

GENERAL

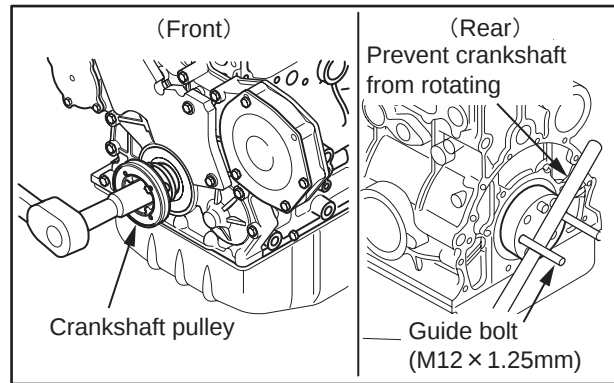
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3.1 Removing crankshaft pulley and damper

CAUTION

The bar that stops the crankshaft from turning may come off. Pay due attention to safety.

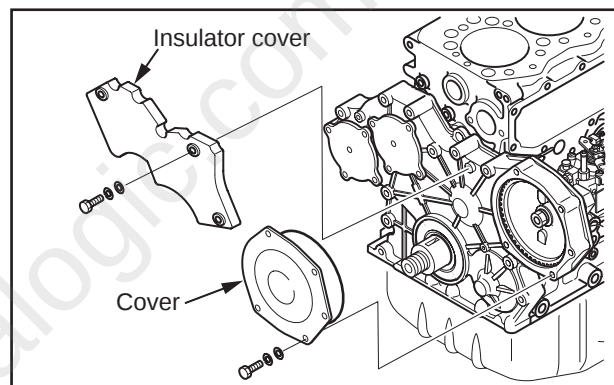
- (1) Screw two guide bolts into the threaded holes at the rear end of the crankshaft. Stick a bar across the guide bolts to prevent the crankshaft from turning.
- (2) Remove the crankshaft pulley and damper.



Removing crankshaft pulley

3.2 Removing cover

Unscrew the insulator cover, cover mounting bolts, and dismount the insulator cover, cover.



Removing cover

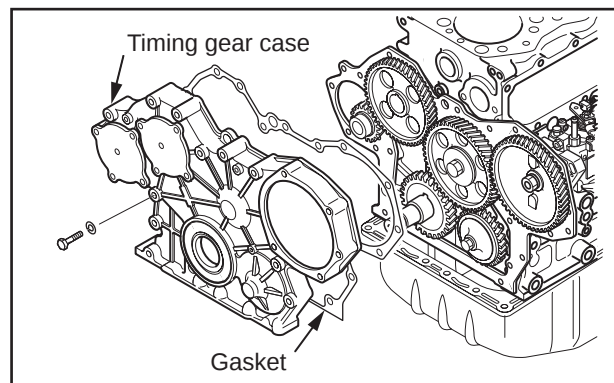
3.3 Removing timing gear case

CAUTION

The front plate is bolted to the crankcase from inside the gear case. Do not attempt to remove the front plate together with the gear case by tapping.

