

Product: WHEEL TRACTOR
Model: 627F WHEEL TRACTOR 1DL
Configuration: 627F Wheel Tractor Scraper 1DL00001-UP (MACHINE)

Disassembly and Assembly

3406C DIESEL ENGINES FOR CATERPILLAR BUILT MACHINES

Media Number -SEN6409-02

Publication Date -01/07/2006

Date Updated -19/05/2015

SEN64090026

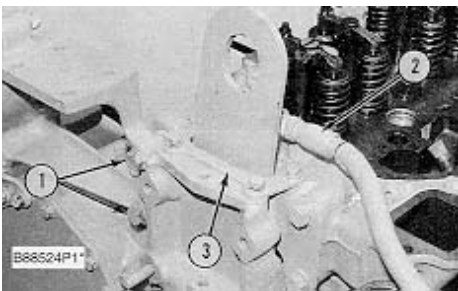
Cylinder Head Assembly

SMCS - 1100-011; 1100-012

Remove Cylinder Head Assembly

Start By:

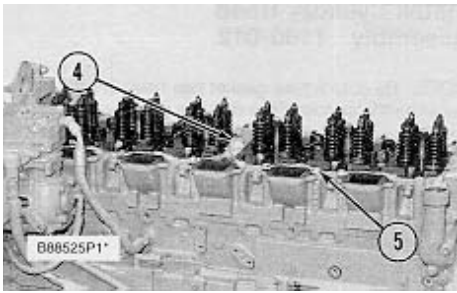
- a. remove rocker shaft assemblies and push rods
- b. remove water temperature regulator
- c. remove aftercooler housing
- d. remove fuel injection lines
- e. remove exhaust manifold



Typical Example

1. Remove bolts (1) from the alternator bracket.
2. Remove the bolts that hold plate (3) and remove the plate.
3. Disconnect water line (2) from the air compressor.

NOTE: Turn the water line tee toward the lifting bracket in order to provide clearance to remove the head bolt.



4. Remove bolts (4) and (5) that hold the cylinder head assembly to the cylinder block.
5. Fasten a hoist and remove the cylinder head assembly. The weight is approximately **135 kg (300 lb)**.

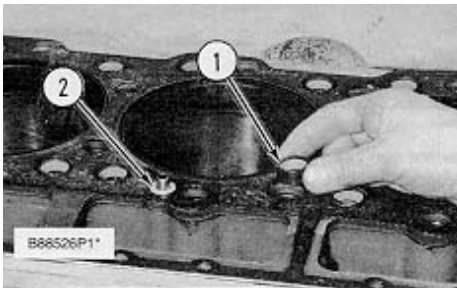
NOTICE

Do not put the cylinder head assembly down on a flat surface. This can cause damage to the fuel injection valves.

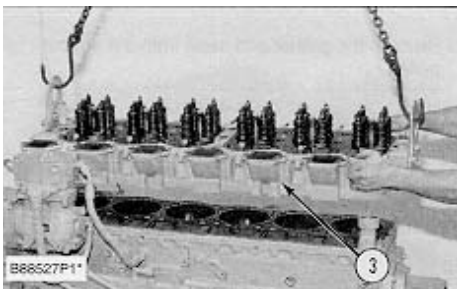
6. Remove the gasket and seals from the spacer plate.

