

Product: EXCAVATOR

Model: 330D MH EXCAVATOR PEL

Configuration: 330D Material Handler PEL00001-UP (MACHINE) POWERED BY C9 Engine

Disassembly and Assembly 330D Excavator Machine Systems

Media Number -KENR5993-02

Publication Date -01/02/2017

Date Updated -20/02/2017

i02747617

Main Hydraulic Pump - Assemble

SMCS - 5070-016

Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
B	138-7574	Link Bracket	2
C	1P-1855	Retaining Ring Pliers	1
D	1P-1863	Retaining Ring Pliers	1
E	5P-5197	Retaining Ring Pliers As	1
F	5P-4758	Retaining Ring Pliers As	1

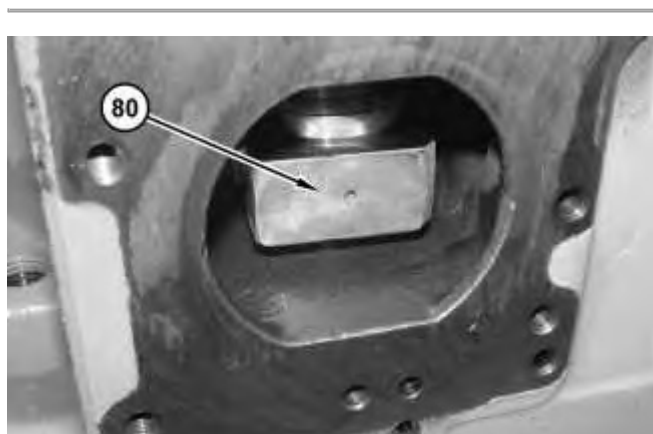


Illustration 1

g01174818

1. Install pistons (80).

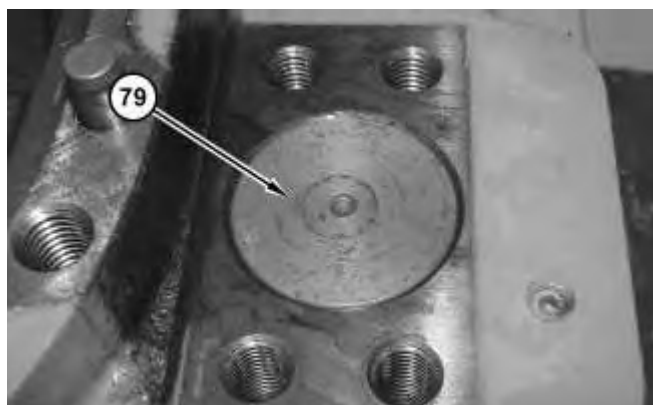


Illustration 2

g01174817

2. Install plugs (79) and the O-ring seals.

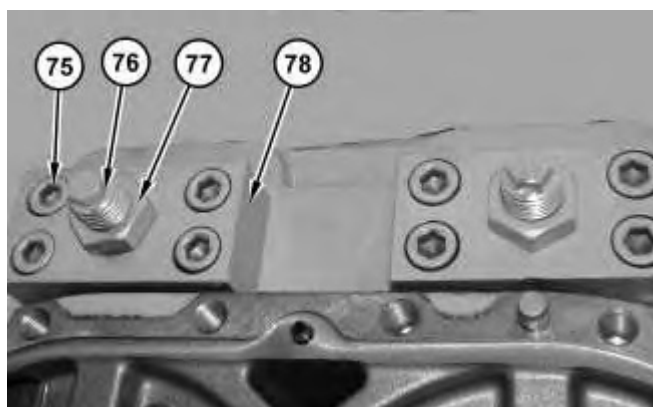


Illustration 3

g01174816

3. Install covers (78) and bolts (75).

4. Tighten nuts (77) and screws (76).

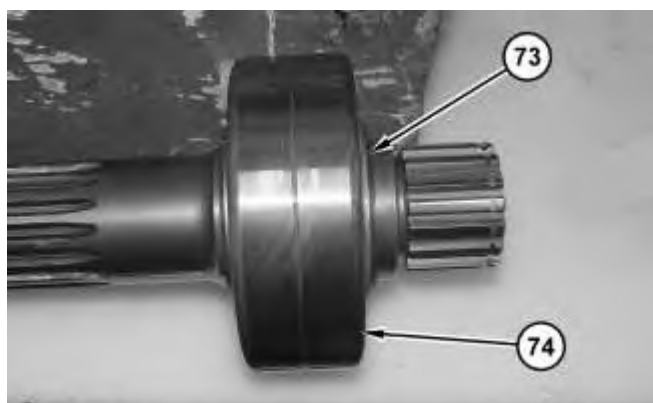


Illustration 4

g01174814

5. Raise the temperature of bearing (74).
6. Install bearing (74).
7. Use Tooling (D) in order to install retaining ring (73).

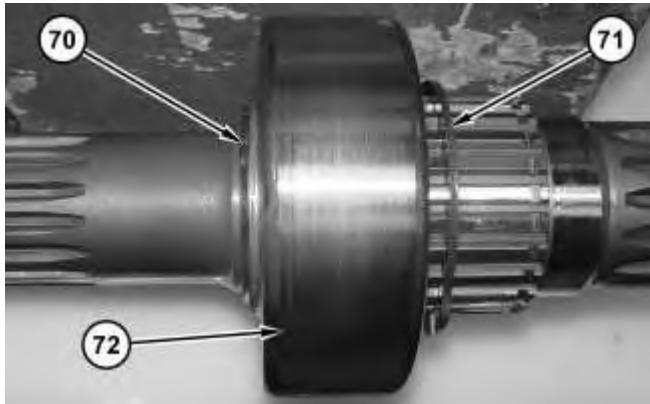


Illustration 5

g01174725

8. Raise the temperature of bearing (72).
9. Install bearing (72).
10. Use Tooling (D) in order to install retaining ring (70).
11. Use Tooling (D) in order to install retaining ring (71).

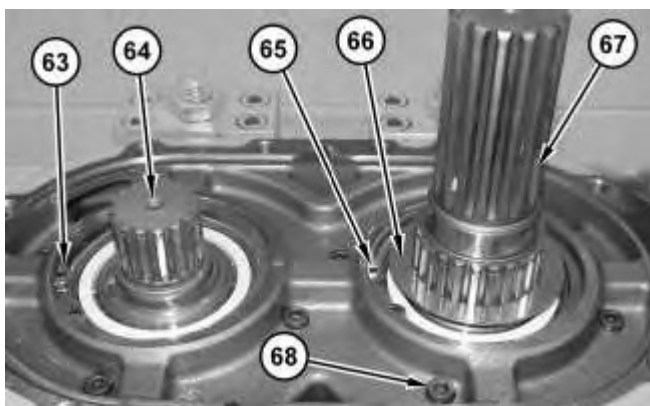


Illustration 6

g01174723

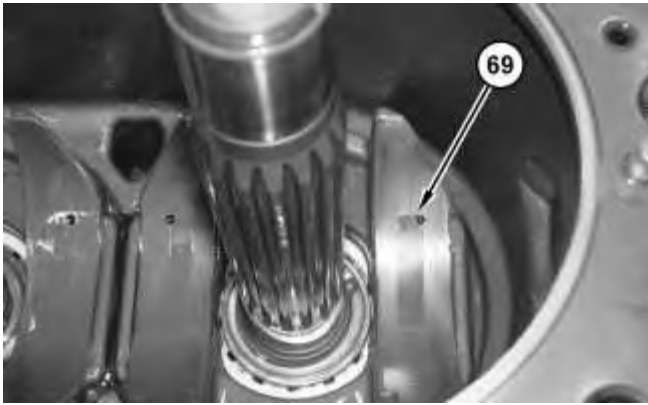


Illustration 7

g01174724

12. Install bearings (69) and bolts (68). Tighten bolts (68) to a torque of $34 \pm 5 \text{ N}\cdot\text{m}$ ($25 \pm 4 \text{ lb ft}$).
13. Install shaft assembly (67).
14. Install shaft assembly (64).
15. Use Tooling (F) in order to install retaining ring (65).
16. Use Tooling (F) in order to install retaining ring (63).
17. Install shim (66).

