

Product: TRUCK

Model: 793F AC TRUCK EMD

Configuration: 793F-AC Off Highway Truck EMD00001-UP (MACHINE) POWERED BY C175-16 Engine

## Disassembly and Assembly C175-16 and C175-20 Engines for Caterpillar Built Machines

Media Number -KENR6052-18

Publication Date -01/09/2015

Date Updated -31/05/2018

i06249752

# Fuel Pump (High Pressure) - Remove and Install

SMCS - 1288-010

## Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	487-8643	Tool As	1
B	339-9353	Cap Kit	1
	265-2256	Lint Free Wipes	1
C	246-8191	Socket	1

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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, "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.

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## NOTICE

**Keep all parts clean from contaminants.**

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

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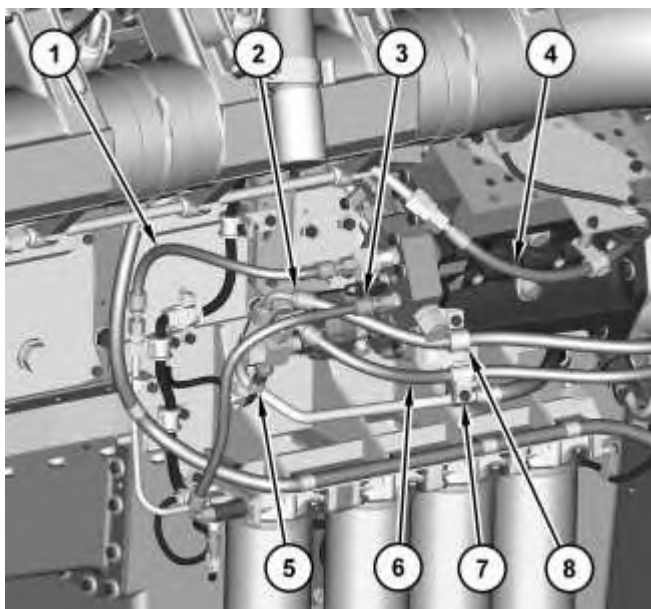


**Do not open the high pressure fuel system without allowing the fuel system to purge. After the engine has shut down, allow the fuel system to purge for ten minutes. This operating fuel system contains high pressure. Exposure to high pressure fuel can result in personal injury.**

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**Note:** Use Tooling (B) to cap tube assemblies, fittings, ports, and any openings on the fuel system to prevent contamination.

**Note:** When replacing the fuel pump, replace the oil screen in the fuel pump adaptor.



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Illustration 1

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1. Remove clamp assembly (8), hose assembly (1), hose assembly (2), hose assembly (4), and hose assembly (3). Remove clamp assembly (7) and hose assembly (6). Disconnect harness assembly (5).
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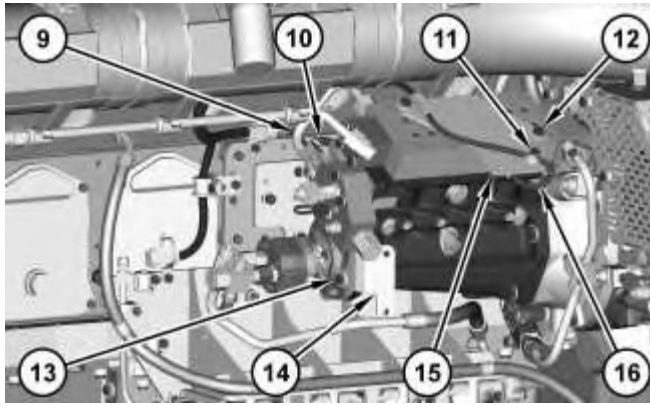


Illustration 2

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2. Remove bolt (11). Disconnect harness assembly (16) from the fuel pump.
3. Remove tube assembly (9) and hose assembly (10).
4. Remove bolts (12) and plate assembly (11).
5. Remove bolts (13) and bracket assembly (14).

