1975-79 TUNE-UP PROCEDURES
Chrysler Corp. 6-Cylinder Tune-Up

ENGINE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

On 1975-78 models, number is located on left door pillar or door face. On 1979 models, Vehicle Identification Number (VIN) is stamped on a machined pad on right side of block, below No. 6 spark plug. VIN also appears on vehicle identification plate, located on driver's door latch or rear face of driver's door and on equipment identification plate on the inner surface of the hood. First 2 digits designate model of vehicle, fifth digit indicates engine used.

1979 CHRYSLER VIN CODE

Engine	VIN Code
225" 1-Bbl.	B
225" 2-Bbl.	B

ENGINE IDENTIFICATION CODE

Engine identification number is stamped on right side of block below No. 1 spark plug. 1975-76 engine number indicates cubic displacement. Engines from 1977-79, first digit designates model year (1977-"7"). Next three digits are cubic inch displacement (225).

TUNE-UP NOTES

NOTE: In order to comply with emission standards, specifications shown on engine compartment Emission Control Tune-Up Decal must be used in all instances.

NOTE: When performing tune-up on vehicles equipped with catalytic converters, do not allow or create a condition of engine misfire in more than one cylinder for an extended period of time. Damage to converter may occur due to loading converter with unburned air/fuel mixture.

NOTE: On vehicles equipped with catalytic converters do not add fuel system cleaning agents to fuel tank or carburetor as their use may be detrimental to the catalytic converter.

NOTE: Before making a compression test or cranking engine using a remote starting switch, disconnect coil wire from distributor and secure to a good ground.

NOTE: For tune-up, California models built before 1977 and Federal models built before 1978, "Light Duty" refers to vehicles 6000 lbs. GVW or less and "Heavy Duty" to vehicles 6001 lbs. or more. 1977 California and Federal models built after 1978, "Light Duty" refers to vehicles 8500 lbs. GVW or less and "Heavy Duty" to vehicles 8501 lbs. or more.

NOTE: Idle speed adjustment procedures must be followed exactly as outlined. See HOT (SLOW) IDLE RPM in this article.

ENGINE COMPRESSION

With engine warm, spark plugs removed and throttle wide open, compression pressure should be as specified.

ENGINE COMPRESSION SPECIFICATIONS

Application	Specification
Compression Ratio	8.4:1
Recommended Fuel	[1] Regular (87 AKI Minimum)
Compression Pressure	Min. 100 psi
Maximum Pressure Variation	25 psi

[1] – Unleaded (87 AKI minimum) if equipped with catalytic converter.

NOTE: Some 1975 models may exhibit a lack of power or no kickdown during wide open throttle operation. This condition may be caused by interference between the throttle lever and intake manifold. Check for this condition. If necessary, a longer bell crank-to-throttle control rod should be installed.

VALVE CLEARANCE

Adjust valve clearance by turning self-locking rocker arm screw.

VALVE CLEARANCE

Application	Specification
Intake (Hot)	.010"
Exhaust (Hot)	.020"

VALVE ARRANGEMENT

E-I-E-I-E-I-I-E-I-E-I-E (Front-to-Rear).

SPARK PLUGS

SPARK PLUG INSTALLATION

Application	Specification
Gap	.035"
Torque	10 ft. lbs.

SPARK PLUG TYPE

Application	Champion No.
1975-76 All	BL-11Y
1977	
Light Duty	RBL 15Y
Heavy Duty	RBL 11Y
1978	
Light Duty	RBL 16Y
Heavy Duty	RBL 11Y
1979 Light Duty	RBL 16Y

HIGH TENSION WIRE RESISTANCE

Measure resistance of each spark plug wire. If resistance is not within specification, replace wire. To check coil wire resistance, remove distributor cap without removing wire from cap or coil. Connect an ohmmeter between center contact in cap and either primary terminal at coil. If resistance is not within specification, remove coil wire at coil tower and check cable resistance. If resistance is now within specification, check for a loose connection at coil tower or a faulty coil. If resistance is not within specification, replace wire.

RESISTANCE (OHMS)

Application	Maximum
Coil Wire	
Installed	25,000
Removed	15,000
Spark Plug Wire	
To 25" Length	30,000
Over 25" Length	50,000

DISTRIBUTOR

All models are equipped with Chrysler Corp. Electronic Ignition System. No adjustments are required.

NOTE: Dwell is not adjustable, even though it may be read with a dwell meter.

