

Product: WHEEL LOADER

Model: 926 WHEEL LOADER 94Z

Configuration: 926 WHEEL LOADER 94Z00001-02208 (MACHINE) POWERED BY 3204 ENGINE

## Disassembly and Assembly 3204 VEHICULAR ENGINES

Media Number -SEN3230-00

Publication Date -01/10/1985

Date Updated -30/11/2001

### Fuel Injection Nozzles

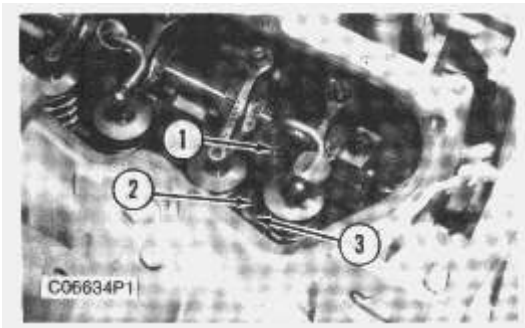
SMCS - 1254-011; 1254-012

### Remove Fuel Injection Nozzles

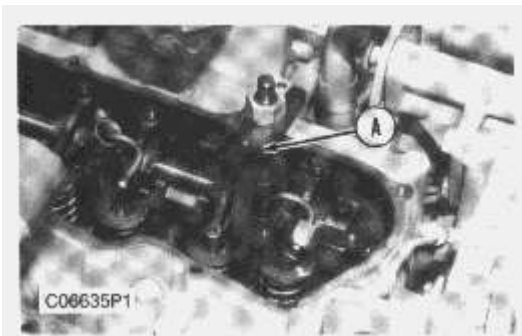
Tools Needed		A
6V6976	Nozzle Puller Group	1

START BY:

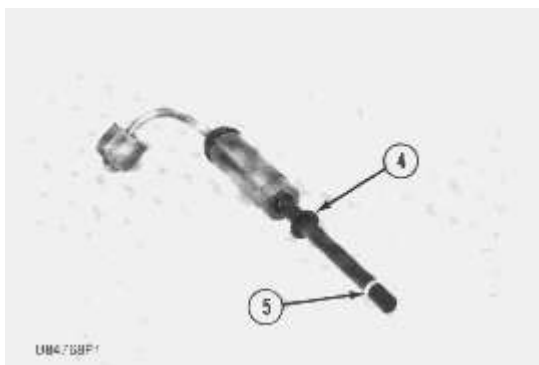
a. remove valve cover base



1. Remove bolt (2) and clamp (3) that hold fuel injection nozzle (1) in place.



2. Use tooling (A), and remove the fuel nozzle from the cylinder head assembly.



**NOTE:** A replacement of carbon dam seal (5) and washer (compression seal) (4) must be made each time the fuel injection nozzle is removed.

3. Remove carbon dam seal (5) with pliers and washer (4) from the fuel injection nozzle.

## Install Fuel Injection Nozzle

Tools Needed		A	B	C
5P4150	Nozzle Tester Group*	1		
6V4979	Seal Tool**		1	
6V4089	Reamer*			1

\*See Special Instruction, Form No. SEHS7292.

\*\*Part of 8S2245 Cleaning Tool Group.

START BY:

a. remove valve cover base

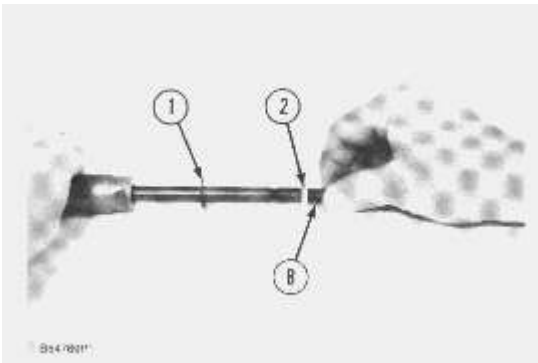
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### NOTICE

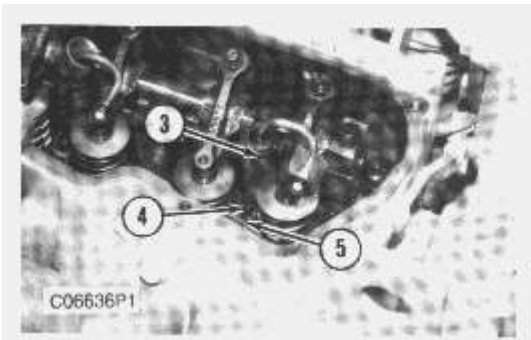
**Before the fuel injection nozzles are installed, check for fuel leakage and the pressure at which the injection nozzle opens with tool (A). See Testing Fuel Injection Nozzles in Testing And Adjusting.**

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1. Make sure the bore in the cylinder head assembly and the fuel inlet fitting are clean. Use tool (C) to clean the bore in the cylinder head for the fuel injection nozzle. Use an open end wrench or tap driver to turn tool (C).



