

# PARTS & SERVICE NEWS

REF NO. AA04027

DATE Feb. 11, 2004

(C)

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**SUBJECT:** MODIFICATION PROCEDURE OF JOYSTICK STEERING CONTROLLER

**PURPOSE:** To introduce modification procedure to replace the controller for joystick controls.

**APPLICATION:** WA500-3 Wheel Loader, S/N 50400, 50715, 50780, 50791, 52039, 52046, 52048, 52067 thru, 52076, 52086, 52087, 52098, 52101, 52102, 52105 thru 52108, 52113, 52116 thru 52118  
 WA500-3L Wheel Loader, S/N A70001 thru A70832  
 WA500-3LK Wheel Loader, S/N A71001 and up  
 WA600-1LE Wheel Loader, S/N A51001 and up  
 WA600-3 Wheel Loader, S/N 50007, 50060, 50092, 50170 thru 50173, 50175, 50176, 50184, 50188, 50193, 50210, 50234, 50235, 50239, 50243, 50248, 50257, 50258, 50269, 50270, 50285, 50287, 50288, 50309, 50313, 50316, 50320, 50321, 50325, 50328, 50329, 50334, 50335, 50341, 50342, 50356, thru 50359, 50362, 50364, 50369, 50370, 50398, 50399, 50402, 50410, 50413, 50416, 50419, 52003 thru 52005, 52015, 52019, 52020, 52022 thru 52024, 52026 thru 52034, 52036, 52041 thru 52046, 52050, 52055, 52058, 53002, 53015, 53019, 53020, 53022, 53024, 53026, 53027 thru 53030  
 WA600-3L Wheel Loader, S/N A52001 thru A52224  
 WA600-3LK Wheel Loader, S/N A53001 thru A53501  
 WA700-1L Wheel Loader, S/N A20001 thru A20015  
 WA700-3 Wheel Loader, S/N 50017, 50023, 50024 thru 50029, 50032, 50038, 50041, 50043, 50046, 50047, 50050, 50053, 50055 and 50056  
 WA700-3L Wheel Loader, S/N A50001 thru A50027  
 WA800-2L Wheel Loader, S/N A20001 and A20002, A20004 thru A20019  
 WA800-2LC Wheel Loader, S/N A20003, A20020 thru A20028  
 WA800-3 Wheel Loader, S/N 50001, 50003, 50017, 50020, 50024, 50028, 50029, 50031, 50032 and 50033  
 WA800-3LC Wheel Loader, S/N A50001 thru A50028  
 WA900-1L Wheel Loader, S/N A20001 thru A20007  
 WA900-1LC Wheel Loader, S/N A20008 thru A20021, A20023 and A20024  
 WA900-3 Wheel Loader, S/N 50008, 50012, 50013, 50015 thru 50017, 50019, 50020, 50022 and 50027  
 WA900-3LC Wheel Loader, S/N A50001 thru A50037

**FAILURE CODE:** DB30Z9

**DESCRIPTION:**

The wheel loaders which are equipped with the joystick steering function as an option, it has been found that the method of the controller to cope with the abnormal conditions occurred in the machine system and detected by the controller while the joystick function is being used is inappropriate and the control-

lers on these machines must be replaced with the improved ones with proper handling method of the abnormal conditions.

**PART NUMBER OF THE CONTROLLERS TO BE REPLACED**

Machine Model & Type	Part No. of the controller (To be replaced)	Remarks
WA600-1, WA700-1, WA900-1, WA900-1, WA700-1L, WA800-2L, WA800-2LC, WA900-1L, WA900-1LC	7823-48-5000 7823-48-5001 7823-48-5002	Exclusive controller for joystick controls
WA500-3	7823-25-1000 7823-25-1001 7823-25-1002 7823-25-1003	Controller for work equipment controls plus joystick controls
WA600-3, WA700-3, WA700-3L	7823-16-1000 7823-16-1001 7823-16-1002 7823-16-1003	Controller for transmission controls plus joystick controls
WA800-3, WA900-3, WA800-3LC, WA900-3LC	7823-18-1000 7823-18-1001 7823-18-1002 7823-18-1003	Controller for transmission controls plus joystick controls.