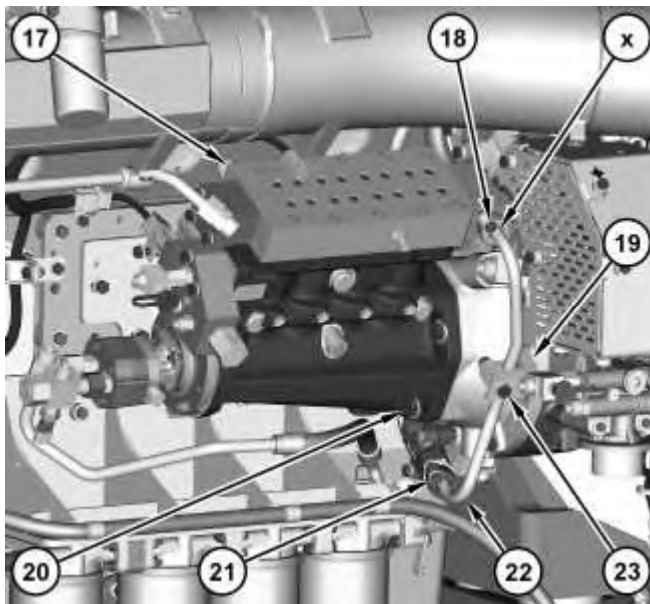


Illustration 3

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**Note:** When the fuel lines are removed, use clean engine oil to lubricate the outside diameter of tube assembly (22) in Area (X). Use Tooling (C) to remove bolts (18) and (21). Contamination and fuel leaks may occur if the procedure is not followed.

6. Remove bolt (23) and clamp assembly (19). Remove and discard bolts (18) and bolts (21).
7. Remove tube assembly (22) and the O-ring seals.

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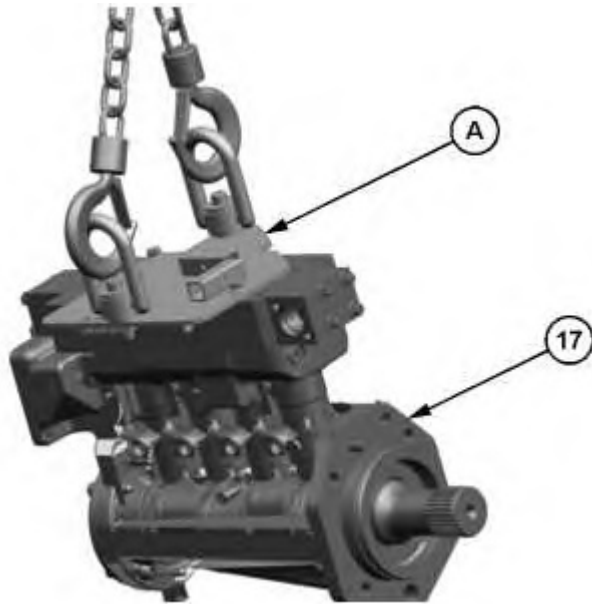
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Illustration 4

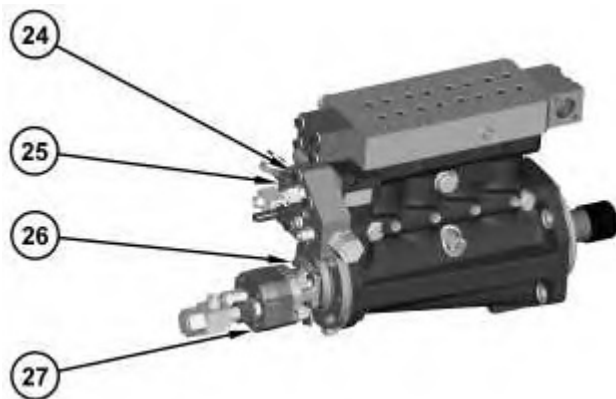
g06301855

Typical Example

8. Use Tooling (A) and attach a suitable lifting device onto fuel pump (17). The weight of fuel pump (17) is approximately 157 kg (346 lb). Refer to Tool Operating Manual, M0080739 , "HPFP". Remove bolts (20). Lower fuel pump (17) to the ground.

**Note:** The lifting device should not come into contact with the fuel shutoff valve which will result in damage to the component.

**WARNING!** Magnetic lift of the high-pressure fuel pump is prohibited.



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Illustration 5

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9. Remove bolts (24), bolts (26), fuel manifold (25), fuel transfer pump (27).
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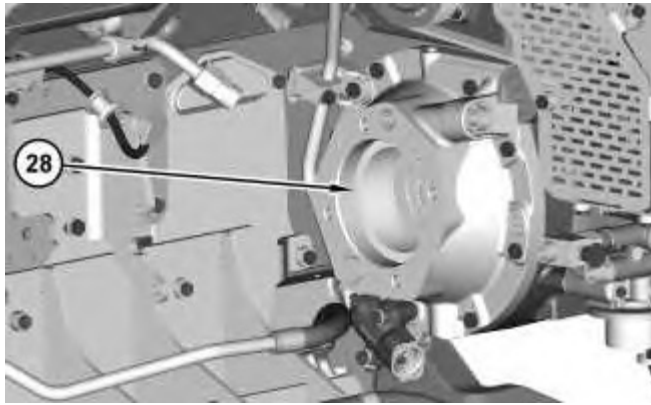


Illustration 6

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10. Remove and discard oil screen (28).

