

# Section

# 3001

## REMOVAL AND INSTALLATION OF THE FUEL TANK



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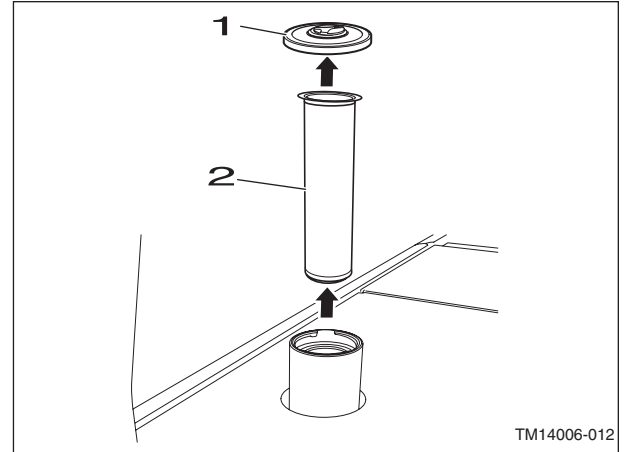
## REMOVAL AND INSTALLATION OF FUEL TANK

<b>Caution:</b>	Keep away from fire.
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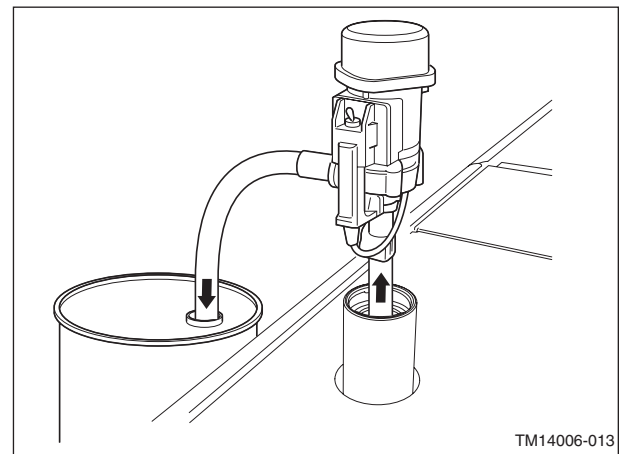
<b>Caution:</b>	Be sure to stop the engine before beginning work. Be sure to inspect the wire rope and other lifting equipment before beginning work. Do not stand or pass under the suspended load.
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### 1 Removal of fuel tank

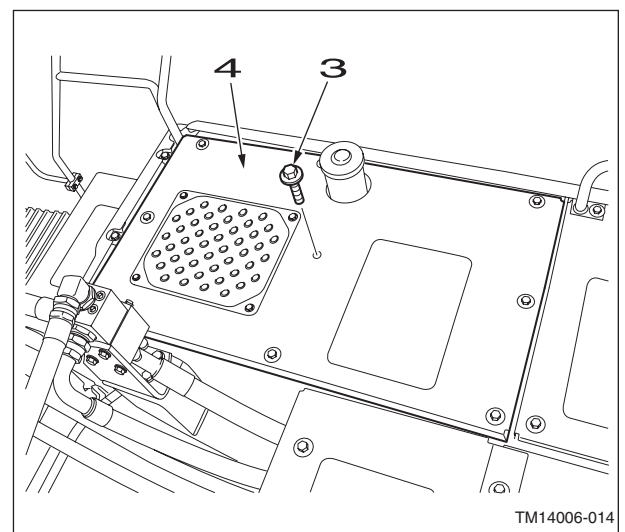
[1] Remove the cap (1) and filter (2).



[2] Drain out all the fuel from the fuel tank into a drum can.

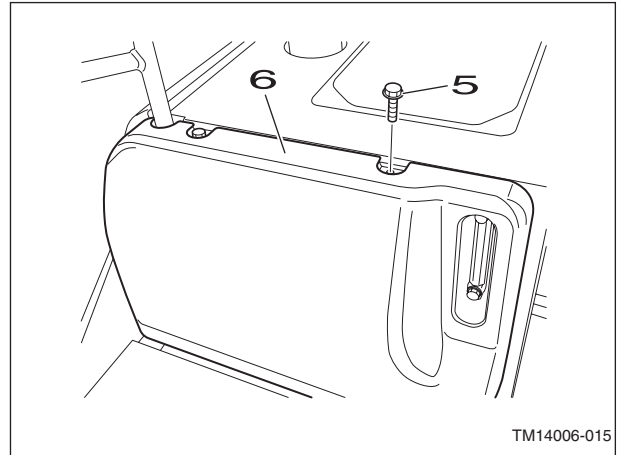


[3] Use a wrench to remove the 7 bolts (3), and then remove the top cover (4).