**Lists of Parts:**

Part No.	Part Name	Purpose of part	Qty.	Remarks
WA600 thru WA900-1/1L/1LC, WA700-1L, WA800-2L/2LC, WA900-1L/1LC				
7823-48-5003 (7823-48-500*)	Controller (Controller)		Replacement	
WA500-3				
7823-25-1004 (7823-25-100*)	Controller (Controller)		Replacement	
WA600-3, WA700-3/3L				
7823-16-1004 (7823-16-100*)	Controller (Controller)		Replacement	
WA800-3, WA900-3, WA800-3LC, WA900-3LC				
7823-18-1004 (7823-18-100*)	Controller (Controller)		Replacement	

The part number of the current controllers indicated above with the (\*) mark at their end are showing the controller with the following part numbers:

MODELS	PART NUMBERS
WA600 thru WA900-1, WA700-1L, WA800-2/2L/2LC, WA900-1L/1LC	7823-48-5000, 5001 and 5002
WA500-3	7823-25-1001, 1001, 1002, 1003
WA600-3, WA700-3, WA700-3L	7823-16-1000, 1001, 1002, 1003
WA800-3 WA800-3LC, WA900-3, WA9003LC	7823-18-1000, 1001, 1002, 1003

Details of modification to be made:

Replace the applicable controllers with the improved ones with which the software has been corrected. (The replacement procedure is being described in Section 4).

Locally discard the controller of the current part number which has been removed from the machine.

Machine model and type	Part No. of the current controller to be replaced	Remarks
	*Part No. of the improved newcontroller	
WA600 thru WA900-1 WA800-2, WA700-1L, WA800-2L/2LC, WA900-1L/1LC	7823-48-5000 thru 5002  *7823-48-5003	Exclusive controller for joystick controls
WA500-3	7823-25-1000 thru 1003  *7823-25-1004	Controller for work equipment controls + joystick controls
WA600-3, WA700-3, WA700-3L	7823-16-1000 thru 1003  *7823-16-1004	Controller for transmission controls + joystick controls
WA800-3, WA900-3, WA800-3LC, WA900-3LC	7823-18-1000 thru 1003  *7823-18-1004	Controller for transmission controls + joystick controls

Currently, the machines having the joystick function are equipped with the controller for joystick controls.

This controller has the function to detect abnormal conditions when they occur in the sensors and solenoids used for the joystick control system and to take necessary countermeasures for the type of the abnormality. This time, since it was realized that some results of these measures taken by the controller might be inappropriate and the software was modified to take the countermeasure against the abnormal conditions for the controller which has the joystick control function.

(The aforementioned abnormal conditions are those which can occur when the sensors etc. fail while the joystick function is being used. In case the machine is being operated in the "steering wheel mode", the aforementioned inappropriate countermeasures will not be taken. (Proper countermeasures will be taken in this case)).

Replacement procedure on WA600-1, WA700-1, WA800-1, WA900-1, WA700-1L, WA800-2, WA800-2L/2LC, WA900-1L/1LC

Part number of the controllers to be replaced:

7823-48-5000, 5001 and 5002

Part name: "CONTROLLER, JST"

Part number of the NEW CONTROLLER: 7823-48-5003

Part name: "CONTROLLER, JST"

***PARK THE MACHINE ON A FLAT PLACE, APPLY THE PARKING BRAKE, TURN OFF THE STARTING KEY AND APPLY CHOCKS TO THE TIRES.***

4-1. Replacement procedure on WA600-1, WA700-1, WA800-1, WA900-1 and WA800-2 wheel loaders

- (1) Part No. of the controllers to be replaced  
Part No.: 7823-48-5000, 5001 and 5002  
Part name: "CONTROLLER, JST"

Part No. of the new controller: 7823-48-5003  
Part name of the new controller: "CONTROLLER, JST"

- (2) Park the machine on a flat place, apply the parking brake, turn off the starting key and apply chocks to the tires.