## Installation Procedure

1. Install fuel pump (17) in the reverse order of removal.
  - a. Install new oil screen (28).
  - b. Lubricate the O-ring seals with clean engine oil. Lubricate the ends of tube assembly (22) with clean engine oil. Install the O-ring seals on tube assembly (22). Install tube assembly (22). Install new bolts (21) hand tight. Install new bolts (18) hand tight. Position clamp assembly (19). Install bolt (23). Use Tooling (C) and evenly tighten bolts (21) to a torque of 20 N·m (15 lb ft). Use Tooling (C) and evenly tighten bolts (18) to a torque of 20 N·m (15 lb in).
  - c. Evenly tighten bolts (21) to a torque of 40 N·m (30 lb ft). Evenly tighten bolts (18) to a torque of 40 N·m (30 lb ft). Tighten bolt (23).

**Note:** Do not rotate bolts (21) and (18) more than 45 degrees at a time.

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Media Number -KENR6052-18

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i07397285

### Turbocharger - Remove

SMCS - 1052-011

S/N - AJ81-UP

S/N - B7B1-UP

S/N - B7C1-UP

S/N - JTL1-UP

### Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3938	Link Bracket	1

#### Start By:

- Remove the air cleaners. Refer to Disassembly and Assembly, "Air Cleaner - Remove and Install".

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#### NOTICE

**Keep all parts clean from contaminants.**

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

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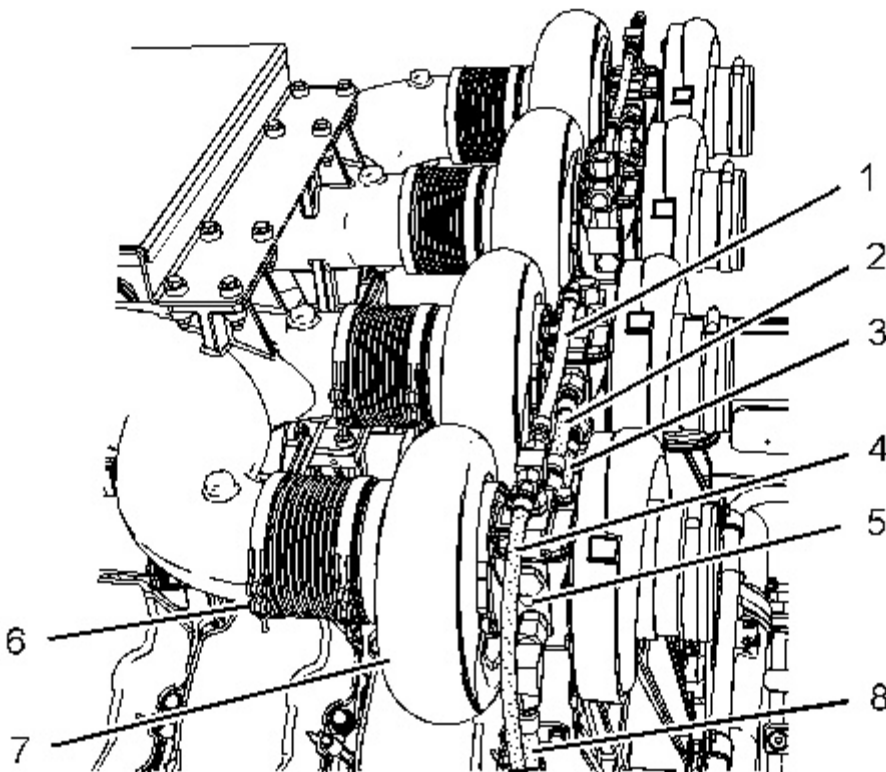
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Dispose of all fluids according to local regulations and mandates.

