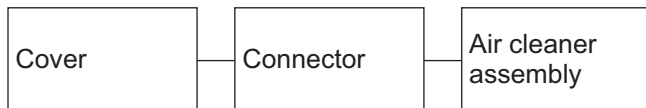


REMOVE AND INSTALL AIR CLEANER ASSEMBLY



C4P34954

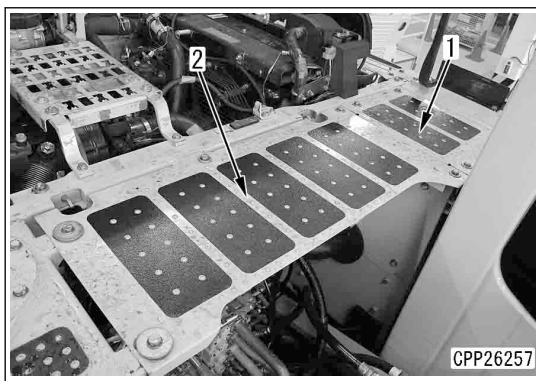
Place the machine on a level ground, lower the work equipment to the ground so that it is stable, and set the lock lever to LOCK position, and then stop the engine.

Stop the engine, turn the battery disconnect switch to OFF position, and remove the key. (For details, see TESTING AND ADJUSTING, "HANDLE BATTERY DISCONNECT SWITCH".)

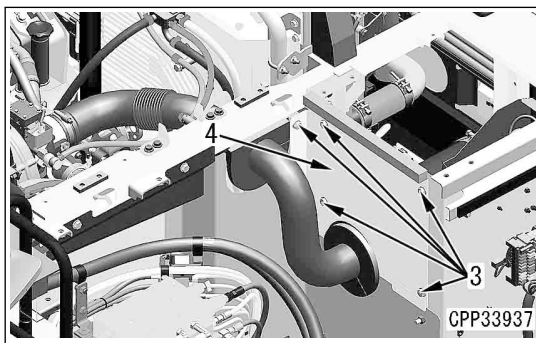
METHOD FOR REMOVING AIR CLEANER ASSEMBLY

Cover

1. Open the engine hood and remove covers (1) and (2).

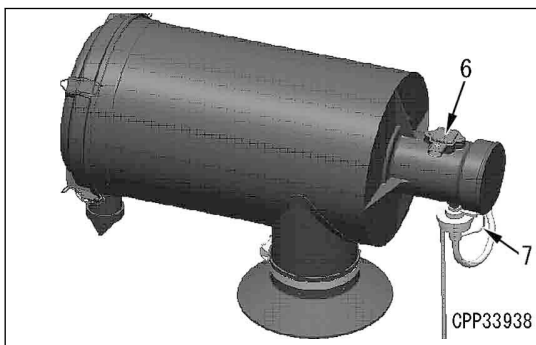


2. Remove mounting bolts (3) (6 pieces), and remove cover (4).



Connector

3. Disconnect connector P55 of mass air flow and temperature sensor, and connector P23 of air cleaner clogging sensor (7).



Air cleaner assembly

- Remove bands (8) and (9), and pull out air cleaner assembly (10) from tube (11) to remove it.

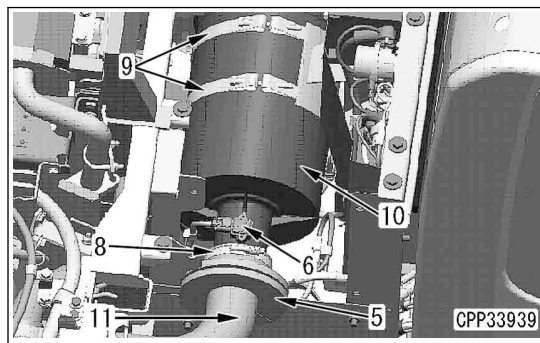
NOTICE

- Take care not to tear sponge (5).
- If lubricating oil enters air cleaner clogging sensor (7), a failure may occur. Do not use lubricating oil when pulling out air cleaner assembly (10) from tube (11).

- After removing air cleaner assembly (10), immediately cover tube (11) and air cleaner opening with clean vinyl.

NOTICE

If dirt enters air intake piping, it may cause an engine trouble.

**METHOD FOR INSTALLING AIR CLEANER ASSEMBLY****Method for replacing air cleaner**

- Remove mass air flow and temperature sensor (6), air cleaner clogging sensor (7), and cover (13), and install them to the air cleaner to be replaced.

NOTICE

Mass air flow and temperature sensor (6) is a precision part. Do not blow with compressed air and spray the detergent liquid.

- Mass air flow and temperature sensor (6) screw:
0.98 to 1.27 Nm {0.1 to 0.13 kgm}

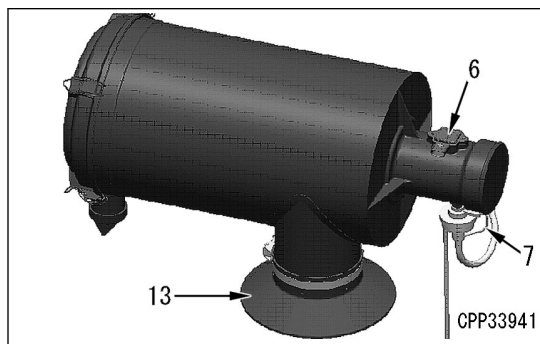
- Apply liquid gasket to the threaded part of air cleaner clogging sensor (7).

- Air cleaner clogging sensor (7):
Liquid gasket (LG-5)

- Air cleaner clogging sensor (7):
1.96 to 3.92 Nm {0.2 to 0.4 kgm}

- Insert cover (13) until its bottom contacts the air cleaner.