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## (3) Replacement of the controller

※ Commonly for the WA600-1, WA700-1, WA800-1, WA900-1 and WA800-2 wheel loaders, replace the controller as per the following procedure.

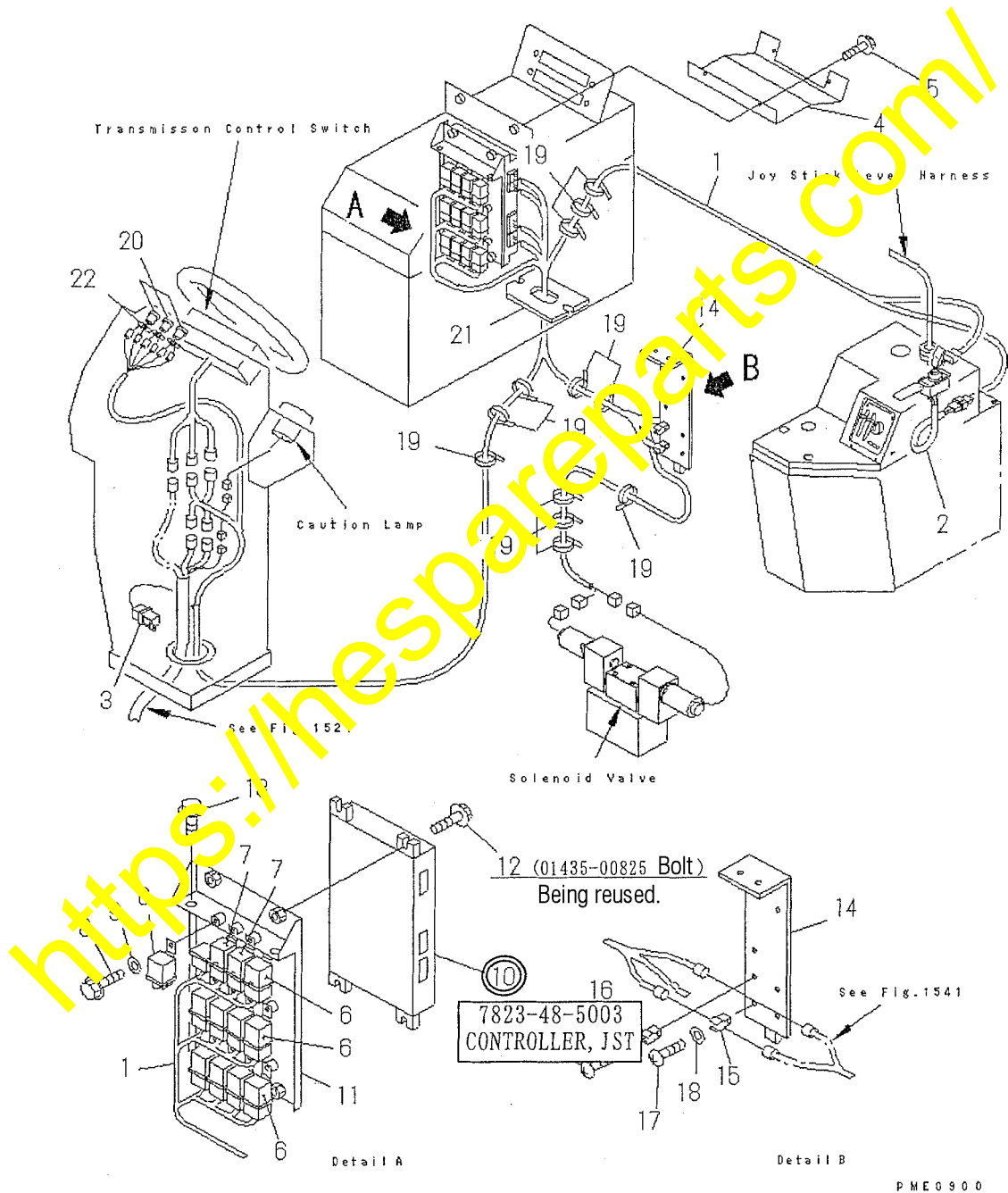
1) Remove the current controller from the position indicated in the drawing shown below.