Install Cylinder Head Assembly

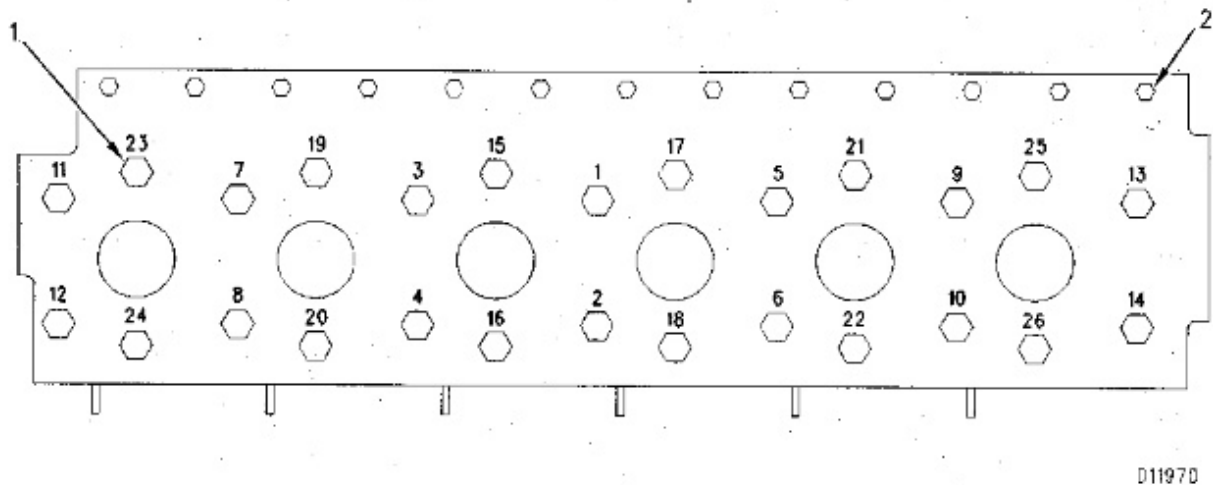
NOTE: Be sure a new gasket has been installed between the spacer plate and the cylinder block. See topic, "Remove & Install Spacer Plate".



1. Thoroughly clean the spacer plate and the bottom surface of the cylinder head assembly. Install a new head gasket, new seals (1) and two O-ring seals (2).



2. Fasten a hoist and put the cylinder head assembly (3) in position on the cylinder block.
3. Tighten the bolts in sequence shown in Illustration D11970.



(1) Large bolts (3/4 inch). Put **6V4876 Molycoat Paste Lubricant** on bolt threads and between washers and underside of bolt heads.

(2) Small bolts (3/8 inch). See Step 4h.

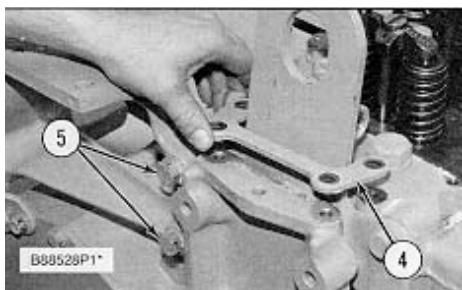
4. Install the cylinder head bolts and washers. Tighten the bolts in sequence shown.

- a. Tighten bolts 1 through 14 in number sequence to **$270 \pm 25 \text{ N}\cdot\text{m}$ ($200 \pm 20 \text{ lb ft}$)**.
- b. Tighten bolts 1 through 14 in number sequence to **$470 \pm 20 \text{ N}\cdot\text{m}$ ($345 \pm 15 \text{ lb ft}$)**.
- c. Tighten bolts 1 through 14 in number sequence again to **$470 \pm 20 \text{ N}\cdot\text{m}$ ($345 \pm 15 \text{ lb ft}$)**.
- d. Install the rocker arm shafts for the engine valves and the remaining (3/4 in) bolts and/or compression brake studs.
- e. Tighten bolts 15 through 26 in number sequence to **$270 \pm 25 \text{ N}\cdot\text{m}$ ($200 \pm 20 \text{ lb ft}$)**.
- f. Tighten bolts 15 through 26 in number sequence to **$450 \pm 20 \text{ N}\cdot\text{m}$ ($330 \pm 15 \text{ lb ft}$)**.
- g. Tighten bolts 15 through 26 in number sequence again to **$450 \pm 20 \text{ N}\cdot\text{m}$ ($330 \pm 15 \text{ lb ft}$)**.
- h. Tighten the thirteen small bolts (2) to **$45 \pm 7 \text{ N}\cdot\text{m}$ ($33 \pm 5 \text{ lb ft}$)**.

