

SMCS -

SENR74100044

Remove Fuel Injection Nozzles (Earlier 7000 Series)

Tools Needed		A	B
5P0144	Socket	1	
5P5195	Fuel Line Wrench	1	
6V7020	Nozzle Puller Group		1

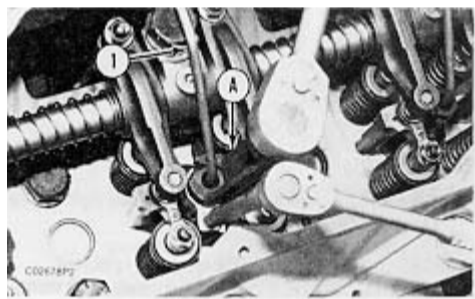
NOTE: This procedure is for earlier 7000 series full injection nozzles with **55.12 mm (2.170 in)** adapter bores.

Start By:

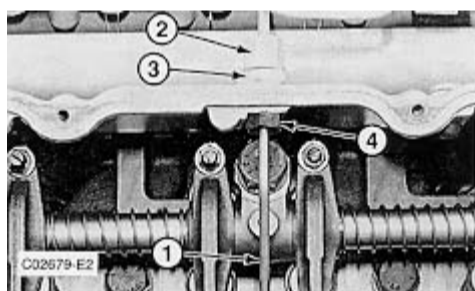
- a. remove valve covers

NOTICE

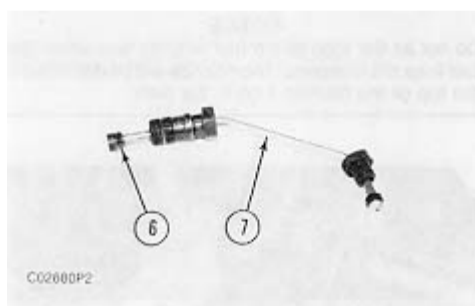
Do not let the tops of the fuel nozzles turn when the fuel lines are loosened. The nozzles will be damaged if the top of the nozzles turn in the body.



1. Use Tool (A) to loosen fuel injection line (1) at the fuel injection nozzle.

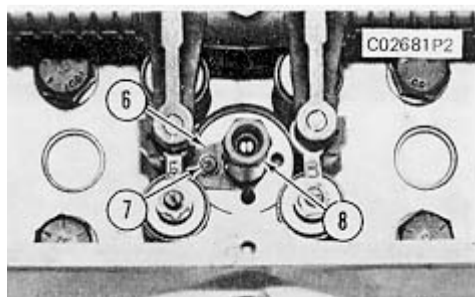


2. Disconnect fuel injection line (2) from head adapter nut (3).
3. Remove adapter nut (3) and the O-ring seal.
4. Move adapter (4) out of valve cover base, and remove fuel injection line (1).

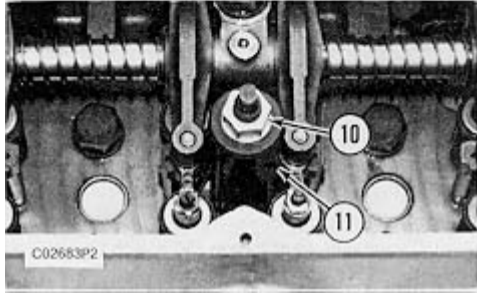
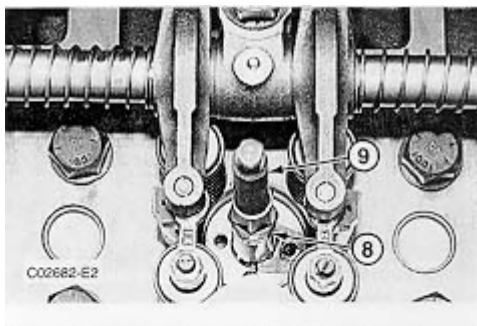


5. If necessary, remove seal (5) from fuel injection line (1).

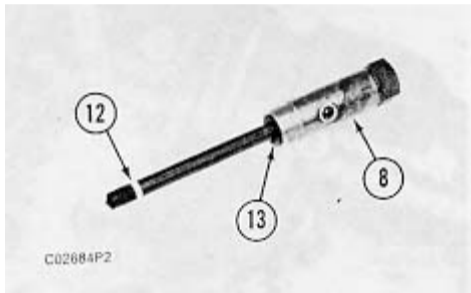
NOTE: Clamp (6) cannot be removed until fuel injection nozzle (8) is lifted approximately **25.0 mm (1.00 in)**.



6. Remove bolt (7) that holds clamp (6).
7. Remove fuel injection nozzle (8) with Tool (B) as follows:



- a. Install 6V6983 Adapter and 6V4152 Screw (9) part of Tool (B) into fuel injection nozzle (8).
- b. Install 6V6982 Tube Assembly (11) over the 6V4152 Screw. Use 2S5658 Washer and 1B2406 Nut (10) on the 6V4152 Screw to pull fuel injection nozzle (8) from the adapter. Items (10) and (11) are part of Tool (B).



NOTICE

A replacement of compression seal washer (13) and of carbon dam seal (12) must be made each time the fuel injection nozzle is removed. Be sure that the replacement compression seal washer (13) is the same color code and part number as the original compression seal washer. If the wrong thickness washer is used, engine damage could occur. See Specifications for 3412 Industrial and Marine Engines for more information.

