

PARTS & SERVICE NEWS

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(C)

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SUBJECT: IMPROVED ENGINE CYLINDER HEAD

PURPOSE: To introduce a modification procedure to improve the cylinder head on the engine.

APPLICATION: WA600-3A Wheel Loader Serial Number 52001 through 52087
 WA600-3D Wheel Loader Serial Number 53001 through 53036
 WA600-3 Wheel Loader Serial Number 50001 through 50006
 WA600-3 Wheel Loader Serial Number 54001 through 54005
 WA600-3LK Wheel Loader Serial Number A53001 through A53051
 WA700-3 Wheel Loader Serial Number 51001 through 51021
 HD465-7 Dump Truck Serial Number 7101 through 7174
 HD605-7 Dump Truck Serial Number 7001 through 7079
 D375A-5 Crawler Dozer Serial Number 18001 through 18195
 PC1250-7 Hydraulic Excavator Serial Number 20001 through 20120

FAILURE CODE: A10JAE

DESCRIPTION: When water leaks from the U-plug portion of the cylinder head on the SA(A)6D170E-3 engines, repair the failure following the modification procedure described in this Service News.

MACHINE PREPARATION

1. Park the machine on a flat level surface; lower the work equipment to the ground. Shut off the engine and cycle the controls to remove any residual hydraulic pressure from the work equipment circuits. Turn the parking brake switch on and block the tires or tracks.
2. Remove the key from the ignition switch until the repairs are complete. Place a tag on the steering controls advising: "This machine is being repaired. It should not be started or moved for any reason until the tag is removed by the person doing the repairs."



WARNING! Observe all safety and precautionary standards as dictated by the environment and work conditions under which the equipment will be inspected, reworked and repaired. consult the "Shop Manual" and "Operator's and Maintenance Manual" and your "Komatsu district service manager" with any/all questions regarding safety.

Remark

These instructions are intended to supplement the service data contained in the appropriate "Shop Manual". Always refer to that manual for Removal, Installation, Disassembly and Reassembly instructions when not contained in this document.



WARNING! This cylinder head contains sodium filled valves, handling and disposal of these valves should be done in a safe manner. Mishandling of these valves may expose the sodium solution to the atmosphere which may be explosive. Always observe caution when working with sodium filled valves.

LIST OF APPLICABLE ENGINES

Applicable engine models	Engine Serial Number	
	Engines in the field	Engines shipped with modification
A6D170E-G1-3	~311061	311170~
A6D170E-KC	~310776	From next shipment
170CUM-PG3	~311126	311282~
170CUM-IND	~310946	From next shipment

PART LISTING

No.	Part Number	Description	Qty.	Remark
1	6240-11-1102 (6240-11-1101)	CYLINDER HEAD ASSEMBLY (CYLINDER HEAD ASSEMBLY.	1 (1)	Does not include valves
2	6240-11-1370	VALVE SEALS.	4	
3	6240-41-4110	INTAKE VALVE	2	
4	6240-41-4210	EXHAUST VALVE.	2	
5	6240-41-4410	SPRINGS.	4	
6	6240-41-4520	KEEPERS, VALVE	8	
7	6240-41-4430	SEAT, SPRING	4	
8	6240-41-4440	SEAT, SPRING	4	
9	6240-81-9560	PLUG	1	When modifying

Remark

Since the following engines have already been modified at the factory with the M24 plug they are not included in the above table. Serial number of the machines which have already been modified at the factory with the M24 plug (4 machines only)

- WA700-3E #311135
- PC1250-7 #311141
- PC1250-7 #311142
- WA700-3E #311129

DETAIL OF MODIFICATION

★ To improve the security against water leakage from the U-plug portion of the cylinder head, the plug shape has been modified.

• Modification Contents

The U-plug (6162-13-1150) has been changed to the straight screw plug (the following part).

