

PARTS & SERVICE NEWS

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SUBJECT: OIL LEAKAGE FROM T/M VALVE

PURPOSE: To introduce repair procedures to eliminate oil leakage occurring from the transmission valve

APPLICATION: WA300-3 Wheel Loaders, S/N 50001 and up
 WA320-3 Wheel Loaders, S/N 50001 and up
 WA350-3 Wheel Loaders, S/N 50001 and up
 WA380-3 Wheel Loaders, S/N 50001 and up
 WA400-3 Wheel Loaders, S/N 50001 and up
 WA450-3 Wheel Loaders, S/N 50001 and up
 WA470-3 Wheel Loaders, S/N 50001 and up

FAILURE CODE: 159M10(*)

DESCRIPTION:

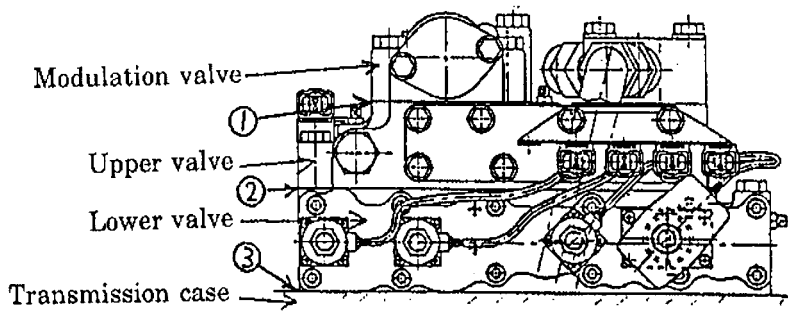
Introduction:

With the WA300-3 thru WA470-3 mechanical modulation valve spec. wheel loaders, oil leakage may occur through the gasket inserted between the mating surfaces of the modulation valve and the control valve (owing to the insufficient bearing pressure of the gasket).

When such an oil leakage is found to be occurring, repair the failure referring to this **PARTS & SERVICE NEWS**.

We have also prepared new gaskets with an improved sealing capacity for the control valve (for use between the upper valve and the lower valve ② and between the lower valve and the transmission case ③) and they are also introduced in this **PARTS & SERVICE NEWS**.

(*) Moreover, we would also like to introduce an improved gasket with enhanced sealing capacity for use with the electronic modulation valve (ECMV) spec. transmission valve assembly.



List of parts:

No.	Part No.	Part Name	Purpose of Part	Qty.	Remarks
1	714-16-17703 (714-16-17701)	Valve Modulation (Valve Modulation)	Replacement	1 (1)	WA340 thru WA350-3
2	714-07-17703 (714-07-17701)	Valve Modulation (Valve Modulation)		1 (1)	WA 400 thru WA470-3 The body is in common with the 714-16-17703
	714-07-17722 (714-07-17720)	Body comp. (Body comp.)		1 (1)	
3	01010-81065 (01010-81050)	Bolt (Bolt)		5 (5)	
4	714-07-17791 (714-07-17790)	Gasket modulate (Gasket modulate)		1 (1)	
5	714-07-17912 (714-07-17911)	Gasket upper (Gasket upper)		1 (1)	Parts with an improved oil sealing capacity
6*	714-07-16921 (714-07-16920)	Gasket lower (Gasket lower)		1 (1)	Being introduced in this Parts & Service News The lower gasket is common for the mechanical modulation valve spec. transmission valve assembly and for the electronic modulation valve spec. Transmission valve assembly
7*	714-07-15911 (714-07-15910)	Gasket upper (Gasket upper)	1 (1)	The improved gasket with enhanced oil sealing capacity for use with the electronic modulation valve spec. transmission valve assembly.	

