

INSTALLATION MANUAL

REF NO.	BT99037
DATE	Sep. 17, 1999

Page 1 of 7

SUBJECT: INTRODUCING TAMPER PROOF KIT AND INSTALLATION PROCEDURE FOR ENGINE CONTROLLER (USA area – areas subject to EPA exhaust emission regulation)

PURPOSE: To introduce installation procedures for the tamper proofing part for the engine controller on vehicles conforming to the U.S. EPA's (Environmental Protection Agency of the United States) exhaust gas emission regulations.

APPLICATION: Refer to page 2.

FAILURE CODE: DA0099

DESCRIPTION:

1. Introduction

This Service News introduces installation procedures, for the tamper-proofing part for engine controllers, manufactured by KOMATSU for engines conforming to the EPA regulations.

It is obligatory to install the tamper-proofing part (a kit to lock the adjustment mechanism of the engine controller to prevent individual adjustment) to engines conforming to the U.S. EPA regulations. Consequently, since it is an infringement of the regulations (they include penal provisions) to activate an engine by an engine controller without such tamper-proofing parts, when ordering for a spare engine controller, always order the tamper-proofing parts as well, and install them in accordance with this Service News.

2. List of parts

Part No.	Part Name	Q'ty	Remarks
7818-51-1340	Sheet	1	Tamper-proofing part

To install the tamper-proofing parts, following coating material needs to be obtained locally.
Toray Low Corning SE9186 or equivalent

3. Part numbers list

When ordering a spare engine controller, always order the tamper-proofing parts with part number according to the listing below altogether.

No.	Vehicle model	Part number of the engine controller (*1)	Engine controller manufacturer	Type (*2)	Part number for tamper-proof part
1	HD465-5 HD605-5	7818-52-1003	KOMATSU	LE	7818-51-1340
2	HE465-5 HE605-5	7818-52-4001	KOMATSU	LE	7818-51-1340
3	HD465-5 HD605-5	7818-52-4002	KOMATSU	LE	7818-51-1340
4	WA700AP-1	7823-38-5001	KOMATSU	X	7818-51-1340
5	WA700-3	7823-38-6000	KOMATSU	LE	7818-51-1340
6	PC1100-6	7834-22-6004	KOMATSU	LE	7818-51-1340

*1 The above parts are applicable only for the engines being used in the areas subject to EPA regulations, and are not applicable for engines to be used for other areas.

*2 Be aware that the installation procedures are different depending on the controller type.

For LE-Type controller refer section 4.1

For X-type controller refer section 4.2

4. Installation procedures for the tamper-proofing parts

Installation procedure of the tamper-proofing part necessary when replacing an engine controller on a machine or vehicle used in the areas subject to U.S. EPA regulations is described here.

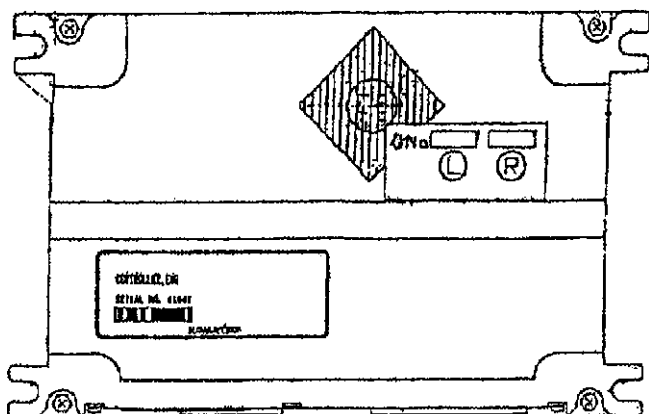
Sample of engine name plates and engine controllers

IMPORTANT ENGINE INFORMATION			
THIS ENGINE CONFORMS TO 1999 MODEL YEAR U.S. EPA REGULATIONS AND THE CALIFORNIA REGULATIONS LARGE NONROAD COMPRESSION IGNITION ENGINES. THIS ENGINE IS CERTIFIED TO OPERATE ON DIESEL FUEL.			
WARNING INJURY MAY RESULT AND WARRANTY IS VOIDED IF FUEL RATE, RPM OR ALTITUDES EXCEED PUBLISHED MAXIMUM VALUES FOR THIS MODEL AND APPLICATION.			
ENGINE MODEL	SAA6D170E-2	SERIAL NO.	
ENGINE FAMILY	WKLXL23.2FD2	DISPLACEMENT	23.15 LITERS
EXHAUST EMISSION CONTROL SYSTEM	EM,DI	FIRING ORDER	1-5-3-6-2-4
ADV. LOAD OUTPUT	510 kW (684 HP)	2000 rpm	
VALVE LASH (mm)	IN. 0.40 EX. 1.00	FUEL RATE AT ADV.	368 mm ³ /STROKE
IDLE SPEED	725 ± 25 rpm	FAMILY EMISSION LIMIT	
INITIAL INJECTION TIMING	22 DEG. BTDC	DATE OF MANUFACTURE	
			KOMATSU LTD. MADE IN JAPAN