1975-79 TUNE-UP PROCEDURES
Chrysler Corp. 6-Cylinder Tune-Up (Cont.)

NOTE: Some 1975-76 models may exhibit primary ignition problems. This condition may be caused by a faulty pick-up coil. Ensure the pick-up coil resistance is 250 ohms at 75°F. Replace if necessary. If pick-up coil is okay, check and adjust pick-up coil air gap. Using a non-magnetic feeler gauge, adjust air gap to .010". Apply vacuum to distributor advance and ensure stator does not hit reluctor.

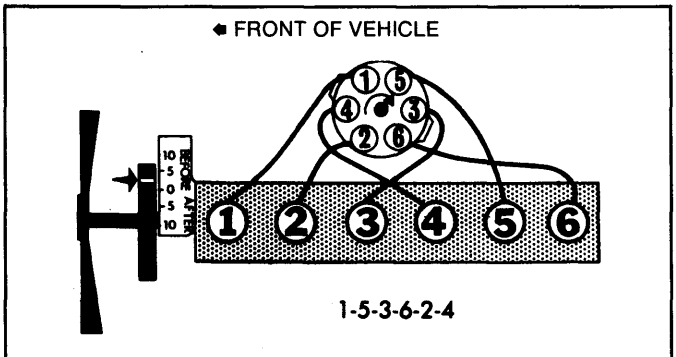

Fig. 1: 225" Firing Order & Timing Mark Identification

NOTE: Some 1978-79 models may have excessive spark knock. To correct this condition, install a new designed head gasket (4201200).

IGNITION TIMING

NOTE: Use proper adapters when making timing light connections. Do not puncture cables, boots or nipple with test probe.

1) Connect a tachometer to engine and a timing light to No. 1 cylinder. Start engine, set parking brake, and place transmission shift lever in "NEUTRAL". Run engine until it reaches normal operating temperature.
2) Disconnect and plug vacuum hoses to EGR valve (if equipped) and at distributor. Disconnect PCV valve, and vapor canister purge hose (if equipped) at carburetor. Leave connections open.
3) Idle set RPM should be within ±100 RPM of specification. To adjust use idle speed screw.

NOTE: This procedure is for timing purposes only. If screw is adjusted, it will be necessary to readjust idle mixture and idle speed to obtain idle set RPM.

4) Reconnect PCV valve and purge hose, and check timing. If not within ±2 degrees, loosen distributor hold-down screw and turn distributor housing until timing is within specification.

CAUTION: Do not use distributor vacuum advance unit as a handle, when turning distributor housing.

5) Tighten hold-down screw when timing is correct. Recheck idle set RPM and timing. If timing was adjusted or idle speed screw was turned, adjust curb idle. Unplug and connect all vacuum hoses and remove test equipment.

NOTE: All 1979 models have magnetic timing probe receptacles at crankshaft pulley. Some models have a hole in transmission torque converter housing to make it easier to view timing marks.

IGNITION TIMING SPECIFICATIONS

Application	Man. Trans.	Auto. Trans.
1975	0°TDC	[1] 0°TDC
1976	[2] 0°TDC	0°TDC
1977		
Light Duty		
Federal	2°BTDC	2°BTDC
Calif.	0°BTDC	2°ATDC
Heavy Duty		
Federal	0°BTDC	0°BTDC
1978		
Light Duty		
Federal	14°BTDC	14°BTDC
Calif.	8°BTDC	8°BTDC
Heavy Duty		
Federal	0°BTDC	0°BTDC
1979		
Federal	14°BTDC	14°BTDC
Calif.	8°BTDC	8°BTDC

[1] - 2° ATDC on Calif. Light Duty models.
[2] - 2° BTDC on Federal Light Duty models.

IDLE SPEED & MIXTURE

NOTE: Some 1977 models with 1-Bbl. carburetor and man. trans. may exhibit surging during low and medium speeds. This condition may be caused by EGR valve operation. First ensure no other causes for this problem are present such as accelerator pump, OSAC valve, ignition timing and heated air intake. If no problems are present and problem still exists, install service kit with EGR valve and carburetor jets (4094861 for FD-225-1-A or 4094863 for FD-225-1-C).

PROPANE ENRICHMENT PROCEDURE

1975-76 Federal Light Duty Models & 1977-79 Federal Models -
1) Place transmission in "NEUTRAL", set parking brake and turn off all lights and accessories. Connect tachometer and timing light to engine. Allow engine to warm up on second step of fast idle cam until it reaches normal operating temperature. Return engine to idle speed.
2) Disconnect and plug EGR and distributor vacuum hoses. Check engine timing and adjust if necessary. Remove timing light. Disconnect heated air door vacuum hose at carburetor nipple and in its place, install propane supply hose.