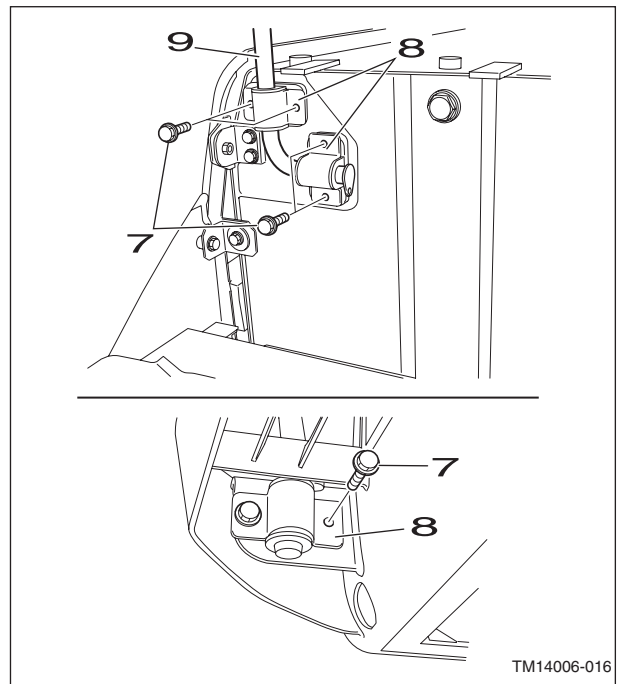


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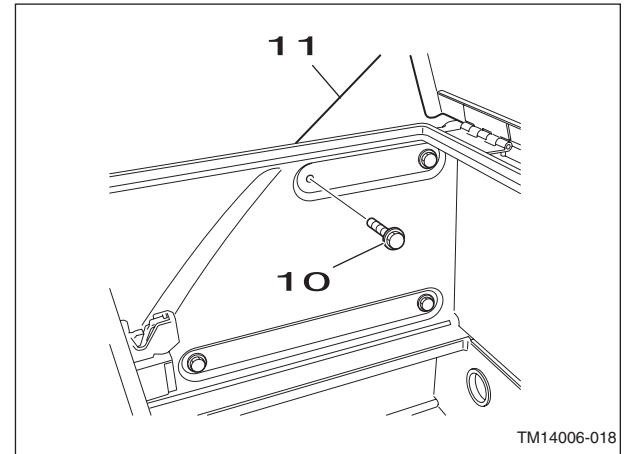
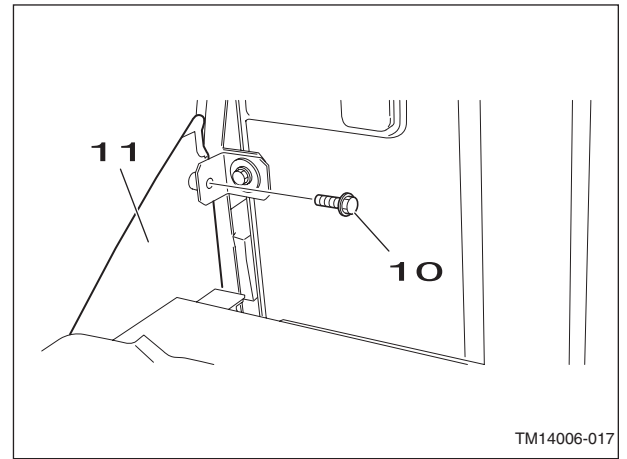
- [4] Use a wrench to remove the 2 bolts (5) from the fuel tank front cover (tank) (6), and then remove the cover (tank).



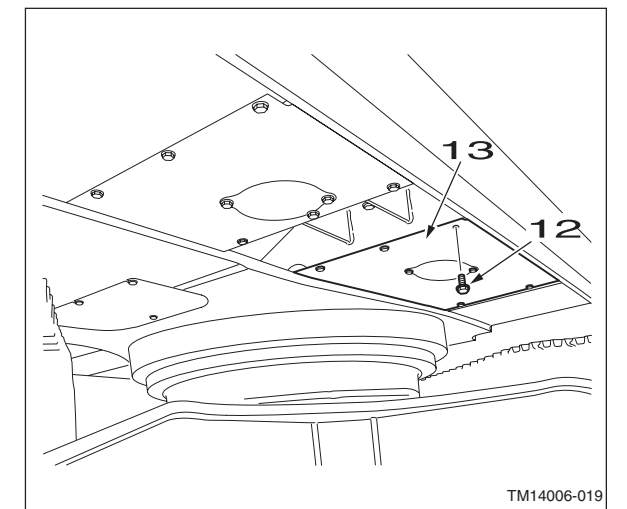
- [5] Use a wrench to remove the 6 bolts (7) and clamps (8), and then remove the handle (9).



[6] Use a wrench to remove the 5 bolts (10) from the fuel tank side cover (11), and then remove the side cover.



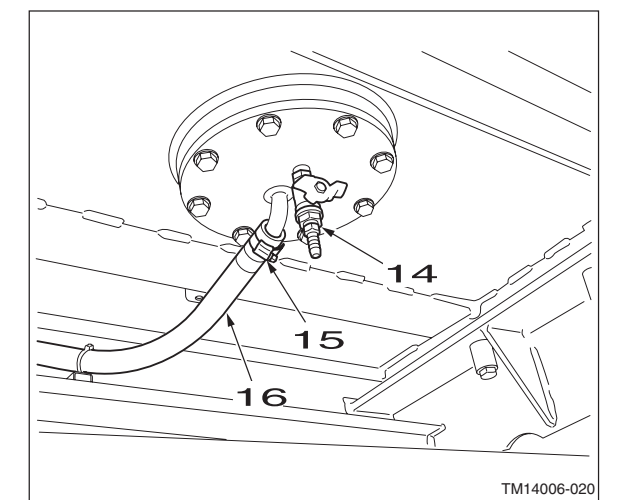
[7] Use a wrench to remove the 5 bolts (12), and then remove the under cover (13).



[8] Use the drain cock (14) on the bottom of the tank to drain out any fuel that does not drain out but remains at the bottom of the tank.

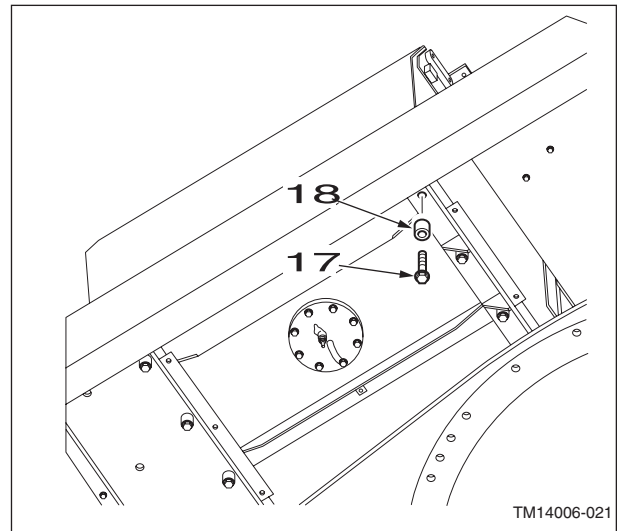
[9] Loosen the hose band (15), and then remove the hose (16).

- Mark the fuel tank and hose so that the connectors match at the time of assembly.
- Attach caps or plugs to the fuel tank and hose to prevent any entry of water, dust or dirt.

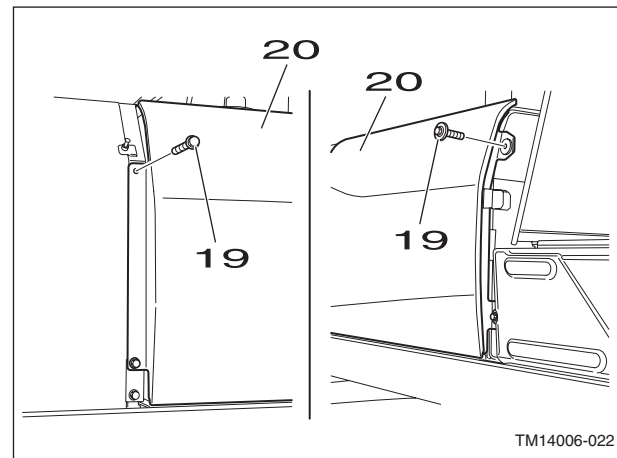


[10] Use a wrench to remove the 6 bolts (17) and 6 spacers (18) from the bottom of the fuel tank.