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Illustration 1

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1. Remove hose assemblies (1), (2), and (3).
  2. Disconnect hose assemblies (4) and (8).
  3. Disconnect sensor (5) from turbocharger (7).
  4. Loosen clamps (6) and remove the bellows .
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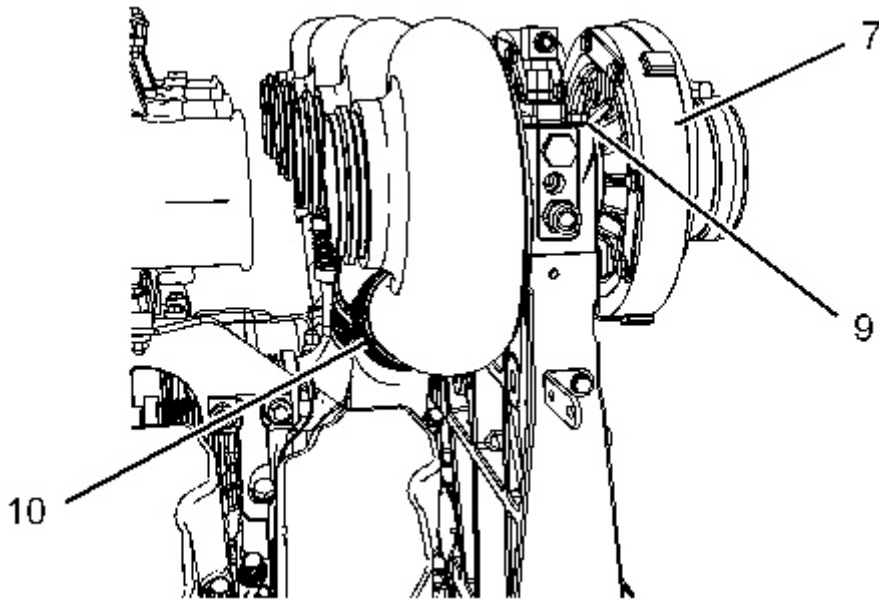
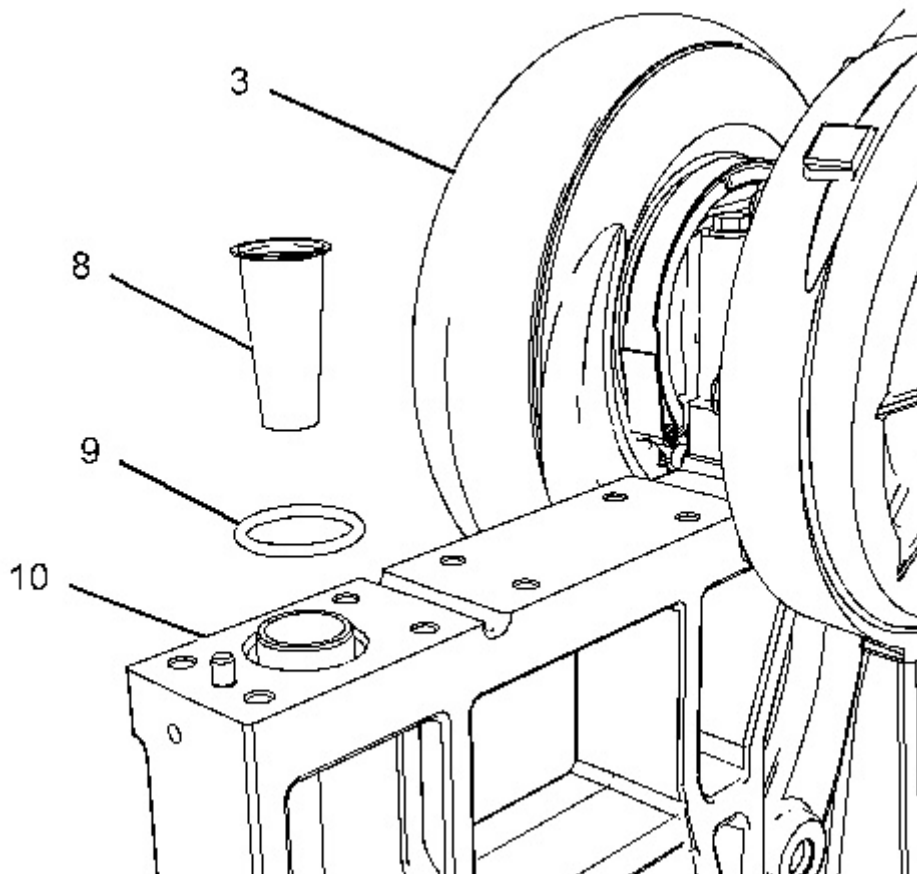


Illustration 2

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5. Attach Tooling (A) and a suitable lifting device onto turbocharger (7). The weight of turbocharger (7) is approximately 85 kg (187 lb).
6. Loosen clamp (10).
7. Remove bolts (9) and the washers. Remove turbocharger (7).



