

TUNE-UP

ENGINE IDENTIFICATION

The engine can be identified by a number stamped on right side of block below No. 1 spark plug. The first digit indicates model year; the next 3 digits indicate cubic inch displacement. The engine can also be identified by the 8th digit of the Vehicle Identification Number (VIN). The VIN number is located on a label on the driver's door post.

VIN Engine Codes

Application	VIN Code
3.7L (225") 1-Bbl.	E

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.

CAUTION — 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.

CAUTION — 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 — For other items affecting Tune-Up, see FUEL SYSTEMS Section or EMISSION CONTROL Section.

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

ENGINE COMPRESSION

Compression Ratio	8.4:1
Compression Pressure	Min. 100 psi
Maximum Pressure Variation	25 psi

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

VALVE CLEARANCE

All engines are equipped with hydraulic valve lifters.

Hydraulic Lifters Zero Lash

VALVE ARRANGEMENT

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

SPARK PLUGS

Application	Gap (In.)	Torque (Ft. Lbs.)
All Models035	10

Application	Spark Plug Type	Champion No.
All Models		RBL16Y

HIGH TENSION WIRE RESISTANCE

Carefully remove spark plug wire from spark plug and install the proper adapter between wire and spark plug. Carefully remove wire from distributor cap. Connect an ohmmeter between spark plug adapter and opposite end of wire. If resistance is not within specifications, replace wire. To check coil wire resistance, remove distributor cap from distributor 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 specifications, remove coil wire at coil tower and check cable resistance. If resistance is now within specifications, check for a loose connection at coil tower or a faulty coil. If resistance is not within specifications, replace wire.

Application	Resistance (Ohms)	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 Electronic Spark Advance system with dual pick-up distributor. No adjustments are required.

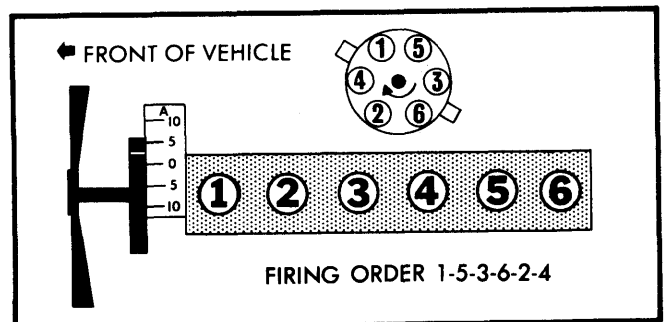


Fig. 1 Firing Order and Timing Marks

IGNITION TIMING

NOTE — All models are equipped with socket for magnetic timing equipment, located at 10° ATDC. Do not use this location for timing with a conventional timing light.

TUNE-UP (Cont.)

1) Connect timing light to number 1 cylinder. Connect tachometer to engine. Start engine, set parking brake and place transmission in Neutral. Bring engine to normal operating temperature.

2) Disconnect and plug vacuum hoses to EGR valve and distributor. Disconnect PCV valve and vapor canister purge hose at carburetor, leaving connections open. Idle set RPM should be within ± 100 RPM of specifications. To adjust, use idle speed screw.

3) Reconnect PCV valve and purge hose and check timing. If not within $\pm 2^\circ$, loosen distributor hold-down screw and adjust timing until within specifications. Tighten hold-down screw when timing is correct. Recheck idle set RPM and timing.

CAUTION — DO NOT use distributor vacuum advance unit as a handle when turning distributor housing.

4) If timing was adjusted or idle speed screw was turned, perform propane enrichment procedure. Unplug and reconnect all vacuum hoses and remove all test equipment.

Ignition Timing Specifications
(Degrees BTDC@RPM)

Application	Man. Trans.	Auto. Trans.
3.7L		
Federal	12@600	16@600
Calif.	12@800	16@800

HOT (SLOW) IDLE RPM

1) Set parking brake, place transmission in neutral and warm engine to normal operating temperature. Turn on air conditioning and disconnect compressor clutch wire. If not equipped with air conditioning, connect a jumper wire between 12V and solenoid lead wire.