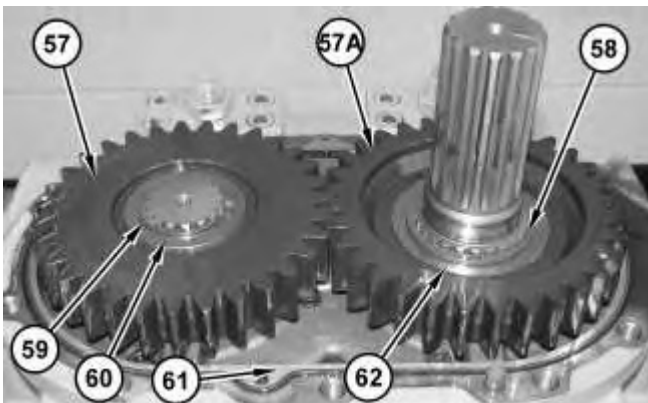


Illustration 8

g01174702

18. Install gasket (61), gear (57A), and shim (62).
19. Use Tooling (E) in order to install retaining ring (58).
20. Install gear (57A) and shim (60).
21. Use Tooling (D) in order to install retaining ring (59).

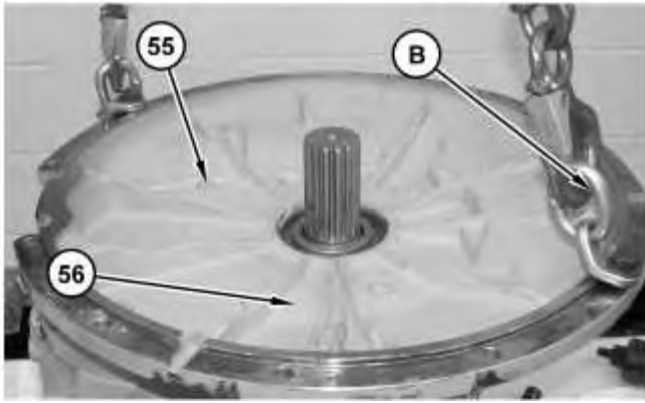


Illustration 9

g01174701

22. Attach Tooling (B) and a suitable lifting device to cover (56).
23. Install cover (56) and bolts (55). Tighten bolts (55) to a torque of 98 ± 15 N·m (72 ± 11 lb ft).

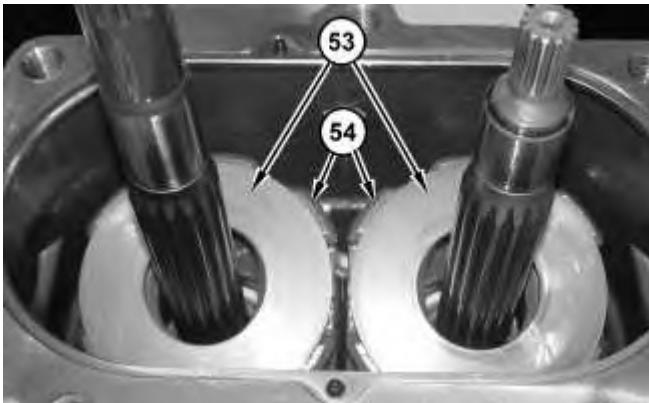


Illustration 10

g01174699

24. Install swashplates (54) and plates (53).



Illustration 11

g01175099

25. Install springs (49).



Illustration 12

g01175092

26. Install bearing (52).

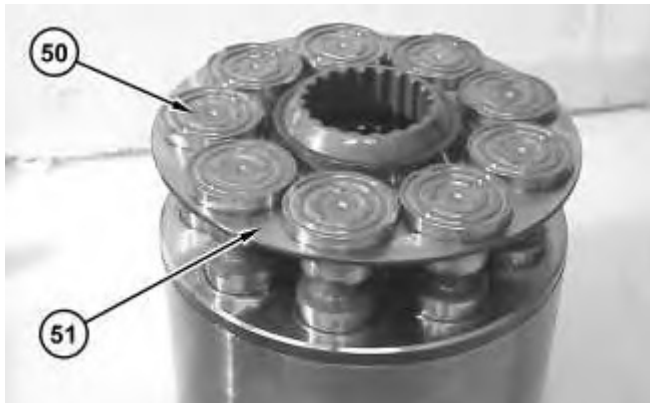


Illustration 13

g01175192

27. Install pistons (50) and retainer (51).



Illustration 14

g01175041

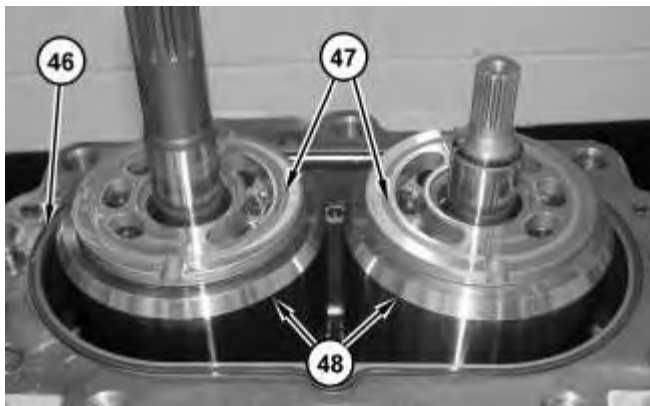


Illustration 15

g01174697

28. Use a suitable string in order to retain the pistons during installation.
29. Install barrels (48) and port plates (47).
30. Install gasket (46).

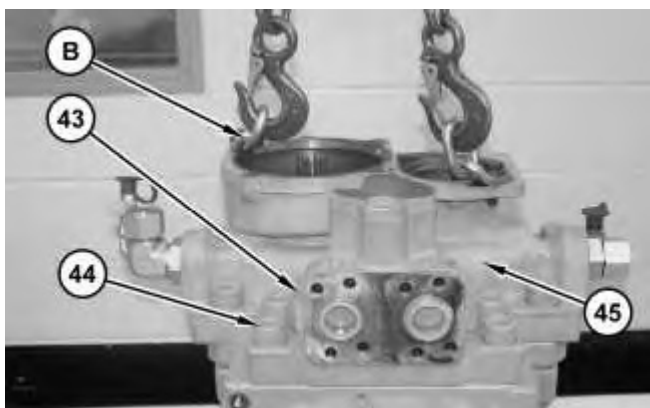


Illustration 16

g01174696

31. Attach Tooling (B) and a suitable lifting device to head assembly (45).
32. Install head assembly (45).
33. Install bolts (44) and bolts (43). Tighten bolts (44) to a torque of $630 \pm 95 \text{ N}\cdot\text{m}$ ($465 \pm 70 \text{ lb ft}$).

