



Service Repair Manual

Model

321D LCR EXCAVATOR

[Previous Screen](#)

Product: EXCAVATOR

Model: 321D LCR EXCAVATOR MPG

Configuration: 321D LCR Excavator MPG00001-UP (MACHINE) POWERED BY C6.4 Engine

Disassembly and Assembly C6.4 Engine for Caterpillar Built Machines

Media Number -KENR8106-09

Publication Date -01/10/2017

Date Updated -18/10/2017

i02746266

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
B	278-4138	Fuel System Protection Gp ⁽¹⁾	1

⁽¹⁾ This tool can only be used one time.

Start By:

- a. Remove the valve mechanism cover. Refer to Disassembly and Assembly, "Valve Mechanism Cover - Remove and Install".
- b. Remove the fuel Injection lines. Refer to Disassembly and Assembly, "Fuel Injection Lines - Remove".

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, "Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Cat products.

Dispose of all fluids according to local regulations and mandates.

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.



WARNING

Do not open the high pressure fuel system without allowing the fuel system to purge. After the engine has shut down, allow the fuel system to purge for ten minutes. This operating fuel system contains high pressure. Exposure to high pressure fuel can result in personal injury.

Note: Before opening the fuel system, the engine must be turned off for at least one minute.

Note: Use Caterpillar Electronic Technician (ET) to verify that the fuel system pressure is at zero before opening the fuel system.

Note: Use Tooling (B) after any fuel line has been disconnected.

Note: Cleanliness is an important factor. Before you begin the removal procedure, the exterior of the components should be thoroughly cleaned. This will help to prevent dirt from entering the internal mechanism.

Note: Put identification marks on harness assemblies and electronic unit injectors for installation purposes.

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>

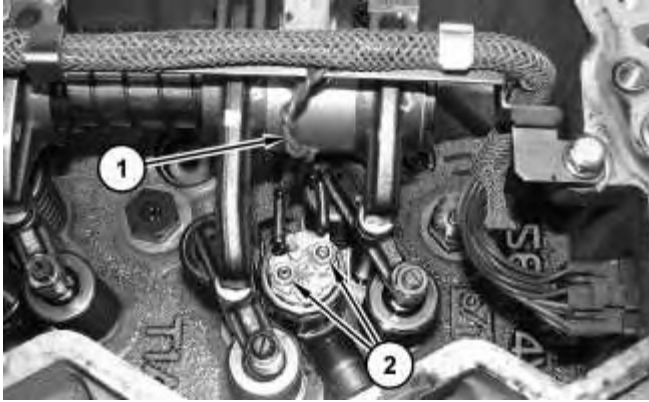


Illustration 1

g01375478

1. Loosen nuts (2).
2. Disconnect harness assembly (1).

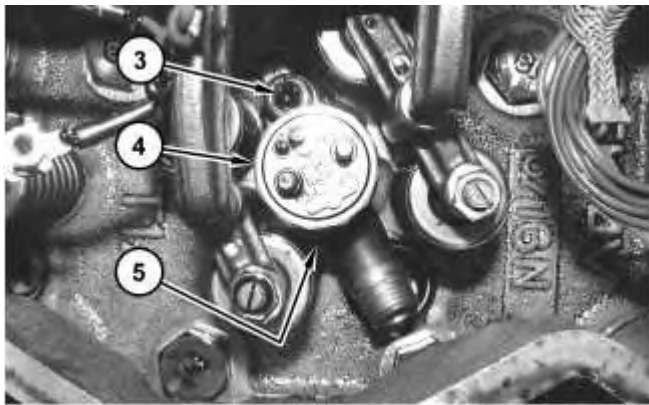


Illustration 2

g01375483

3. Remove bolt (3) and the washer.
4. Place an identification mark on electronic unit injector (4) for installation purposes. Each electronic unit injector must be reinstalled in the original location. Use Tooling (A) in order to remove electronic unit injector (4).
5. Remove clamp (5) (not shown).
6. Repeat Steps 1 through 5 for the remaining electronic unit injectors.

