

Product: TRUCK

Model: 794 AC TRUCK MN5

Configuration: 794 AC Off-Highway Truck MN500001-UP (MACHINE) POWERED BY C175-16 Engine

## Disassembly and Assembly C175-16 Engine for Caterpillar Built Machines

Media Number -UENR5561-02

Publication Date -01/02/2018

Date Updated -02/02/2018

i06709742

# Fuel and Auxiliary Water Pump Drive - Remove and Install - C175-20

SMCS - 1288-010; 1371-010-DRV

## Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	439-3940	Link Bracket	1
B	1P-0520	Driver Gp	1

### Start By:

- a. Remove the fuel pump.
  - b. Remove the auxiliary water pump.
-

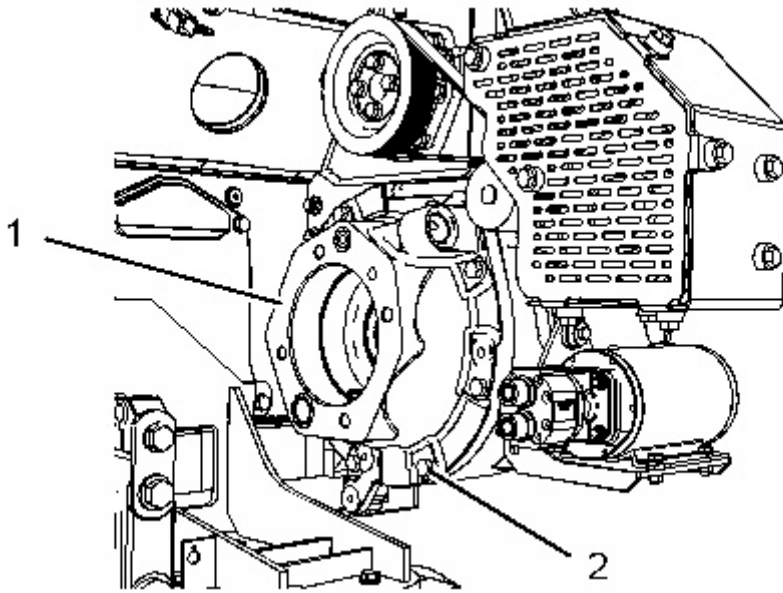


Illustration 1

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1. Attach Tooling (A) and a suitable lifting device onto housing (1). The weight of housing (1) is approximately 23 kg (50 lb). Remove bolts (2). Remove housing (1).

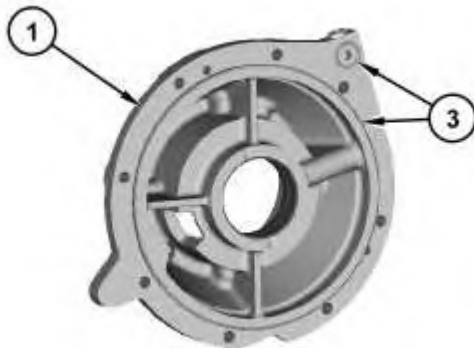
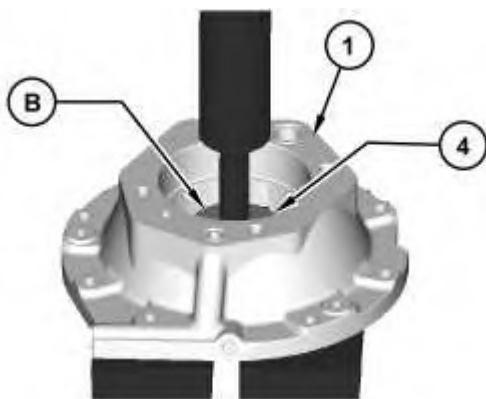


Illustration 2

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2. Remove O-ring seals (3) from housing (1).