NOTE: Ensure propane bottle is upright and in a safe location.

3) Remove PCV valve from cylinder head cover and disconnect vapor canister purge hose at carburetor. Leave open. Open propane main valve. With air cleaner in place, slowly open metering valve until maximum engine RPM is reached.

NOTE: When too much propane is added, engine RPM will decrease. Adjust metering valve to obtain highest engine RPM.

4) With propane still flowing, adjust idle speed screw to obtain specified propane enriched RPM. If maximum RPM has changed, readjust idle speed screw to specified propane enriched RPM.
5) Turn off main propane valve and allow engine speed to stabilize. With air cleaner still in place, slowly adjust mixture screw(s) to achieve smoothest idle at specified idle set RPM. Pause between adjustments to allow engine speed to stabilize.

1975-79 TUNE-UP PROCEDURES
Chrysler Corp. 6-Cylinder Tune-Up (Cont.)

NOTE: If it appears necessary to remove limiter caps to reach idle set RPM, check first for engine malfunctions and vacuum leaks. If idle limiter caps are removed, service caps must be installed with a tang against the maximum rich stop.

6) Turn on main propane valve. If maximum speed is more than 25 RPM under or over specified propane RPM, repeat steps **3)** through **6)**.

7) Turn off main propane valve and metering valve. Remove tachometer. Remove propane supply hose and reinstall heated air door vacuum hose. Unplug and reinstall EGR and distributor vacuum hoses. Replace PCV valve and connect canister purge hose to carburetor.

NOTE: At this time a variation may occur in engine RPM, but DO NOT readjust.

CURB IDLE SPEED (RPM) & PROPANE ENRICHED (RPM) SPECIFICATIONS

Application	Curb Idle	Propane Enriched
1975		
Auto. Trans.	750	900
Man. Trans.	800	950
1976	750	900
1977		
Light Duty	750	900
Heavy Duty		
Auto. Trans.	700	770
Man. Trans.	700	750
1978		
Light Duty		
Auto. Trans.	750	900
Man. Trans.	750	930
Heavy Duty		
Auto. Trans.	700	770
Man. Trans.	700	750
1979		
Calif.	800	975
Federal	675	875

EXHAUST GAS ANALYZER PROCEDURE

NOTE: Emission Control Tune-Up Decal in engine compartment will specify where exhaust gas sample is to be taken.

1975-76 Models & 1977-79 Calif. Models - **1)** Allow vehicle to sit without engine running for a minimum of one hour. Start engine and run in "NEUTRAL" on step 2 of fast idle cam until fully warm. Disconnect and plug distributor vacuum hose. Disconnect purge hose at carburetor and remove PCV valve from cylinder head cover. Leave purge hose and carburetor connection open.

2) Disconnect and plug engine side of air pump supply hose. Disconnect vacuum hose at Electronic Lean Burn Computer (if equipped). Insert probe of engine exhaust analyzer ahead of catalyst. Install tachometer.

3) Adjust idle speed and air/fuel mixture screws to yield specified carbon monoxide percentage. Adjust simultaneously for lowest hydrocarbon level or smoothest idle speed at specified RPM.

4) Reconnect air supply tube and reset idle set RPM to specification. Connect purge hose and PCV valve and reconnect distributor hose.

NOTE: Before each curb idle RPM and/or CO measurement, run engine at approximately 2000 RPM for 10 seconds. Let engine speed stabilize and take reading.

IDLE SPEED (RPM) & CO%

Application	Idle Speed	CO%
1975		
Light Duty		
Auto. Trans.	750	[1] 0.3
Man. Trans.	800	[1] 0.3
Heavy Duty	700	[2] 1.0
1976		
Heavy Duty	700	[2] 1.0
Light Duty	750	[1] 0.3
1977-78	750	0.3
1979	800	0.3

[1] - Taken in front of catalytic converter.
[2] - Taken at tailpipe.

NOTE: Some 1979 Federal models with dual vapor canisters may exhibit a poor idle. To correct this condition, ensure no low spots (loops) are present in the vapor canister line between the carburetor and charcoal canister. If necessary, cut the hose so that hose has one steady drop to the charcoal canister. Also install hose reducer kit (4186228) to vapor line.

