Manual No.:KM-8TJ-E
Vol. No. :T8TJ-E-01

AH500-D Articulated Dump Truck Operation and Tests

TECHNICAL MANUAL
AH500-D Articulated Dump

HITACHI

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Stop engine. Install relay socket array.

If specified voltages exist at terminals (1,2, and 5) and ground exists at terminal 3, but voltage at terminal (4) is not to specification, replace retarder voltage regulator.

Transmission Speed Sensors Test

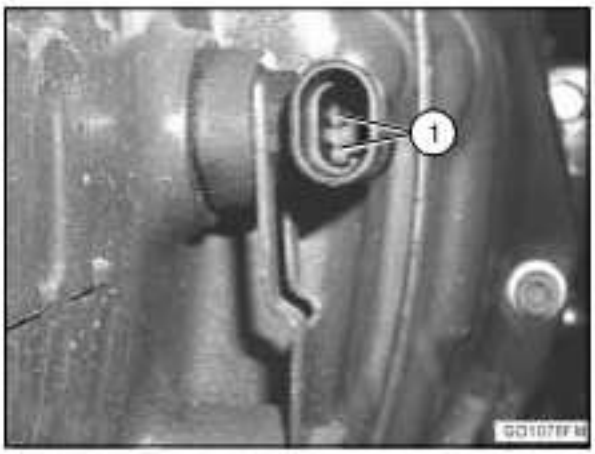
Specifications

Transmission Temperature at 40°C (–40°F) Resistance ---------- 200 Ohms.

Transmission Temperature at 20°C (68°F) Resistance ---------- 300 Ohms.

Transmission Temperature at 110°C (230°F Resistance ---------- 400 Ohms.

Disconnect speed sensor connector.



Measure resistance across sensor terminals (1).

Replace sensor if not within specification.

Transmission Solenoids Test

Disconnect transmission control module connector (X223). **See "Transmission Control Harness" on page 84.**

Measure resistance of each solenoid across appropriate terminals.

Specification

Transmission Temperature at 20°C (4°F) - Resistance ---------- 2.50 - 2.90 Ohms/

Transmission Temperature at 0°C (32°F) - Resistance ---------- 2.75 - 3.20 Ohms.

Transmission Temperature at 20°C (68°F) - Resistance 2.95 - 3.50 Ohms.

Transmission Temperature at 40°C (104°F) - Resistance ---------- 3.20 - 3.75 Ohms.

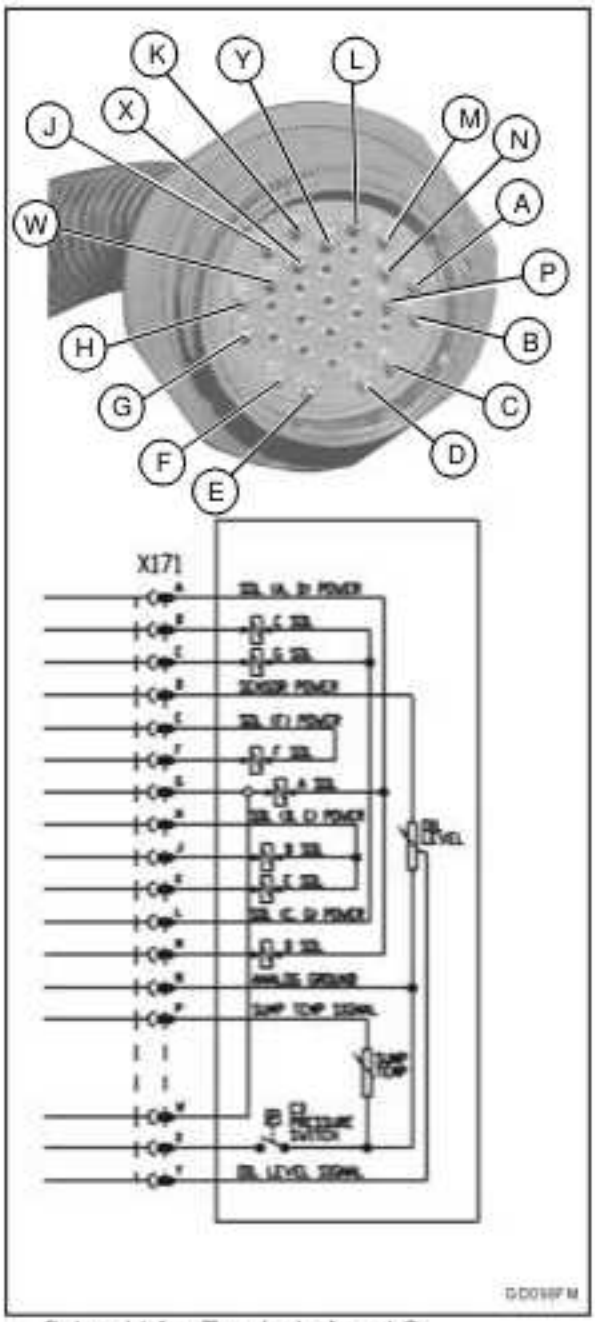
Transmission Temperature at 60°C (140°F) Resistance ---------- 3.45 - 4.00 Ohms.

