



Service Repair Manual

Models

**320, 320L TRACK-TYPE
EXCAVATOR**

Product: EXCAVATOR

Model: 320 L EXCAVATOR 1KL

Configuration: 320, 320L TRACK-TYPE EXCAVATORS 1KL00001-UP (MACHINE) POWERED BY 3066 ENGINE

Disassembly and Assembly 3064 and 3066 Engines for Caterpillar Built Machines

Media Number -SEN5553-10

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Inlet and Exhaust Valves - Remove and Install

SMCS - 1105-010

Removal Procedure

Table 1

| Required Tools | | | |
|----------------|-------------|----------------------------|-----|
| Tool | Part Number | Part Description | Qty |
| A | 8S-6691 | Cylinder Head Repair Stand | 1 |
| B | 1P-3527 | Valve Spring Compressor | 1 |
| C | 5S-1322 | Valve Keeper Installer | 1 |
| D | 8S-2263 | Spring Tester | 1 |

Start By:

- Remove the cylinder head. Refer to Disassembly and Assembly, "Cylinder Head - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

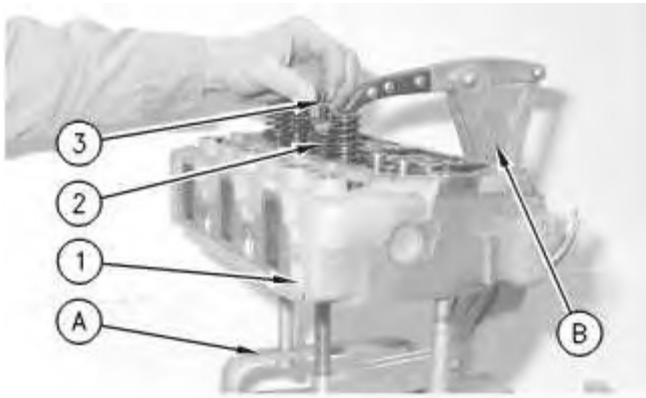


Illustration 1

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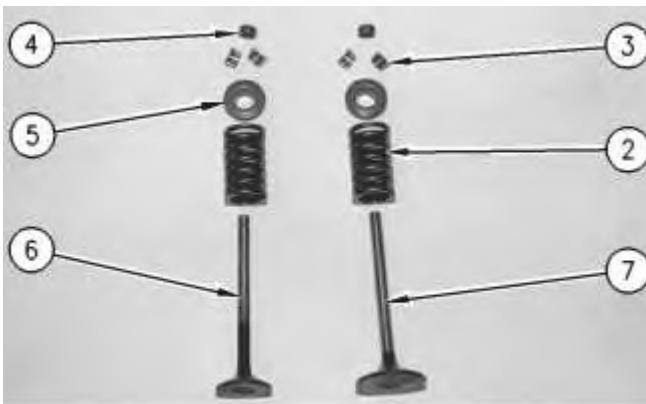


Illustration 2

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1. Support cylinder head assembly (1) on Tool (A) .
2. Use tool (B) to compress valve spring (2) .
3. Use the magnetic end of tool (C) (not shown) to remove cap (4) and valve keepers (3).
Slowly release the pressure on tool (B) and remove tool (B) .
4. Remove retainer (5) and remove spring (2) .



5. Check the valve spring force with Tool (D). Refer to Specifications, "Valve Mechanism" for information on the valve springs.
6. Remove exhaust valve (6) and inlet valve (7) through the bottom of the cylinder head assembly (1). Put identification marks on the valves for installation purposes.
7. Perform the following procedure, if the valves need to be refaced:
 - a. Set the machine that will reface the valves at an angle of 30 degrees.
 - b. The valve has a stellite facing. This facing will be gone, if the margin of the valve exceeds the service limit.
 - c. Replace the valve, if the margin exceeds the service limit after refacing.
 - d. Grind the valve seat in order to reface the valve seat, if necessary.
 - e. Replace the valve seat, if the width exceeds the repair limit as a result of wear or grinding.
8. Perform Steps 2 through 7 for the remaining inlet valves and exhaust valves in the cylinder head assembly.

Installation Procedure

Table 2

| Required Tools | | | |
|----------------|-------------|----------------------------|-----|
| Tool | Part Number | Part Description | Qty |
| A | 8S-6691 | Cylinder Head Repair Stand | 1 |
| B | 1P-3527 | Valve Spring Compressor | 1 |
| C | 5S-1322 | Valve Keeper Installer | 1 |

NOTICE

Keep all parts clean from contaminants.

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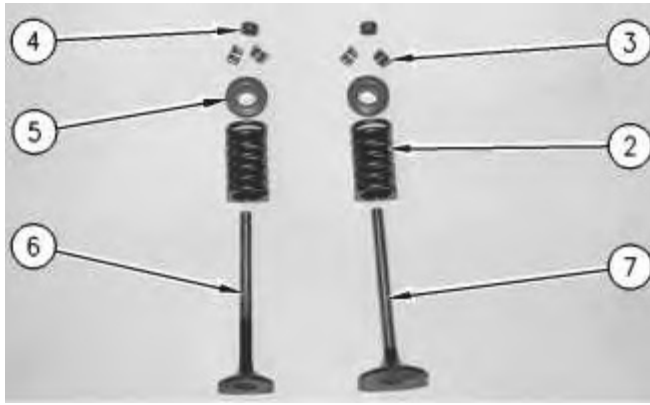


Illustration 4

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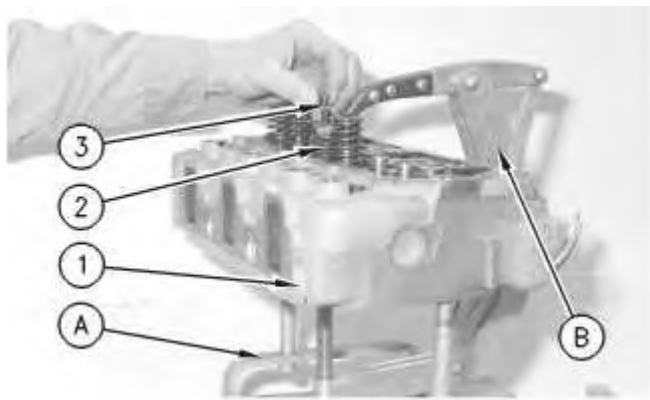


Illustration 5

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1. Support cylinder head assembly on Tool (A). Lubricate the inlet and exhaust valves with clean engine oil. Install the inlet and exhaust valves through the bottom of the cylinder head.
Note: Ensure that the inlet and exhaust valves are installed in the original location in the cylinder head.
2. Install spring (2) and retainer (5) .
3. Use Tool (B) to compress spring (2). Install valve keepers (3) and cap (4) on the valve stem with Tool (C) .

WARNING

The valve keepers can be thrown from the valve when the valve spring compressor is released. Ensure that the valve keepers are properly installed on the valve stem. To help prevent personal injury, keep away from the front of the valve keepers and valve springs during the installation of the valves.

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