Applicable transmission assembly numbers and gasket part numbers. (New)

Transmission Model Names	Assembly numbers of the transmission	Part numbers of the modulation valve	Part numbers of the valve body	Part numbers of the gaskets (3 types)		
WA300-3A	714-16-10011	714-16-17703	714-07-17722	714-07-17791 (Modulate)		
WA300-3Y	714-16-10032	Three component parts, namely the spool, sleeve and spring, are different from the 714-07-17703			714-07-17912 (Upper)	
WA320-3A(E)	714-16-10051					714-07-16921 (Lower)
WA320-3K	714-16-10111					
WA350-3A	714-12-10010					
WA350-3Y	714-12-10031					
WA380-3A(E)	714-12-10050			714-07-17703		
WA400-3A	714-17-10010					
WA420-3A(E)	714-17-10050					
WA450-3A	714-07-10010					
WA470-3A(E)	714-07-10050					

Electronic modulation valve spec. (ECMV) transmission valve assembly: Applicable transmission assembly numbers and gasket part numbers.

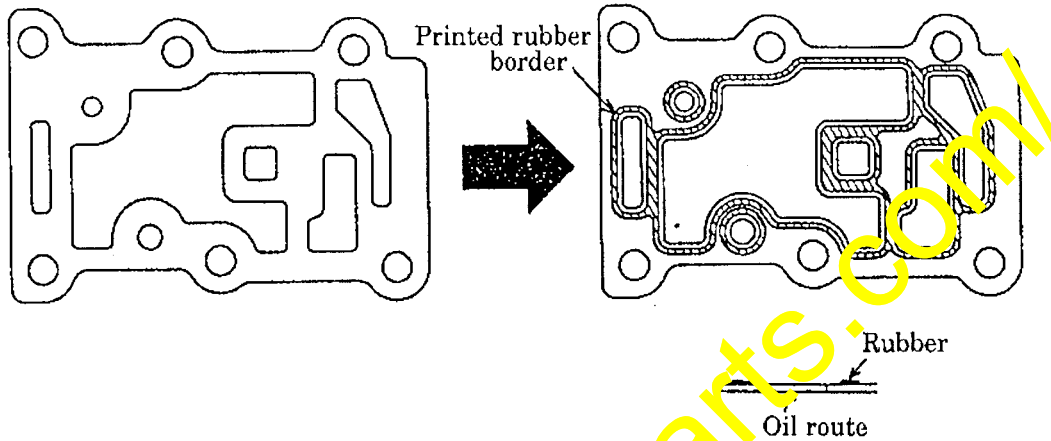
Transmission Model Names	Assembly numbers of the transmission	Part numbers of the gaskets
WA450-3	714-12-10000	714-07-15911 (Upper)
WA380-3E	714-12-10040	
WA380-3K	714-12-10100	
WA400-3	714-17-10000	714-07-16921 (Lower)
WA420-3K	714-17-10100	
WA420-3E	714-17-10040	
WA450-3	714-07-10000	
WA470-3K	714-07-10100	
WA470-3E	714-07-10040	

Contents of the Modification

To improve the sealing capacity of the gasket ❶ to use between the modulation valve and the upper valve (with the WA300-3 thru WA470-3), printed rubber borders have been supplemented around the oil routes to enhance the bearing pressure of the sealing locally.

Current Structure (714-07-17790)

With printed rubber borders (714-07-17791)



Modulation valve

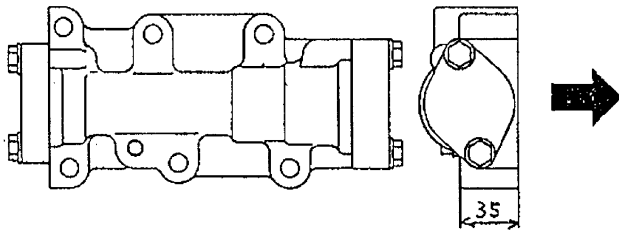
- (1) To prevent deformation of the sealing surface when the mounting bolts are tightened.
- (2) To prevent deformation of the valve body spool hole by use of the new gasket with printed rubber borders.

For the purposes according to the above Paragraphs (1) and (2), the body shape has been modified to improve the rigidity.

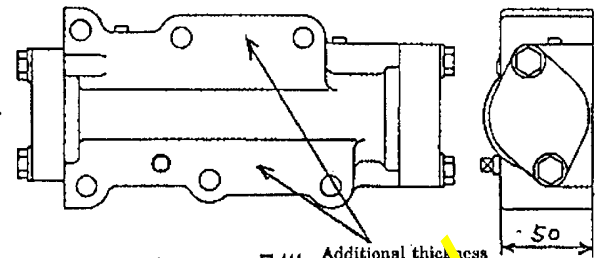
Meanwhile no components other than the body have been changed with this modulation valve assembly.

