PARTS & SERVICE NEWS

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SUBJECT: REPAIR OF T/M OUTPUT SHAFT BEARING ON WA100—180-3 (4 SPEED SPEC.)

PURPOSE: To introduce modification procedures to repair transmission output shaft bearing on WA100-3 thru WA180-3 wheel loaders (4-speed spec. machines)

APPLICATION:

WA100-3	Wheel Loaders, Serial Nos.	60001 thru 63515, 64001 thru 64173
WA120-3	Wheel Loaders, Serial Nos.	50001 thru 53059 54001 thru 54081
WA150-3	Wheel Loaders, Serial Nos.	60001 thru 63415, 64001 thru 64159
WA180-3	Wheel Loaders, Serial Nos.	50001 thru 53223, 54001 thru 54281
WA180PT-3	Wheel Loaders, Serial Nos.	50001 thru 50044

FAILURE CODE: 154C38

DESCRIPTION:

1. Introduction

We have reports of excessive increases in local bearing pressure on the front bearing for the transmission output shaft of WA100-3 through WA180-3 wheel loaders. This is due to deviations in the part processing precision, and to the influence of external loads leading, eventually, to damage of the bearing.

When this output shaft bearing is damaged, make the modification introduced in this Service News to eliminate the failure.

If the output shaft bearing is damaged, backlash of the output shaft will increase to cause run-outs, and oil leakage will occur through the oil seal. If oil leakage is found through the oil seal, check if excessive backlash is occurring with the output shaft, and if a backlash exceeding 1 mm is occurring, make the modification introduced in this document since it may result in damage to the bearing.

2. List of parts

Part No.	Part Name	Purpose of part	Q'ty	Remarks
Part numbers printed in the Parts Book [The numbers stamped on the component nameplate are listed in the RH column in parentheses.]				
714-15-10000	T/M Ass'y	Reworked	1	WA100-3
714-15-10001	T/M Ass'y		1	WA100-3 (714-15-X0001)
714-15-10002	T/M Ass'y		1	WA100-3 (714-15-X0002)
714-15-10003	T/M Ass'y		1	WA100-3 (714-15-X0003)
714-15-10004	T/M Ass'y		1	WA100-3 (714-15-X0004)
714-15-10040	T/M Ass'y		1	WA100-3 Emergency steering spec. (714-15-X0041)
714-15-10041	T/M Ass'y		1	WA100-3 (714-15-X0042)
714-15-10042	T/M Ass'y		1	WA100-3 (714-15-X0043)
714-15-10043	T/M Ass'y		1	WA100-3 (714-15-X0044)
714-15-10200	T/M Ass'y		1	WA100-3 Steering pump spec. (714-15-X0200)
714-11-10000	T/M Ass'y		1	WA120/150/180-3
714-11-10001	T/M Ass'y		1	WA120/150/180-3 (714-11-X0001)
714-11-10002	T/M Ass'y		1	WA120/150/180-3 (714-11-X0002)
714-11-10003	T/M Ass'y		1	WA120/150/180-3 (714-11-X0003)
714-11-10040	T/M Ass'y		1	WA120/150/180-3 Emergency steering spec. (714-11-X0040)
714-11-10041	T/M Ass'y		1	WA120/150/180-3 (714-11-X0041)
714-11-10042	T/M Ass'y		1	WA120/150/180-3 (714-11-X0042)
714-11-10043	T/M Ass'y		1	WA120/150/180-3 (714-11-X0043)

Part No.	Part Name	Purpose of part	Q'ty	Remarks
714-11-10200	T/M Ass'y	Reworked	1	WA150-3 Steering pump spec. (714-11-X0200)
714-11-19360 (06002-30210)	Bearing (Bearing)	Replacement	2 (2)	The current bearing can be used for other models employing the current bearing.
07000-05260 (07000-05260)	O-ring (O-ring)		1 (1)	Part to be replaced when making this modification.
714-11-14271 (714-11-14271)	Shim (Shim)		3 (3)	Part to be replaced when making this modification. (t: 0.05)
714-11-14281 (714-11-14281)	Shim (Shim)		2 (2)	Part to be replaced when making this modification. (t:0.2)
714-11-14291 (714-11-14291)	Shim (Shim)		3 (3)	Part to be replaced when making this modification. (t:0.5)
714-11-14371 (714-11-14371)	Shim (Shim)		3 (3)	Part to be replaced when making this modification. (t: 0.05)
714-11-14381 (714-11-14381)	Shim (Shim)		2 (2)	Part to be replaced when making this modification. (t:0.2)
714-11-14391 (714-11-14391)	Shim (Shim)		3 (3)	Part to be replaced when making this modification. (t:0.5)

The assembly numbers remain the same.