3. Use Tooling (B) and a suitable press to remove bearing (4) from housing (1).

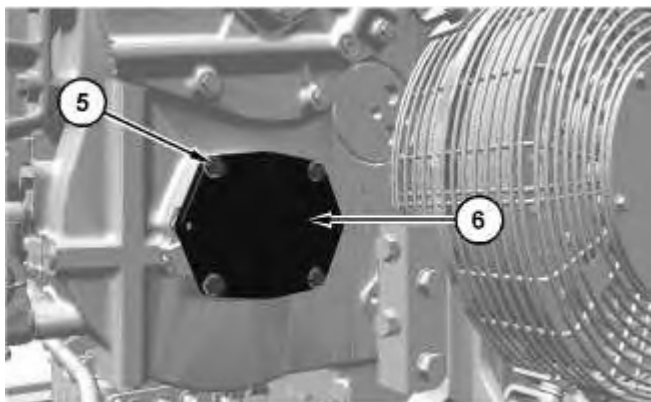


Illustration 4

4. Remove bolts (5), cover (6), and the O-ring seals.

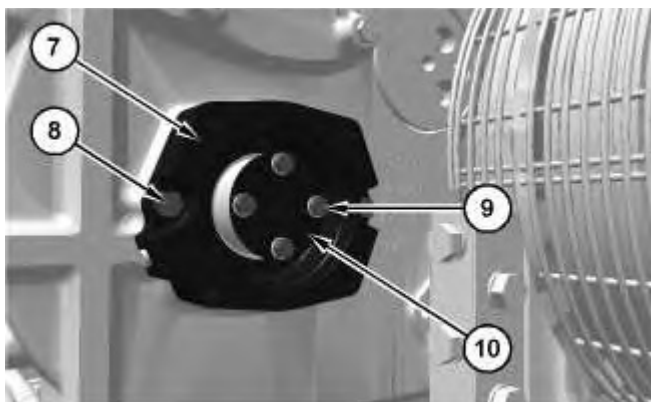
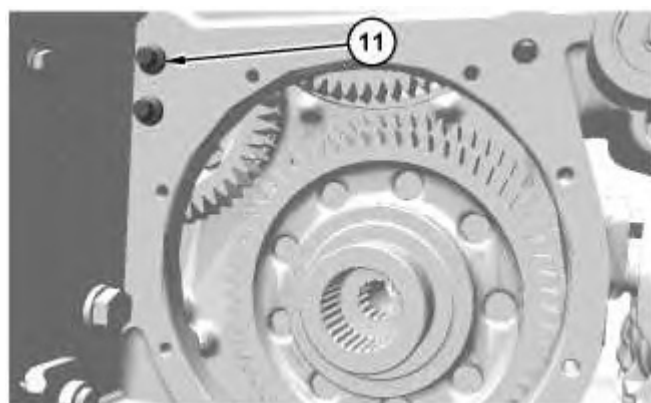


Illustration 5

5. Remove bolts (9) and cover (10).
6. Remove bolts (8) adapter (7). The fuel and auxiliary water pump drive gear assembly will drop down.



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7. Remove bolts (11).

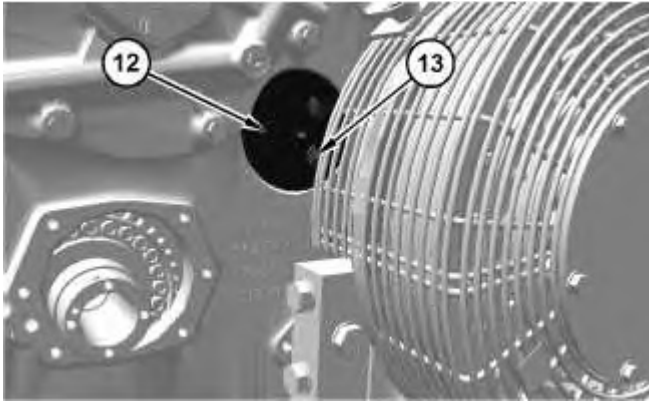


Illustration 7

8. Remove bolts (13) and idler shaft (12). The idler gear will drop down.

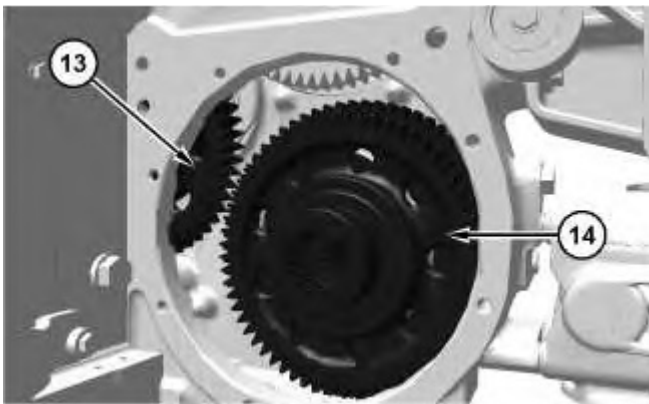
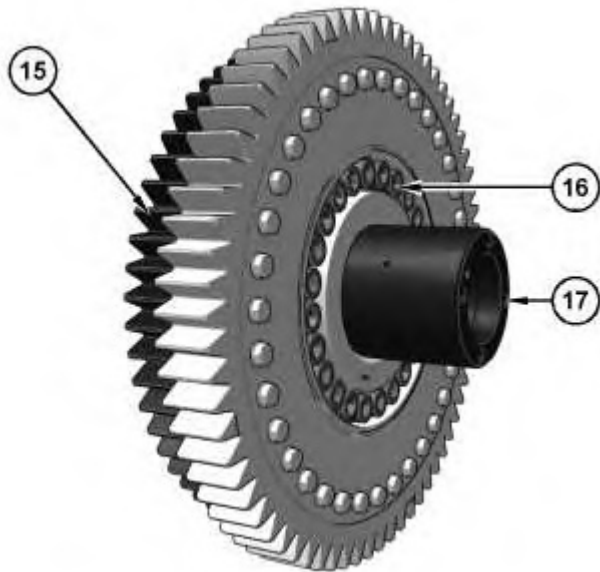


Illustration 8

9. Remove idler gear (13) and fuel and auxiliary water pump drive gear assembly (14).
-

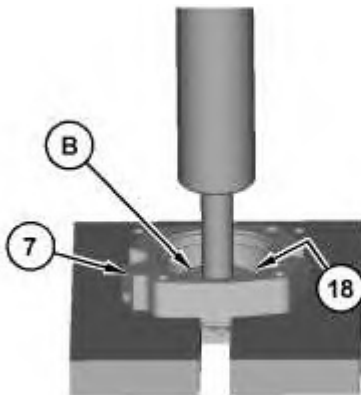


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Illustration 9

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10. Remove bolts (16), shaft (17), and auxiliary water pump drive gear (15).



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Illustration 10

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11. Use Tooling (B) and a suitable press to remove bearing (18) from adapter (7).

