

2003 Isuzu Ascender

2003 ENGINE PERFORMANCE Service & Adjustment Specifications

2003 ENGINE PERFORMANCE

Service & Adjustment Specifications

INTRODUCTION

Use this article to quickly find specifications related to servicing and on-vehicle adjustments. This is a quick-reference article to use when you are familiar with an adjustment procedure and only need a specification.

CAPACITIES

FLUID CAPACITIES

Application	Qts. (Lts.)
Automatic Transmission ⁽²⁾ ⁽⁴⁾	9.1 (8.6)
Ascender	
Complete Overhaul	11 (10.6)
Filter/Pan Removal	5.0 (4.7)
Cooling System (Includes Heater)	
Axiom	11.7 (11.1)
Ascender	
4.2L	13.9 (13.1)
5.3L	14.4 (13.7)
Rodeo & Rodeo Sport	
2.2L	
A/T	7.4 (7.0)
M/T	7.3 (6.9)
3.2L	
A/T	11.1 (10.5)
M/T	11.2 (10.6)
Crankcase (Includes Filter) ⁽¹⁾	
Axiom	5.0 (4.7)
Ascender	
4.2L	7.0 (6.6)
5.3L	6.0 (5.7)
Rodeo & Rodeo Sport	
2.2L	4.8 (4.5)
3.2L	5.0 (4.7)
Differential ⁽³⁾	
Ascender	
Front Axle	.85 (0.8)
Rear Axle	2.0 (1.9)

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Axiom	
Front Axle	1.3 (1.2)
Rear Axle	1.9 (1.8)
Rodeo & Rodeo Sport	
Front Axle	
2.2L	1.10 (1.05)
3.2L	1.33 (1.25)
Rear Axle	1.87 (1.77)
Manual Transmission	
Rodeo & Rodeo Sport	
T5R 4X2 ⁽²⁾	3.1 (3.0)
MUA 4X4 ⁽¹⁾	3.1 (3.0)
Transfer Case	
Axiom ⁽²⁾	1.4 (1.35)
Ascender	2.0 (1.8)
Rodeo & Rodeo Sport	1.35 (1.3)
<p>(1) Use SF or higher rated engine oil with a viscosity index that is appropriate for your region and climate.</p> <p>(2) Use Dexron III ATF.</p> <p>(3) On standard differentials, use SAE 80W-90/API GL-5 gear oil. On limited slip differentials, use SAE 80W-90/API GL-5 gear oil rated for limited slip axles.</p> <p>(4) All models except Ascender</p>	

QUICK-SERVICE

SERVICE INTERVALS & SPECIFICATIONS

REPLACEMENT INTERVALS

Component	⁽¹⁾ Miles
Air Filter	
Normal Service	30,000
Severe Service	⁽²⁾ 15,000
Coolant	30,000
Engine Oil & Filter	
Severe Service	3000
Normal Service	7500
Spark Plugs	100,000
Spark Plug Wires	⁽³⁾ 60,000
Automatic Transmission Fluid	

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Normal Service	
Ascender	100,000
Axiom	120,000
Rodeo & Rodeo Sport ⁽⁴⁾	
2.2L	30,000
3.2L	120,000
Severe Service (All)	
Manual Transmission Fluid	(5)
Transfer Case Fluid (4WD)	(5)
Front Differential Fluid (4WD)	(5)
Rear Differential Fluid	(5)
Repack Front Wheel Bearings (2WD)	60,000
Replace Timing Belt ⁽⁶⁾	
Normal Service	
4-Cylinder Engines	75,000
V6 Engines	100,000
Severe Service	
4-Cylinder Engines	60,000
V6 Engines	75,000
Replace Power Steering Fluid	
Severe Service	30,000
Rotate Tires	7,500
<p>(1) Different interval is required for normal and severe service. Severe service is described as trailer towing, off-highway operation, snow removal operation, or operating in dusty or excessively hot conditions.</p> <p>(2) Inspect air filter every 15,000 miles and replace as necessary. Replace at 30,000 miles unless previously replaced during inspection.</p> <p>(3) 2.2L motor only.</p> <p>(4) Use scan tool to check for transmission fluid useful life left. When reading gets below 5 percent, change fluid.</p> <p>(5) Replace fluid at 15,000 miles and 30,000 miles. Afterwards, replace fluid every 30,000 miles.</p> <p>(6) Inspect water pump (where applicable).</p>	

VALVE CLEARANCE ADJUSTMENT INTERVALS

Application	Miles
2.2L	(1)
3.2L	(2)
3.5L	(2)

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- (1) Hydraulic lash adjusters are used. No adjustment is required.
- (2) Check for valve train noise and adjust as necessary.

