



Service Repair Manual

Model

320C and 320C L 320CL Excavator

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Product: EXCAVATOR

Model: 320C EXCAVATOR HKT

Configuration: 320C & 320C L Excavators HKT00001-UP (MACHINE) POWERED BY 3066 Engine

Disassembly and Assembly 320C Excavator Machine Systems

Media Number -REN3826-16

Publication Date -01/11/2014

Date Updated -30/03/2016

i01525672

Control Valve (Auxiliary) - Install - F1 and F4 Auxiliary Control Valves

SMCS - 5051-012-AX

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
(A)	FT-2674	Vacuum Cap	1
(B)	138-7573	Link Bracket	1

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. Install two hose assemblies on the bottom of the (F4) auxiliary control valve.
-

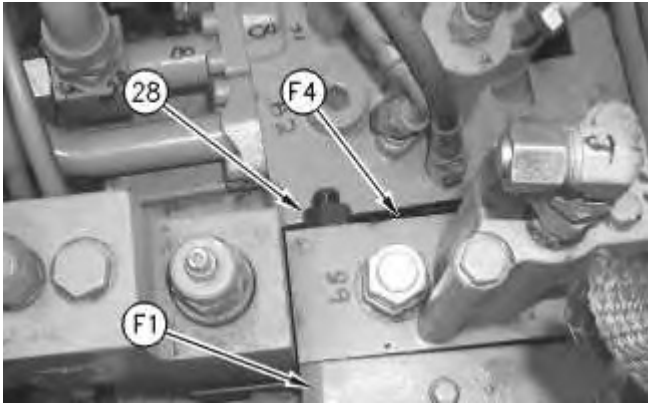


Illustration 1

g00704077

2. Fasten F1 and F4 auxiliary control valves together with the existing mount bolts. Fasten the control valves at the top with a washer and nut (28), as shown.
3. Install the F1 and F4 auxiliary control valves.
4. Lower the F1 and F4 auxiliary control valves in order to connect the hoses and electrical connections on the bottom of the auxiliary control valves.



Illustration 2

g00690963

5. Remove the cap to the hydraulic tank. Attach Tooling (A) to the hydraulic tank.

Note: Hook up the air to Tooling (A) in order to create a vacuum in the hydraulic system. This will minimize the leakage to the hose assemblies.

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Illustration 3

g00703894

6. Connect two pilot lines (30) to the bottom of each control valve.



Illustration 4

g00703965

7. Connect one electrical connector (29) to each control valve.

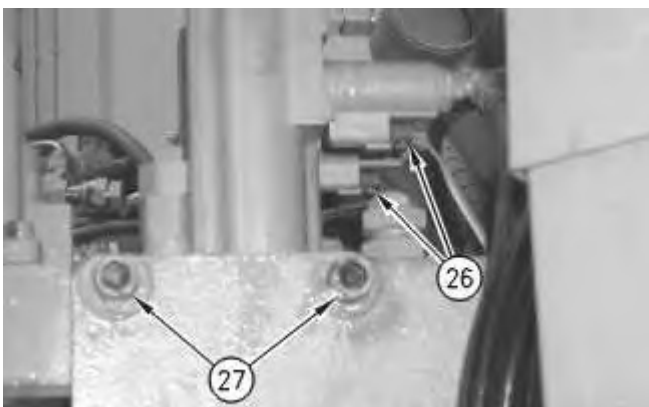


Illustration 5

g00703950

8. Align the auxiliary control valves with the main control valve. Install the bottom two mount bolts (27).

9. Remove nut (28) and the washer from the top two mount bolts that pass through control valves (F1) and (F4).
10. Install the top two mount bolts.
11. Tighten the four mount bolts (27) to a torque of 240 ± 40 N·m (177 ± 30 lb ft).
12. Connect one electrical connector (26) to each control valve.

