PARTS & SERVICE NEWS

REF NO.	AT99155
DATE	Nov. 1, 1999

SUBJECT: INTRODUCTION OF IMPROVED M-CLUTCH DISC OF TRANSMISSON ON 530M

PURPOSE: To introduce new M-clutch discs with improved wear resistance for use with the transmission assembly on 530M

APPLICATION: 530M Dump truck S/.N 32638, A30003 THRU A30035

FAILURE CODE: 15E740

DESCRIPTION:

1. Introduction
   This Service News will introduce new M-clutch discs with improved wear resistance for use with the transmission assembly on the 530M.

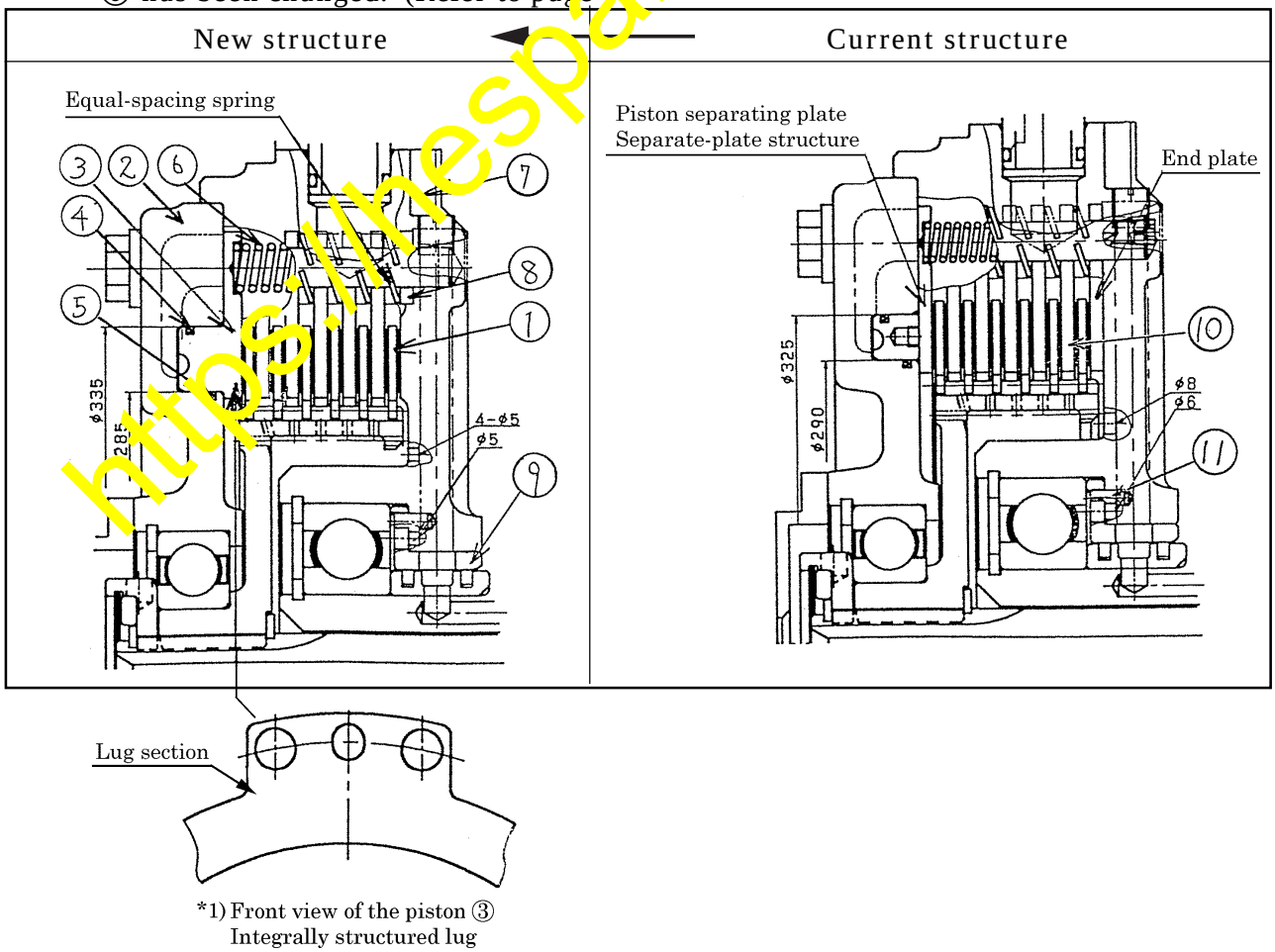
2. List of parts

No.	Part No.	Part Name	Q'ty	Remarks
	562-15-00500	KIT	1	
	The above kit 562-15-00500 consists of the following improved parts 1 thru 13. Quote this kit no. when ordering parts for the modification.			
1	562-15-22940 (712-85-12710)	Disc (Disc)	6 (6)	
2	562-15-21190 (562-15-11190)	Housing (Housing)	1 (1)	
3	562-15-22781 (562-15-22780) (562-15-22880)	Piston (Piston) (Plate)	1 (1)	
4	144-15-22881 (562-15-19330)	Seal ring (seal ring)	1 (1)	
5	569-15-12860 (562-15-19320)	Seal ring (Seal ring)	1 (1)	
6	198-15-15551 (145-14-12810)	Spring (Spring)	10 (10)	
7	562-15-00052 (562-15-21180)	Housing ass'y (Housing ass'y)	1 (1)	
8	562-15-11260	Plate	5	
9	562-15-21220 (562-15-11220)	Collar (Collar)	1 (1)	
	Always replace the aforementioned parts altogether, simultaneously.			
10	562-15-22720	Plate	5	
	Although the part number of the plates No. 10 remains the same, replace them with new parts when deemed necessary referring to the “Guidance for Reusable Parts”.			
11	04020-00616	Pin	1	
12	04020-01228	Pin	1	
13	04020-01434	Pin	1	
	Although the part numbers of the pins Nos. 11, 12, 13 remain the same, prepare them as spare parts since they may not come off from the current housing “562-15-21180” or they may be damaged while removing from the current housing.			
	562-15-21003 (562-15-21002) 562-14-41003 (562-14-41002)	Transmission ass'y (Transmission ass'y) Torqflow ass'y (Torqflow ass'y)	1 (1) 1 (1)	
	For machines under production, the part numbers for Transmission Assembly and Torqflow Assembly (Transmission + Torqflow Converter) have been changed as shown in above.			

3. Contents of the modification

When the machine is used in work sites where "shifthunting" (automatic gear shifting) occurs and speed changes must be made frequently, the M-clutch discs may wear quicker. To solve this problem, we have made the following improvements to enhance the wear resistance of the M-clutch discs.