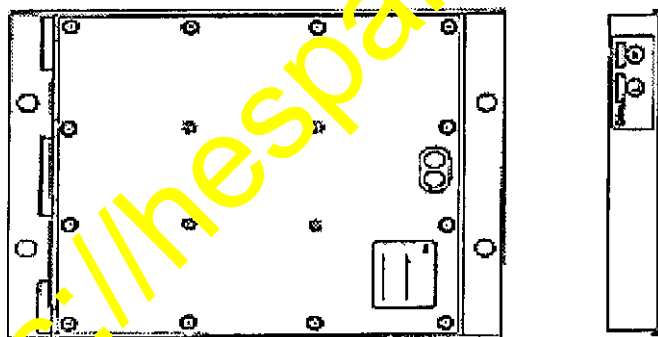
Sample 1. Name plate for engines conforming to the U.S. EPA emission regulation

KOMATSU KOMATSU LTD.		IMPORTANT ENGINE INFORMATION	
WARNING: INJURY MAY RESULT AND WARRANTY IS VOIDED IF FUEL RATE, RPM OR ALTITUDES EXCEED PUBLISHED MAXIMUM VALUES FOR THIS MODEL AND APPLICATION.		ENGINE MODEL	SAA6D170E-2
THIS ENGINE CONFORMS TO 1999 U.S. EPA AND CALIFORNIA REGULATIONS FOR LARGE NON-ROAD COMPRESSION IGNITION ENGINES AS APPLICABLE. THIS ENGINE IS CERTIFIED TO OPERATE ON DIESEL FUEL.		SERIAL No.	123456
ADV. LOAD OUTPUT		IDLE SPEED	730 ± 25 - 25 rpm
EPA CERT. FAMILY		FIRING ORDER	1-5-3-6-2-4
EUROPEAN APPROVAL No.		DISPLACEMENT	23.152 LITERS
ENGINE CODE		INITIAL INJECTION TIMING	16 DEG. BTDC
		FUEL RATE AT ADV.	368 mm ³ /STROKE
		VALVE LASH (mm)	IN. 0.40 EX. 1.00
		ADV. LOAD OUTPUT	478 kW (641 HP) 1800 rpm
		DATE OF MANUFACTURE	19990810
		MADE IN JAPAN 8162-05-2310	

Sample 2. Name plate for engines conforming to the U.S. EPA and EU emission regulations



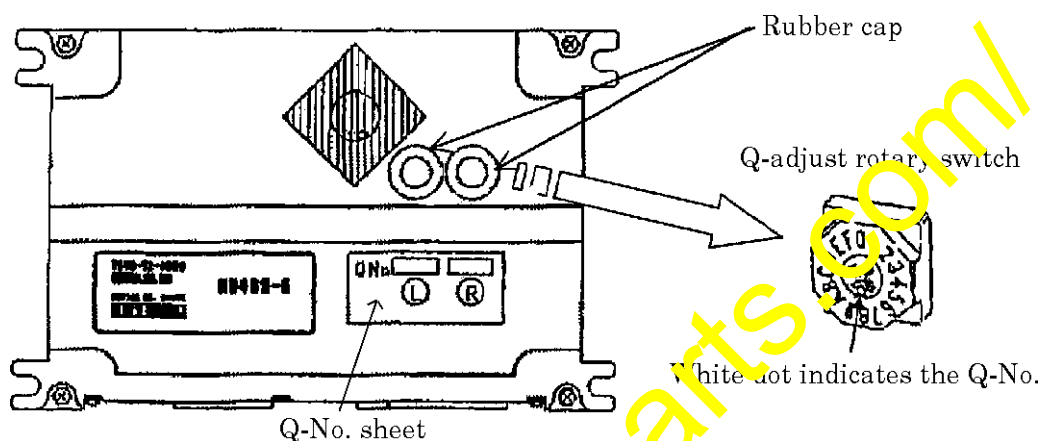
Sample 3. Appearance of engine controller (LE-type)