[Previous Screen](#)

Product: EXCAVATOR

Model: 321D LCR EXCAVATOR MPG

Configuration: 321D LCR Excavator MPG00001-UP (MACHINE) POWERED BY C6.4 Engine

Disassembly and Assembly C6.4 Engine for Caterpillar Built Machines

Media Number -KENR8106-09

Publication Date -01/10/2017

Date Updated -18/10/2017

i05281314

Electronic Unit Injector - Install

SMCS - 1290-012

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

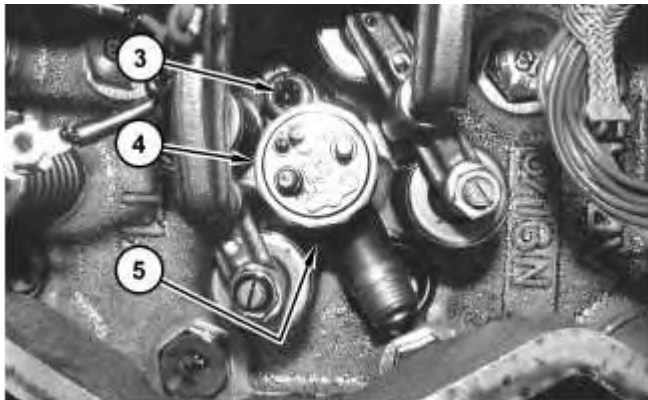


Illustration 1

g01375483

1. Install a new O-ring and a new copper washer onto the electronic unit injector (not shown). Install clamp (5) (not shown) onto electronic unit injector (4) . Install electronic unit injector (4) .

2. Install bolt (3) and the washer.

Note: Note the orientation of the washer for installation.

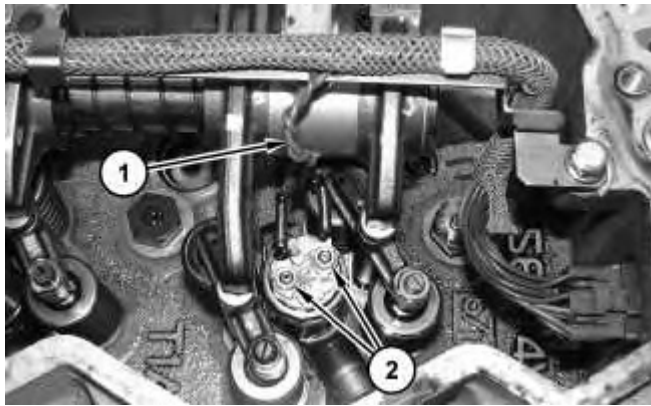


Illustration 2

g01375478

3. Connect harness assembly (1) and tighten nuts (2) to a torque of 2.5 N·m (22 lb in).

4. Repeat Steps 1 through 3 for the remaining electronic unit injectors.

End By:

- a. Install the fuel injection lines. Refer to Disassembly and Assembly, "Fuel Injection Lines - Remove".
- b. Install the valve mechanism cover. Refer to Disassembly and Assembly, "Valve Mechanism Cover - Remove and Install".

Previous Screen

Product: EXCAVATOR

Model: 321D LCR EXCAVATOR MPG

Configuration: 321D LCR Excavator MPG00001-UP (MACHINE) POWERED BY C6.4 Engine

Disassembly and Assembly C6.4 Engine for Caterpillar Built Machines

Media Number -KENR8106-09

Publication Date -01/10/2017

Date Updated -18/10/2017

i02747029

Turbocharger - Remove

SMCS - 1052-011

Removal Procedure

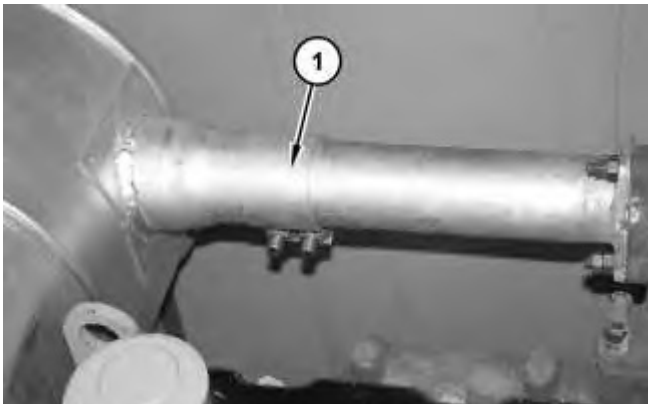
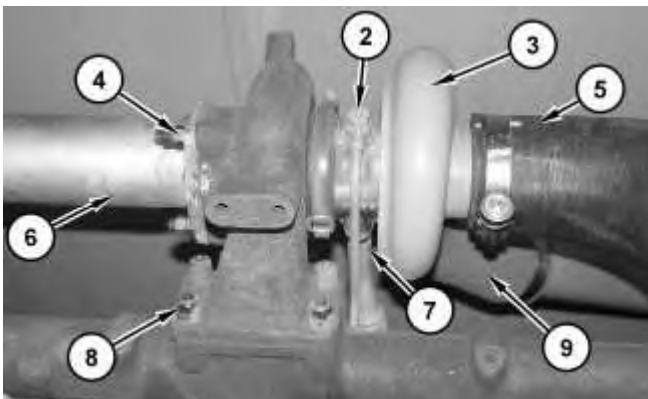