- Depending on the machine, there may be height adjustment shims between the tank and the frame. Do not lose them. Also, mark or write down the locations where they are and how many.

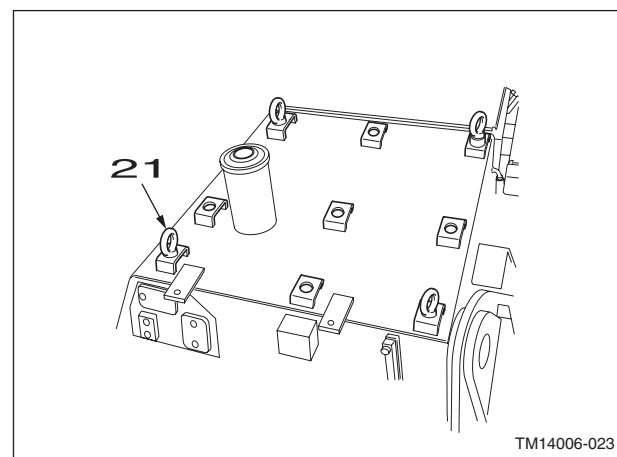


[11] Use a wrench to remove the 4 bolts (19), and then remove the side covers (tank) (20).

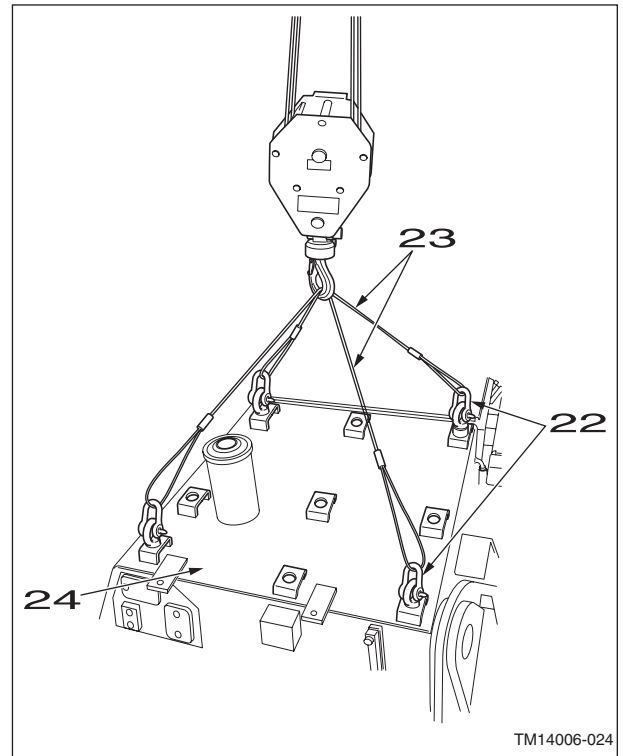


[12] Install the 4 eyebolts (M12) (21) on top of the fuel tank.

- Fully tighten the eyebolts, and then loosen them by a half turn.



- [13] Install the 4 shackles (22) on the eyebolts, then use the wire ropes (23) and liftcrane to lift the fuel tank.
- [14] Thoroughly check that the location is safe before lowering the fuel tank (24) on wood planks.



## 2 Installation of fuel tank

When installing, perform the reverse of the removal procedure.

Finally, carefully check for any fuel leaks.



# Section

# 3004

## REMOVAL AND INSTALLATION OF THE SUPPLY PUMP & COMMON RAIL

3004



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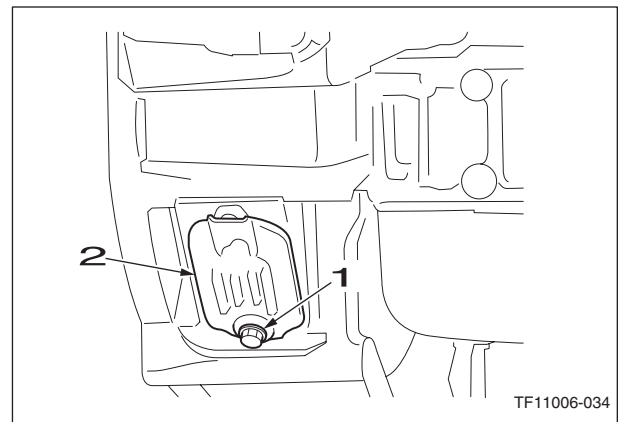
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## REMOVAL AND INSTALLATION OF SUPPLY PUMP

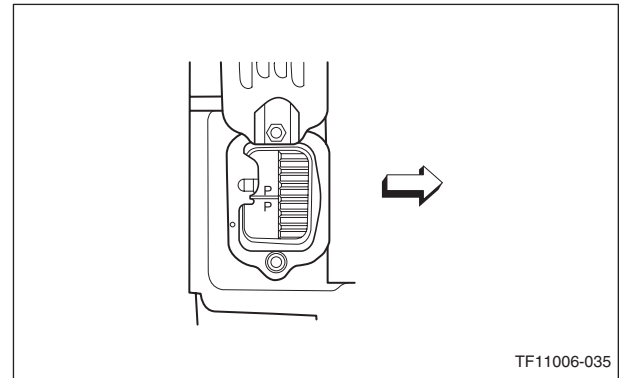
<b>Caution:</b>	Be sure to release hydraulic pressure before beginning work.
<b>Caution:</b>	Be sure to stop the engine before beginning work.
<b>Caution:</b>	Each part of the fuel system is a high-precision part. Damage may result if foreign matter, ect. enters the fuel system, so use extreme caution when handling these parts.
<b>Caution:</b>	When high-pressure lines in the fuel system are removed, replace them with new lines. Replace gaskets or O-rings with new ones Fuel leaks may cause fires. Thoroughly wipe off fuel after work is completed, and carefully check for any leaks after starting the engine.

