

PARTS & SERVICE NEWS

REF NO. AA00222

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(C)

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SUBJECT: INTRODUCTION OF IMPROVED JOY STICK STEERING

PURPOSE: To introduce newly prepared joystick steering performance improving parts

APPLICATION: WA700-3 Wheel Loaders, S/N 50001 thru 50029
WA700-3L Wheel Loaders, S/N A50013 and below

FAILURE CODE: 43A050

DESCRIPTION:

This **PARTS & SERVICE NEWS** will introduce newly prepared fine control performance improving parts, which work to facilitate steering work to avoid obstacles and to change the traveling lane while the machine is on travel.

When locally installing these joystick steering fine control performance improving parts, follow the procedure outlined in this document.

Also, regarding the cases of occurrence of peak pressure at the inlet port section of the hydraulic oil cooler when an abrupt changeover of joystick steering is made, these parts also work to suppress such peak pressure.

2. List of Parts

Part No.	Part Name	Q'ty	Remarks
426-60-21100 (427-S33-1912)	Valve Assy (Valve Assy)	1 (1)	
7823-16-1003 (7823-16-1002)	Controller (Controller)	1 (1)	
428-62-25910	Flange	1	(ϕ 13 hole)
07372-21050 (07372-21035)	Bolt (Bolt)	4 (4)	
07000-F3038	O-ring	2	

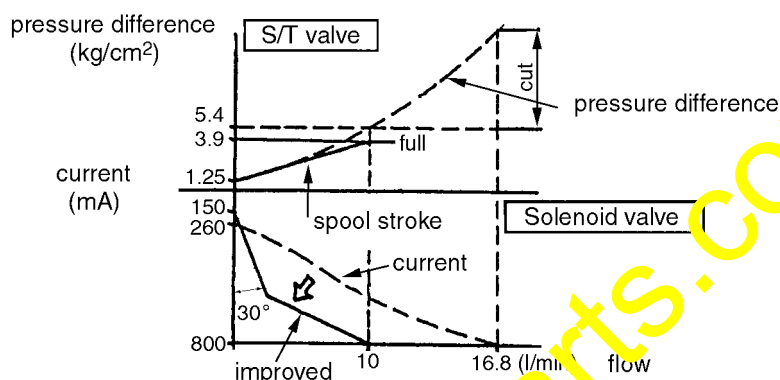
<https://hespareparts.com/>

3. Contents of the modification

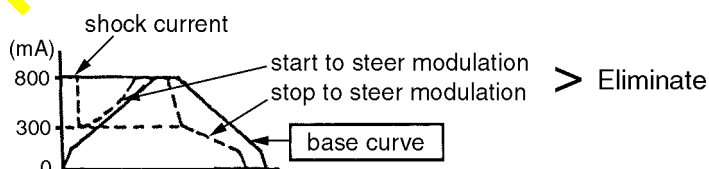
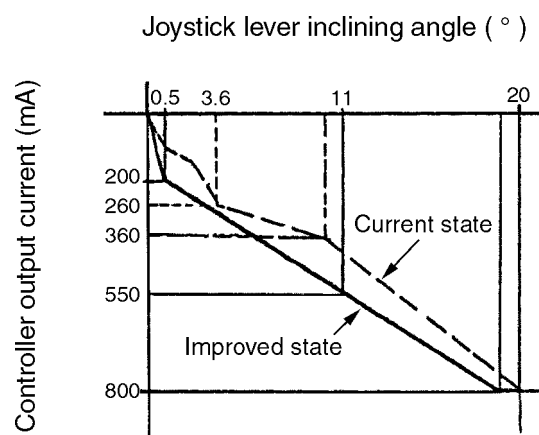
① Improving the fine control performance

- 1) By lessening the discharge (10 L/min ← 16.8) of the steering solenoid valve and by changing the flow rate gradient, matching between the solenoid valve and steering valve has been improved.

Improvement of solenoid - steering valve matching



- 2) By modification of the controller software, the time lag problem has been improved.
 - The modulation current and shock current have been eliminated.
 - Neutral switch signal detection means has been changed.
 - Output current map has been modified.



- 3) $\phi 13$ mm orifice has been supplemented to the return circuit port of the steering valve (without orifice : $\phi 28$ mm).

