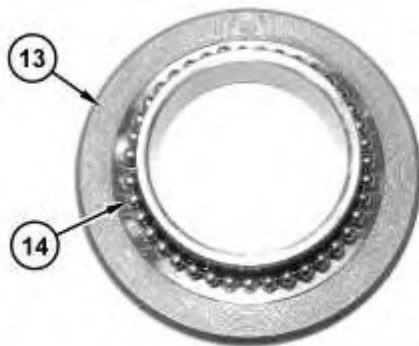


Illustration 2

g02730325

2. Install bearings (14) onto race (13).
- 



Illustration 3

g02730320

3. Position collier (11) on the bearing assembly and install retaining ring (12).
- 



Illustration 4

g02730316

4. Position bearings assembly (10) onto gear (8) and install retaining ring (9).

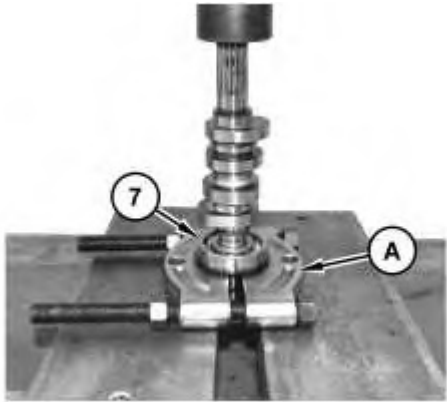


Illustration 5

g02730808

5. Use a suitable press and Tooling (A) to install the bearing (7) on the camshaft.



Illustration 6

g02730303

6. Install key (6) into camshaft (1).

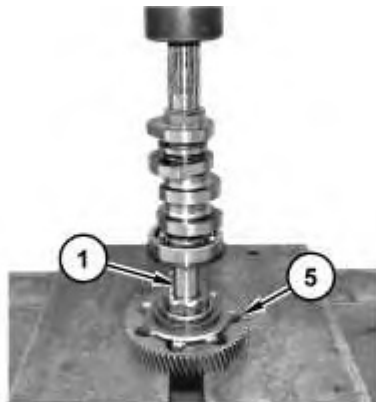


Illustration 7

g02730809

7. Use a suitable press to install gear (5) onto the camshaft.

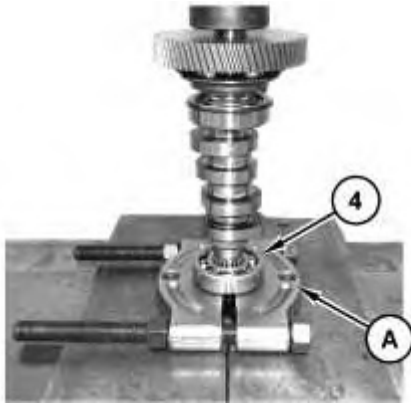


Illustration 8

g02730810

8. Use a suitable press and Tooling (A) to install the bearing (4) on the camshaft.

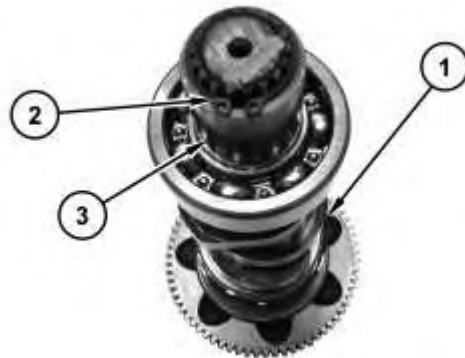


Illustration 9

g02730000

9. Position sleeve (3) on camshaft (1) and install retaining ring (2).

**End By:**

- a. Install governor and camshaft.

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Product: MINI HYD EXCAVATOR

Model: 305.5E2 CR MINI HYD EXCAVATOR EJX

Configuration: 305.5E2 CR Mini Hydraulic Excavator EJX00001-UP (MACHINE) POWERED BY C2.4 Engine

## Disassembly and Assembly

### C1.7, C1.8 and C2.4 Tier 4 Interim and EU Stage 3A Engines for Caterpillar Built Machines

Media Number -UENR0128-11

Publication Date -01/08/2015

Date Updated -09/06/2016

i05243393

## Fuel Injection Pump - Remove

SMCS - 1251-011; 1290-011

### Removal Procedure

#### Start By:

- a. Remove inlet manifold.
- b. Remove fuel injection line.

