

# PARTS & SERVICE NEWS

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Page 1 of 6

**SUBJECT:** FINE CONTROL OF STEERING SYSTEM

**PURPOSE:** To introduce an improvement of the straight driving property of the steering system (Europe and other ordinary overseas markets)

**APPLICATION:** WA450-2 Wheel Loaders, S/N A25001 and up  
WA470-1 Wheel Loaders, S/N 20001 thru 20558

**FAILURE CODE:** R10099

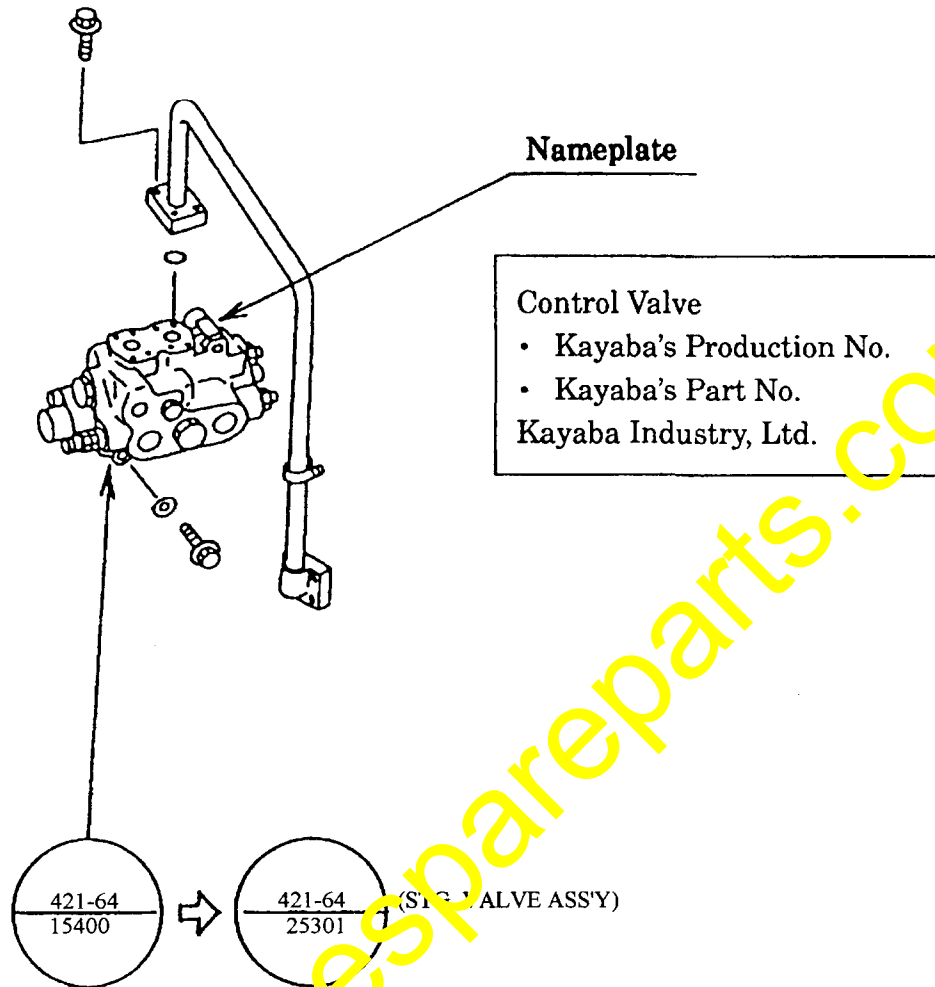
**DESCRIPTION:**

The straight driving property under high speed traveling of the steering system has been improved. When modifying already delivered machines for this improvement, follow the procedures outlined in this **PARTS & SERVICE NEWS**

Necessary Parts:

Part Number	Part Name	Qty.	Remarks
421-64-25400	Spool Kit	1	Spool kit for field modification for the improvement of the straight driving property under high speed traveling
421-64-25301	Stg. Valve	1	Stg. Valve Assembly

Content of the modification



Identify the new or current part, checking Kayaba's part number printed on the nameplate.