## Installation Procedure

1. Install fuel and auxiliary water pump drive gear assembly (14) in the reverse order of removal.
-

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i04821871

# Auxiliary Water Pump - Remove

SMCS - 1371-011

## Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	138-7573	Link Bracket	1

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### NOTICE

**Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting, and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.**

**Refer to Special Publication, NENG2500, "Dealer Service Tool Catalog" for tools and supplies suitable to collect and contain fluids on Cat products.**

**Dispose of all fluids according to local regulations and mandates.**

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1. Drain the coolant from the auxiliary cooling system into a suitable container for storage or for disposal. Refer to Operation and Maintenance Manual, "Cooling System Coolant - Change".
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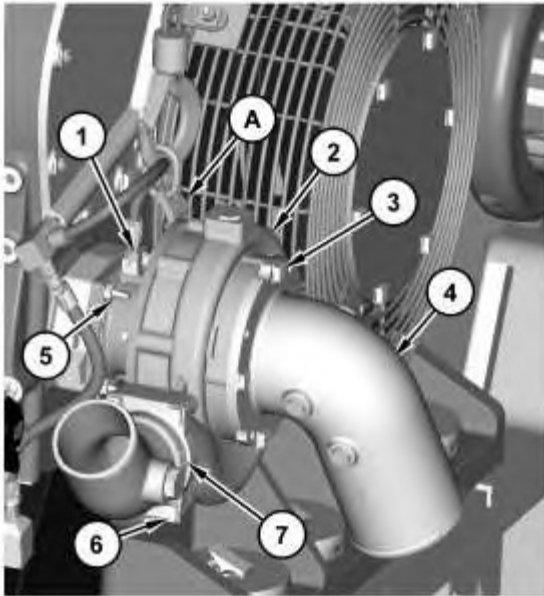


Illustration 1

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2. Disconnect tube assembly (1) . Remove bolts (3) . Remove elbow (4) . Remove bolts (6) . Remove elbow (7) .
3. Use Tooling (A) and attach a suitable lifting device onto auxiliary water pump (2) . The weight of auxiliary water pump (2) is approximately 31 kg (69 lb). Remove nuts (5) . Remove auxiliary water pump (2) .

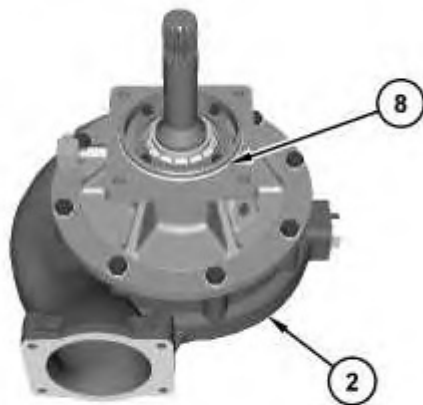


Illustration 2

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4. Remove O-ring seal (8) from auxiliary water pump (2) .

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# Auxiliary Water Pump - Disassemble

SMCS - 1371-015

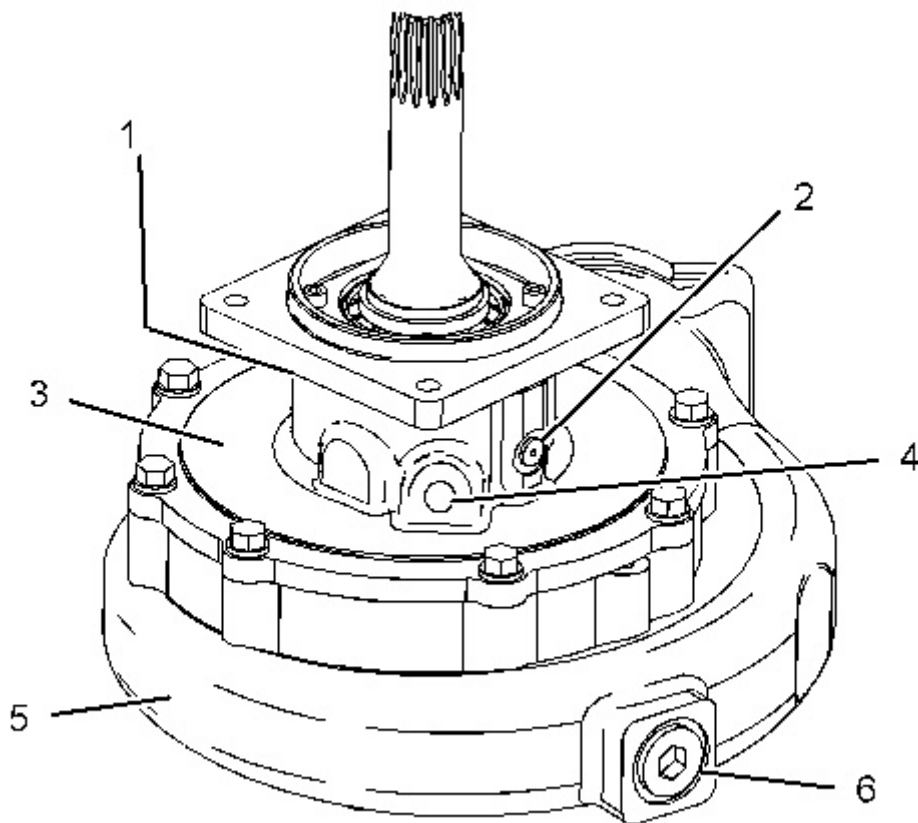
## Disassembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-0510	Driver Gp	1
B	-	1 inch by 4 inch steel plate	2
C	248-3311	Holding Fixture	1
D	248-3310	Spanner Wrench	1
E	8H-0663	Bearing Puller Gp	1

