

**PARTS & SERVICE  
NEWS**

REF NO.	<b>AT01027A</b>
DATE	<b>Oct. 13, 2004</b>

This PARTS & SERVICE NEWS supersedes the previous issue No. AT01027 dated Apr. 12, 2001 which should be discarded.

**SUBJECT:** INTRODUCTION OF Q-ADJUST TAMPER PROOF KIT FOR ENGINE CONTROLLER

**PURPOSE:** To introduce Q-adjust tamper proofing function of the engine controllers (for engines equipped with KOMATSU made fuel injection pumps (KP21) incorporating electric engine throttle controller)  
(The function conforming to the emission gas control regulations of the EPA (U.S. Environmental Preservation Agency))

**APPLICATION:** Refer to page 10.

**FAILURE CODE:** A010MA

**DESCRIPTION:**

## 1-1. Introduction

This Service News will introduce Q-adjust tamper proofing function of the above engine controllers.


It is mandatory to seal the engine controller adjusting mechanism of the engines to be used in areas applicable to the EPA regulations. (Installation of the tamper proofing function parts)

Running an engine by use of a fuel injection unit not being equipped with the tamper proofing function parts will constitute an infringement of the regulation (with penal provisions).

This time, in an attempt to improve the tamper proofing function, we have changed the previous method (silicon molding type according to Service News BT99037) into a new system to incorporate the tamper proofing function in the software for the engine controller as a newly prepared sealing method and we are introducing its functions and updating procedures thereof. The new method prepared this time requires a special part (Q-adjust adjustment harness) when updating the content, thus making it difficult to tamper with the engine output.

When it becomes necessary to make "Q-adjust adjustment work" due to replacement of the engine controller or when conducting bench test of the engine after its overhauling, do so following the procedures being outlined in this Service News.

## 1-2. Revised places:









15 places 	Oct. 13, 2004	Added applicable machine model number.
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## 2. List of parts

Part No.	Part Name	Q'ty	Remarks
7818-51-1340	Sheet	1	For the rotary switch cover
6162-85-9980	Wiring harness	1	For the Q-adjust adjustment work

## 3. Part number list

Listed below are the engine controllers applicable to the modification according to this Service News.

No.	Models and types	Part numbers of the controller proper	Manufacturer	Type	Remarks	
1	HD465-5	7818-52-1004	Komatsu	LE	Before the periodical change	
2	HD465-5	 7818-52-4004  7818-52-4005	Komatsu	LE	After the periodical change	
3	HD465-5	7818-52-7001	Komatsu	LE	Overrun preventive type	
4	HD785-5	7818-52-3004	Komatsu	LE		
5	HD985-5	7818-52-6003	Komatsu	LE		
6	WA700-3	7823-38-6001	Komatsu	LE		
7	WA800-3	7823-38-7001	Komatsu	LE		
8	D475A-3	7830-33-3405 thru  7830-33-3409	Komatsu	LE		
9	PC1100-6	7834-22-6006  7834-22-6007	Komatsu	LE		
	10	D575A-3	7830-22-3402	Komatsu	LE	
	11	PC1100-6	7834-22-6400 7834-22-6401	Komatsu	LE	Not in compliance with EPA regulation (High altitude specification)
	12	HD785-5	7818-52-3501	Komatsu	LE	Not in compliance with EPA regulation (High altitude specification)
	13	HD785-5	7818-52-3700	Komatsu	LE	Not in compliance with EPA regulation (High altitude specification)

\*1

\*1 Applicable to the engine controllers of the above part numbers.

Regarding other parts than what are listed above, refer to the previous issue of Service News.

(Service News No. BT99037)

★ Meanwhile, the engine controllers of the part numbers listed above are also being shipped to other destinations than the areas applicable to the EPA regulations and since these engine controllers incorporating the tamper proofing function, follow the same procedures outlined in this Service News when it becomes necessary to make “Q-adjust adjustment work”.

4. “Q-adjust adjustment” procedures for engine controllers incorporating the tamper proofing function

- ★ Being described below are the “Q-adjust adjustment” procedures for the engine controllers incorporating the tamper proofing function.
- ★ As for the replacement procedures for the engine controller itself, refer to Service News No. AT97280 or the Shop Manual for respective engines (such as “170 engines).

