

INSTALLATION MANUAL

REF NO.	BA02001
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(C)

Page 1 of 6

SUBJECT: INTRODUCTION OF IMPROVED PARTS FOR JOYSTICK STEERING

PURPOSE: To introduce optional parts to improve response in joystick steering

APPLICATION: WA500-3L Wheel Loaders, S/N A70001 and up

FAILURE CODE: 43A0MA

DESCRIPTION:

This is to introduce the parts for the joystick steering specifications which have been newly prepared to improve response at time of steering thereby to facilitate avoiding obstacles or changing courses while traveling.

When installing these parts, following the instructions as set forth in the **INSTALLATION MANUAL**.

LIST OF PARTS:

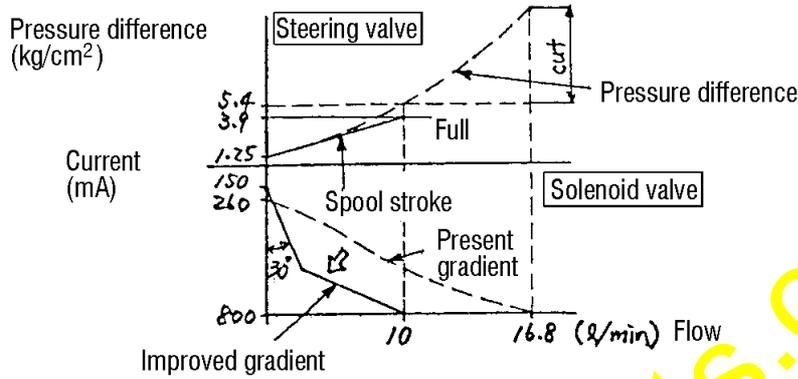
Part No.	Part Name	Qty	Remarks
7823-25-1002 (7823-25-1001)	Controller (Controller)	1 (1)	
426-60-21100 (427-S33-1912)	Valve Assembly (Valve Assen bly)	1 (1)	
427-S33-3190 (142-43-13180)	Spring (Spring)	1 (1)	

3. Contents of Improvement

① Improved fine control performance

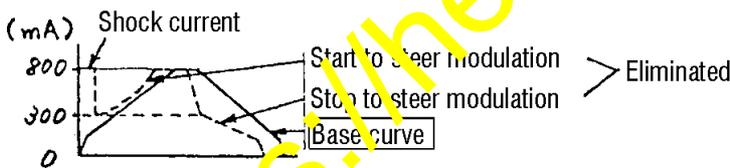
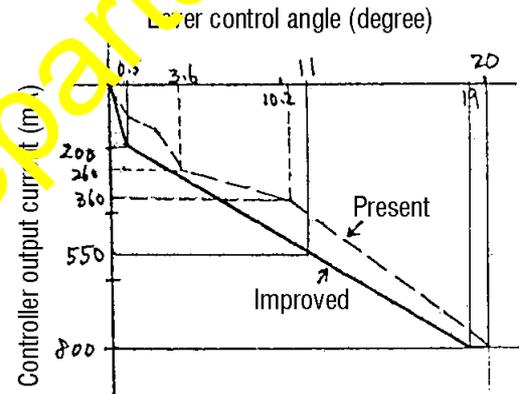
- 1) Matching between the solenoid valve and the steering valve has been improved by reducing the solenoid valve output (from 16.8 l/min. to 10.0 l/min.) as well as changing its flow rate gradient.

Improvement of matching between solenoid and steering valve



- 2) Software for the controller has been revised to improve time lag.

