

Product: INDUSTRIAL ENGINE
Model: 3054E INDUSTRIAL ENGINE 304
Configuration: 3054E Industrial Engine 30400001-UP

Disassembly and Assembly 3054E Industrial Engine

Media Number -REN7569-02

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i02291880

Inlet and Exhaust Valves - Remove and Install

SMCS - 1105-010

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	9U-6195	Valve Spring Compressor	1

Start By:

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

Note: Ensure that the machined face of the cylinder head is kept on a clean, soft surface in order to prevent damage to the machined surface.

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

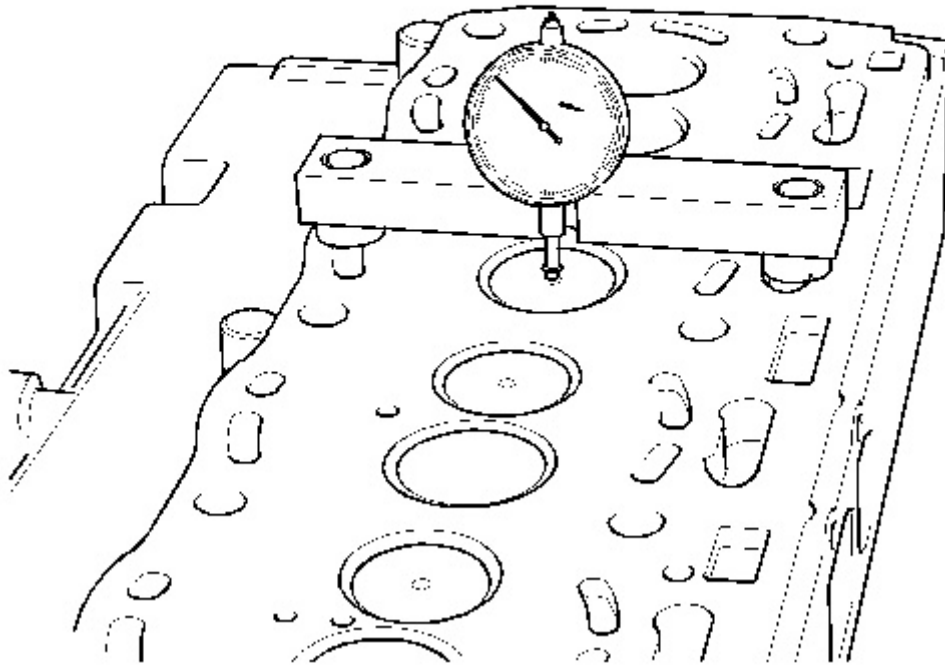


Illustration 1
Typical example

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1. Clean the bottom face of the cylinder head. Use a dial indicator to check the depth of the valves below the face of the cylinder head before the valve springs are removed. Refer to the illustration 1 and refer to Specifications, "Cylinder Head Valves" for the correct dimensions.
 2. Place an index mark on the heads of the inlet valves and the exhaust valves for installation purposes.
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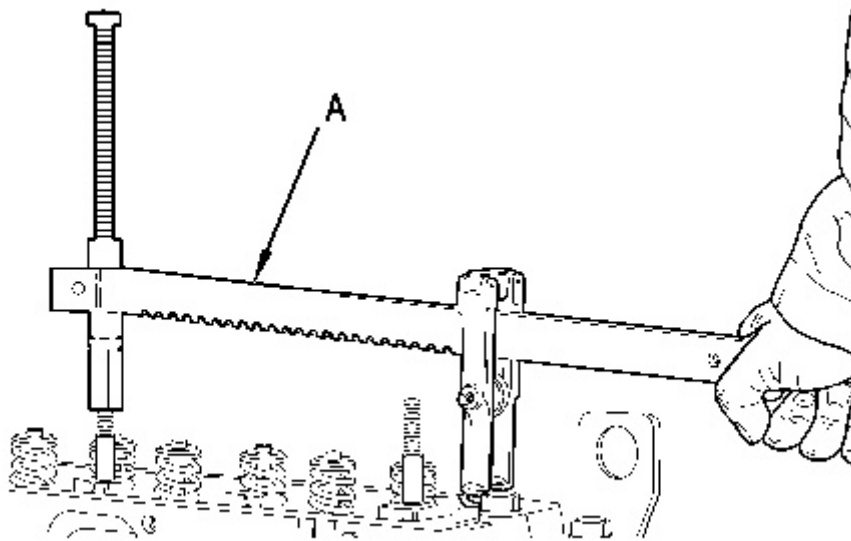