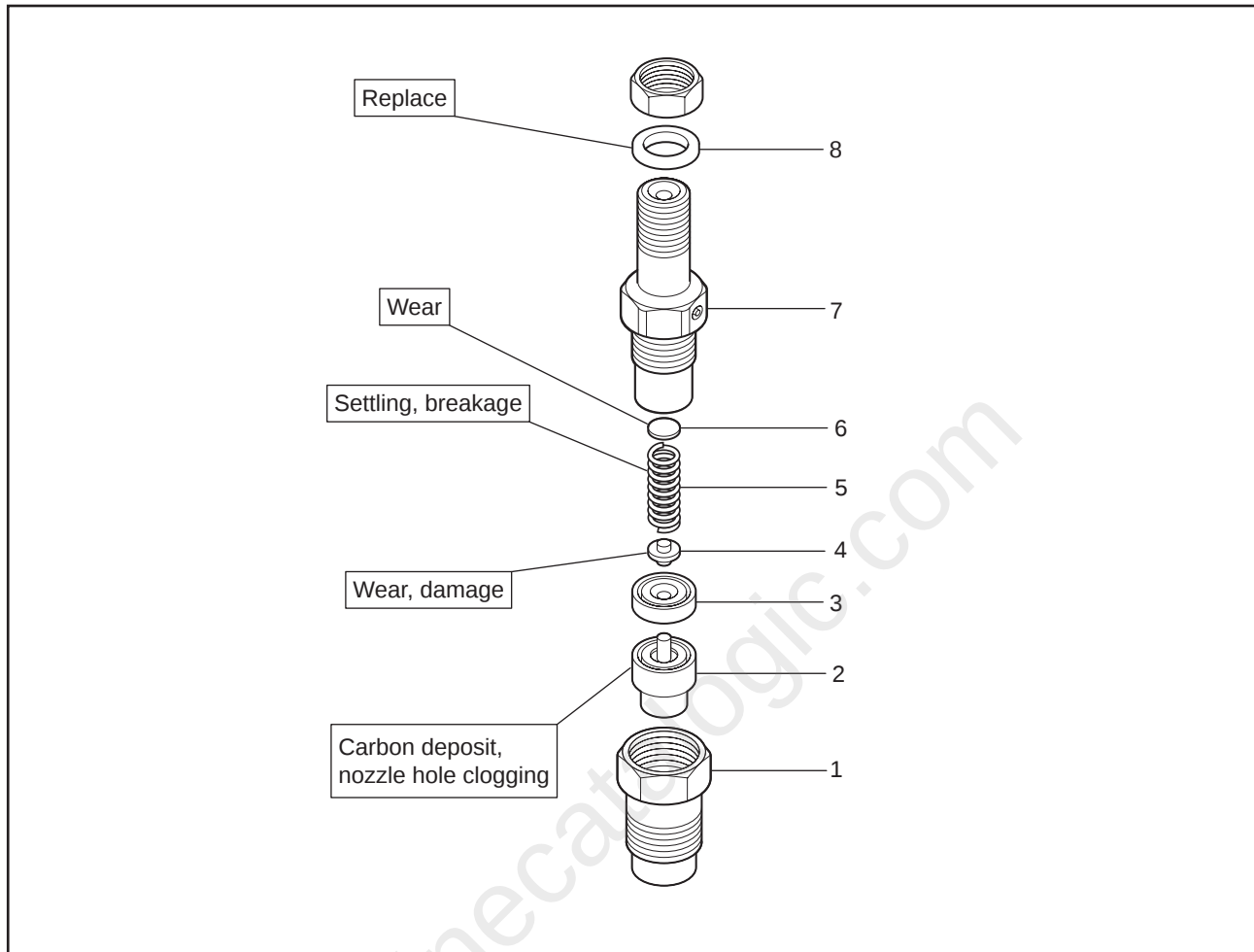
- (1) Remove bolts from the timing gear case.
- (2) Remove the timing gear case.

Note: Bolts have different lengths. Pay attention to the positions of bolts to ensure correct reassembling.