Illustration 1

g01375920

1. Loosen clamp (1).



Typical Example

2. Remove nuts (4) and tube (6). Disconnect tube assemblies (2) and (7). Disconnect hoses (5) and (9). Remove nuts (8) and turbocharger (3).

Previous Screen

Product: EXCAVATOR

Model: 321D LCR EXCAVATOR MPG

Configuration: 321D LCR Excavator MPG00001-UP (MACHINE) POWERED BY C6.4 Engine

**Disassembly and Assembly
C6.4 Engine for Caterpillar Built Machines**

Media Number -KENR8106-09

Publication Date -01/10/2017

Date Updated -18/10/2017

i02746993

Turbocharger - Disassemble

SMCS - 1052-015

Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1861	Retaining Ring Pliers	1

Start By:

- a. Remove the turbocharger. Refer to Disassembly and Assembly, "Turbocharger - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

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, "Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Cat products.

Dispose of all fluids according to local regulations and mandates.

1. Place an index mark on all of the components. The marks will help to align the components during the assembly procedure.

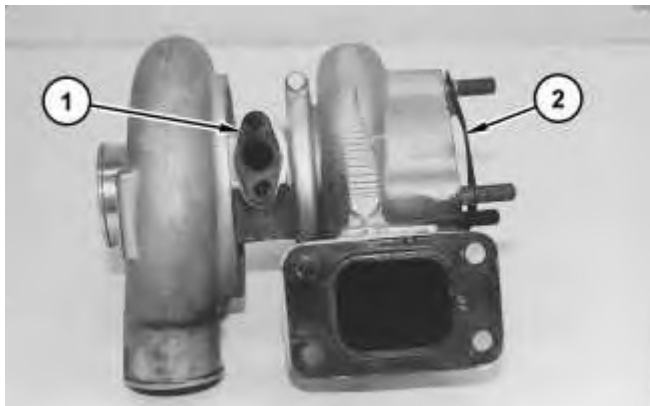


Illustration 1

g01375875

2. Remove gasket (1) from the cartridge.
3. Remove gasket (2) from the turbine housing.

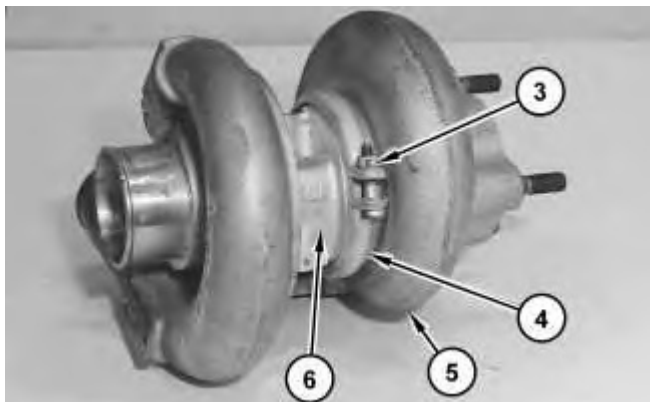


Illustration 2

g01375876

4. Remove the bolt and nut (3) from clamp (4). Remove clamp (4) that secures turbine housing (5) to cartridge (6).
 5. Separate turbine housing (5) from cartridge (6).
-