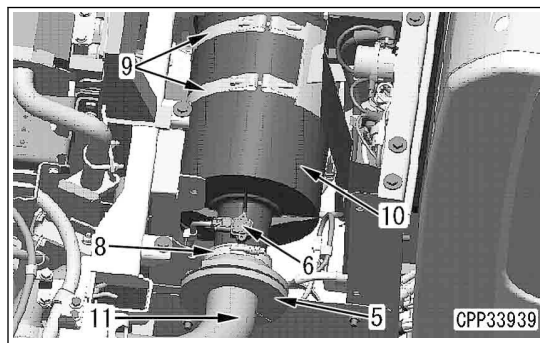
- Cover (13) mounting clamp fastening bolt:
3.4 to 4.4 Nm {0.35 to 0.45 kgm}

**NOTICE**

Keep the opening of the air cleaner covered with a plastic film, etc. until just before it is installed to prevent from entry of dirt.


Method for installing air cleaner assembly


- Insert air cleaner assembly (10) into tube (11), and install bands (8) and (9).



NOTICE

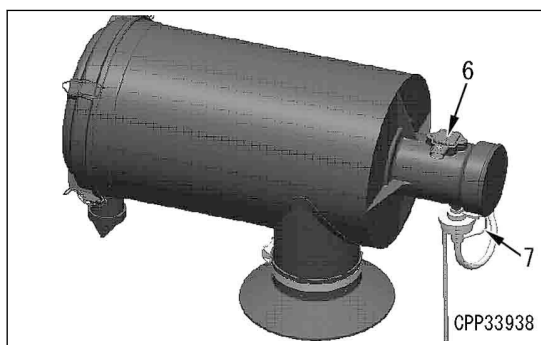
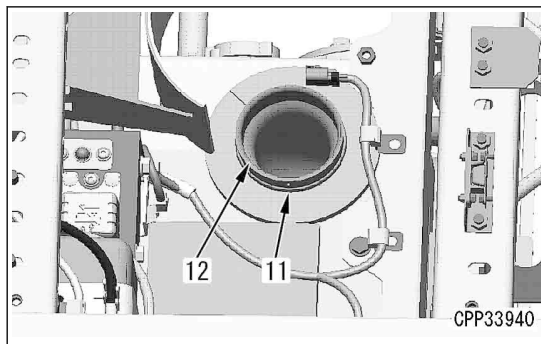
- When rubber ring (12) comes off, install it to tube (11) in advance.
- Take care not to tear sponge (5).
- If lubricating oil enters air cleaner clogging sensor (7), a failure may occur. Do not use lubricating oil when inserting air cleaner assembly (10) into tube (11).
- If dirt enters air intake piping, it may cause an engine trouble.

 Band tightening bolt (8):
10.0 to 11.0 Nm {1.02 to 1.12 kgm}

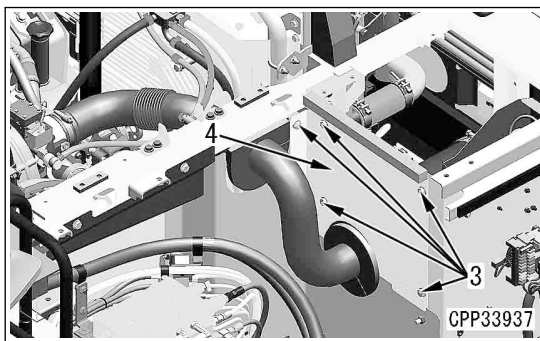
 Band tightening bolt (9):
8.8 to 10.8 Nm {0.9 to 1.1 kgm}

Connector

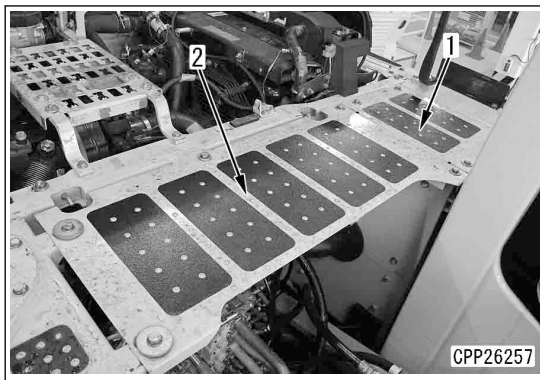
5. Connect connector P55 of mass air flow and temperature sensor, and connector P23 of air cleaner clogging sensor (7).

**Cover**

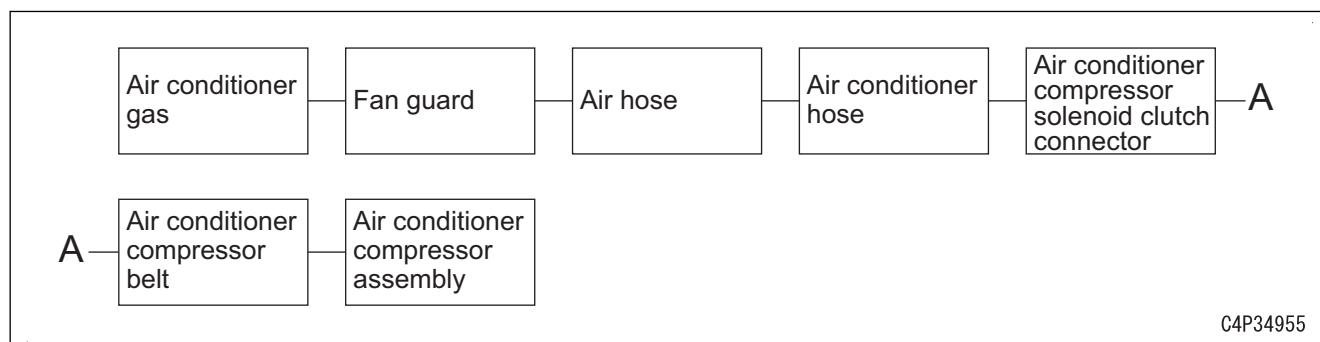
6. Install cover (4) with mounting bolts (3) (6 pieces).