BELT ADJUSTMENT

All models incorporate serpentine accessory drive belt. Automatic tensioner is used. No adjustment is required.

MECHANICAL CHECKS

ENGINE COMPRESSION

COMPRESSION SPECIFICATIONS

Application	Specification (psi)
Compression Pressure ⁽¹⁾ ⁽²⁾	
2.2L	(3)
3.2L	200 psi (14 kg/cm ²)
3.5L	200 psi (14 kg/cm ²)
4.2L	215 psi (15.1 kg/cm ²)
5.3L	(3)
Compression Pressure (Minimum)	
2.2L	(3)
3.2L	145 psi (10.2 kg/cm ²)
3.5L	145 psi (10.2 kg/cm ²)
4.2L	145 psi (10.2 kg/cm ²)
5.3L	(3)
(1) Measured at 300 RPM.	
(2) Maximum difference between cylinders 14.5 psi (100 kPa).	
(3) Information not available from manufacturer.	

VALVE CLEARANCE

VALVE CLEARANCE SPECIFICATIONS

Application	⁽¹⁾ In. (mm)
2.2L	(2)
3.2L & 3.5L	
Intake	0.11 (0.28)
Exhaust	0.12 (0.30)
4.2L	

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Intake	0.0011-0.0025 (0.030-0.065)
Exhaust	0.0015-0.0030 (0.037-0.077)
5.3L	(2)

(1) Adjust valve clearance with engine cold.
(2) Hydraulic lash adjusters are used. No adjustment is required.

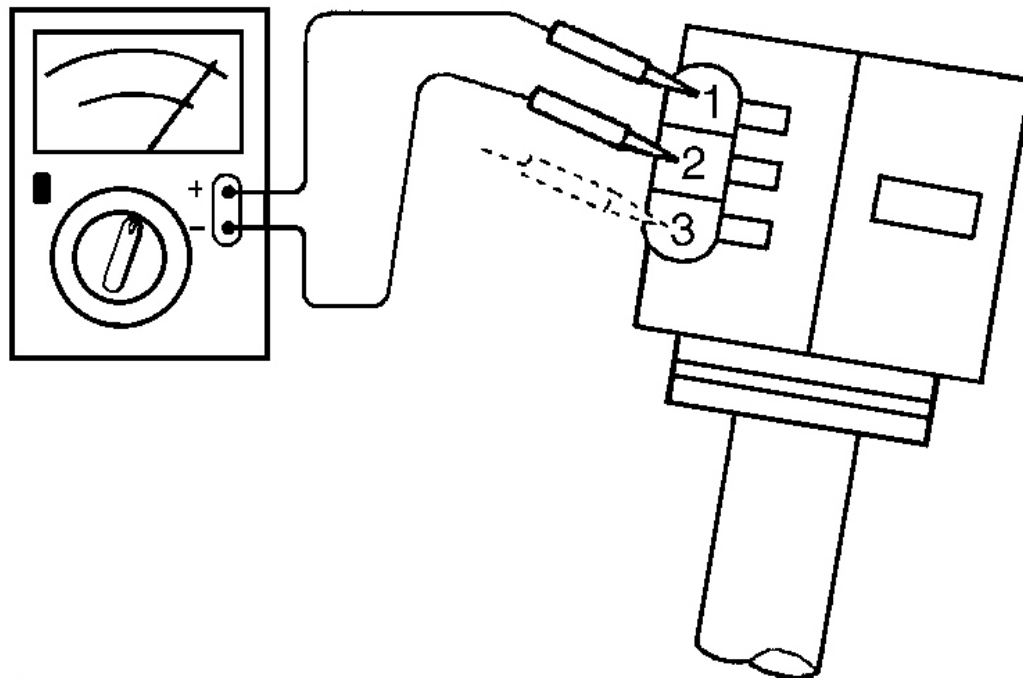
IGNITION SYSTEM

IGNITION COIL

IGNITION COIL RESISTANCE - Ohms @ 68°F (20°C)

Application	Primary	Secondary
2.2L & 5.3L	(1)	(1)
3.2L	(2)	(2)
3.5L	(2)	(2)

(1) Information is not available from manufacturer.
(2) Use DVOM to measure resistance between terminals No. 1-2, 1-3 and 2-3. See **Fig. 1**. If resistance reading between any two terminals is 0 ohms (shorted) or infinity (open), replace ignition coil assembly.



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Fig. 1: Identifying Ignition Coil Terminals (3.2L & 3.5L)
 Courtesy of ISUZU MOTOR CO.