Current parts

(714-16-17701: For the WA300-3 thru WA350-3)
 (714-07-17701: For the WA400-3 thru WA470-3)

**Improved parts with increased rigidity**

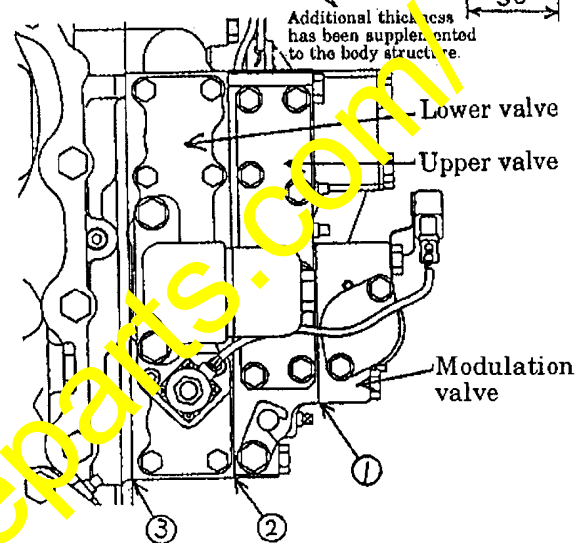
(714-16-17703: For the WA300-3 thru WA350-3)
 (714-07-17703: For the WA400-3 thru WA470-3)



Introduction of the new gaskets with an improved sealing capacity for use in other sections.

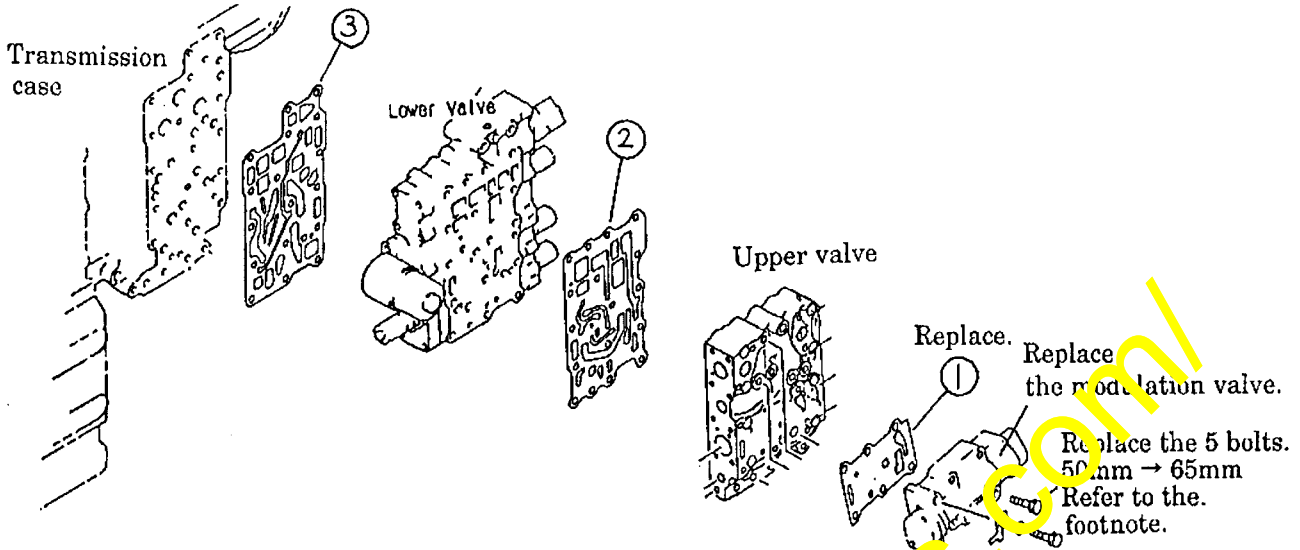
- For use between the mating surfaces of the upper valve and the lower valve ②.
- For use between the mating surfaces of the lower valve and the transmission case ③.