8. Remove screen assembly (8) from turbocharger support (10) and inspect. Remove O-ring seal (9).
  9. Repeat Steps 1 through 7 for the remaining turbochargers.
-

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Media Number -KENR6052-18

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Date Updated -31/05/2018

i05211006

## Turbocharger - Install

SMCS - 1052-012

S/N - AJ81-UP

S/N - B7B1-UP

S/N - B7C1-UP

S/N - JTL1-UP

## Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7573	Link Bracket	1
B	4C-5599	Anti-Seize Compound	-

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### NOTICE

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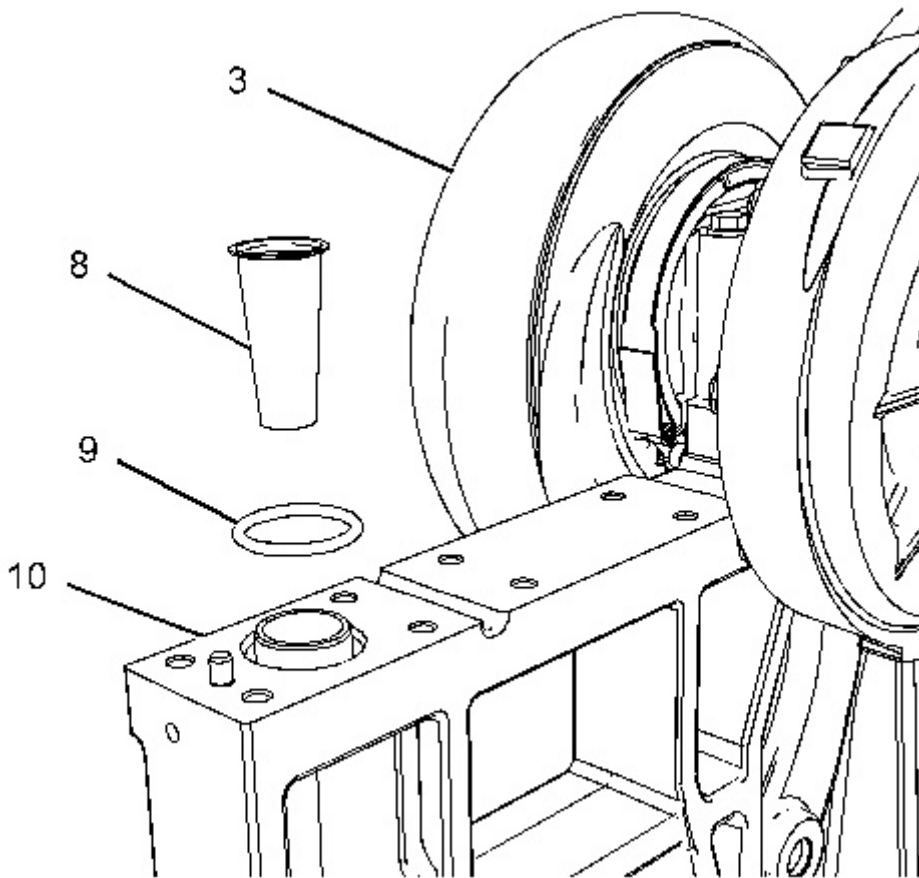
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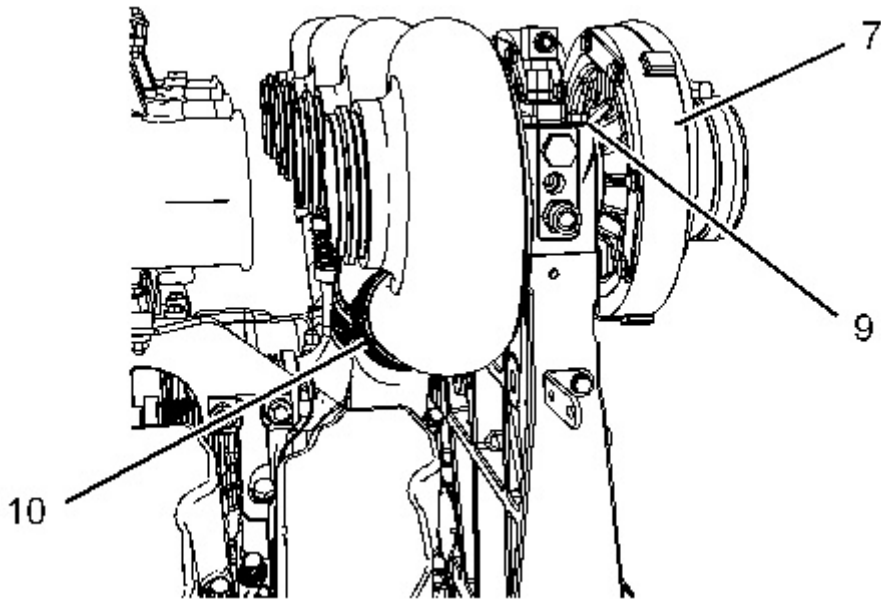


