

TUNE-UP

ENGINE IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER CODE

Seventh digit of Vehicle Identification Number, located on plate attached to top left corner of instrument panel, is the engine code letter.

VIN Engine Codes

Application	Code
258" 2-Bbl.	C

ENGINE IDENTIFICATION NUMBER CODE

Engine code is part of number stamped on machined pad on right side of cylinder block between number two and three cylinders.

NOTE — Engines built for sale in Georgia and Tennessee have an additional, nonrepeating number, located on the right side of the engine below the build date code.

Engine Codes

Application	Code
258" 2-Bbl.	C

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 of California which have an elevation above 4,000 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 1 cylinder for an extended period of time. Damage to converter may occur due to loading converter with unburned air/fuel mixture.

ENGINE COMPRESSION

Compression Ratio	
258"	8.3:1
Recommended Fuel	Unleaded (87 AKI Minimum)
Compression Pressure	120-150 psi
Max. Variation Between Cylinders	30 psi

VALVE TAPPET CLEARANCE

Hydraulic Lifters Zero Lash

VALVE ARRANGEMENT

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

SPARK PLUGS

Gap033-.038"
Torque	25-30 ft. lbs.

Spark Plug Type

Application	Champion No.
258" 2-Bbl.	
Eagle	N13L or RN13L
All Other Models	N14LY or RN14LY

HIGH TENSION WIRE RESISTANCE

Do not puncture spark plug wires with any type of probe. Remove spark plug wire and check resistance using an ohmmeter.

Resistance (Ohms)

Wire Length	Minimum	Maximum
0-15"	3000	10,000
15-25"	4000	15,000
25-35"	6000	20,000
Over 35"	8000	25,000

DISTRIBUTOR

All models are equipped with a Solid State Ignition system (SSI) and no adjustments are required.

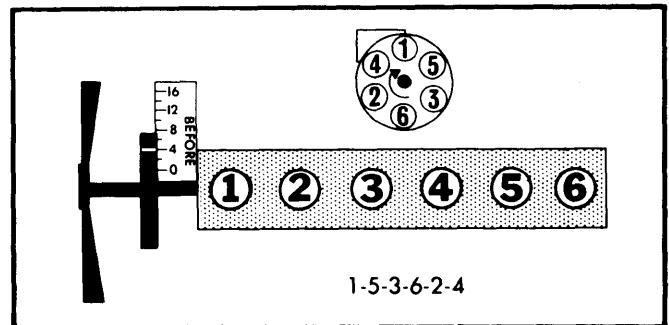


Fig. 1 258" Firing Order and Timing Marks

IGNITION TIMING

NOTE — All engines incorporate a magnetic timing probe socket located at 10° ATDC. This is for use with electronic timing equipment. Refer to manufacturer's instructions for correct procedures. Do not use the probe location to check timing using a conventional timing light.

Check or adjust ignition timing with engine at normal operating temperature, distributor vacuum hose disconnected and engine running at specified speed.

NOTE — If a timing light incorporating an advance control feature is used, set control to OFF position. On SSI coils, a terminal is provided for tachometer connection.

TUNE-UP (Cont.)

**Ignition Timing Specifications
(Degrees BTDC @ RPM)**

Application	Man. Trans.	Auto. Trans.
258" 2-Bbl.		
Eagle, Calif.		8°@600
All Other Models	6°@700	10°@600

HOT (SLOW) IDLE RPM

NOTE — Do not idle engine for over 3 minutes at a time. If idle adjustment is not completed within 3 minutes, run engine at 2000 RPM for 1 minute before continuing, repeat as necessary.

- 1) With engine at normal operating temperature, air cleaner installed, and automatic transmission in Drive, turn curb idle adjusting screw to obtain specified curb idle speed.
- 2) To adjust idle speed on models equipped with a solenoid, turn nut on solenoid plunger to obtain specified curb idle speed. Then, disconnect solenoid wire and adjust curb idle speed screw to obtain 500 RPM idle speed. Connect solenoid wire and recheck curb idle speed.

