ISUZU

INDUSTRIAL DIESEL ENGINE

AU-4LE2
BV-4LE2
MODEL

WORKSHOP MANUAL

ISUZU MOTORS LIMITED

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General Information

General Information

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Engine

4LE2 Engine Mechanical

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Engine

4LE2 Cooling System

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Water pump

Item to be checked		Standard value	Service limit	Repairing procedure	Remarks
Play of the water pump ball bearing (radius direction)		0.008 — 0.010 {0.00031 — 0.00040}	0.2 {0.008}	Replace.	
Discharge amount (L/min)	Pump speed: 2,800 rpm Coolant temperature is normal. Full pressure: 0.035 MPa {3.5 m·Aq}	70			4LE2N
	Pump speed: 1,900 rpm Coolant temperature is normal. Full pressure: 0.045 MPa {4.5 m·Aq}	61			4LE2X
Deflection of the fan belt	With two belts: (approx. 98 N {22 lb})	Approx. 7.5 — 8.5 mm {0.295 — 0.335 in}			
	With one belt: (approx. 98 N {22 lb})	Approx. 5.5 — 6.0 mm {0.217 — 0.236 in}			Generator 30A model
		Approx. 8.0 — 10.0 mm {0.315 — 0.394 in}			Generator 50A model
Thermostat working start temperature (at barometric pressure)		82°C {180°F}			Replace the thermostat if its working is incomplete.
Thermostat full-open temperature (at barometric pressure)		95°C {203°F}		The temperature when thermostat lift amount is 8.0 mm {0.315 in} or more	

Fuel feed pump

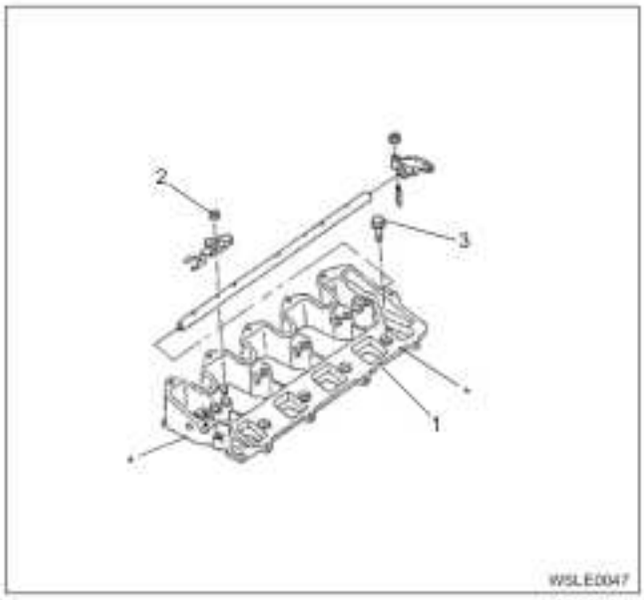
Item to be checked		Standard value	Service limit	Repairing procedure	Remarks
Discharge amount (L/min)	At 28.4 kPa {4.1 psi}	1.35 or more		Repair or replace.	
	At 17.7 kPa {2.6 psi}	0.70 or more			
	At 13.7 kPa {2.0 psi}	1.41 or more			
Airtight (98.1 kPa {14.2 psi})		Be sure that there is no leakage.		Repair or replace when there is leakage.	

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Removal

1. Remove the EGR cooler.
   Refer to 1A-23, "Removal, Engine Exterior Equipment".
2. Remove the cylinder head cover.
   Refer to 1A-23, "Removal, Engine Exterior Equipment".
3. Remove the water pipe.
   Refer to 1A-23, "Removal, Engine Exterior Equipment".
4. Remove the rocker arm bracket ASM.
   (M6 × 1.0: 5 bolts, 6 nuts)

Note:
Since liquid gasket is used on the mating surface to the cylinder head, be careful not to damage the rocker arm bracket when removing it.
* With screws for replacer (M8 × 1.25)



