PART NO. KM8TJG-E-01

HITACHI

Service Manual

AH500-D

Articulated Dump Truck

Serial No.AH500-D 001954 and up

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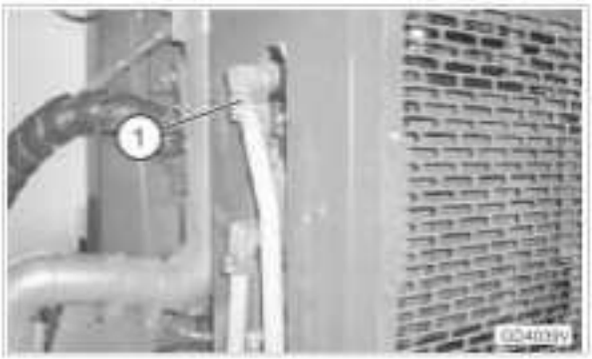
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Symptom	Problem	Solution
Shift Selector Displays **N** (Neutral) and Machine Will Not Move.	Transmission harness connector disconnected.	Reconnect harness connector.
	Electrical failure.	See **"Service Code Diagnostics -Transmission Control Unit (TCU)".**
	TCU failed.	Replace TCU **(See "Remove and Install Transmission Control Unit").**
	Transmission shift control failed.	Replace transmission shift control.
Transmission Will Not Shift to Forward or Reverse (Stays in Neutral).	Transmission harness disconnected.	Connect harness.
	Transmission oil level low.	Add transmission oil.
	Accelerator pedal failed.	Replace accelerator pedal **(See "Remove, Install, and Calibrate Accelerator Pedal Position Sensor").**
	TCU input voltage too low.	Reset circuit breaker.
	Transmission shift control failed.	Replace transmission shift control.
	TCU failed.	Replace TCU **(See "Remove and Install Transmission Control Unit").**
Transmission Not Shifting Properly (Rough Shifts, Shifting at Too Low or Too High Speed).	Engine slow idle speed too high.	Calibrate accelerator pedal **(See Remove, Install and Calibrate Accelerator Pedal Position Sensor in CHAPTER 3, SECTION 4 in this manual).**
	Accelerator pedal mis-calibrated.	Calibrate accelerator pedal **(See Remove, Install and Calibrate Accelerator Pedal Position Sensor in CHAPTER 3, SECTION 4 in this manual).**
	Transmission ratio calibration incorrect.	See **"Service Code Diagnostics -Transmission Control Unit (TCU)".**
	TCU voltage too low or too high.	Check charging system voltage and circuit breakers.
	Transmission oil level low.	Adjust oil level.

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TRANSMISSION OIL COOLER RESTRICTION TEST

Remove the cover to expose the hydraulic pipes.



Disconnect transmission cooler out line (1) and install flow meter.

Start machine and warm transmission to specification temperature (See specification).

Operate engine at fast idle and read flow at specified pressure.

If flow rate is less than specification, the cooler is restricted.

Transmission Oil Cooler Restriction Specification

Transmission Oil Temperature . . 88° C (190° F).

Engine Speed: Fast Idle . . . . 2240 ± 20 r.p.m.

Cooler Flow: Flow-Rate . 215 l/min (57 gal/min).

Specified Test Pressure
Pressure . . . . . 276 kPa {2.8 bar (40 psi)}

Equipment and Tools

Flow Test Kit . . . . . JT05418.

Digital Hydraulic Tester . . . . . JT07148.

The transmission oil cooler restriction test allows the technician to diagnose a restricted transmission oil cooler.

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Electrical		
Symptom	**Possible Cause**	**Remedy**
Left turn indicator does not work.	Bulb defective. Loose or broken connection.	Change the bulb. Tighten or repair the connections.
Windscreen wiper does not work.	Circuit breaker tripped. Wiper switch defective. Loose or broken connections.	Reset the circuit breaker. Change the switch. Tighten or repair the connections.

