

# 1981 Isuzu 4 Tune-Up

## TUNE-UP

I-Mark Pickup

### ENGINE IDENTIFICATION

Engine serial number is stamped on pad between distributor and cylinder head.

Application	Engine Code	Code
1817 cc .....		G180Z

### COMPRESSION PRESSURE

Test compression with engine at normal operating temperature, spark plugs removed, throttle valve wide open and engine at cranking speed (300 RPM).

#### Compression Pressure Specifications

Application	Pressure psi (kg/cm <sup>2</sup> )
Normal (New Engine) .....	170 (12)
Minimum .....	120 (8.4)
Maximum Variation .....	9 (0.6)

### VALVE CLEARANCE

**NOTE** — Before adjusting valve clearance, check torque of cylinder head and camshaft bolts. Valves should be adjusted every 15,000 miles with engine cold.

1) Measure valve clearance between rocker arm and valve stem. Position No. 1 piston on TDC of compression stroke. Adjust intake valves on cylinder No. 1 and 2, and exhaust valves on cylinder No. 1 and 3.

2) Turn crankshaft 1 full revolution until No. 4 piston is at TDC of compression stroke. Adjust intake valves on cylinder No. 3 and 4, and exhaust valves on cylinder No. 2 and 4.

#### Valve Clearance Specifications<sup>①</sup>

Application	Intake In. (mm)	Exhaust In. (mm)
All Models		
Cold .....	.006 (.15)	.010 (.25)
Hot .....	.008 (.20)	.012 (.30)

① — Set with engine cold.

### VALVE ARRANGEMENT

All Models  
Right Side — Intake  
Left Side — Exhaust

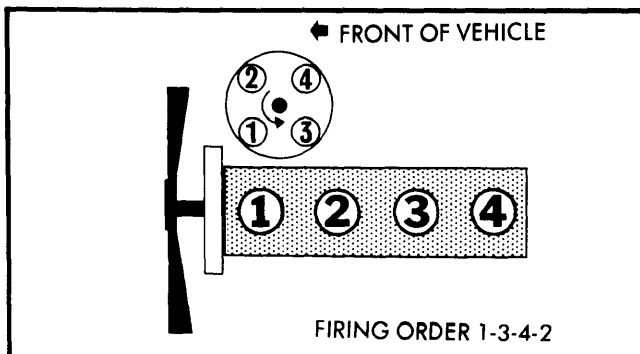


Fig. 1 Firing Order and Distributor Rotation

### SPARK PLUGS

Application	Gap In. (mm)	Torque Ft. Lbs. (N·m)
All Models .....	.040 (1.0)	18-25 (24-34)

#### Spark Plug Type

Application	NGK
All Models .....	BPR6ES11

### HIGH TENSION WIRE RESISTANCE

Carefully remove high tension wire from spark plugs and from distributor cap. Using an ohmmeter, check resistance of wire while gently twisting wire. If resistance is not to specifications, or fluctuates from infinity to any value, replace wire.

#### Resistance (Ohms)

Application	Resistance
All Models .....	31,500-73,500 per foot

### DISTRIBUTOR

All models are equipped with Nippondenso electronic ignition system. No adjustments are required.

Air Gap .....

### IGNITION TIMING

1) Ensure engine is warmed to normal operating temperature, and that air gap in distributor is correct.

2) Connect timing light to either No. 1 or No. 4 cylinder. Disconnect and plug distributor vacuum advance line.

3) Loosen distributor clamping bolts and turn distributor until timing is within specifications.

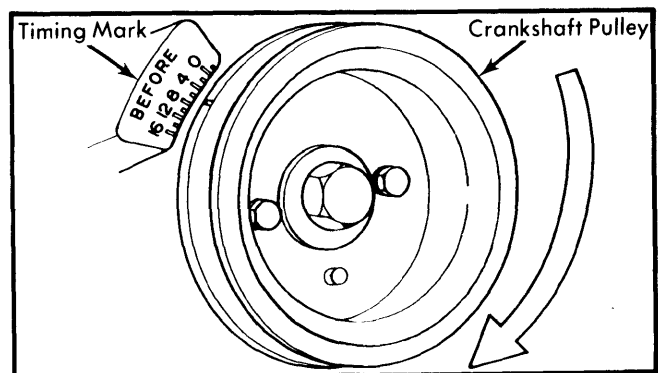


Fig. 2 Ignition Timing Mark Location

#### Ignition Timing Specifications (Degrees BTDC @ RPM)

Application	①Timing
I-Mark Man. Trans. ....	6@800
Federal Pickup Man. Trans. ....	6@800
All Other Models .....	6@900

① — Distributor vacuum hose disconnected and plugged.