- 8. Remove carbon dam seal (12) and compression seal washer (13) from fuel injection nozzle (8).

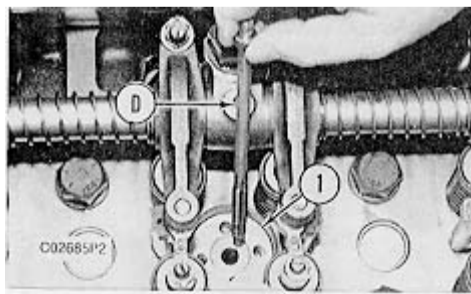
Install Fuel Injection Nozzles (Earlier 7000 Series)

Tools Needed		A	B	C	D
6V4979	Seal Tool*	1			
5P0144	Socket		1		
5P5195	Fuel Line Wrench		1		
8S2245	Cleaning Tool Group			1	
6V4089	Reamer Assembly				1

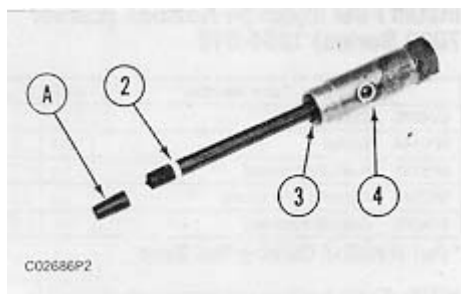
* Part of 8S2245 Cleaning Tool Group

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NOTE: Earlier fuel injection nozzles are installed in adapters that are below the surface of the cylinder head.

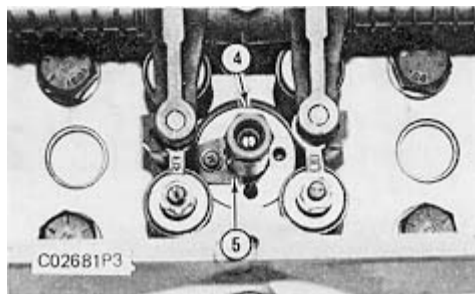


- 1. Use Tool (D) to clean adapter bore (1) for fuel injection nozzle. Use a tap driver to turn Tool (D).

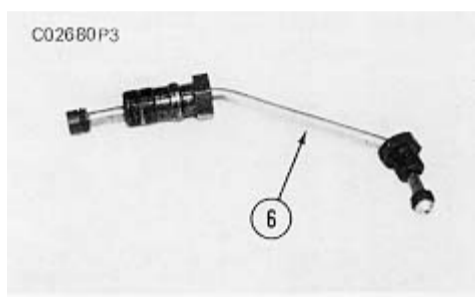


2. Install compression seal washer (3) on fuel injection nozzle (4).

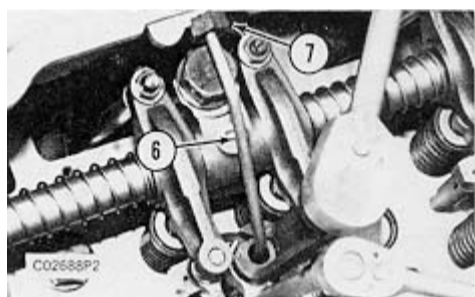
3. Use Tool (A) to install carbon dam seal (2) on fuel injection nozzle (4). Refer to Special Instruction SEHS1292 for the use of Tool (C).



4. Install fuel injection nozzle (4) and clamp (5) as a unit. Install the bolt through the clamp into the adapter.



5. Install O-ring seal on fuel injection line (6), and put clean diesel fuel on it.

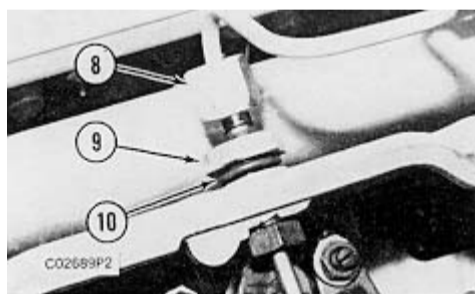


6. Install fuel injection line (6). Move adapter (7) into position in the rocker arm cover base.

NOTICE

Do not let the tops of the fuel nozzles turn when the fuel lines are tightened. The nozzles will be damaged if the top of the nozzles turn in the body.

7. Use Tool (B) to tighten the inner fuel line nuts to a torque of $41 \pm 7 \text{ N}\cdot\text{m}$ ($30 \pm 5 \text{ lb ft}$).



8. Put clean diesel fuel oil on O-ring seal (10). Install O-ring seal (10) and nut (9). Tighten nut (9) to a torque of $30 \pm 5 \text{ N}\cdot\text{m}$ ($22 \pm 4 \text{ lb ft}$).

9. Install nut (8) for the fuel injection line, and tighten the fuel injection line nut to a torque of $41 \pm 7 \text{ N}\cdot\text{m}$ ($30 \pm 5 \text{ lb ft}$).

10. After installation of the valve covers, bleed remove the air from the fuel system. See Testing and Adjusting for the correct procedure.

End By:

a. install valve covers

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