### Start By:

- a. Remove the auxiliary water pump. Refer to Disassembly and Assembly, "Auxiliary Water Pump - Remove".
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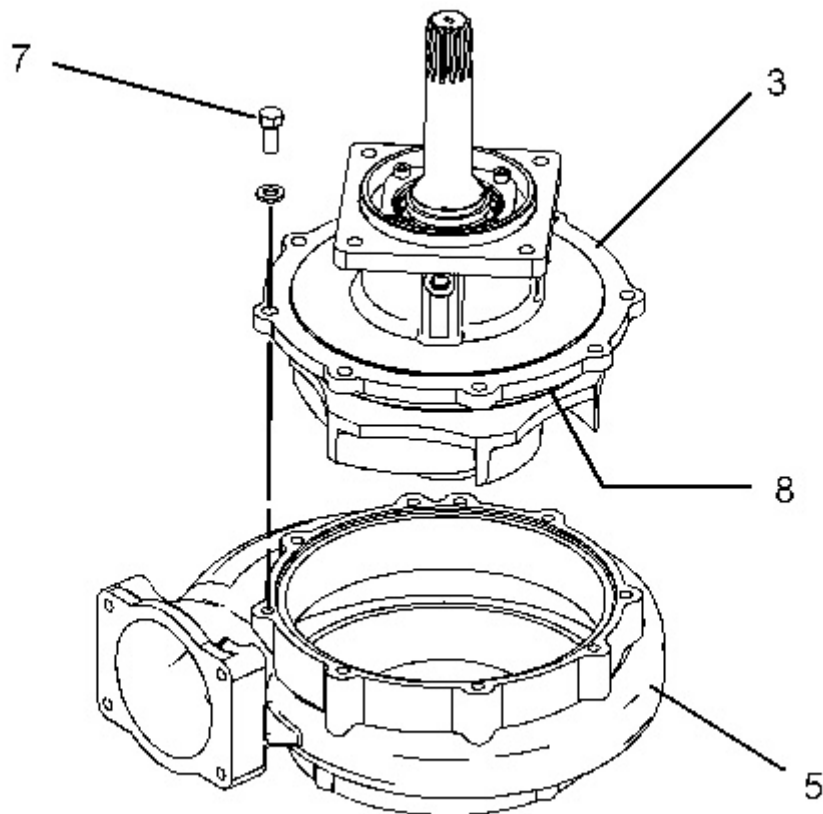


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Illustration 1

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1. Remove plugs (1) and (2) from bearing housing (3). Remove plug (6) from housing (5). Remove the O-ring seals from the plugs.
  2. Remove water pump filter (4) from bearing housing (3).
-



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Illustration 2

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3. Remove bolts (7) and the washers. Remove bearing housing (3) from housing (5). Remove O-ring seal (8) from bearing housing (3).
-