Carrying out this modification by replacing the cylinder head assembly: 6215-81-9530 (M22 X 1.5)

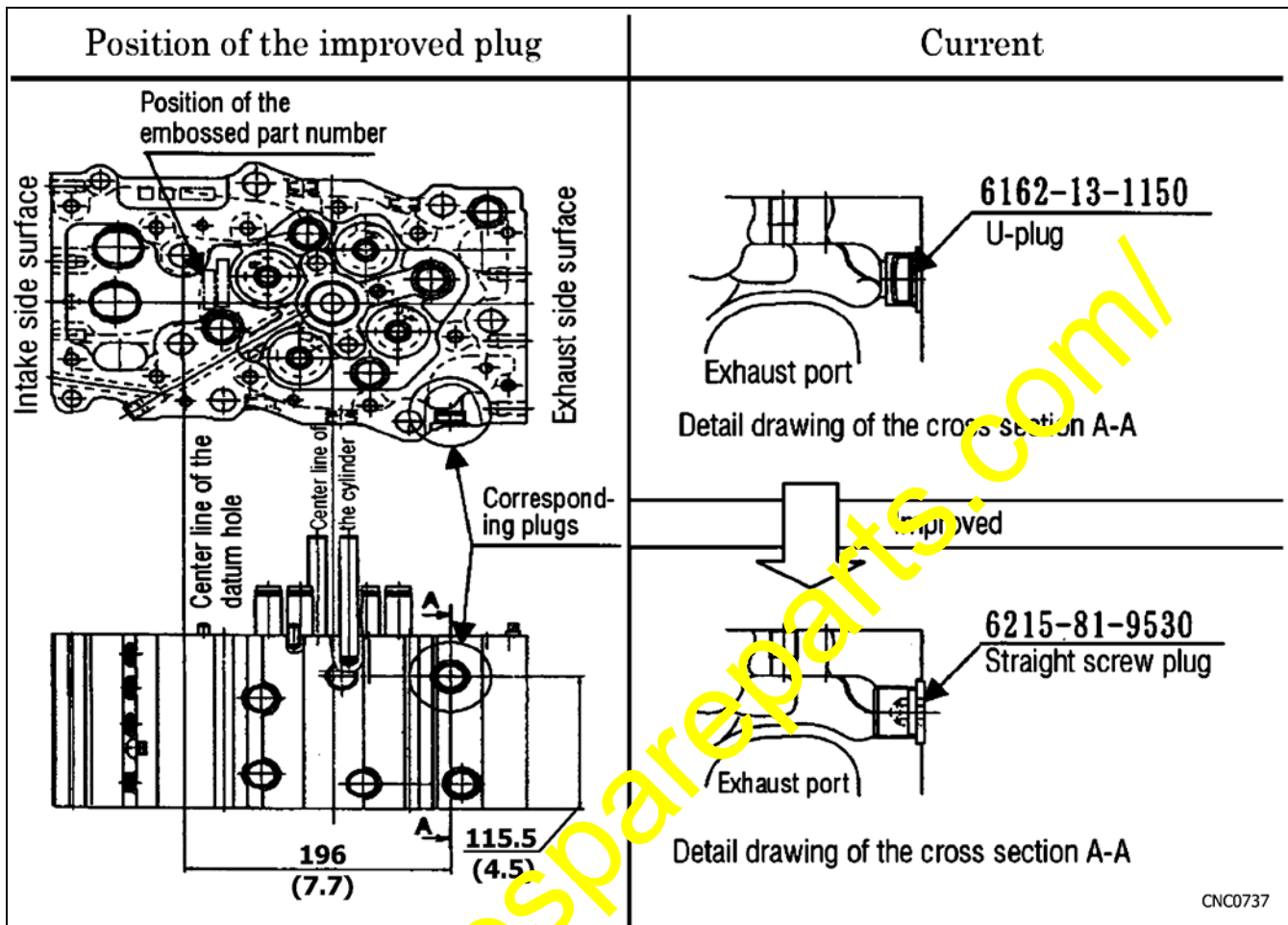
Carrying out this modification by reworking of the cylinder head: 6240-81-9560 (M24 X 1.5)

• Identification method for the improved cylinder head

Check the embossed part number located on the upper surface of the cylinder head:

6240-11-1111
(Current part)

6240-11-1112
(Improved part)



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★ Modification Method (A)

1. Remove the cylinder head as per the Shop Manual for the Engine.
2. Remove the valve, valve spring, etc. from the cylinder head assembly.
3. Replace the cylinder head with the improved one.
 - a. Replace the valve and stem seal with new parts.
 - b. Cylinder head assembly (without valve): 6240-11-1101 / 6240-11-1102
4. Reinstall the removed parts as per in the Shop Manual for the Engine. Replace the consumable parts like the gaskets, seals, etc. with new parts.

