

# 1974-79 TUNE-UP PROCEDURES

## Datsun 6-Cylinder

**260Z, 280Z, 280ZX, 810**

### ENGINE IDENTIFICATION

Engine serial number is stamped on right rear side of cylinder block, at cylinder head contact surface. Serial number is preceded by engine code.

#### ENGINE CODES

Application	Code
260Z .....	L26
280Z .....	L28
280ZX .....	L28
810 .....	L24

### MODEL IDENTIFICATION

#### VEHICLE IDENTIFICATION NUMBER

Vehicle Identification Number is stamped on a plate attached to instrument panel and is visible through windshield from outside of vehicle.

### ENGINE COMPRESSION

Check compression with engine at normal operating temperature, spark plugs removed, throttle and choke open, and engine at cranking speed (300-400 RPM). Lowest reading cylinder must be at least 80% of highest reading cylinder.

#### COMPRESSION SPECIFICATIONS

Application	Min. Pressure psi (kg/cm <sup>2</sup> )	Max. Pressure psi (kg/cm <sup>2</sup> )
1974-78		
260Z .....	171 (12)	185 (13)
280Z .....	164 (11.5)	178 (12.5)
810 .....	164 (11.5)	185 (13)
1979		
280ZX .....	128 (9)	171 (12)
810 .....	128 (9)	171 (12)

### VALVE CLEARANCE

Adjust valves with engine off and at normal operating temperature. Insert feeler gauge between heel of cam and pivot arm from valve side of head. Use Wrench (ST1064001) to loosen pivot locking nut and a second wrench to turn pivot adjuster until specified clearance is obtained. Tighten locking nut and recheck clearance.

#### VALVE CLEARANCE SPECIFICATIONS

Application	Intake In. (mm)	Exhaust In. (mm)
All Models .....	.010	.012

### VALVE ARRANGEMENT

E-I-I-E-I-E-E-I-E-I-I-E - Front-to-rear.

### SPARK PLUGS

#### SPARK PLUG SPECIFICATIONS

Application	Specification
Gap .....	1.039-.043" (1.0-1.1 mm)
Torque .....	11-14 ft. lbs. (15-19 N.m)

1 - Set gap to .028-.031" (.7-8 mm) on 1974-1976 models.

#### SPARK PLUG TYPE

Application	NGK No.
All Models .....	B6ES-11

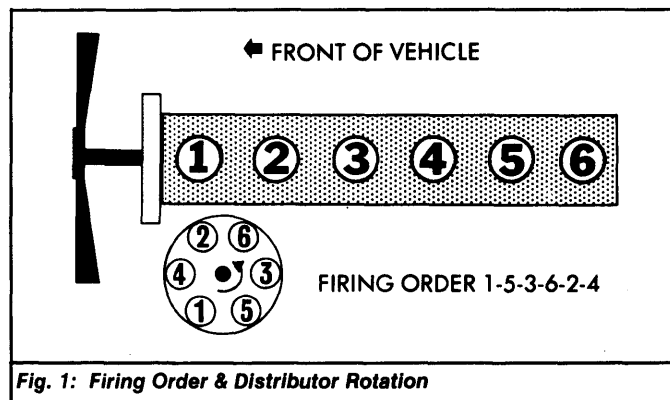


Fig. 1: Firing Order & Distributor Rotation

### HIGH TENSION WIRE RESISTANCE

Remove distributor cap from distributor but DO NOT disconnect high tension wires from cap. Disconnect high tension wires from spark plugs. Using an ohmmeter, check resistance from contact at spark plug end of wires to contact inside of distributor cap. Resistance should be less than 30,000 ohms. If resistance is more, disconnect wire from cap and recheck resistance. Replace wire if resistance still exceeds specifications.

### DISTRIBUTOR

All models use Hitachi electronic ignition system. Measure air gap using a non-magnetic feeler gauge. Air gap should be .012-.016" (.3-.4 mm) on all models. If air gap is incorrect, loosen pick-up coil screws and adjust. On dual pick-up distributors, adjust both gaps equally.

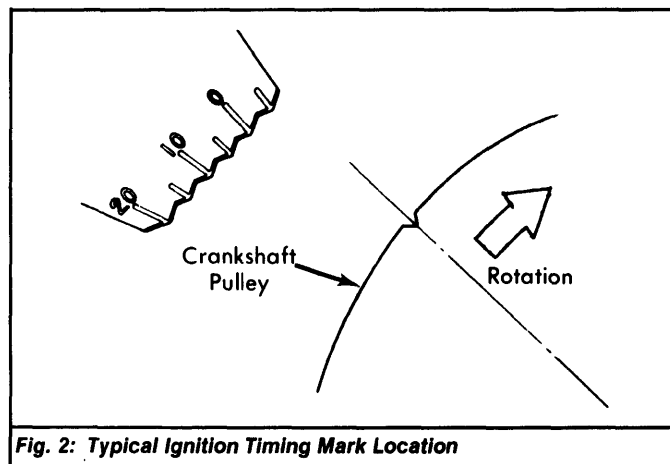


Fig. 2: Typical Ignition Timing Mark Location

### IGNITION TIMING

1) With engine at normal operating temperature, connect a timing light and tachometer to engine. Check air gap and idle speed and adjust to specifications if necessary.