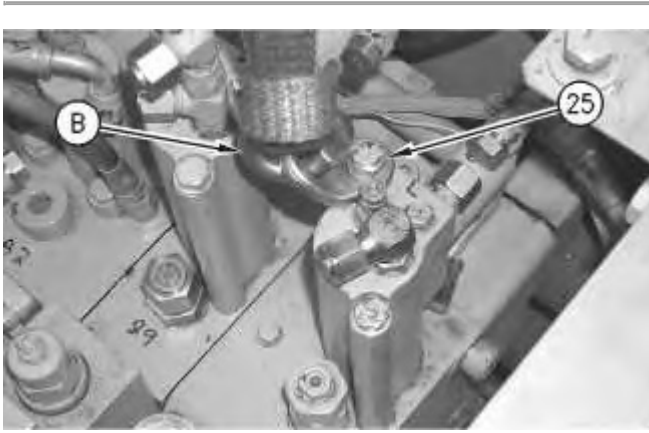


Illustration 6

g00703893

13. Remove **7X-2547** Bolt (25).
14. Remove Tooling (B) and the hoist. Install the original bolt (25).

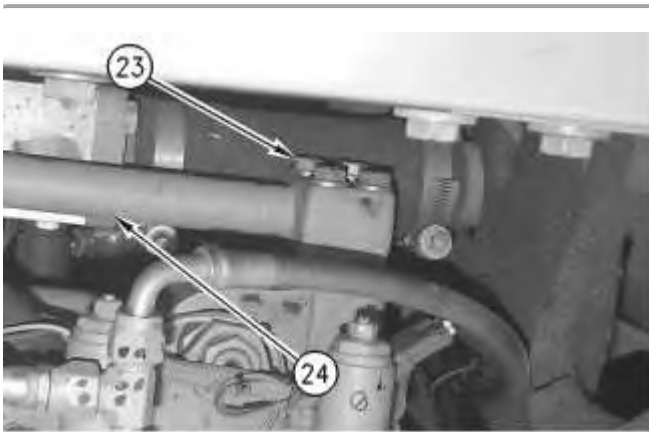


Illustration 7

g00703941

15. Install bolts (23) in order to connect tube (24) to the (F1) control valve.
-

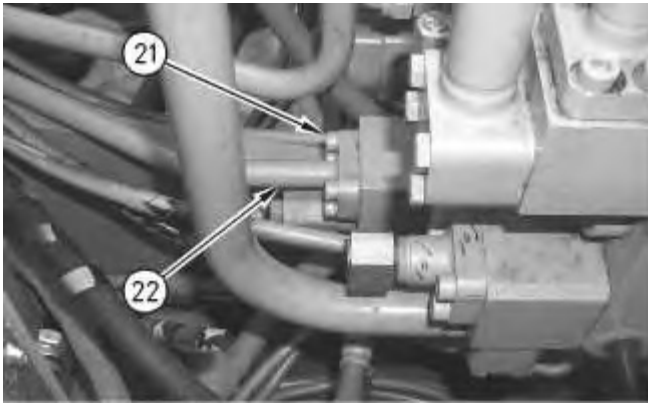


Illustration 8

g00703888

16. Install bolts (21) in order to connect tube (22) to the (F4) control valve.

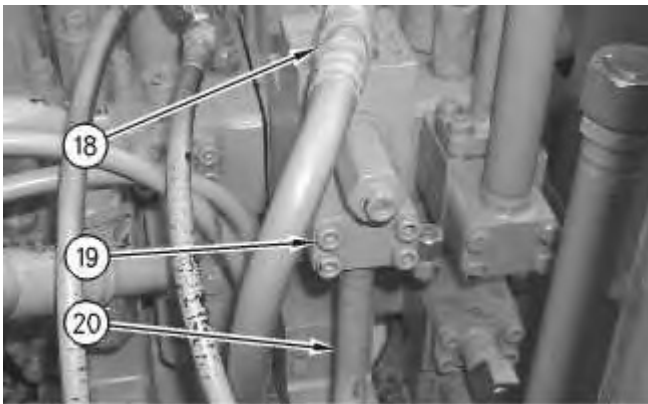
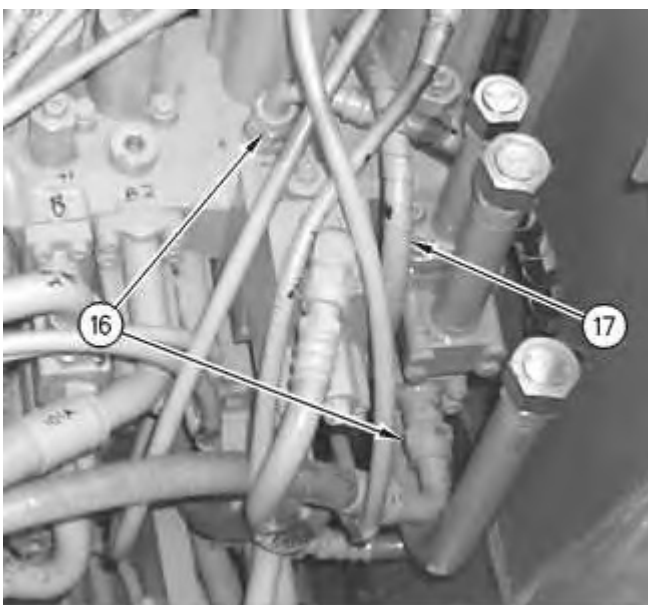


Illustration 9

g00703729

17. Install bolts (19) in order to connect tube (20) to the (F4) control valve.
18. Connect hose assembly (18) to the (F4) control valve.



19. Connect hose assembly (17) to the (F1) control valve.
20. Connect two hose assemblies (16) to both control valves.

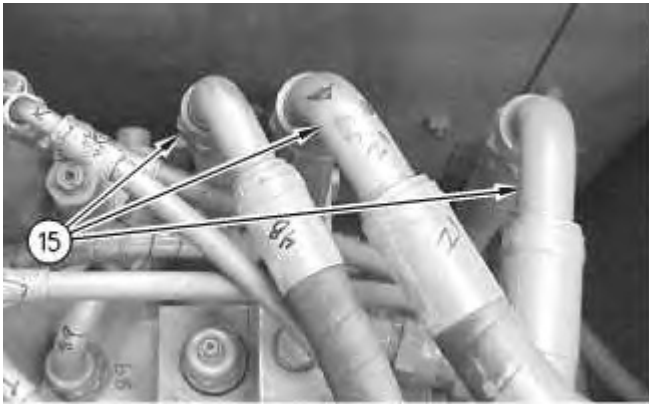


Illustration 11

21. Connect three hose assemblies (15) to the (F1) control valve.

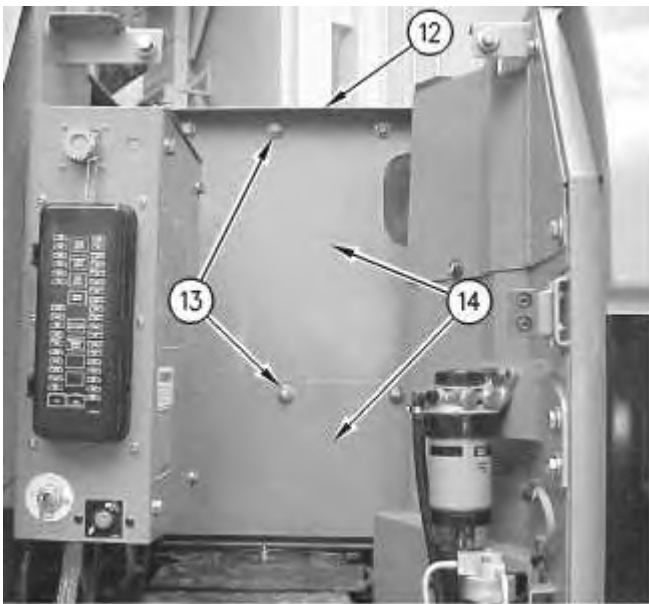


Illustration 12

22. Install panels (14) and support (12).
 23. Install the washers and bolts (13) that hold the panels and support together.
-