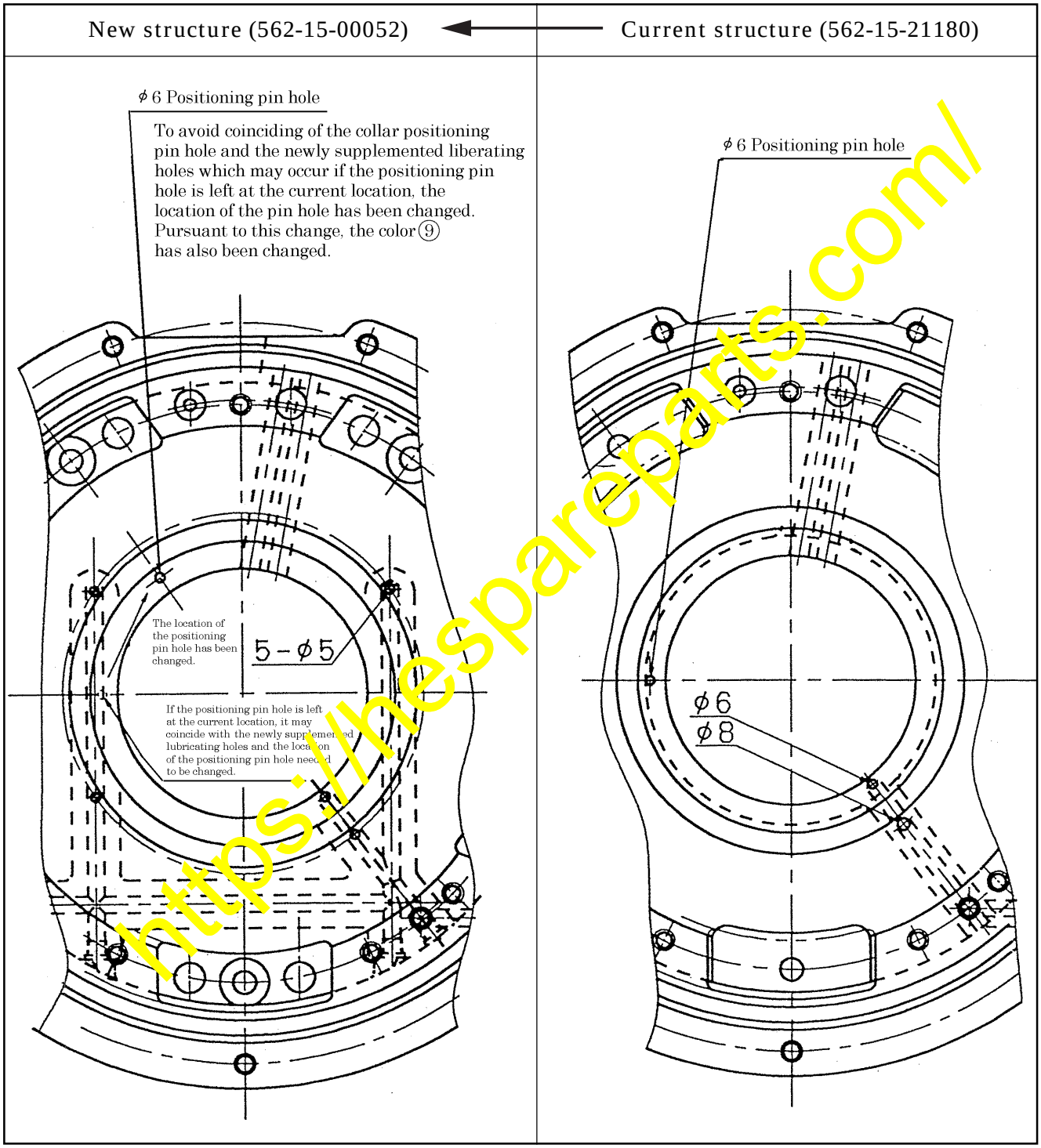
1) We have changed the friction material of the disc ① from molded resin to sintered alloy to improve the wear resistance and heat radiation performance.
2) Since the friction coefficient of the sintered alloy disc is smaller than that of the molded resin disc, the sectional area of the piston ③ has been enlarged to maintain the same clutch torque capacity as with the current state.
   Pursuant to this change in the sectional area of the piston ③, the housing ② and seal rings ④ and ⑤ have also been changed.
3) Pursuant to the aforementioned change of the material of the disc, the structure of the piston has been changed from the separate-plate structure to integral-lug structure [*1)] and use of the end plate has been discontinued.
4) Pursuant to the discontinuation of use of the end plate according to the above Paragraph 3), the shape of the housing has been changed and the plate ⑧ needs to be supplemented to preserve the positioning of the equal-spacing spring (in a shape of a spring washer).
5) To improve the lubrication efficiency for the discs, the number of the lubricating holes in the housing ⑦ has been increased.
   New structure: 5 - φ5 ← Current structure: φ2 + φ3
6) To avoid coinciding of the collar positioning pin hole and any of the newly supplemented lubricating holes which may occur after the change of the lubricant circuit according to the above Paragraph 4), the location of the positioning pin hole in the collar ⑨ has been changed. (Refer to page 4)



*1) Front view of the piston ③
Integrally structured lug

- Detail drawing for the changes according to Paragraphs 5) and 6) on page 3

Housing ⑦ (When viewed from the input side of the transmission)



