1975-79 TUNE-UP PROCEDURES
Chrysler Corp. V8

ENGINE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

Engine can be identified by the fifth character of the Vehicle Identification Number (VIN), located on plate attached to left corner of instrument panel and visible through windshield.

VIN CODE

Application	Code
318" 2-Bbl.	G
318" 4-Bbl.	H
360" 2-Bbl.	K
360" 4-Bbl.	J
360" 4-Bbl. High Perf.	L
400" 2-Bbl.	M
400" 4-Bbl.	N
400" 4-Bbl. High Perf.	P
440" 4-Bbl.	T
440" 4-Bbl. High Perf.	U

ENGINE IDENTIFICATION CODE

Engine Identification Code on all 318" and 360" engines is stamped on front of block, just below cylinder head. The third, fourth and fifth digits indicate CID. All 400" and 440" engines have the number stamped on right side of block, just forward of number 2 cylinder bore. The second, third and fourth digits indicate CID.

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: The EPA High Altitude emission standards apply to vehicles sold in certain areas outside California which have an elevation above 4000 feet.

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.

ENGINE COMPRESSION

Check pressure with engine at normal operating temperature, spark plugs removed, throttle valve wide open and at cranking speed. Compression should not be less than 100 psi and not vary more than 40 psi between cylinders.

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

ENGINE COMPRESSION SPECIFICATIONS

Application	Specification
Compression Ratio	
318"	8.5:1
360"	8.4:1
360" & 440" High Perf.	8.0:1
400" & 440"	8.2:1
Recommended Fuel	Unleaded (87 AKI Minimum)

VALVE CLEARANCE

Hydraulic Lifters	Zero Lash

VALVE ARRANGEMENT

E-I-I-E-E-I-I-E (Both banks, front-to-rear.)

SPARK PLUGS

SPARK PLUG INSTALLATION

Application	Specification
Gap	.035"
Torque	30 ft. lbs.

SPARK PLUG TYPE

Application	Champion No.
1975	
318"	N-13Y
360"	N-12Y
400"	J-13Y
400" High Perf.	RJ-87P
440"	RJ-87P
440" High Perf.	J-11Y
1976	
318" & 360"	RN-12Y
400"	RJ-13Y
400" High Perf.	RJ-87P
440"	RJ-87P
440" High Perf.	RJ-11Y
1977-79	
318" & 360"	RN-12Y
400" & 440"	OJ-13Y
400" & 440" High Perf.	OJ-11Y

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.

RESISTANCE (OHMS)

Application	Maximum Ohms
Coil Wire	
Installed	25,000
Removed	15,000
Spark Plug Wire	50,000

DISTRIBUTOR

All models are equipped with either the Chrysler Corp. Electronic Ignition System or the optional Electronic Lean Burn System. No adjustments are required.

NOTE: Dwell is not adjustable, even though it may be read with a dwell meter. There is no means provided to change dwell.

1975-79 TUNE-UP PROCEDURES
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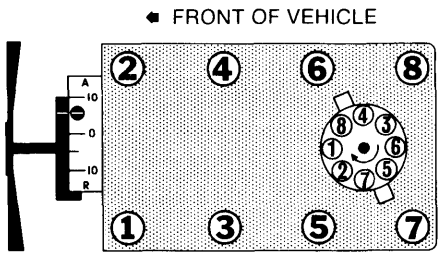

Fig. 1: 318" & 360" Firing Order & Timing Marks

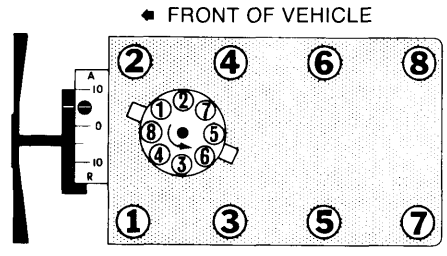

Fig. 2: 400" & 440" Firing Order & Timing Marks

IGNITION TIMING

CAUTION: Timing light connections should be made using proper adapters. Do not puncture cables, boots or nipples with test probes.

Ignition timing is checked or adjusted with engine at normal operating temperature. Hot (Slow) Idle RPM should be set to specification. Disconnect and plug vacuum advance hose at distributor. Transmission should be in Neutral.

If equipped with Electronic Spark Control, connect a jumper wire to ground the carburetor idle stop switch before checking ignition timing.

NOTE: If equipped with Electronic Spark Control, connect a jumper wire to ground the carburetor idle stop switch before checking ignition timing.

NOTE: Some 1977 vehicles with 400" and 440" engines built before October 1976 may exibit backfiring, stumble, bucking and missing. This condition may be caused by crossfiring inside the distributor. To correct this, install a revised reluctor (4091277).