Since the mounting bolts and nuts are being reused, carefully keep them not to lose.

2) Install the new controller (7823-48-5003).

3) Connect the connector to the new controller installed.

Parts in  are the newly arranged parts.



4) Remove the chocks, start the engine, release the parking brake and move the machine in the joystick mode to check and make sure that abnormal conditions will not occur in speed shifts, monitor panel indications, etc.

4-2. Replacement procedure on WA500-3 and WF550-3 wheel loaders

- (1) Part No. of the controllers to be replaced  
Part No.: 7823-25-1000, 1001, 1002 and 1003  
Part name: "CONTROLLER, BBC"

Part No. of the new controller: 7823-25-1004  
Part name of the new controller: "CONTROLLER, BBC"

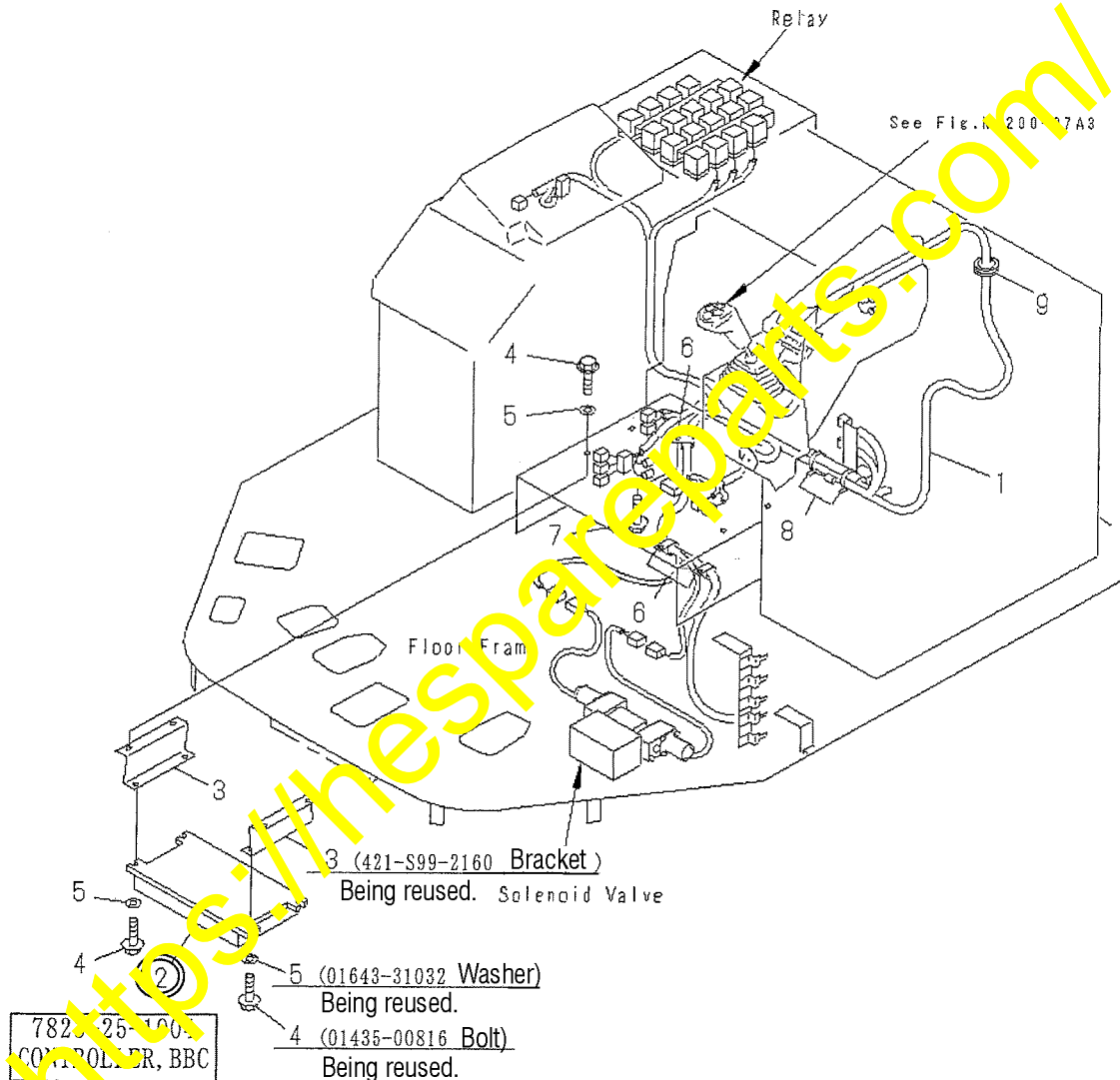
- (2) Park the machine on a flat place, apply the parking brake, turn off the starting key and apply chocks to the tires.
- (3) Replacement of the controller  
※ Since the position to install the controller differs depending on the serial number of the machine, confirm the serial number and replace the controller as per the corresponding replacement method.