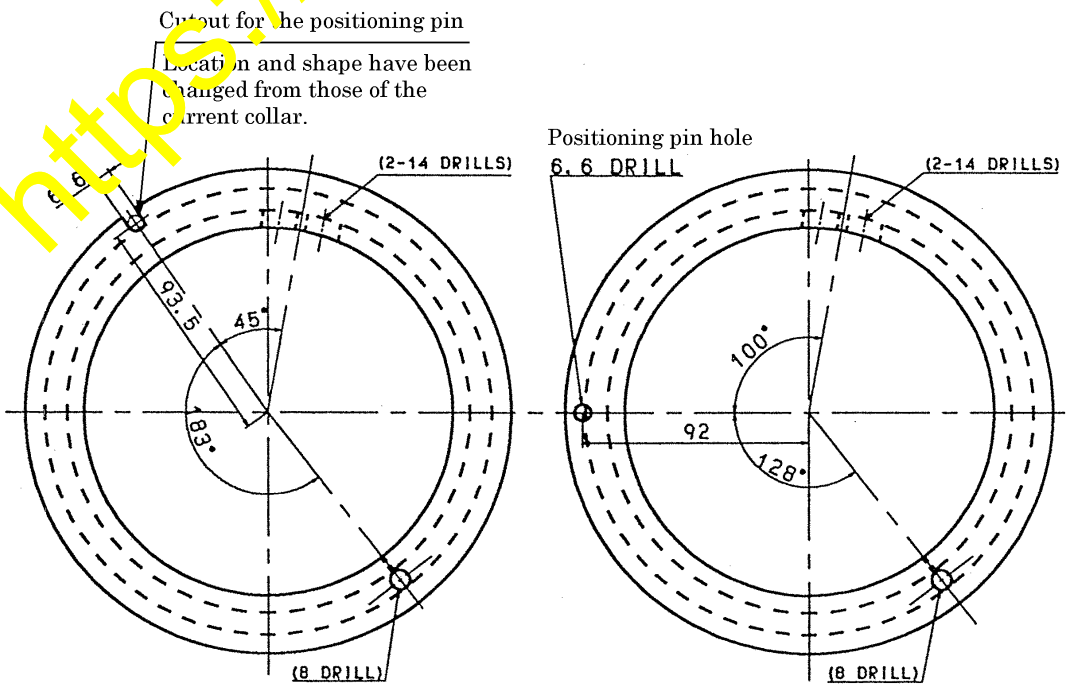
• List of changed parts and identification methods for the new and current parts

No.	Part names	New structure			← Current structure		
		Part numbers	Q'ty	Identification methods	Part numbers	Q'ty	Identification methods
①	Disc	562-15-22940	6	Sintered alloy disc (Copper color)	712-85-12710	6	Molded resin disc (Black)
②	Housing	562-15-21190	1	The part number is being embossed.	562-15-11190	1	The part number is being embossed.
③	Piston	562-15-22781	1	Piston size: ϕ 335 - ϕ 285 Integral-lug structure *1): Refer to page 3	562-15-22780 + 562-15-22880 (Plate)	1 2	Piston size: ϕ 325 - ϕ 290 Separate-plate structure
④	Seal Ring	144-15-22881	1	ϕ 335	562-15-19330	1	ϕ 325
⑤	Seal Ring	569-15-12860	1	ϕ 285	562-15-19320	1	ϕ 290
⑥	Spring	198-15-15551	10	O.D. - Free length ϕ 18.9 - 84.0	145-14-12810	10	O.D. - Free length ϕ 15.3 - 83.5
⑦	Housing Ass'y	562-15-00052	1	'562-15-21181' is being embossed on the housing.	562-15-21180	1	'562-15-21180' is being embossed on the housing.
⑧	Plate	562-15-11260	5	O.D. - I.D ϕ 30 - ϕ 15, shape of a washer	—	—	—
⑨	Collar	569-15-21220	1	*2): Refer to the drawing indicated below.	562-15-11220	1	—
	Transmission Ass'y	562-15-21003	1	—	562-15-21002	1	—
	Torqflow Ass'y *3)	562-14-41003	1	As above improvements employed on machines under production, assembly part numbers have been changed.	562-14-41002	1	—

*3) Torquflow ass'y: Transmission ass'y + Torque converter ass'y

*2) Identification methods for the new and current collars

New collar: 562-15-21220 ← Current collar: 562-15-11220



3. Replacement procedures
   - Make the replacement work referring to the Shop Manual.
   - Although the part number of the clutch plate “562-15-22720” (5 sheets) remains the same, replace them with new parts when deemed necessary referring to the “Guidance for Reusable Parts”.
   - Although the part numbers of the pins “04020-00616”, “04020-01228” and “04020-01434” remain the same, prepare them as spare parts since they may not come off from the current housing “562-15-21180” or they may be damaged while removing from the current housing.