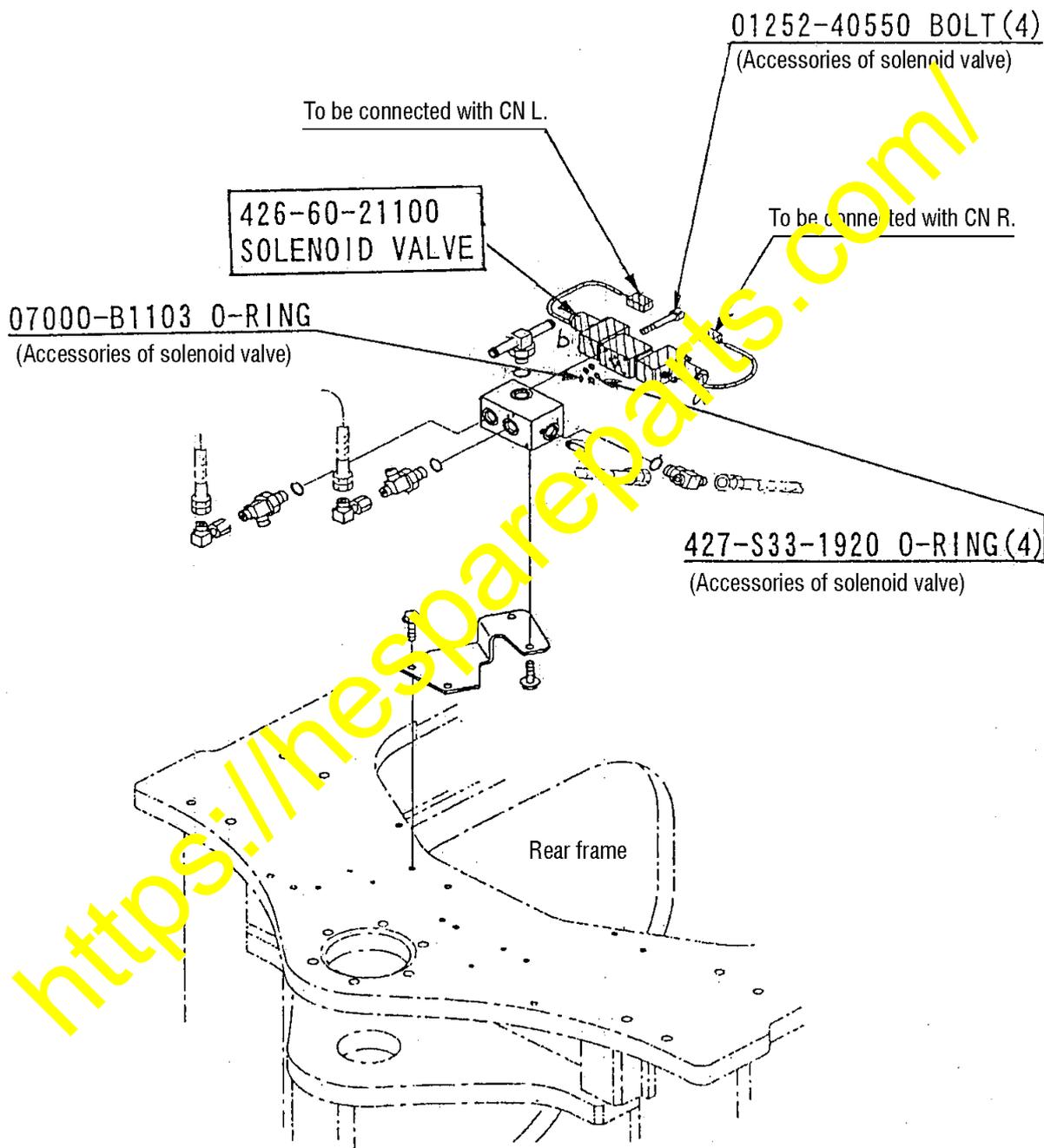
- Both modulation current and shock current were eliminated.
- Neutral switch signal detection mode was changed.
- Output current map was changed.



4. Procedures for Improvement

- ① Replace the solenoid valve.
 - 1) Remove the installed solenoid valve. (See the hatched area in the figure below)
 - 2) Install a new solenoid valve (Part No. 426-60-21100) with the attached four bolts.
 - 3) Connect the connectors.