### 1 Removal of supply pump

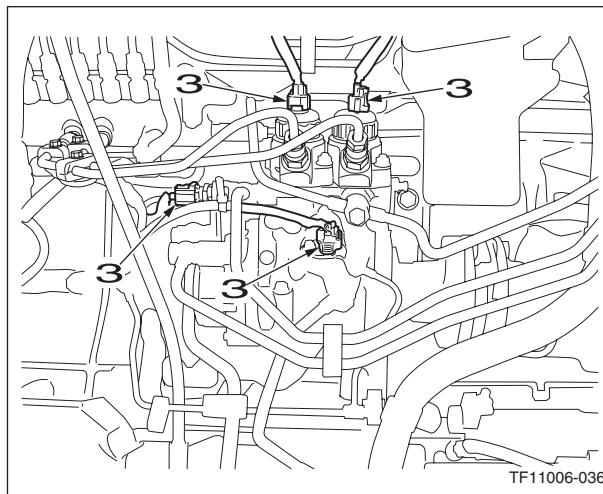
- [1] Use a wrench (10 mm) to remove the bolt (1), and then remove the hole cover (2).



- [2] Rotate the crankshaft one time in the reverse rotation direction to the 90° position before top dead center, then rotate in the correct direction to align the flywheel mark line (P/P) with the timing pointer. At this time, check that it is near No. 1 cylinder compression top dead center.



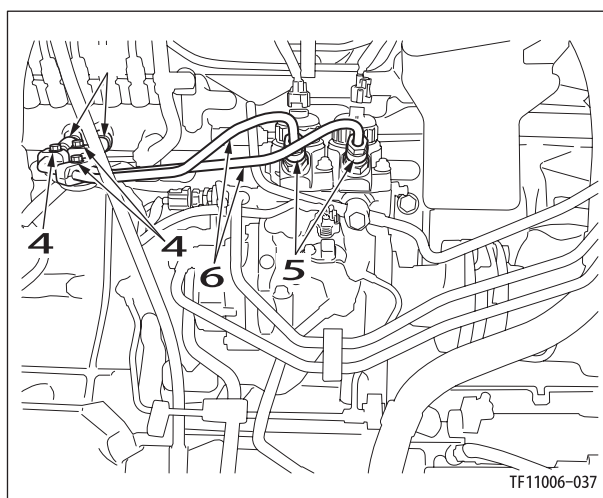
[3] Remove the 4 connectors (3).



[4] Use a wrench to remove the 3 bolts (4).

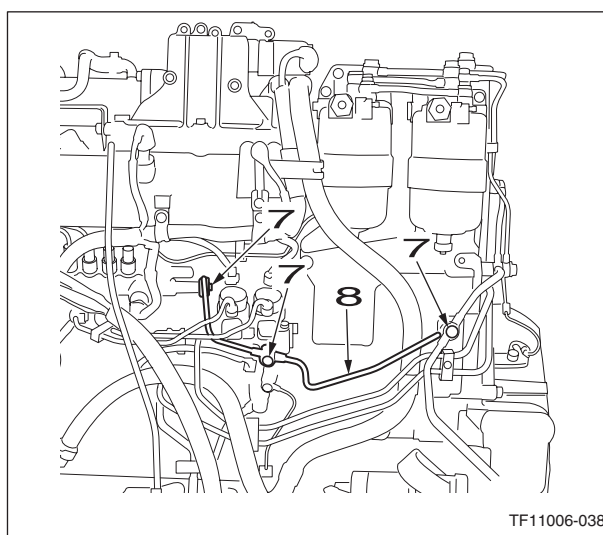
[5] Use a wrench (19 mm) to remove the 4 sleeve nuts (5), and then remove the 2 injection pipes (6).

- Use caps or plugs to cover the lines to prevent any entry of water, dust or dirt.
- Clean the lines by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.

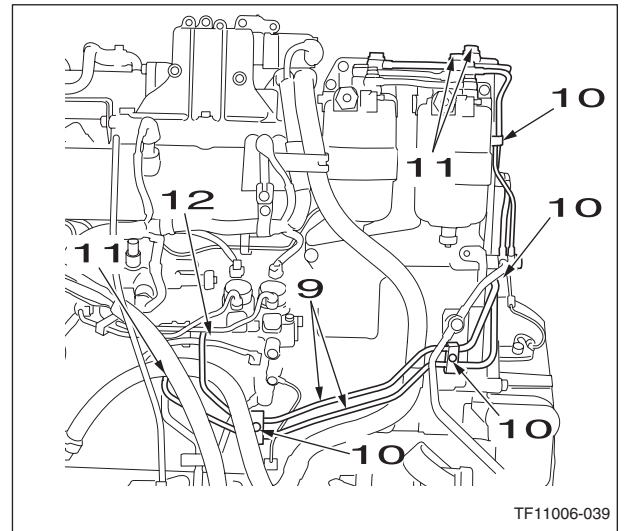


[6] Use a wrench to remove the 3 eyebolts (7), and then remove the fuel return pipe (8).

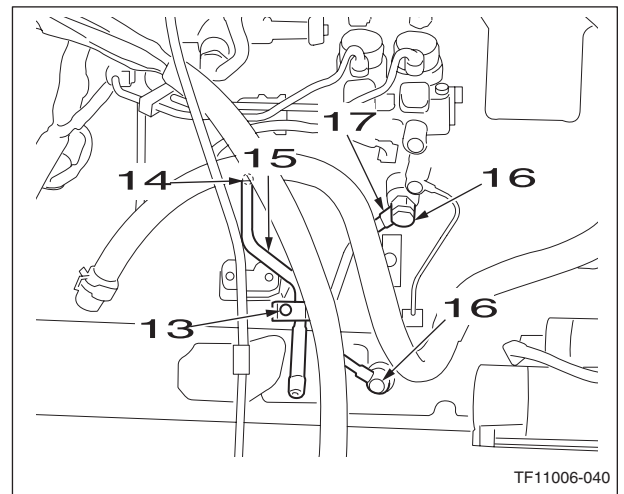
- Use caps or plugs to cover the line to prevent any entry of water, dust or dirt.
- Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.