7. Install covers (1) and (2), and close the engine hood.



REMOVE AND INSTALL AIR CONDITIONER COMPRESSOR ASSEMBLY



Place the machine on a level ground, lower the work equipment to the ground so that it is stable, and set the lock lever to LOCK position, and then stop the engine.

Turn the battery disconnect switch to OFF position, and remove the key.

If refrigerant gas (air conditioner gas: R134a) gets in your eyes, you may lose your sight. And if it touches your skin, you may suffer from frostbite. Put on protective eyeglasses, gloves and working clothes with long sleeves while collecting the refrigerant or filling the air conditioner circuit with the refrigerant.

NOTICE

- Never release the refrigerant to the atmosphere.
- Ask a qualified person for collecting, adding and filling operations of the refrigerant (air conditioner gas: R134a).

METHOD FOR REMOVING AIR CONDITIONER COMPRESSOR ASSEMBLY

Air conditioner gas

1. Collect the refrigerant (air conditioner gas: R134a) from the air conditioner circuit.

REMARK

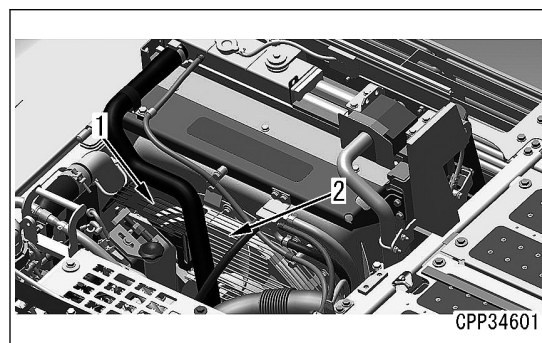
Quantity of refrigerant to be collected: 930±50 g

Fan guard

2. Open the engine hood and remove fan guards (1) and (2).

REMARK

Fan guard (1) mounting bolts are fixed on the inside.

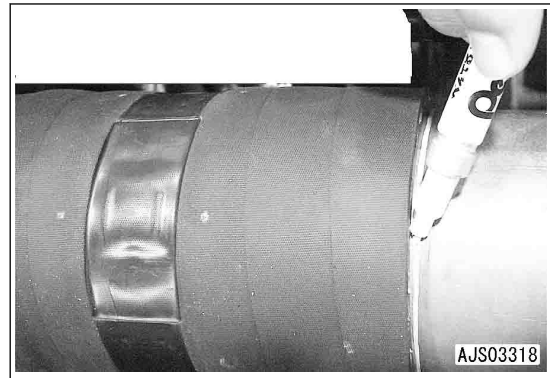
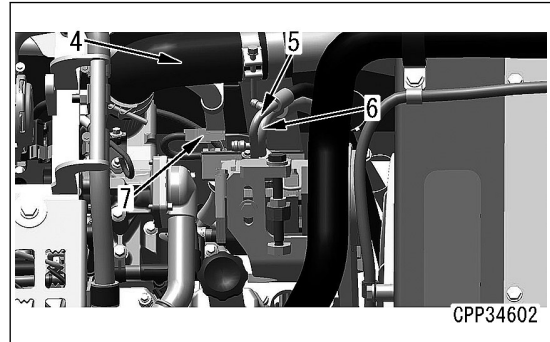


Air hose

3. Remove air hose (4).

REMARK

Make matchmarks on the hose end and tube so that they can be reconnected correctly.



Air conditioner hose

4. Disconnect air conditioner hoses (5) and (6) (2 pieces).

REMARK

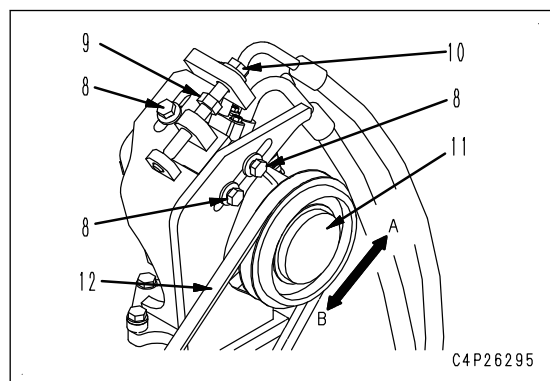
- Plug the hoses to prevent any dirt, dust and water from entering.
- Be careful not to damage or lose O-ring.

Air conditioner compressor solenoid clutch connector

5. Disconnect connector AC03 (7).

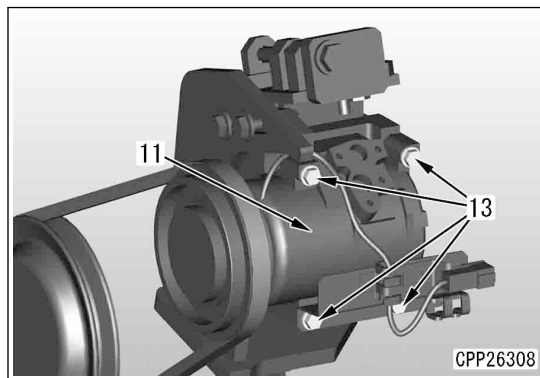
Air conditioner compressor belt

6. Remove air conditioner compressor belt (12) according to the following procedure.
 - 1) Loosen bolts (8) (3 pieces).
 - 2) Loosen lock nut (9).
 - 3) Rotate jack bolt (10) and slide air conditioner compressor assembly (11) in the direction (B) in which the compressor is loosened.
 - 4) Reduce the tension of air conditioner compressor belt (12) to remove it.




