

Field Assembly Instruction

ARTICULATED
DUMP TRUCK

HM350-2

SERIAL NUMBERS 2001 and up

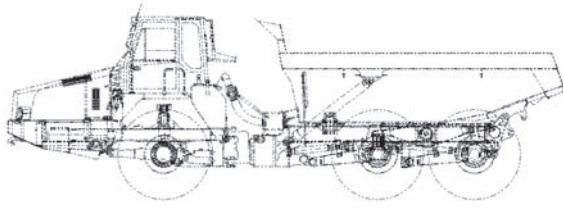
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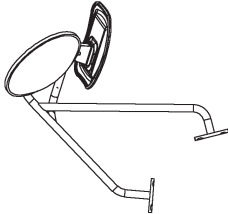
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1 Drawings of removed units



1. Bare machine



2. Engine hood mirror

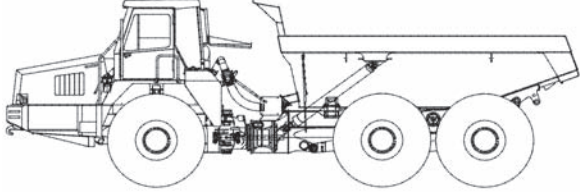


Specifications of HM350-2 completed truck

Specifications	Related items			
	Weight (kg)	Overall length (mm)	Overall width (mm)	Overall height (mm)
Self-propelled travel	31,060 (Weight of machine)	11,145	3,190	3,700 (When empty)

2 Dimensions of removed units

No.	Unit name	Weight (kg)	Overall length (mm)	Overall width (mm)	Overall height (mm)
1	Bare machine	31,057	11,145	3,190	3,700
2	Engine hood mirror	3	500	340	450

3 Assembly procedure, necessary equipments, and schedule

Day Hour	1st day							
	1	2	3	4	5	6	7	8
Assembly unit								
	(1) Positioning bare machine (2) Installation of rear monitor (3) Installation of right and left mudguards				(4) Installing engine hood mirror (5) Adjusting N2 gas of front and rear suspensions			
Assembly procedure No.	No.0100 – 0500							
Number of workers	2							
Suspension gas pouring tool	Adjusting suspension gas							
Remarks	Meeting before work Unloading Starting assembly				Completion of assembly			

4 Necessary tools and equipments

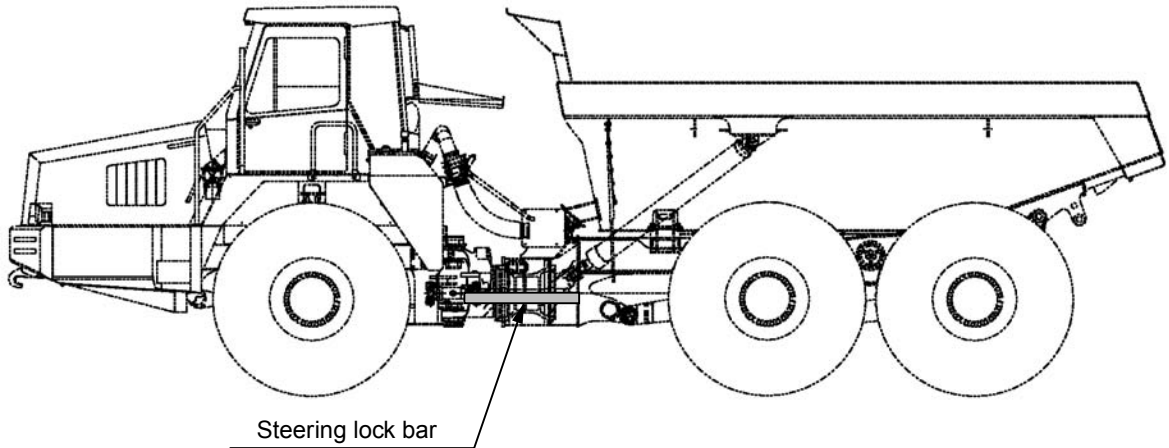
(1) Necessary tools

No.	Tool name	Specifications	Q'ty	Remarks
1	Ring wrench	19 mm	Each 1	For assembling parts
2	Impact wrench	GTP-800P/GTP-60VP or equivalent	Each 1	For assembling parts
3	Socket	19 mm	Each 1	For assembling parts
4	Suspension gas pouring tool	(7926-10-1000)	1	For adjusting suspension gas