NOTE — Be sure jumper wire is connected to solenoid wire. Wrong connections may damage wiring harness.

2) Remove external screw and spring from top of solenoid. Insert a $\frac{1}{8}$ " Allen wrench into solenoid and adjust solenoid idle speed. Turn air conditioning off and reconnect compressor, or remove jumper wire.

3) Disconnect and plug EGR valve hose, distributor vacuum hose, and $\frac{3}{16}$ " control hose at canister. Pull PCV valve from valve cover and allow to draw fresh air.

4) Allow engine to run at least 2 minutes, then check idle speed. Replace idle speed screw on solenoid and adjust curb idle. Stop engine, remove test equipment and reconnect all hoses.

Idle Speed (RPM)

Application	Curb Idle	Solenoid Energized
3.7L		
Federal	600	800
Calif.	800	800

IDLE MIXTURE

MIXTURE SCREW PLUG REMOVAL

1) Remove carburetor. Remove throttle body from carburetor and clamp in padded vise with mixture screw facing up.

2) Drill a $\frac{1}{16}$ " pilot hole in casting directly above roll pin. Redrill hole to $\frac{1}{8}$ " and drive out roll pin with punch.

3) On bottom side of throttle body, drill a $\frac{1}{16}$ " pilot hole in casting at a 45° angle toward mixture screw plug. Redrill hole to $\frac{1}{8}$ " and drive out plug with punch.

4) Position a new roll pin partially into place from bottom of throttle body, but so mixture screw is still accessible. Reassemble and install carburetor.

PROPANE ENRICHMENT PROCEDURE

1) Warm engine to operating temperature and place transmission in neutral. Disconnect and plug vacuum hoses at EGR valve, distributor and control line at canister ($\frac{3}{16}$ " hose). Remove PCV valve from valve cover and allow to draw fresh air. Disconnect heated air cleaner hose from carburetor and connect propane supply hose.

2) With air cleaner in place, open propane valve slowly until maximum engine speed is reached. Adjust idle speed screw on solenoid to obtain mixture RPM, then adjust propane carefully to highest possible speed. Readjust idle speed screw to mixture RPM.

3) Turn off propane and allow engine to stabilize. Slowly adjust mixture screw to obtain smooth idle at curb idle speed. Turn on propane again and adjust to obtain highest possible RPM. If more than 25 RPM from mixture RPM specification, repeat procedure.

4) Turn off propane. Adjust fast idle speed. Stop engine and remove test equipment, then reconnect all hoses. Install roll pin.

Mixture Adjustment RPM

Application	Mixture RPM
3.7L	
Federal	675
Calif.	900

COLD (FAST) IDLE RPM

1) Warm engine to operating temperature and place transmission in neutral. Disconnect and plug hoses at EGR valve, dis-

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tributor and canister (3/16" hose). Remove PCV valve from valve cover and allow to draw fresh air.

2) Place fast idle adjustment screw on 2nd highest step of fast idle cam. Adjust fast idle speed by turning screw. Remove test equipment and reconnect all hoses.

Fast Idle Speed (RPM) ①

Application	Man. Trans.	Auto. Trans.
3.7L	1600	1800

① — Set fast idle speed screw on 2nd highest step of cam.

AUTOMATIC CHOKE

Vehicles over 6000 lbs. GVW are equipped with a nonadjustable thermostatically controlled automatic choke using

engine heat only in positioning valve. All other vehicles have an electric assist choke requiring no adjustment.

FUEL PUMP

Pressure (At Idle)	3.5-5 psi
Volume (At Idle)	1 quart in 1 minute

MANIFOLD HEAT CONTROL VALVE

Every 30,000 miles (light duty) or 18,000 miles (heavy duty), apply a suitable solvent to both ends of valve shaft where it rotates in bushing. Work valve back and forth several times.

