

Telephone:
Fax:
VAT Registration No.:

Name:		Manufacturer:	Isuzu
Address:		Model:	
		Year:	
		Registration:	
Tel - Private:		Mileage:	
Tel - Business:		Job number:	

Vehicle identification				
Notes			Specified value	Measured value
	No. of cylinders	Type	4/OHC	
	Capacity (Fiscal)	cc	2559 (2536)	
	Compression ratio	:1	8,3	
	Suitable for unleaded petrol		Yes	
	Minimum octane rating	RON	95	
	Ignition system	Type	TSZ-i	
	Ignition system	Description	Map-i	
	Trigger location		Distributor	
	Fuel system	Make	Isuzu	
	Fuel System	Type	I-TEC	
	Fuel System	Description	MFI-i	
	Air metering	Type	Mass	
	Combined ignition and fuel ECM		Yes	
	Diagnostic socket		Yes	
Ignition system				
Notes			Specified value	Measured value
	Ignition coil supply voltage	+ with ballast V	11,0	
	Primary resistance	Ohm	0,9	
	Firing order		1-3-4-2	
	Contact breaker gap/trigger air gap	mm	0,2-0,4	
Tuning and emissions				
Notes			Specified value	Measured value
1	Tuning conditions			
	Ignition timing	o = without + = with vacuum	+	
	Ignition timing - basic BTDC	°Engine/rpm	12/900	

Manufacturer: Isuzu
Engine code: 4ZE1
Tuned for: +R-Cat

Model: Trooper 2,6
Output: 85 (115) 5000
Year: 1988-92

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Ignition advance checks	Engine/rpm	ECM Controlled	
Idle speed	rpm	900±50	
Oil temperature for CO test	°C	60 R-Cat=80	
CO level at idle speed - tailpipe	Vol. % CO	2,5±0,5 Not adjustable	
CO level at idle speed - tailpipe (Cat)	Vol. % CO	0,5 Max	
HC level at idle speed	ppm	300	
HC level at idle - alternative	ppm	Cat=100	
CO2 level at idle speed	Vol. % CO2	13-16	
O2 level at idle speed	Vol. % O2	0,5-2,0	

Spark plugs

Notes			Specified value	Measured value
Spark plugs	Original equipment	NGK		
Spark plug	Type	BPR6E-VG		
Electrode gap	mm	0,7		
Spark plugs	Make	Autolite		
Spark plug	Type	APP63		
Electrode gap	mm	1,0		
Spark plugs	Make	Bosch		
Spark plug	Type	WR7DCX		
Electrode gap	mm	1,1		
Spark plugs	Make	Champion		
Spark plug	Type	RN8YC		
Electrode gap	mm	0,6		
Spark plugs	Make	NGK		
Spark plug	Type	BPR6E-VG		
Electrode gap	mm	0,7		

Fuel system

Notes			Specified value	Measured value
System pressure without vacuum	bar	3,0		
Regulated pressure with vacuum	bar	2,5		
Engine coolant temperature (ECT) sensor	Ohm/°C	200-400/80		
Injector	Ohm	2-3		

Service checks and adjustments

Notes			Specified value	Measured value
Valve clearance -INLET	mm	0,20 hot		
Valve clearance -EXHAUST	mm	0,20 hot		
Compression pressure	bar	11,7		
Oil pressure	bar/rpm	4,0-5,0/4000		
Radiator cap	bar	1,0		
Thermostat opens	°C	76,5		
Drive belt tension - alternator/PAS/AC	mm	15		

Lubricants and capacities

Notes			Specified value	Measured value
Engine oil grade - cold climate	SAE	10W/30		
Engine oil grade - moderate climate	SAE	10W/40		
Engine oil grade - hot climate	SAE	20W/50		
Engine oil classification	API/ACEA	SG/A2-96		
Engine oil grade - alternative - moderate climate	SAE	15W/40		