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## (3)-1 Serial numbers of the applicable machines "SN: 50001 through 50885"

- 1) Remove the current controller from the position indicated in the drawing shown below.  
Since the mounting bolts and nuts are being reused, carefully keep them not to lose.
- 2) Install the new controller (7823-25-1004).
- 3) Connect the connector to the new controller installed.

Parts in  are the newly arranged parts.



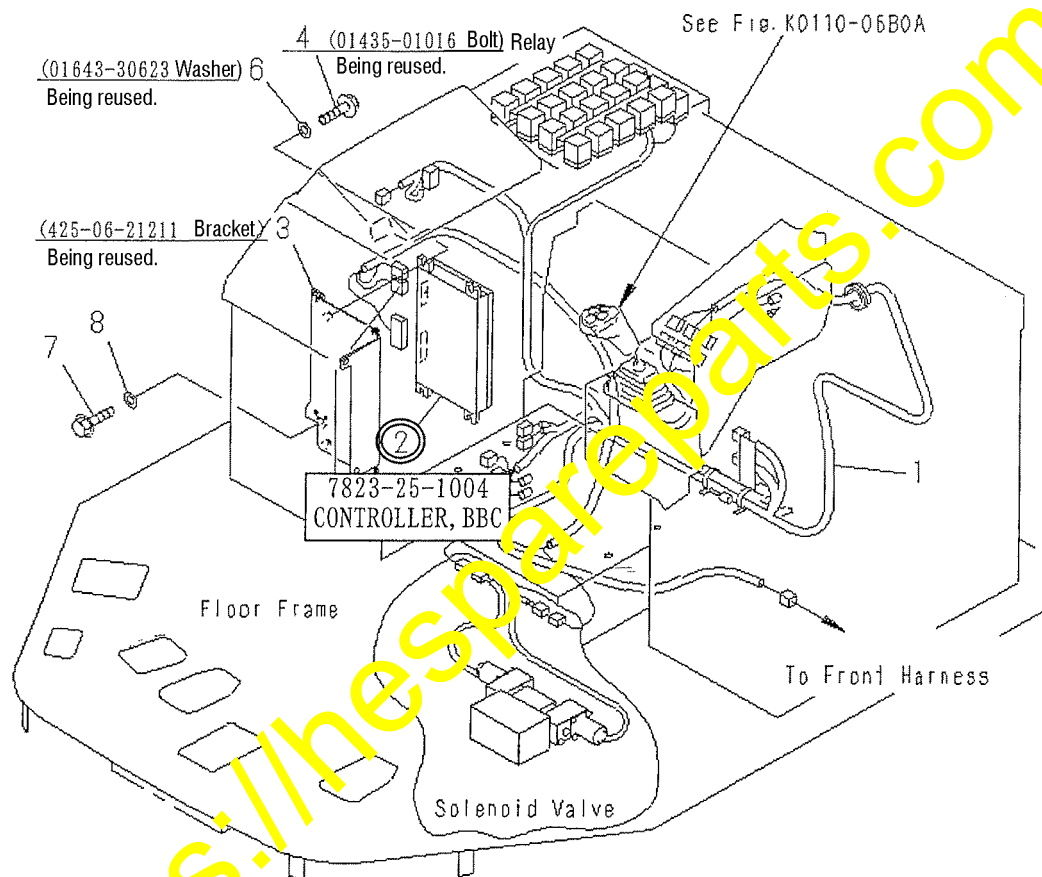
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- 4) Remove the chocks, start the engine, release the parking brake and move the machine in the joystick mode to check and make sure that abnormal conditions will not occur in speed shifts, monitor panel indications, etc.