Illustration 2

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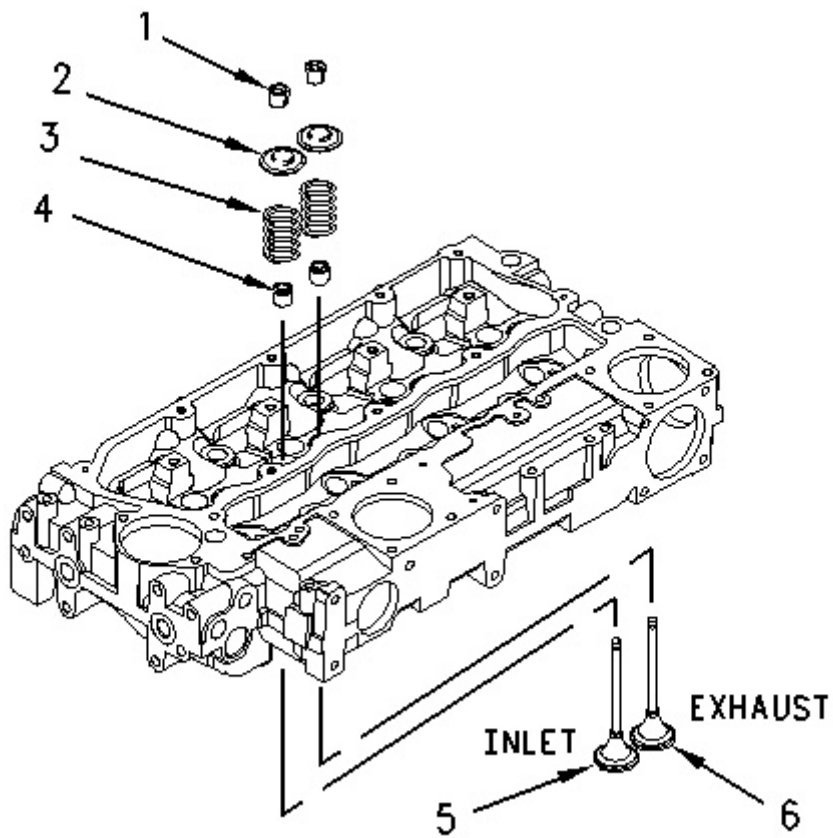


Illustration 3

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NOTICE

Ensure that the valve spring is compressed squarely or damage to the valve stem may occur.

3. Use the Tooling (A) to compress spring (3).
4. Remove the valve keeper (1).



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

5. Carefully release the pressure on the Tooling (A) and remove the Tooling (A).
6. Remove the valve spring retainer (2).
7. Remove the valve spring (3).
8. Remove the valve stem seal (4) for the inlet valve or the exhaust valve.
9. Remove the inlet valve (5) or the exhaust valve (6).
10. Repeat Step 3 to Step 9 for each inlet valve (7) and for each exhaust valve (8).

Installation Procedure

Table 2

Required Tools			
Tool	Part Number	Part Description	Qty
A	9U-6195	Valve Spring Compressor	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

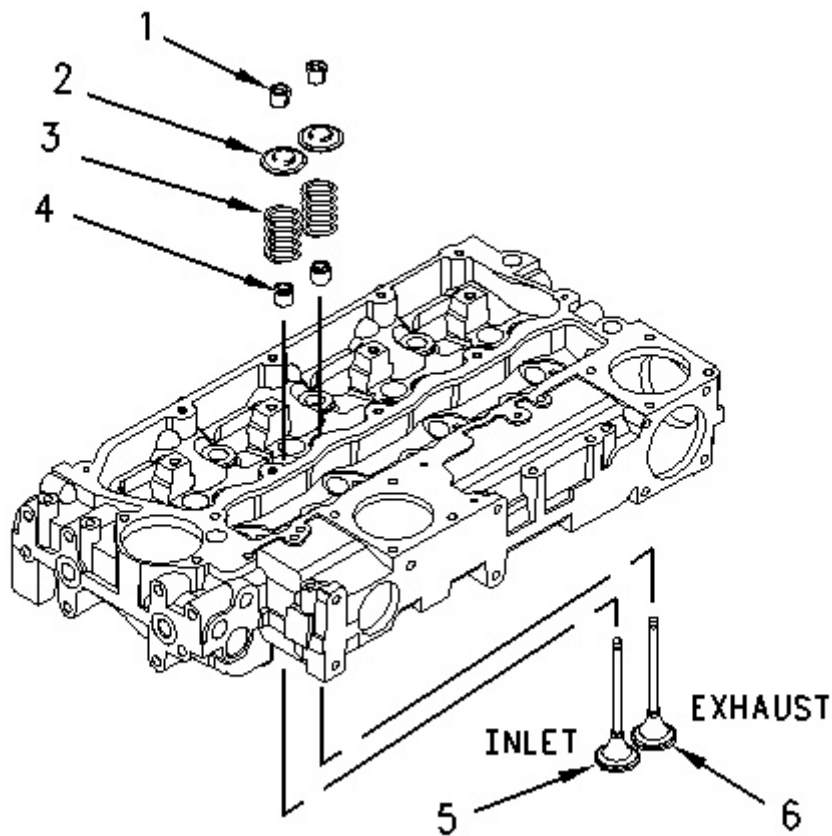


Illustration 4

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1. Carefully clean the bottom face of the cylinder head. Ensure that there is no debris in the inlet and exhaust ports. Also ensure that there is no debris in the coolant passages and in lubrication passages. Inspect the cylinder head. Refer to the Testing and Adjusting Manual, "Cylinder Head Inspect" for further information.
2. Inspect all of the valve seats for wear and for damage. Refer to the Specifications Manual, "Cylinder Head Valves" for further information. Also refer to this Disassembly and Assembly Manual, "Inlet and Exhaust Valve Seat Inserts - Remove and Install" and refer to Testing and Adjusting Manual, "Valve Depth - Inspect " for further information. Replace any worn parts.
3. Inspect all of the valve guides for wear and for damage. Refer to the Specifications Manual, "Cylinder Head Valves" for further information. Also refer to this Disassembly and Assembly Manual, "Inlet and Exhaust Valve Guides - Remove and Install" and refer to Testing and Adjusting Manual, "Valve Guide - Inspect" for further information. Replace any worn parts.
4. Inspect the valves if the valves are not replacement parts. Refer to the Specifications Manual, "Cylinder Head Valves" for further information.
5. Lubricate the stem of the inlet valve (5) and the stem of the exhaust valve (6) with clean engine oil.
6. Install inlet valve (5) and exhaust valve (6) in the respective positions.

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