PARTS & SERVICE NEWS

REF NO.	AA02207
DATE	Sept. 17, 2002

SUBJECT: INTRODUCTION OF S/T VALVE CAPABLE OF REDUCING SURGE PRESSURE (Fork specifications)

PURPOSE: To introduce a modification made with the steering valve assembly to suppress the surge pressure occurring in the hydraulic oil cooler circuit

APPLICATION: WA380-3 Wheel Loaders, S/N 50001 and up
WA380-3MC Wheel Loaders, S/N A51497 and up
WA420-3 Wheel Loaders, S/N 50001 and up
WA420-3MC Wheel Loaders, S/N A31120 and up

FAILURE CODE: 036136

DESCRIPTION:

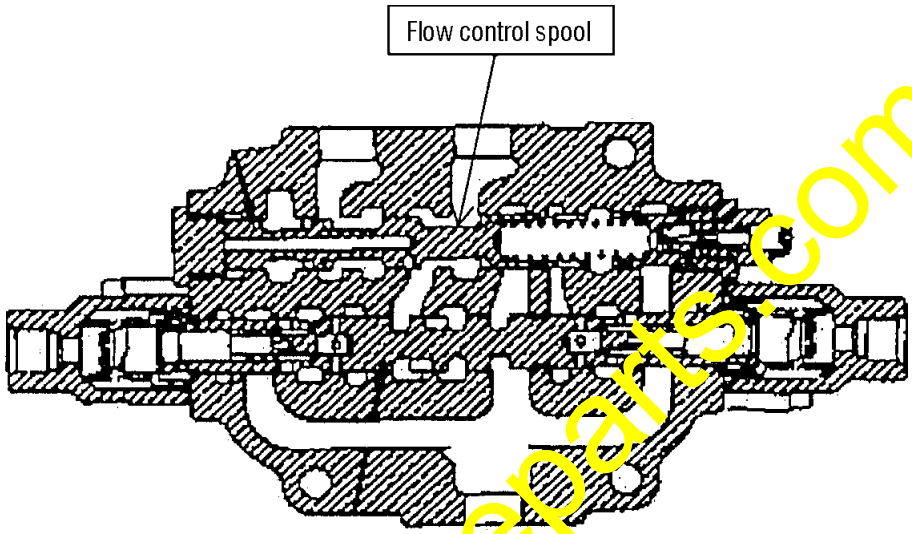
This **PARTS & SERVICE NEWS** will introduce a modification made with the spool of the flow control valve being incorporated in the steering valve assembly.

This modification is effective to suppress the surge pressure inside the hydraulic oil cooler circuit occurring when the machine is steered toward left and right quickly at times when the fork specification type machine is being used for such operation as truing up of the ends of timbers.

2. List of parts

Part No.	Part Name	Q'ty	Remarks
423-64-25150 (421-64-15970)	Spool (Spool)	1 (1)	
423-64-15904 (423-64-15903)	Valve ass'y (Valve ass'y)	1 (1)	Steering valve ass'y for the WA380-3 (Introduction of the part number)
424-64-15713 (424-64-15712)	Valve ass'y (Valve ass'y)	1 (1)	Steering valve ass'y for the WA420-3 (Introduction of the part number)

3. Contents of the improvement
   The spool of the flow control valve being incorporated in the steering valve assembly has been modified by changing its aperture characteristics to acquire a structure effective to suppress occurrence of the surge pressure in the hydraulic oil cooler circuit.



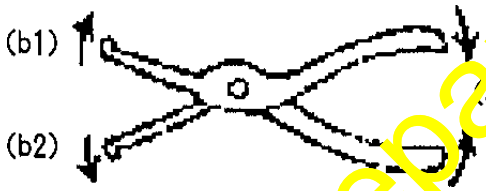
4. Modification procedures
(Replacing the spool of the flow control valve being incorporated in the steering valve assembly)

Note 1. This modification can be worked out from the main relief valve side (the rear side of the chassis) of the steering valve assembly with the steering valve assembly being installed to the chassis as is.

4-1. Disassembly

(1) Holding the section A of the relief valve assembly [1], turn to loosen the hexagonal section (width across flats: 36 mm) to remove the relief valve assembly [1].
(2) Remove the spring [2].
(3) Remove the flow control spool [3].

Note 2. When removing the flow control spool [3], insert a tool which works to stretch out toward outside as illustrated below into the bore section "B" (Bore dia. : 19 mm) and catch the bore section by stretching out the legs of the tool to pull out the spool slowly.
<A reference illustration for the necessary tool>



When the handles are grabbed toward the directions (a), the ends of the legs of the tool will stretch out toward the directions (b1) and (b2).

(4) Remove the shims [4] (with the unit thickness 0.8 mm) being inserted onto the bottom of the bore section B. (Used shim quantity: upto 7 shims)

Note 3. The used shim quantity differs depending on the valve and there can be cases of using no shim.
When these shims are being inserted, they may be adhering to the bottom surface of the spool by oil making it difficult to separate them. In such case, wash them using a detergent solution to facilitate their removal work.

4-2. Reassembly

(1) Insert the same shims, as were removed according to the aforementioned disassembly procedures, of the same quantity as they were originally inserted into the bottom of the bore section B of the improved flow control spool [5] (423-64-25150).
(2) Gently install the flow control spool [5] straight forward into the spool hole.
(3) After checking and making sure the shim(s) [4] are being properly positioned on the bottom of the flow control spool [5], insert the spring [2].
(4) Install the relief valve assembly [1] so that the spring [2] may duly engages with the spring hole provided in the tip end section of the relief valve assembly [1].
Tightening torque: 135 – 140 Nm {13.8 – 14.3 kgm}