Curb Idle Speed (RPM)

Application	Man. Trans.	Auto. Trans.
258" 2-Bbl.		
All Models	600-800	500-700

IDLE MIXTURE

NOTE — Do not idle engine for over 3 minutes at a time. If idle mixture adjustment is not completed within 3 minutes, run engine at 2000 RPM for 1 minute before continuing, repeat as necessary.

TACHOMETER (IDLE DROP) PROCEDURE

- 1) Ensure engine is warmed up, idle speed is set correctly and accurate tachometer is installed. All accessories must be OFF and air cleaner installed.
 - 2) Adjust idle mixture screw(s) to full RICH stop (counterclockwise). Note position of screw head slot(s) inside limiter cap(s).
 - 3) Install #10 sheet metal screw into limiter cap(s) and turn clockwise to remove caps. Discard caps.
- NOTE** — Caps can also be removed by melting with a soldering iron.
- 4) Be sure mixture screw(s) is not moved from position while removing limiters.
 - 5) Set parking brake. Place automatic transmission in DRIVE and manual transmission in NEUTRAL.
 - 6) With curb idle speed set with solenoid energized, unhook solenoid wire. Set idle with engine-off throttle stop screw to 500 RPM.

7) Reconnect solenoid wire.

- 8) Starting from full RICH position, turn mixture screw(s) CLOCKWISE (leaner) until RPM drops noticeably.
- 9) Turn screws COUNTERCLOCKWISE (richer) until highest RPM reading is reached. DO NOT turn screw(s) past high RPM point. This point is "Lean Best Idle".
- 10) Now turn mixture screw(s) CLOCKWISE to obtain specified drop in RPM. On BBD carburetors, turn both idle mixture screws in small, equal amounts until desired drop is reached.

NOTE — If final RPM differs more than ±30 RPM from original curb idle speed, reset curb idle speed to specifications and repeat steps 9) and 10).

11) Install blue replacement limiter cap(s). Limiter tab should be positioned against full rich stop. Do not change mixture setting while installing caps.

Specified RPM Drop

Application	Man. Trans.	Auto. Trans.
258" 2-Bbl.		
All Models	40	20

COLD (FAST) IDLE RPM

- 1) Adjust fast idle speed with engine at normal operating temperature and with EGR and TCS solenoid disconnected.
- 2) Position fast idle adjusting screw in contact with second step and against shoulder of fast idle cam. Turn fast idle adjusting screw to obtain specified fast idle speed.

Fast Idle Speed (RPM)

Application	Man. Trans.	Auto. Trans.
258" 2-Bbl.		
All Models	1600-1800	1750-1950

AUTOMATIC CHOKE

To adjust automatic choke, loosen choke cover retaining screws and rotate cover in desired direction as indicated on cover to specified setting.

Automatic Choke Setting

Application	Man. Trans.	Auto. Trans.
258" 2-Bbl.		
Federal	1NR	⊙2NR
Calif.	1NR	2NR
High Alt.		Index

⊙ — Set at 1NR for carb. no. 8313

FUEL PUMP

Make tests with air cleaner removed and fuel inlet line or filter disconnected at carburetor. Disconnect fuel return line at fuel filter and plug nipple on filter. Make all tests at idle speed.

TUNE-UP (Cont.)

Fuel Pump Specifications

Pressure.....	4-5 psi
Volume.....	One pint in 30 sec.
Vacuum (at fuel pump inlet).....	10 in. Hg min.

MANIFOLD HEAT CONTROL VALVE

Check valve for free movement and lubricate with American Motors Heat Valve Lubricant (or equivalent) every 30,000 miles.

EXHAUST EMISSION SYSTEMS

See EXHAUST EMISSION SYSTEMS section.

GENERAL SERVICING

IGNITION

DISTRIBUTOR

Solid State Electronic Ignition (SSI)	
Sensor Resistance	400-800 ohms

IGNITION COIL

Resistance	
Primary (at 75°F)	1.13-1.23 ohms
Secondary (at 75°F)	7700-9300 ohms
Coil Output	
All Models	20 KV Min.
Current Draw	
Engine Stopped	4 amps.
Engine Idling.....	2 amps.