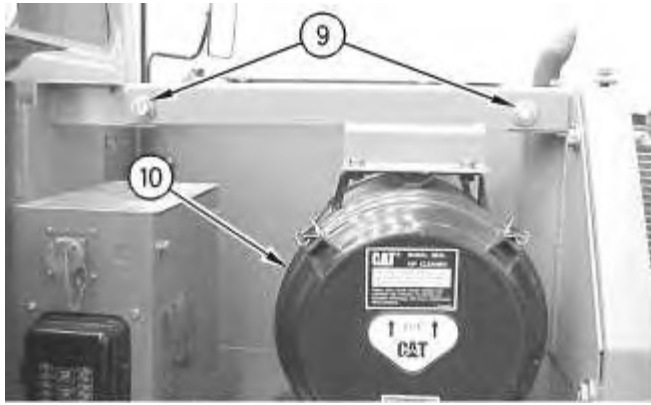


Illustration 13

g00703703

24. Install air filter (10).

25. Install the washers and bolts (9) in order to hold the air filter and the support to the machine.

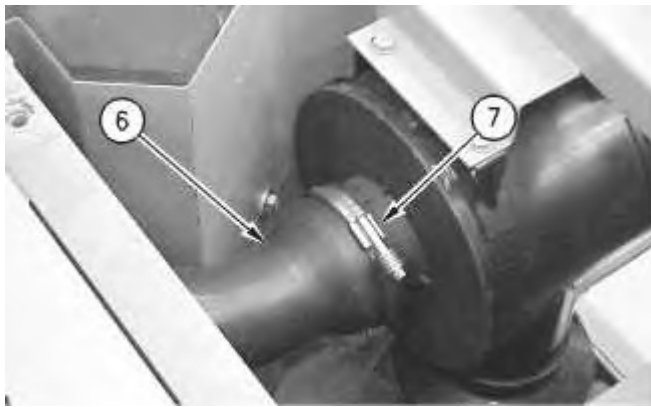


Illustration 14

g00703690

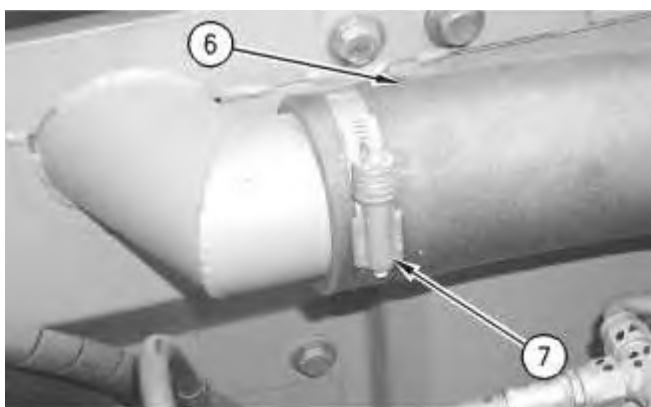


Illustration 15

g00703702

26. Install hose (6) and install two hose clamps (7).

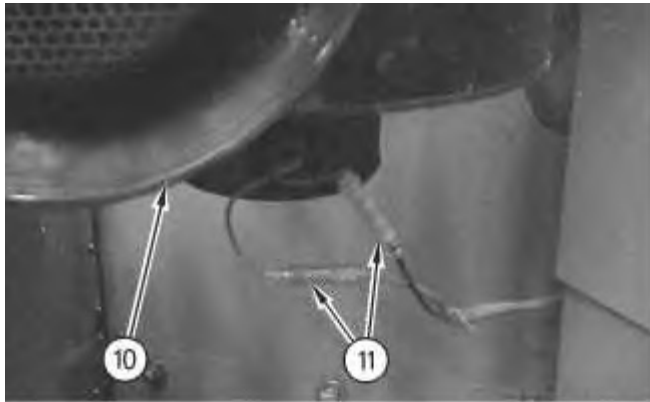


Illustration 16

g00703704

27. Connect two electrical connectors (11) to the air filter. Install a new tie strap.



Illustration 17

g00792422

28. Close side door (8).

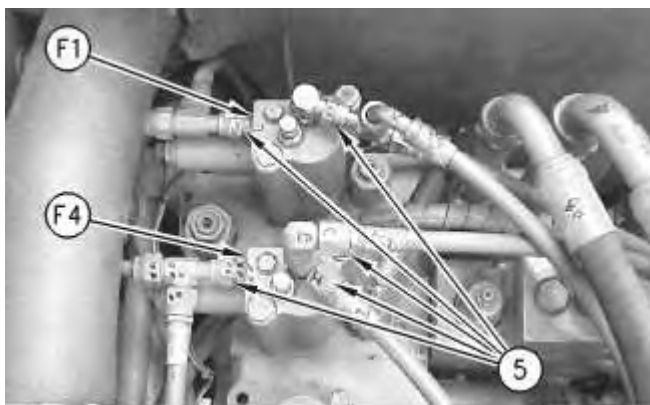


Illustration 18

g00703510

- (F1) Auxiliary control valve
- (F4) Auxiliary control valve

29. Install five pilot lines (5).

30. Remove Tooling (A).

31. Install high efficiency filters in place of the pilot filter, case drain filter, and the return filter.

Note: High efficiency filters should not be run for more than 250 hours before you change back to the standard filters.

32. Fill the hydraulic oil tank and the swing drive with clean hydraulic oil to the correct level.

Reference: Refer to Operation and Maintenance Manual, "Lubricant Viscosities" for the proper oil viscosity.

Reference: Refer to Operation and Maintenance Manual, "Hydraulic System Oil Level - Check" for the correct filling procedures.

33. Install the cap to the hydraulic tank.

34. Start the engine, and check the operation of the auxiliary attachments. Also, check for leaks. Stop the engine.

35. Obtain a hydraulic oil sample from the main S·O·S port.

Reference: Refer to Operation and Maintenance Manual, "Sampling Interval and Location of Sampling Valve" for the correct location.

36. If the S·O·S sample exceeds ISO 18/15, flush the hydraulic system.

Reference: Refer to Contamination Control Guidelines, SEBF8436, "Hydraulic System Flushing Procedure for 322C Hydraulic Excavators" for further information.

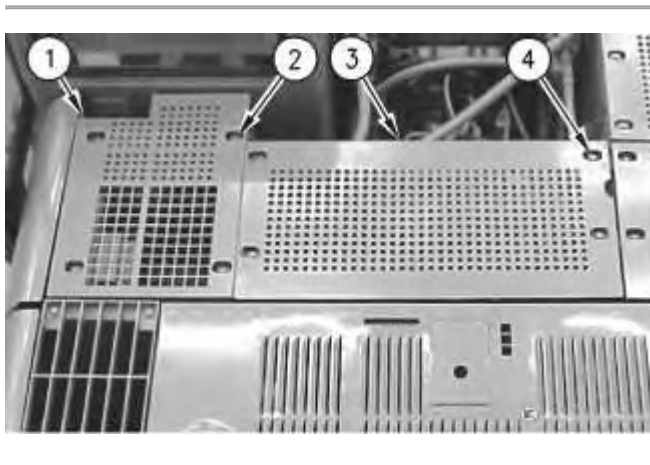


Illustration 19

g00703691

37. Install four bolts (4) and the washers in order to hold cover (3).

38. Install four bolts (2) and the washers in order to hold cover (1).

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Product: EXCAVATOR

Model: 320C EXCAVATOR HKT

Configuration: 320C & 320C L Excavators HKT00001-UP (MACHINE) POWERED BY 3066 Engine

Disassembly and Assembly 320C Excavator Machine Systems

Media Number -REN3826-16

Publication Date -01/11/2014

Date Updated -30/03/2016

i01539518

Control Valve (Auxiliary) - Install - F2 and F3 Auxiliary Control Valves

SMCS - 5051-012-AX

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
(A)	FT-2674	Vacuum Cap	1
(B)	138-7573	Link Bracket	1

NOTICE

Keep all parts clean from contaminants.

Contamination of the hydraulic system with foreign material will reduce the service life of the hydraulic system components.

To prevent contaminants from entering the hydraulic system, always plug or cap the lines, fittings, or hoses as they are disconnected. Cover any disassembled components and clean them properly before assembly.

Clean the hydraulic system properly after any major component exchange or especially after a component failure, to remove any contamination.

NOTICE

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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.