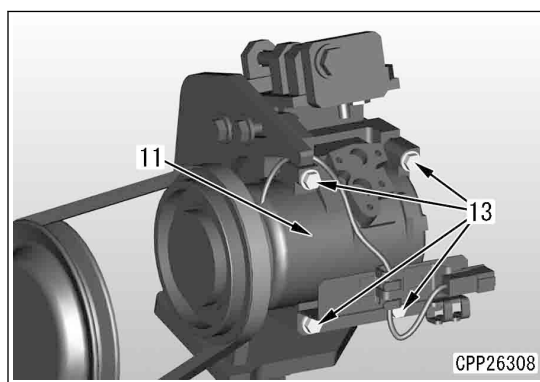
Air conditioner compressor assembly

7. Remove mounting bolts (13) (4 pieces), and remove air conditioner compressor assembly (11).

**METHOD FOR INSTALLING AIR CONDITIONER COMPRESSOR ASSEMBLY****Air conditioner compressor assembly**

1. Install air conditioner condenser assembly (11) with mounting bolts (13) (4 pieces).


-  Air conditioner compressor assembly mounting bolt (13):
24.5 to 29.4 Nm {2.5 to 3.0 kgm}


**Air conditioner compressor belt**

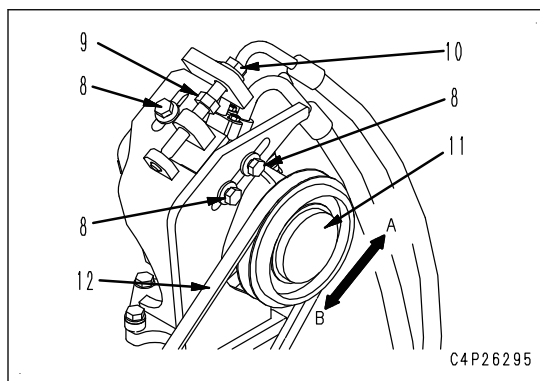
2. Install air conditioner compressor belt (12) according to the following procedure.

- 1) Install air conditioner compressor belt (12).
- 2) Rotate jack bolt (10), and slide air conditioner compressor assembly (11) in the direction (A) in which the air compressor is tightened.
- 3) Loosen lock nut (9).
- 4) Tighten bolts (8) (3 pieces).

See TESTING AND ADJUSTING, "TEST AND ADJUST AIR CONDITIONER COMPRESSOR BELT TENSION".

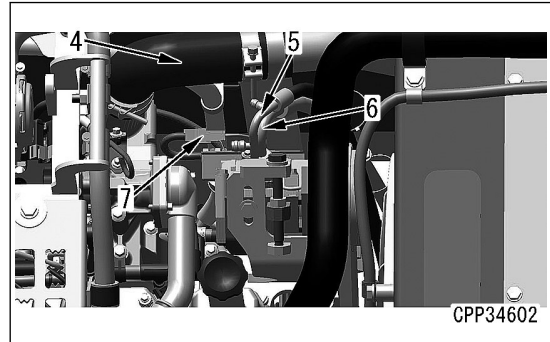
-  Lock nut (9):
108 to 132 Nm {11 to 13.5 kgm}

-  Mounting bolt (8):
59 to 74 Nm {6.0 to 7.5 kgm}



Air conditioner compressor solenoid clutch connector

3. Install connector AC03 (7).

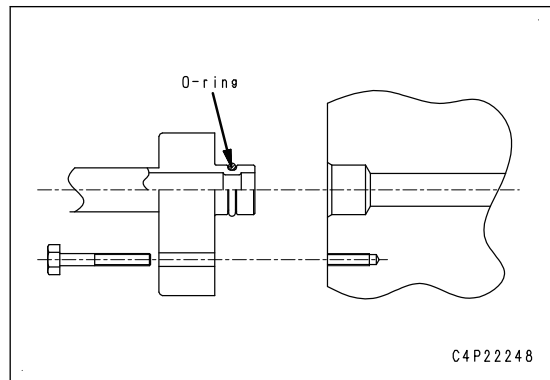



Air conditioner hose

4. Install air conditioner hoses (5) and (6) (2 pieces).

REMARK

- When installing the air conditioner piping, be careful so that dirt, dusts and water do not enter into the hose.
- Check that the O-rings are fitted to the joints when connecting the air conditioner piping.
- Do not reuse an O-ring because it is deformed and deteriorated if used once.
- When removing the O-rings, use a soft tool so that the piping is not damaged.
- Check that the O-ring is not damaged or deteriorated.
- Apply compressor oil (DENSO: ND-OIL8) for refrigerant (R134a) to O-ring.



-  Hose clamps (M6 bolt) (5) and (6):
8 to 12 Nm {0.8 to 1.2 kgm}

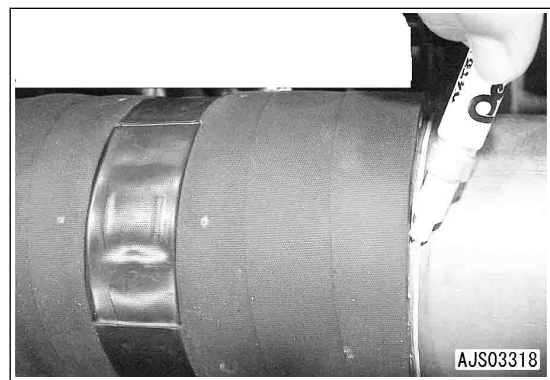
Air hose

5. Install air hose (4) according to the following procedure.

REMARK


Use a brand new MIKALOR clamp.