HIGH TENSION WIRE RESISTANCE

HIGH TENSION WIRE RESISTANCE - Ohms @ 68°F (20°C)

Application	Resistance
2.2L	(1)
3.2L & 3.5L	(2)

(1) Information not available from manufacturer.
 (2) All V6 engines use individual ignition coils mounted on top of spark plugs.

SPARK PLUGS

SPARK PLUG TYPE (2.2L, 3.2L & 3.5L)

Application	Specification (NGK)
2.2L, 3.2L & 3.5L	K16PR-P11/PK16PR11/RC10PYP4

SPARK PLUG TYPE (4.2L & 5.3L)

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Application	Specification (AC)
4.2L & 5.3L	AC - 41965

SPARK PLUG SPECIFICATIONS

Application	Gap - in. (mm)	Torque - Ft. Lbs (N.m)
Rodeo		
2.2L & 3.2L	.04 (1.05)	13 (18)
Axiom		
3.5L	.0394-.0433 (1.0-1.1)	13 (18)
Ascender		
4.2L	.044-.050 (1.14-1.25)	13 (18)
5.3L	.06 (1.524)	11 (15)

IGNITION TIMING

NOTE: All models are equipped with electronic computer-controlled ignition system. Ignition timing is not adjustable.

FIRING ORDER

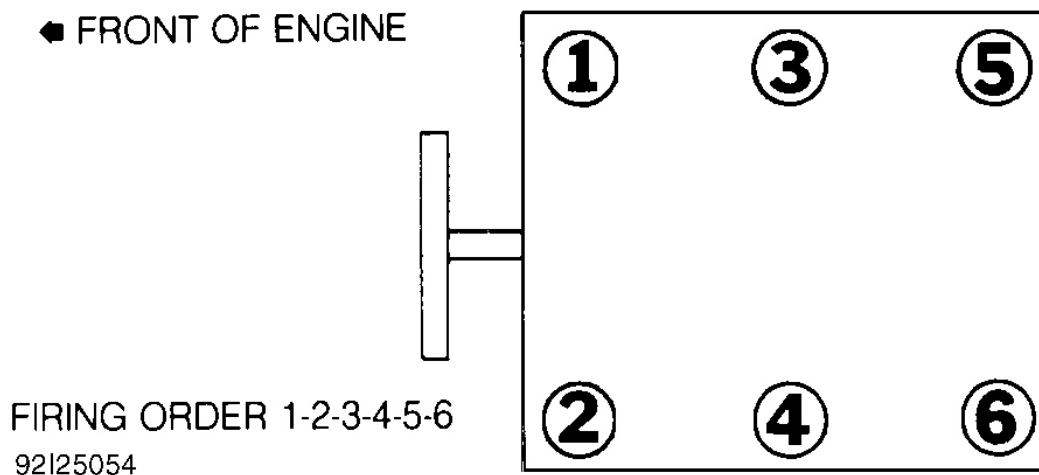


Fig. 2: Firing Order (3.2L & 3.5L)

Courtesy of AMERICAN HONDA MOTOR CO., INC.

FIRING ORDER SPECIFICATIONS

Application	Firing Order

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Rodeo & Rodeo Sport	
2.2L	1-3-4-2
3.2L	1-2-3-4-5-6
Ascender	
4.2L	1-5-3-6-2-4
5.3L	1-8-7-2-6-5-4-3
Axiom	
3.5L	1-2-3-4-5-6

FUEL SYSTEM

FUEL PUMP

FUEL PUMP PRESSURE

Application	Pressure psi (kg/cm ²)
2.2L, 3.2L & 3.5L	42-55 (3.3-3.9)
4.2L & 5.3L	55-62 (3.9-4.3)

INJECTOR RESISTANCE

INJECTOR RESISTANCE

Application ⁽¹⁾	Ohms
2.2L, 3.2L & 3.5L	11.8-12.6
4.2L & 5.3L	11-14

(1) For proper fuel injector test procedure, see **FUEL INJECTOR COIL TEST** in SYSTEM & COMPONENT TESTING article.

IDLE SPEED

IDLE SPEED SPECIFICATIONS

Application ⁽¹⁾	RPM
2.2L, 3.2L & 3.5L	750
4.2L & 5.3L	(2)

(1) Idle speed is controlled by PCM and is not adjustable.
(2) Information not available from manufacturer.

THROTTLE POSITION SENSOR

NOTE: See **THROTTLE POSITION SENSOR OR THROTTLE SWITCH** in ON-VEHICLE ADJUSTMENTS article for throttle position sensor/switch adjustment

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procedures.