

Product: MOTOR GRADER

Model: 140H MOTOR GRADER CCA

Configuration: 140H Motor Grader CCA00001-UP (MACHINE) POWERED BY 3176C Engine

## Disassembly and Assembly 12H, 140H and 160H Motor Graders Machine Systems

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i01906940

## Piston Pump (Hydraulic Fan) - Assemble

SMCS - 1387-016-QP; 5070-016-HFN

### Assembly Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Quantity
A	1P-1857	Retaining Ring Pliers	1
C	1P-0510	Driver Group	1
D	8T-5096	Dial Indicator Gp	1
E	6V-2055	Grease	1



### 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.

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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, "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.**

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**Note:** Many times, the installation of new parts is not necessary. The installation of used parts during reconditioning is acceptable. Used parts can result in a substantial cost reduction. Reusable information is available on piston pumps and motors. Refer to Special Publication, SEBF8032, "Guideline For Reusable Parts - Piston Pumps and Motors". During reconditioning, correct any conditions that might have caused the original failure.

**Note:** Cleanliness is an important factor. Before the disassembly procedure, the exterior of the component should be thoroughly cleaned. This will help to prevent dirt from entering the internal mechanism. Dirt and contaminants can damage precision components that are in pumps and motors. All disassembly and assembly procedures must be performed on a clean work surface. Clean all the interior components in clean solvent. Dry all the interior components with compressed air. Plug ports and plug hoses on the machine during repair.

1. Check all of the O-ring seals and the components for wear or damage. Replace the components, if necessary.
2. Lubricate all of the O-ring seals lightly with the lubricant that is being sealed.



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Illustration 1

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3. Install plug (68) and the O-ring seal.
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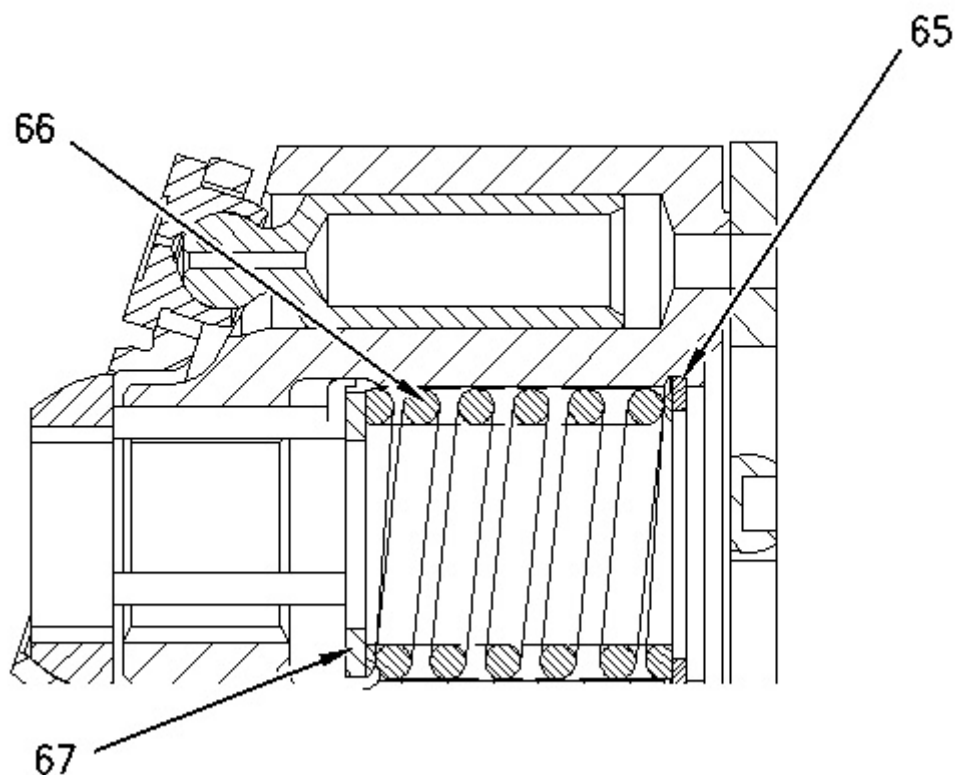


Illustration 2

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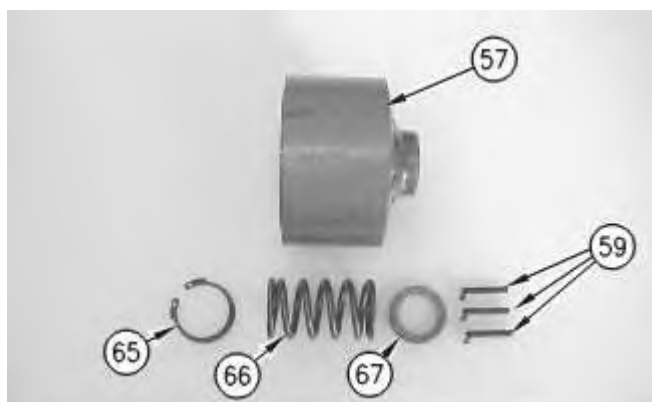


Illustration 3

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**WARNING**

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

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4. Install disc (67) and spring (66) into barrel (57) .

5. Install pins (59) into the top of barrel (57).

**Note:** There are three notches in the top of barrel (57) for pins (59). Place retaining ring (65) on top of spring (66) .

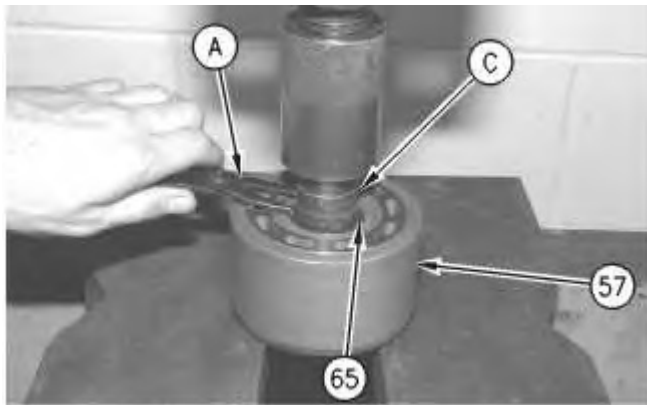


Illustration 4

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6. Position barrel (57) in a suitable press, as shown. Use Tooling (C) and the press to compress spring (66). Use Tooling (A) to install retaining ring (65) .

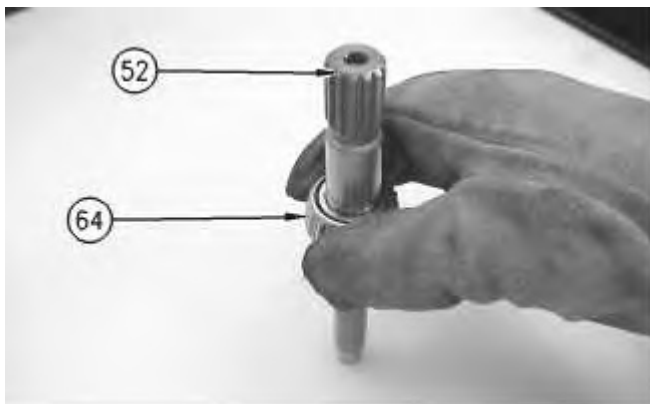


Illustration 5

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7. Raise the temperature of bearing cone (64). Install bearing cone (64) on shaft (52) .

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