## TUNE-UP (Cont.)

### IDLE SPEED & MIXTURE

**NOTE** — Mixture adjustment is NOT a part of normal tune-up procedure and should not be performed unless carburetor is replaced or vehicle fails emissions testing.

- 1) Warm engine to normal operating temperature. Check valve clearance and ignition timing. Choke should be open, air conditioning off and air cleaner installed.
- 2) Disconnect and plug vacuum lines for distributor, hot idle compensator and EGR valve.
- 3) Turn idle mixture adjusting screw fully in, then back out 2 turns (Federal pickup) or 1 turn (all others). Set throttle adjusting screw to obtain specified mixture RPM.
- 4) Adjust idle mixture screw to obtain maximum RPM, then reset throttle adjusting screw to achieve specified mixture RPM. Turn idle mixture screw clockwise until speed drops to specified curb idle.
- 5) If equipped with air conditioner, turn on to maximum cooling and high blower. Open throttle slightly to allow solenoid to extend, then close throttle. Adjust solenoid screw to give 850-950 RPM idle.

#### Idle Speed & Mixture Adjustment

Application	Idle RPM	Mixture RPM
I-Mark		
Man. Trans. ....	800	850
Auto. Trans. ....	900	950
Pickup		
Fed. Man. Trans. ....	800	850
All Other Models ....	900	950

### COLD (FAST) IDLE RPM

Automatic choke fast idle is adjusted by opening angle of throttle valve on carburetor, rather than by engine speed. Adjust valve opening at 1st step of fast idle cam to 15-17° on Man. Trans. models or 16-18° on Auto. Trans. models.

Disconnect and plug distributor, hot idle compensator and EGR valve vacuum hoses after engine warm-up. Fast idle speed should be as follows:

#### Fast Idle Specifications

Application	Engine RPM
All Models .....	3200

### AUTOMATIC CHOKE

Automatic choke is set from factory and is non-adjustable.

### FUEL PUMP PRESSURE

Pressure ..... 2.4-3.3 psi (.17-.23 kg/cm<sup>2</sup>)

### EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

## GENERAL SERVICING

### IGNITION

#### DISTRIBUTOR

All models are equipped with a Nippondenso electronic distributor.

#### IGNITION COIL

##### Coil Resistance (Ohms @ 68°F)

Application	Primary	Secondary
All Models .....	1.13-1.53	10,200-13,800

### FUEL SYSTEMS

#### CARBURETORS

Application	Model
All Models .....	Hitachi DCH 340 2 Bbl.

### ELECTRICAL

#### BATTERY

Application	Amp. Hr. Rating
All Models .....	50

**Battery Location** — Engine compartment, left side of engine.

#### STARTER

Hitachi ..... Overrunning Clutch

#### Starter Specifications

Application	Volts	Amps	Test RPM
All Models .....	12	70	6000

#### ALTERNATOR

Application	Rated Amp. Output
All Models .....	40 or 50

#### ALTERNATOR REGULATOR

All models utilize a Hitachi adjustable alternator regulator with an operating voltage of 13.8-14.8 volts.

# 1981 Isuzu 4 Tune-Up

## GENERAL SERVICING (Cont.)

### BELT ADJUSTMENT

Application	①Deflection
All Belts .....	.4" (10 mm)

① — Measured between longest span and depressed with firm thumb pressure.

### FILTERS

Filter	Service Interval (Miles)
Oil Filter .....	①Replace every 15,000
Air Filter .....	Replace every 30,000
Fuel Filter .....	Replace every 30,000
PCV Valve .....	Replace every 15,000

① — First change after 7500 miles.

### CAPACITIES

Application	Quantity
Crankcase .....	①3.8 qts.
Cooling System	
Man. Trans. ....	6.8 qts.
Auto. Trans. ....	6.4 qts.
Auto. Trans. (Dexron II) .....	7.0 qts.
Man. Trans. (SAE 30)	
4-Spd. ....	2.7 pts.
5-Spd.	
I-Mark .....	3.3 pts.
Pickup .....	2.7 pts.
Front Axle (SAE 90) .....	1.7 pts.
Rear Axle (SAE 90) .....	2.7 pts.
Transfer Case (SAE 30) .....	5.2 pts.
Fuel Tank	
Pickup (Long Bed) .....	19.1 gals.
All Other Models .....	13.2 gals.

① — 3.4 quarts without filter.