1974-79 TUNE-UP PROCEDURES
Chrysler Corp. 4-Cylinder

Arrow, Arrow Pickup, Challenger, Champ, Colt, D-50 Pickup, Sapporo

ENGINE IDENTIFICATION

Engine code is stamped on lower left, side of cylinder block, below starter.

ENGINE CODE

Application	Code
1974-77	
1600 cc	4G32
2000 cc	4G52
1978-79	
1400 cc	G12B
1600 cc	G32B
2000 cc	G52B
2600 cc	G54B

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

The Vehicle Identification Number is stamped on a plate riveted to left front corner of instrument panel and visible through windshield.

ENGINE COMPRESSION

Check compression pressure with engine at normal operating temperature, choke and throttle valves wide open and engine at cranking speed (250 RPM). Maximum variation between cylinders should not exceed 15 psi (1.1 kg/cm²).

COMPRESSION PRESSURE SPECIFICATIONS

Application	Pressure psi (kg/cm²)
All Models	149 (10.5)

VALVE CLEARANCE

Check or adjust valve clearance with engine off and at normal operating temperature. To adjust valves, loosen lock nut and turn adjusting screw until specified clearance is obtained.

NOTE: Jet valve clearance must be adjusted before adjusting intake valve clearance. Loosen intake valve adjusting screw at least 2 full turns before adjusting jet valve.

VALVE CLEARANCE

Application	Clearance In. (mm)
Jet	.006 (.15)
Intake	.006 (.15)
Exhaust	.010 (.25)

VALVE ARRANGEMENT

Right Side - All Exhaust.
Left Side - All Intake.

SPARK PLUGS

SPARK PLUG SPECIFICATIONS

Application	Specification
Gap	.039-.043" (1.0-1.1 mm)
Torque	14-21 ft. lbs. (19-28 N.m)

[1] - Set to .028-.031" (.7-.8 mm) on 1974-77 models.

SPARK PLUG TYPE

Application	NGK No.
1974-77	
1600 cc & 2000 cc	BPR-6ES
1978-79	
1600 cc & 2000 cc	BPR-6ES-11
2600 cc	BPR-5ES-11

HIGH TENSION WIRE RESISTANCE

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

HIGH TENSION WIRE RESISTANCE

Application	Resistance (Ohms)
All Models	25,000

DISTRIBUTOR

Engines use Mitsubishi single point distributors or Mitsubishi Electronic Ignition systems.

DISTRIBUTOR SPECIFICATIONS

Application	Specification
Point Gap	.018-.021" (.45-.55 mm)
Dwell Angle	49-55°
Breaker Arm Spring Tension	17-21 ozs. (482-595 g)
Condenser Capacity	.22 mfd.

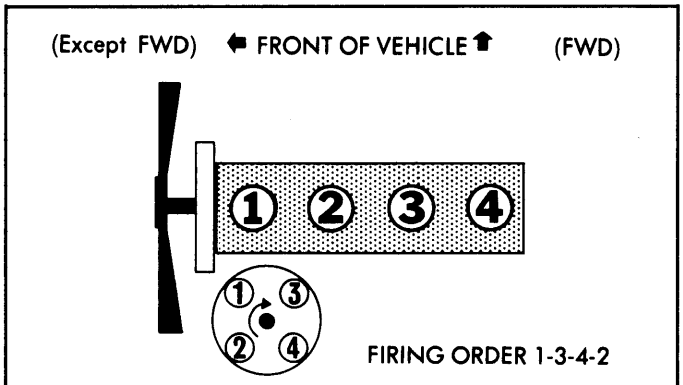

Fig. 1: Firing Order & Distributor Rotation

IGNITION TIMING

1974-75 - With engine at normal operating temperature, ensure point gap and idle speed are set to specification. Connect timing light to engine. Start engine. Use a Phillips screwdriver on timing adjuster and turn distributor as necessary to adjust ignition timing. *See Fig. 2.*

1976-78 - 1) With engine at normal operating temperature, ensure point gap and idle speed are set to specification. Connect timing light to engine. Remove rubber plug from retard side of distributor vacuum unit (dual diaphragm distributors).