- 1) Align hose to its original position (marked position).
Reference
Air hose insertion depth: 80 mm (both right and left)




- 2) Set bridge (BR) under clamp fastening bolt, and adjust overlap dimension (b) between bridge (BR) and band to the following.

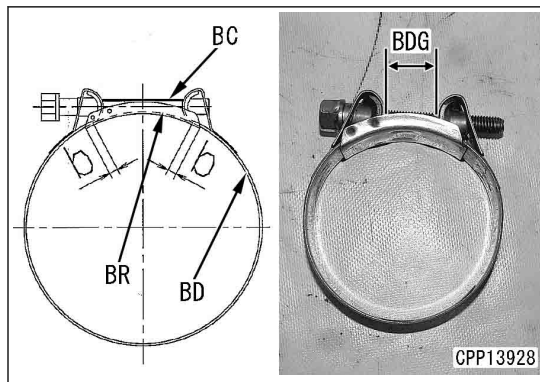
Dimension (b): Min.5 mm

 Clamp fastening bolt threaded part (BC):
Lubricating oil (ThreeBond PANDO18B)

- Impact wrench is not allowed to use.
- When reusing the hose
Align the clamp position to the trace of clamp left on hose.

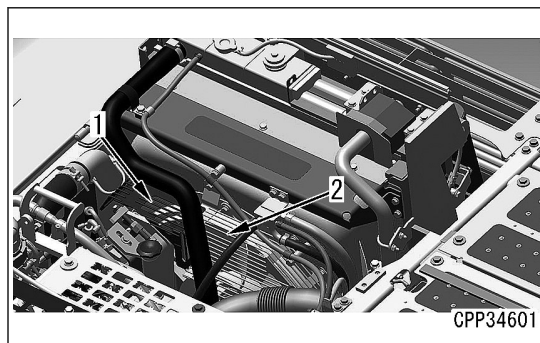
 Clamp fastening bolt:
Min.6 Nm {0.6 kgm}

- When using a new hose
Tighten it until dimension BDG becomes as shown below.
BDG: 7 to 10 mm



Fan guard

6. Install fan guards (1) and (2).



Air conditioner gas, Oil

7. Refill the air conditioner circuit with refrigerant (air conditioner gas: R134a).
Filling quantity: 930±50 g
8. Refilling with air conditioner compressor oil
See Others, "REFEILLING WITH COMPRESSOR OIL".

REMOVE AND INSTALL AIR CONDITIONER CONDENSER ASSEMBLY

Place the machine on a level ground, lower the work equipment to the ground so that it is stable, and set the lock lever to LOCK position, and then stop the engine.

Stop the engine, turn the battery disconnect switch to OFF position, and remove the key. (For details, see TESTING AND ADJUSTING, "HANDLE BATTERY DISCONNECT SWITCH".)

If refrigerant gas (air conditioner gas: R134a) gets in your eyes, you may lose your sight. And if it touches your skin, you may suffer from frostbite. Put on protective eyeglasses, gloves and working clothes with long sleeves while collecting the refrigerant or filling the air conditioner circuit with the refrigerant.

NOTICE

- Never release the refrigerant to the atmosphere.
- Ask a qualified person for collecting, adding and filling operations of the refrigerant (air conditioner gas: R134a).

METHOD FOR REMOVING AIR CONDITIONER CONDENSER ASSEMBLY

Air conditioner condenser assembly

1. Collect the refrigerant (air conditioner gas: R134a) from the air conditioner circuit.

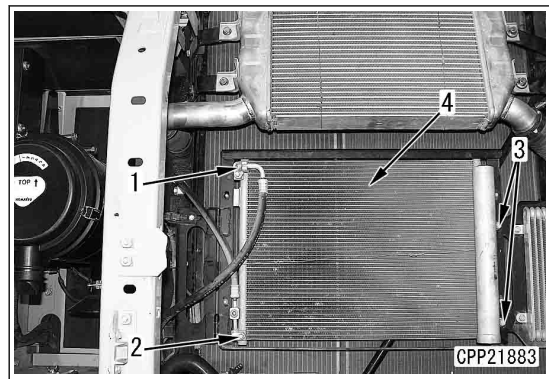
Quantity of refrigerant to be collected: 930 ± 50 g

2. Open the side cover on the left of the machine, and disconnect hoses (1) and (2) from air conditioner condenser assembly (4).

REMARK

- Plug the hose to prevent dust and water from entering.
- Be careful not to damage or lose O-ring.

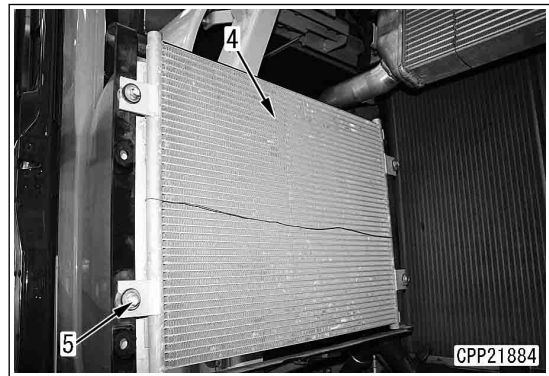
3. Remove mounting bolt (3), and open air conditioner condenser assembly (4).