NOTE: Some 1978 Calif. models with 318" and A/T, may exhibit spark knock. To correct this, install a vacuum reducer (4186163). To install, cut the vacuum hose between vacuum source and transducer on Spark Control Computer. Connnect the vacuum reducer with filter side toward transducer and other side to vacuum source.

NOTE: Some 1979 Federal models with 318" engine and A/T, may have excessive spark knock. To correct this, retard timing from 16°BTDC to 12°BTDC. Reset mixture, idle speed and fast idle speed.

NOTE: Some 1979 Federal models with 360" 2-Bbl. engine and A/T, may have excessive spark knock. To correct this, retard timing from 12°BTDC to 8°BTDC. Reset mixture, idle speed and fast idle speed.

IGNITION TIMING SPECIFICATIONS

Application	Timing
1975	
318"	
Federal	
With Catalytic Converter	2°BTDC
Without Catalytic Converter	2°ATDC
Calif.	0°BTDC
360"	
High Perf.	2°BTDC
360" All Others	6°BTDC
400"	
2-Bbl.	10°BTDC
4-Bbl. (Except High Perf.)	8°BTDC
4-Bbl. (High Perf.)	6°BTDC
440"	
High Perf.	10°BTDC
All Others	8°BTDC
1976	
318"	
Federal	
With AIR System	2°ATDC
Without AIR System	2°BTDC
Calif.	0°BTDC
360" High Perf.	2°BTDC
360" All Others	6°BTDC
400"	
2-Bbl.	[2] 10°BTDC
4-Bbl. (Federal)	6°BTDC
4-Bbl. (Calif.)	8°BTDC
440"	
High Perf.	[1] 10°BTDC
All Others	8°BTDC
1977	
318"	
Federal	[3] 8°ATDC
Calif.	[4] 0°BTDC
360" 2-Bbl.	10°BTDC
360" 4-Bbl.	
Federal	10°BTDC
High Alt.	
Up to 2-1-77	6°BTDC
From to 2-1-77	10°BTDC
400" 4-Bbl.	10°BTDC
440"	
Federal	12°BTDC
Calif. & High Alt.	8°BTDC
High Perf.	8°BTDC
1978	
318" 2-Bbl.	16°BTDC
318" 4-Bbl.	18°BTDC
360" 2-Bbl.	20°BTDC
360" 4-Bbl.	
Electronic Ignition	
Eng. Code No. E-56	6°BTDC
Eng. Code No. E-58	8°BTDC
Electronic Lean Burn	16°BTDC
400"	20°BTDC
440"	
Calif. & High Alt.	10°BTDC
Eng. Code No. E-86	18°BTDC
Eng. Code No. E-85	12°BTDC
1979	
318" 2-Bbl.	16°BTDC
318" 4-Bbl.	16°BTDC
360" 2-Bbl.	12°BTDC
360" 4-Bbl.	18°BTDC

[1] - Set to 8°BTDC on Calif. models.
[2] - Set to 12°BTDC if engine backfires on acceleration.
[3] - Set to 6°BTDC on Diplomat and LeBaron.
[4] - Set to 8°BTDC on Diplomat and LeBaron.

1975-79 TUNE-UP PROCEDURES
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HOT (SLOW) IDLE & MIXTURE

PROPANE ENRICHMENT PROCEDURE

1975-77 Federal & High Alt. & 1978-79 Optional - 1) With engine at normal operating temperature, transmission in Neutral and A/C off, disconnect air cleaner heated air door hose from carburetor nipple. Connect a supply of propane gas with a regulator valve to nipple. Disconnect and plug vacuum hoses to distributor or Spark Control Computer and EGR. Disconnect and leave open canister purge hose and PCV valve.

2) Connect a tachometer to engine. Slowly open propane control valve until maximum RPM is reached and leave at maximum with gas on.

NOTE: Too much propane will begin to reduce idle speed. Also, propane bottle must stand upright to maintain a near constant gas flow.

3) With propane flowing, adjust idle speed screw to obtain specified propane enriched RPM. Readjust propane control for maximum RPM if necessary.

4) Turn off propane and adjust idle mixture screws to achieve smoothest idle at specified curb idle RPM. On 318" engines with High Altitude package, adjust idle mixture screws to obtain smoothest idle at 100 RPM below specified curb idle RPM.

5) Turn on propane again and check maximum speed to see if idle speed has changed. If maximum speed is more than 25 RPM different than propane enriched RPM, repeat adjustment procedure. Turn off propane and remove from nipple.