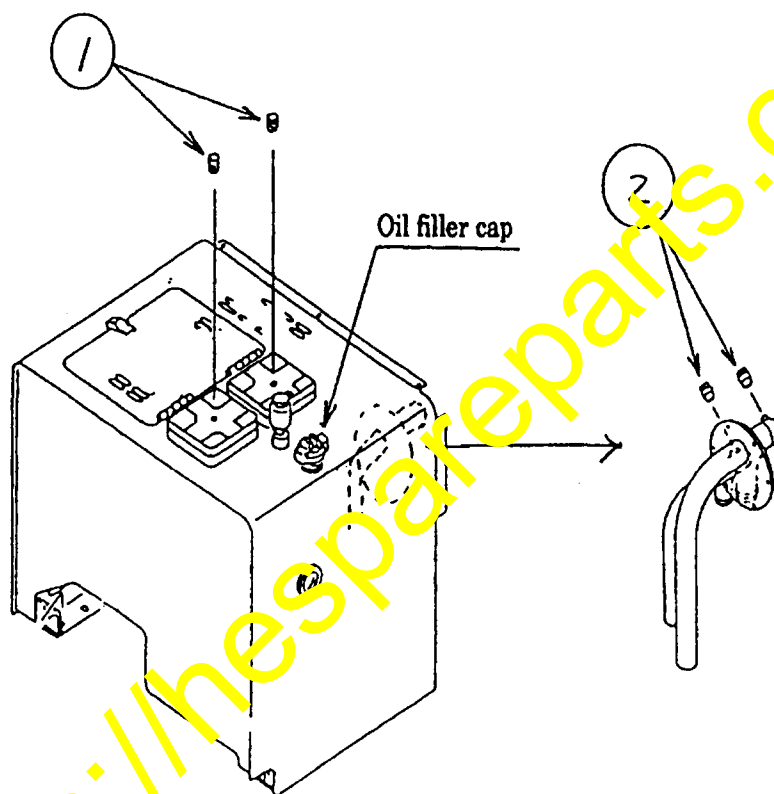
	Current	New
Komatsu Mech's Part Number	421-64-15400	421-64-25301
Kayaba's Part Number	21115-06100	21110-50328

## Modification procedures

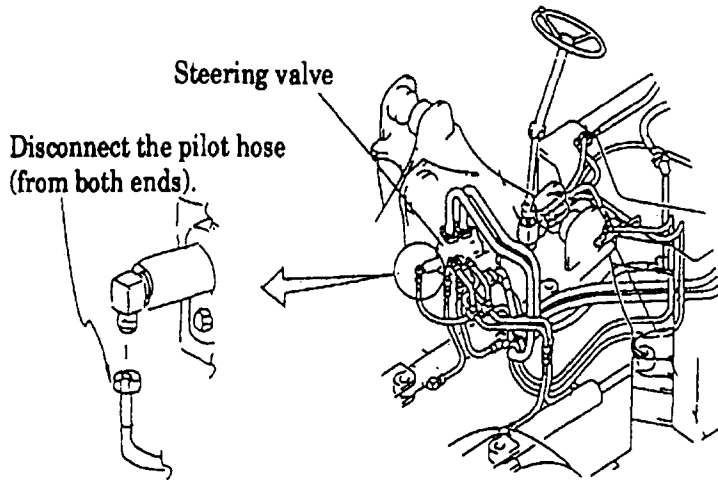
Replace the spool of the steering valve following the procedures given below.

(1) Loosen the oil filler cap to release the internal pressure of the hydraulic oil tank and move the steering wheel and the work equipment control lever for two or three times to release residue pressure inside the pipings.

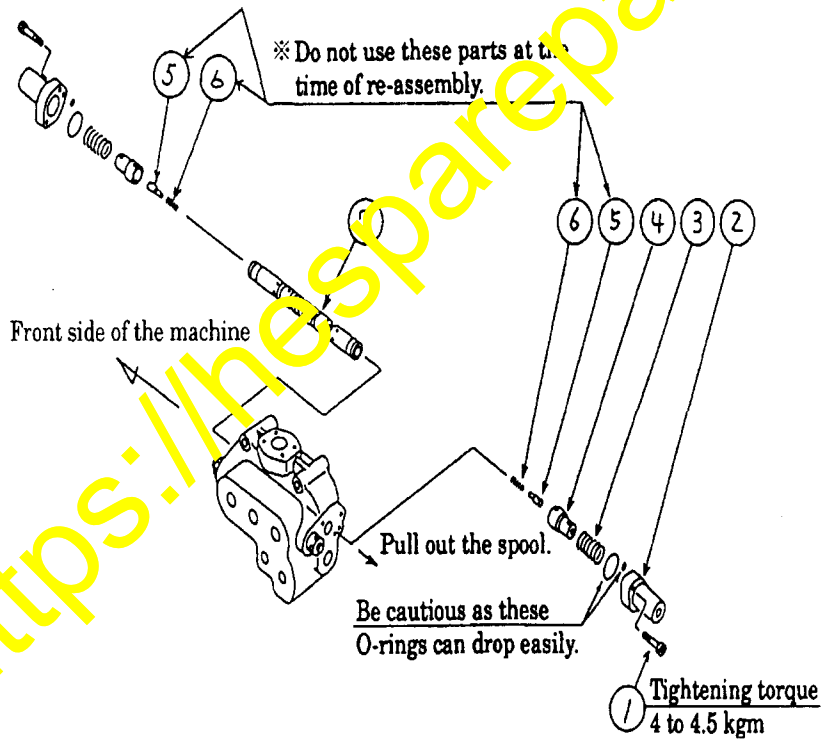
(2) Loosen the plugs (1) on the upper surface of the hydraulic oil filters and the plugs (2) of the pump piping to prevent oil being stored inside the tank from flowing out.



