

PARTS & SERVICE NEWS

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DATE	May 30, 2003

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This PARTS & SERVICE NEWS supersedes the previous issue No. AT03044 dated Mar. 14, 2003 which should be discarded.

SUBJECT: COUNTERMEASURE OF FRAME CRACK RELATION ON HM350-1, HM400-1 (OUTLINE OF FC)

PURPOSE: To introduce modification procedure to prevent occurrence of cracks in the front frame, rear frame, etc. on HM350-1 and HM400-1 articulated dump trucks (Summary version)

APPLICATION: HM350-1 Articulated Dump Trucks, } Serial Nos. are refer to page 3
HM400-1 Articulated Dump Trucks, }

FAILURE CODE: 4700HA

DESCRIPTION:

1-1. Introduction

Since there is a possibility of occurrence of cracks in the front frame, rear frame, etc. on the HM350-1 and HM400-1 articulated dump trucks, make the modifications being introduced in this Service News to prevent occurrence of the aforementioned cracks.

Carry out these modifications at the same time as making the general modifications of the transmission assembly as per the Service News "AT03035".

Also, this Service News is being issued to summarize several Service News introducing modification procedures to prevent cracks occurring in various sections of the frames. Therefore, when carrying out actual modification work, refer to the respective Service News at the same time.

1-2. Revised places:

7 places ▲	May 30, 2003	Corrected the check sheet errors.
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2. List of parts

Refer to the respective Service News regarding the necessary parts.

3. Details of modifications

Refer to respective Service News.






4. Modification procedure

4-1. Preparations before starting the modification work

Referring to each Service News, set the vehicle for the modification and prepare necessary parts and tools.

4-2. Modification procedure

Make the modifications of the following modification items. In the meantime, refer to the respective related Service News when carrying out respective modifications.


	Modification (inspection) item (Summary of works)	Applicable model		Referring Service News (Draft No.)		Standard man hour (H)		Remarks	
		HM400	HM350	HM400	HM350	HM400	HM350		
	Preparation work	○	○	Removal and installation of the tires, etc.		8	4		
(1)	Modification to prevent cracks in the rear frame ① Reinforcement of the hitch section ② Reinforcement of the side member section ③ Reinforcement of the equalizer bar section	○	○	AT03052	AT03051	 56 24	 12		
(2)	Modification to prevent cracks in the front frame ① Build-up welding for the vertical member section ② Front tank bracket	○	○	AT03054		 5 6	5		
(3)	Modification to prevent cracks in the body protector section ① Reinforcement of the protector rib section	○	○	AT03053		2	2		
(4)	Modification to prevent cracks in the drive shaft bracket connecting the engine and transmission ① Change to reinforced bracket	○	○	AT03020		1	1		
(5)	Modification of the engine damper cover ① Change to blind cover	○	Not necessary	AT03019	-	2	0	Make this modification with the HM400-1 only.	
(6)	Modification of the air compressor bracket ① Check for existence of cracks in the bracket ① If cracks exist, repair them as per this Service News. (A3)	○	○	AT03023		0.5	0.5	Inspection A-2	
(7)	Inspection and adjustment of the rear suspension mud guard ① Installation, inspection, and adjustment of the mud guard	○	○	AT03041		1.5	1.5	Inspection A-2	
(8)	Inspection and adjustment of all the suspensions ① Inspection and adjustment of the front and rear suspension levels.	○	○	AT03042		0	0	Irregular maintenance item	
						Total of the standard man hour	 76 37	22	

* When replacing the transmission ass'y or when replacing the engine and transmission controller, carry out the replacement work separately referring to the Service News "AT03035".

4-3. Inspections of each section after finishing the modification work

After finishing the modification work, perform inspections of the vehicle referring to the check sheets being indicated on pages 4 and 5 of this Service News.

Inform the inspection results to the Manager of the Quality Assurance Section in Mooka Plant by FAX.


 5. Table of the applicable vehicles to this modification

HM400-1: Table of Serial No. of the applicable vehicles

HM350-1: Table of Serial No. of the applicable vehicles

No.	Model	Serial No.
1	HM400-1	1001
2	HM400-1	1002
3	HM400-1	1003
4	HM400-1	1007
5	HM400-1	1008
6	HM400-1	1010
7	HM400-1	1014
8	HM400-1	1015
9	HM400-1	1016
10	HM400-1	1017
11	HM400-1	1018
12	HM400-1	1019
13	HM400-1	1020
14	HM400-1	1021
15	HM400-1	1022
16	HM400-1	1023
17	HM400-1	1028
18	HM400-1	1029
19	HM400-1	1030
20	HM400-1	1031
21	HM400-1	1033
22	HM400-1	1034
23	HM400-1	1035
24	HM400-1	1036
25	HM400-1	1037
26	HM400-1	1038
27	HM400-1	1039
28	HM400-1	1040
29	HM400-1	1041
30	HM400-1	1042
31	HM400-1	1043
32	HM400-1	1044
33	HM400-1	1046
34	HM400-1	1048
35	HM400-1	1049
36	HM400-1	1053
37	HM400-1	1054
38	HM400-1	1055
39	HM400-1	1056
40	HM400-1	1057
41	HM400-1	1058
42	HM400-1	1059
43	HM400-1	1060
44	HM400-1	1061
45	HM400-1	1062
46	HM400-1	1063
47	HM400-1	1064
48	IHM400-1	1026
49	HM400-1	1071
50	HM400-1	1072
51	HM400-1	1073
52	HM400-1	1074
53	HM400-1	1075
54	HM400-1	1076
55	HM400-1	1024
56	HM400-1	1025
57	HM400-1	1047
58	HM400-1	1065
59	HM400-1	1067