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Illustration 1

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1. Install clean screen assembly (8) into turbocharger support (10). Install new O-ring seal (9).
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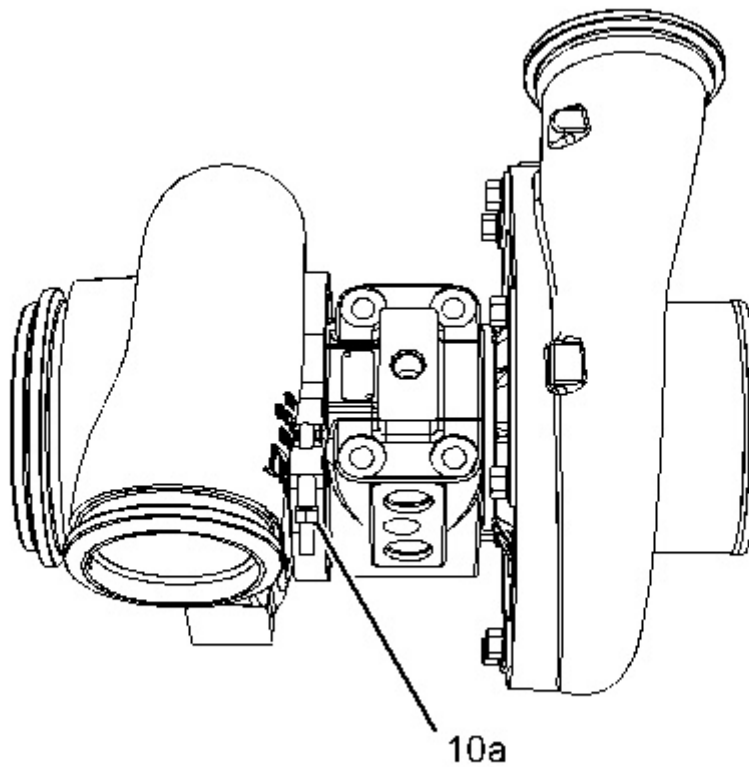


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Illustration 2

g01826997

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Illustration 3

g03321355

Typical example

2. Attach Tooling (A) and a suitable lifting device onto turbocharger (7). The weight of turbocharger (7) is approximately 85 kg (187 lb). Position turbocharger (7). Install the washers and bolts (9).

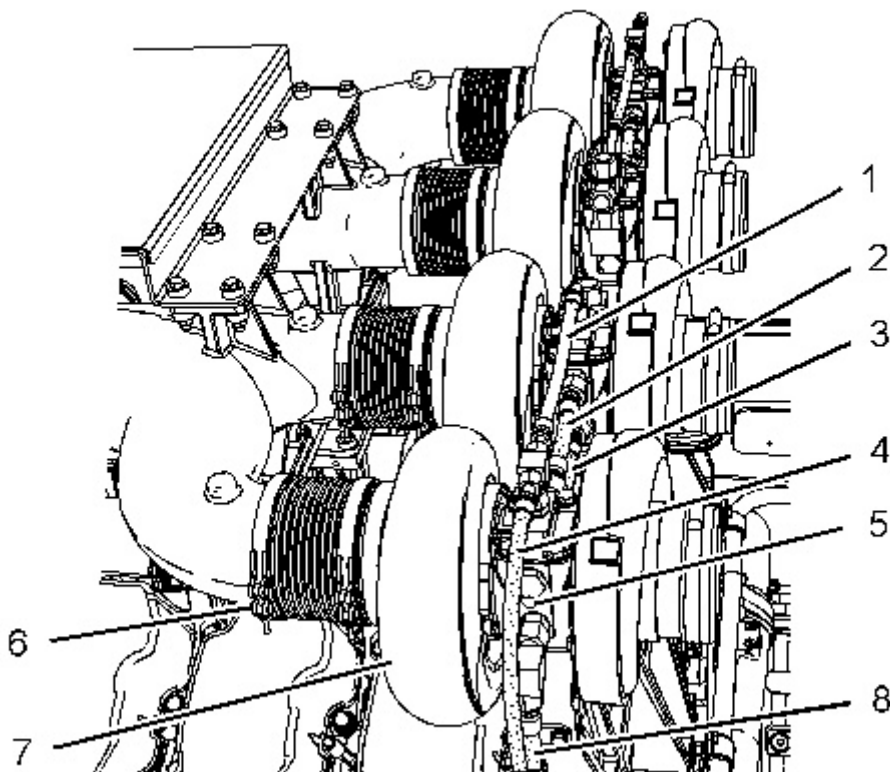
3. Rotate turbine housing to align with inlet bellows. Apply Tooling (B) to threads of clamp before tightening nut (10a). Tighten nut (10a) to a torque of 20 N·m (15 lb ft). Tap lightly around clamp.



