

Product: TRACK LOADER

Model: 973 TRACK LOADER 91L

Configuration: 973 TRACK TYPE LOADER 91L00183-UP (MACHINE) POWERED BY 3306 ENGINE

Disassembly and Assembly 973 TRACK-TYPE LOADERS

Media Number -SEN2458-01

Publication Date -01/11/2003

Date Updated -12/06/2014

SEN24580007

CYLINDER HEAD

SMCS - 1100-15; 1100-16

DISASSEMBLE CYLINDER HEAD

| Tools Needed | | A | B | C | D | E |
|--------------|-------------------------|---|---|---|---|---|
| 6V3129 | Nozzle Puller Group | 1 | | | | |
| 5S1330 | Valve Spring Compressor | | 1 | | | |
| 8S2263 | Valve Spring Tester | | | 1 | | |
| 7S8859 | Guide Driver | | | | 1 | |
| 9S3080 | Valve Seat Insert Group | | | | | 1 |

Start By:

a) remove cylinder head

1. Use tooling (A) to remove the fuel injection nozzles from the cylinder head.
2. Remove brackets (1) for the fuel injection line clamps.
3. Remove water temperature sending unit (2).
4. Remove lifting bracket (3).
5. Remove and install water director's (4) as follows:

a) Remove old water director's (4) from the cylinder head.

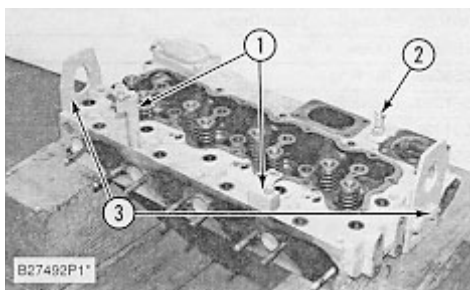
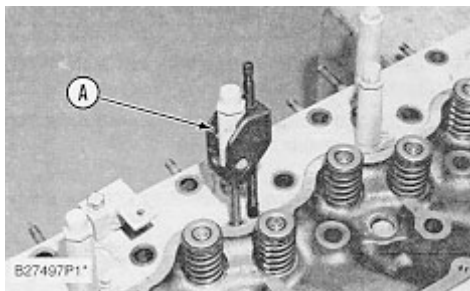
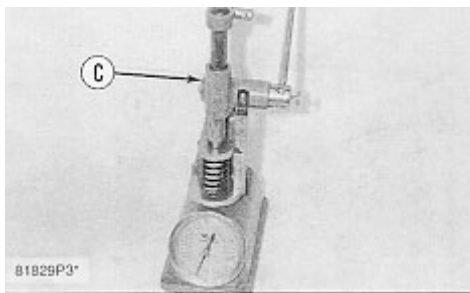
b) Clean the cylinder head.

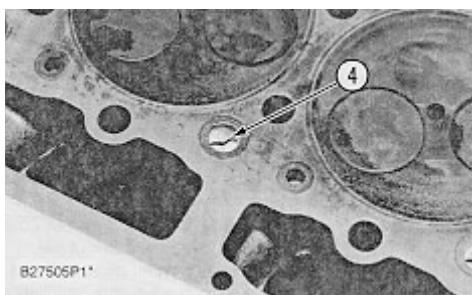
c) Install new water director's in the cylinder head with the notch in the water director in alignment with the "V" mark on the cylinder head. Install the water director's to a depth of 0.8 ± 0.6 mm ($.031 \pm .023$ in) below the surface of the cylinder head.

6. Use tooling (B) to put valve spring (6) in compression. Remove locks (5) from the valve stem. Carefully remove tooling (13), rotocoil, spring and valve. Put identification on the valves with respect to their location in the cylinder head. Remove the remainder of the valves the same way.

7. Use tooling (C) to check the valve springs. The spring force is 257 ± 25 N (57.6 ± 5.6 lb). The length of spring under test force is 44.86 mm (1.766 in). The free length after test is 52.1 (2.05 in). Check all the valve springs.