(2) Necessary equipments

No.	Equipment name	Specifications	Q'ty	Remarks
1	Stepladder (Work stand)	4 steps (About 1.5 m)	1	For work

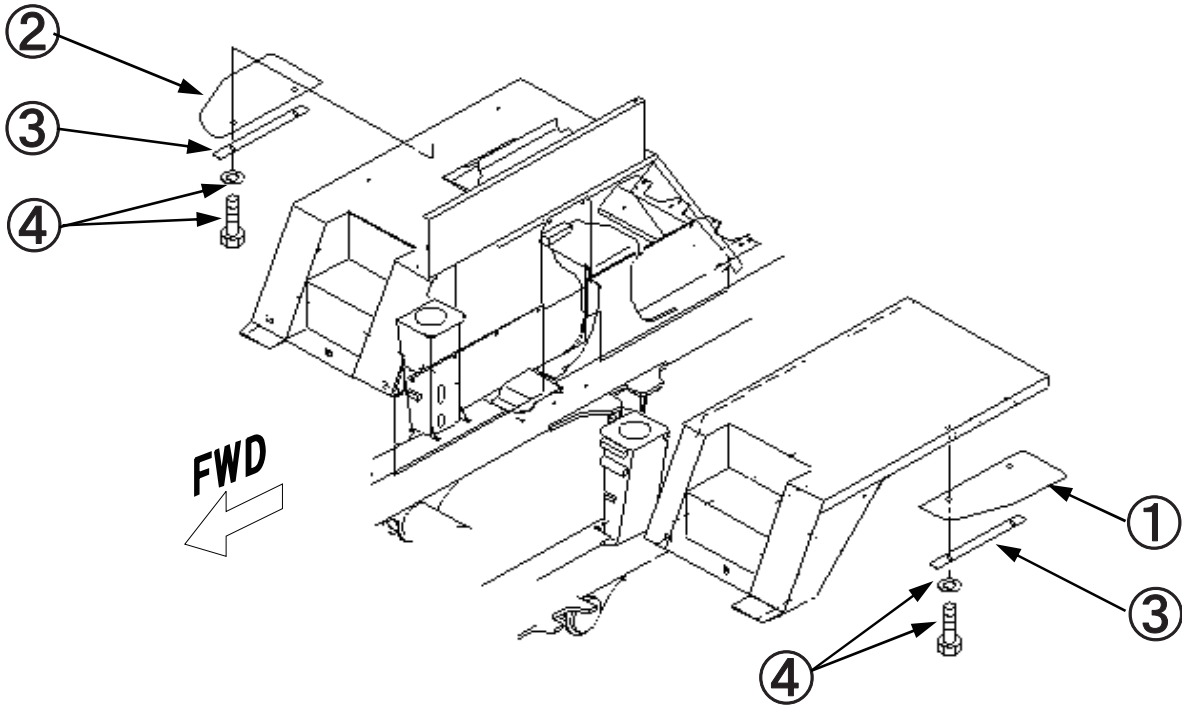
1. Positioning bare machine



1. Lower the bare machine from the trailer and position it on the flat ground.
2. Set the steering lock bar securely.

Precautions	Necessary tools		Necessary equipment	
	Name	Q'ty	Name	Q'ty
Before starting the work, set the steering lock bar securely.				
Others				

1. Install mudguards to the right and left fenders.

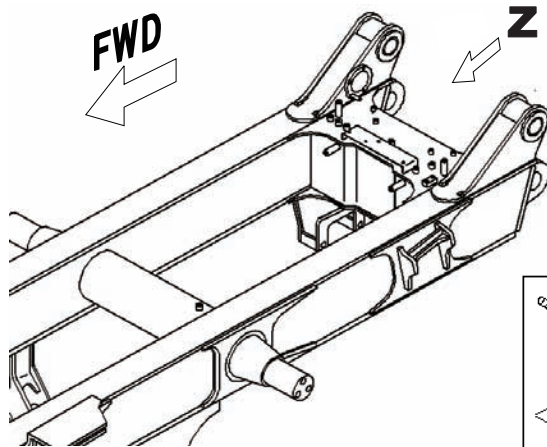


	Part No.	Part name	Q'ty	State of parts
(1)	56D-54-22950	GUARD, L.H.	1	Mounted in cab
(2)	56D-54-22960	GUARD, R.H.	1	Mounted in cab
(3)	56D-54-22970	PLATE	2	Temporarily installed to fender
(4)	01024-81025	BOLT, SEMS	4	Temporarily installed to fender