Illustration 4

g03335423

- a. Position clamp so the widest part of the t-bolt and band do not contact the turbine housing.
4. Tighten nut (10a) again to a torque of  $30 \pm 2$  N·m ( $22 \pm 2$  lb ft). Tap lightly around clamp.
  5. Tighten nut (10a) again to a torque of  $30 \pm 2$  N·m ( $22 \pm 2$  lb ft).
  6. Tighten clamp assemblies (10) to a torque of  $12 \pm 2$  N·m ( $106 \pm 18$  lb in).



7. Position the bellows and install clamps (6). Tighten clamps (6) to a torque of  $12 \pm 2 \text{ N}\cdot\text{m}$  ( $106 \pm 18 \text{ lb in}$ ). Tap clamps (6) all around and tighten again to a torque of  $12 \pm 2 \text{ N}\cdot\text{m}$  ( $106 \pm 18 \text{ lb in}$ ).
8. Connect hose assemblies (8) and (4).
9. Install hose assemblies (3), (2), and (1).
10. Connect sensor (5) to turbocharger (7).

**End By:**

- a. Install the air cleaners.
-

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Media Number -KENR6052-18

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i02635840

### Air Inlet Manifold - Remove and Install

SMCS - 1058-010

S/N - AJ81-UP

S/N - B7B1-UP

S/N - B7C1-UP

S/N - JTL1-UP

### Removal Procedure

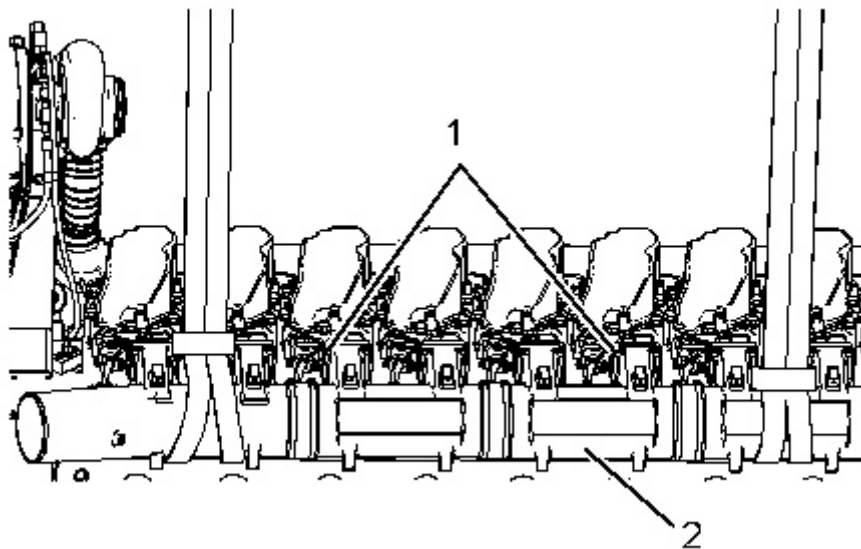


Illustration 1

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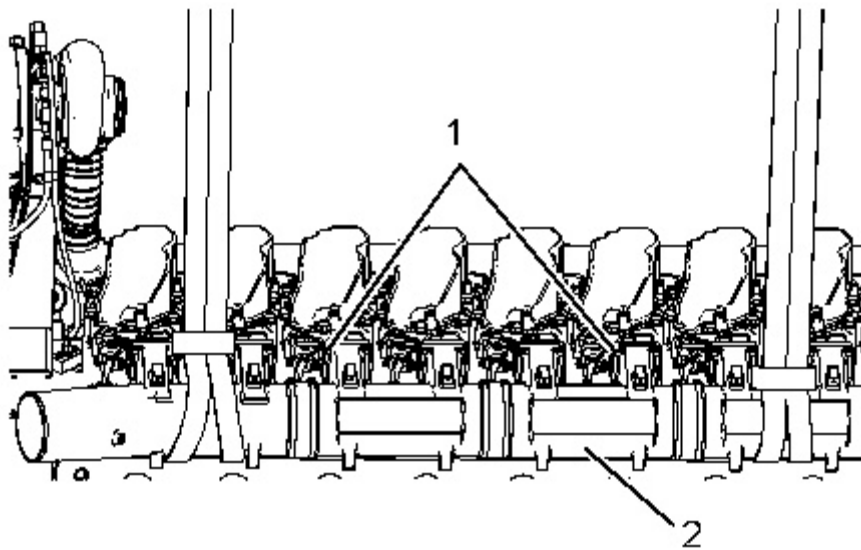
1. Disconnect the harness assembly.
2. Attach a suitable lifting device onto air inlet manifold (2). The weight of air inlet manifold (2) is approximately 69 kg (150 lb). Remove top bolts (1) and loosen bottom bolts.