2) With transmission in Neutral (automatic transmission in Drive), adjust ignition timing by loosening set screw and rotating distributor until timing is set to specifications. After adjustment, tighten set screw and recheck timing.

**NOTE: On dual pick-up distributors, set timing to retard specification. On 1974 automatic transmission equipped models, check retard timing by disconnecting coolant temperature switch and shorting out plug. Advance specification setting is necessary only when adjusting phase difference.**

# 1974-79 TUNE-UP PROCEDURES

## Datsun 6-Cylinder (Cont.)

### 1974 IGNITION TIMING SPECIFICATIONS

Application	Timing
Man. Trans. ....	8°BTDC
Auto. Trans. ....	8°BTDC
Retard .....	8°BTDC
Advance .....	15°BTDC

<sup>1</sup> - Used only when adjusting phase difference.

### 1975-77 IGNITION TIMING SPECIFICATIONS

Application	Timing
Calif. ....	10°BTDC
Federal .....	7°BTDC
Retard .....	7°BTDC
Advance .....	13°BTDC

<sup>1</sup> - Used only when adjusting phase difference.

### 1978-79 IGNITION TIMING SPECIFICATIONS <sup>1</sup>

Application	Timing
280Z .....	10°BTDC
810 .....	10°BTDC
Federal .....	8°BTDC
Calif. ....	10°BTDC

<sup>1</sup> - Set to 10°BTDC on all 1979 models.

## IDLE SPEED & MIXTURE

**NOTE:** Air-fuel mixture is not adjustable on 1974-76 models.

**1974 Models** - 1) Warm engine to normal operating temperature. Ensure air cleaner is removed and that oil level in piston dampers of carburetors are correct. Also make sure that carburetor suction pistons do not bind in suction chambers. Connect tachometer and exhaust gas analyzer to vehicle.

2) On manual transmission equipped models, loosen airflow balance and throttle opener adjusting screws completely. Connect servo diaphragm of throttle opener directly to intake manifold, by-passing vacuum control valve.

3) On automatic transmission equipped models, set idle speed to specification with transmission in Neutral. Place transmission in Drive and check that idle speed drops to specification.

4) On all models, adjust engine speed to 1400 RPM. Using a carburetor air flow synchronizer, balance flow of air through both carburetors. Install air cleaner.

5) With engine running at 1400 RPM, disconnect check valve inlet hose and plug check valve. Adjust CO% level to 1-1.2 percent by turning idle mixture adjusting screw.

6) On manual transmission equipped models, disconnect servo diaphragm vacuum tube for a few seconds and reconnect. Engine idle speed should return to 1400 RPM each time. Repeat idle speed and mixture adjustment procedure if these result are not obtained.

7) On automatic transmission equipped models, back off fast idle screw and race engine several times and check that idle returns to specification each time. Repeat idle speed and mixture adjustment procedure if these result are not obtained.

8) On all models, reconnect throttle opener and hose to original positions. Also unplug and reconnect check valve. Measure CO% level at idle and make sure reading meets specifications.

### 1974 IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	<sup>1</sup> Idle RPM	<sup>2</sup> CO%
Man. Trans. ....	750	Below 2.7
Auto. Trans. ....	600	Below 2.7

<sup>1</sup> - Set at 1400 RPM during adjustment procedure.

<sup>2</sup> - Set CO% level to 1-1.2 percent during adjustment procedure.

**1975-76 Models** - With engine at normal operating temperature, check ignition timing and adjust as necessary. To adjust idle speed, place transmission in Neutral (automatic transmission in Drive) and turn idle speed screw until speed is set to specification. Idle mixture is not adjustable.