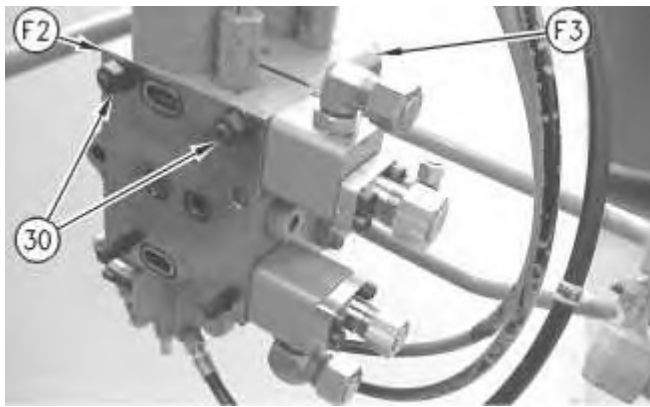


Illustration 1

g00721124

1. Fasten (F2) and (F3) auxiliary control valves together with the existing mount bolts. Fasten the control valves at the top with a washer and nut (30), as shown.

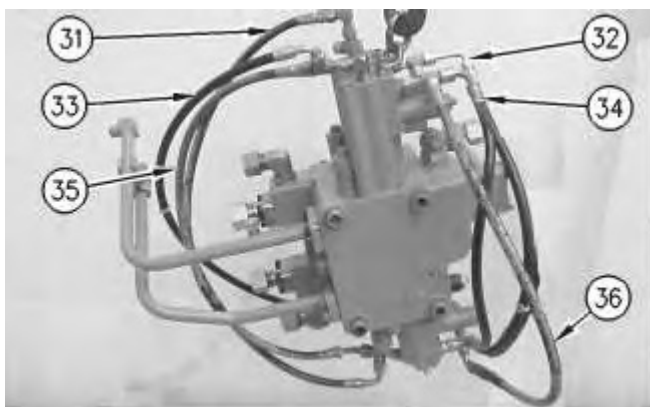


Illustration 2

g00719363

2. Install pilot lines (31), (32), (33), (34), (35), and (36) on the (F2) and (F3) auxiliary control valves.

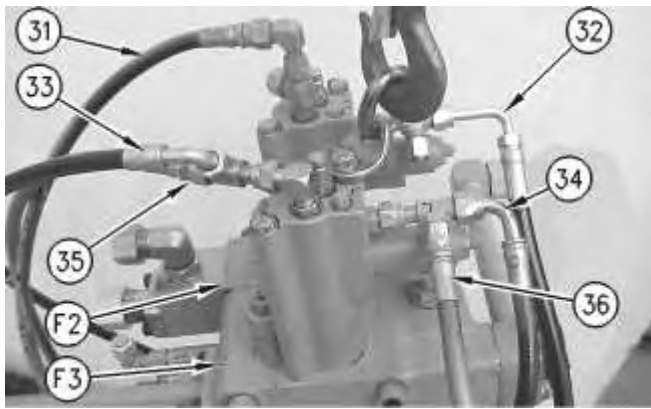


Illustration 3

g00721171

Top view of the auxiliary control valves

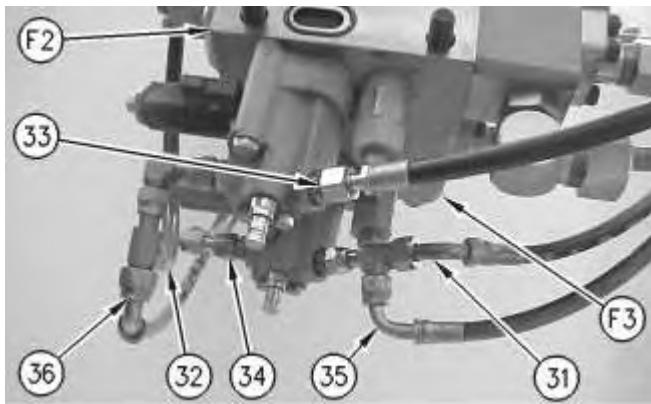


Illustration 4

g00721173

Bottom view of the auxiliary control valves

3. Pilot line (31) runs from the top of the (F2) control valve to the bottom of the (F3) control valve. Pilot line (32) runs from the top of the (F2) control valve to the bottom of the (F2) control valve. Pilot line (33) runs from the top of the (F3) control valve to the bottom of the (F2) control valve. Pilot line (34) runs from the top of the (F3) control valve to the bottom of the (F3) control valve. Pilot line (35) runs from the top of the (F3) control valve to the bottom of the (F3) control valve. Pilot line (36) runs from the top of the (F3) control valve to the bottom of the (F2) control valve.
 4. Install the (F2) and (F3) auxiliary control valves.
-

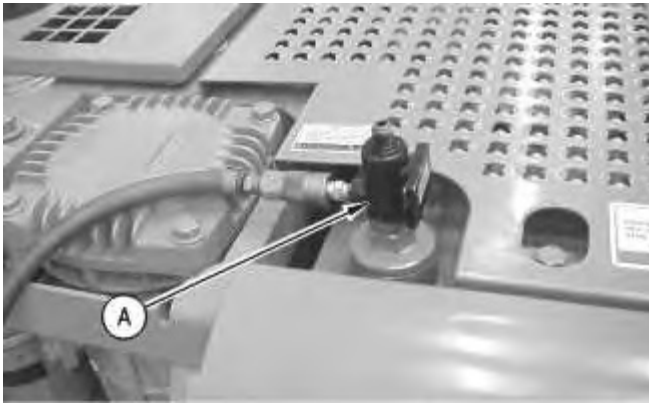


Illustration 5

g00690963

5. Remove the cap to the hydraulic tank. Attach Tooling (A) to the hydraulic tank.

Note: Hook up the air to Tooling (A) in order to create a vacuum in the hydraulic system. This will minimize the leakage to the hose assemblies.