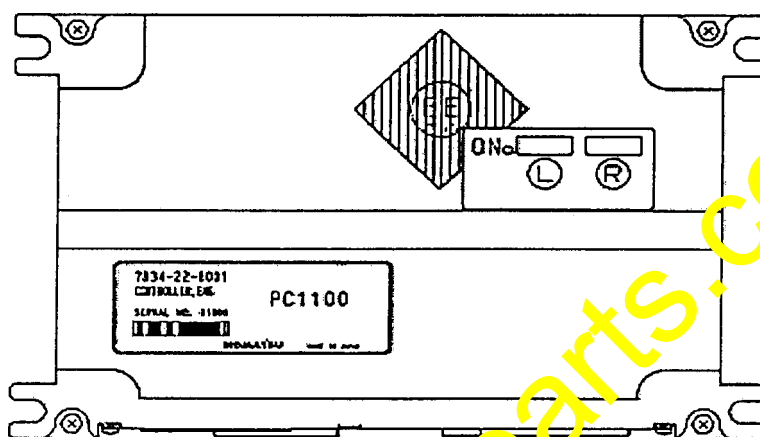


Fig. 1 Engine controller

4.1 Preparations before starting the “Q-adjust adjustment”

- 1) It is necessary to set the engine controller to the “Q-adjust adjustment mode” to conduct Q-adjust adjustment.  
Therefore, set the engine controller to the “Q-adjust adjustment mode” following the procedures being described on the next page and after to update the Q-adjust numbers.  
When errors are made while following these procedures, the Q-adjust data (data memorized in the engine controller) will not be updated.
- 2) Other servicing works for the engine controller than the Q-adjust adjustment method remain as they were and no change has been made.
- 3) The following parts are necessary for this adjustment work.
  - Sheet: (7818-51-1340)
  - Wire harness: (6162-85-9980)
  - Extra small screwdriver: For adjustment of the rotary switch

## 4.2 Q-adjust adjustment procedures

### 4.2.1 Connecting the Q-adjust adjustment harness

- \* Before starting the connection work:
  - Turn “OFF” the controller power.
  - Turn the Q-adjust adjustment harness switches SW1 and SW2 “OFF”.

Make interrupt connection of the above “Q-adjust adjustment harness” between the engine controller and the chassis harness:

- Make interrupt connection at the 20-pin section of the CN5.
- Connect other connectors as usual.

- \* When adjustment has been finished, remove the harness.