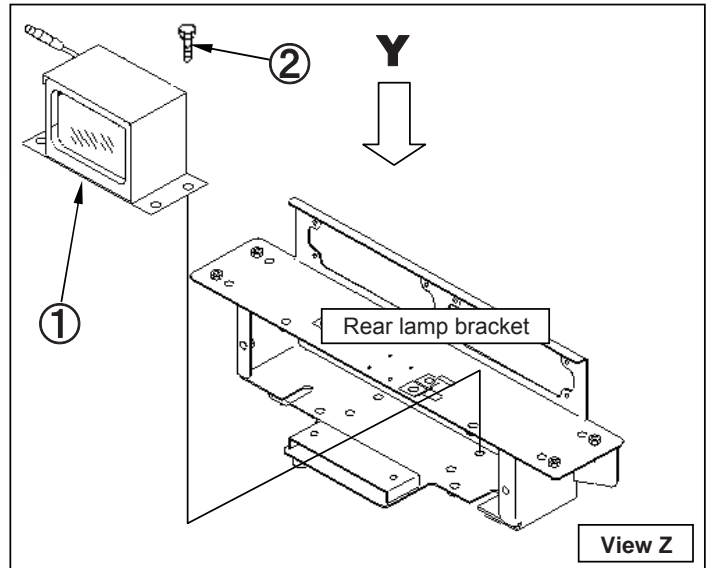
1. Remove the bolts and plates installed temporarily to the fenders.
2. Install mudguards mounted in the cab to the fenders.

Precautions	Necessary tools		Necessary equipment	
	Name	Q'ty	Name	Q'ty
	Ring wrench (19 mm)	1	Stepladder (Work stand)	1
	Others			

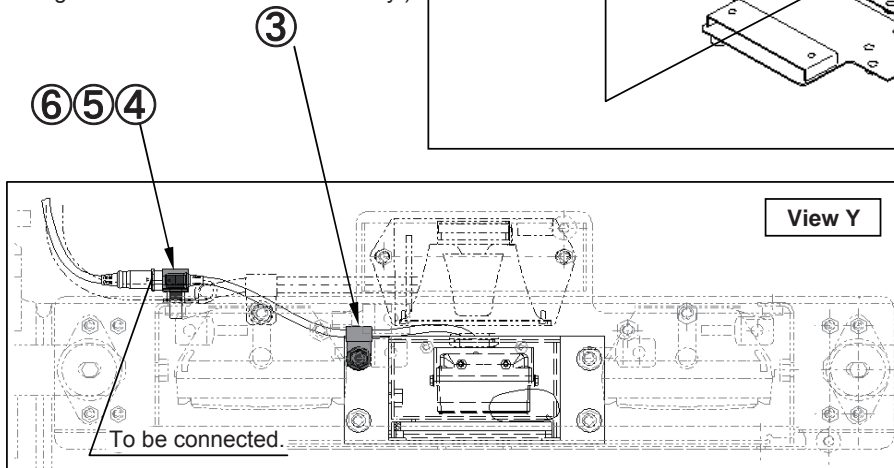
Installation of rear monitor



1. Install the rear monitor assembly as shown in view Z.
2. Connect the rear monitor cable.
3. Fix the rear monitor cable as shown in view Y.



(To be fixed together with rear monitor assembly.)