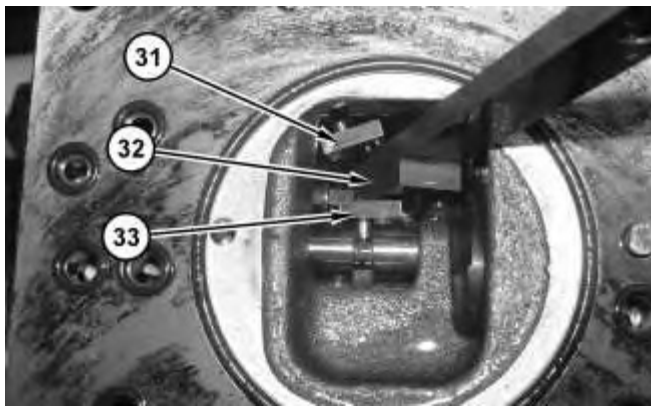


Illustration 17

g01174693

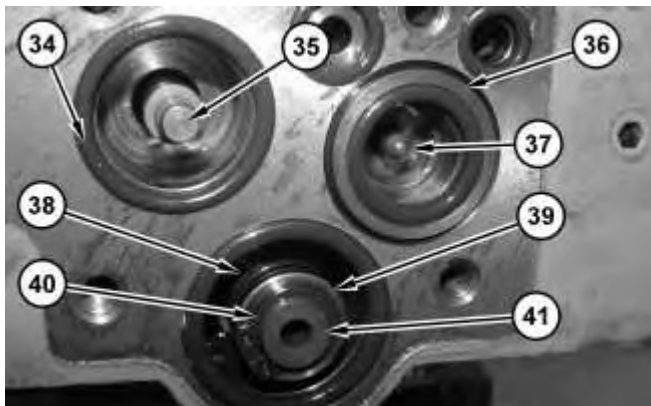


Illustration 18

g01174694

34. Install spool (35), spool (37), sleeve (36), and spool (41).
35. Install lever (33), lever (32), and lever (31).
36. Install spring (38) and retainer (39).
37. Use Tooling (C) in order to install retaining ring (40).
38. Install O-ring seals (34).

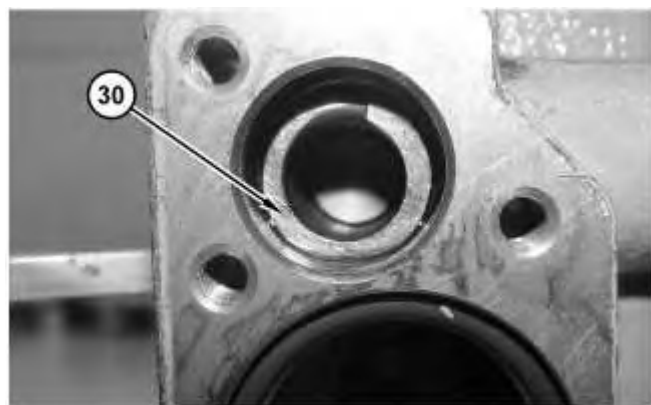


Illustration 19

g01174692

39. Install spring (30).



Illustration 20

g01174691



Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

40. Install plug (29).

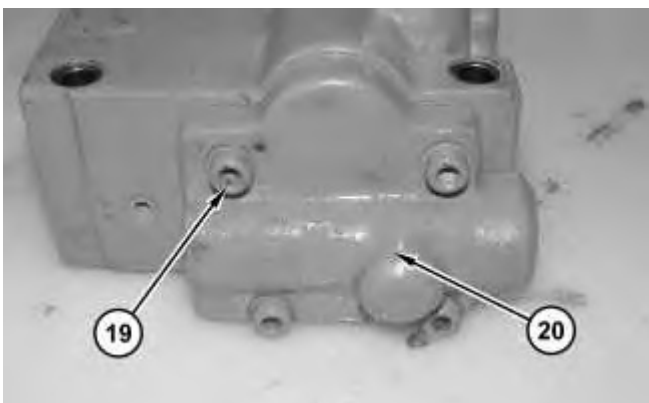


Illustration 21

g01174686

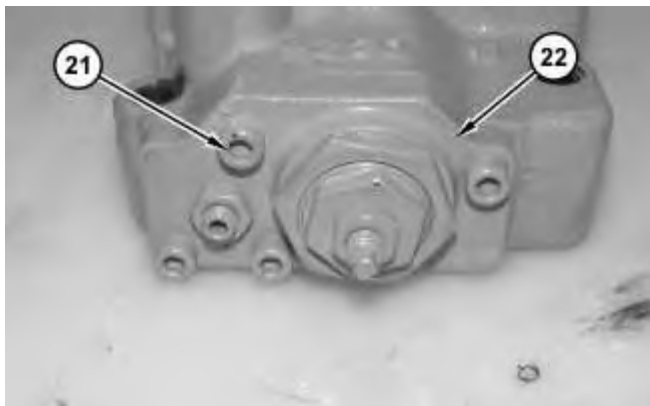


Illustration 22

g01174687

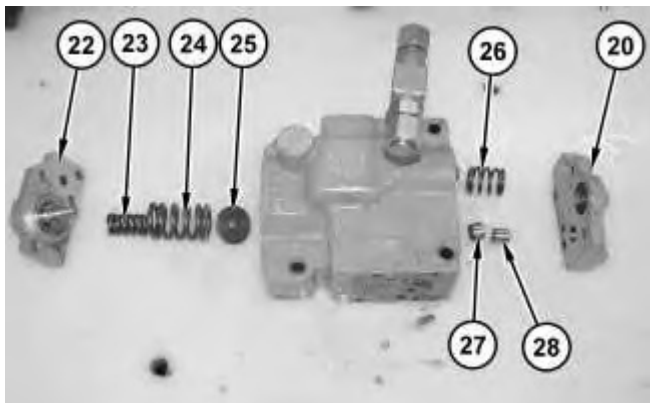


Illustration 23

g01174688

WARNING

Improper assembly of parts that are spring loaded can cause bodily injury.

To prevent possible injury, follow the established assembly procedure and wear protective equipment.

41. Install spring (26), sleeve (27), and piston (28).
42. Install retainer (25), spring (24), and spring (23).
43. Install the O-ring seals, cover (22), and bolts (21). Tighten bolts (21) to a torque of $12 \pm 1.8 \text{ N}\cdot\text{m}$ ($106 \pm 16 \text{ lb in}$).
44. Install the O-ring seals, cover (20), and bolts (19). Tighten bolts (19) to a torque of $12 \pm 1.8 \text{ N}\cdot\text{m}$ ($106 \pm 16 \text{ lb in}$).



Illustration 24

g01175044

45. Install plug (18) and plug (17).



Illustration 25

g01174684

46. Install cover (16) and bolts (15). Tighten bolts (15) to a torque of $6.9 \pm 1.0 \text{ N}\cdot\text{m}$ ($61 \pm 9 \text{ lb in}$).