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Engine oil classification - alternative - moderate climate	API/ACEA	SAE/AZ-90	
Engine with filter	litres	5,0	
Gearbox oil grade	SAE	10W/30	
Gearbox 4/5 speed	litres	2,95	
Automatic transmission fluid	Type	Dexron II	
Automatic transmission (drain & refill)	litres	4,5	
Differential front/AT	litres	1,5	
Differential oil grade - rear	SAE	80W/90	
Differential rear	litres	1,8	
Cooling system	litres	9,8	
Brake fluid	Type	DOT 3/4	
Power steering fluid	Type	Dexron III	

Tightening torques

Notes		Specified value	Measured value
	Cylinder head instructions		

Cylinder head

	Renew bolts	No	
Stage 1	Tighten	40 Nm	
Stage 2	Tighten	80 Nm	
Stage 3	Tighten	88-108 Nm	

Other tightening torques

	Main bearings	Renew bolts/nuts	No	
	Main bearings	Stage 1	41 Nm	
	Main bearings	Stage 2	83-113 Nm	
	Big end bearings	Renew bolts/nuts	No	
	Big end bearings	Stage 1	28 Nm	
	Big end bearings	Stage 2	57-61 Nm	
	Oil pump to cylinder block		19 Nm	
	Sump bolts		18 Nm	
	Flywheel/driveplate		54-64 Nm	
	Clutch to flywheel		16-20 Nm	
	Crankshaft pulley/damper		120 Nm	
	Camshaft sprocket/gear		60 Nm	
9	Camshaft carrier/cap			
	Camshaft/rocker cover		10 Nm	
	Inlet manifold to cylinder head		19 Nm	
	Exhaust manifold to cylinder head		19 Nm	
	Spark plugs		14-24 Nm	
	Brake caliper to carrier	Front	32 Nm	
	Brake caliper carrier to hub	Front	155 Nm	
	Brake caliper to carrier	Rear	20 Nm	
	Brake caliper carrier to hub	Rear	105 Nm	
3	Road wheels			

Starting and charging

Notes		Specified value	Measured value
	Battery	V/RC(Ah)	12/110 (65)
	Starter motor	Type	1,0 kW
	Maximum cranking amps	A	176-215

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	Alternator output at engine speed	R/v/rpm	35/12/2500	
	Voltage regulator	Type	I.C.	
	Regulated voltage	V	14,2-14,8	
Brake disc and drum dimensions				
Notes			Specified value	Measured value
	Minimum disc thickness - ventilated	Front	20,6 mm	
	Minimum disc thickness	Rear	10,6 mm	
	Disc thickness variation	Front	0,015 mm	
	Disc thickness variation	Rear	0,015 mm	
	Disc runout	Front	0,13 mm	
	Disc runout	Rear	0,13 mm	
	Maximum drum diameter	Rear	255,5 mm	
	Minimum pad thickness	Front	1 mm	
	Minimum pad thickness	Rear	1 mm	
	Minimum shoe thickness	Rear	1 mm	
	Handbrake travel	No. of notches	12-14	
Air conditioning				
Notes			Specified value	Measured value
	Air conditioning refrigerant	Type	R12	
	Air conditioning refrigerant quantity	grams	850-950	
	Air conditioning oil	Type	Freol DS-83P	
	Air conditioning oil quantity	cm ³	150	

Autodata Note 1

Idle speed

Disconnect pressure regulator VSV connector Fig. 64055.

Autodata Note 9

Camshaft carrier bolts

Nuts = 22 Nm

Bolts = 8 Nm.

Autodata Note 3

Road wheels

Steel wheels = 78-118 Nm

Alloy wheels = 118-127 Nm.