The printed rubbed borders have also been adopted to the gaskets ② and ③ to improve the reliability in the sealing capacity.



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Modification procedures:



NOTE: Among the 6 mounting bolts for the modulation valve, replace 6 bolts with the length of 50mm (01010-81050) with 65mm long bolts (01010-81065).

Meanwhile, when tightening them, be sure to observe "Application of LT02 and tightening torque of 3 - 4 kg·m".

Refer to Shop Manual regarding the details of the disassembly and reassembly procedures.

The inter-changeability of the modulation valve gaskets is according to the combinations given in the following table:

		Gasket ①	
		New part (with printed rubber borders) 714-07-17791	Current part (without printed rubber borders) 714-07-17790
Modulation valves	New part (with increased rigidity) 714-16-17703 714-07-17703	○	○
	Current part (before increasing the rigidity) 714-16-17701 714-07-17701	X ↑ ※	○

○: Interchangeable
X: Not interchangeable



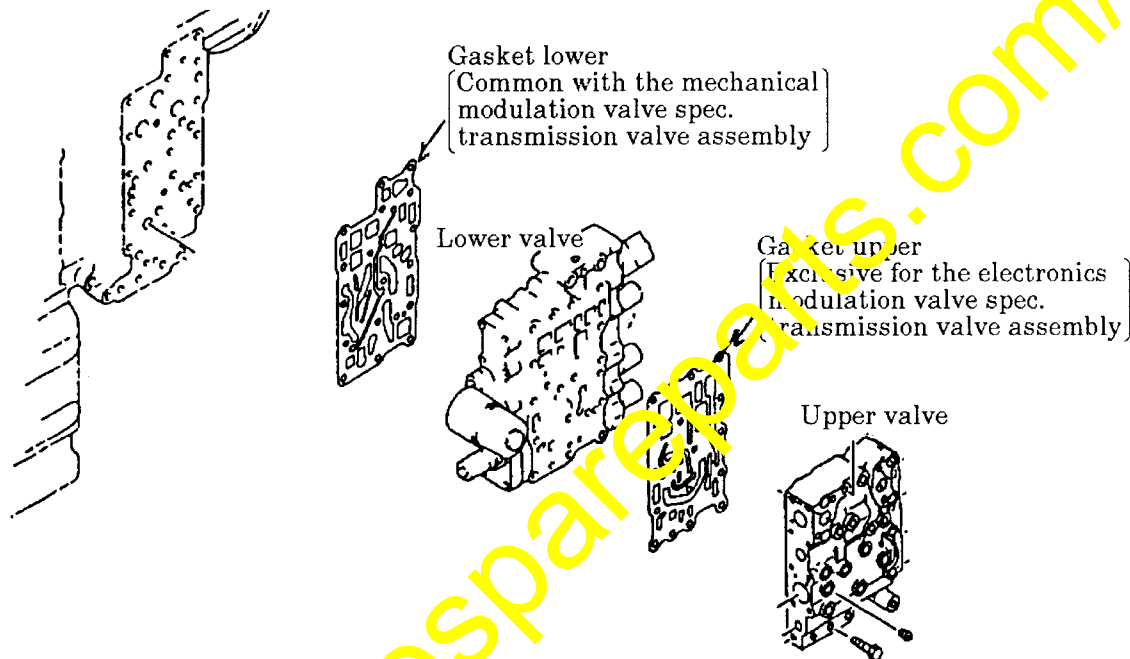
When the new gasket (with printed rubber borders) is used for the current valve (before increasing the rigidity), deformation of the valve body is enlarged and malfunctioning may occur.

Consequently, when using the new gasket, always combine with the new modulation valve body (with increased rigidity).

Meanwhile, regarding the upper and lower valve, since their deformation is negligible even when the new gaskets are used and as there is no fear of causing malfunctioning, the gaskets ② and ③ are interchangeable with the current parts.

Modification procedures

(For electronic modulation valve spec. transmission valve assembly).



When tightening the mounting bolts, be sure to observe "application of LT-2 and tightening torque of 3 - 4 kgm".

All these new gaskets are available independently as spare parts.

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