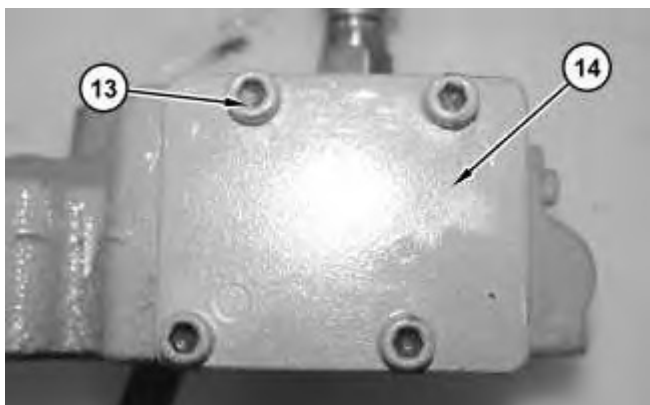


Illustration 26

g01212508

47. Install the O-ring seals, cover (14), and bolts (13). Tighten bolts (13) to a torque of $12 \pm 1.8 \text{ N}\cdot\text{m}$ ($106 \pm 16 \text{ lb in}$).

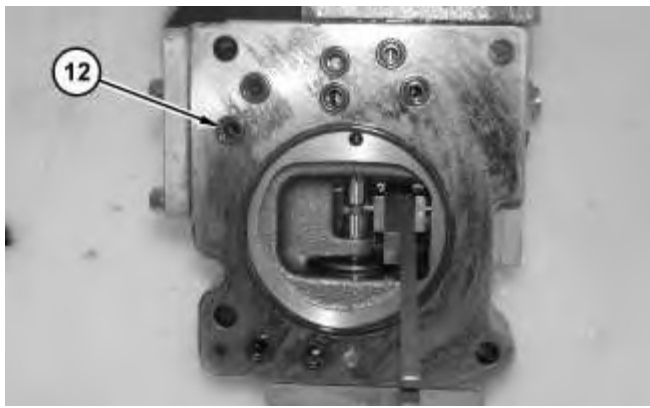


Illustration 27

g01212507

48. Install O-ring seals (12).

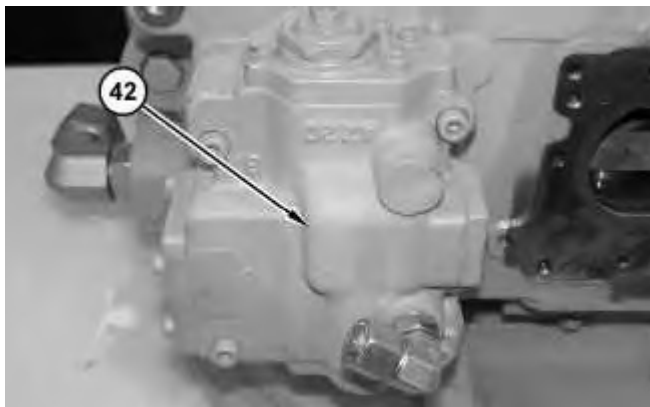


Illustration 28

g01174695

49. Install valve (42).
50. Repeat Steps 33 through Steps 49.

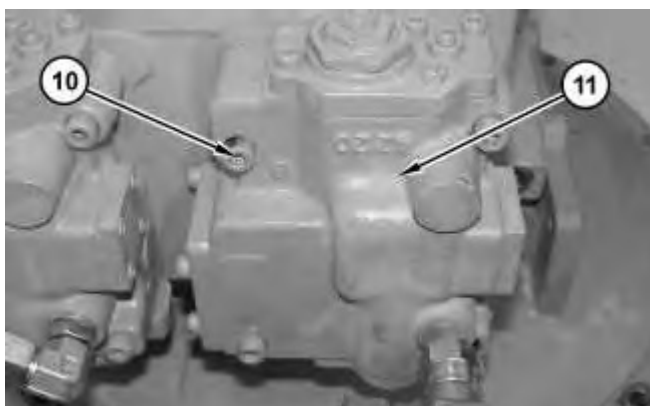


Illustration 29

g01212506

51. Install valve (11) and bolts (10). Tighten bolts (10) to a torque of 29 ± 4 N·m (21 ± 3 lb ft).

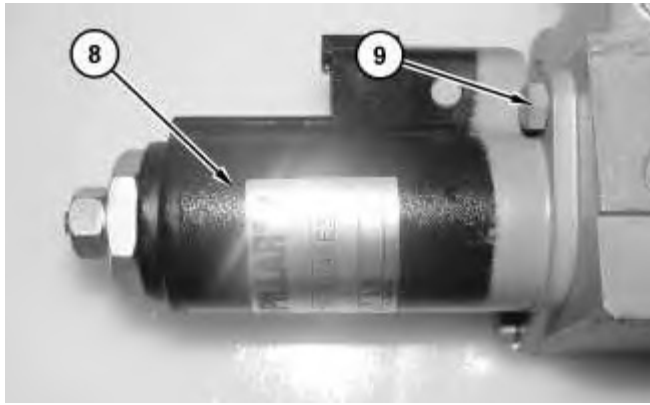


Illustration 30

g01212503

52. Install the O-ring seals, solenoid (8), and bolts (9). Tighten bolts (9) to a torque of $6.9 \pm 1.0 \text{ N}\cdot\text{m}$ ($61 \pm 9 \text{ lb in}$).

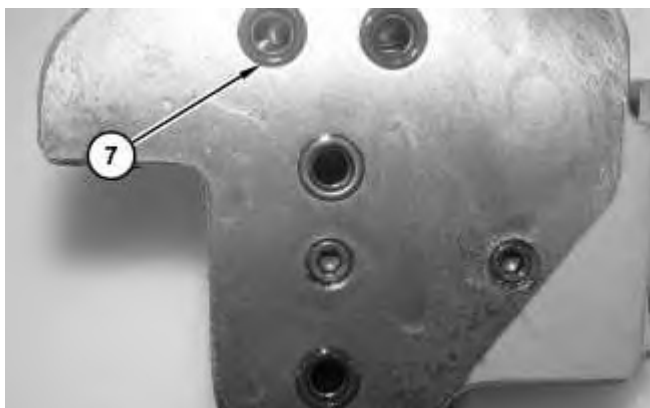


Illustration 31

g01212502

53. Install O-ring seals (7).

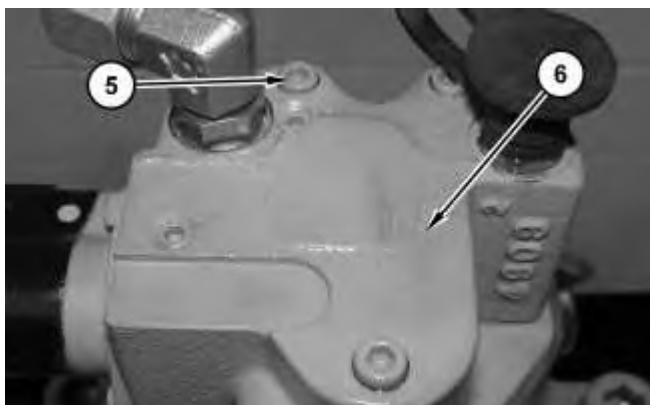


Illustration 32

g01212677

54. Install housing (6) and bolts (5). Tighten bolts (5) to a torque of $11.8 \pm 1.8 \text{ N}\cdot\text{m}$ ($104 \pm 16 \text{ lb in}$).