COLD (FAST) IDLE RPM

With timing and hot (slow) idle set and engine warm but turned off, remove air cleaner and plug vacuum fittings to heated air control and Orifice Spark Advance Control (OSAC). If not equipped with OSAC, disconnect hose to distributor (eliminates vacuum advance), EGR hose and cap all vacuum ports at carburetor. Place transmission in neutral, open throttle and close choke. Close throttle to place fast idle speed screw on highest speed step. Move fast idle cam until screw drops to second highest step. Start engine and adjust fast idle speed screw to obtain specified RPM.

1975-78 FAST IDLE RPM

Application	Federal	Calif.
1975-76		
Auto. Trans.	1700	1700
Man. Trans.	1600	1600
1977		
Auto. Trans.	[2] 1500	1500
Man. Trans.	[1] 1600	1600
1978		
Light Duty		
Auto. Trans.	1600	1600
Man. Trans.	1400	1400
Heavy Duty		
Auto. Trans.	1500	1500
Man. Trans.	1550	1550

[1] - 100 RPM less on Heavy Duty models.
[2] - 200 RPM more on Heavy Duty models.

1979 FAST IDLE RPM

Application	Carburetor	RPM
Calif.		
Auto. Trans.	Carter BBD	1600
Man. Trans.	Carter BBD	1400
Federal	Holley 1945	1600

DASHPOT ADJUSTMENT

1979 Models Only - After idle speed adjustments have been made, install tachometer and start engine. Position throttle lever so that it contacts dashpot stem without depressing it. Allow engine speed to

1975-79 TUNE-UP PROCEDURES
Chrysler Corp. 6-Cylinder Tune-Up (Cont.)

stabilize for about 30 seconds. Adjust dashpot, if not to specification, by loosening lock nut and screwing dashpot in or out until desired setting is obtained. Tighten lock nut on dashpot against bracket. Check for consistent curb idle speed.

1979 DASHPOT ADJUSTMENT

Application	RPM
225" 1-Bbl.	2300
225" 2-Bbl.	2500

AUTOMATIC CHOKE

Some models are equipped with a nonadjustable thermostatically controlled automatic choke using engine heat only in positioning valve. All other models have an electric assist choke, which also requires no adjustment.

NOTE: Some 1977 models may exhibit a binding choke plate with the air cleaner installed. This is caused by not enough clearance between choke shaft lever and air cleaner base. To repair, install 2 base gaskets.

NOTE: Some 1975-78 models may have poor driveability during warm up. To correct this condition, install a vacuum delay valve (4104371) between the heated air door and vacuum source hose.

FUEL PUMP

Pressure	3 ½-5 psi
Volume (at idle)	1 quart in 1 minute

MANIFOLD HEAT CONTROL VALVE

Every 30,000 miles (light duty service) or 22,500 miles (heavy duty service), apply a solvent to both ends of valve shaft where it rotates in bushing. Work valve back and forth a few times.

NOTE: Apply solvent only when manifold is cold.

IGNITION SYSTEM

DISTRIBUTOR

All models are equipped with Chrysler Corp. Electronic Ignition system. Units are entirely self-contained and require no outside adjustments.

Other Data & Specifications - See Chrysler Corp. Electronic Ignition system article in DISTRIBUTORS & IGNITION SYSTEMS section.

IGNITION COIL

IGNITION COIL SPECIFICATIONS

Application	Resistance
Primary (at 70-80°F)	
Prestolite	1.60-1.79 Ohms
Essex	1.34-1.55 Ohms
Secondary (at 70-80°F)	
Prestolite	9400-11,700 Ohms
Essex	
1977	8000-10,200 Ohms
1978-79	9000-12,200 Ohms
Ballast Resistor	
Coil Side (at 70-80°F)	
1975-78	.5-.6 Ohms
1979	1.25 Ohms
Control Side (at 70-80°F)	4.75-5.75 Ohms

FUEL SYSTEM

CARBURETORS

Application	Carburetor
1975-76 1-Bbl.	Holley 1945 1-Bbl.
1977	
1-Bbl.	Holley 1945 1-Bbl.
2-Bbl.	Carter BBD 2-Bbl.
1978	Carter BBD 2-Bbl.
1979	
Federal	Holley 1945 1-Bbl.
Calif.	Carter BBD 2-Bbl.

Other Data & Specifications - See Carter and Holley Carburetors in FUEL SYSTEMS section.