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#### NOTICE

**Refer to System Operation, Testing and Adjusting, "Cleanliness of Fuel System Components" for detailed information on the standards of cleanliness that must be observed during ALL work on the fuel system.**

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1. Turn the fuel supply to the OFF position.
  2. Turn the battery disconnect switch to the OFF position.
-

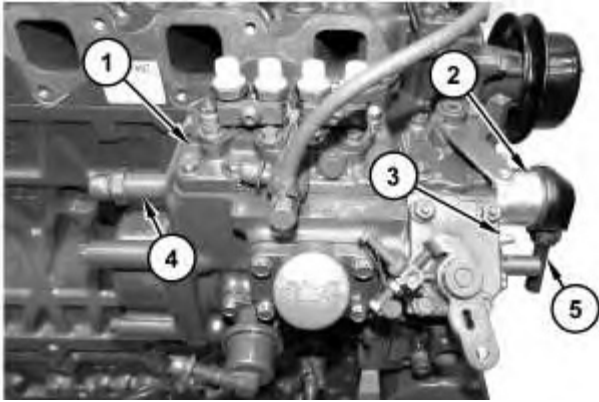


Illustration 1

g02728627

3. Disconnect harness assembly (5) from shut off solenoid (2).
4. Remove nuts (3) and remove shut off solenoid (2) and the O-ring seal from fuel injection pump (1).
5. Remove high idle body (4).

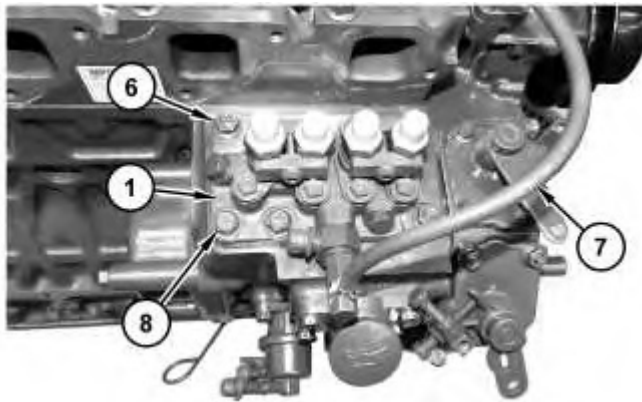
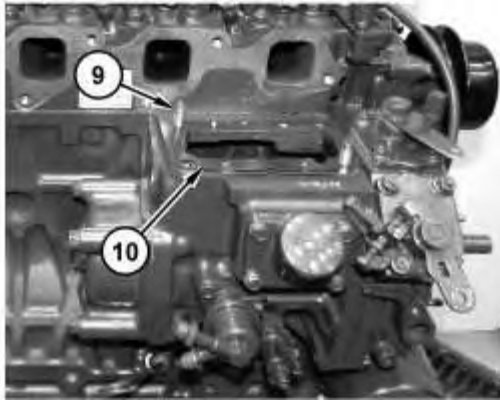


Illustration 2

g02728629

6. Remove two nuts (6) and four bolts (8) from fuel injection pump (1).
  7. Disconnect hose assembly (7) and relocate.
  8. Carefully remove fuel injection pump (1) from the cylinder block housing.
-



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Illustration 3

g02728818

9. Remove gasket shims (10).
10. If necessary, remove studs (9) from the cylinder block housing.
11. Clean fuel injection pump (1) and the area around the fuel injection pump. Ensure that the area is free from contamination before beginning installation.

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## Disassembly and Assembly

### C1.7, C1.8 and C2.4 Tier 4 Interim and EU Stage 3A Engines for Caterpillar Built Machines

Media Number -UENR0128-11

Publication Date -01/08/2015

Date Updated -09/06/2016

i05921756

## Fuel Injection Pump - Remove

SMCS - 1251-011; 1290-011

### Removal Procedure

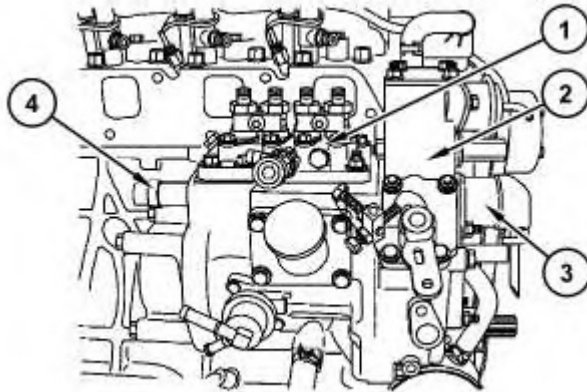
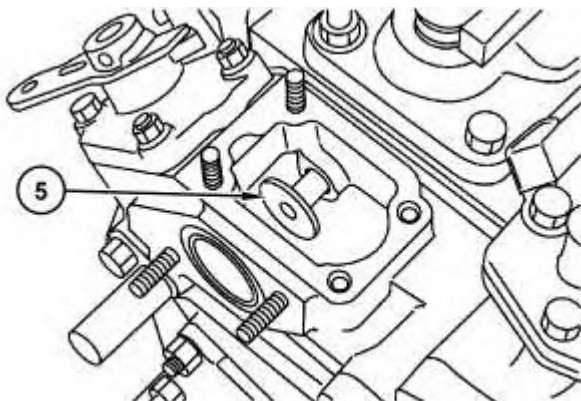


Illustration 1

g03727040





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1. Remove boost compensator assembly (2) and high-idling body (4).
2. Remove solenoid guide (5) and injection pump assembly (1).

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