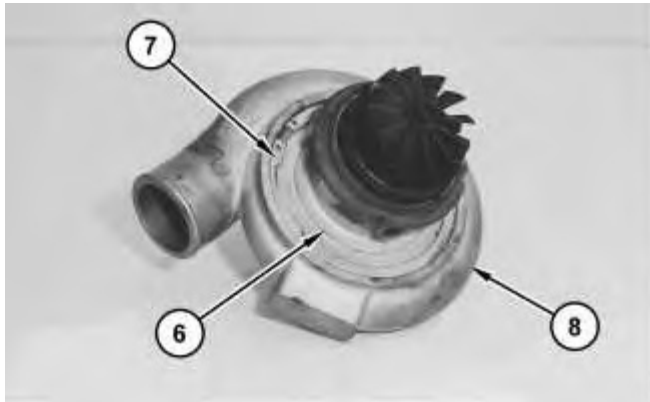


Illustration 3

g01375877

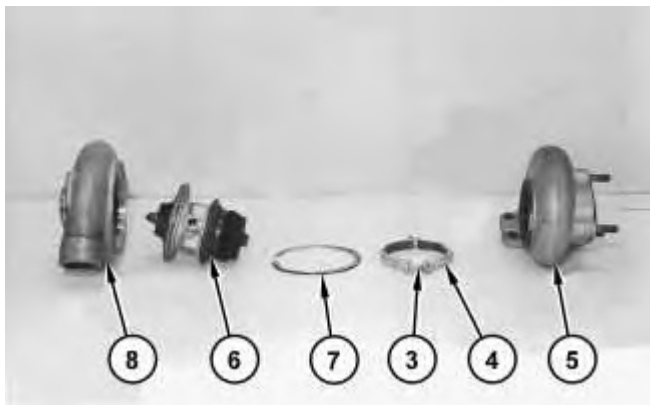


Illustration 4

g01375878

6. Use Tooling (A) in order to remove retaining ring (7) from compressor housing (8).
7. Separate compressor housing (8) from cartridge (6).

[Previous Screen](#)

Product: EXCAVATOR

Model: 321D LCR EXCAVATOR MPG

Configuration: 321D LCR Excavator MPG00001-UP (MACHINE) POWERED BY C6.4 Engine

Disassembly and Assembly C6.4 Engine for Caterpillar Built Machines

Media Number -KENR8106-09

Publication Date -01/10/2017

Date Updated -18/10/2017

i02747012

Turbocharger - Assemble

SMCS - 1052-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-1861	Retaining Ring Pliers	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: During the assembly procedure, ensure that the index marks are aligned when the components are assembled.

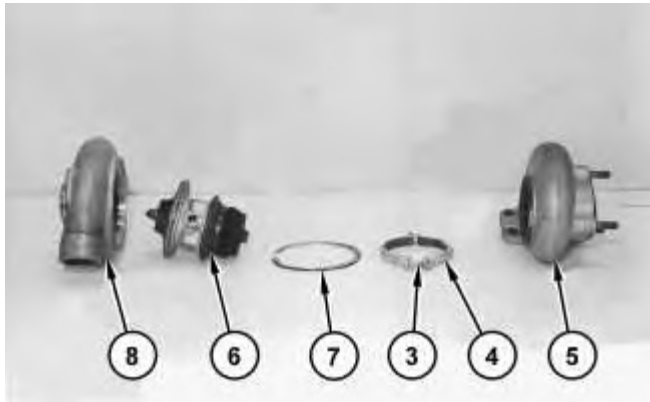


Illustration 1

g01375878

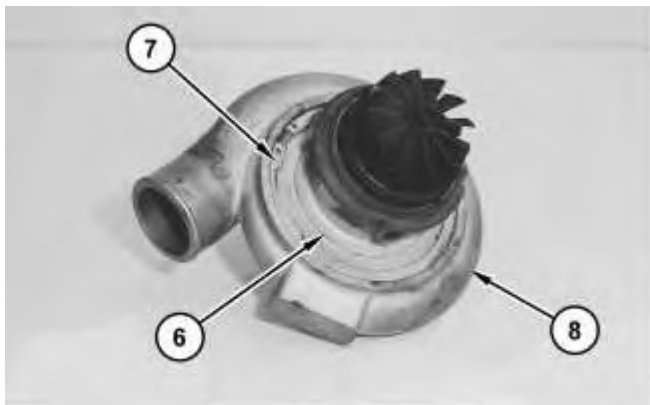


Illustration 2

g01375877

1. Install cartridge (6) into compressor housing (8).
2. Use Tooling (A) in order to install retaining ring (7) into compressor housing (8).