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|--------------|-------------------------|---|---|---|---|---|
| 6V3129 | Nozzle Puller Group | 1 | | | | |
| 5S1330 | Valve Spring Compressor | | 1 | | | |
| 8S2263 | Valve Spring Tester | | | 1 | | |
| 7S8859 | Guide Driver | | | | 1 | |
| 9S3080 | Valve Seat Insert Group | | | | | 1 |



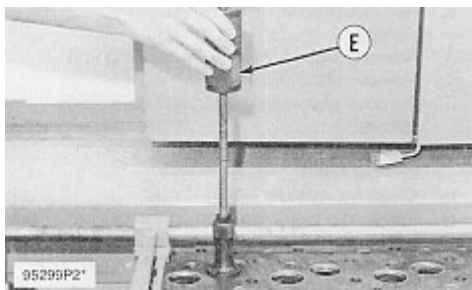
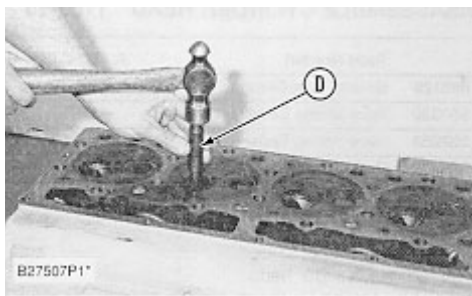


8. Use tooling (D) to remove the valve guides from the cylinder head.

9. Use tooling (E) to remove the valve seat inserts from the cylinder head.

10. Clean and remove any rough places (burrs) from the valve seat bores.

NOTE: For reconditioning information of the cylinder head see SERVICE TRAINING MEETING GUIDE Form No. JEG02327.

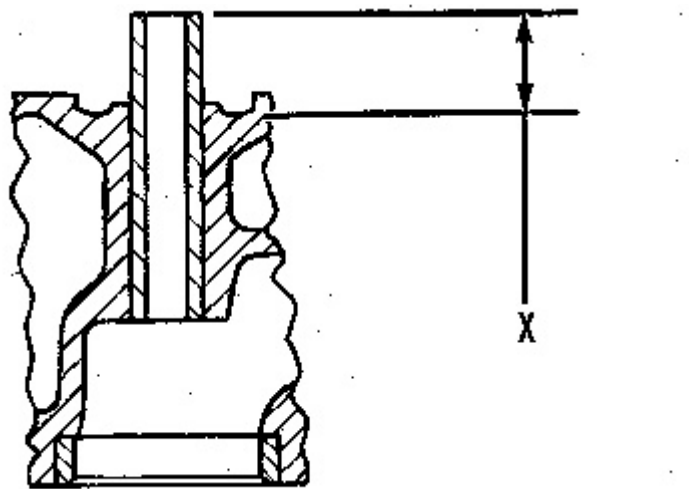


ASSEMBLE CYLINDER HEAD

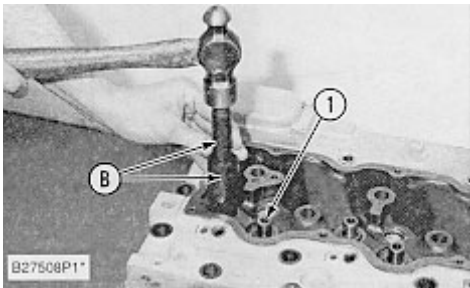
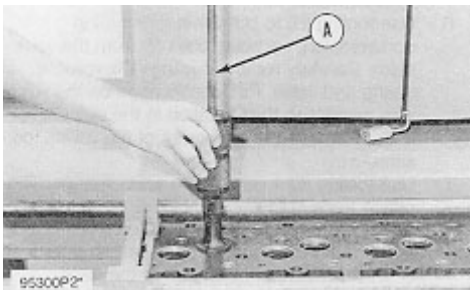
| Tools Needed | | A | B | C | D | E |
|--------------|-------------------------|---|---|---|---|---|
| 9S3080 | Valve Seat Insert Group | 1 | | | | |
| 7S8859 | Guide Driver | | 1 | | | |
| 7S8858 | Bushing | | 1 | | | |
| 5S1330 | Valve Spring Compressor | | | 1 | | |
| 5S1322 | Lock Inserter | | | | 1 | |
| 8S2252 | Carbon Seal Tool* | | | | | 1 |

*The 8S2252 Carbon Seal Tool must have a modification made to it before it can be used with the 8N7002 Fuel Injection Nozzle. Special Instruction Form NO. SEHS7292 has the information needed to make the modification to the tool.

1. Lower the temperature of (freeze) the new valve seat inserts. Use tooling (A) to install the new valve seat inserts. Do not increase the diameter of the extractor in the valve seat insert when the insert is installed in the cylinder head.
2. Put clean oil on the outside diameter of the valve guides. Use tooling (B) to install valve guides (1) in the cylinder head. Tooling (B) will install the valve guides so dimension "X" will be correct. Dimension "X" must be 22.23 ± 0.25 mm ($.875 \pm .010$ in). The minimum inside diameter of the valve guides after installation must be 9.456 mm (.3723 in). Clean the valve guides after installation.
3. Grind the valve seat inserts according to specifications given in SPECIFICATIONS section.