4. Remove mounting bolts (5) (4 pieces) of the air conditioner condenser assembly, and remove air conditioner condenser assembly (4).

REMARK

When removing, take care not to damage the core.




METHOD FOR INSTALLING AIR CONDITIONER CONDENSER ASSEMBLY


Air conditioner condenser assembly

1. Install air conditioner condenser assembly (4) with mounting bolts (5) (4 pieces).

REMARK

- When installing, take care not to damage the core.
- Install air conditioner condenser assembly with the cushion.

 Thread portion of air conditioner condenser assembly mounting bolts:
Liquid adhesive (LT-2)

 Air conditioner condenser assembly mounting bolt:
10 to 15 Nm {1.2 to 1.5 kgm}


2. Fix it with mounting bolt (3).

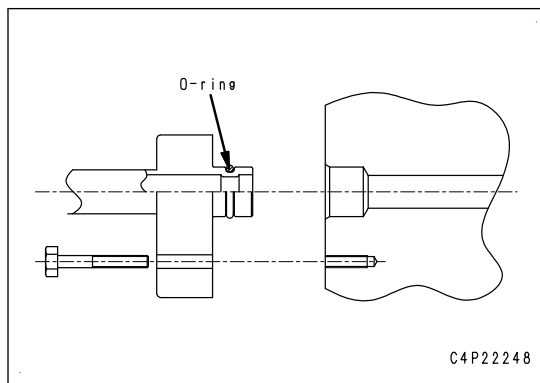
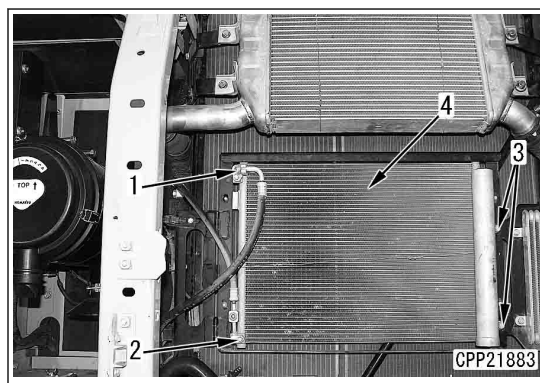
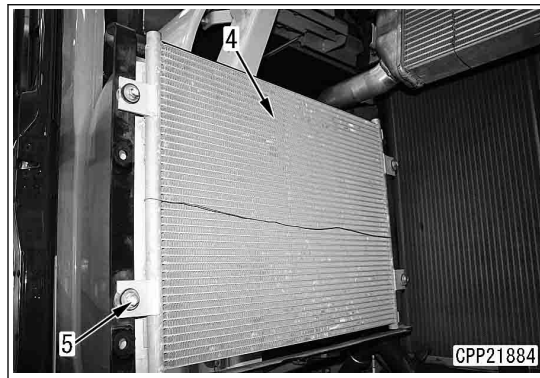
Air conditioner hose

3. Install hoses (1) and (2) to air conditioner condenser assembly (4), and close the side cover on the left of the machine.

REMARK

- When installing the air conditioner piping, be careful so that dirt, dusts and water do not enter into the hose.
- Check that the O-rings are fitted to the joints when connecting the air conditioner piping.
- Do not reuse an O-ring because it is deformed and deteriorated if used once.
- When removing the O-rings, use a soft tool so that the piping is not damaged.
- Check that the O-ring is not damaged or deteriorated.
- Apply compressor oil (DENSO: ND-OIL8) for refrigerant (R134a) to O-ring.

 Hose clamp (M6 bolt):
8 to 12 Nm {0.8 to 1.2 kgm}



Air conditioner gas

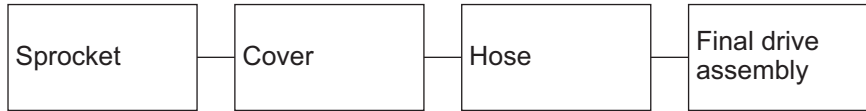
4. Refill the air conditioner circuit with refrigerant (R134a).
Filling quantity: 930±50 g

Refilling with air conditioner compressor oil

5. See Others, "REFEILLING WITH COMPRESSOR OIL".

POWER TRAIN

REMOVE AND INSTALL TRAVEL MOTOR AND FINAL DRIVE ASSEMBLY



C4P34957

Place the machine on a level ground, lower the work equipment to the ground so that it is stable, and set the lock lever to LOCK position, and then stop the engine.

Stop the engine, turn the battery disconnect switch to OFF position, and remove the key. (For details, see TESTING AND ADJUSTING, "HANDLE BATTERY DISCONNECT SWITCH".)

Loosen the cap of the hydraulic tank slowly to release the pressure in the hydraulic tank.

Release the remaining pressure in the hydraulic circuit referring to TESTING AND ADJUSTING, "RELEASING REMAINING PRESSURE FROM HYDRAULIC SYSTEM".

Fit a plug or flange in the place where a hydraulic hose is disconnected to prevent oil from flowing out.