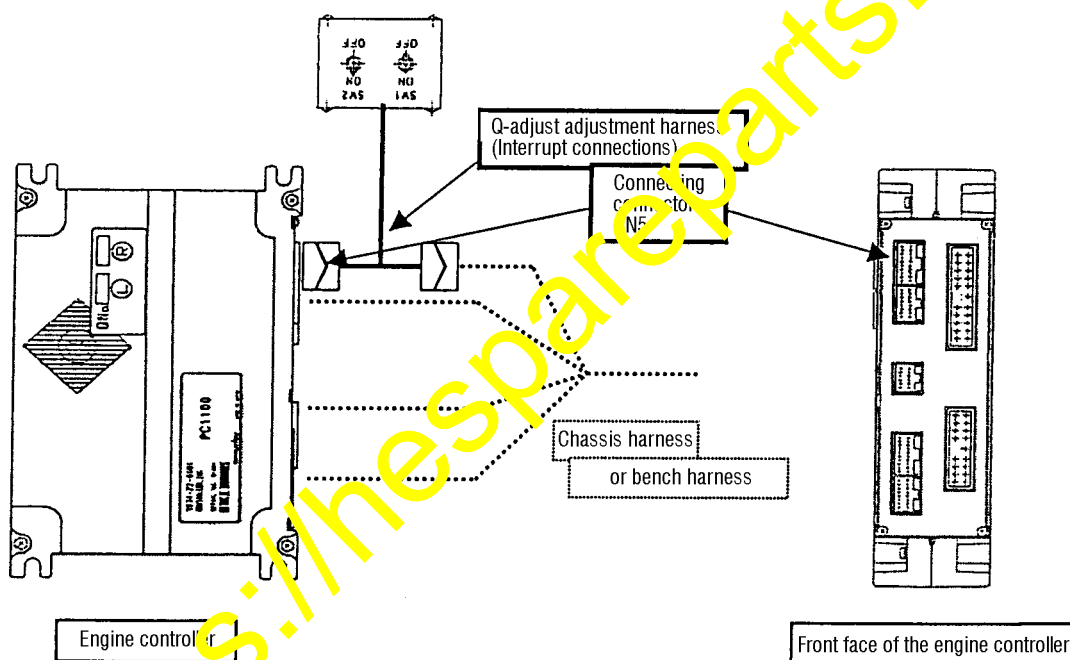
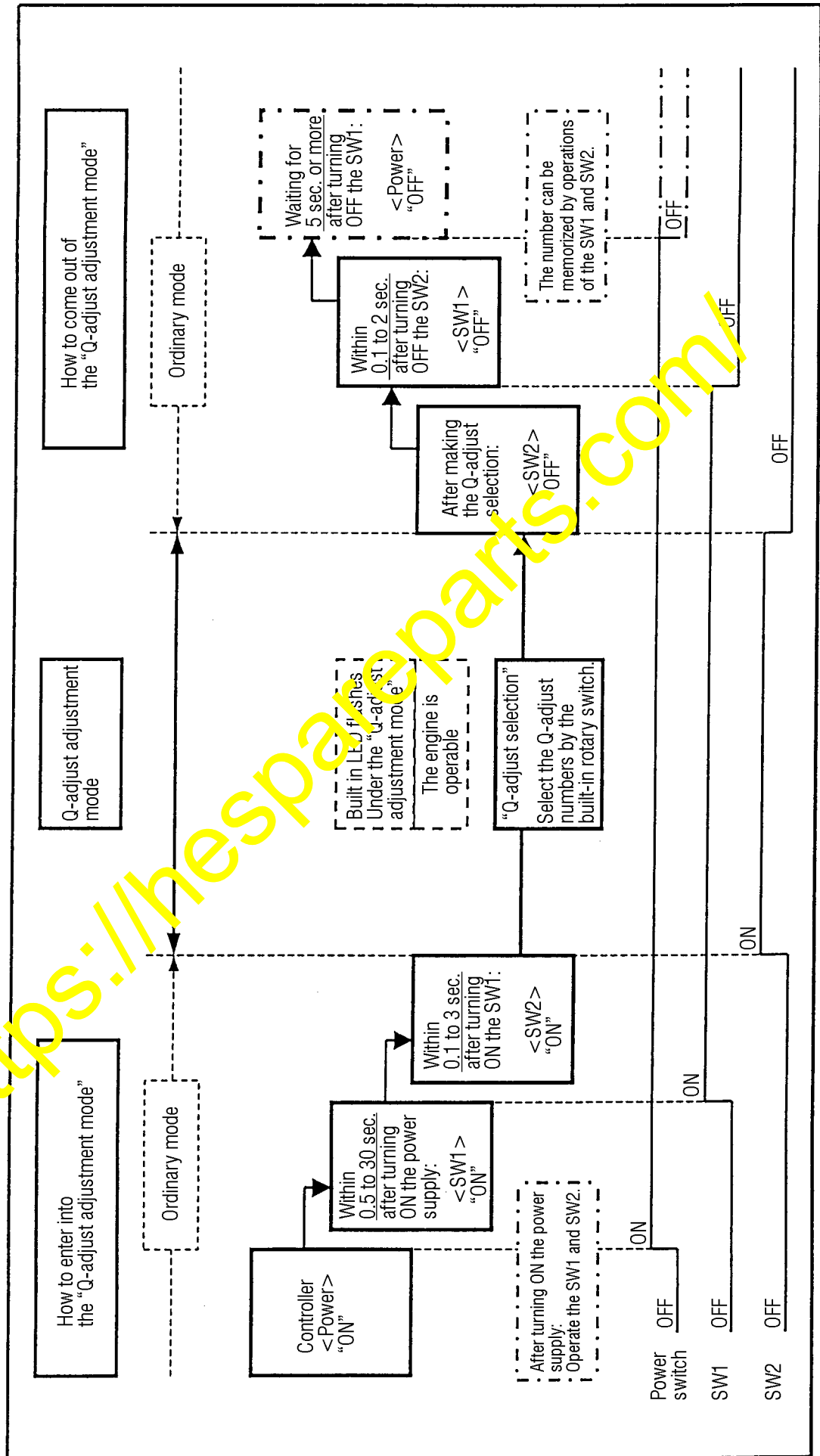


Fig. 2 Harness connections

4.2.2 Q-adjust setting method

Set the engine controller to the "Q-adjust adjustment mode" following the procedures indicated below. When errors are made while following these procedures, the Q-adjust data will not be updated or newly memorized. Check the Q-adjust numbers following the work procedures described in the next Section.