A08021P2*



4. Put clean engine oil on the valve stems. Install the valve, then install the seal, spring and rotocoil on the valve stem.



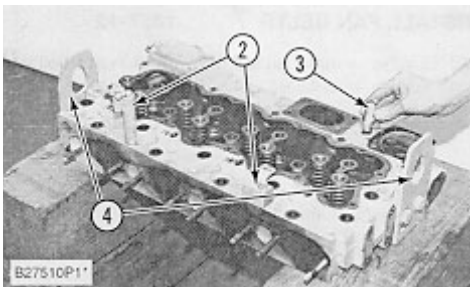
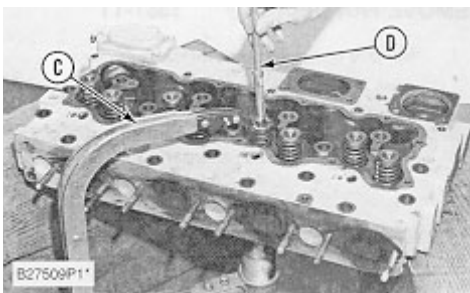
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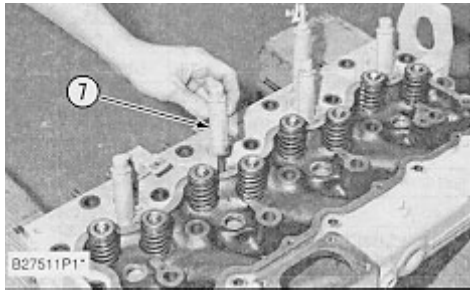
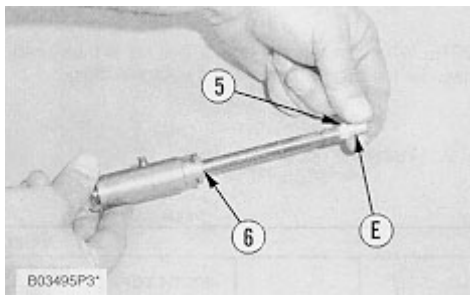
Locks can be thrown from the valve when the compressor is released, if they are not in their correct position on the valve stem.

5. Put tooling (C) in position on the valve spring and put the spring in compression. Use tooling (D) to install the locks on the valve stem.
6. Remove tooling (D) and hit the top of the valve with a plastic hammer to be sure the locks are in their correct position on the valve.
7. Do Steps 4, 5 and 6 again for the remainder of the valves.
8. Install brackets (2) for the fuel injection line clamps on the cylinder head.
9. Put 5P3413 Pipe Sealant on the threads of water temperature sending unit (3) and install the sending unit in the cylinder head.
10. Install lifting brackets (4) on the cylinder head.
11. Use tool (E) to install carbon dam (5) on the fuel injection nozzles. Install seal (6) on the fuel injection nozzles.
12. Put fuel injection nozzles (7) in position in the cylinder head and install the bolt that holds each nozzle in place.

End By:

a) install cylinder head





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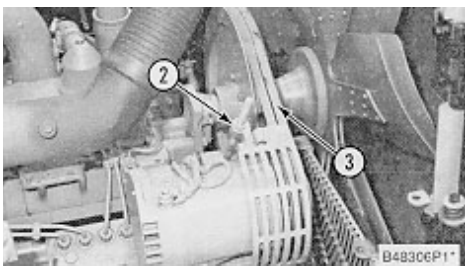
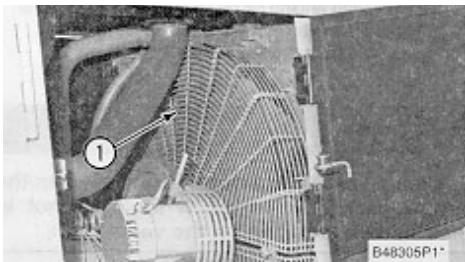
SEN24580008

FAN BELTS

SMCS - 1357-11; 1357-12

REMOVE FAN BELTS

1. Remove upper fan guard (1).
2. Loosen nuts (2) on the adjustment rod and the mounting bolt for the alternator.
3. Move fan belts (3) off the pulleys and over the fan to remove.



INSTALL FAN BELTS

NOTE: When a replacement of one belt in a V-belt set is necessary, a replacement of the complete set must be made.

1. Install fan belts (1) over the fan and on to the pulleys. Adjust the fan belts. See the V-BELT TENSION CHART at the bottom of the page. Tighten nuts (2) on the adjustment rod and the mounting bolt for the alternator after the belts are adjusted.

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