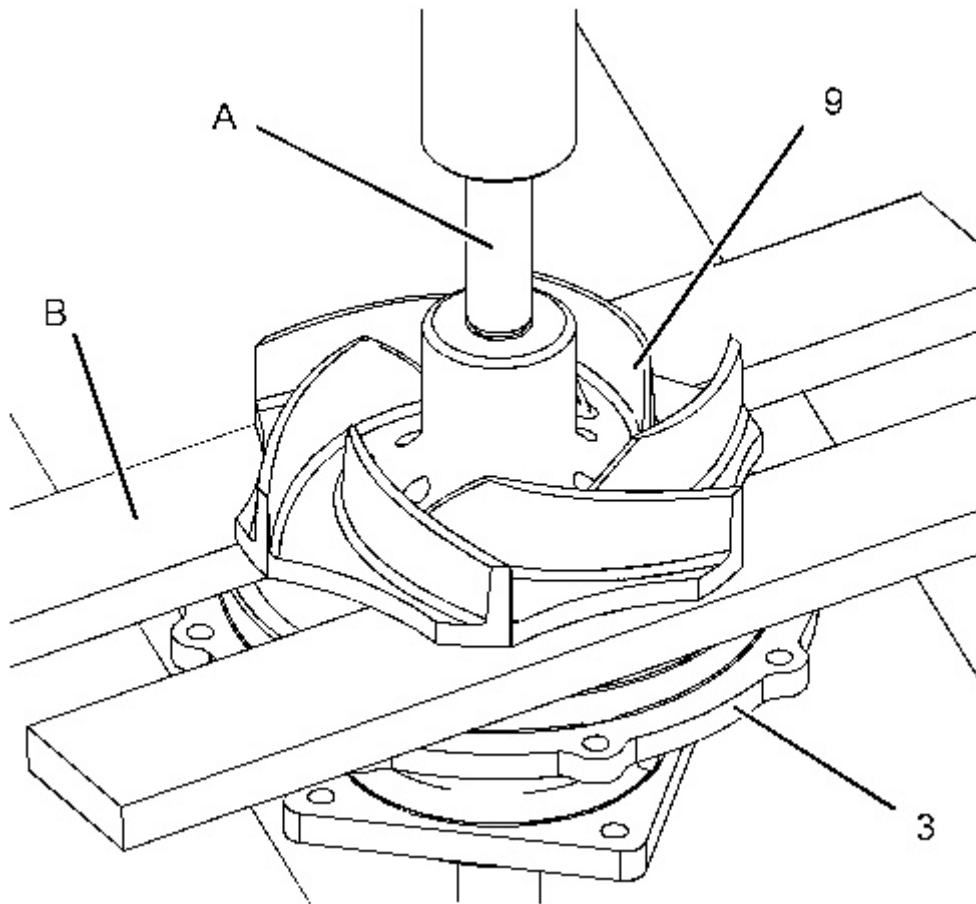


Illustration 3

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 **WARNING**

**Personal injury can result from being struck by parts propelled by a released spring force.**

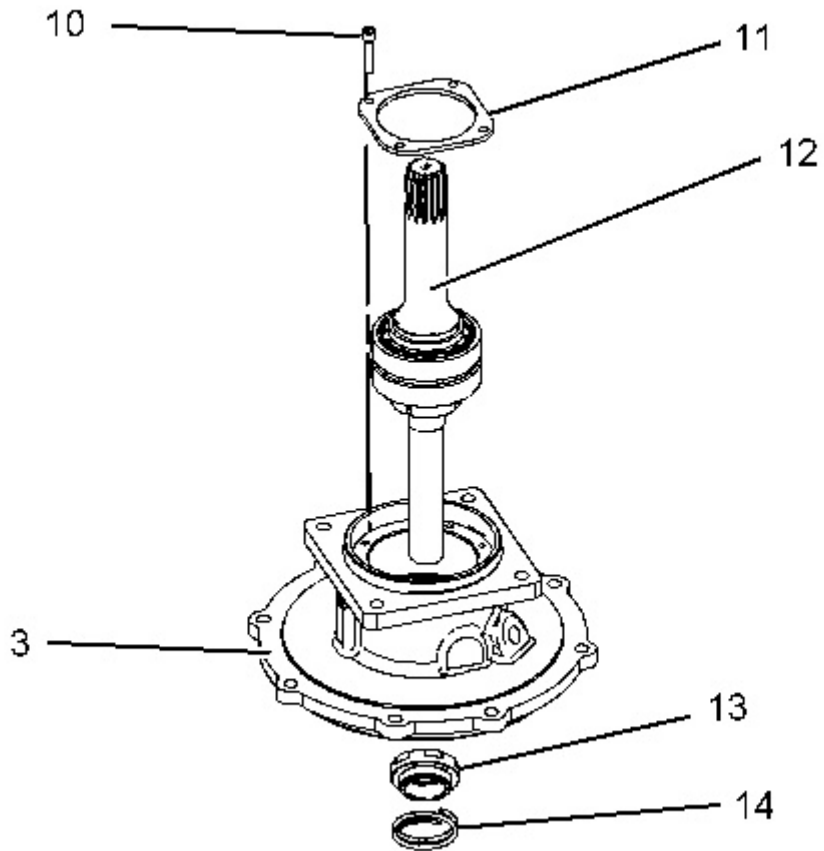
**Make sure to wear all necessary protective equipment.**

**Follow the recommended procedure and use all recommended tooling to release the spring force.**

- 
4. Install Tooling (B) under impeller (9). Use a suitable press and Tooling (A) to remove impeller (9).

**Note:** Do not allow bearing housing (3 ) to fall to the floor when the impeller is removed from the pump shaft.

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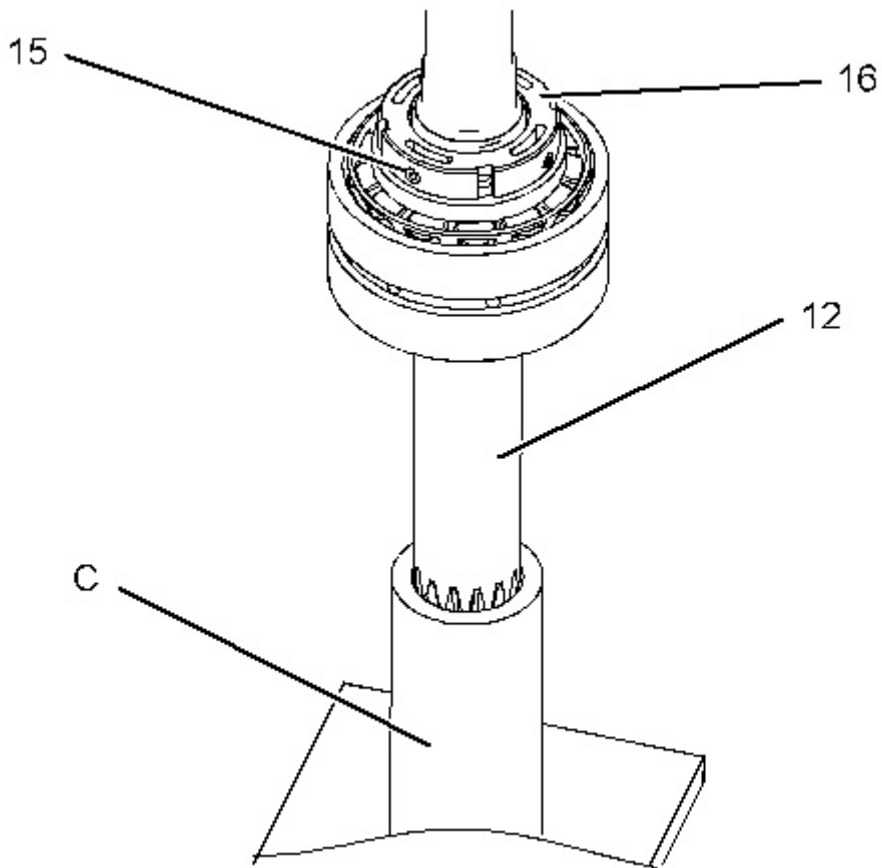
Illustration 4

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5. Remove socket head bolts (10). Remove retainer (11) and pump shaft (12) from bearing housing (3).