(3) Disconnect the pilot hoses from both end of the steering valve.



(4) Replace the spool of the steering valve.



(4-1) Loosen the socket bolt (1).

(4-2) Remove the cap (2), spring (3), spring seat (4), piston (5) and small spring (6).

(4-3) Remove the cap on the opposite side similarly work.

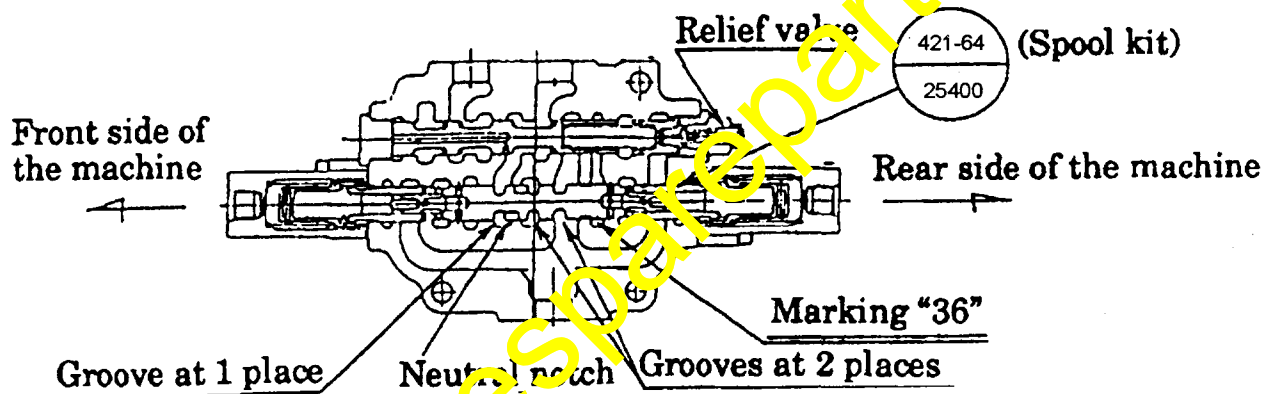
**CAUTION:** Be cautions not to lose the O-rings being used for the cap since they can drop easily. Do not use the current piston (5) and spring (6) for re-assembly. (For both sides) Distinguish the parts of the cap section removed out of the front side from those removed out of the rear side.

(4.4) Pull out the spool (7) toward the rear side direction of the machine.

**CAUTION:** When the spool does not come out smoothly, do not try to pull it forcefully but pull it straight turning it around.

(4.5) Install the improved spool into the body.

**CAUTION:** Since rust preventive oil is being applied to the surface of the improved spool, clean it and check if it is not clogged by the oil before applying lubricating oil and installing into the body. Attention to the directivity for assembling.



Same as pull-out the spool procedure

(4-6) Try to push the spool by your fingers to conform if it moves smoothly.

(4-7) Install the spring seat (4), spring (3), cap (2) and socket bolt (1).

**CAUTION: Pay attention not to let the O’rings for the cap caught differently. Do not install the piston (5) and small spring (6). Tightening torque of the socket bolt (1); 4 to 4.5 kgm.**

(4-8) Connect the pilot hose which was disconnected according to the aforementioned procedure (3) back to its position.

(4-9) Tighten back the plugs and oil filler cap loosened according to the aforementioned procedures (1) and (2).

#### Check after re-assembly

(1) Start the engine, turn to the steering wheel and to bleed air.

(2) Check the lock to lock number of turns of steering wheel toward left and right.

Oil Temperature: 45 to 55 degrees C

Engine: high idling

Reference: 3.2 to 3.3 turns (steering wheel operating time: 10 to 15 sec.)

(3) Check if the machine does not make abnormal movement (runout of the machine body, uneven steering, etc.)

★ When anything is found abnormal, re-check if dust is not caught or if the spool is not damaged.