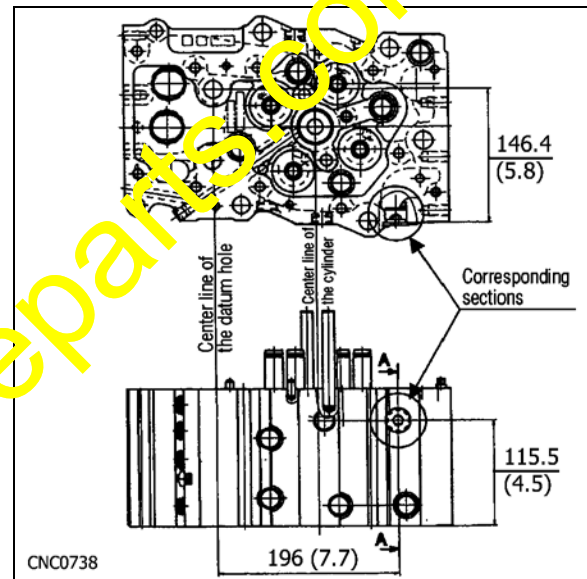
★ Modification Method (B-1)

- Carry out this modification following the procedure described below.

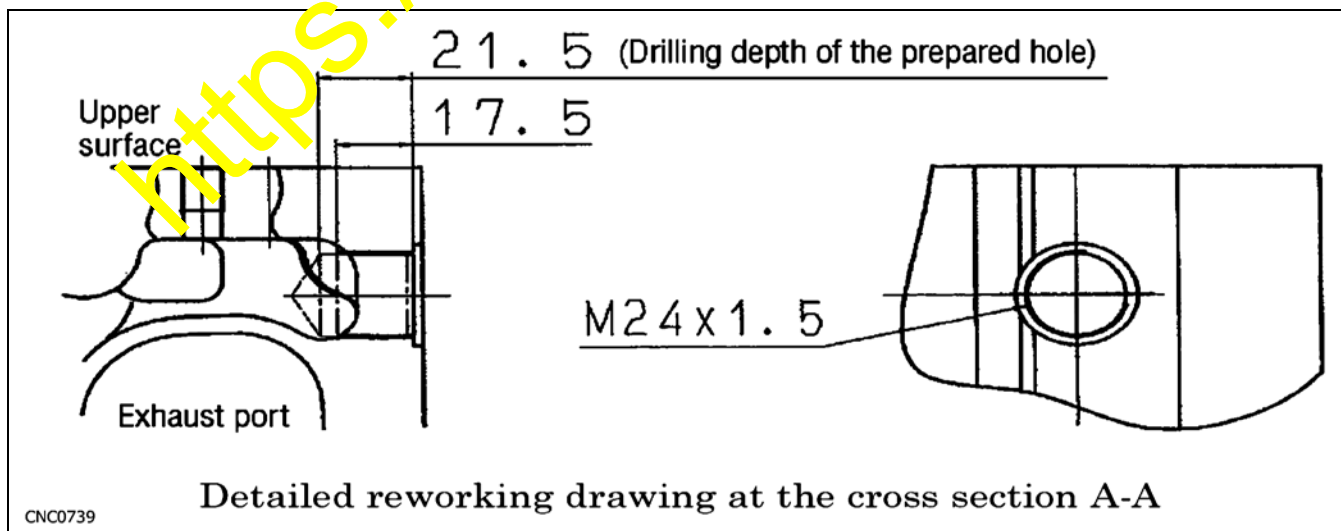
1. Remove the valve, valve spring, and related parts from the cylinder head assembly as per in the Shop Manual for the Engine.
2. Remove the U-plug from the cylinder head.

Remark

When carrying out this modification by reworking, remove all the blind plugs used on the cylinder head and wash the inside after finishing the reworking in order to secure the cleanliness inside the cylinder head.




3. Rework to make the "M24 X 1.5" tapped hole as per illustration. When drilling the prepared hole, be fully careful not to damage the wall surface of the exhaust port.



★ Modification Method (B-2)

1. Remove oil and grease completely from the reworking section of the cylinder head and from the straight screw plug (6240-81-9560).
2. Install the straight screw plug after applying the Loctite (LT-2) on the outer circumference of the straight screw plug.

 Tightening torque: **125 - 138 Nm (92 - 102 ft/lbs)**

3. Install the valve to the cylinder head as per the Shop Manual for the Engine.
4. Restore the removed parts to the original state as per in the Shop Manual for the Engine.
5. Replace the consumable parts like gaskets, seals, and related parts with new parts.