2. Install new washer (compression seal) (1) on the fuel injection nozzles.
3. Put carbon dam seal (2) on the small end of tool (B). Expand it by sliding it to the large end. Put tool (B) against the fuel injection nozzle, and slide carbon dam seal (2) off tool (B) onto the nozzle. Slide the carbon dam seal into position in the groove on the nozzle.



4. Put fuel injection nozzles (3) in position in the cylinder head assembly. Push and turn the nozzle to install it into its correct position.
5. Install clamp (5) and bolt (4) that hold the fuel nozzle in place.

END BY:

- a. install valve cover base
-

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### Cylinder Head Assembly

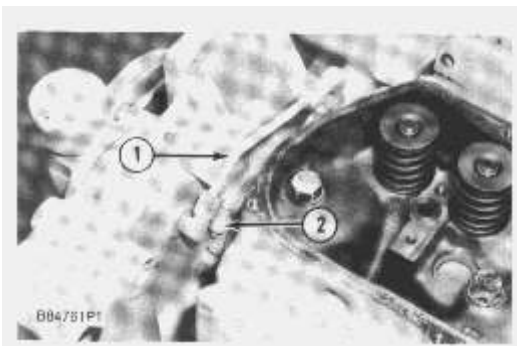
SMCS - 1100-011; 1100-012; 1100-015; 1100-016

### Remove Cylinder Head Assembly

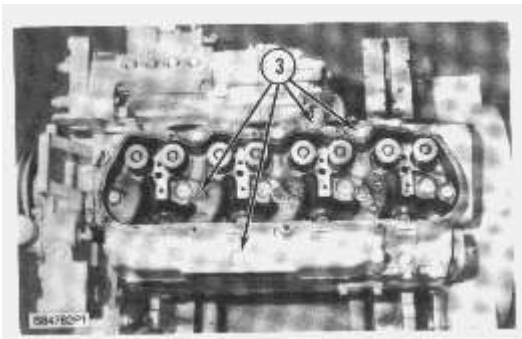
Tools Needed		A
5P9736	Link Bracket	2

START BY:

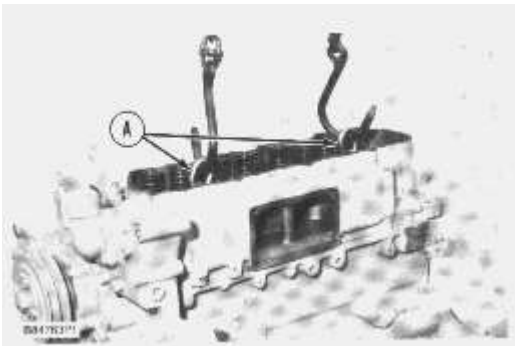
- a. remove exhaust manifold
- b. remove rocker shaft assembly and push rods
- c. remove fuel injection nozzles \*



1. Loosen hose clamp (2), and remove tube assembly (1) between the cylinder head assembly and the timing gear cover.



2. Remove 22 bolts (3) that hold the cylinder head assembly to the cylinder block.



3. Fasten tool (A) and a hoist to the cylinder head assembly. Remove the cylinder head assembly from the cylinder block. Weight of the cylinder head assembly is 57 kg (125 lb.).

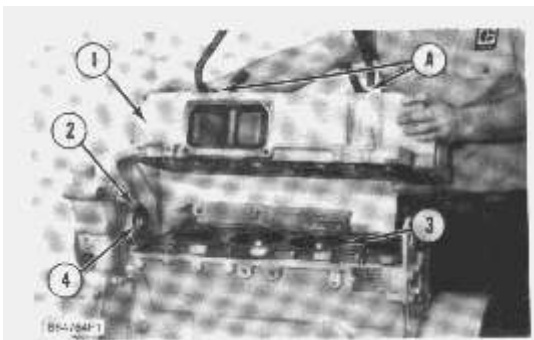
4. Remove the cylinder head gasket, water ferrule and seal from the cylinder block.

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\*The fuel injection nozzles do not have to be removed from the cylinder head assembly when the cylinder head assembly is removed from the cylinder block. If the fuel injection nozzles are not removed, do not put the cylinder head assembly down on a flat surface. This can cause damage to the fuel injection nozzles.

## Install Cylinder Head Assembly

Tools Needed		A
5P9736	Link Bracket	2



**NOTE:** Check the cylinder head and block for top deck flatness. The flatness of the cylinder head and block should be within 0.15 mm (.006") total, and a maximum of 0.08 mm (.003") for any 152.4 mm (6.00") span.