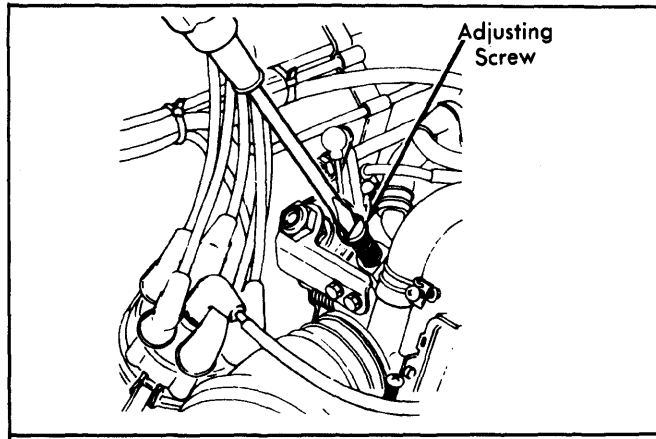


Fig. 3: Adjusting Idle Speed

**NOTE:** Connecting jumper wire between connector terminals signals the control unit of a full throttle condition which allows the idle mixture to run at full load enrichment. This step is necessary to richen the CO% level at idle enough to be read by the CO meter.

4) Remove plug covering air by-pass screw from airflow meter and restart engine. Turn air by-pass screw counterclockwise to lean mixture or clockwise to richen mixture.

5) Adjust CO% level to the specifications shown in applicable ENRICHED IDLE CO% LEVEL table according to the altitude at which vehicle is to be operated. Stop engine and remove jumper wire from throttle valve switch connector and reconnect harness to throttle valve switch.

6) Recheck idle speed and CO% level. See applicable IDLE SPEED & CO% LEVEL SPECIFICATIONS table. If idle speed and CO% level are incorrect, repeat adjustment procedure.

### 1975-76 IDLE SPEED SPECIFICATIONS

Application	Idle RPM
Man. Trans. ....	800
Auto. Trans. ....	700

**1977-79 Models** - 1) Warm engine to normal operating temperature. Connect tachometer to engine. Run engine at 2000 RPM for 2 minutes, then allow engine to return to idle. On 810 Federal models, disconnect hose from air induction pipe and cap off pipe.

2) If necessary, adjust idle speed by turning idle speed adjusting screw on throttle chamber. See Fig. 3. With idle speed correct, insert CO meter probe into exhaust pipe and measure CO% level. See applicable IDLE SPEED & CO% LEVEL SPECIFICATIONS table.

3) If CO% level is not as specified in table, turn ignition off. Disconnect Throttle Valve (TV) switch connector. Connect a jumper wire between harness connector terminals No. 3 and 18 (No. 24 and 30 on 1979 models). See Fig. 4.

### 1977 IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	Idle RPM	<sup>1</sup> CO%
280Z		
Man. Trans. ....	800	1.0 Max.
Auto. Trans. ....	700	1.0 Max.
810		
Man. Trans. ....	800	1.0 Max.
Auto. Trans. ....	700	1.0 Max.

<sup>1</sup> - Set California models to .5 percent maximum.

# 1974-79 TUNE-UP PROCEDURES

## Datsun 6-Cylinder (Cont.)

### 1978-79 IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	Idle RPM	CO%
<b>280Z &amp; 280ZX</b>		
Federal		
Man. Trans. ....	800	1.0 Max.
Auto. Trans. ....	700	1.0 Max.
California		
Man. Trans. ....	800	0.5 Max.
Auto. Trans. ....	700	0.5 Max.
<b>810</b>		
Federal		
Man. Trans. ....	700	1.2.0 Max.
Auto. Trans. ....	650	1.2.0 Max.
Calif.		
Man. Trans. ....	700	0.5 Max.
Auto. Trans. ....	650	0.5 Max.

<sup>1</sup> - With air induction system disconnected.

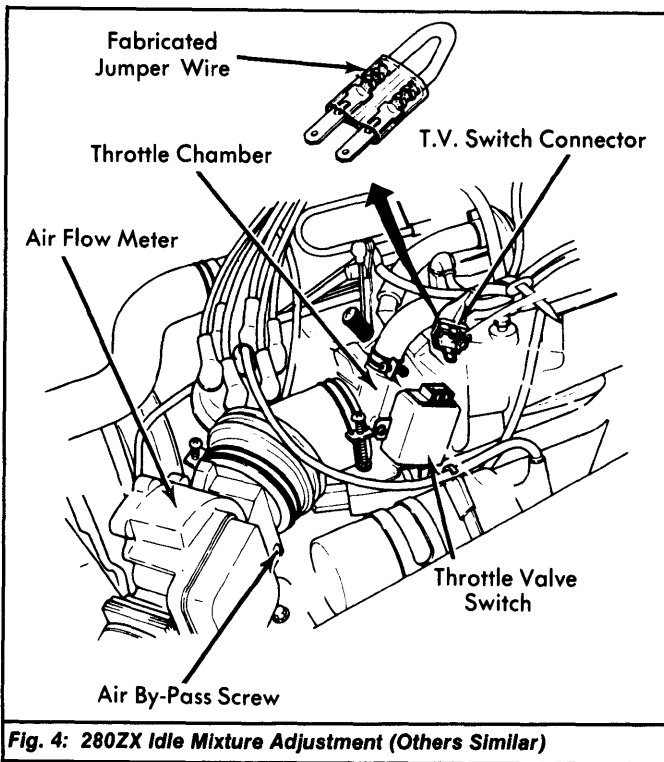


Fig. 4: 280ZX Idle Mixture Adjustment (Others Similar)