1975-77 IDLE SPEED (RPM)

Application	Curb Idle	Propane Enriched
1975 w/o Cat.		
318"	750	875
360" 2-Bbl.	750	850
360" 4-Bbl.	750	875
400"	750	855
440"	750	850
1976		
318" w/o Cat.	750	875
360" 2-Bbl.	700	800
360" 4-Bbl.	850	950
400" w/o AIS		
2-Bbl.	700	800
4-Bbl.	850	950
440"	750	855
1977		
318"		
Federal		
Man. Trans.	700	810
Auto. Trans.	700	[1] 780
High Alt.	850	[2] 930
360" 2-Bbl.	700	810
360" 4-Bbl.		
Federal	750	860
High Alt.	750	[3] 850
400"	750	880
440"		
Federal	750	850
High Alt.	750	[4] 930

[1] - Set to 890 RPM on Diplomat and LeBaron.
[2] - Set to 830 RPM when below 4000 ft.
[3] - Set to 900 RPM when below 4000 ft.
[4] - Set to 860 RPM when below 4000 ft.

1978-79 IDLE SPEED (RPM)

Application	Curb Idle	Propane Enriched
1978		
318"		
Federal		
Man. Trans.	700	810
Auto. Trans.	750	850
Calif.	750	825
High Alt.	750	830
360" 2-Bbl. [1]		
Federal	750	890
360" 4-Bbl.		
Federal	750	840
Calif. & High Alt.	750	830
400"	750	840
440"		
Federal & Calif.	750	[2] 860
High Alt.	750	[3] 930
1979		
318" 2-Bbl.		
Federal	730	850
318" 4-Bbl.		
Calif. [4]	750	825
360" 2-Bbl.		
Federal	750	890
360" 4-Bbl. [5]		
Federal	750	870
Calif.	750	830

[1] - To correct a rough idle, add 100 RPM to both specs.
[2] - Set to 825 RPM on Carb. No. TQ-91121.
[3] - Set to 860 RPM when below 4000 ft.
[4] - Set to 850 and 925 RPM on Carb. TQ-9245S.
[5] - Set to 850 and 975 RPM on Carb. TQ-9246S.

EXHAUST GAS ANALYZER PROCEDURE

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

1975-75, 1977 (Calif. & High Alt.) & 1978-79 - 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 engine is fully warmed up.

2) Disconnect and plug distributor vacuum hose. If equipped with Electronic Lean Burn engine, disconnect and plug vacuum hose to vacuum transducer on air cleaner. On 1975 models, ensure idle stop solenoid is energized. On all vehicles, disconnect and plug engine side of air pump supply hose.

3) By means of an exhaust gas analyzer and a tachometer, adjust curb idle and mixture screws to obtain specified CO% and smoothest curb idle at specified RPM. Reconnect air pump supply hose. If necessary, reset curb idle speed. Reconnect all vacuum lines.

NOTE: Some 1975 models with solenoid throttle positioner screw may exhibit an excessive high idle speed. This may be due to a misadjusted or defective throttle positioner solenoid.

NOTE: Some 1975 Federal A/T models with 318" engines and built after January 1975, may be equipped with an idle speed solenoid. This solenoid is not used and no action should be taken.

1975-79 TUNE-UP PROCEDURES
Chrysler Corp. V8 (Cont.)

NOTE: Some 1976 models with Lean Burn System may exhibit rough running or poor driveability. Revised idle mixture procedures are now available to correct this condition.
Set ignition timing. Remove air cleaner and set aside. Do not disconnect any wires or hoses. Remove mixture limiter caps. Lightly seat each screw and back out 3 turns. Connect a tachometer and CO% meter to engine.
Start engine and allow to reach normal operating temperature. Connect a jumper wire between carburetor switch and ground. Turn in one mixture screw until engine RPM drops. Unscrew mixture screw until highest RPM is obtained. Repeat procedures for other mixture screw. Perform regular idle adjustment. Reinstall limiter caps and air cleaner.

NOTE: Some 1976 models with 400" 2-Bbl. engine may hesitate and backfire during acceleration. To correct this, advance timing 2 degrees from base timing. Remove lead plug from top of power enrichment valve and turn screw 1 1/4 turns clockwise.

IDLE SPEED (RPM) & IDLE CO (%)

Application	Curb Idle	Idle CO
1975		
318"		
Federal (w/AIR)	900	[1]
All Others	750	[1]
360"		
Federal (w/AIR)	850	[1]
All Others	750	[1]
400"	750	[1]
440"		
Calif. (Exc. High Perf.)	850	[1]
All Others	750	[1]
1976		
318"		
Federal	900	[1]
Calif.	750	[1]
360" & 400"		
Federal	850	[1]
Calif.	750	[1]
440"		
Federal	750	[1]
Calif.	750	[1]
1977		
318" 2-Bbl.	[2] 850	0.5
360" 4-Bbl.	750	0.5
440" 4-Bbl.		
Carb. No. TQ-9081S	750	1.0
Carb. No. TQ-9101S	750	0.3
1978		
318" 4-Bbl.	750	0.5
360" 4-Bbl.	750	0.5
440" 4-Bbl.	750	[3] 0.5
1979		
318" 4-Bbl.	750	0.5
360" 4-Bbl.	750	0.5

[1] - See Emission Control Tune-Up Decal.
[2] - Set to 750 RPM on Diplomat and LeBaron.
[3] - 1.0% CO on Calif. Carb. No. TQ-9148S.