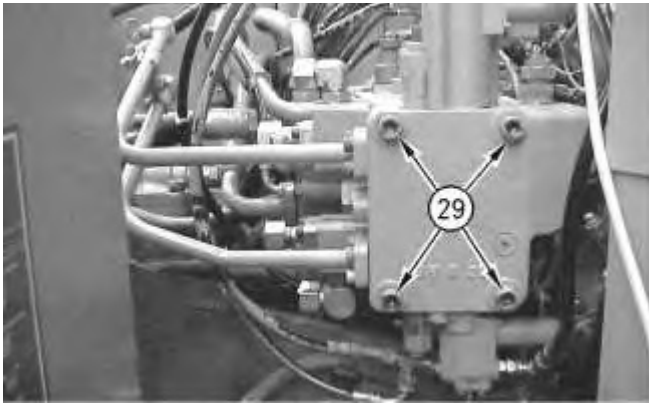


Illustration 6

g00719336

6. Align the auxiliary control valves with the main control valve. Install the bottom two mount bolts (29).

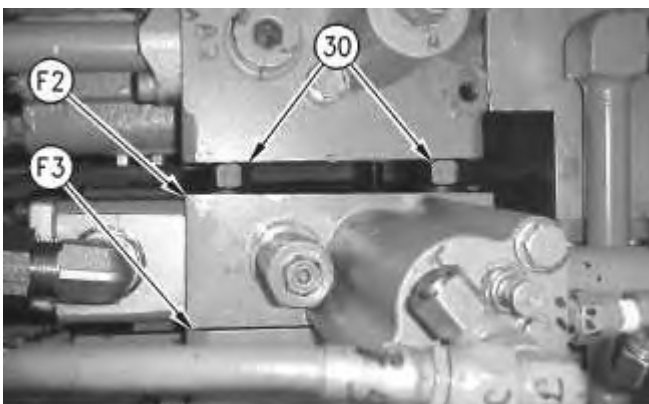


Illustration 7

g00719342

7. Remove nuts (30) and the washer from the top two mount bolts that pass through control valves (F2) and (F3).
8. Install the top two mount bolts.
9. Tighten the four mount bolts (29) to a torque of 240 ± 40 N·m (177 ± 30 lb ft).

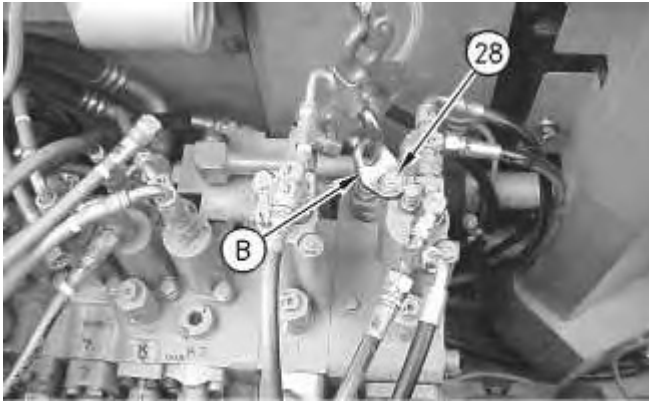


Illustration 8

g00719291

10. Remove **7X-2547** Bolt (28).
11. Remove Tooling (B) and the hoist. Install the original bolt (28).

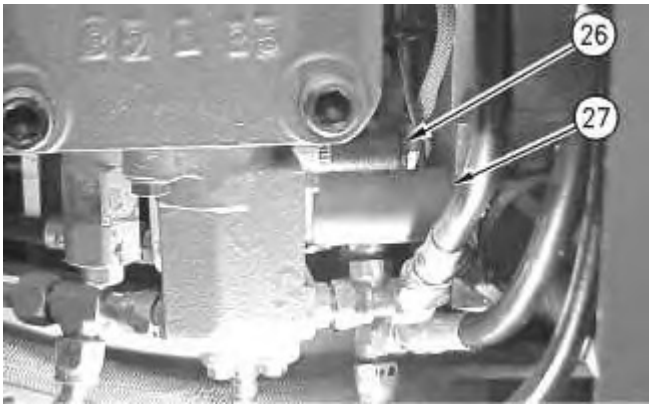


Illustration 9

g00719289

12. Connect the electrical connector to solenoid (26) and solenoid (27). Solenoid (26) is located on the bottom side of the (F2) auxiliary control valve. Solenoid (27) is located on the bottom side of the (F3) auxiliary control valve.
-

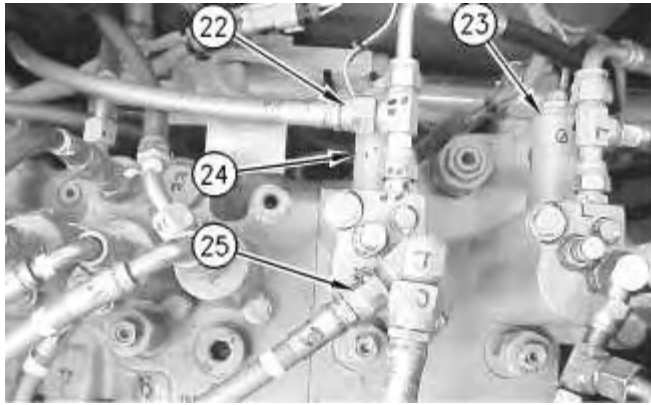


Illustration 10

g00719287

13. Connect pilot lines (22) and (25) to the (F2) auxiliary control valve. Connect the electrical connector to solenoid (23) and solenoid (24).