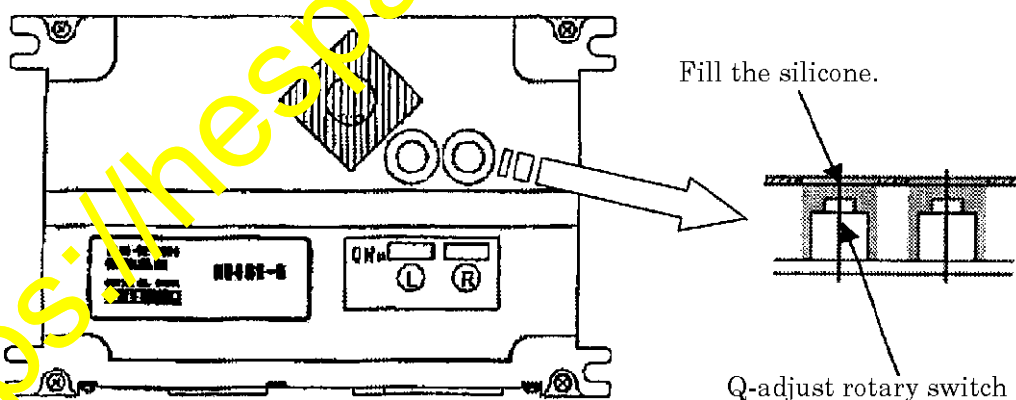
Sample 4. Appearance of engine controller (X-type)

4.1 Installation procedure for 'LE-type' controller

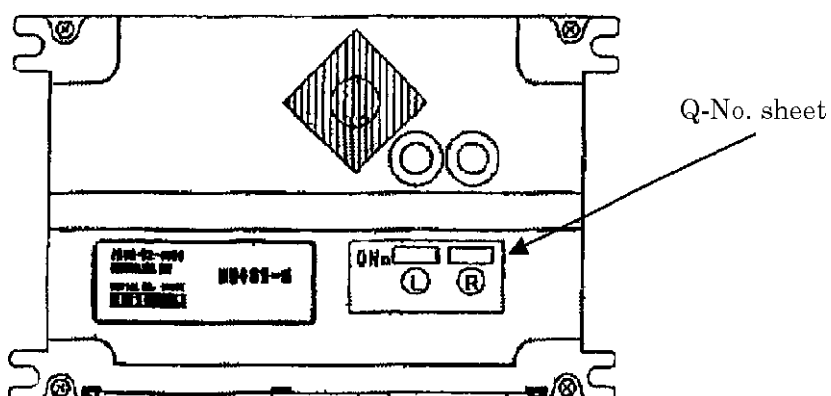
- (1) Adjustment of Q-adjust rotary switch of the new controller
(Adjustment procedure is the same as that for 'LE-type' controller used on engines for non-U.S. EPA emission regulation engines.)
 - Remove rubber caps on the controller.
 - Adjust Q-adjust rotary switch under the rubber caps of the new controller using screwdriver to the Q-adjust numbers shown on the engine name plate and Q-No. sheet attached on the old controller.



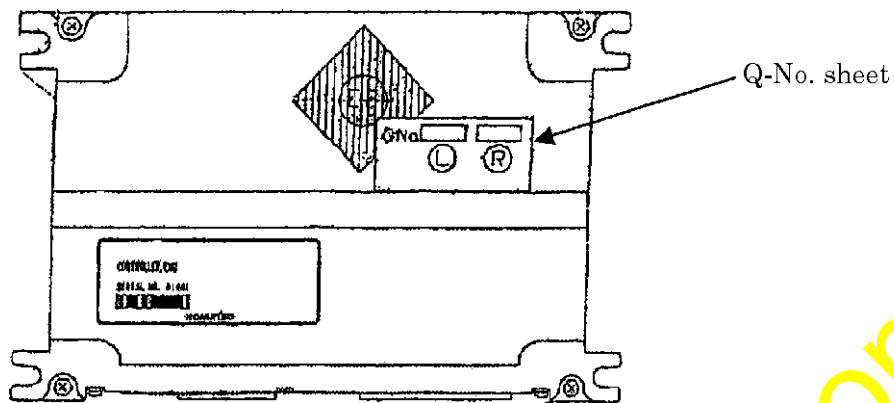
- (2) Fill the silicone in the cavities where the Q-adjustment rotary switches are located until the Q-adjustment rotary switch is completely covered with the silicone.
(Silicone: Toray Dow Corning SE9180 or equivalent)