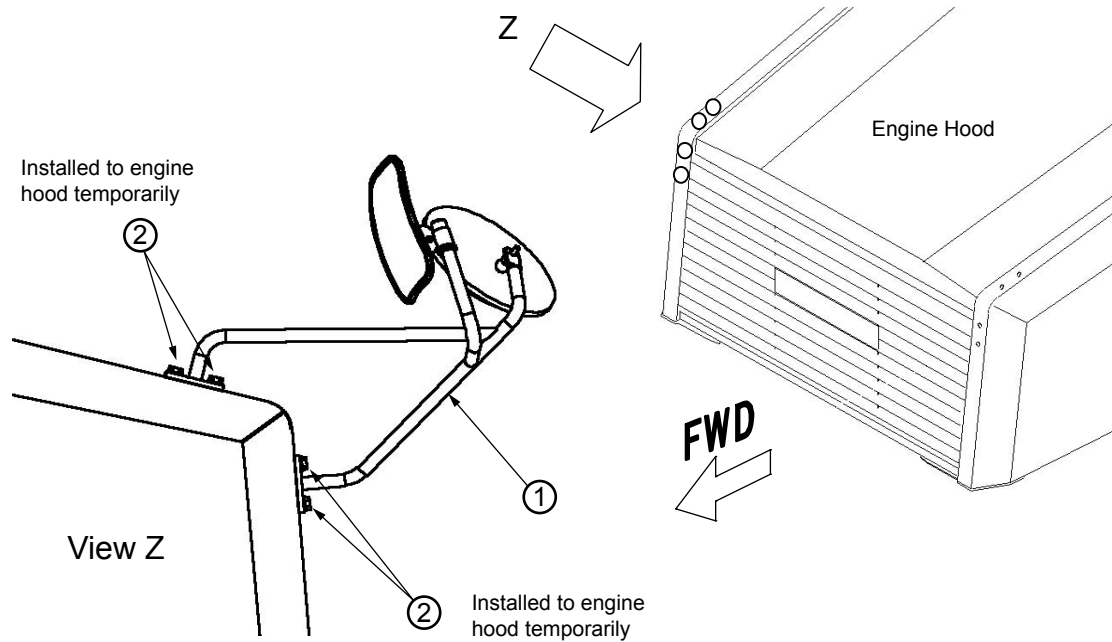


	Part No.	Part name	Q'ty	State of parts (Parts list No.)
(1)	561-86-8310A	REAR MONITOR ASS'Y	1	Separately packed (M352-06-050)
(2)	01024-81020	BOLT	4	Temporarily installed to rear lamp bracket
(3)	04434-50810	CLIP	1	Temporarily installed to rear lamp bracket
(4)	04434-51410	CLIP	1	Temporarily installed to rear lamp bracket
(5)	01024-81030	BOLT	1	Temporarily installed to rear lamp bracket
(6)	424-54-14380	COLLAR	1	Temporarily installed to rear lamp bracket

	Necessary tools		Necessary equipment	
	Name	Q'ty	Name	Q'ty
Precautions				
Others				

Installing engine hood mirror

1. Installing engine hood mirror



	Part No.	Part name	Q'ty	State of parts
(1)	56B-54-2152A	MIRROR, R.H.	1	Mounted in cab
(2)	01024-81225	BOLT	4	Installed to engine hood temporarily

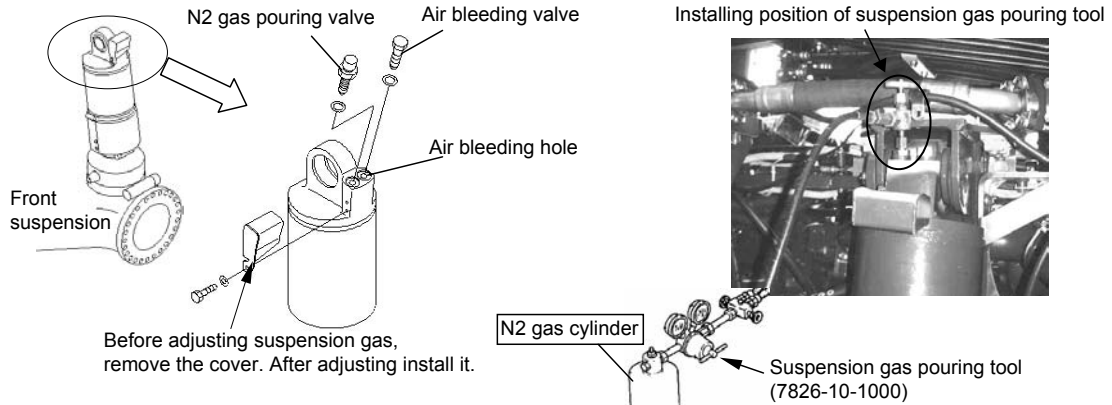
1. Remove the bolts and washers installed to the engine hood temporarily.
2. Take the engine hood mirror out of the cab and install it to the engine hood.
3. Adjust the angle of the mirror.
 - ★ To adjust, see Operation and Maintenance Manual.