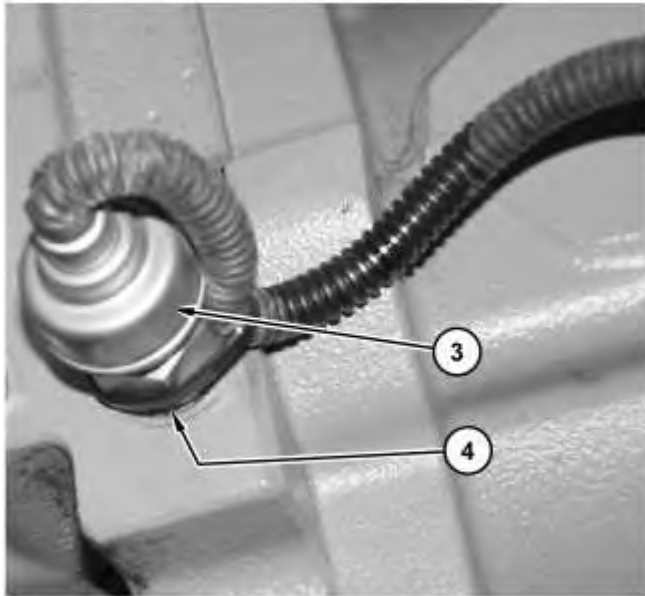


Illustration 33

g01376281

55. Install O-ring seal (4) (not shown) and sensor (3).

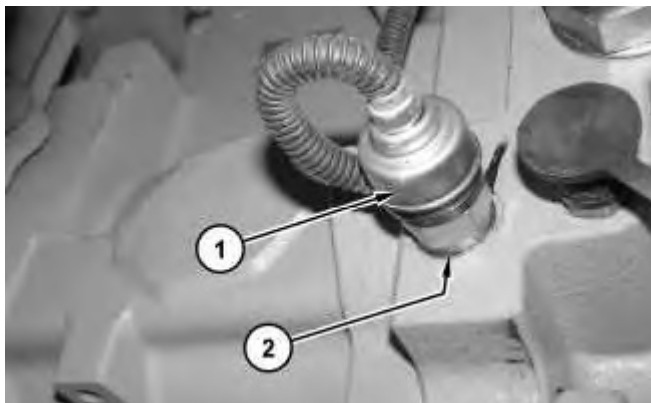


Illustration 34

g01376280

56. Install O-ring seal (2) (not shown) and sensor (1).

End By:

- a. Install the main hydraulic pump. Refer to Disassembly and Assembly, "Main Hydraulic Pump - Install".

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Disassembly and Assembly 330D Excavator Machine Systems

Media Number -KENR5993-02

Publication Date -01/02/2017

Date Updated -20/02/2017

i02711701

Main Hydraulic Pump - Install

SMCS - 5070-012

Installation Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1U-9200	Lever Puller Hoist	1
B	138-7575	Link Bracket	3

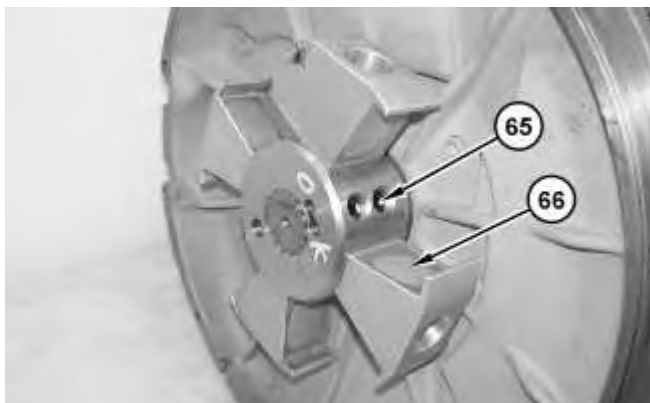


Illustration 1

g01361580

1. Position coupling (66) so that the hub of coupling (66) is flush with the end of the pump shaft. Install screws (65). Tighten screws (65) to a torque of 210 ± 10 N·m (155 ± 7 lb ft).

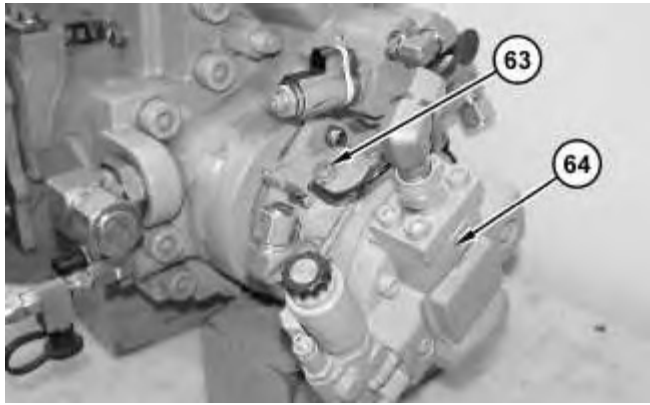


Illustration 2

g01361579

2. Position piston pump (64) and install bolts (63).

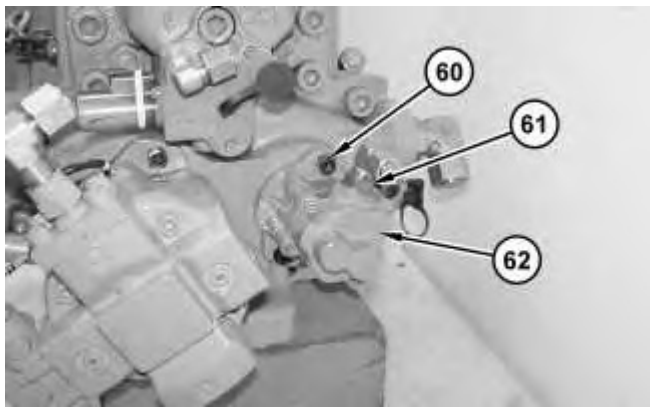


Illustration 3

g01361578

3. Position gear pump (62) and install bolts (60). Tighten bolts (60) to a torque of 33 ± 5 N·m (24 ± 4 lb ft). Install fitting (61).

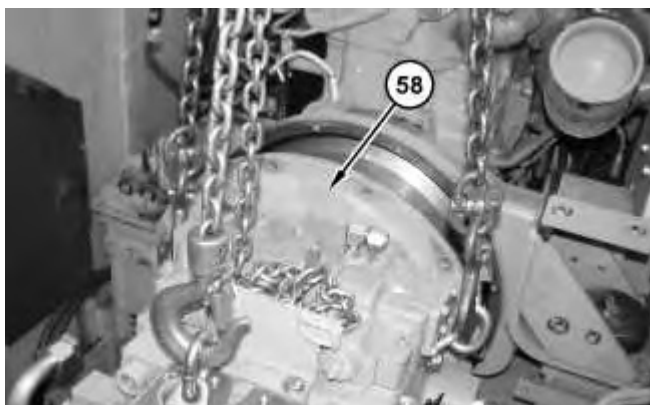


Illustration 4

g01361576

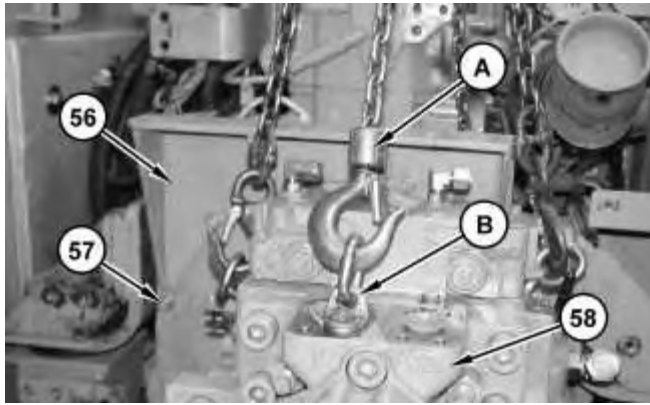


Illustration 5

g01361571

4. Attach Tooling (A), Tooling (B), and a suitable lifting device to main hydraulic pump (58). The weight of main hydraulic pump (58) is approximately 227 kg (500 lb). Position main hydraulic pump (58) in the machine.
5. Install bracket (56) and bolts (57).