4.2.3 Q-adjust number checking method and Q-adjust adjustment mode identification method  
 “Checking the Q-adjust numbers” and “identifying the Q-adjust adjustment mode” can be executed as follows:

<p>&lt;How to check the stored Q-adjust numbers&gt;</p>	<p>&lt;How to make checks under the Q-adjust adjustment mode&gt;</p>	<p>&lt;How to check after finishing the Q-adjust number setting work&gt;</p>
<p>The built-in LED's will indicate the numbers after the control unit power is turned ON.</p> <p>&lt;Indication patterns: Given below are exemplary indications.&gt;</p> <p>[88]-[78]-[5E]-[13]-[15]-[8F]-[ ]-[MM]-[E]-[EE]</p>	<p>Settings should be made using the built-in rotary switch.</p>	<p>Check the contents by turning off the controller power once before turning ON again.</p> <p>(The LED indications will be similar to what are given in the left-hand column.)</p>
<p>①: To check if the LED's are operating normally/                  ②: Model version indications</p> <p>③: Stored Q-adjust numbers [LH side/RH side]                  (e.g. [8F] → Stored Q-adjust number on the RH side = 8 / Stored Q-adjust numbers on the LH side = F)</p> <p>④: (Indication changeover) /                  ⑤: Error code indication (Stored * Occurred newly)</p>		
	<p>The white dot shows the current choice of the “Q-adjust number”.</p>	
		<p>!!! How to identify the Q-adjust adjustment mode !!!                  Built-in LED: Flashes                  [At 0.5 sec. intervals]</p>

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### 4.3 How to adjust the Q-adjust rotary switch

#### 4.3.1 How to adjust

(In case of sealed type controller: Refer to Fig. 3 for <Appearance before making the adjustment>

- ① Remove the seal located on the upper surface of the controller. Discard the removed seal.
  - \*\*\* After setting to the Q-adjust adjustment mode \*\*\*
- ② Turn the built-in "Q-adjust rotary switch" using an extra small screwdriver to set to the desired "Q-adjust number".
  - \*\*\* After finishing the Q-adjust number setting work \*\*\*
  - \*\*\* Turn off the controller power once and turn it ON again to make sure the desired Q-adjust number is appearing. \*\*\*
 (Refer to Section 4.2 for the checking method.)
- ③ Apply new "Q-adjust number seal" over the Q-adjust rotary switch openings being opened in the engine controller housing.
  - <Part number of the seal: 7818-51-1340>
- ④ Works to make after this such as writing the Q-adjust number on the "Q-adjust number seal" remain the same as with the current Q-adjust adjustment procedures.
  - (According to the Service News AT97280, BT99037)
  - When writing the "Q-adjust number" on the "Q-adjust number seal", use an oil ink pen for long lasting indication.
  - In case of straight engines, indicate the same Q-adjust number on the LH and RH columns.

<Before making the adjustment>

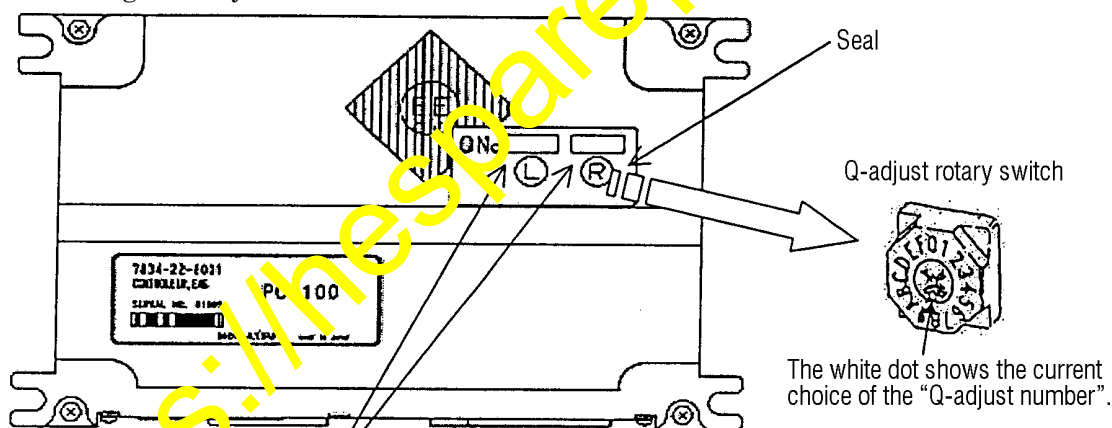


Fig. 3

Q-adjust numbers (before making the adjustment)