Removing timing gear case

2.3 Disassembling and inspecting fuel injection nozzle

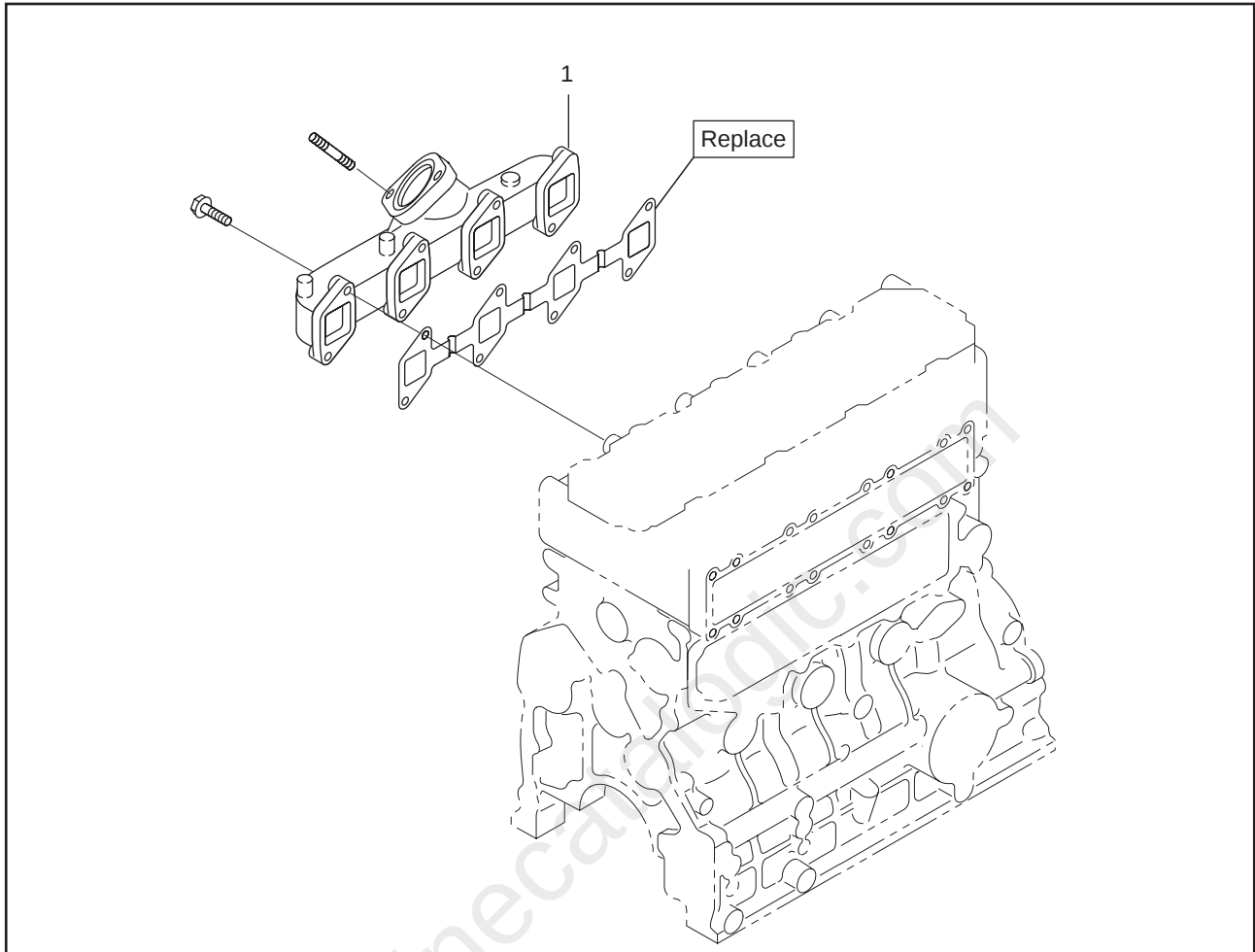


Disassembling and inspecting fuel injection nozzle

Disassembling sequence

- | | | |
|------------------------|-------------------|-----------------|
| 1 Nozzle retaining nut | 4 Pressure pin | 7 Nozzle holder |
| 2 Nozzle tip assembly | 5 Pressure spring | 8 Gasket |
| 3 Distance piece | 6 Washer | |

1.2 Removing exhaust manifold



Removing sequence

- 1 Exhaust manifold

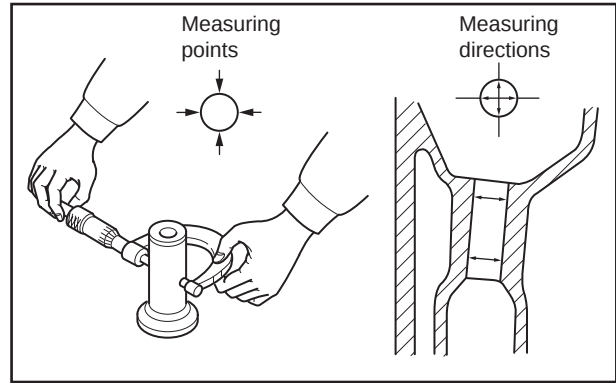
Removing exhaust manifold

3.8 Measuring clearance between tappet and tappet guide hole

Measure clearance between the tappet and tappet hole.

Replace the tappet with a new one if the limit is exceeded.

Item	Standard	Limit
Tappet guide hole inside diameter	14.000 to 14.018 mm [0.5512 to 0.5519 in.]	14.100 mm [0.5551 in.]
Clearance between tappet and tappet guide hole	0.016 to 0.052 mm [0.0006 to 0.0020 in.]	0.08 mm [0.0031 in.]