CAUTION — Apply solvent only when manifold is cold.

EMISSION CONTROL SYSTEMS

See appropriate article in Emission Control Section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

All models are equipped with Chrysler Electronic Spark Advance system with dual pick-up. No adjustments are necessary.

Other Data & Specifications — See *Tune-Up and Chrysler Corp. Distributors* in **ELECTRICAL** Section.

IGNITION COIL

Coil Resistance (Ohms@75°F)

Application	Primary	Secondary
Essex	1.34-1.55	9000-12,200
Prestolite	1.60-1.79	9400-11,700
Ballast Resistor	1.1-1.3 ohms	

FUEL SYSTEMS

CARBURETORS

Application	Carburetor
All Models	Holley 1945 1-Bbl.

Other Data & Specifications — See *Tune-Up and Holley Carburetors* in **FUEL SYSTEMS** Section.

ELECTRICAL

BATTERY

Application	Cold Cranking Amps@0° F	Reserve Capacity Minutes
Standard	305	68
Optional	375	86
Optional	430	100
Optional	500	125

STARTER

All models use a Chrysler Corp. Reduction Gear type starter.

Starter Specifications

Application	Volts	Amps	Test RPM
All Models	11	90	3700

Other Data & Specifications — See *Chrysler Corp. Starters* in **ELECTRICAL** Section.

ALTERNATORS

All models use Chrysler Corp. alternator.

Tag Color	Rated Amp. Output
Violet	41
Yellow	41
"D", "W", "AD", "AW" & "PW"	117
All Other Models	60

Other Data & Specifications — See *Chrysler Corp. Alternators* in **ELECTRICAL** Section.

ALTERNATOR REGULATOR

All models use Chrysler Corp. Electronic Voltage Regulator. Unit is nonadjustable.

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GENERAL SERVICING (Cont.)

Operating Voltage (@80°F)..... 13.9-14.6 Volts

Other Data & Specifications — See Chrysler Corp. Electronic Regulator in ELECTRICAL Section.

REPLACEMENT INTERVALS

Component	Interval (Miles)
Oil Filter	15,000
Air Filter	30,000
Fuel Filter	30,000
PCV Valve	30,000
Spark Plugs	
With Converter	30,000
Without Converter	15,000

BELT ADJUSTMENTS

Tension (Lbs.) Using Strand Tension Gauge

Application	New Belt	①Used Belt
All	120	70

① — Any belt operated for 15 minutes.

CAPACITIES

Application	Quantity
Crankcase	①5.0 qts.
Cooling System	
Standard	②12.0 qts.
Optional	②13.0 qts.
Automatic Transmission (Dexron II)	③7.7 pts.
Manual Transmission	
4-Speed Overdrive (A-833) (Dexron II)	7.5 pts.
4-Speed N.P. 435 (SAE 80W-90)	7.0 pts.
Transfer Case	
N.P. 205 (SAE 80W-90)	4.5 pts.
N.P. 208 (Dexron II)	6.0 pts.
Rear Axle (SAE 80W-90)	
8 ³ / ₈ " Ring Gear	4.5 pts.
9 ¹ / ₄ " Ring Gear	4.5 pts.
9 ³ / ₄ " Ring Gear	6.0 pts.
10 ¹ / ₂ " Ring Gear	6.5 pts.
Front Axle (SAE 80W-90)	
Model 44	3.5 pts.
Model 60	6.5 pts.
Fuel Tank	
Van Models	
B150, 250, 350	22.0 or 36.0 gals.
CB350, 450 & MB250	22.0 or 45.0 gals.
MB350, 450	45.0 gals.
Pickup Models	20.0 or 30.0 gals.

- ① — Add 1 quart with filter change.
- ② — Add 1 quart with rear heater.
- ③ — Without torque converter drain.