Transmission Temperature at 80°C (176°F) - Resistance ---------- 3.70 - 4.25 Ohms.

Transmission Temperature at 100°C (212°F) Resistance ---------- 3.90 - 4.50 Ohms.

Transmission Temperature at 120°C (248°F) - Resistance ----------4.20 - 4.75 hms.

Transmission Temperature at 140°C (284°F) - Resistance ---------- 4.45 - 5.05 Ohms,



- Solenoid A = Terminals A and G
- Solenoid B = Terminals H and J
- Solenoid C = Terminals B and L
- Solenoid D = Terminals A and M
- Solenoid E = Terminals H and K
- Solenoid F = Terminals E and F
- Solenoid G = Terminals C and L

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Transmission		
Symptom	**Possible Cause**	**Remedy**
Low clutch pressure.	Low oil level.	Refill transmission. Refer to **Chapter 1, Specifications - Recommended Lubricants and Coolant Additives Chart.**
Low converter charging pump output.	Low oil level.	Refill transmission. Refer to **Chapter 1, Specifications - Recommended Lubricants and Coolant Additives Chart.**
	Suction screen blocked.	Clean the suction screen.
Overheating.	Low oil level.	Refill transmission. Refer to **Chapter 1, Specifications - Recommended Lubricants and Coolant Additives Chart.**

Axles		
Symptom	**Possible Cause**	**Remedy**
Final drive leaking oil.	Loose or damaged oil plugs.	Tighten or replace the oil plugs.
	Oil level too high.	Drain oil to the correct level.
	Final drive bolts loose.	Tighten the final drive bolts to the correct torque.
	Axle breather blocked.	Clean the axle breather.
	Wet Disc Brake oil leaking past hub seal into final drive (AH400-D only).	Replace hub seal. Refer to ***HITACHI PRODUCT*** Support.
Noisy final drive.	Low oil level in the final drive.	Refill the final drive. Refer to **Chapter 1, Specifications - Recommended Lubricants and Coolant Additives Chart.**
Final drive overheating.	Oil level too high.	Drain oil to the correct level.
	Oil level too low.	Refill the final drive. Refer to **Chapter 1, Specifications - Recommended Lubricants and Coolant Additives Chart.**
Differential assembly leaking oil.	Bolts loose on main housing.	Tighten bolts to the correct torque.

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Main Code	Sub-code	Definition of Error Code	Possible Cause	Remedy
44	13	Short-to-ground B Solenoid Circuit.	Connectors loose or damaged.	Repair or replace.
			Harness damaged.	Repair or replace.
			Damaged internal harness.	Repair or replace.
			Damaged solenoid.	Replace.
			Faulty TCU.	Replace.
44	14	Short-to-ground C Solenoid Circuit.	Connectors loose or damaged.	Repair or replace.
			Harness damaged.	Repair or replace.
			Damaged internal harness.	Repair or replace.
			Damaged solenoid.	Replace.
			Faulty TCU.	Replace.
44	15	Short-to-ground D Solenoid Circuit.	Connectors loose or damaged.	Repair or replace.
			Harness damaged.	Repair or replace.
			Damaged internal harness.	Repair or replace.
			Damaged solenoid.	Replace.
			Faulty TCU.	Replace.
44	16	Short-to-ground E Solenoid Circuit.	Connectors loose or damaged.	Repair or replace.
			Harness damaged.	Repair or replace.
			Damaged internal harness.	Repair or replace.
			Damaged solenoid.	Replace.
			Faulty TCU.	Replace.

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