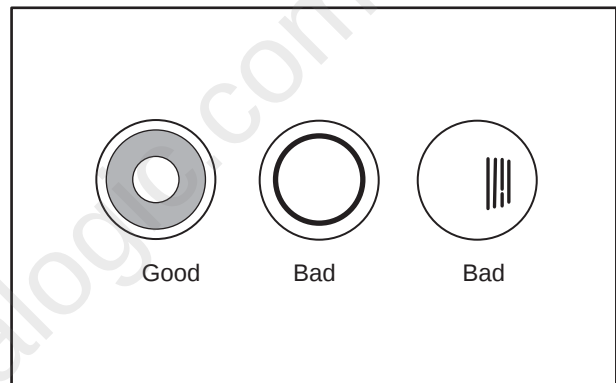


Measuring clearance between tappet and tappet guide hole

3.9 Inspecting tappet

3.9.1 Contact surface of camshaft

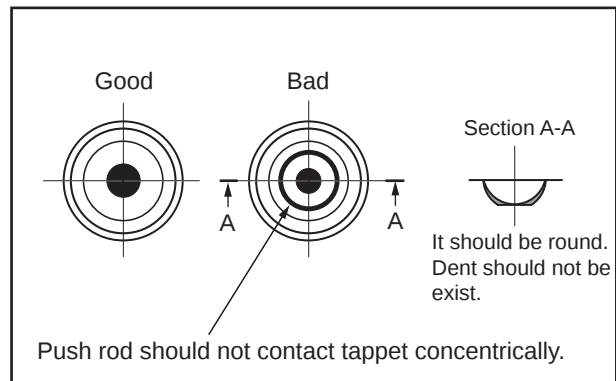
Inspect the cam contact surface of the tappets. Fit new tappets if the surface is excessively worn or damaged.



Contact surface of camshaft

3.9.2 Contact surface of pushrod

- (1) Apply Shinmyoutan or equivalent lead-free coloring paste on the push rod, and check the contacts.
- (2) Check that the push rod contacts the tappet concentrically. If it does, replace the tappet and push rod with new one.



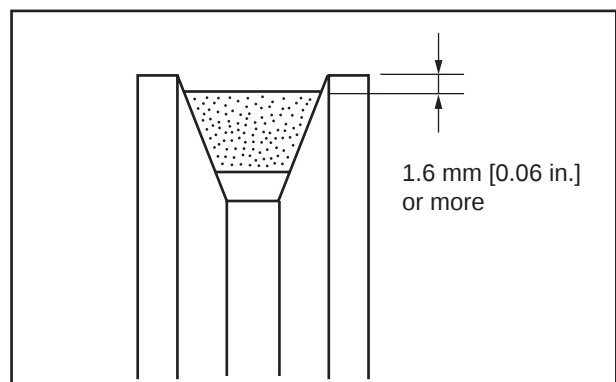
Contact surface of pushrod

3.10 Inspecting V-belt groove wear

Check the V-belt groove of the pulley for wear. Attach a new V-belt around the pulley, apply high tension and measure the sinkage of V-belt.

If the wear appears excessive, and the belt top surface sinks 1.6mm [0.06 in.] or more down from the top edge of groove, replace the pulley with a new one.