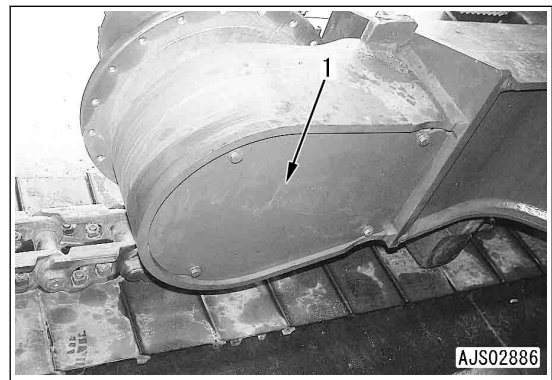
METHOD FOR REMOVING TRAVEL MOTOR AND FINAL DRIVE ASSEMBLY

Sprocket

1. Remove the sprocket. For details, see "REMOVE AND INSTALL SPROCKET".

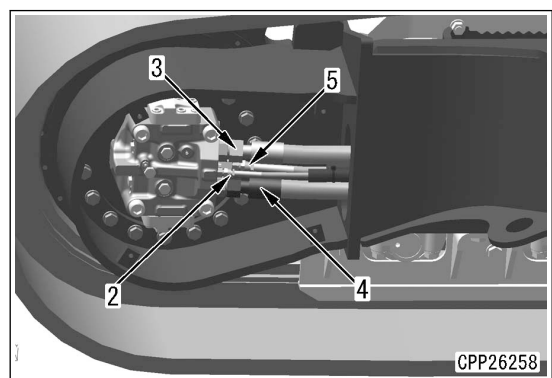
Cover

2. Remove cover (1).



Hose

3. Disconnect travel speed selector hose (2), motor hoses (3) and (4), and drain hose (5).



Final drive assembly

4. Sling travel motor and final drive assembly (6).
5. Remove mounting bolts (18 pieces), sling travel motor and final drive assembly (6), and remove them.

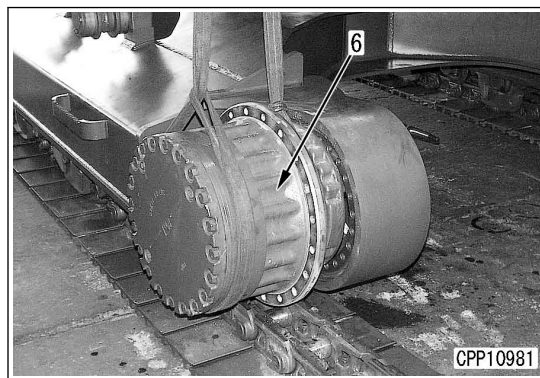
REMARK

Take extreme care not to damage the hose mounting part.



Travel motor and final drive assembly:

350 kg

**METHOD FOR INSTALLING TRAVEL MOTOR AND FINAL DRIVE ASSEMBLY****Final drive assembly**

1. Sling travel motor and final drive assembly (6), and install it with mounting bolts (18 pieces).

Take extreme care not to damage the hose mounting part.



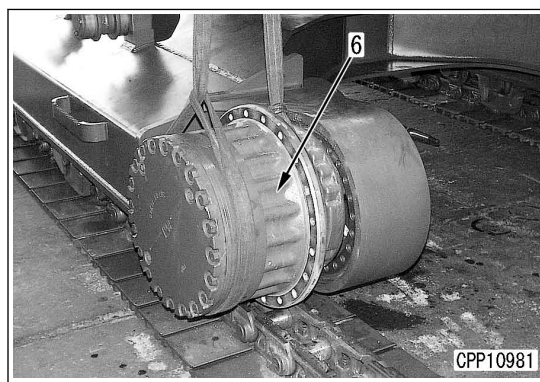
Travel motor and final drive assembly:

350 kg

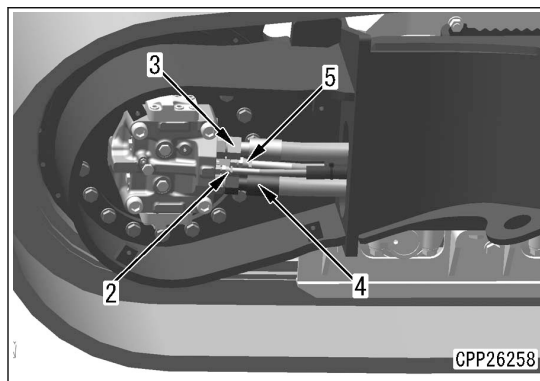


Travel motor and final drive assembly mounting bolt:

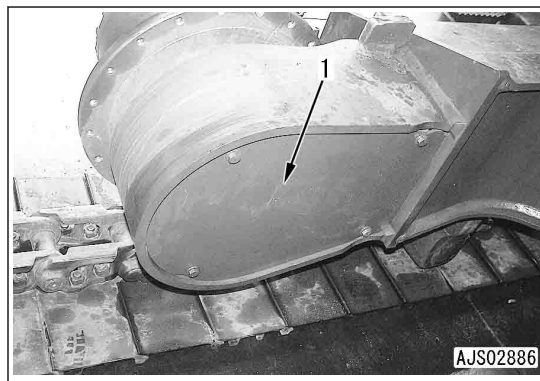
265 to 309 Nm {27 to 31.5 kgm}

**Hose**

2. Connect travel speed selector hose (2), motor hoses (3) and (4), and drain hose (5).

**Cover**

3. Install cover (1).



Sprocket

4. Install the sprocket. For details, see "REMOVE AND INSTALL SPROCKET".

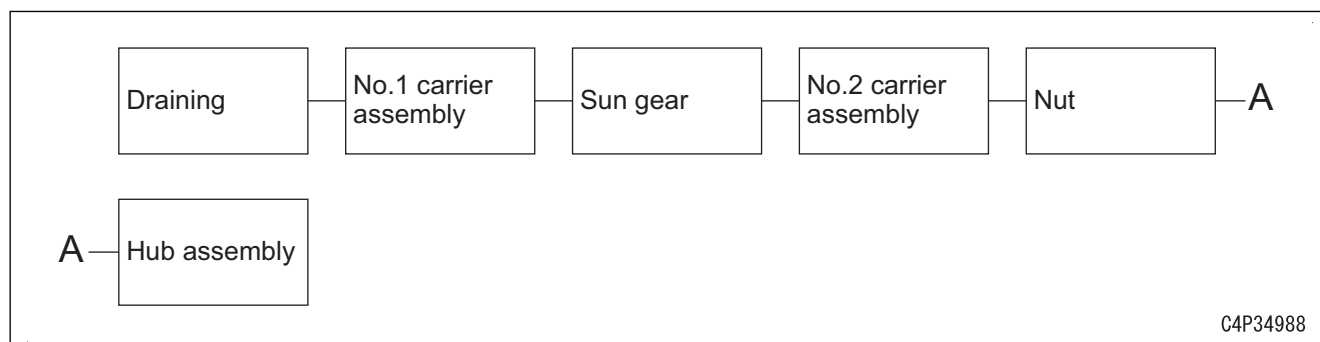
Refilling with Komatsu genuine oil

5. Refill the final drive with Komatsu genuine oil through the oil filler port. Start the engine to circulate the oil through the piping, and check the oil level again. (For details, see STRUCTURE AND FUNCTION, "TABLE OF FUEL, COOLANT, AND LUBRICANTS".)

Bleeding air

6. Bleed air from the travel motor. For details, see TESTING AND ADJUSTING, "BLEED AIR FROM EACH PART".

DISASSEMBLE AND ASSEMBLE FINAL DRIVE ASSEMBLY



Tools for disassembly and assembly of final drive assembly

Sym bol	Part No.	Part name	Necessity	Qty	New/Redesign	Sketch	Remarks
A	796-427-1400	Wrench assembly	■	1			
B	796-427-1520	Installer	■	1			
C	796T-427-1510	Push tool	■	1		○	
	790-101-2510	Block	■	2			
	790-101-2610	Leg	■	1			
	790-101-2730	Adapter	■	2			
	790-101-2560	Nut	■	2			
	790-101-2570	Plate	■	4			
	790-101-2102	Puller	■	1			294 kN, 30 t
	790-331-1102	Pump	■	1			
D	790-331-1110	Wrench	■	1			
E	796T-427-1710	Guide	■	1		○	
F	790-101-3501	Gear puller	●	1			
	790-201-2660	Plate	●	1			
G	792T-423-1350	Push tool	●	1			
H	79A-264-0091	Push-pull scale	●	1			
J	-	Eyebolt	■	2			
K	-	Eyebolt	■	2			

Clean all parts ,check them for dirt or damage, apply power train oil (TO30 or equivalent) to the sliding surface before installation.*Power line oil (TO30 or equivalent)*Apply before installation.

METHOD FOR DISASSEMBLING FINAL DRIVE ASSEMBLY

Draining oil

1. Remove the drain plug, and drain the oil in the final drive case.



Final drive case:

5.4 ℓ

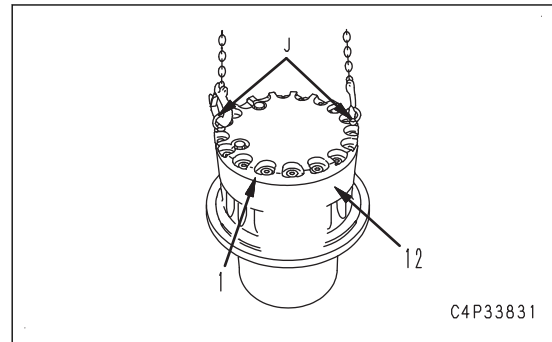
2. Remove the mounting bolts (20 pieces). Sling cover (1) by using tool J, and remove it.



Cover:

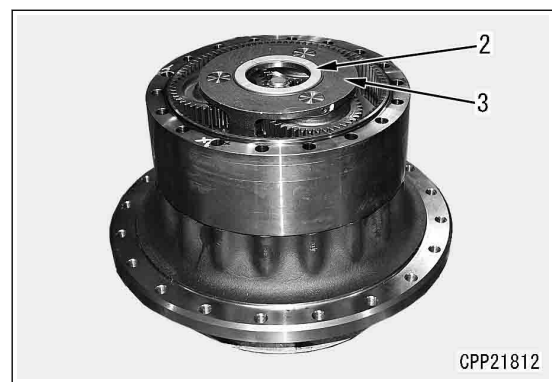
20 kg

3. If ring gear (12) is lifted together, tap the ring gear lightly with a plastic hammer to separate it.



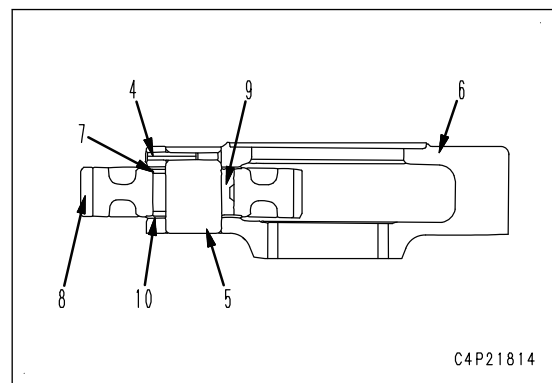
No.1 planetary carrier assembly

4. Remove washer (2).
5. Remove No.1 planetary carrier assembly (3).



Disassembly of No.1 planetary carrier assembly

6. Drive pin (4) into shaft (5), and remove shaft (5) from No.1 planetary carrier (6).
7. After removing shaft (5), remove pin (4) from shaft (5).
8. Remove thrust washer (7), No.1 planetary gear (8), needle bearing (9), and thrust washer (10).



No.1 sun gear shaft

9. Remove No.1 sun gear shaft (11).