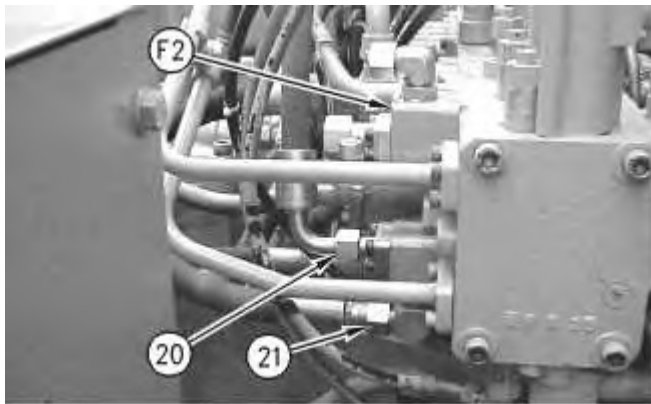


Illustration 11

g00719260

14. Connect hose assemblies (21) and (20) to the (F2) auxiliary control valve.

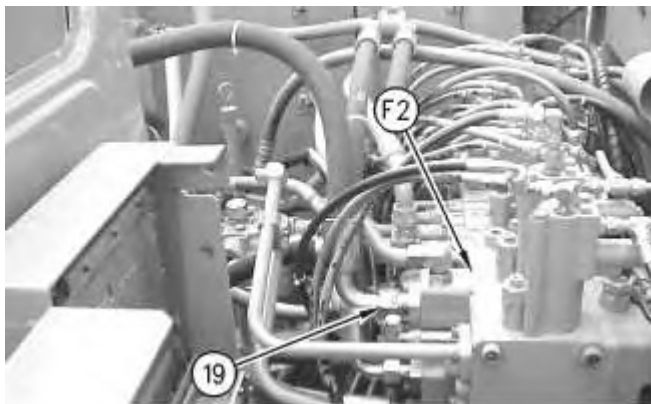


Illustration 12

g00719249

15. Connect hose assembly (19) to the (F2) auxiliary control valve.

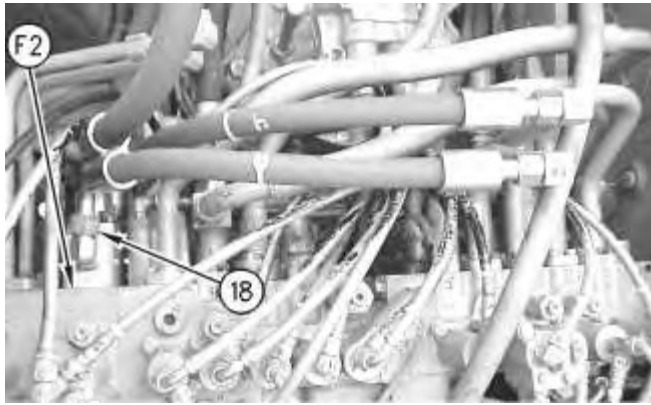


Illustration 13

g00719134

16. Connect hose assembly (18) to the (F2) auxiliary control valve.



Illustration 14

g00719132

17. Connect hose assemblies (17) and (16) to the (F3) auxiliary control valve.

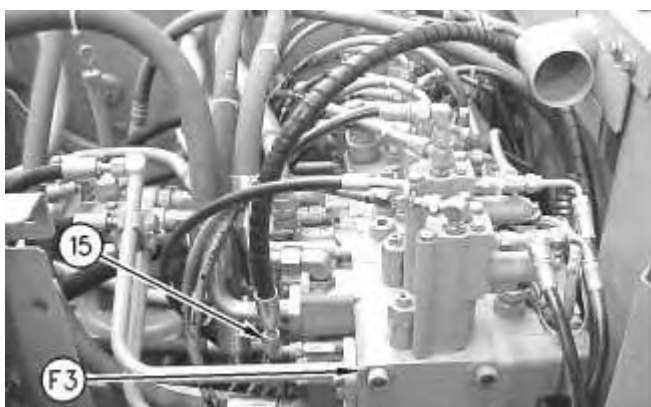


Illustration 15

g00719126

18. Connect hose assembly (15) to the (F3) auxiliary control valve.

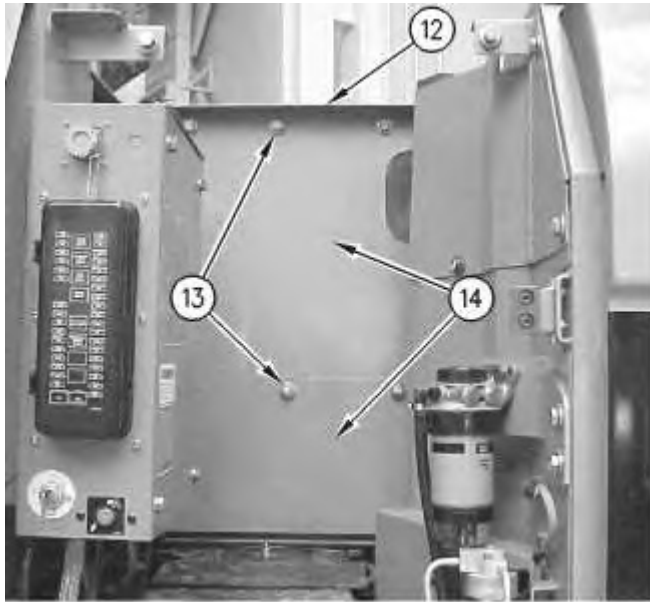


Illustration 16

g00703705

19. Install support (12) and panels (14). Install bolts (13) and the washers.
20. Install air filter (10).

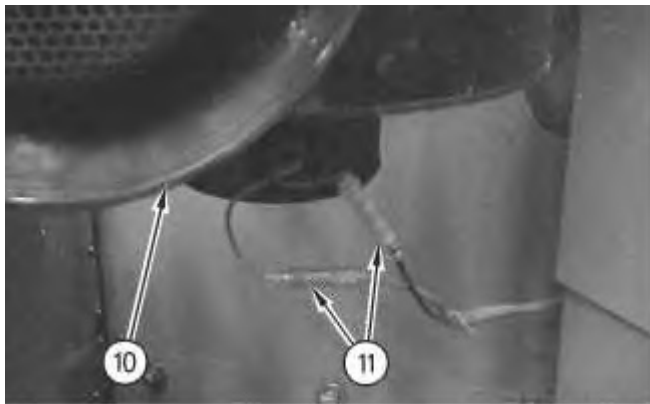
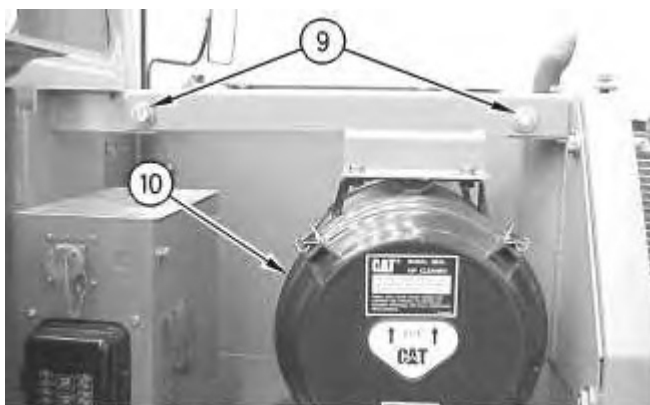


Illustration 17

g00703704

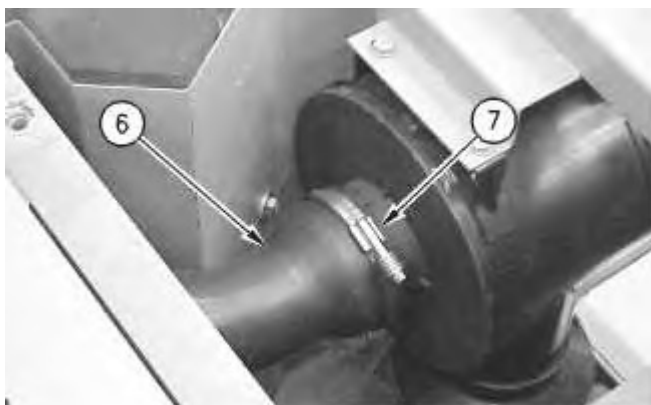
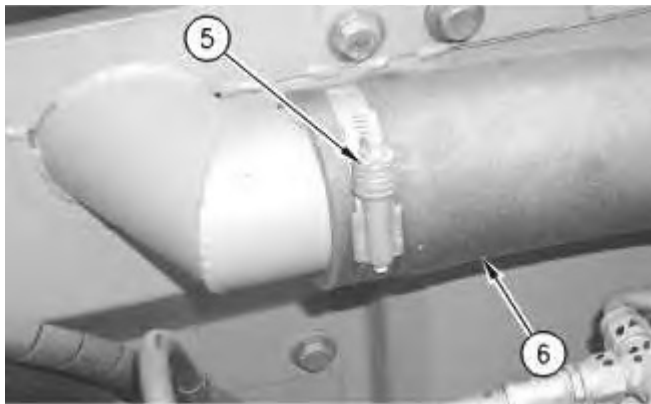
21. Connect two electrical connectors (11) to the air filter.