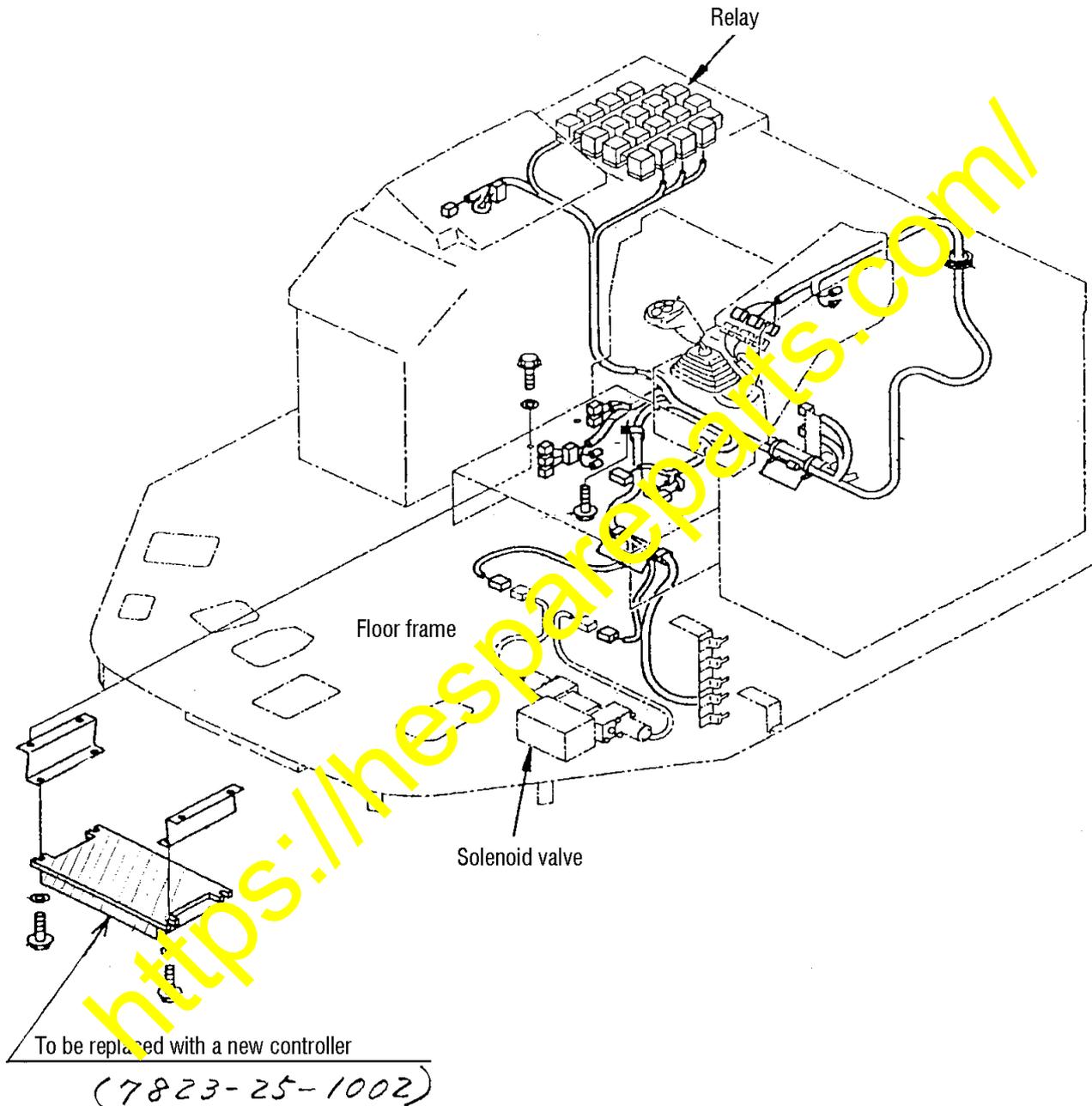
The part shown inside a square indicates the one to be newly obtained.