2) Start engine. Use a Phillips screwdriver or loosen distributor nut and turn distributor as necessary to adjust base ignition timing. *See Fig. 2.* On models with dual diaphragm distributors, reinstall rubber plug and check actual ignition timing.

1979 - With engine at normal operating temperature, turn A/C and headlights off. Connect tachometer and timing light to engine. Loosen distributor nut and rotate distributor as necessary to adjust timing. Tighten mounting nut when timing is set to specification.

1974-79 TUNE-UP PROCEDURES
Chrysler Corp. 4-Cylinder (Cont.)

1974-75 IGNITION TIMING SPECIFICATIONS [1]

Application	Timing
1600 cc	[2] TDC
2000 cc	3°BTDC

[1] – Set all 1975 models to 5°ATDC.
[2] – Set to 3°BTDC on non-EGR automatic transmission equipped models.

1976 IGNITION TIMING SPECIFICATIONS

Application	Base Timing	Actual Timing
1600 cc	TDC	5°ATDC
2000 cc	3°BTDC	5°ATDC

1977 IGNITION TIMING SPECIFICATIONS

Application	Base Timing	Actual Timing
1600 cc		
Federal	4-6°BTDC	
Calif.	4-6°BTDC	0-8°ATDC
High Alt.	9-11°BTDC	TDC
2000 cc		
Federal	4-6°BTDC	
Calif.	4-6°BTDC	2-8°ATDC

1978 IGNITION TIMING SPECIFICATIONS

Application	Base Timing	Actual Timing
1600 cc		
Fed. & Calif.	4-6°BTDC	
High Alt.	9-11°BTDC	
2000 cc		
Fed. & Calif.	4-6°BTDC	
High Alt.	9-11°BTDC	
2600 cc		
Fed.	6-8°BTDC	
Calif.	6-8°BTDC	0-6°ATDC
High Alt.	11-13°BTDC	0-5°BTDC

1979 IGNITION TIMING SPECIFICATIONS

Application	Timing
1400 cc	4-6°BTDC
1600 cc	4-6°BTDC
2000 cc	4-6°BTDC
2600 cc	5-7°BTDC