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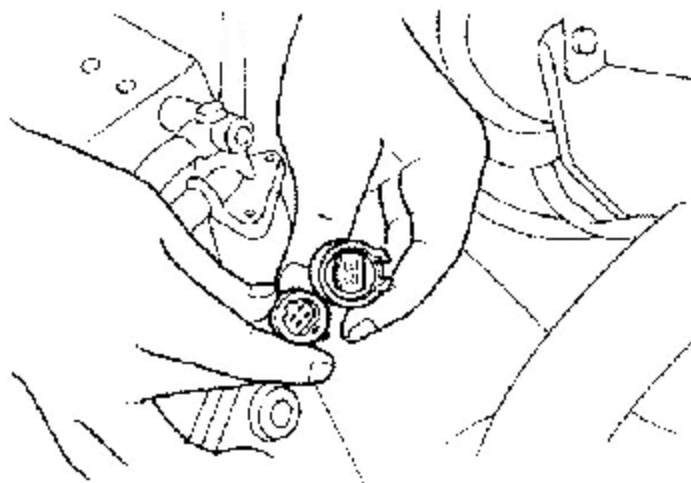
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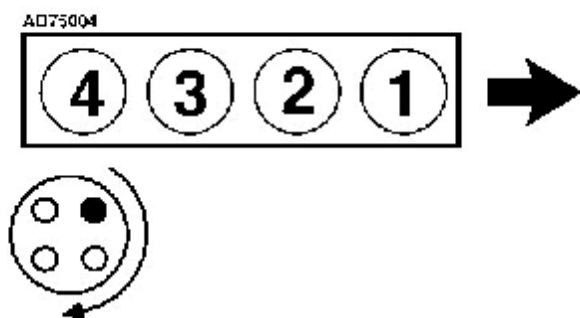
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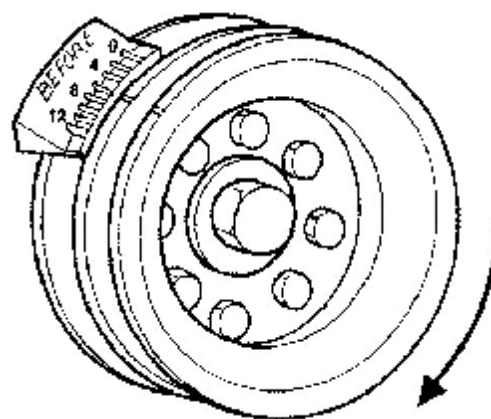
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Cylinder layout



Timing mark

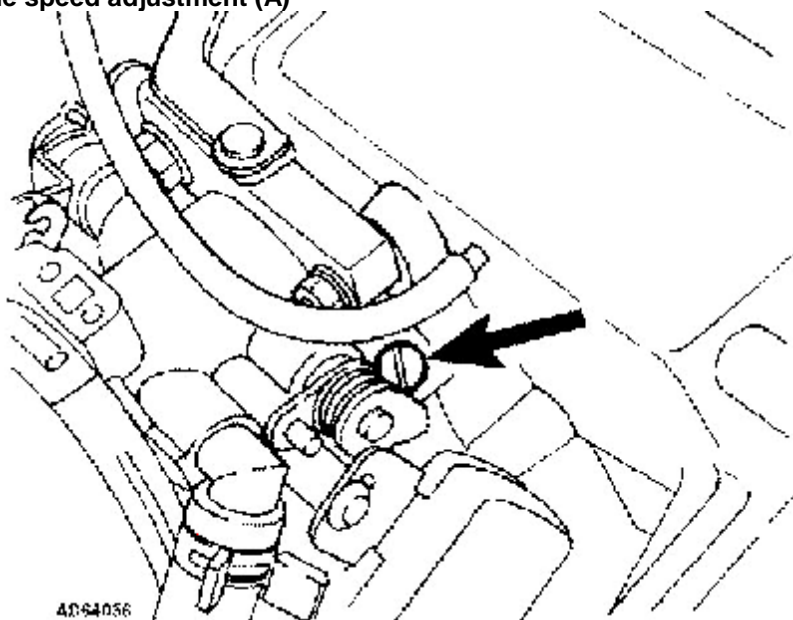


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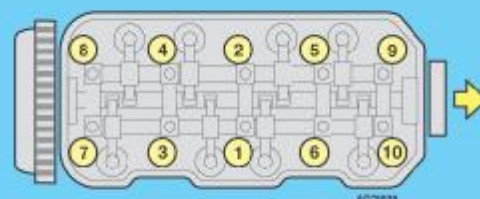
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Idle speed adjustment (A)



4D64056

Tightening sequence



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