Precautions	Necessary tools		Necessary equipment	
	Name	Q'ty	Name	Q'ty
	Socket wrench (19 mm)	1	Stepladder (Work stand)	1
	Others			

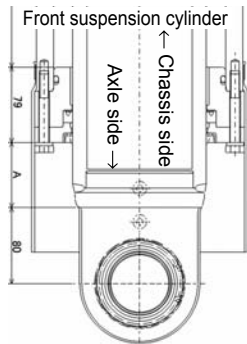
Adjusting N2 gas of front and rear suspensions

1. Adjusting N2 gas of front and rear suspensions

Adjust the quantity of N2 gas (front and rear, 4 places).

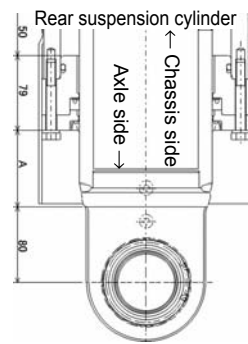


Before adjusting suspension gas, remove the cover. After adjusting install it.



Dimension A (Front side)

When cylinder is retracted fully:	MIN	(32 ± 1 mm)
Specified quantity of filled oil:	OIL	53 ± 3 mm
When empty:	EMPTY	(153 ± 10 mm)
When cylinder is extracted fully:	MAX	(209 ± 1 mm)