### 1977-78 ENRICHED IDLE CO% LEVEL

Altitude (Feet)	Idle CO%
0-2000	3.3
2000-4000	4.7
4000-6000	5.7
Above 6000	6.7

### 1979 ENRICHED IDLE CO% LEVEL

Altitude (Feet)	Fed. 810 Idle CO%	All Others Idle CO%
0-2000	6.2	3.3
2000-4000	7.6	4.7
4000-6000	8.6	5.7
Above 6000	9.5	6.7

### COLD (FAST) IDLE ADJUSTMENT

**1974 Models** - Place fast idle screw on first step of fast idle cam. Adjust fast idle speed screw to provide a clearance of .023-.025" (.59-.64 mm) between throttle blade and carburetor throat.

### DASHPOT ADJUSTMENT

**1975-79 Models** - With engine speed at 2000 RPM, clearance between idle set screw and throttle lever should be .075" (1.9 mm). Check that dashpot rod end touches throttle lever when rod is fully extended (or when no back pressure is present at diaphragm). If necessary, loosen lock nut and turn dashpot until rod just touches throttle lever, then tighten lock nut. See Fig. 5.

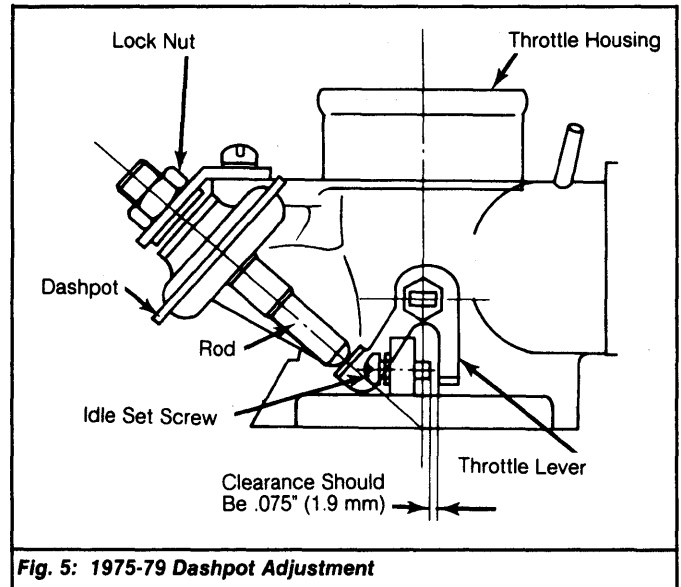


Fig. 5: 1975-79 Dashpot Adjustment

### FUEL PUMP

#### FUEL PUMP SPECIFICATIONS

Application	Specification
<b>1974</b>	
Pressure	4.6 psi (.32 kg/cm <sup>2</sup> )
Volume	1 pt. in 30 seconds
<b>1975-77</b>	
Pressure	43-64 psi (3.0-4.5 kg/cm <sup>2</sup> )
<b>1978-79</b>	
Pressure	36.3 psi (2.6 kg/cm <sup>2</sup> )

### EXHAUST EMISSION SYSTEMS

See appropriate articles in EXHAUST EMISSION SYSTEMS section.

### IGNITION SYSTEM

#### DISTRIBUTOR

All models are equipped with Hitachi electronic ignition system. **Other Data & Specifications** - See Hitachi Electronic Ignition System article in DISTRIBUTORS & IGNITION SYSTEMS section.

#### IGNITION COIL

##### IGNITION COIL SPECIFICATIONS

Application	Resistance (Ohms)
<b>1974-77</b>	
Primary	45-55
Secondary	8500-12,700
External Resistor	1.15-1.45
<b>1978-79</b>	
Primary	.84-1.02
Secondary	8200-12,400

# 1974-79 TUNE-UP PROCEDURES

## Datsun 6-Cylinder (Cont.)

### FUEL SYSTEMS

#### CARBURETORS

##### CARBURETORS

<b>Application</b>	<b>Model</b>
1974 260Z .....	Hitachi SU 1-Bbl.

**Other Data & Specifications** - See appropriate Hitachi Carburetor article in FUEL SYSTEMS section.

#### FUEL INJECTION

All 1975-79 models are equipped with Bosch AFC fuel injection system.

**Other Data & Specifications** - See Bosch AFC Fuel Injection System article in FUEL SYSTEMS section.