**Note:** The air inlet manifold can be removed in sections, if necessary.

3. Remove air inlet manifold (2).

## Installation Procedure

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Illustration 2

g01321426

1. Attach a suitable lifting device onto air inlet manifold (2). The weight of air inlet manifold (2) is approximately 69 kg (150 lb). Position air inlet manifold (2).
  2. Install top bolts (1) and tighten top and bottom bolts. Tighten bolts (1) to a torque of  $55 \pm 10 \text{ N}\cdot\text{m}$  ( $41 \pm 7 \text{ lb ft}$ ).
  3. If necessary, remove the air inlet manifold in sections. Tighten the clamp assemblies to a torque of  $7.5 \pm 1 \text{ N}\cdot\text{m}$  ( $66 \pm 9 \text{ lb in}$ ).
  4. Connect the harness assembly.
-



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i04533740

## Exhaust Elbow - Remove and Install

SMCS - 1060-010

S/N - B7B1-UP

S/N - B7C1-UP

S/N - JTL1-UP

## Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7573	Link Bracket	2

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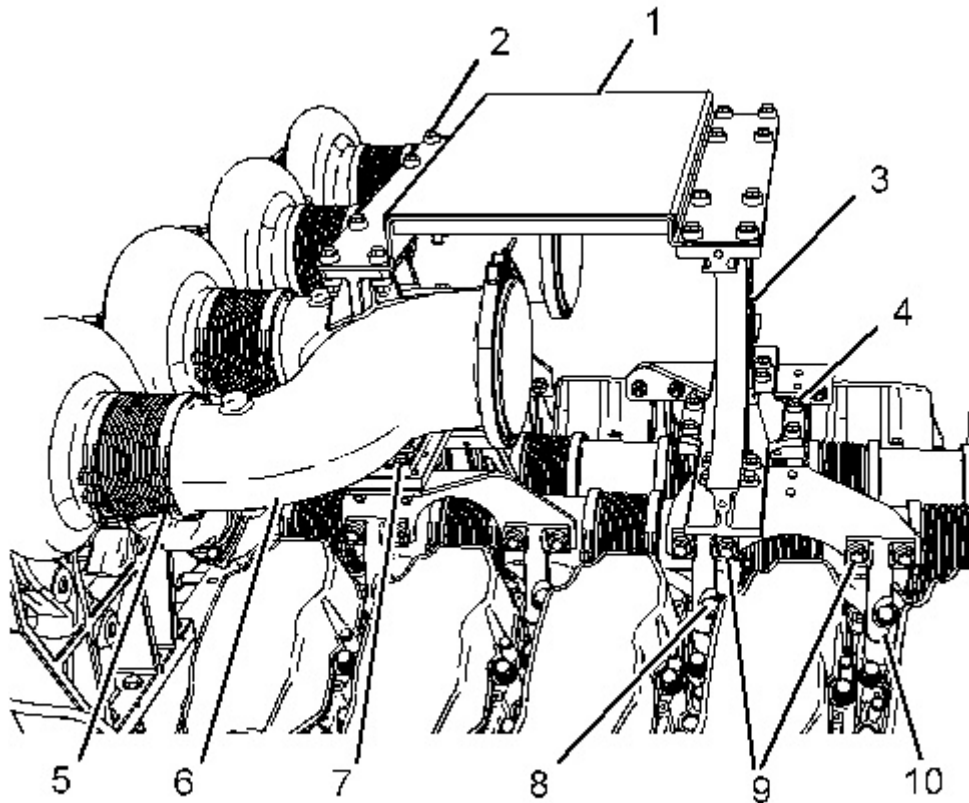


Illustration 1

g02726407

1. Remove bolts (2), the washers, and the nuts from platform assembly (1). Remove bolts (4) and the washers from support (3).
2. Loosen four bolts (9) and the washers on each side, but do not remove.
3. Attach Tooling (A) and a suitable lifting device onto platform assembly (1). The weight of platform assembly (1) is approximately 28 kg (63 lb). Remove platform assembly (1). Remove bolts (8), the washers, and brackets (10) on each side.
4. Attach Tooling (A) and a suitable lifting device onto exhaust elbow (6). The weight of exhaust elbow (6) is approximately 95 kg (209 lb). Loosen clamps (5). Remove bolts (7), the washers, and the nuts. Remove exhaust elbow (6). Repeat on the opposite side.

## Installation Procedure

Table 2

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7573	Link Bracket	2

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