22. Install washers and bolts (9).



23. Close side door (8).



24. Install hose (6) and tighten two hose clamp (5) and (7).



Illustration 22

g00690963

25. Disconnect the air to Tooling (A). Remove Tooling (A) from the hydraulic tank. Install the cap for the hydraulic tank.

26. Install high efficiency filters in place of the pilot filter, case drain filter, and the return filter.

Note: High efficiency filters should not be run for more than 250 hours before you change back to the standard filters.

27. Fill the hydraulic oil tank and the swing drive with clean hydraulic oil to the correct level.

Reference: Refer to Operation and Maintenance Manual, "Lubricant Viscosities" for the proper oil viscosity.

Reference: Refer to Operation and Maintenance Manual, "Hydraulic System Oil Level - Check" for the correct filling procedures.

28. Install the cap to the hydraulic tank.

29. Start the engine, and check the operation of the auxiliary attachments. Also, check for leaks. Stop the engine.

30. Obtain a hydraulic oil sample from the main S·O·S port.

Reference: Refer to Operation and Maintenance Manual, "Sampling Interval and Location of Sampling Valve" for the correct location.

31. If the S·O·S sample exceeds ISO 18/15, flush the hydraulic system.

Reference: Refer to Contamination Control Guidelines, SEBF8436, "Hydraulic System Flushing Procedure for 322C Hydraulic Excavators" for further information.

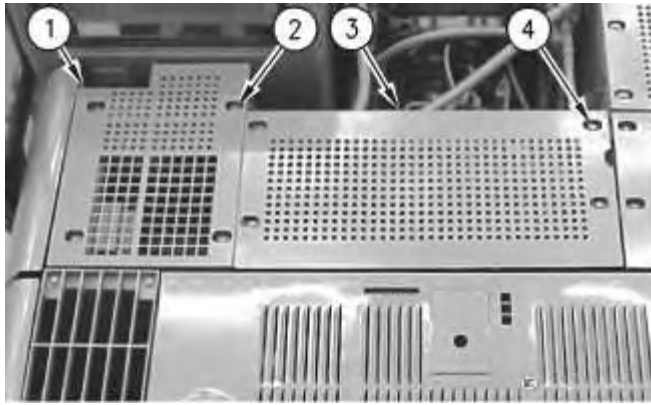


Illustration 23

g00703691

32. Install cover (3). Install washers and four bolts (4).
33. Install cover (1). Install washers and four bolts (2).

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Product: EXCAVATOR

Model: 320C EXCAVATOR HKT

Configuration: 320C & 320C L Excavators HKT00001-UP (MACHINE) POWERED BY 3066 Engine

Disassembly and Assembly 3064 and 3066 Engines for Caterpillar Built Machines

Media Number -SEN5553-10

Publication Date -01/05/2012

Date Updated -15/05/2012

i01564828

Fuel Priming Pump - Remove and Install

SMCS - 1258-010

Removal Procedure

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, "Caterpillar Tools and Shop Products Guide" for tools and supplies suitable to collect and contain fluids on Caterpillar 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.

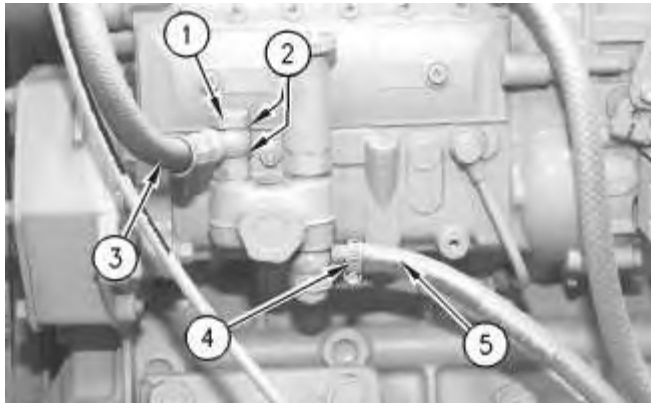


Illustration 1

g00606436

1. Remove banjo bolt (1) and washers (2) (not shown) from the fuel priming pump in order to remove fuel outlet line (3) .

Note: Cap all openings or plug all openings immediately in order to prevent contamination of the fuel system.

2. Loosen hose clamp (4) in order to remove fuel supply line (5) .

Note: Cap all openings or plug all openings immediately in order to prevent contamination of the fuel system.

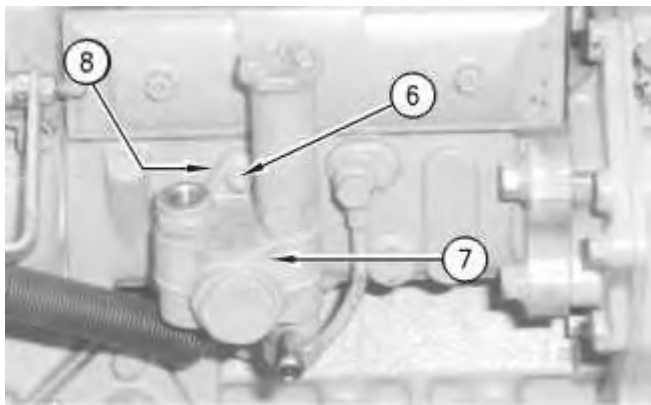


Illustration 2

g00606441

3. Remove nuts (6) that secure the fuel priming pump to the fuel injection pump.

Note: Fuel will drain from the fuel priming pump during removal. Collect the fuel in a suitable container for storage or for disposal.

4. Remove fuel priming pump (7) and the O-ring (8) (not shown).

Note: Cap all openings or plug all openings immediately in order to prevent contamination of the fuel system.

Installation Procedure

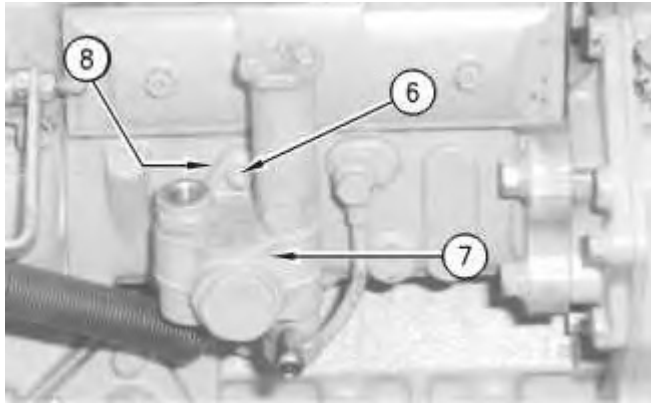


Illustration 3

g00606441

Note: Check the O-ring (8) (not shown) for wear or damage. Replace a worn O-ring or a damaged O-ring with a new replacement part.

1. Place the O-ring (8) (not shown) and place the fuel priming pump (7) in position on the fuel injection pump.
2. Install nuts (6) that secure the fuel priming pump to the fuel injection pump.