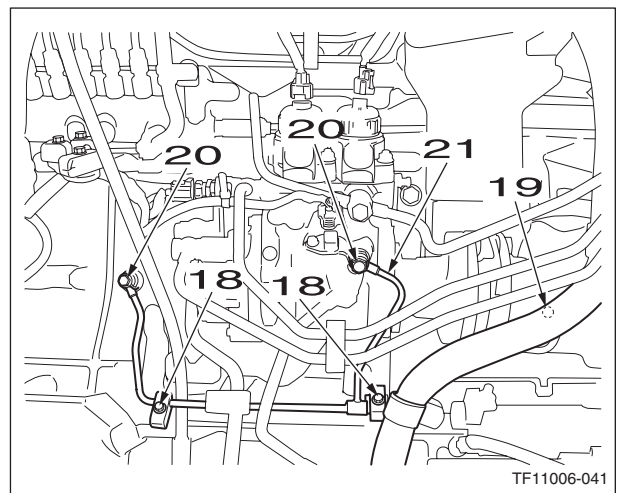
- [7] Use a wrench (10 mm) to remove the 4 bolts (10) of the fuel feed pipes (9).
- [8] Use a wrench (12 mm) to remove the 3 eyebolts (11) of the fuel feed pipes (9).
- [9] Use a wrench to remove the eyebolt (12), and then remove the fuel feed pipes.
- Use caps or plugs to cover the lines to prevent any entry of water, dust or dirt.
  - Clean the lines by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.



- [10] Use a wrench (14 mm) to remove the bolt (13).
- [11] Use a wrench remove the eyebolt (14), and then remove the fuel suction pipe (15).
- Use caps or plugs to cover the line to prevent any entry of water, dust or dirt.
  - Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.
- [12] Use a wrench to remove the 2 eyebolts (16), and then remove the oil return pipe (17).
- Use caps or plugs to cover the line to prevent any entry of water, dust or dirt.
  - Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.



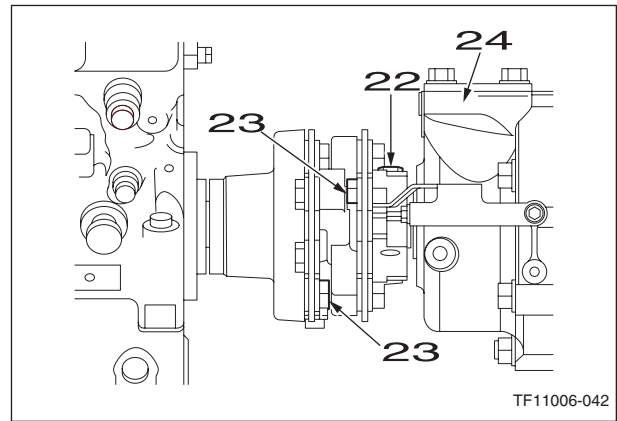
- [13] Use a wrench to remove the 2 bolts (18).
- [14] Use a wrench to remove the sleeve nut (19).
- [15] Use a wrench to remove the 2 eyebolts (20), and then remove the oil feed pipe (21).
- Use caps or plugs to cover the line to prevent any entry of water, dust or dirt.
  - Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.



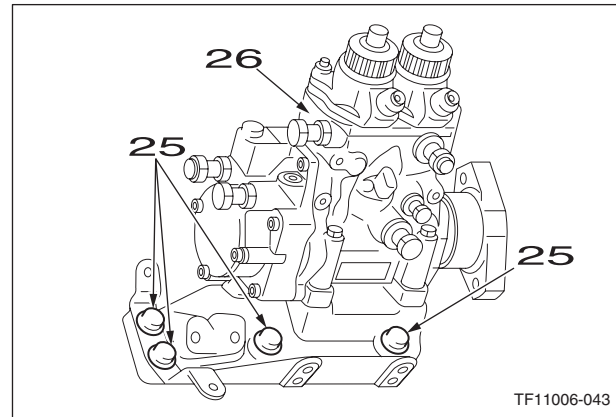
[16] Use a wrench to loosen the coupling cotter bolt (22).

[17] Use a wrench (22 mm) to remove the 4 coupling bolts (23).

- Rotate the crankshaft and move it to a location where the bolt is easier to loosen.
- Move the coupling assembly to the bearing case (24) side.

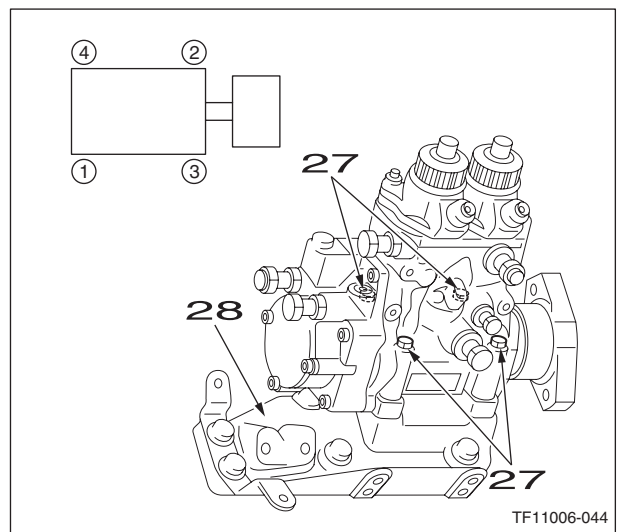


[18] Use a wrench (14 mm) to remove the 4 bolts (25), and then remove the supply pump assembly (26).



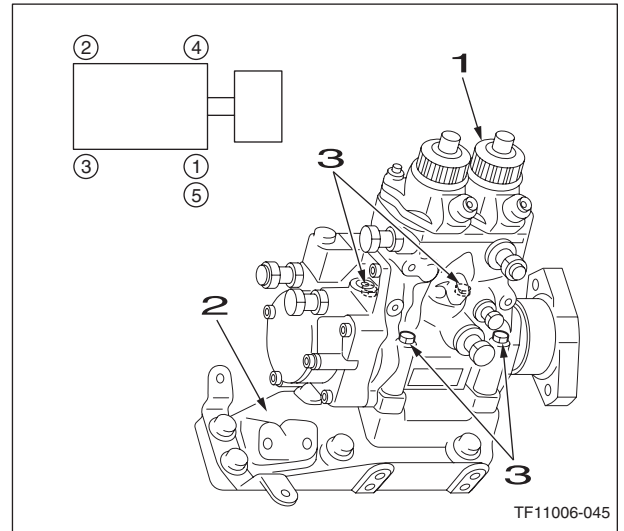
[19] Use a wrench to loosen the 4 bolts (27) in the order shown in the diagram, and then remove the supply pump bracket (28).