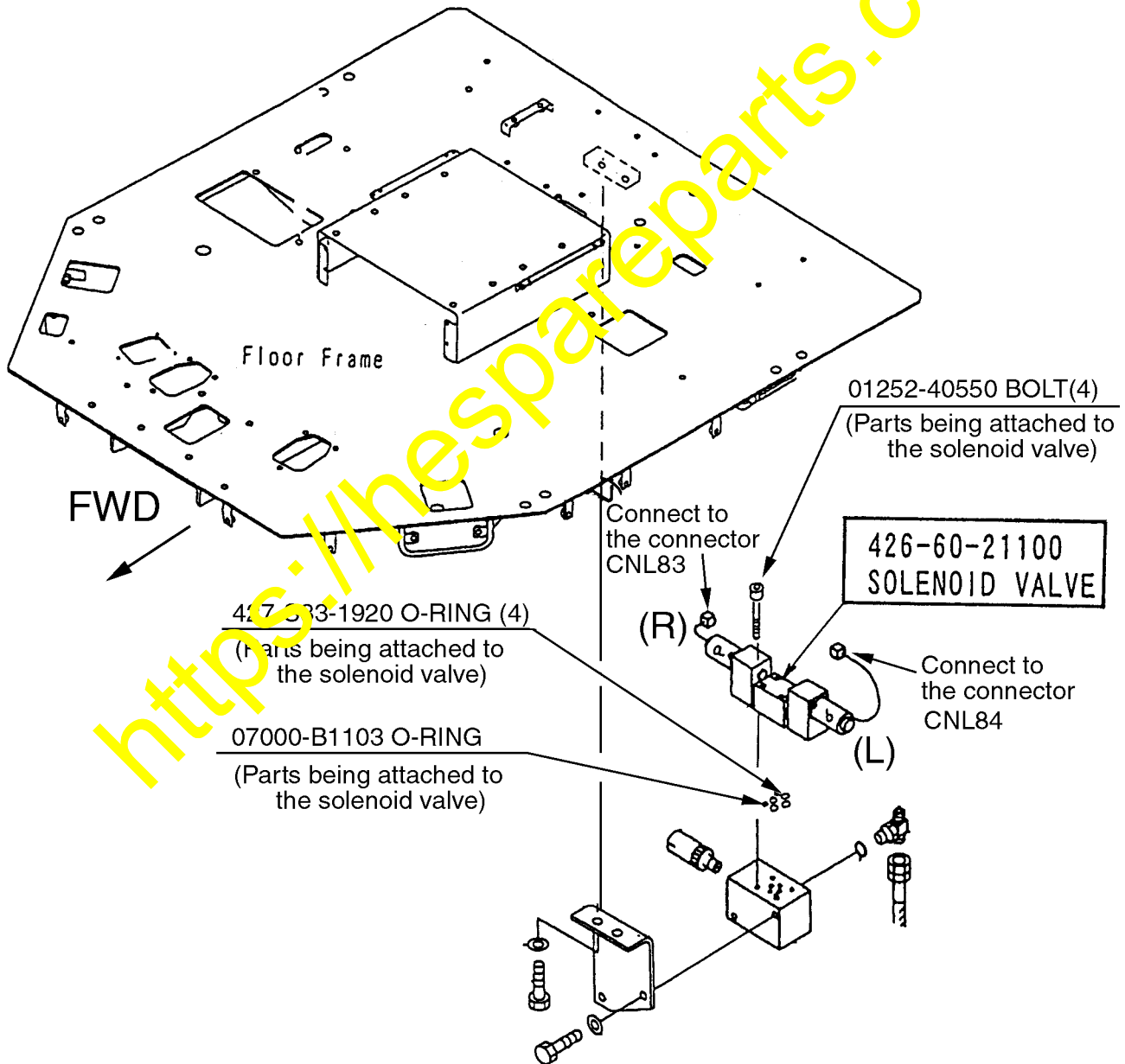
4. Modification procedures

① Replacing the solenoid valve

- 1) Remove the current solenoid valve.
- 2) Install the new solenoid valve (426-60-21100) using the attached four bolts.
- 3) Connect the connectors.

**Note) Refer to “Working Precautions” on pages 30-5 thru 7 in the Shop Manual when making this replacement work.
(Namely, preventing entry of dust and bleeding the air)**