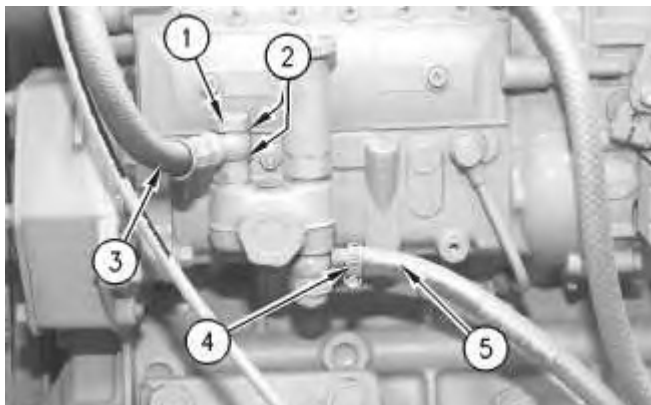


Illustration 4

g00606436

3. Connect fuel supply line (5) and hose clamp (4) to the fuel priming pump.
4. Tighten the hose clamps.

Note: Check the washers (2) (not shown) for wear or damage. Replace a worn washer or a damaged washer with a new replacement part.

5. Secure the fuel outlet line (3) and the washers (2) (not shown) to the fuel priming pump with banjo bolt (1) .
 6. Tighten banjo bolt (1) to a torque of 20 to 25 N·m (15 to 18 lb ft).
-

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Product: EXCAVATOR

Model: 320C EXCAVATOR HKT

Configuration: 320C & 320C L Excavators HKT00001-UP (MACHINE) POWERED BY 3066 Engine

**Disassembly and Assembly
3064 and 3066 Engines for Caterpillar Built Machines**

Media Number -SEN5553-10

Publication Date -01/05/2012

Date Updated -15/05/2012

i01564836

Fuel Filter Base - Remove and Install

SMCS - 1262-010

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	185-3630	Strap Wrench Assembly	1

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.

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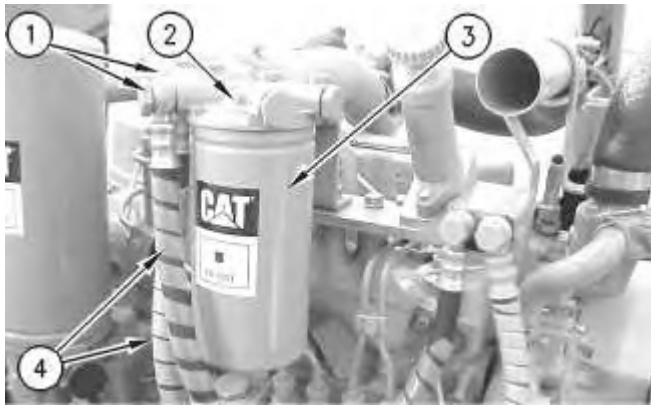


Illustration 1

g00813127

1. Use Tool (A) to remove fuel filter (3) from fuel filter base (2) .

Note: It is not necessary to remove the fuel filter in order to remove the fuel filter base.

2. Remove banjo bolts (1) and copper washers in order to disconnect the fuel lines (4) from the fuel filter base (2).

Note: Cap all openings or plug all openings immediately in order to prevent contamination of the fuel system.

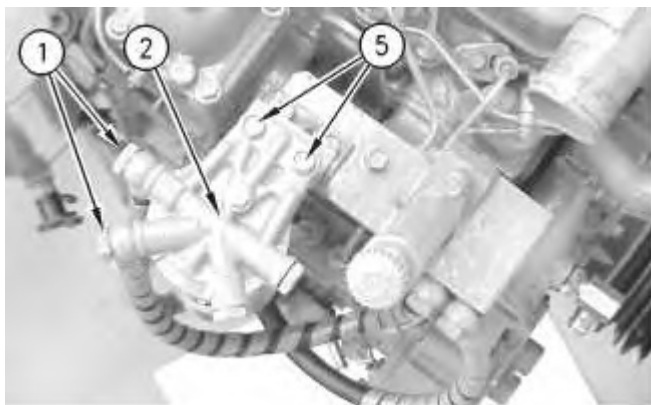


Illustration 2

g00813147

3. Remove two bolts (5) and the washers that secure the fuel filter base (2) to the air inlet manifold. Remove the fuel filter base (2) from the fuel filter bracket.

Installation Procedure



Suggest:

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to download the complete manual.

Thank you so much for reading

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

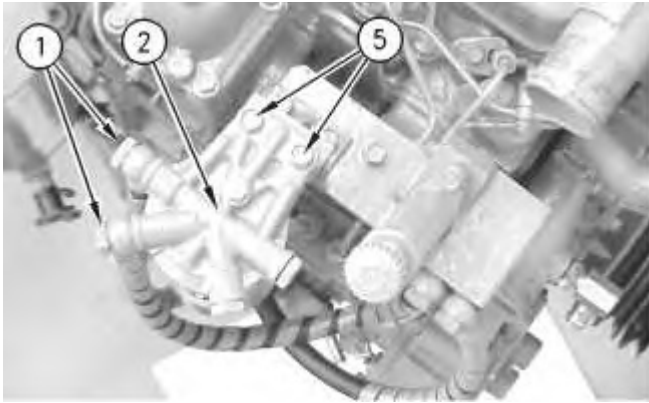


Illustration 3

g00813147

1. Place the fuel filter base (2) in position on the fuel filter bracket. Install the washers and two bolts (5) that secure the fuel filter base to the fuel filter bracket.

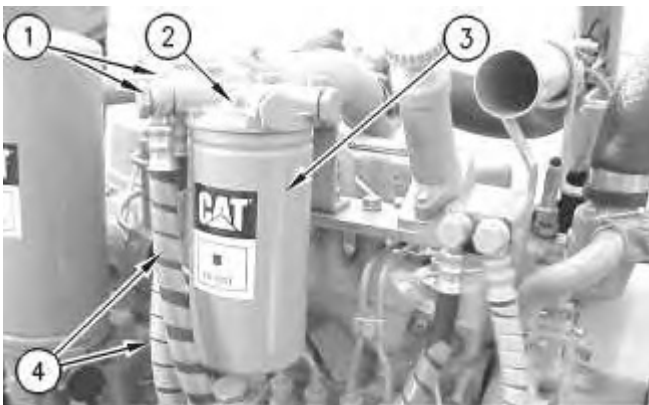


Illustration 4

g00813127

2. Install the banjo bolts (1) and install new copper washers in order to connect the fuel lines (4) to the fuel filter base (2).
 3. If the fuel filter was removed, install the fuel filter (3) to the fuel filter base (2). Tighten the fuel filter by hand according to the instructions that are shown on the fuel filter. Do not overtighten the fuel filter.
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