- Use caps or plugs to prevent any entry of water, dust or dirt.
- Clean the assembly by spraying it with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.

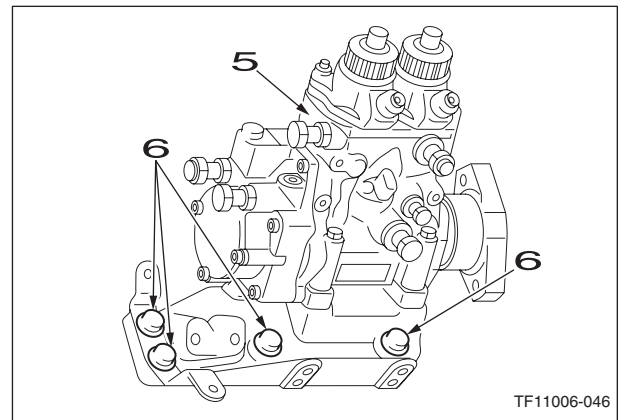


## 2 Installation of supply pump

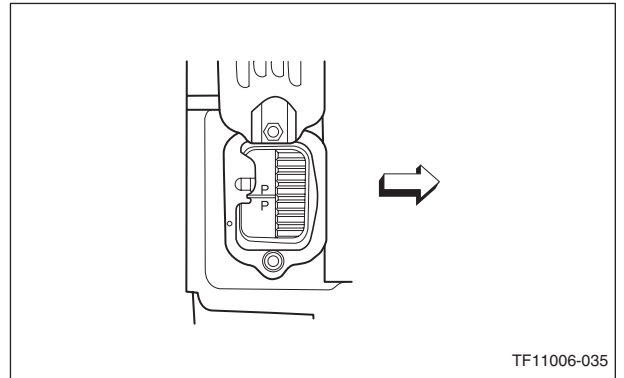
- [1] Install the supply pump (1) on the supply pump bracket (2) and tighten the 4 bolts (3) to the specified torque in the specified order.  
Tightening torque: 85.5 Nm.



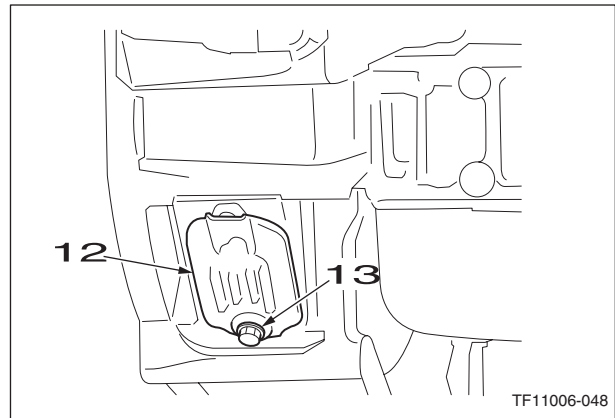
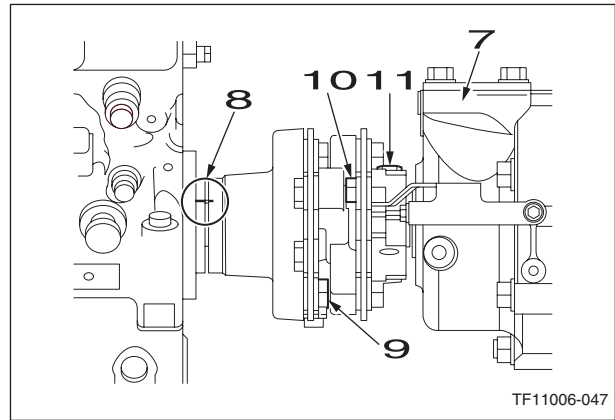
- [2] Install the supply pump assembly (5) and tighten the 4 bolts (6) to the specified torque.  
Tightening torque: 31 Nm.



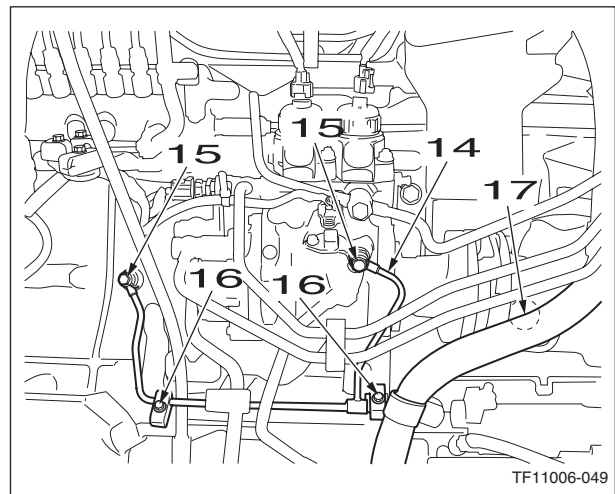
- [3] Check that the flywheel mark line (P/P) is aligned with the timing pointer.



- [4] Move the coupling assembly to the bearing case (7) side.
- [5] Align the coupling and the pump mark line (8).
- [6] Slide the coupling and check that it is attached to the supply pump, then tighten the coupling bolt (9) first and continue by tightening the bolt (10) to the specified torque. At this time, rotate the crankshaft and move it to a location where the bolt is easier to tighten.  
Tightening torque: 83 - 93 Nm
- [7] Check that there is no bending with the coupling and lamination, and tighten the cotter bolt (11) to the specified torque.  
Tightening torque: 83 - 93 Nm
- [8] Install the hole cover (12) in the plug hole.  
Tighten the bolt (13) to the specified torque.  
Tightening torque: 8 Nm



- [9] Install the oil feed pipe (14) with the 2 eyebolts (15), 2 bolts (16), and sleeve nut (17).  
Tightening torque:  
Pump side: 10.3 Nm  
Cylinder side: 20.2 Nm
- Be careful not to allow entry of any water, dust or dirt.
  - Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.