**Note:** Spring (14) and ceramic seal (13) will be removed from the shaft assembly when the pump shaft is removed from the bearing housing.

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Illustration 5

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6. Install pump shaft (12) in Tooling (C). Loosen set screws (15). Use Tooling (D) to remove bearing locknut (16) from the pump shaft.

**Note:** The splined end of the pump shaft is marked in order to indicate either RH threads or LH threads on the pump shaft.

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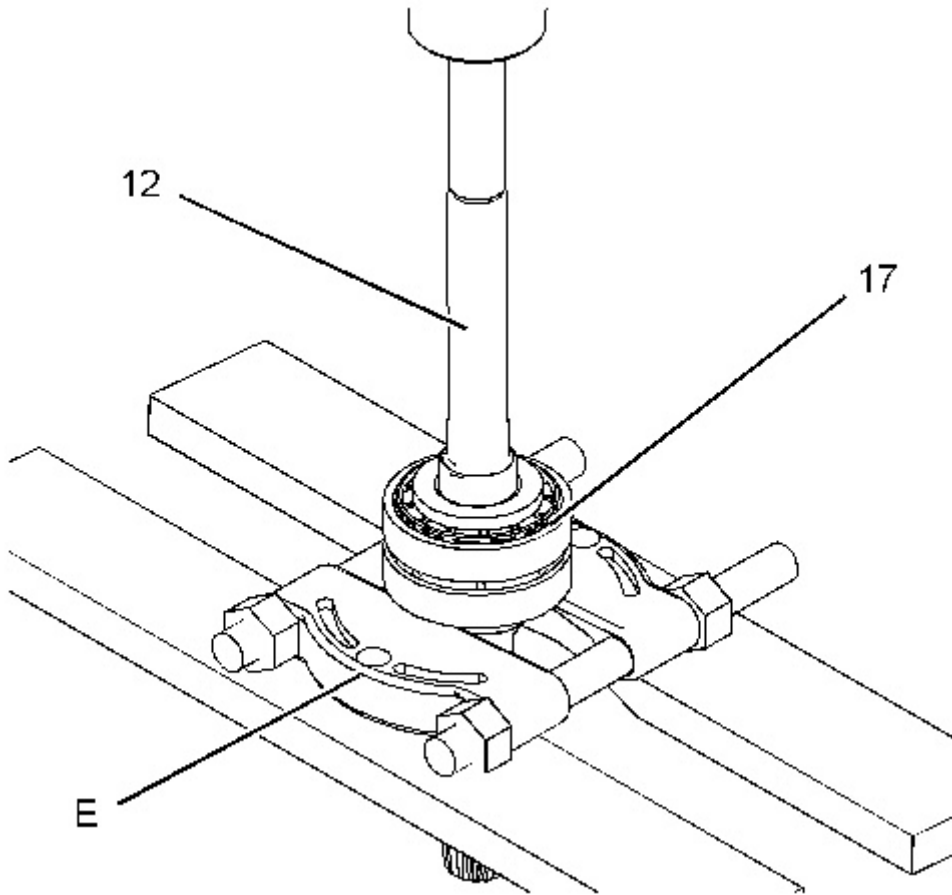


Illustration 6

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7. Use Tooling (E) to remove bearing assembly (17) from pump shaft (12).

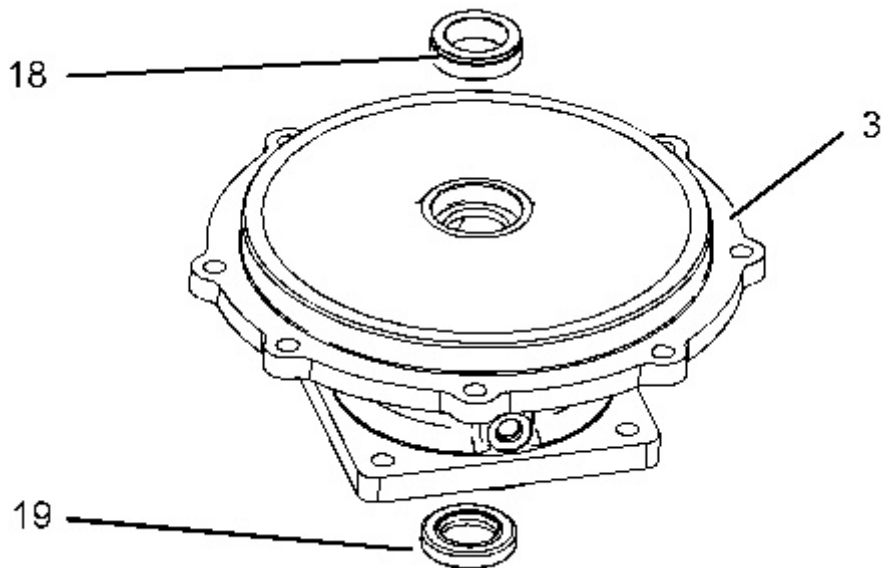


Illustration 7

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8. Remove ceramic seal (18) and lip seal (19) from bearing housing (3).