Q-adjust numbers (after making the adjustment)

<After making the adjustment>

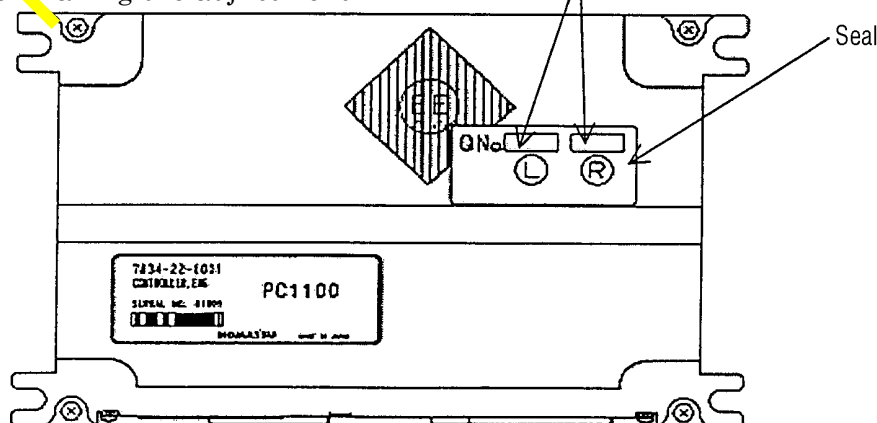


Fig. 4

4.3.2 In case of “other types” of engine controllers

(In case of engine controllers equipped with rubber grommets: Refer to Fig. 5 for <Appearance before making the adjustment>

- ① Remove the rubber grommets.  
 \*\*\* After setting to the Q-adjust adjustment mode \*\*\*
- ② Turn the built-in “Q-adjust rotary switch” using an extra small screwdriver to set to the desired “Q-adjust number”.  
 \*\*\* After finishing the Q-adjust number setting work \*\*\*  
 \*\*\* Turn off the controller power once and turn it ON again to make sure the desired Q-adjust number is appearing. \*\*\*  
 (Refer to Section 4.2 for the checking method.)
- ③ Apply new “Q-adjust number seal” over the Q-adjust rotary switch openings, being opened in the engine controller housing.  
 <Part number of the seal: 7818-51-1340>
- ④ Works to make after this such as writing the Q-adjust number on the “Q-adjust number seal” remain the same as with the current Q-adjust adjustment procedures.  
 (According to the Service News AT97280, BT99037)
  - When writing the “Q-adjust number” on the “Q-adjust number seal”, use an oil ink pen for long lasting indication.
  - In case of straight engines, indicate the same Q-adjust number on the LH and RH columns.