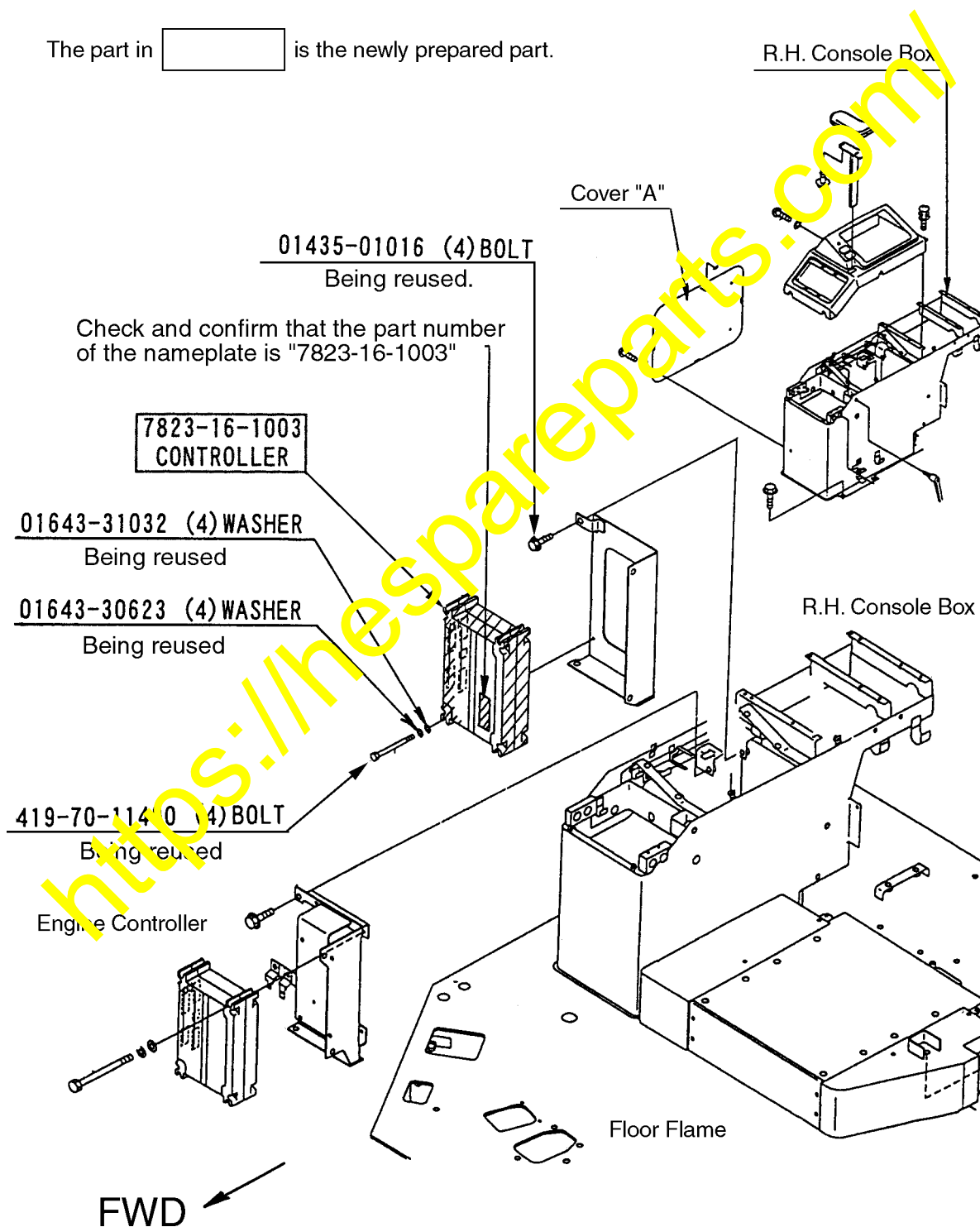
The part in is the newly prepared part.



② Replacing the controller

- 1) Remove the cover "A" from the console box, RH.
- 2) Remove the current transmission controller from inside the console box, RH.
Carefully keep the mounting bolts and nuts since they are being reused.
- 3) Install the new controller (7823-16-1003).
- 4) Connect the harness connectors to the controller.
- 5) Install the cover "A" back to the console box, RH.

The part in is the newly prepared part.



③ Supplementing a flange (orificed flange) to the return circuit port of the steering valve.

- 1) Remove the parts being used in the area "P" designated below of the steering valve return circuit center hose "A".

Carefully keep the split flange and washers since they are being reused.