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i02638976

# Auxiliary Water Pump - Assemble

SMCS - 1371-016

## Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	1P-0510	Driver Gp	1
C	248-3311	Holding Fixture	1
D	248-3310	Spanner Wrench	1
E	8H-0663	Bearing Puller Gp	1
F	1U-6396	O-Ring Assembly Compound	-
G	7N-8268	Installation Tool	1
H	8H-8581	Feeler Gauge	1

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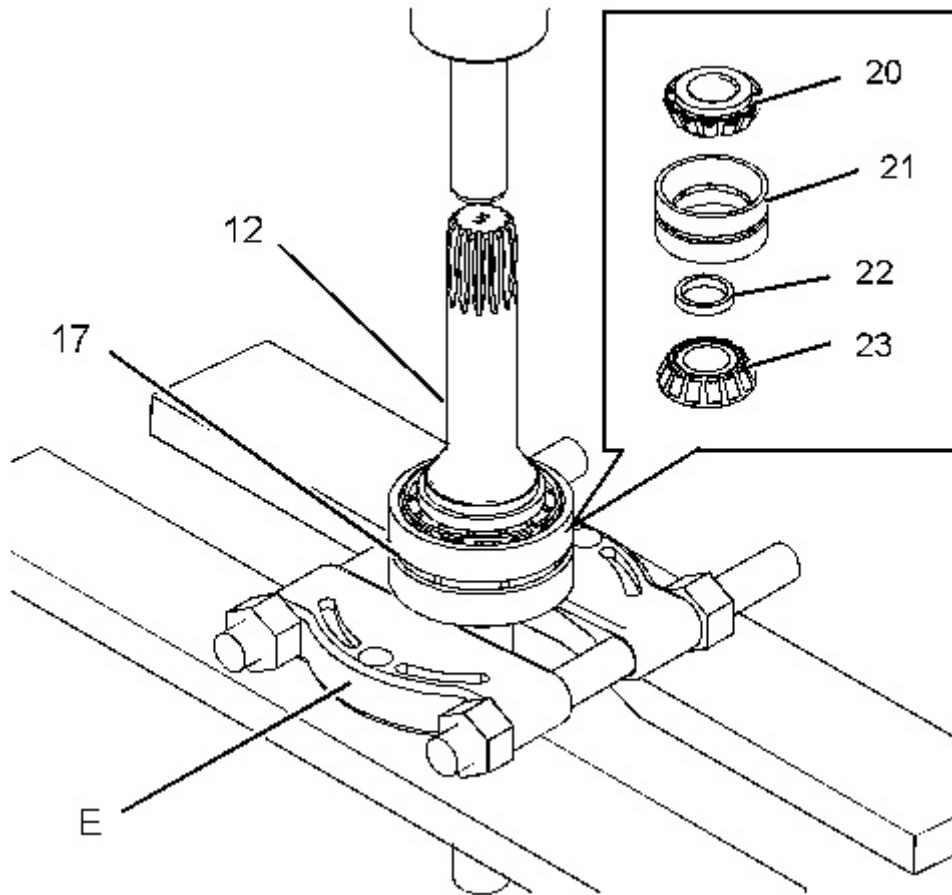
### NOTICE

**Keep all parts clean from contaminants.**

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

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Illustration 1

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1. Use Tooling (E) and a suitable press to install assembly (17) on pump shaft (12).
  2. Install bearing cone (23) on the pump shaft.
  3. Install spacer (22) and bearing cups (21) on the pump shaft.
  4. Install bearing cone (20) on the pump shaft.
-