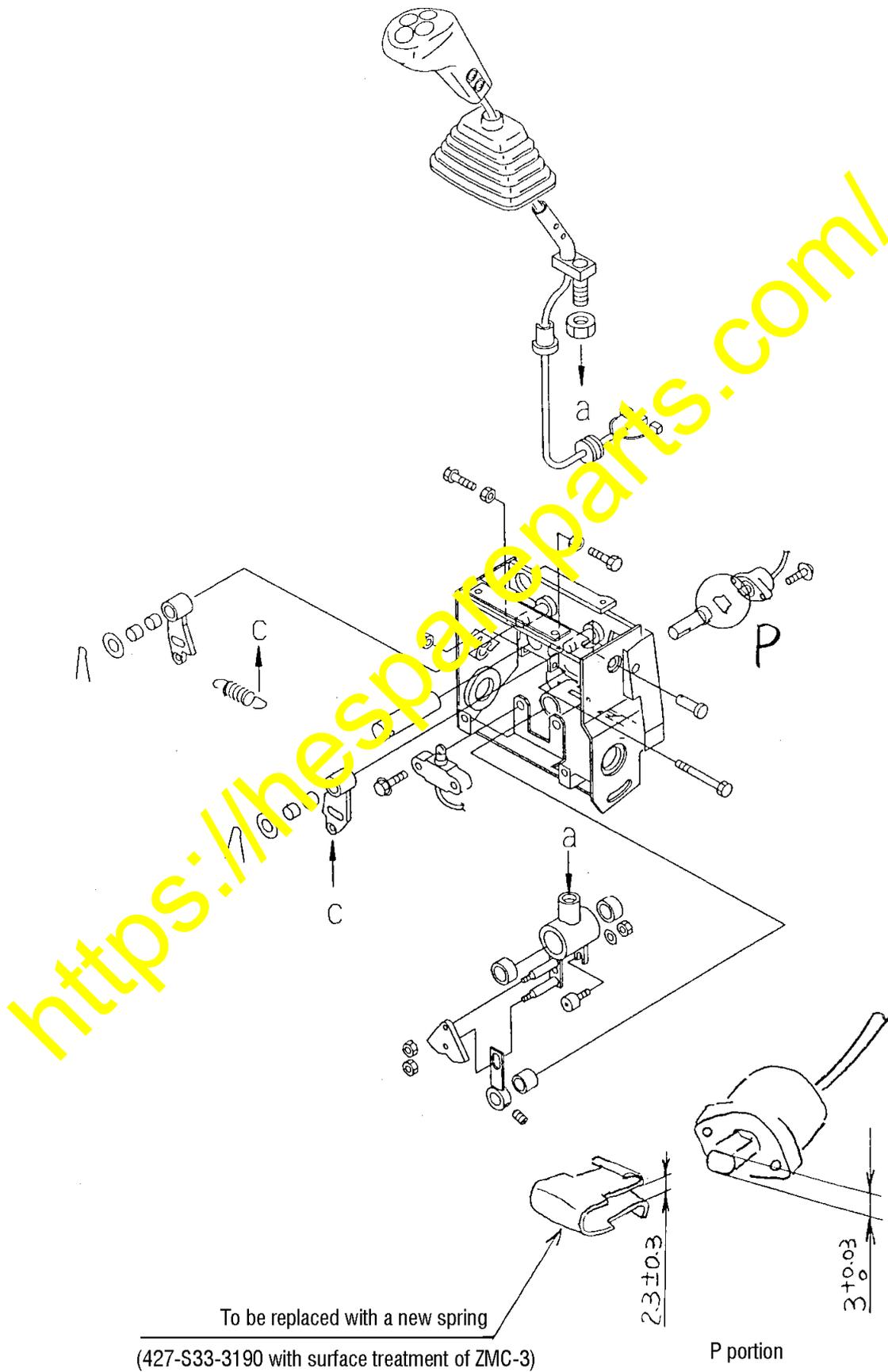
(Note) When carrying out the work, refer to the section, "Precautions when carrying out operation", in the page 30-4 through 30-5 of the Shop Manual for preventing dust entry and air bleeding.

② Replace the J/S controller.

- 1) Remove the installed controller, Part No. 7823-25-1001. (Refer to the hatched area in the figure below.)
- 2) Install a new controller, Part No. 7823-25-1002.
- 3) Connect the connector to the controller.

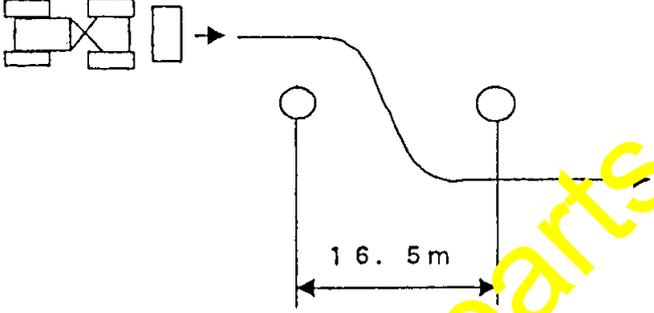


- ③ Replace the potentiometer spring.
- 1) Remove the potentiometer spring (the portion "P" below).
 - 2) Install a new potentiometer spring procured this time.



5. Performance Check after Replacement

Check the performance of the joystick steering system after the replacement in accordance with the table below.

Check Item	Measurement Condition	Standard Value	
Lock- to- Lock steering disengagement time	<ul style="list-style-type: none"> · Hydraulic oil temperature 45 – 55 °C · Flat, even and dry ground surface 	Low idling	5.5 sec or less
Return to the straight traveling (Change of traveling course)	<ul style="list-style-type: none"> · F4 full speed · Change of traveling course 	Return to the straight traveling	to be smooth and easy

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