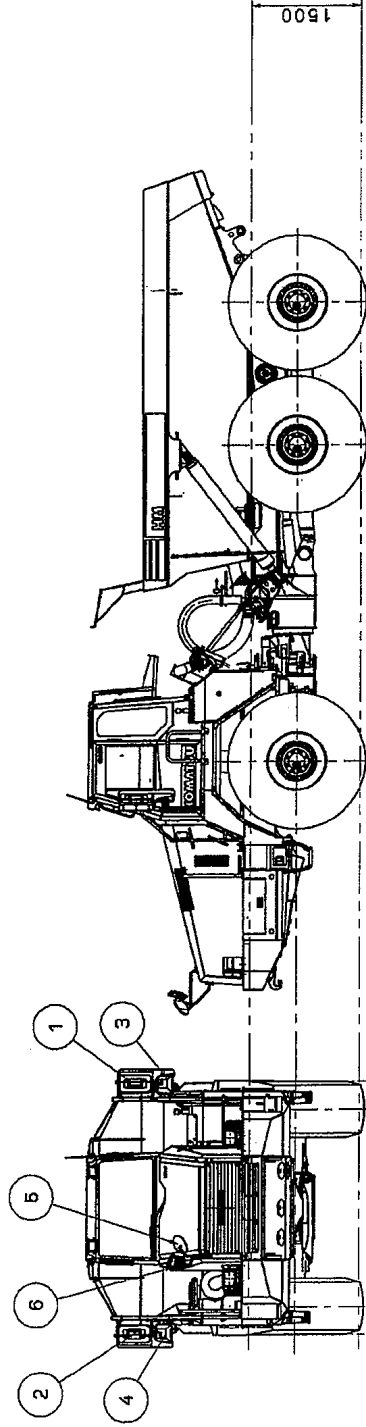
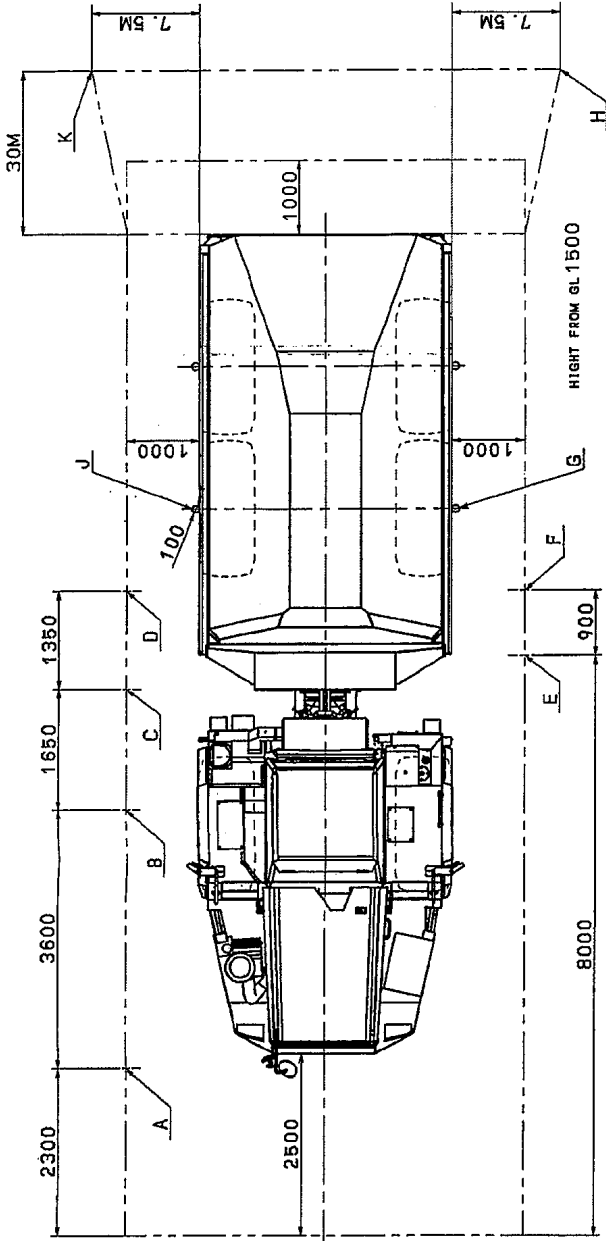
Dimension A (Rear side)

When cylinder is retracted fully:	MIN	(26 ± 1 mm)
Specified quantity of filled oil:	OIL	66 ± 3 mm
When empty:	EMPTY	(96 ± 5 mm)
When cylinder is extracted fully:	MAX	(116 ± 1 mm)

- Loosen the air bleeding valves of the right and left front suspension cylinders and bleed air thoroughly. (Check that air does not come out any more (and only oil flows out) and tighten the valves again. Tightening torque: 39.2 – 49.0 Nm {4 – 5 kgm})
- Check that the valves are closed and install the suspension gas pouring tool to the gas cylinder.
- Connect the hoses of the suspension gas pouring tool to the nitrogen gas pouring valves. (Since there are 2 hoses, connect them to the right and left suspension cylinders and pour the nitrogen gas simultaneously so that pressure will be applied to both cylinders evenly.)
- Open the valve of the suspension gas pouring tool gradually.
- When the suspension cylinders rise to the specified level shown above, close the valve. (Pour the gas to the front suspension cylinders until they rise to the level indicated by the decalomania. Pour the gas to the rear suspension cylinders until they rise to the level shown in the above figure.)
- Remove the hoses from the nitrogen gas pouring valves and move the machine forward and in reverse to fit the suspension cylinders, and then stop without applying the brake. (Finally, stop the machine without applying the brake to prevent an uneven load caused by braking.)
- Apply the parking brake and check the length of the suspension cylinders.
- If the length of the suspension cylinders is out of the standard range, repeat steps 3 - 7. (Usually, adjustment is completed by repeating those steps 3 - 4 times.)

