

TUNE-UP

ENGINE IDENTIFICATION

Engine can be identified by the 8th digit of Vehicle Identification Number (VIN) which is stamped on a tag at top left corner of dashboard. The engine is also identified by code letters which are located on a label at rear of left valve cover, and stamped into block on left front corner.

VIN Engine Codes

Application	VIN Code
5.7L (350") Diesel	Z

TUNE-UP NOTES

NOTE — Due to late changes and corrections, always refer to Engine Tune-Up Decal in engine compartment before attempting tune-up. If the decal specifications are different than the specifications presented here, use the decal specifications.

CAUTION — Adjustment of injectors or internal adjustments of injection pump must be done in a properly equipped injector shop with clean environment.

ENGINE COMPRESSION

NOTE — Prior to checking compression, be sure battery is fully charged to avoid battery run-down. When turning engine over during test, 6 "puffs" per cylinder should be used to obtain reading.

Compression Ratio	22.5:1
Compression Pressure	275 psi (min.)
Max. Pressure Variation	①

① — Lowest cylinder must read within 70% of highest.

1) Remove air cleaner and install screen cover over air crossover. Disconnect electrical wire from fuel injection pump solenoid terminal.

2) Disconnect glow plug wiring and remove all glow plugs. Use compression gauge (J-26999) to test individual cylinders.

CAUTION — Do not add oil to cylinders during compression check as extensive engine damage will result.

VALVE CLEARANCE

Lifters are hydraulic and are not adjustable. They should have zero lash.

NOTE — Some engines were produced with both standard and .010" oversize lifters installed. Oversize lifters can be identified by an "O" etched on side of lifter boss. Diesel engine lifters are NOT interchangeable with gasoline engine lifters.

GLOW PLUGS

Glow plugs are small 6-volt heaters operated by an electronic relay. They cycle on and off, powered by 12 volts to give rapid heating. Glow plug light on dash should cycle on and off as plugs do. If test lamp is connected to glow plugs and ground, it should flash on and off. Relay can be heard clicking on and off after ignition has been on for approximately 6 seconds.

All Models GM Part No. 5613680
Torque 12 Ft. Lbs.

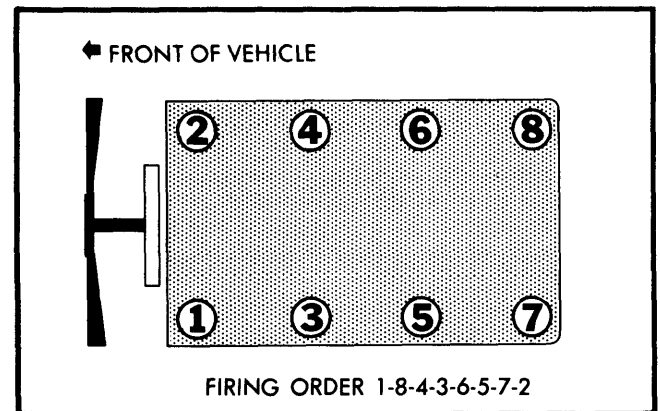


Fig. 1 Firing Order Illustration

INJECTOR TIMING

1) Check alignment of injection pump marks. If marks are not within tolerance shown in Fig. 2, timing is necessary. Loosen 3 retaining nuts (use J-26987) and turn pump with 3/4" wrench on boss at front of pump. Tighten nuts and adjust throttle linkage.

2) Disconnect cruise control and transmission linkage. Disconnect pump rod, loosen lock nut, and shorten rod several turns. Rotate throttle lever to full-throttle position and lengthen rod until it fits with lever just contacting full-throttle stop. Reconnect linkage from cruise control or transmission.

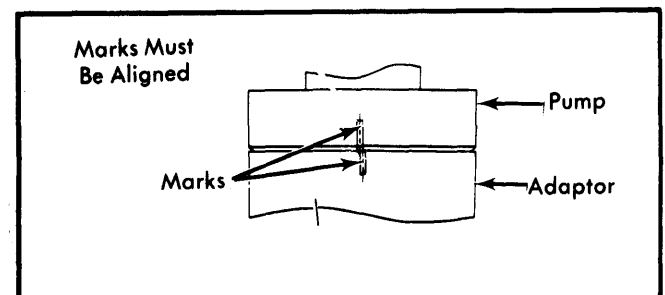


Fig. 2 Timing Marks on Injection Pump & Adaptor

TUNE-UP (Cont.)