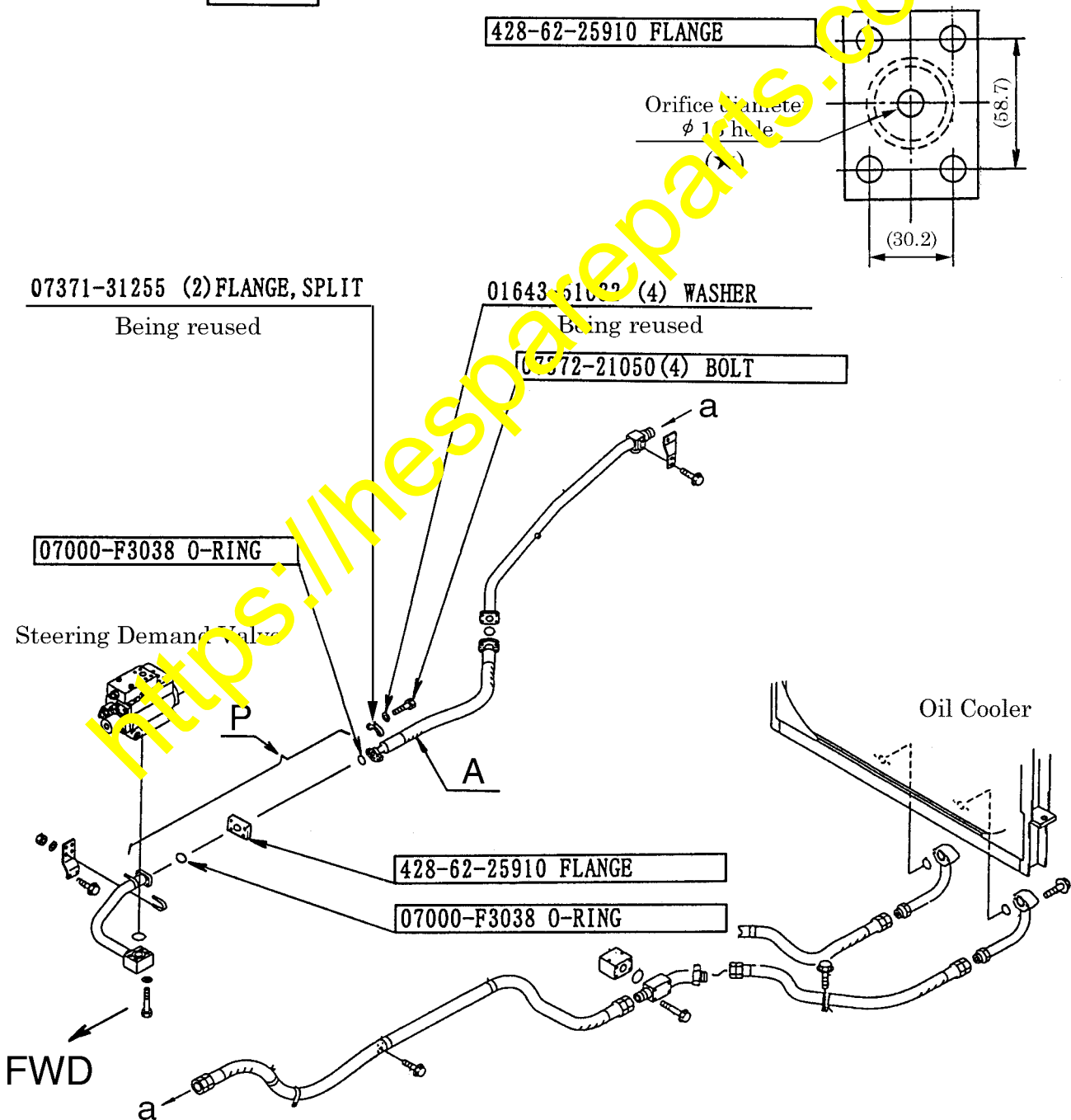
- 2) Inserting the flange (428-62-25910) and 2 units of O-rings (07000-F3038) in the area "P", fasten the hose "A" using 4 bolts (07372-21050).

Reuse the split flange and washers.

Note 1) Check and confirm that the diameter of the orifice being opened in the flange (428-62-25910) is 13 mm (Marked ★).

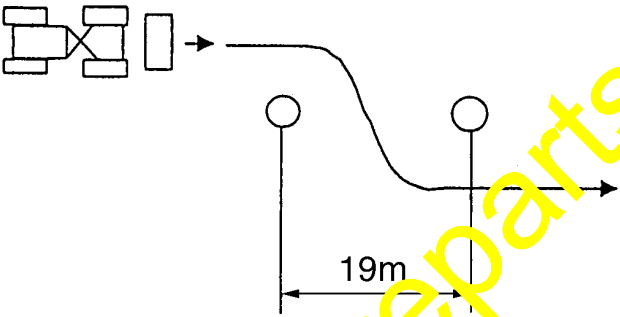
Note 2) Refer to "Working Precautions" on pages 30-5 thru 7 in the Shop Manual when making the above installation work. After finishing the installation work, bleed air from the steering circuit.

The parts in are the newly prepared parts.



5. Performance checks to make after finishing this modification work

After finishing modification of the joystick steering system, check the following ports.

Items	Measurement conditions	Determination criteria	
Lock to lock Steering effecting time	<ul style="list-style-type: none"> • Hydraulic oil temperature: 45 - 55°C • Flat, level and dry surface 	Low-Idling	5.5 + 0.5 sec. or less
		Hi-Idling	4.7 + 0.5 sec. or less
Straight forward traveling direction restoration distance (After lane changes)	<ul style="list-style-type: none"> • When making full speed traveling at F4 range • When changing the lane 	Restoration of the straight forward traveling direction should be made promptly	