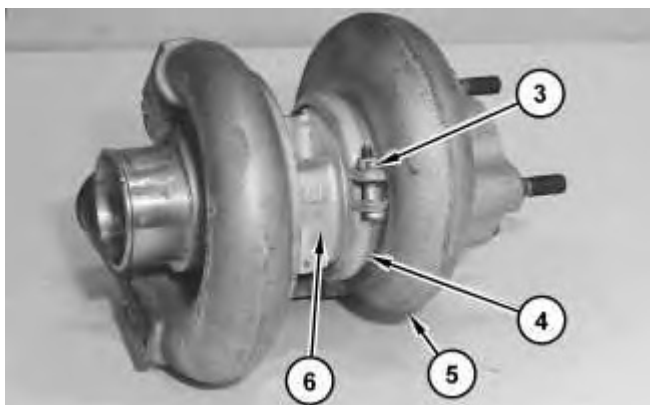


Illustration 3

g01375876

3. Install cartridge (6) into turbine housing (5).
4. Install clamp (4) that secures cartridge (6) and turbine housing (5) together. Install the bolt and nut (3) into clamp (4).

Note: Refer to the Specifications Module , "Turbocharger" for information on the clamp.

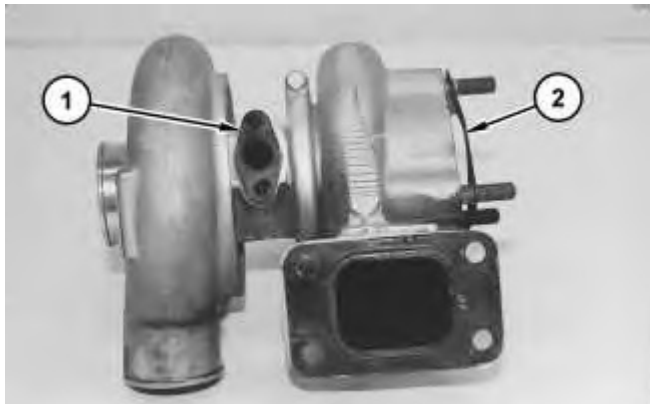


Illustration 4

g01375875

5. Inspect the condition of the gaskets. Replace the gaskets, if necessary.
6. Install gasket (2) on the turbine housing.
7. Install gasket (1) on the cartridge.

End By:

- a. Install the turbocharger. Refer to Disassembly and Assembly, "Turbocharger - Install".

[Previous Screen](#)

Product: EXCAVATOR

Model: 321D LCR EXCAVATOR MPG

Configuration: 321D LCR Excavator MPG00001-UP (MACHINE) POWERED BY C6.4 Engine

Disassembly and Assembly C6.4 Engine for Caterpillar Built Machines

Media Number -KENR8106-09

Publication Date -01/10/2017

Date Updated -18/10/2017

i02747030

Turbocharger - Install

SMCS - 1052-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	5P-3931	Anti-Seize Compound	1

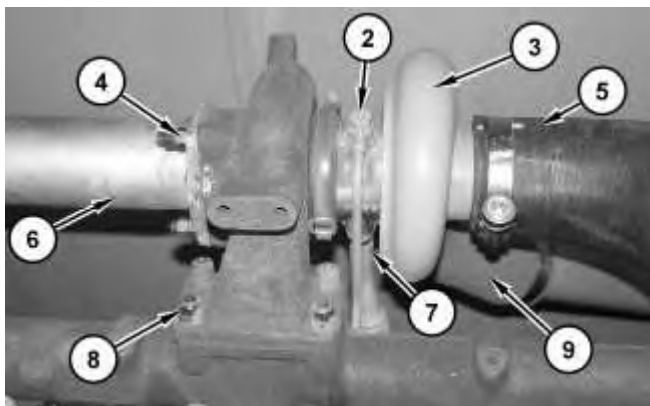


Illustration 1

g01375922

Typical Example

1. Install turbocharger (3). Apply Tooling (A) to nuts (8) and install nuts (8). Tighten nuts (8) to a torque of 54 ± 5 N·m (40 ± 4 lb ft). Connect hoses (5) and (9). Connect tube assemblies (2) and (7). Install tube (6) and nuts (4).