Precautions	Necessary tools		Necessary equipment	
	Name	Q'ty	Name	Q'ty
1. Bleed air from the cylinders. 2. Pour nitrogen gas in the right and left suspension cylinders simultaneously. 3. Do not extend the suspension cylinders to the stroke end. 4. After moving the machine forward and in reverse, stop it without applying the brake. 5. Do not steer the machine before finishing this adjustment. (If it is steered, the piping may be broken.)	Suspension gas pouring tool	1		
	(7926-10-1000)			
Others				

Mirror adjustment procedure



WHEN YOU SEE EACH MIRROR (① - ⑥) FROM THE EYE POINT, ADJUST THE MIRROR TO CONFIRM PRECEDING ADJUSTMENT OF ①-⑥ IN HEIGHT FROM GL ACCORDING TO A LEFT TABLE.

MIRROR NUMBER	CHECK POINT
①	NONE
②	B
③	C
④	NONE
⑤	A
⑥	B

MIRROR NUMBER	CHECK POINT
①	F
②	F
	G
	H
	C
	D
	J
	K

No.	Inspection items	Judgment procedures and criteria	Check	Maintenance	Remarks
19	Shock made when dump body is lower to end	There should be no harsh shock when the dump body gets seated on the frame (sensory check). *Perform this check after completing the calibration.			
20	Function of positioner	Operate lever to RAISE position and check that it does not return to HOLD when released. Operate lever to RAISE position to raise dump body and check that it automatically returns to HOLD at a point 50 – 100 mm before end of H/T cylinder stroke.			
21	Alignment of dump body on right and left	When dump body is raised fully, it must not sway to right or left.			
		When dump body is lower fully, it must come in contact with mount evenly. (Contact area must be at least 60%.)			
		The clearance at the hinge pin section should not exceed 1mm on one side. (Perform this check for both the clearances on the right and left sides.)			
		The clearance at the deflection stopper should be 1 to 2 mm on one side when the dump body is in the lower end position.			
22	Body lifting speed (Oil temperature: 80°C)	Engine speed: Rated speed (2,000rpm) Standard: 12.0 ± 1.5 sec, Measured value: () sec			
23	Body lowering speed (Lever at FLOAT, Oil temperature: 70 – 90 °C)	Power down (from No. 1 cylinder: Hi to No. 2 cylinder: LiL) Standard: 12.0±1.5 sec, Measured value:()sec			
24	Hydraulic drift of dump body	Hydraulic drift in 5 minutes must be 85 mm or less. (From point where cylinder No. 2 is extended by 100 mm). Measured value: () mm			
Stop truck on level ground and measure.					
25	Length of suspension cylinder (Front) * Measure with dump body empty.	Length must be shorter than dimension A. Dimension A: 153 ± 10 mm Measured value: Left () mm, Right () mm			
26	Length of suspension cylinder (Rear) * Measure with dump body empty.	Length must be shorter than dimension A. Dimension A: 104 ± 5 mm Measured value: Left () mm, Right () mm			
Inspect each part.					
27	Function of safety pin	Safety pin must be inserted without obstruction in right and left stopper holes.			
28	Storage function of safety pin	Safety pin must be removed from, installed to, and locked at storage position securely.			
29	Inspection around engine	No oil and water leakage.			
30	Inspection around transmission	No oil leakage.			
31	Inspection of hydraulic oil system (tank, cylinder, pump, piping)	No oil leakage.			
32	Tightness of tire hub nuts *See the Assembling Procedure for the tightening torque specification.	(1) Front left: Should be retightened to the specification.			
		(2) Front right: Should be retightened to the specification.			
		(3) Center left: Should be retightened to the specification.			
		(4) Center right: Should be retightened to the specification.			
		(5) Rear left: Should be retightened to the specification.			
		(6) Rear right: Should be retightened to the specification.			
33	Tire inflation pressure (When dump body is empty)	Standard: Shown at left Measured value: Front left () MPa) Front right () MPa)			
	26.5-R25 (Standard for Japanese markets) Front wheels : 0.44 ± 0.01 Mpa Front wheels & Rear wheels : 0.44 ± 0.01 Mpa	Standard: Shown at left Measured value: Center left inside () MPa) Center right inside () MPa)			
	BS VKT (Standard for other markets than Japan) Front wheels : 0.44 ± 0.01 Mpa Front wheels & Rear wheels : 0.44 ± 0.01 Mpa	Standard: Shown at left Measured value: Rear left outside () MPa) Rear right outside () MPa)			

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Form No GEN00041-03