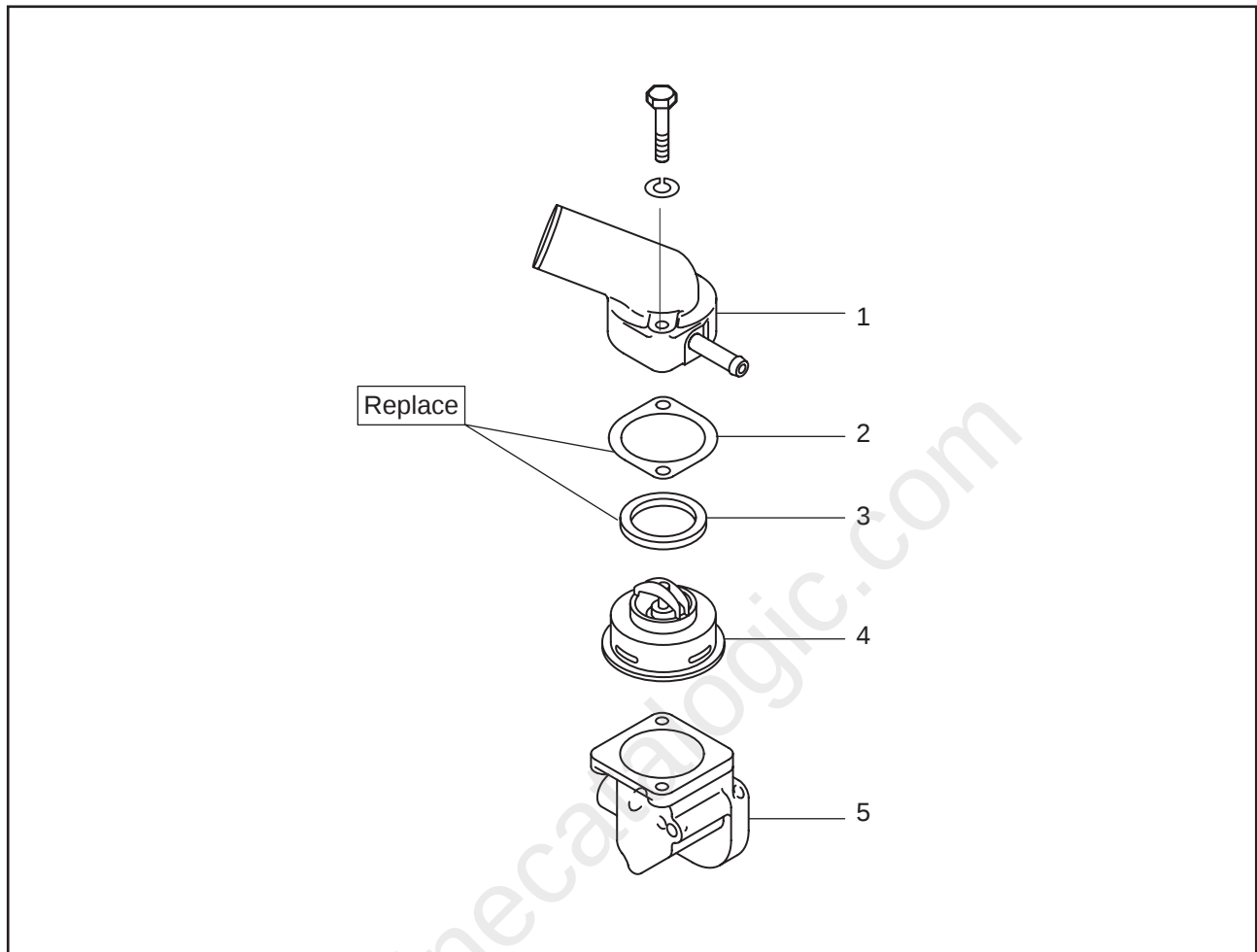
If the pulley has two or more grooves for belt, and the difference of the wear amount between grooves is significant, replace the pulley with a new one.



Inspecting V-belt groove wear

2. Disassembling, inspecting and reassembling cooling system

2.1 Disassembling and inspecting thermostat



Disassembling and inspecting thermostat

Disassembling sequence

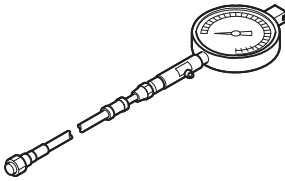
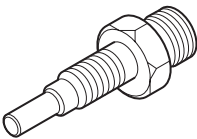
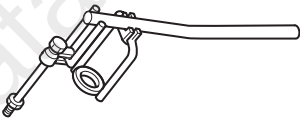
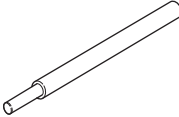
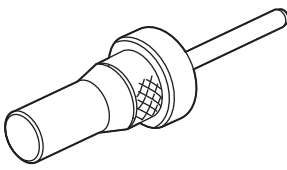
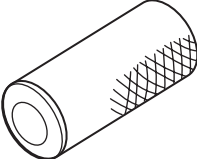
- 1 Cover assembly
- 2 Gasket

- 3 Gasket
- 4 Thermostat

- 5 Thermostat case

1. Special tool

Table 3-1 Special tool list (1 / 3)

Tool name	Part No.	Shape	Use
Compression gauge	33391-02100		Engine compression pressure measuring 0 to 7 MPa {0 to 71.4 kgf/cm ² } [0 to 1015.54 psi]
Gauge adapter	30691-21100		Engine compression pressure measuring
Socket	58309-73100		Engine turning
Valve spring pusher	30691-04500		Valve spring removal/installation
Valve guide remover	32A91-00300		Valve guide removal
Valve sheet insert caulking tool	Inlet: 36791-00200 Exhaust: 34491-03020		Valve seat installation
Stem seal installer	32A91-10200		Stem seal installation

Full Version Available

Caterpillar P4000 Forklift Component Service Manual (99729-87120)

Caterpillar P4000 component service manual, covers workshop repair, adjustment, teardown, and reassembly procedures in PDF. Instant PDF download.

[VIEW THE FULL MANUAL](https://machinecatalogic.com/caterpillar-p4000-forklift-component-service-manual-99729-87120/)

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