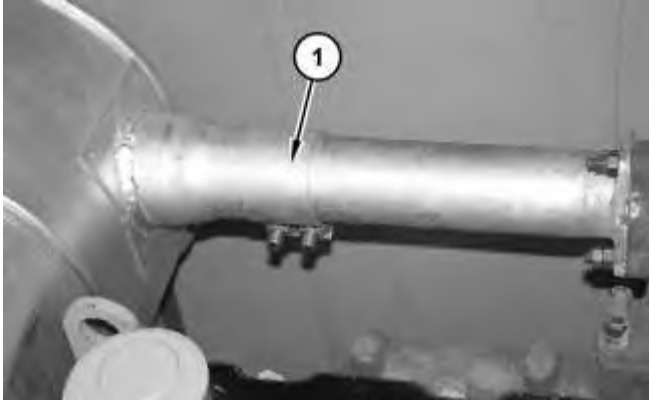


Illustration 2

g01375920

2. Tighten clamp (1).

[Previous Screen](#)

Product: EXCAVATOR

Model: 321D LCR EXCAVATOR MPG

Configuration: 321D LCR Excavator MPG00001-UP (MACHINE) POWERED BY C6.4 Engine

Disassembly and Assembly C6.4 Engine for Caterpillar Built Machines

Media Number -KENR8106-09

Publication Date -01/10/2017

Date Updated -18/10/2017

i02747037

Exhaust Manifold - Remove and Install

SMCS - 1059-010

Removal Procedure

Start By:

- a. Remove the turbocharger. Refer to Disassembly and Assembly, "Turbocharger - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

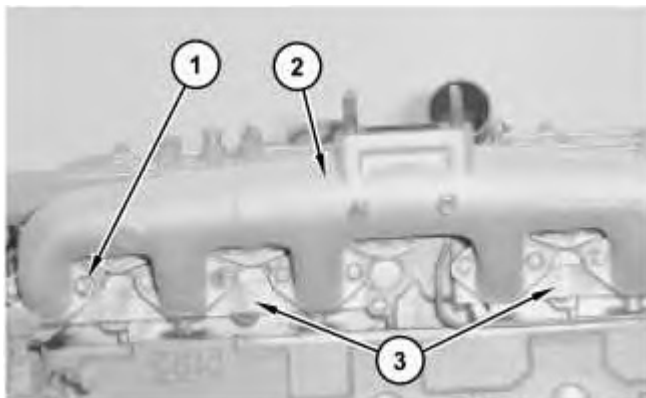


Illustration 1
Typical Example

g01375931

1. Remove nuts (1), the spacers, and the washers that secure exhaust manifold (2) to the cylinder head assembly.
2. Remove exhaust manifold (2) from the cylinder head assembly.
3. Remove exhaust manifold gasket (3) that is located between exhaust manifold (2) and the cylinder head assembly.

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

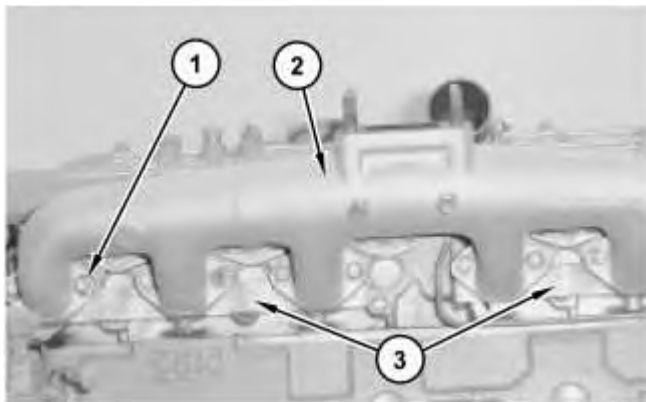


Illustration 2

g01375931

Typical Example

1. Install exhaust manifold gasket (3) between exhaust manifold (2) and the cylinder head assembly.
2. Position exhaust manifold (2) onto the cylinder head assembly.
3. Install the spacers, the washers, and nuts (1) that secure exhaust manifold (2) to the cylinder head assembly.
4. Tighten exhaust manifold nuts (1) to a torque of 18 ± 4 N·m (13 ± 3 lb ft).