(3)-2 Serial numbers of the applicable machines "SN: 50886 and after"

- 1) Remove the current controller from the position indicated in the drawing shown below.  
Since the mounting bolts and nuts are being reused, carefully keep them not to lose.
- 2) Install the new controller (7823-25-1004).
- 3) Connect the connector to the new controller installed.

Parts in  are the newly arranged parts.



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- 4) Remove the chocks, start the engine, release the parking brake and move the machine in the joystick mode to check and make sure that abnormal conditions will not occur in speed shifts, monitor panel indications, etc.



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#### 4-3. Replacement procedure on WA600-3, WA700-3 and WF450-3 wheel loaders

- (1) Part No. of the controllers to be replaced

Part No.: 7823-16-1000, 1001, 1002 and 1003

Part name: "CONTROLLER, ATC"

Part No. of the new controller: 7823-16-1004

Part name of the new controller: "CONTROLLER, ATC"

- (2) Park the machine on a flat place, apply the parking brake, turn off the starting key and apply chocks to the tires.

- (3) Replacement of the controller

※ Commonly for the WA600-3, WA700-3 and WF450-3 wheel loaders, replace the controller as per the following procedure.

- 1) Remove the current controller from the position indicated in the drawing shown below.

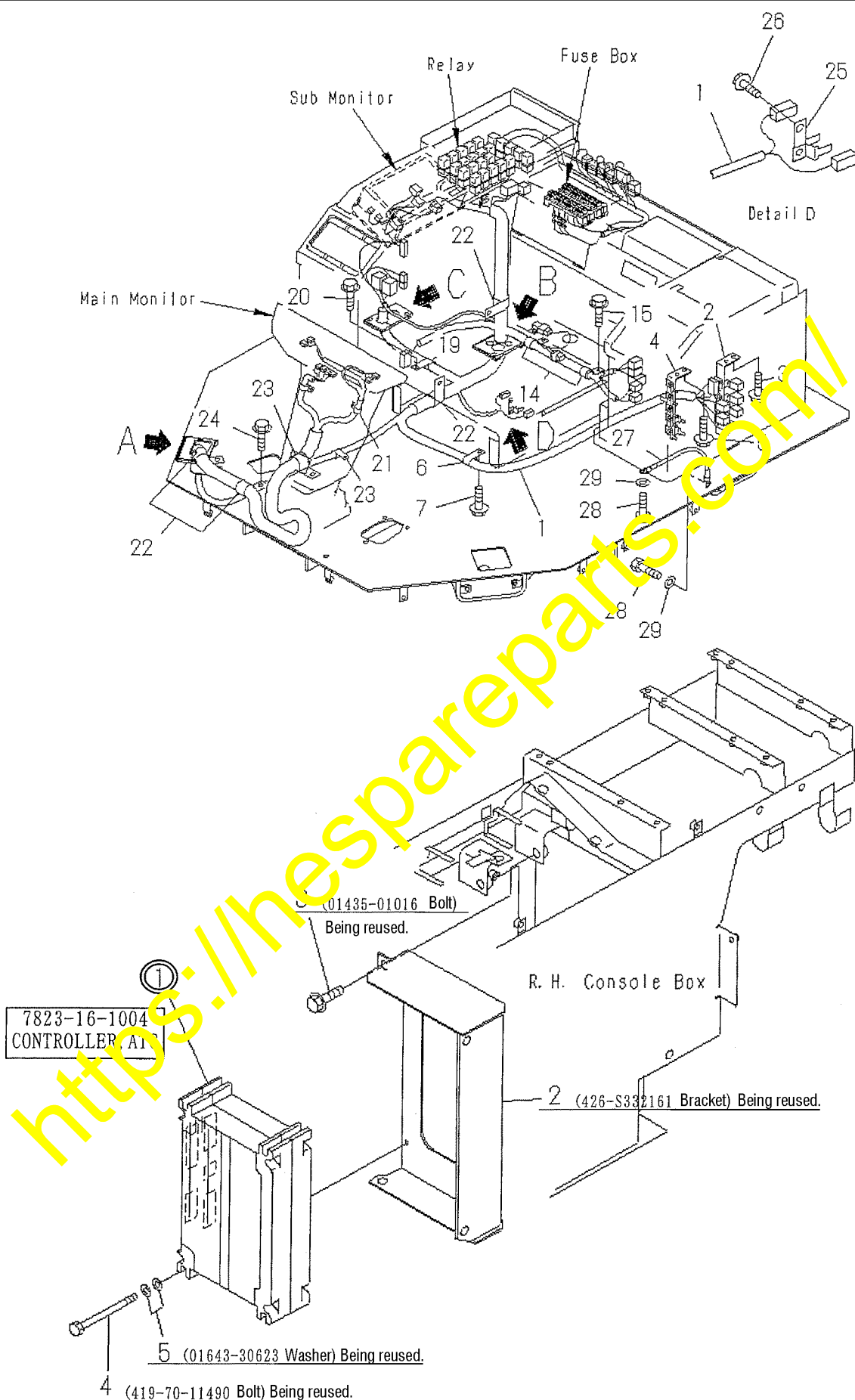
Since the mounting bolts and nuts are being reused, carefully keep them not to lose.

- 2) Install the new controller (7823-16-1004).

- 3) Connect the connector to the new controller installed.

Parts in  are the newly arranged parts.

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- 4) Remove the chocks, start the engine, release the parking brake and move the machine in the joystick mode to check and make sure that abnormal conditions will not occur in speed shifts, monitor panel indications, etc.

4-4. Replacement procedure on WA800-3, WA900-3 and WD900-3 wheel loaders

- (1) Part No. of the controllers to be replaced

Part No.: 7823-18-1000, 1001, 1002 and 1003

Part name: "CONTROLLER, TPC"

Part No. of the new controller: 7823-18-1004

Part name of the new controller: "CONTROLLER, TPC"

- (2) Park the machine on a flat place, apply the parking brake, turn off the starting key and apply chocks to the tires.

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(3) Replacement of the controller

※ Commonly for the WA800-3, WA900-3 and WD900-3 wheel loaders, replace the controller as per the following procedure.