[10] Install the oil return pipe (18) with the eyebolts (19)

Tightening torque:

Pump side: 17.2 Nm

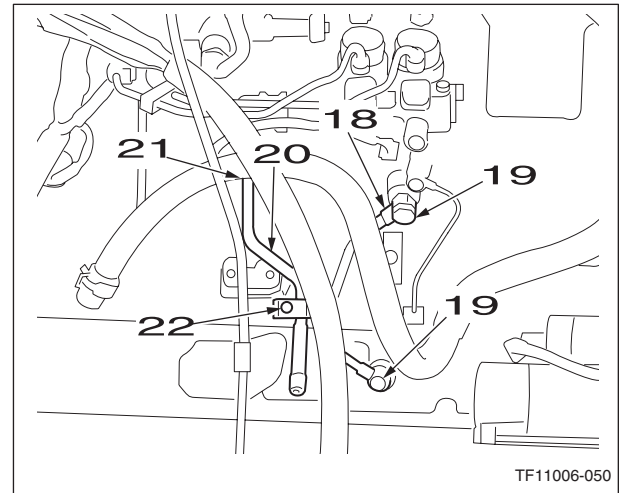
Cylinder side: 41.2 Nm

- Be careful not to allow entry of any water, dust or dirt.
- Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.  
Always replace seals.

[11] Install the fuel suction pipe (20) with the eyebolt (21) and bolt (22).

Tightening torque 17.2 Nm

- Be careful not to allow entry of any water, dust or dirt.
- Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.  
Always replace seals.



[12] Install the fuel feed pipes (23) with the eyebolts (24) and bolts (25).

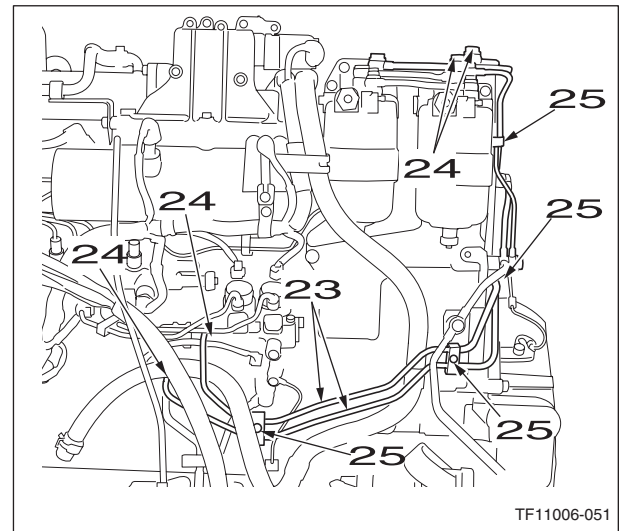
Tightening torque:

Feed pump side: 17.2 Nm

Filter side: 50 Nm

Supply pump side: 41.2 Nm

- Be careful not to allow entry of any water, dust or dirt.
- Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.  
Always replace seals.



[13] Install the fuel return pipe (26) with the eyebolts (27).

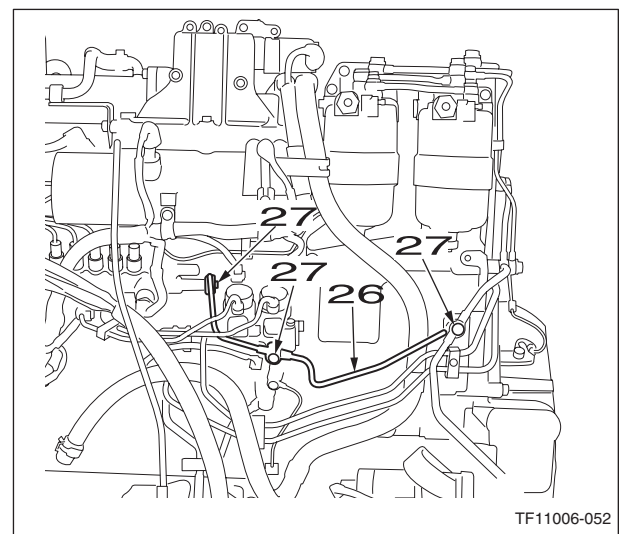
Tightening torque:

Common rail side: 17.2 to 22.6 Nm

M8: 14.7 Nm

M14: 41.2 Nm

- Be careful not to allow entry of any water, dust or dirt.
- Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.
- Always replace seals.





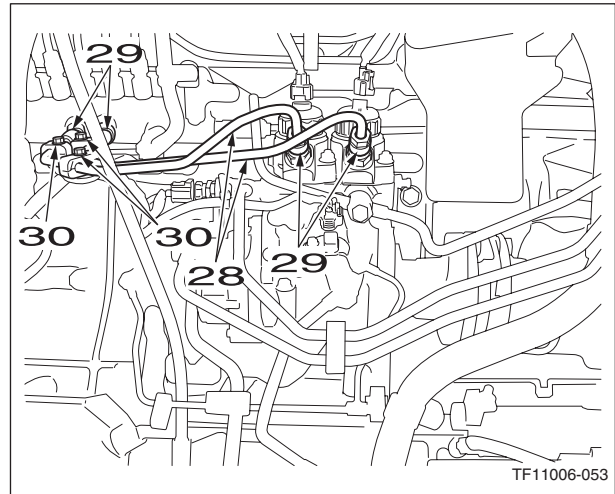
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[14] Install the injection pipes (28). These injection pipes cannot be reused, so always replace them with new ones.

Tighten the sleeve nuts (29) and bolts (30).

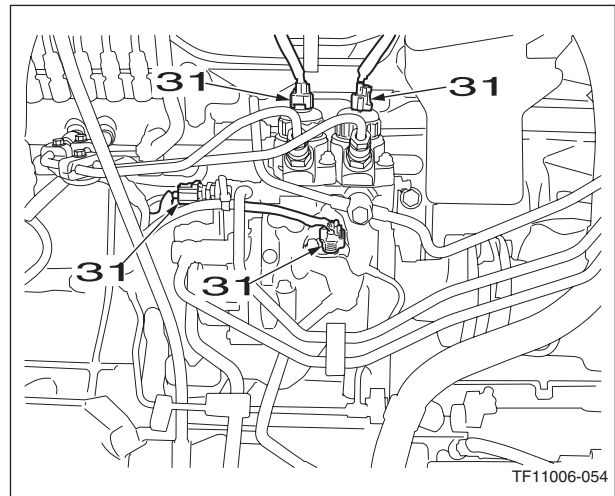
- Be careful not to allow entry of any water, dust or dirt.
- Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.

Tightening torque: 44.1 Nm



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[15] Connect the connector (31).