CARBURETION

CARBURETORS

Application	Model
258" 2-Bbl.....	Carter BBD

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

ELECTRICAL

BATTERY

12 Volt — Negative Ground.

The cranking amps rating specifies the minimum amps a fully charged battery will deliver for 30 seconds (at 0° F) without falling below 7.2 volts. Reserve capacity is the number of minutes a fully charged battery (at 80° F) can be discharged at a steady 25 amp rate without falling below 10.5 volts.

Application	Reserve Capacity	Cranking Amps
Black Code	75 minutes	305
Red Code (Opt.)	90 minutes	450

STARTER

Motorcraft Positive Engagement Type

No Load Test

Volts	12@7380-9356 RPM
Amps	67@7380-9356 RPM

ALTERNATOR

Application	Rated Amp. Output
Standard	42
Optional	55

ALTERNATOR REGULATOR

Delco-Remy nonadjustable, integral with alternator.
Operating Voltage (at 50-100°F) 13.9-14.9

INTAKE MANIFOLD TIGHTENING

Manifold bolts and nuts should be tightened in the sequence shown. Tighten bolts 1-11 and 14 to 23 ft. lbs., bolts 12 and 13 to 50 ft. lbs., and bolts 15 and 16 to 35 ft. lbs.

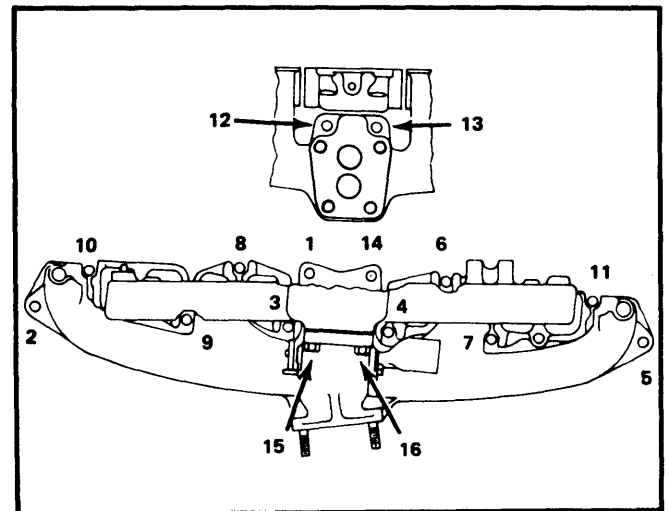


Fig. 2 Intake Manifold Tightening Sequence

GENERAL SERVICING (Cont.)

FILTERS & CLEANERS

Filter or Cleaner	Service Interval (Miles)
Oil Filter	
Eagle	Replace Every 5000
All Other Models	Replace Every 7500
Air Filter	Replace Every 30,000
Fuel Filter.....	Replace Every 15,000
PCV Valve.....	Replace Every 30,000
Vapor Canister Filter.....	Replace Every 30,000

BELT ADJUSTMENT

Tension (Lbs.) Using Strand Tension Gauge

Application	New Belt	Used Belt
Air Pump	65-75	60-70
All Other Belts	125-155	90-115

CAPACITIES

Application	Quantity
Crankcase (Includes Filter)	5.0 qts.
Cooling System	① 11.0 qts.
Man. Trans. (SAE 85W-90)	
4-Speed	3.3 pts.
Auto. Trans. (Dexron)	② 17.0 pts.
Transfer Case (SAE 10W-30)	3.0 pts.
Rear Axle (SAE 80W-90)	3.0 pts.
Front Axle (SAE 80W-90)	2.5 pts.
Fuel Tank	
Concord & Eagle	22.0 gals.
Spirit & AMX	21.0 gals.

- ① - Add 3 qts. with A/C.
- ② - Transmission & torque converter.