No.	Model	Serial No.
1	HM350-1	1001
2	HM350-1	1002
3	HM350-1	1003
4	HM350-1	1005
5	HM350-1	1007
6	HM350-1	1008
7	HM350-1	1010
8	HM350-1	1012
9	HM350-1	1013
10	HM350-1	1014
11	HM350-1	1015
12	HM350-1	1016
13	HM350-1	1017
14	HM350-1	1018
15	HM350-1	1019
16	HM350-1	1020
17	HM350-1	1021
18	HM350-1	1022
19	HM350-1	1023
20	HM350-1	1024
21	HM350-1	1025
22	HM350-1	1026
23	HM350-1	1027
24	HM350-1	1028
25	HM350-1	1029
26	HM350-1	1030
27	HM350-1	1031
28	HM350-1	1032
29	HM350-1	1033
30	HM350-1	1034
31	HM350-1	1035
32	HM350-1	1036
33	HM350-1	1037
34	HM350-1	1038
35	HM350-1	1039
36	HM350-1	1040
37	HM350-1	1042

No.	Inspection item	Determination procedure and criterion	Inspection result	Remarks
17	Function of the parking brake	The vehicle should not start traveling at the "F2" stall state (1,400 rpm or more). Actual measurement value (F : rpm)		
18	Function of the service brake	The vehicle should not start traveling at the "F2" stall state (1,510 rpm or more <HM400> or 1,300 rpm or more <HM350>). Actual measurement value (F : rpm)		
19	Function of the retarder brake	The vehicle should not start traveling at the "F2" stall state (1,090 rpm or more). Actual measurement value (F : rpm)		
20	Smoothness of the steering operation	The steering operation should be smooth without interruption and without change in the steering efforts. (Feeling check)		
21	Steering efforts (unloaded state)	The steering efforts should not be high. (Feeling check) Standard value: 3 kg or less (unloaded state)		
22	Function of the auto emergency steering	The emergency steering should be turned on when the starting switch is turned "ON" and when the parking brake is turned "OFF". ※ Do not operate the emergency steering pump continuously exceeding 90 seconds.		
23	Steering efforts for the auto emergency steering operation	The steering efforts should not be high. (Feeling check) Reference value: 3 kg or less		
24	Length of the suspension cylinder (front) ※ Unloaded state	The length should be within the dimension "A". Dimension "A": 168 ± 10mm <Common with the HM400 and HM350> Actual measurement value: LH () mm, RH () mm		
25	Length of the suspension cylinder (rear) ※ Unloaded state	The length should be within the dimension "A". Dimension "A": 111 ± 5 mm <Common with the HM400 and HM350>  119 ± 5 mm <HM350> Actual measurement value: LH () mm, RH () mm		
26	Installed state of the propeller shaft (Engine → Torque converter)	The mounting bolts should not be loose and there should not be abnormal backlash.		
27	Installed state of the propeller shaft (Transmission → HITCH)	The mounting bolts should not be loose and there should not be abnormal backlash.		
28	Mounted state of the transmission ass'y	The mounting bolts should not be loose.		
29	Mounted state of the operator's cab	The mounting bolts should not be loose.		
30	Inspections of each section of the transmission ass'y	Oil leakage should not be occurring.		
31	Oil leakage from the transmission line hydraulic piping	Oil leakage should not be occurring.		
32	Oil leakage from the torque converter line hydraulic piping	Oil leakage should not be occurring.		
33	Oil leakage from the transmission differential	Oil leakage should not be occurring.		
34	Oil leakage from the brake line	Oil leakage should not be occurring.		
35	Tightening of the battery terminal connections	The battery terminal connections should not move when moved by hands.		
36	Rubber cap on the battery terminals and rubber cap for the (+) terminal of the battery wire	The rubber caps should be installed securely. (The terminal section should not be coming out of the cap.)		
37	Tightening of the tire wheels nuts	Re-tightening should be made securely. (all the 6 tires)		
38	Checking the function of the air conditioner	① The air flow should be changed into 4 stage by operation of the blower switch.		
		② The cooling function and dehumidification function should be started when the air conditioner switch is turned "ON" after turning "ON" the blower switch.		
		③ By operation of the temperature adjust switch, changes between the "Green colored side": "Cold wind" and "Red colored side": "Warm wind" should be effected.		
		④ By operation of the inside-air/outside-air selector switch, shifting between the inside air and the outside air should be effected.		
		⑤ By operation of the blowout port selector switch, 5 stage shiftings should be made among "vent", "vent and foot", "foot", "dif and foot" and "dif".		