<Before making the adjustment>

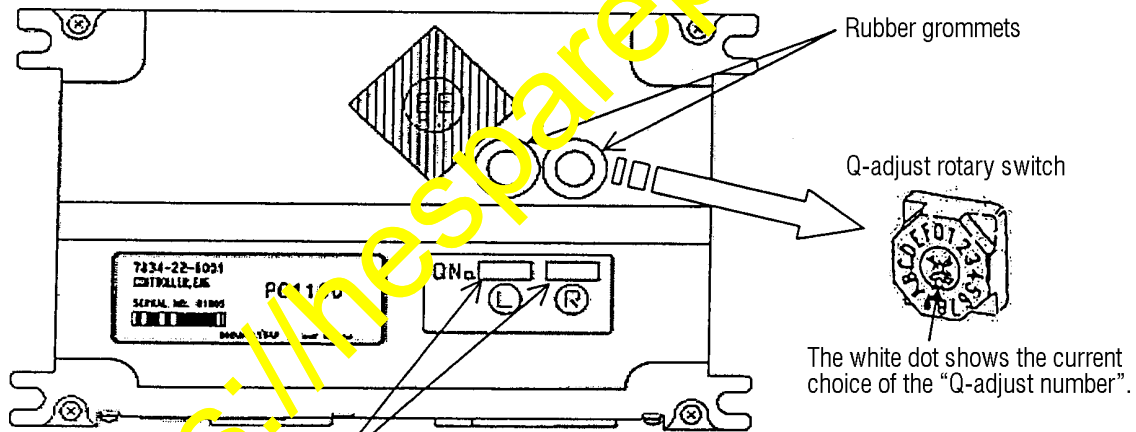


Fig. 5

<After making the adjustment>

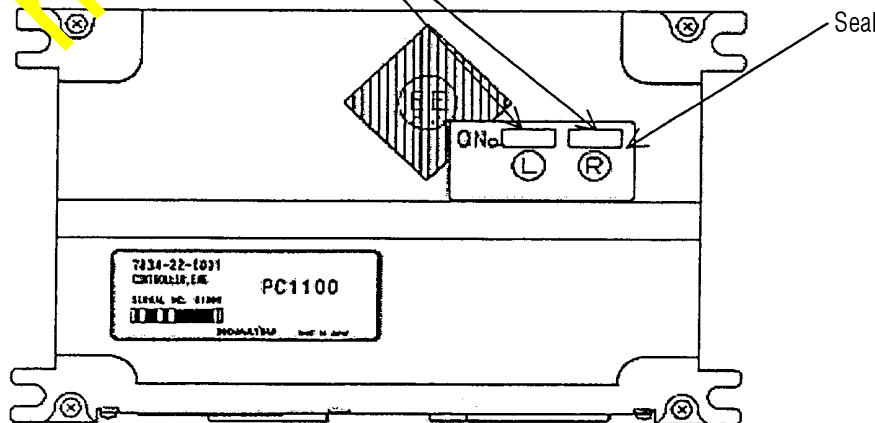


Fig. 6










## 4.4 Spare engine controllers

With the engine controllers of the type being referred to in this Service News, the “Q-adjust numbers” for the controllers being shipped will already be set before shipment from the factory.


Respective setting statuses are as follows.

When replacing the current engine controller with the spare controller, refer to the preceding Section 4.3.2.

No.	Models and types	Q-adjust settings of the spare controllers when being shipped		Part Nos.	LED indications when power supply is turned ON (Refer to section 4.2.3 regarding the LED indications.)
		LH side	RH side		
1	HD465-5	—	B	7818-52-1004	0B
2	HD465-5	—	8	7818-52-4004  7818-52-4005	08
3	HD465-5	—	B	7818-52-7001	0B
4	HD785-5	9	9	7818-52-3004	99
5	HD985-5	8	8	7818-52-6003	88
6	WA700-3	—	8	7823-33-1001	08
7	WA800-3	8	8	7823-33-7001	88
8	D475A-3	8	8	7830-33-3405 thru  7830-33-3409	88
9	PC1100-6	—	B	7834-22-6006  7834-22-6007	0B
 10	D575A-3	8	8	7830-22-3402	88
 11	PC1100-6	—	B	7834-22-6400 7834-22-6401	0B
 12	HD785-5	9	9	7818-52-3501	99
 13	HD785-5	9	9	7818-52-3700	99

\* Nonetheless, both of the LH and RH rotary switches of the spare controllers are being returned to “0” position when being shipped out.

Check table for the serial numbers of the applicable vehicles and machines

No.	Applicable models	Serial numbers of the applicable engines		Starting from	Serial numbers of the applicable vehicles and machines	
		Already shipped engines	Factory shipment new engines		Already shipped vehicles and machines	Factory shipment new vehicles and machines
1	HD465-5	– #21003	#21004 –	12/12	4001– #4866	#4867 –
2	HD605-5	– #20966	#21038 –	12/12	1001– #1123	#1124 –
3	HD785-5	– #12776	#12791 –	1/16	4001– #4189	#4190 –
4	HD985-5	– #12704	#12779 –	12/22	1001– #1051	#1052 –
5	WA700-3	– #21008	#21041 –	12/28	50001– #50045	#50046 –
6	WA900-3	– #12749	#12795 –	1/19	50001– #50016	#50017 –
7	PC1100-6	– #20970	#21085 –	1/24	10001– #10189	#10190 –
8	D475A-3	– #12778	#12785 –	12/28	10601– #10682	#10683 –
9	WA700-AP-3	– #20992	#21041 –	1/9	–	–
10	PC1100-HA-6	– #21011	Next shipment and after		–	–
 11	D575A-3	– #10211	#10231 –		10101– #10103 10105	#10104 #10106 –