5. Make an adjustment to the valves to have a clearance of **0.38 mm (.015 in)** for intake and **0.76 mm (.030 in)** for exhaust. Tighten the locknuts for the valve adjustment screws to a torque of **$28 \pm 4 \text{ N}\cdot\text{m}$ ($21 \pm 3 \text{ lb ft}$)**.

6. Install the valve cover bases and the inner fuel lines. See topic, "Install Rocker Shaft Assemblies & Push Rods".

7. Install the valve covers. See topic, "Install Valve Covers".



Typical Example

8. Install plate (4).

9. Connect the water line to the air compressor.

10. Install bolts (5) for the alternator bracket.

End By:

a. install exhaust manifold

b. install fuel injection lines

c. install aftercooler housing

d. install water temperature regulator

e. install rocker shaft assemblies and push rods

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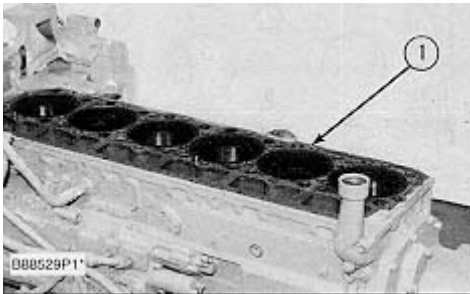
Spacer Plate

SMCS - 1221-011; 1221-012

Remove Spacer Plate

Start By:

- a. remove cylinder head assembly



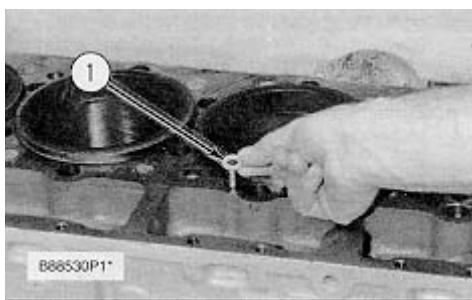
1. Remove spacer plate (1) from the cylinder block.

NOTICE

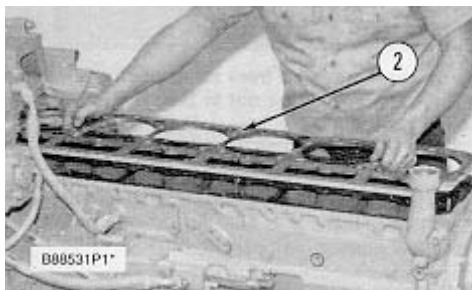
Do not cause damage to the dowels.

2. Remove the spacer plate gasket and two O-ring seals.

Install Spacer Plate



1. Thoroughly clean the spacer plate and cylinder block surface. Install two O-ring seals (1) in the cylinder block.



NOTICE

Both surfaces of the spacer plate, top of cylinder block and both sides of the spacer plate gasket must be clean and dry. Gasket adhesives or other substances must not be used on these surfaces.

2. Install a new gasket between the spacer plate and cylinder block. Put spacer plate (2) in position on the cylinder block.

3. Check cylinder liner projection. See topic, "Install Cylinder Liners".

End By:

a. install cylinder head assembly

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Valves

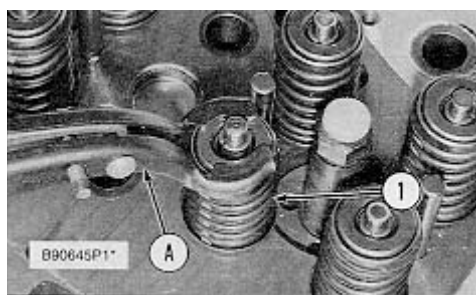
SMCS - 1105-011; 1105-012

Remove Valves

Tools Needed		A	B
5S1330	Pneumatic Valve Spring Compressor	1	
8S2263	Valve Spring Tester		1

Start By:

a. remove cylinder head assembly



1. Use Tool (A) to compress springs (1).
2. Remove the locks.
3. Remove Tool (A), the valve, the rotocoil, and the spring.

NOTE: If a valve can be used again, put identification on the valve for location at installation.

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