Rear Frame and Cab Trouble Shooting		
Symptom	**Possible Cause**	**Remedy**
Excessive cab movement while machine is operating.	Loose or missing mounting bolt(s) or rubbers.	Tighten or replace the mounting bolts and/or rubbers.
A smear remains on the windscreen when the windscreen wiper is in operation.	Wiper blade damaged. Oil or grease on the windscreen.	Replace the wiper blade. Clean the windscreen.
Seat is difficult to adjust.	Obstruction in the seat runner. Lack of lubricant.	Remove the obstruction. Lubricate the seat runners.
Excessive movement of the wing mirrors while machine is operating.	Loose or missing retaining bolts.	Tighten or replace the retaining bolts.
Wing mirror difficult to view.	Damaged wing mirror arm. Incorrect adjustment. Wing mirror damaged.	Replace wing mirror arm. Adjust as necessary. Replace the wing mirror.

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OEU PIN LAYOUT OEU - Output Extension Unit J1 - BROWN (32 PIN) J2 - BROWN (48 PIN) J3 - BLUE (32 PIN)						
PIN NUMBER	TYPE OF INPUT/OUTPUT	CONROLLER FUNCTION	VEHICLE FUNCTION	RANGE	COMMENTS	MICRO PIN
J2 - L1	Battery Power	28 V Battery (KL30)	28 V Battery (KL30)	FUSE 3		Vcc / Vss
J2 - M1	Ignition Power	28V Ignition (KL15)	28V Ignition (KL15)	FUSE 22		-
J2 - L2	Power Ground	Ground (KL31)	Ground(KL31)	GROUND		-
J2 - M2	Power Ground	Ground (KL31)	Ground (KL31)	GROUND		-
J2 - A1	CANH	CAN High	CAN High	250KB		-
J2 - B1	CANL	CAN Low	CAN Low	250KB		-
J3 - H3	VP1 - Valve pwr & digital (sw 8)			FUSE 24		-
J3 - H4	VP1 - Valve pwr & digital (sw 8)			FUSE 24		-
J3 - H1	VP1 Ground			GROUND		-
J3 - H2	VP1 Ground			GROUND		-
J3 - G1	VP2 - Valve pwr & digital (sw 9)			FUSE 23		-
J3 - G2	VP2 - Valve pwr & digital (sw 9)			FUSE 23		-
J1 - G3	VP3 - Valve pwr & digital (sw 10)			FUSE 18		-
J1 - G4	VP3 - Valve pwr & digital (sw 10)			FUSE 18		-
J2 - L3	VP4 - Valve pwr & digital (sw 11)			FUSE 20		-
J2 - M3	VP4 - Valve pwr & digital (sw 11)			FUSE 20		-
J2 - L4	VP5 - Valve pwr & digital (sw 12)			FUSE 21		-
J2 - M4	VP5 - Valve pwr & digital (sw 12)			FUSE 21		-

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Inspect breather for clogging, damage and proper installation. If necessary, remove clogged breathers from machine and clean with water. Dry thoroughly before re-installing. Replace damaged and breathers that can not be unclogged. Tighten to specification.

AXLE BREATHERS

Raise bin and install bin prop.

Front Axle



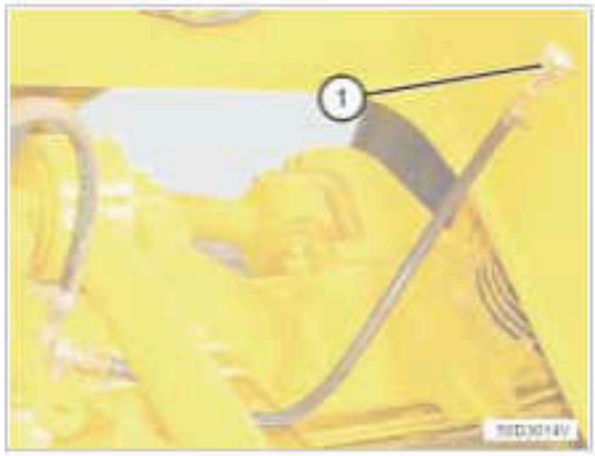
Located on the inner wall of the front chassis on the fight hand side.

Middle Axle



Middle axle breather located on the rear chassis next to the bin prop.

Rear Axle



Clean dirt and debris away from breathers (1) and surrounding areas.

Inspect breather for clogging, damage and proper installation. If necessary, remove clogged breathers from machine and clean with water. Dry thoroughly before re-installing. Replace damaged and breathers that can not be unclogged. Tighten to specification.

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