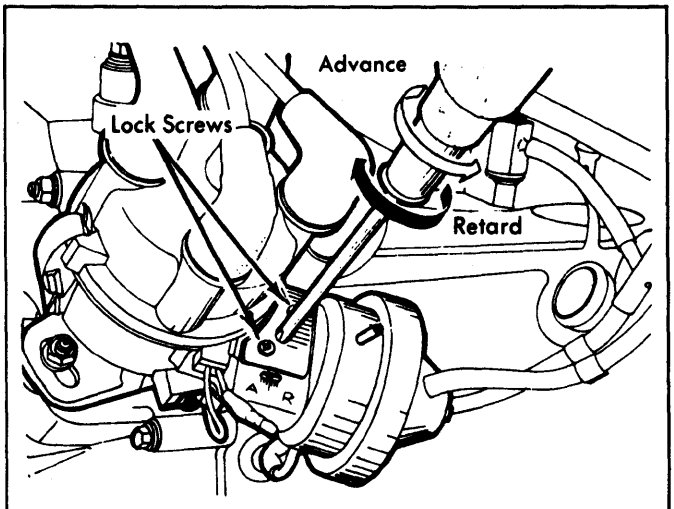

Fig. 2: Ignition Timing Adjustment

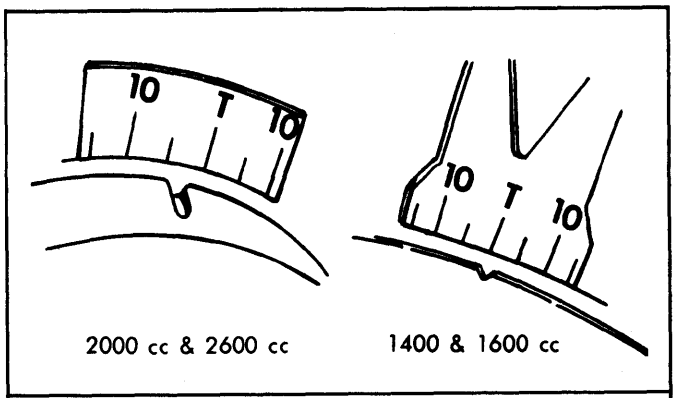

Fig. 3: Typical Ignition Timing Mark Locations

IDLE SPEED & MIXTURE

1974 – With engine at normal operating temperature, accelerate engine several times to 2500 RPM. Adjust idle speed by alternately turning curb idle (throttle stop) screw and idle mixture screw. Connect exhaust gas analyzer to vehicle and adjust idle speed to 800-900 RPM and CO% level to a minimum within the 3.0-4.5 percent range.

1975 – 1) With engine at normal operating temperature, disconnect electrical lead to air shut-off solenoid. Adjust solenoid de-energized RPM to specification by alternately turning curb idle (throttle stop) screw and idle mixture screw.

2) Adjust idle speed to reduce CO% level to a minimum within the 1.5-3.0 percent range. Connect electrical lead to air shut-off solenoid. Adjust solenoid energized RPM by turning curb idle (throttle stop) screw.

NOTE: When adjusting solenoid energized RPM on automatic transmission equipped models, remove plug from vacuum advance unit on distributor. Reinstall plug when adjustment is completed.

1975 IDLE SPEED SPECIFICATIONS

Application	Solenoid De-Energized RPM	Solenoid Energized RPM
Man. Trans.	900	1000
Auto. Trans.	800	900

1976-77 – 1) With engine at normal operating temperature, disconnect air hose from reed valve-to-air cleaner (at valve). Plug air inlet at reed valve. Adjust idle speed to specification.

2) Now set CO% level to leanest possible value within 0.5-2.0 percent range. Engine should not misfire. If misfiring occurs, increase CO% level. Reinstall air hose to reed valve and adjust idle to specified RPM with idle speed screw.

3) Increase engine speed to 2500 RPM 2-3 times, then allow engine to return to idle. If idle is incorrect, repeat adjustment procedure. Install limiter cap to idle mixture screw.

1976-77 IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	Idle RPM	CO%
Man. Trans.	900-1000	0.5-2.0
Auto. Trans.	800-900	0.5-2.0

1978-79 – 1) Run engine at idle until normal operating temperature is reached. Check ignition timing and adjust if necessary. Place transmission in Neutral and ensure that A/C is off.

2) Using idle speed adjusting screw, adjust idle to 80 RPM above specified idle speed. Using idle mixture screw, adjust mixture to obtain a CO% level of 1.0 percent.

3) Use idle speed adjusting screw to lower idle speed to specified RPM. Recheck idle CO% level. Reading should now be at specified level. If engine misfires or CO% level is incorrect, repeat procedure.

1974-79 TUNE-UP PROCEDURES
Chrysler Corp. 4-Cylinder (Cont.)

NOTE: On 1978-79 High Altitude models, ensure altitude compensator knob on carburetor is in correct position. Slot in knob should be vertical at altitudes above 4000 ft.; horizontal at altitudes below 4000 ft.

1978 IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	Idle RPM	[1] CO%
1600		
Man. Trans.	600-700	0.1 Max.
Auto. Trans.	650-750	0.1 Max.
2000		
Man. Trans.	600-700	0.1 Max.
Auto. Trans.	650-750	0.1 Max.
2600		
Man. Trans.	[1] 650-750	0.1 Max.
Auto. Trans.	700-800	0.1 Max.

[1] – Set to 800-900 RPM on Federal Arrow and Colt.