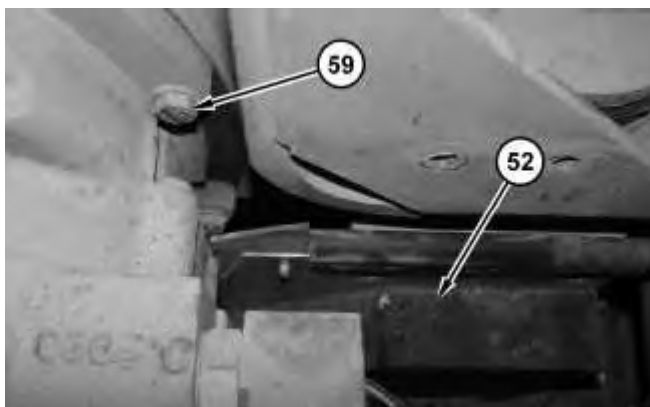


Illustration 6

g01361573

6. Reposition panel (52). Install remaining bolts (59).

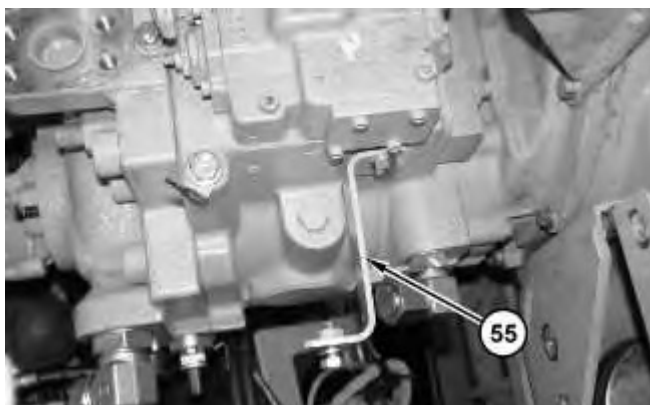


Illustration 7

g01361565

7. Install bracket (55).

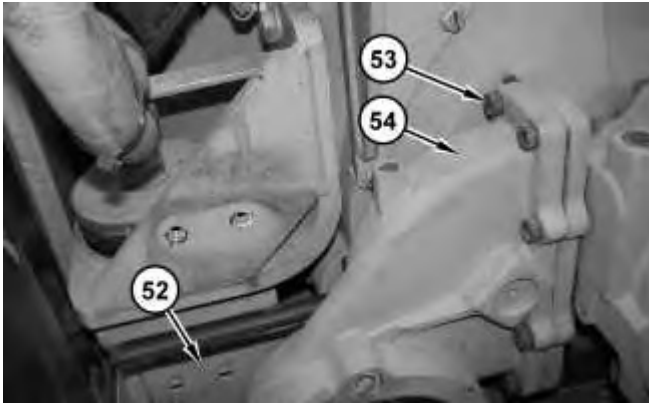


Illustration 8

g01361560

8. Reposition panel (52). Install the O-ring seal. Use two people to install auxiliary drive group (54). The weight of auxiliary drive group (54) is approximately 34 kg (75 lb). Install bolts (53).

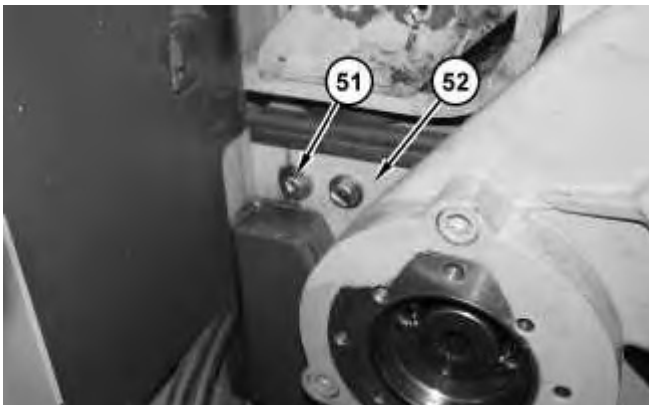


Illustration 9

g01361557

9. Position panel (52). Install bolts (51) to both sides of panel (52).

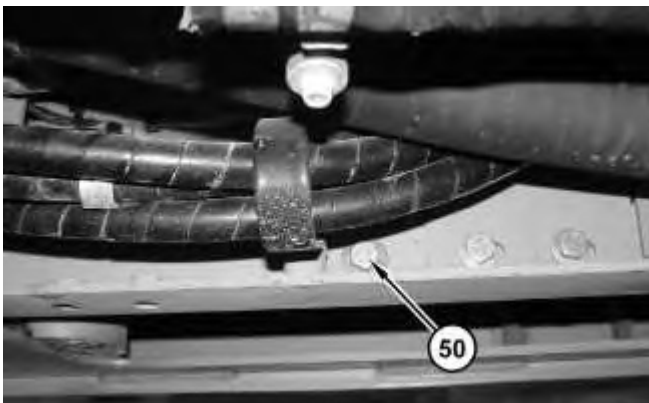


Illustration 10

g01361551

10. Install bolt (50).

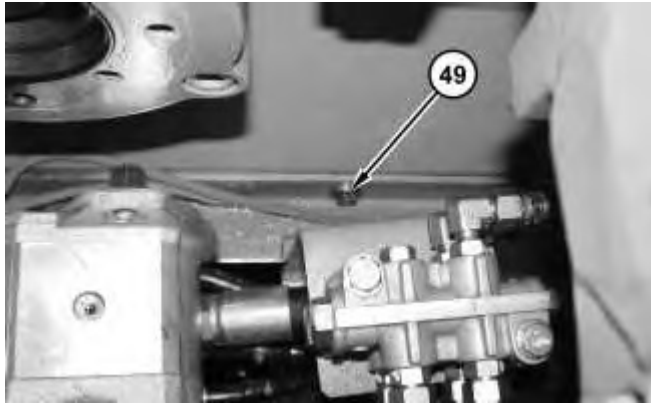


Illustration 11

g01361542

11. Install bolt (49).

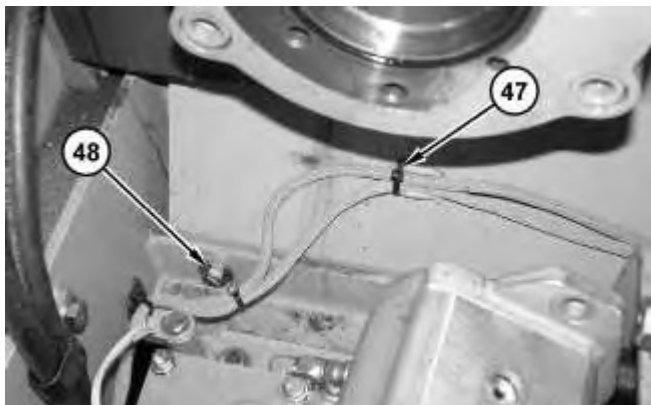


Illustration 12

g01361539

12. Install bolt (48). Install a new cable strap (47).

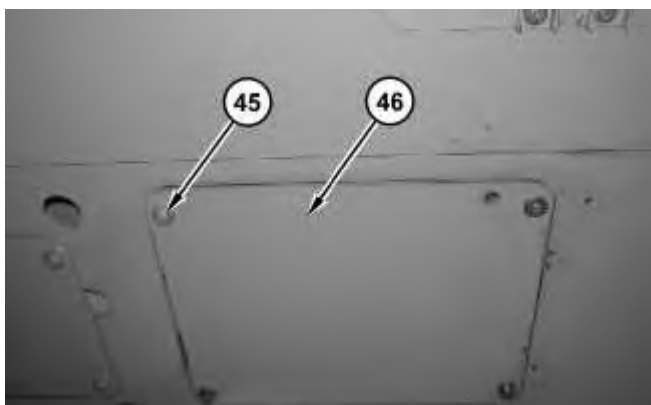


Illustration 13

g01361535

13. Position guard (46) and install bolts (45).



Illustration 14

g01361531

14. Position bracket assembly (44) and install bolts (43). Tighten bolts (43) to a torque of $30 \pm 7 \text{ N}\cdot\text{m}$ ($22 \pm 5 \text{ lb ft}$).