Name
1. Rocker Arm Bracket
2. Nut
3. Bolt

5. Pull out the eight push rods.

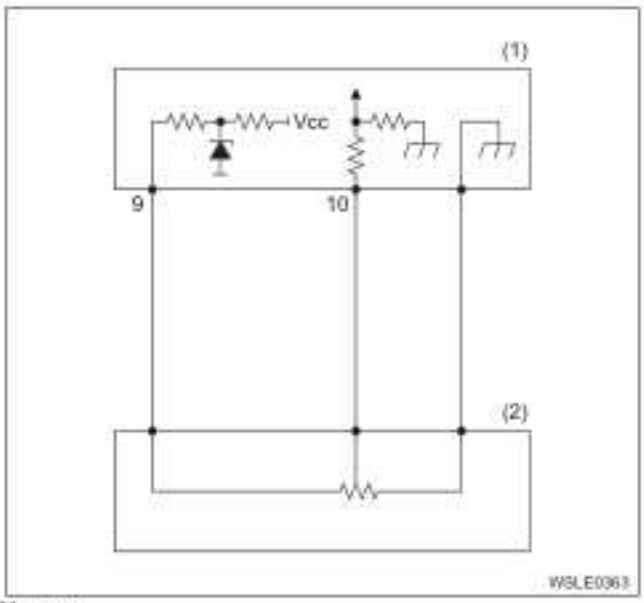
Disassembly

1. Remove plug of the rocker arm shaft.
2. Pull out the rocker arm shaft backward.

CAUTION:
When reinstalling the rocker arm, prepare tags written down the cylinder numbers and symbols to distinguish "intake" and "exhaust", to avoid installing the improper position.

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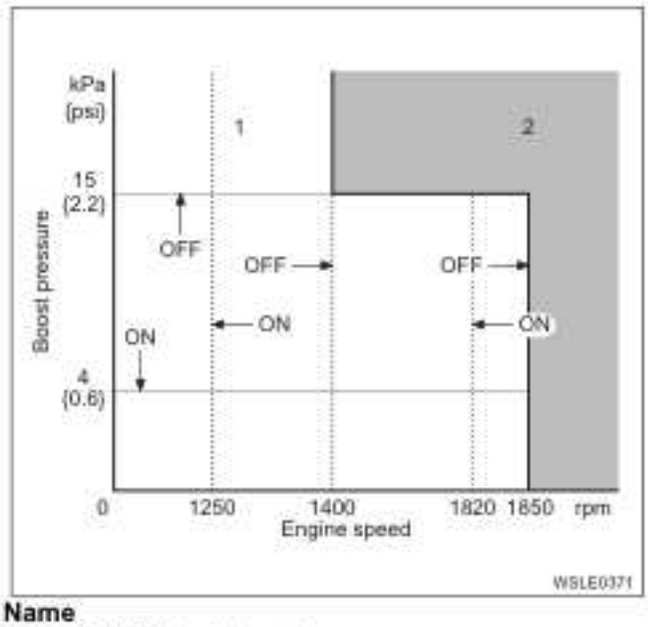
Boost Pressure Sensor Circuit Diagram



Name

1. EGR Cut Controller
2. Boost Pressure Sensor

Engine Speed and Boost Pressure Control



Name

1. EGR Valve Closed
2. EGR Valve Open

Engine Coolant Temperature Control

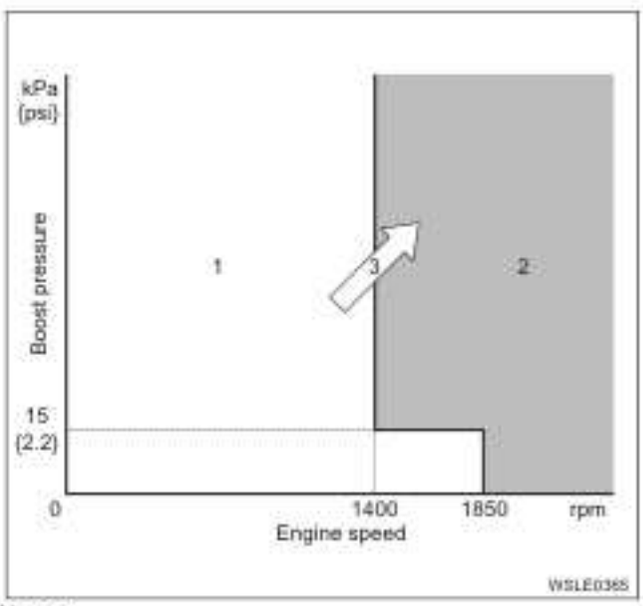
The EGR valve is opened when the engine coolant temperature becomes 60°C {140°F} or more, and is closed when 55°C {131°F} or less.

Control When the Sensor Has an Open Circuit

The following sensors perform backup control when they have an open circuit. In this case, EGR valve operates according to other normal sensors.

Sensor	Backup control when open circuit occurs
Engine coolant temperature sensor	Control as the engine coolant temperature is 60°C {140°F} or more.
Tachosensor	Control as the engine speed is between 1,400 and 1,850 rpm.
Boost pressure sensor	Control as the boost pressure is 15 kPa {2.2 psi} or more.

When the engine speed and boost pressure increase



Name

1. EGR Valve Closed
2. EGR Valve Open
3. Engine Speed and Boost Pressure Increase

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