NOTE: Some 1977 High Altitude vehicles (Calib. No. N-96) with 360" 4-Bbl. engines may have poor driveability on heavy acceleration or during cruise at 30-50 MPH. A revised carburetor and EGR valve (4049188) is available to correct this.

NOTE: Some 1977 California A/T vehicles (Calib. No. N-95) with 318" engines may have poor driveability on acceleration or surge. A revised carburetor, vacuum hose routing and EGR valve (4049199) is available to correct this.

NOTE: Some 1977 High Altitude A/T vehicles with 318" engines may have poor driveability during cold engine operation or surge at medium engine speed. Revised carburetor metering rods, vacuum hose routing and EGR valve (4131072) is available to correct this.

NOTE: Some 1979 California A/T vehicles with 360" 4-Bbl. engines may have poor driveability or surge between 40-50 MPH. A revised carburetor (TQ-92505) is available to correct this.

COLD (FAST) IDLE RPM

1) Remove air cleaner and disconnect vacuum hoses to air cleaner. On engines with Electronic Spark Control, set air cleaner to one side but do not disconnect hose or wiring to computer. Connect a jumper wire to ground the carburetor idle stop switch. On all engines, disconnect vacuum hoses from OSAC valve, or if not equipped with OSAC valve, from distributor.

FAST IDLE SPEED (RPM)

Application	Fast Idle Speed
1975	
318"	1500
360"	1600
400"	
2-Bbl.	1600
4-Bbl. & High Perf.	1800
440"	
4-Bbl. High Perf.	1800
All Others	1600
1976	
318"	
Federal	1275
Calif.	1500
360"	1700
400"	
Federal	1800
Calif.	1600
440"	1600
1977	
318"	
Federal	1400
Calif.	1500
360" 2-Bbl.	1700
360" 4-Bbl.	
Federal	1500
Calif. & High Alt.	1700
400"	1400
440"	
Federal	[1] 1400
Calif. & High Alt.	1600
1978	
318" 2-Bbl.	
Federal	
Man. Trans.	1400
Auto. Trans.	1600
High Alt.	1500
318" 4-Bbl.	1600
360" 2-Bbl.	1700
360" 4-Bbl.	1500
400"	1500
440"	
Federal	[1] 1400
Calif. & High Alt.	1600
1979	[2] 1600

[1] - Set to 1200 RPM on Carb. No. TQ-90805 and TQ-9112S.
[2] - Set to 1500 RPM on Carter Carb. No. BBD-8230-S.

2) Disconnect EGR vacuum hose and cap all vacuum ports at carburetor. With engine off, transmission in Neutral and parking brake set, open throttle and close choke. Close throttle to place fast

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idle screw on highest speed step, move fast idle cam until screw drops to second highest speed step.
3) Start engine and determine stabilized speed. Turn fast idle screw to obtain specified fast idle speed. Reposition screw on cam after each adjustment to provide correct throttle closing torque.

AUTOMATIC CHOKE SETTING

All models use an electrical assist choke and no adjustments are required.

FUEL PUMP

FUEL PUMP SPECIFICATIONS

Application	Specification
Pressure (At Idle)	
440" High Perf.	5.0-7.5 psi
All Others	3.5-5.0 psi
Volume (At Idle)	1 pint in 30 sec.

IGNITION

DISTRIBUTOR

All models are equipped with Chrysler Corp. Electronic Ignition and/or Lean Burn System

Other Data & Specifications - Also see Chrysler Corp. Distributors in DISTRIBUTORS & IGNITION SYSTEMS section.

IGNITION COIL

Application	Specification
Resistance	
Primary (at 70-80°F)	
Essex	1.34-1.55 ohms
Prestolite	1.60-1.79 ohms
Secondary (at 70-80°F)	
Essex	9000-12,200 ohms
Prestolite	9400-11,700 ohms
Ballast Resistor	
Coil Side	.5-.6 ohm
Current Draw	
(Including Coil & Ballast Resistor)	
Engine Idling	1.9 amps
Engine Stopped	3.0 amps
Coil Output	
All Models	20KV Min.

CARBURETION

CARBURETORS

Application	Model
318" 2-Bbl.	Carter BBD or Holley 2280
360" & 400" 2-Bbl.	Holley 2245
318", 360", 400" & 440" 4-Bbl.	Carter Thermo-Quad

Other Data & Specifications - Also see Carter or Holley Carburetors in FUEL SYSTEMS section.