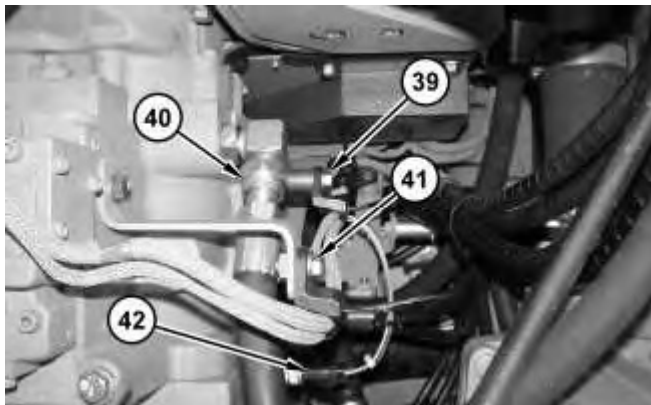


Illustration 15

g01361526

15. Connect hose assembly (40) and harness assembly (42).
16. Install clips (39) and (41).

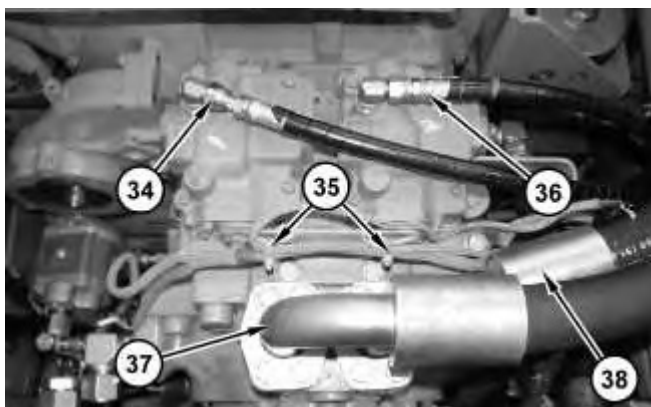


Illustration 16

g01361514

17. Connect hose assemblies (34), (36), (37), and (38).

18. Install new cable straps (35).

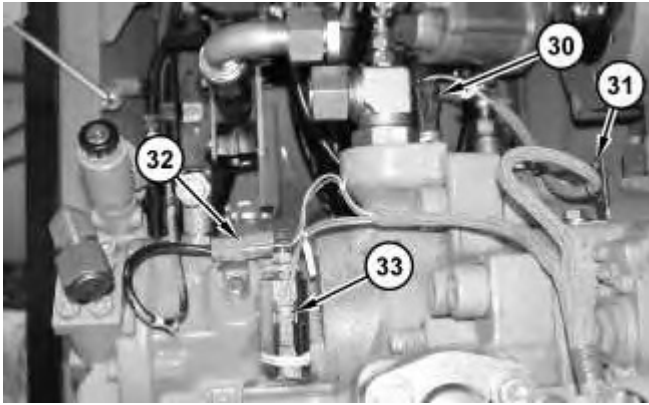


Illustration 17

g01361513

19. Connect harness assemblies (30), (32), and (33). Install a new cable strap (31).

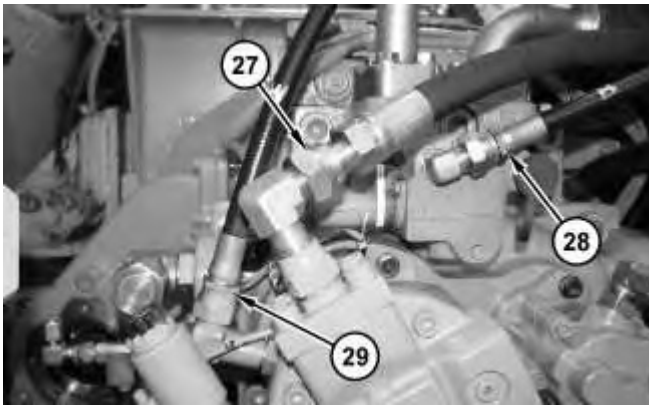


Illustration 18

g01361512

20. Connect hose assemblies (27), (28), and (29).

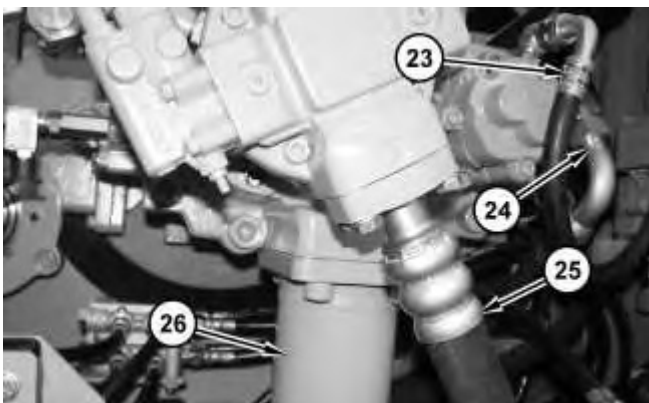


Illustration 19

g01361510

21. Connect tube assembly (26).

22. Connect hose assemblies (23), (24), and (25).

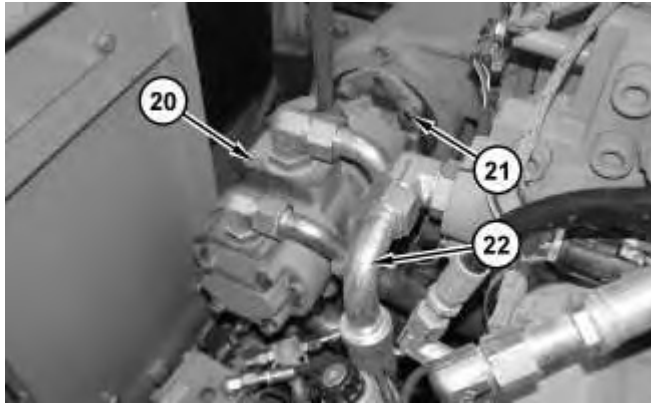


Illustration 20

g01361508

23. Attach a suitable lifting device to auxiliary gear pump (20). The weight of auxiliary gear pump (20) is approximately 45 kg (100 lb). Position auxiliary gear pump (20) and install bolts (21).
24. Connect hose assembly (22).