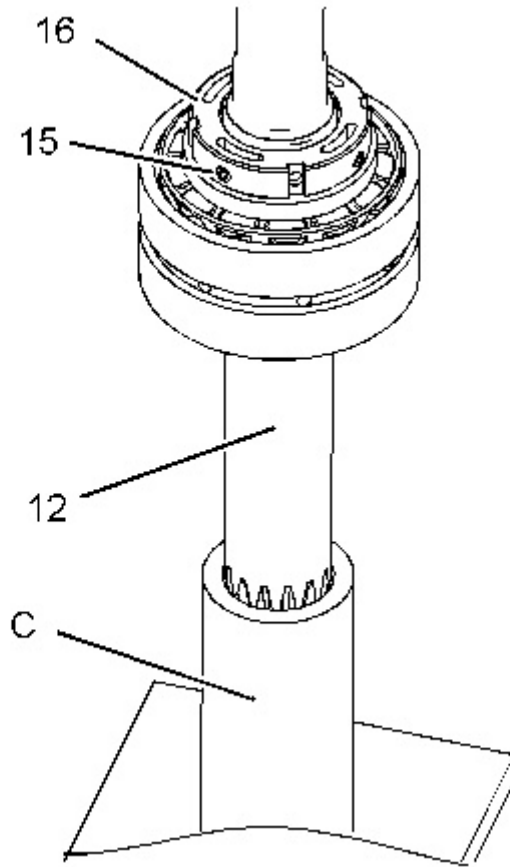


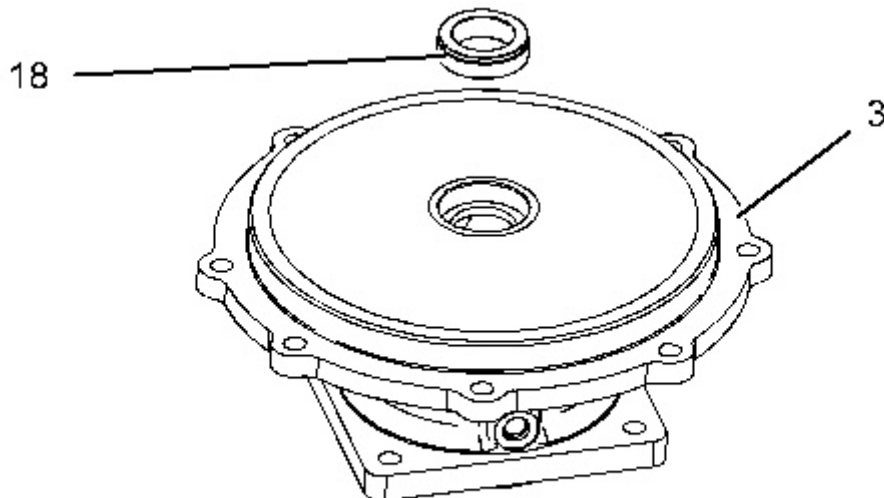
Illustration 2

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5. The splined end of the pump shaft is marked in order to indicate either RH threads or LH threads on the pump shaft. Install bearing locknut (16). Use Tooling (D) on the bearing locknut and tighten the bearing locknut to a torque of  $300 \pm 30$  N·m ( $221 \pm 22$  lb ft).

**Note:** The torque wrench must be 90 degrees to Tooling (D).

6. Install set screws (15) and tighten to a torque of  $4 \pm 1$  N·m ( $35 \pm 9$  lb in).





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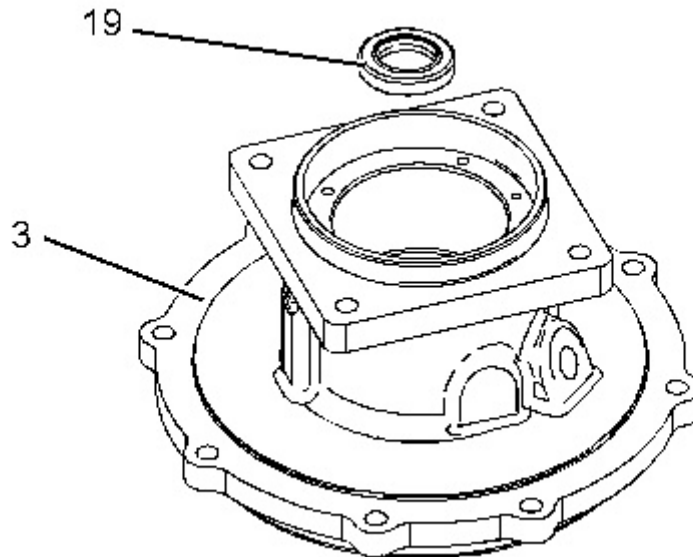
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**Note:** Do not damage the wear surfaces of the carbon ring or the ceramic ring. Do not touch the wear surfaces of the carbon ring or the ceramic ring. Install the ceramic ring with the smoothest face of the ring toward the carbon seal.

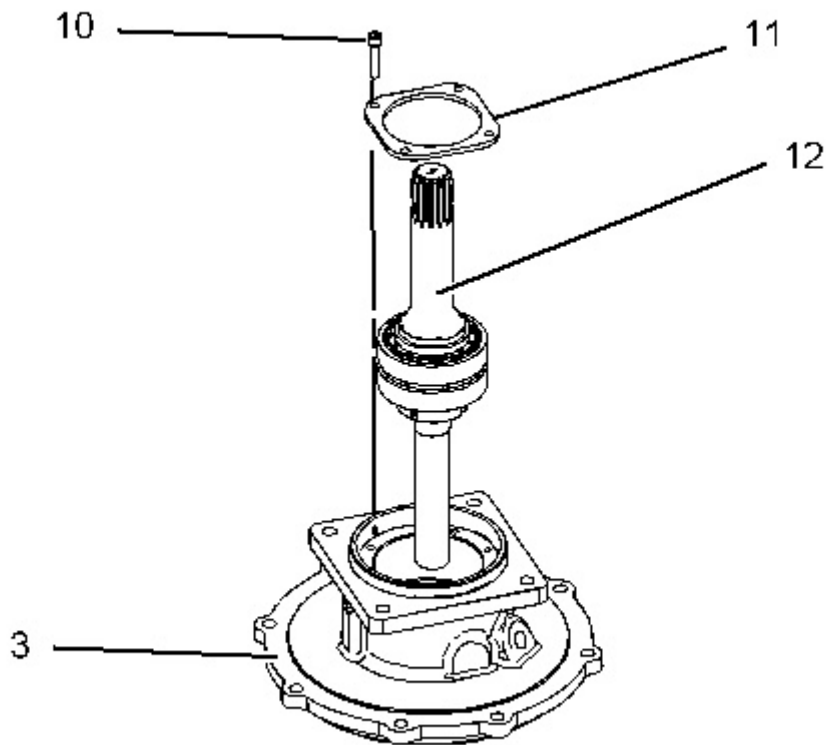
7. Apply Tooling (F) to the outside diameter of ceramic seal (18). Use Tooling (G) and hand pressure to install ceramic seal (18) into bearing housing (3).



8. Use Tooling (A) and a suitable press to install lip seal (19) into bearing housing (3). Ensure that the lip is toward the outside.

**Note:** Install the lip seal dry. Install the lip seal within two minutes of removal from the shipping sleeve.

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Illustration 5

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9. Lubricate pump shaft (12) with clean engine oil. Install the pump shaft in bearing housing (3). Install retainer (11). Install socket head bolts (10) and tighten to a torque of  $12 \pm 3$  N·m ( $106 \pm 27$  lb in).
-

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