1979 IDLE SPEED & CO% LEVEL SPECIFICATIONS

Application	Idle RPM	[1] CO%
1400 cc	650-750	0.1 Max.
1600 cc		
Man. Trans.	600-700	0.1 Max.
Auto. Trans.	650-750	0.1 Max.
2000 cc		
Man. Trans.	600-700	0.1 Max.
Auto. Trans.	650-750	0.1 Max.
2600 cc	800-900	0.1 Max.

COLD (FAST) IDLE RPM

With choke valve fully closed, adjust fast idle adjusting screw to obtain specified fast idle RPM.

FAST IDLE SPECIFICATIONS

Application	RPM
All Models	2000

AUTOMATIC CHOKE SETTING

Automatic choke is properly set when Yellow punch mark (Red line) on bimetallic case (choke cover) is aligned with center projection on choke housing.

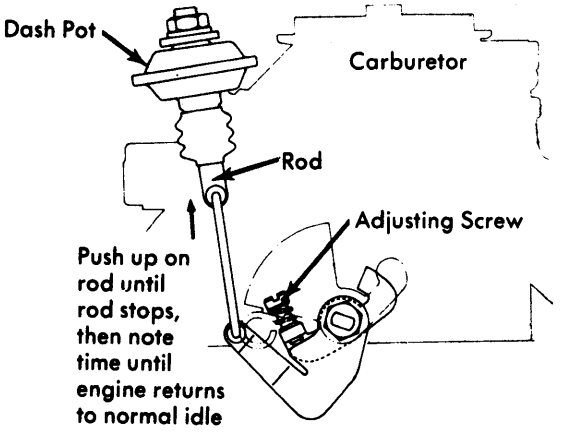

Fig. 4: 1976-77 Dashpot Adjustment

DASHPOT ADJUSTMENT

1976-77 Manual Transmission Equipped Models – Push up on lower end of dashpot until rod stops and check that engine is running at 1900-2000 RPM. Release dashpot and note how many seconds it takes engine to return to idle. If time is not 1.5-3.5 seconds (3-6 seconds on 1977 models), turn adjusting screw until correct time is obtained. *See Fig. 4.*

FUEL PUMP

FUEL PUMP SPECIFICATIONS

Application	Specification
Pressure (At Idle)	
1400 cc & 1600 cc	3.7-5.1 psi (.26-.36 kg/cm²)
2000 cc & 2600 cc	4.6-6.0 psi (.32-.42 kg/cm²)
Volume (At 5000 RPM)	
1400 cc & 1600 cc	1.7 pts. in 30 seconds
2000 & 2600 cc	2.1 pts. in 30 seconds

EXHAUST EMISSION SYSTEMS

See appropriate articles in EXHAUST EMISSION SYSTEMS section.

IGNITION SYSTEM

DISTRIBUTOR

Engines are equipped with Mitsubishi single point distributors or Mitsubishi electronic ignition system.

Other Data & Specifications – See Mitsubishi Single Point Distributor or Mitsubishi Electronic Ignition System article in DISTRIBUTORS & IGNITION SYSTEMS section.

IGNITION COIL

1974-75 IGNITION COIL SPECIFICATIONS

Application	Resistance (Ohms)
Primary	1.3-1.6
Secondary	10,200-13,800

1976-77 IGNITION COIL SPECIFICATIONS

Application	Resistance (Ohms)
Primary	1.26-1.54
Secondary	8670-11,730

1978-79 IGNITION COIL SPECIFICATIONS

Application	Resistance (Ohms)
Primary	
Conventional	.95-1.15
Electronic	.70-.85
Secondary	
Conventional	15,000-20,000
Electronic	9000-11,000

FUEL SYSTEMS

CARBURETORS

CARBURETORS

Application	Model
All Models	Solex DIDTA 2-Bbl.

Other Data & Specifications – See appropriate Solex Carburetor article in FUEL SYSTEMS section.