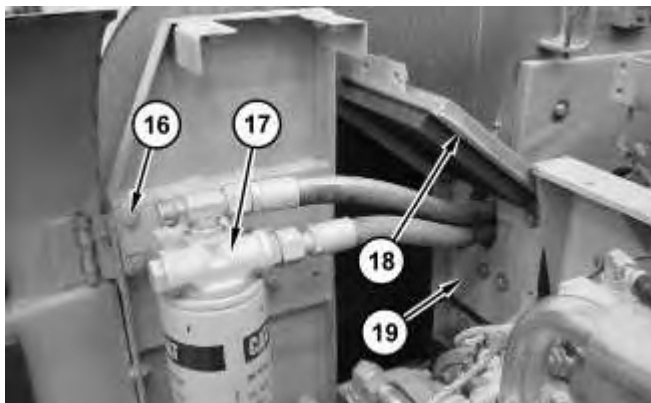
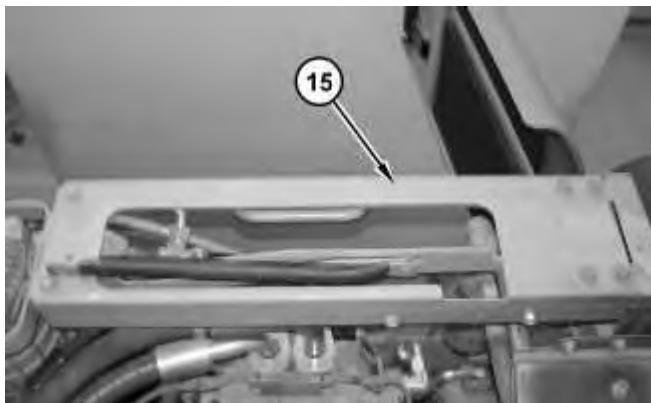


Illustration 21

g01361507

25. Position oil filter base (17) and install bolts (16). Install sheet assemblies (19) and (18).



26. Install bracket assembly (15).

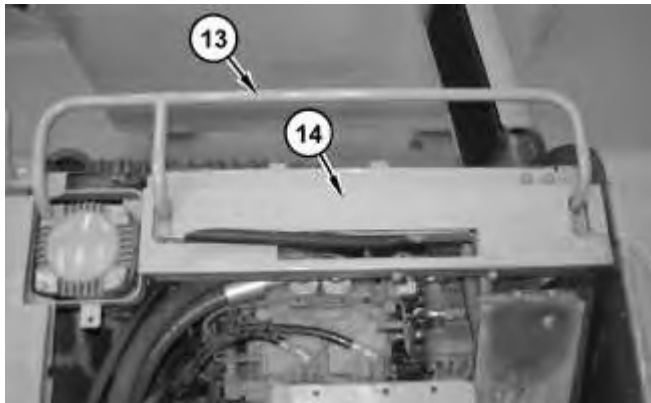


Illustration 23

27. Install cover (14) and handhold assembly (13).

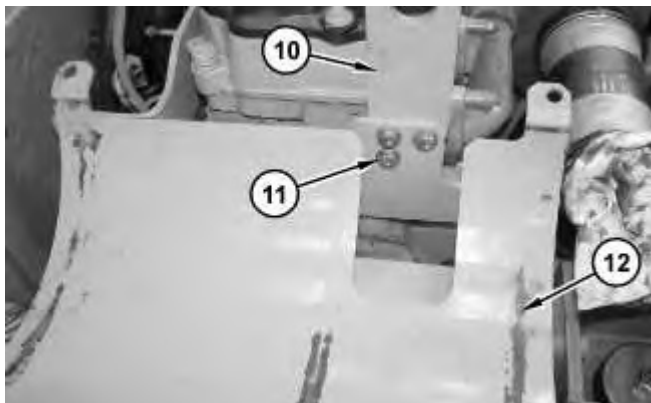


Illustration 24

28. Install muffler support (12), engine lifting bracket (10), and bolts (11).

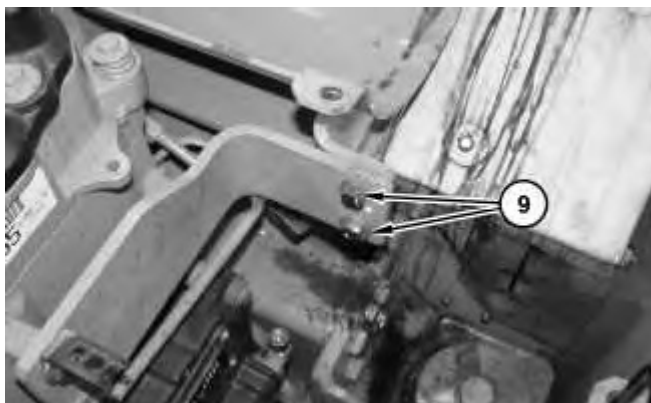


Illustration 25

29. Install bolts (9).

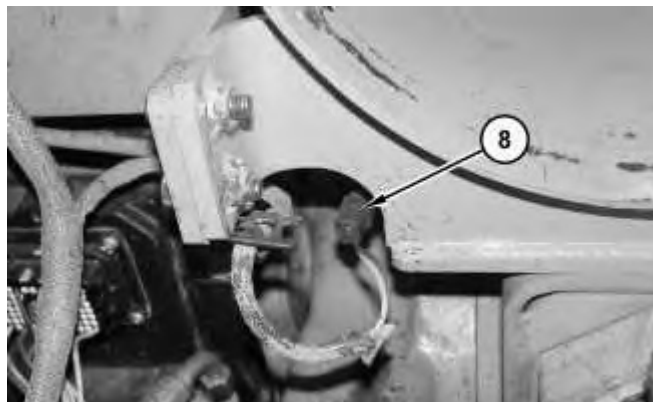


Illustration 26

g01361499

30. Connect harness assembly (8).

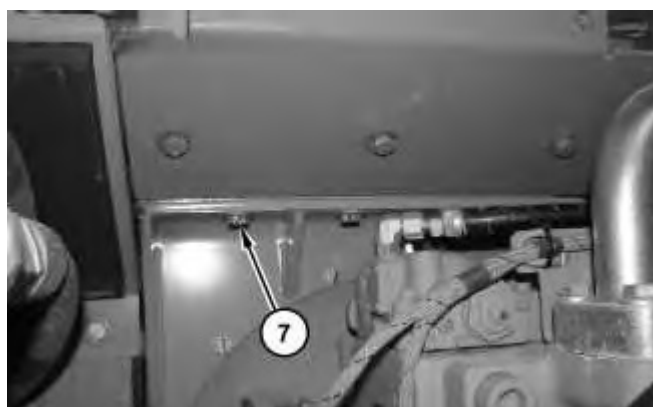


Illustration 27

g01361497

31. Install bolts (7).

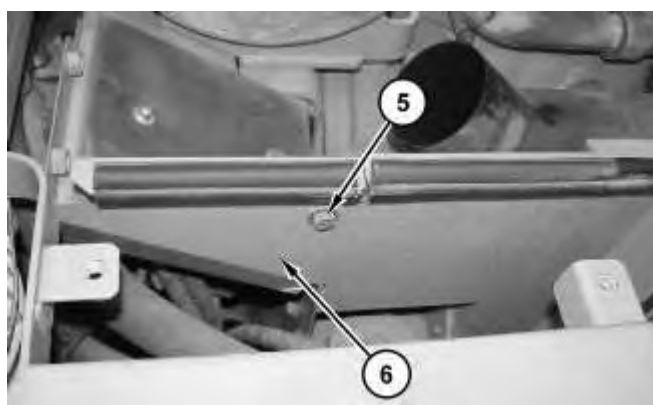


Illustration 28

g01361496



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