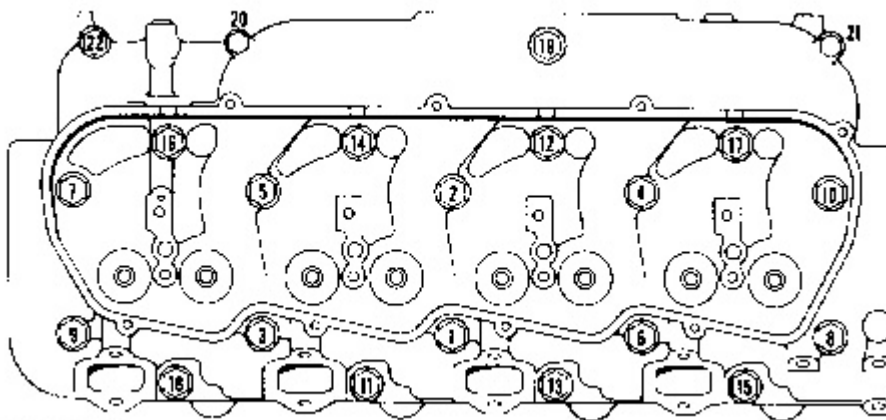
1. Check the condition of the water ferrule and seal (4). Make a replacement if needed. Put the water ferrule and seal (4) in position with the adjusting screw of hose clamp (2) toward the top and approximately 45° to the right of vertical line as seen from the front of the engine. Make sure the seal is installed all the way into the counterbore.

2. Clean the surfaces of the cylinder head assembly and the cylinder block that make contact with each other. Make sure the surfaces are clean and dry. Install a new, dry cylinder head gasket (3) on the cylinder block.

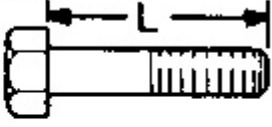
**NOTE:** If the plugs in the oil passages in the cylinder head were removed, put 5P3413 Pipe Sealant with Teflon on the threads, and install the plugs in the head.

3. Fasten tool (A) and a hoist to the cylinder head assembly. Put cylinder head assembly (1) in position on the cylinder block.

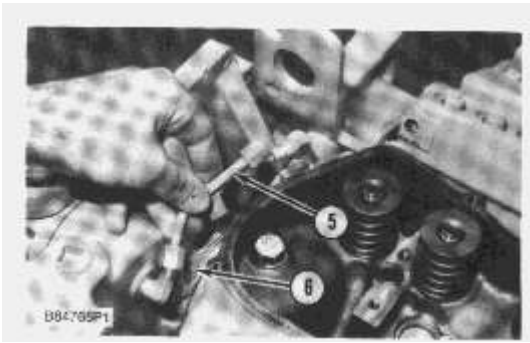
4. Put 5P960 Multipurpose Type Grease on the threads of all the cylinder head bolts.



B96103P1

A77829P1 HEAD BOLT LOCATION CHART				
Dia.	Part No.	Location (Bolt No.)	Bolt Length "L"	
			in.	mm
1/2"	1D4572	5, 2, 4, 10	5.50	139.7
	2H6488	7, 9, 3, 1, 6, 8	5.00	127.0
	L1329	16, 14, 12, 17	3.00	76.2
	2B947	18, 11, 13, 15	2.25	57.2
3/8"	5B9603	20, 21	5.00	127.0
	1A5964	19	4.50	114.3
	S1571	22	1.75	44.5

5. Install the cylinder head bolts, and tighten them as follows:
  - a. Tighten bolts 1 through 18 in the number sequence shown to a torque of  $81.5 \pm 13 \text{ N}\cdot\text{m}$  ( $60 \pm 10 \text{ lb}\cdot\text{ft}$ ).
  - b. Tighten bolts 1 through 18 in number sequence to a torque of  $149 \pm 6.5 \text{ N}\cdot\text{m}$  ( $110 \pm 5 \text{ lb}\cdot\text{ft}$ ).
  - c. Tighten bolts 1 through 18 again in number sequence to a torque of  $149 \pm 6.5 \text{ N}\cdot\text{m}$  ( $110 \pm 5 \text{ lb}\cdot\text{ft}$ ).
  - d. Tighten bolts 19 through 22 in number sequence to a torque of  $43.5 \pm 6.5 \text{ N}\cdot\text{m}$  ( $32 \pm 5 \text{ lb}\cdot\text{ft}$ ).



6. Install tube assembly (5) between the cylinder head assembly and the timing gear cover. Tighten hose clamp (6).

END BY:

- a. install fuel injection nozzles
- b. install rocker shaft assembly and push rods
- c. install exhaust manifold

## Disassemble Cylinder Head Assembly

Tools Needed		A	B	C	D
FT806	Cylinder Head Repair Bench	1			
	Adapter Plate*	2			
8S2263	Valve Spring Tester		1		
5S1330	Pneumatic Valve Spring Compressor			1	
8S7170	Valve Seat Extractor Tool Group**				1

\*Part of FT1670 Cylinder Head Bench.

\*\*Special Instruction Form SMHS7935. Use of 6V4805 Valve Seat Insert Puller Group is included with the Tool Group.

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