End By:

- a. Install the turbocharger. Refer to Disassembly and Assembly, "Turbocharger - Install".

[Previous Screen](#)

Product: EXCAVATOR

Model: 321D LCR EXCAVATOR MPG

Configuration: 321D LCR Excavator MPG00001-UP (MACHINE) POWERED BY C6.4 Engine

Disassembly and Assembly C6.4 Engine for Caterpillar Built Machines

Media Number -KENR8106-09

Publication Date -01/10/2017

Date Updated -18/10/2017

i02752241

Air Inlet Heater - Remove and Install

SMCS - 1090-010

Removal Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

Note: Cleanliness is an important factor. Before you begin the removal procedure, the exterior of the components should be thoroughly cleaned. This will help to prevent dirt from entering the internal mechanism.



Illustration 1

g01336339



Suggest:

If the above button click is invalid.

Please download this document

first, and then click the above link

to download the complete manual.

Thank you so much for reading

1. Remove cable assembly (1).

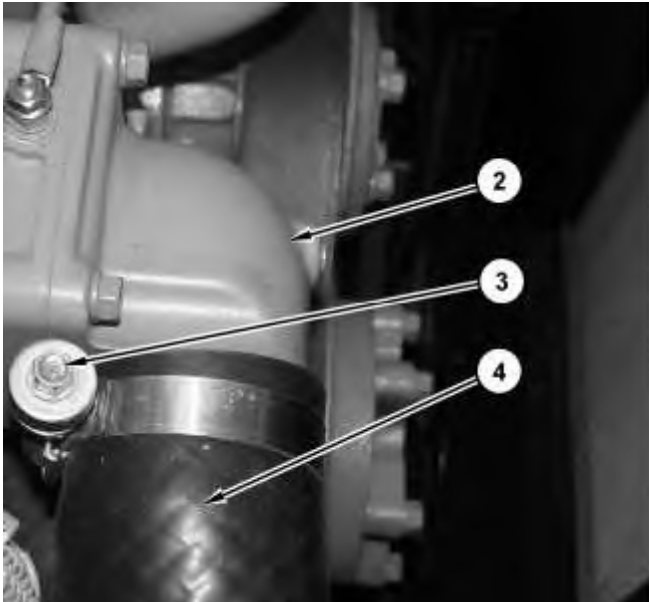


Illustration 2

g01336372

2. Loosen clamp (3). Disconnect hose (4) from air inlet elbow (2).

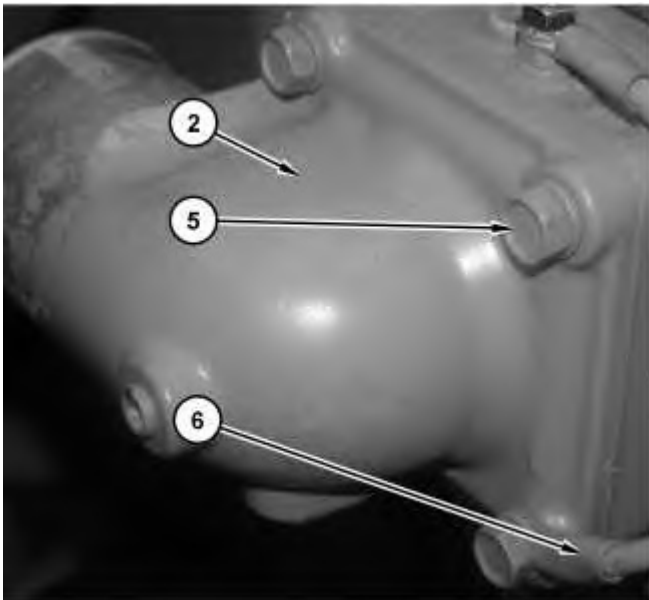


Illustration 3

g01336388

3. Remove bolts (5) and position ground wire (6) out of the way.
 4. Remove air inlet elbow (2).
-

<https://www.ebooklibonline.com>

Hello dear friend!

Thank you very much for reading.

Enter the link into your browser.

The full manual is available for immediate download.

<https://www.ebooklibonline.com>