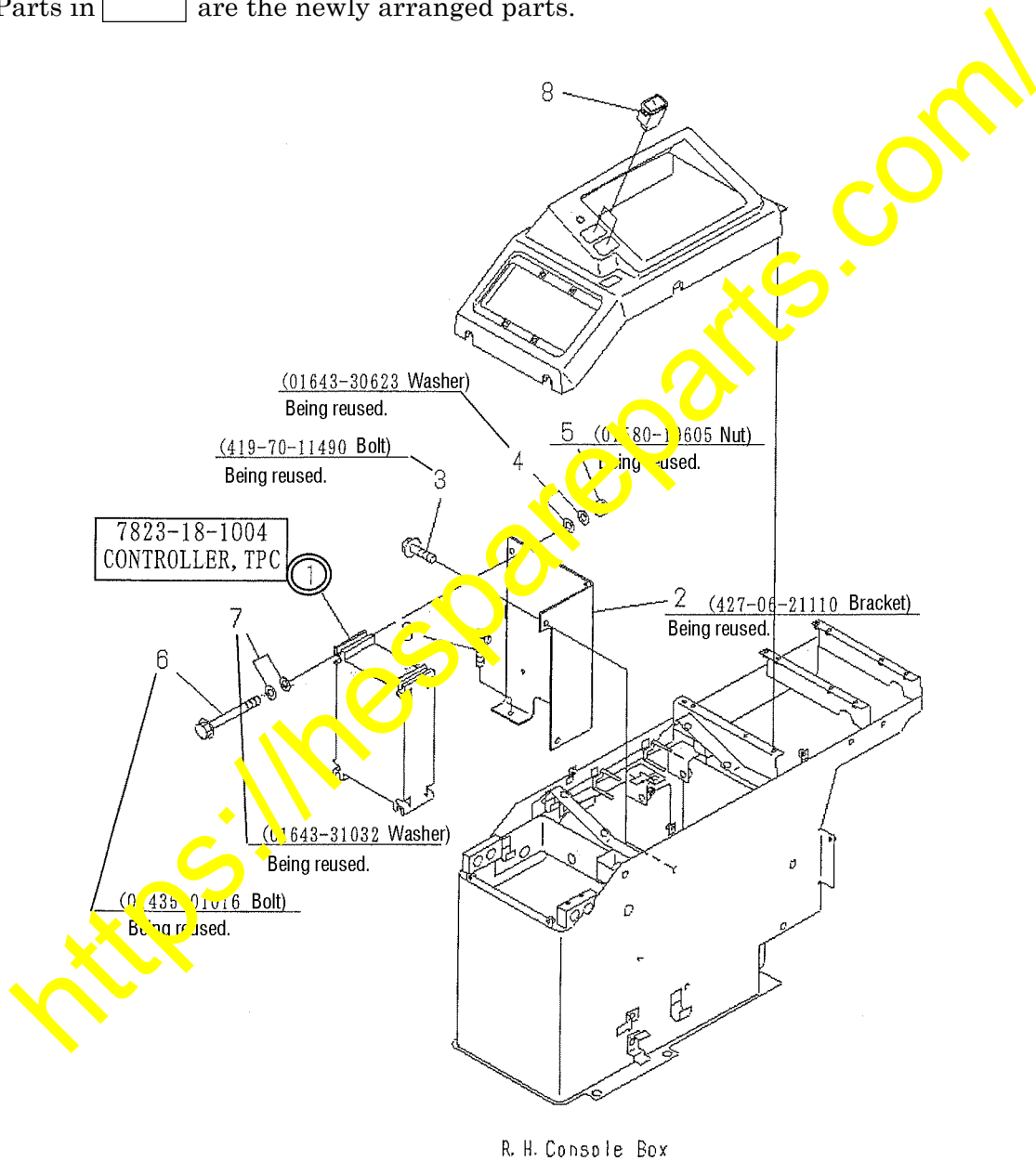
1) Remove the current controller from the position indicated in the drawing shown below.

Since the mounting bolts and nuts are being reused, carefully keep them not to lose.

2) Install the new controller (7823-18-1004).

3) Connect the connector to the new controller installed.

Parts in    are the newly arranged parts.



4) Remove the chocks, start the engine, release the parking brake and move the machine in the joystick mode to check and make sure that abnormal conditions will not occur in speed shifts, monitor panel indications, etc.