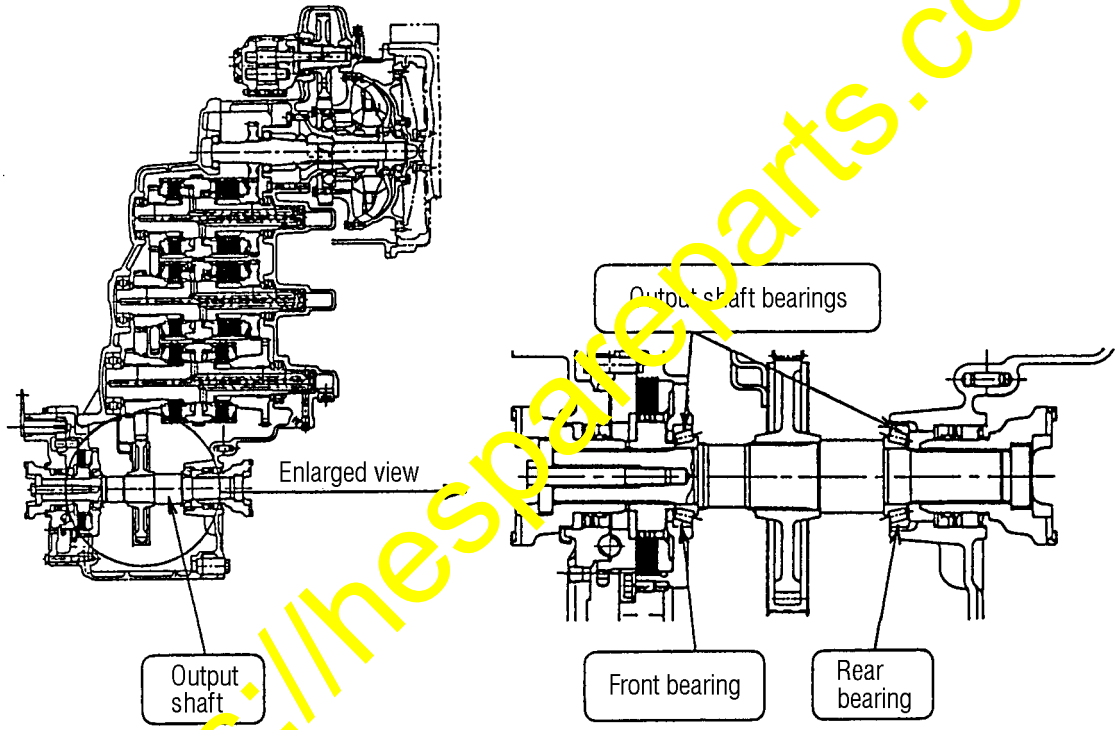
3. Contents of the modification

We increased the extent of crowning for the transmission output shaft bearing (tapered roller bearing) to alleviate the burden of excessive load being applied from the output propeller shaft and to lessen the local bearing pressure occurring at the roller edges depending upon positional deviations occurring during installation, thus protecting the bearing from being damaged.

[This type of damage occurs mainly with the front bearing. Even though the rear bearing may seem problem-free, since it has worn out, replace the rear bearing at the same time you replace the front bearing.]

<Modifying section>

Cross-sectional view of the transmission assembly



Part numbers of the bearing

New part: 714-11-19360 ← Current part: 06002-30210

4. Identification method for the new bearing

[The difference of the crowing extent cannot be measured visually.
Therefore, check the stamping on the side surfaces of the inner ring and the outer ring of the bearing before starting the replacement work.]

Stamping made on the side surface of the new bearing: NTN 4T-30210EW

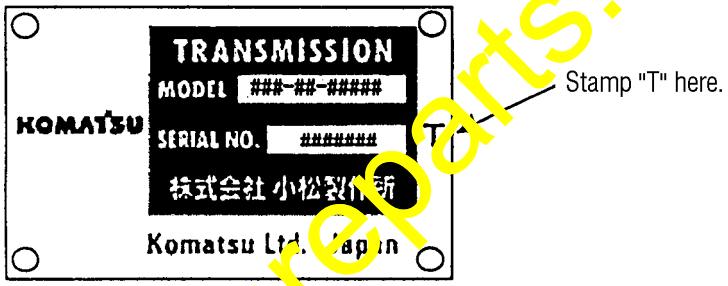
5. Modification procedures

(1) Make this modification referring to the Section “Disassembly and assembly of transmission” in the Shop Manual.

(2) Check respective component parts of the transmission assembly and, if damage parts or worn parts are found, replace them with new parts.

★ When replacing these parts, be sure to conduct pre-load adjustment for the tapered roller bearing when reassembling.
(Refer to the Shop Manual regarding the adjustment method.)

(3) After completing reassembly of the transmission assembly, stamp “T” on the transmission name plate, beside the Serial Number column, to indicate that this modification has been made.



Transmission name plate