ISUZU

INDUSTRIAL DIESEL ENGINE

A-4JG1 MODEL

WORKSHOP MANUAL

ISUZU MOTORS LIMITED

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SECTION 1

GENERAL INFORMATION

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SECTION 2

MAINTENANCE

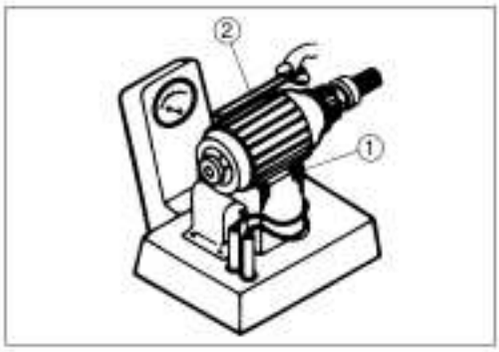
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INSPECTION AND REPAIR

Make the necessary adjustments, repairs, and part replacements if excessive wear or damage is discovered during inspection.



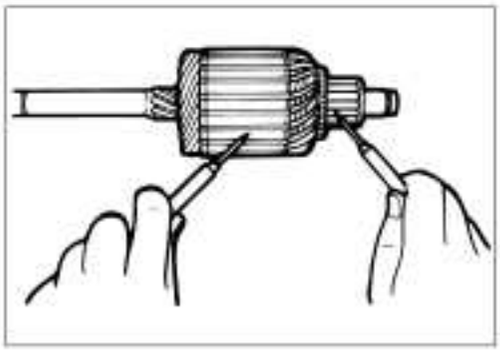
ARMATURE

Armature Short Circuit Test

1. Place the armature on a growler tester ①.
2. Hold a hack saw blade ② against the armature core while slowly rotating the armature.

   If the armature is short circuited, the hack saw blade will vibrate and will be attracted to the armature core.

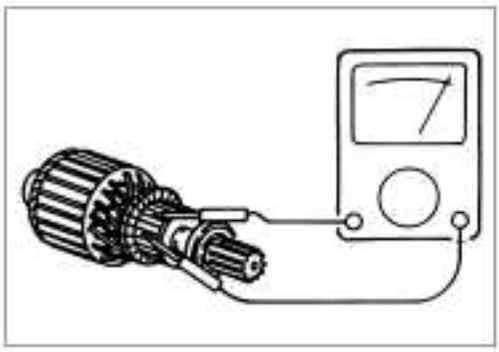
   A short circuited armature must be replaced.



Armature Winding Ground Test

Check for continuity across the commutator segments and the core.

If there is continuity, the armature is internally grounded due to insulation failure and must be replaced.



Armature Winding Continuity Test

Check for continuity across the commutator segment.

If there is no continuity, the armature coil is open and must be replaced.

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TROUBLESHOOTING

Refer to this Section to quickly diagnose and repair engine problems.

Each troubleshooting chart has three headings arranged from left to right.

(1) Checkpoint (2) Trouble Cause (3) Countermeasure

This Section is divided into ten sub-sections:

1. Hard Starting
   1) Starter inoperative
   2) Starter operates but engine does not turn over
   3) Engine turns over but does not start
2. Unstable Idling
3. Insufficient Power
4. Excessive Fuel Consumption
5. Excessive Oil Consumption
6. Overheating
7. White Exhaust Smoke
8. Dark Exhaust Smoke
9. Oil Pressure Does Not Rise
10. Abnormal Engine Noise

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Major Category	Name of Part	Inspection Item	Nominal Dimension	Assembly Standard Value	Limit	Repair Procedure	Comments
Cooling System	Water pump	Water pump ball bearing chatter (radial direction)			0.2 (0.0079)	Replace	
		Pumping rate L/min (pumping speed 3000 rpm, water temp 30°C (86°F) Total head 60 kPa or more)		100			
		Clearance between pump impeller and pump body mm		0.3 – 1.3 (0.0118 – 0.0512)		Repair or replace if impeller and pump body are touching	
		Fan belt deflection mm(in)		8 – 12 (0.31 – 0.47)		Adjust	(Reference) 10 kgf (22.0 lb/98N) each
		Initial thermostat operating temperature (at sea level)	82°C (180°F)	80 – 84°C (176 – 183°F)			Replace thermostat if operation is incorrect.
		Thermostat full-open temperature (at sea level)		95°C (203°F)		Temperature at whic thermostat lift reaches 8mm(0.315in) or more.	
Fuel System	Piping, etc.	Clogged, cracked, loose fuel pipes, injection pipes, nozzle holders; defective seals.				Repair or replace	
		Fuel filter element clogging or damage				Replace	Cartridge type

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