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## REMOVAL AND INSTALLATION OF COMMON RAIL

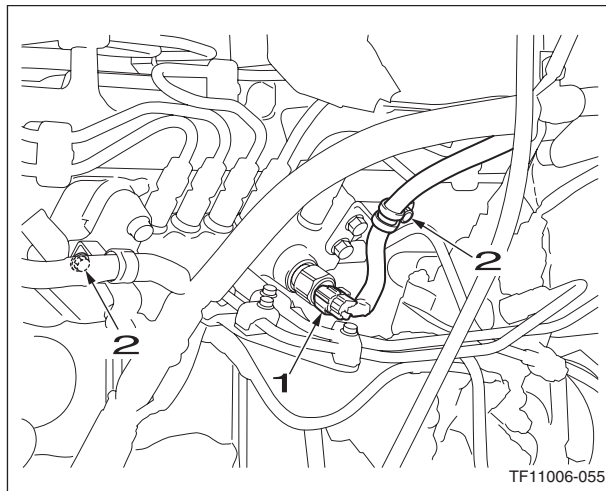
**Caution:**

Be sure to stop the engine before beginning work.

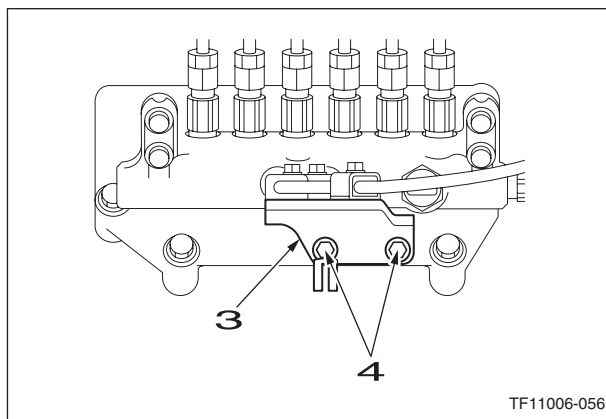
### 1 Removal of common rail

See "Removal and Installation of Supply Pump" for procedures for removal and installation of the oil level gauge pipe, intake hose, manifold, etc.

- [1] Remove the connector (1).
- [2] Use a wrench to remove the 2 bolts (2) on the wiring clamp.

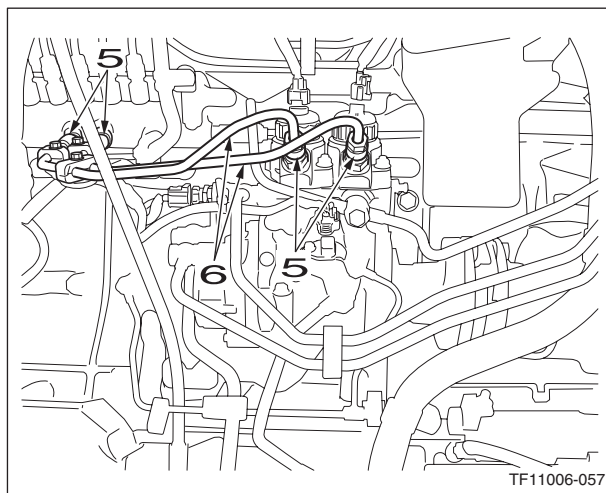


- [3] Use a wrench (12 mm) to remove the 2 bolts (4) from the bracket (3).



- [4] Use a wrench to remove the 4 sleeve nuts (5), and then remove the injection pipes (6).

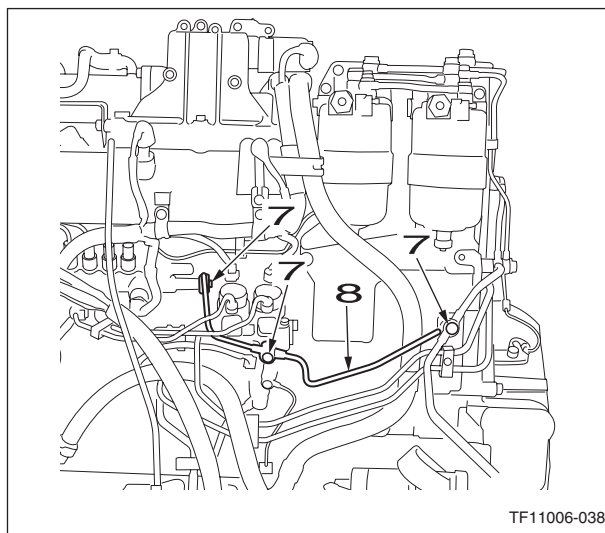
- Replace the removed lines in the same way as the common rail.
- Use caps or plugs to cover the lines to prevent any entry of water, dust or dirt.
- Clean the lines by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.



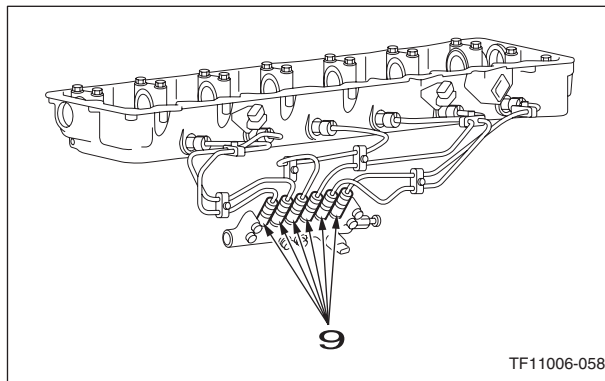
## Case Cx470 Crawler Excavator Shop Manual

Full download: <http://manualplace.com/download/case-cx470-crawler-excavator-shop-manual/>  
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- [5] Use a wrench (14 mm) to remove the 3 eyebolts (7), and then remove the fuel return pipe (8).
- Replace the removed lines in the same way as the common rail.
  - Use caps or plugs to cover the line to prevent any entry of water, dust or dirt.
  - Clean the line by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.



- [6] Use a wrench (17 mm) to remove 6 sleeve nuts (9).
- Replace the removed lines in the same way as the common rail.
  - Use caps and plugs to cover the lines to prevent any entry of water, dust or dirt.
  - Clean the lines by spraying with a parts cleaner to prevent scratches and prevent dirt from accumulating on the connectors.



- [7] Use a wrench (12 mm) to remove the 3 bolts (10), and then remove the common rail assembly (11).