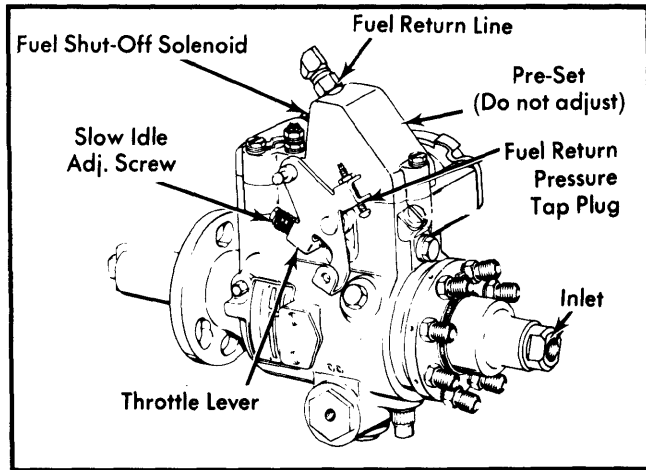


Fig. 3 Diesel Injection Pump Adjustment Locations

IDLE SPEED (RPM)

NOTE — Use magnetic tachometer (J-26925) to check idle speed. Insert probe in timing indicator hole.

- 1) Warm engine to normal operating temperature, then stop engine. Disconnect coolant temperature switch connector (top left rear of engine). Use a jumper wire to bridge terminals in connector. Do not allow jumper wire to touch ground.
- 2) Start engine and open throttle to ensure solenoid is fully extended. Adjust solenoid to set solenoid RPM. Turn engine off and remove jumper wire, then reconnect temperature switch.

- 3) Start engine and check curb idle speed. Adjust with slow idle screw if necessary. Remove test equipment.

Idle Speed (RPM)

Application	Curb Idle	Solenoid Energized
Federal	575	650
Calif.	600	750

INJECTION NOZZLES

If engine starts, but idles roughly, check injection nozzles as described:

- 1) Start engine. Loosen injection line fitting at each nozzle, one at a time. Be sure to direct fuel away from sources which could cause fire.
- 2) If, when an injection line fitting is loosened, idle speed or quality does NOT change, replace that nozzle and repeat test.
- 3) Disconnect fuel return system from nozzles on one bank of engine at a time. Start engine and observe fuel seepage from each nozzle. Replace any nozzle that leaks excessively. Torque nozzle clamp bolt to 25 ft. lbs.

GENERAL SERVICING

FUEL INJECTION

All models are equipped with General Motors Diesel Fuel Injection.

Other Data & Specifications — See *GM Diesel Fuel Injection* article in **FUEL SYSTEMS** Section.

ELECTRICAL

BATTERIES

Two 89-5 12 volt negative (–) ground sealed top units. One battery is located on each side of engine compartment and they are wired in parallel.

STARTER

Minimum Cranking Speed 100 Engine RPM

Starter Specifications

Application	Volts	Amps	Test RPM
All Models	9	40-140	8000-13,000

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

ALTERNATOR

Alternator supplies current to both batteries. There are no switches or relays in charging circuit.

Application Amp. Output

Standard 63

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

ALTERNATOR REGULATOR

Delco non-adjustable integral with alternator.

Operating Voltage (at 85° F) 13.8-14.8 V

Other Data & Specifications — See *Delco Alternators and Regulators* in **ELECTRICAL** Section.

BELT ADJUSTMENT

Tension (Lbs.) Using Strand Tension Gauge

Application	New Belt	Used Belt
Air Conditioning	135-165	85-95
All Others	110-140	70-80

GENERAL SERVICING (Cont.)

PC MZCT

CAPACITIES

Application	Quantity
Crankcase	①7.0 qts.
Auto. Trans. (Dexron)	②6.0 pts.
Rear Axle (SAE 80W-90)	③
Cooling System	18.0 qts.
Fuel Tank	
Short W.B. (Main or Auxiliary)	16.0 gals.
Long W.B. (Main or Auxiliary)	20.0 gals.

- ① — Includes filter. Oil MUST be designated BOTH SE & CC. If CD appears anywhere on can, do not use.
- ② — Total fill is 10.0 quarts.
- ③ — Fill to bottom of filler hole.

REPLACEMENT INTERVALS

Component	Interval (Miles)
Oil Filter	3000
Air Cleaner Element	30,000
Fuel Filter	15,000
Automatic Transmission Filter	100,000
Breather Cap and Filter	Check 6000
	Replace 30,000
Ventilation Regulator Valve	Replace 30,000