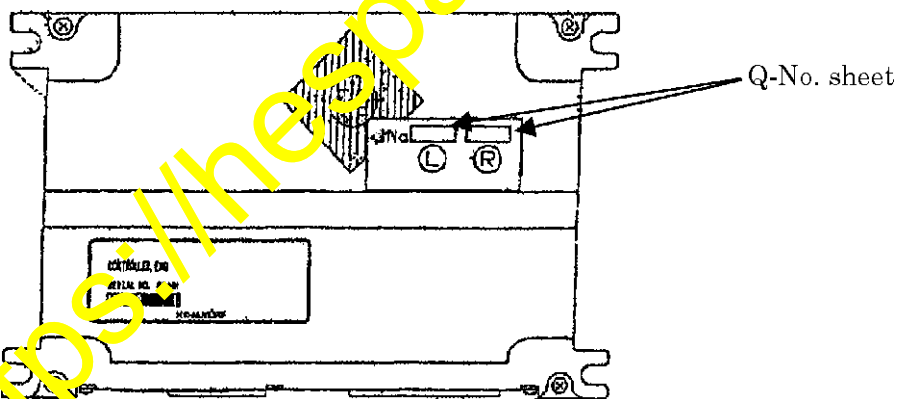
- (3) Remove Q-No. sheet attached on the new controller and discard the sheet.



- (4) Attach the new Q-No. sheet on the cavities of engine controller.
(Part number of the sheet: 7818-51-1340)

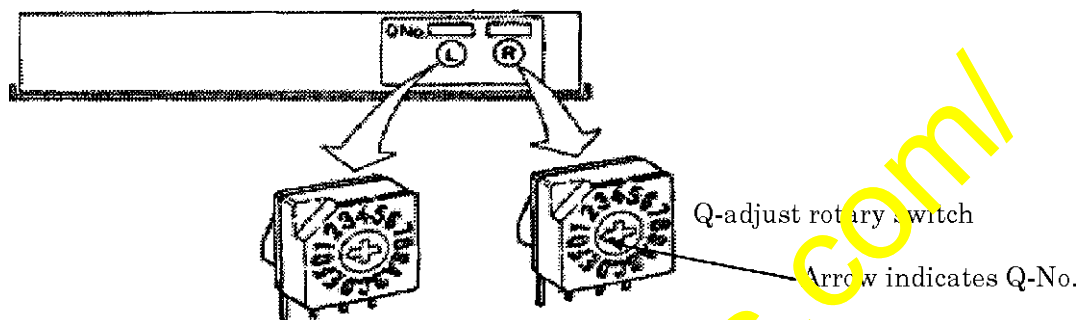


- (5) Fill in the Q-No. in the designated space on the Q-No. sheet attached on the new controller.
(This procedure and the procedures following thereafter are the same as those for 'LE-type' controllers used on engines for non-U.S. EPA emission regulation engines.)
If the engine is an inline type, fill in the same Q No. for both L (left bank) and R (right bank).

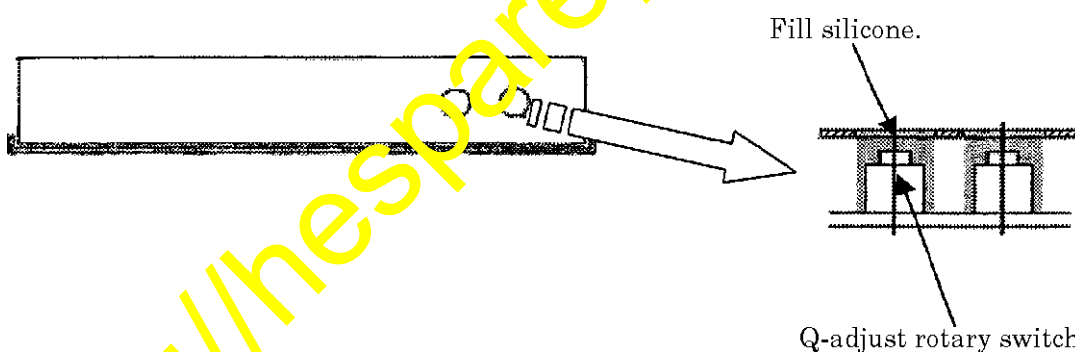


4.2 Installation procedure for 'X-type' controller

- (1) Adjustment of Q-adjust rotary switch of the new controller
(Adjustment procedure is the same as that for 'X-type' controllers used on engines for non-U.S. EPA emission regulation engines.)
 - Adjust Q-adjust rotary switch on the side of the new controller using screwdriver to the Q-adjust numbers shown on the engine name plate and Q-No. sheet attached on the old controller.



- (2) Fill the silicone in the cavities where the Q-adjustment rotary switches are located until the Q-adjustment rotary switch is completely covered (with the silicone).
(Silicone: Toray Dow Corning SE9186 or equivalent)



- (3) Removing the backing paper, attach the new Q-No. sheet on the cavities of engine controller.

(Part number of the sheet: 7818-51-1340)

Fill in the Q-No. in the designated space on the Q-No. sheet attached on the new controller.

(This procedure and the procedures thereafter are the same as those for 'X-type' controllers used on engines for non-U.S. EPA emission regulation engines.)

If the engine is an inline type, fill in the same Q-No. for both L and R.

