TUNE-UP

ENGINE IDENTIFICATION

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

VIN ENGINE CODES

Application	Code
6.2L (379") Diesel	C,J

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 decal specifications.

CAUTION: Adjustment of injectors or internal adjustment 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.

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.

COMPRESSION SPECIFICATIONS

Compression Ratio	21.5:1
Compression Pressure	275 psi (19 kg/cm²)
Max. Pressure Variation	[1]

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

VALVE CLEARANCE

Lifters are hydraulic and are not adjustable. They should have zero lash. Some engines were produced with both standard and .010" (.25 mm) oversize lifters installed.

NOTE: Oversize lifters can be identified by an "O" etched on side of lifter boss. Diesel engine lifters are NOT interchangeable with gasoline engine lifters.

VALVE ARRANGEMENT

I-E-I-E-I-E-I-E (Left bank, front to rear)
E-I-E-I-E-I-E-I (Right bank, front to rear)

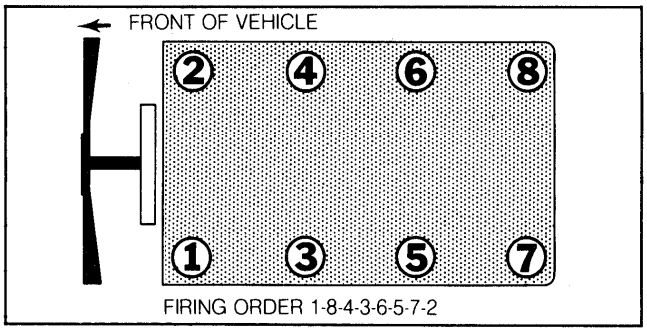
GLOW PLUGS

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.

GLOW PLUG SPECIFICATIONS

GM Part No.	5613680
Torque	12 Ft. Lbs. (16 N.m)

Fig. 1: Diesel Firing Order

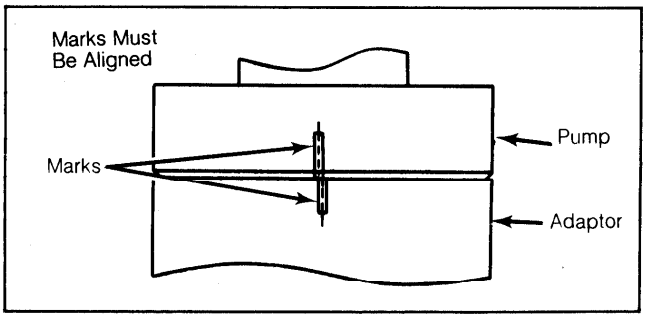


INJECTOR TIMING

1) Check alignment of injection pump marks. If marks are not within tolerance shown in *Fig. 2*, timing is necessary. Loosen 3 retaining nuts and turn pump with ¾" (19 mm) wrench (J-29872) 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 Adaptor & Injection Pump



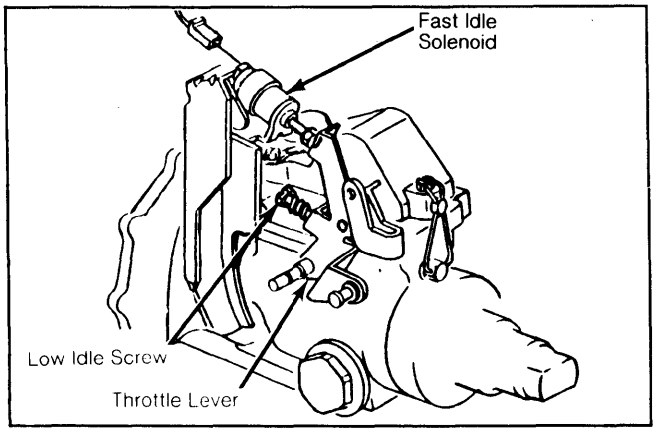
Marks must be aligned within this tolerance.

TUNE-UP (Cont.)

IDLE SPEED (RPM)

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

Fig. 3: Adjustment Locations on Diesel Injection Pump



Energize solenoid when adjusting fast idle.

1) Warm engine to normal operating temperature. Adjust low speed idle screw on pump to obtain proper RPM. *See Fig. 3.* Remove connector from fast idle solenoid. Run an insulated jumper wire from battery positive terminal to solenoid terminal to energize solenoid.

2) Start engine and open throttle to ensure solenoid is fully extended. Adjust solenoid by turning hex head. Turn engine off and remove jumper wire and test equipment. Reinstall fast idle solenoid connector.

IDLE SPEED (RPM)

Application	Curb Idle	Fast Idle
Auto. Trans.	550	700
Man. Trans.	575	700

INJECTION NOZZLES

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

1) Start engine. Lossen 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.

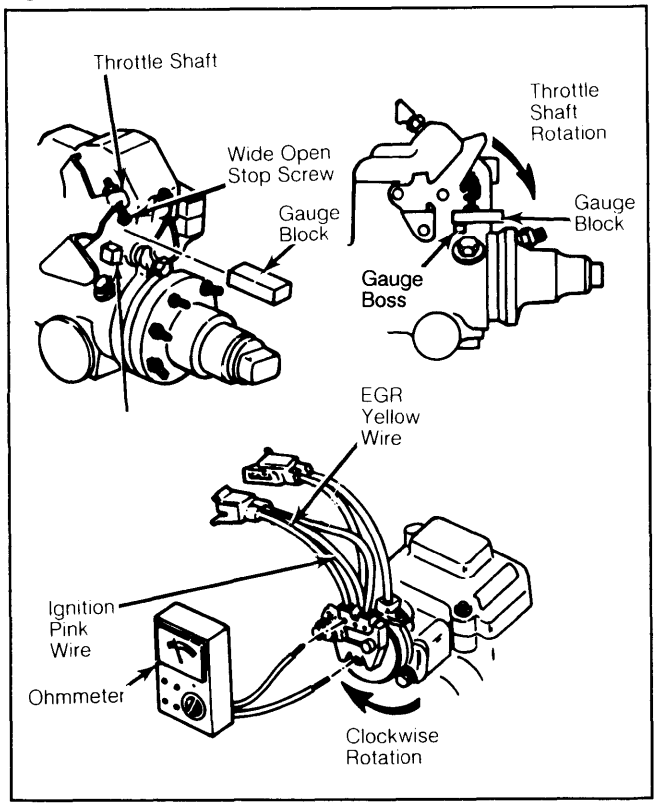
3) Disconnect fuel return system from nozzles on one bank of engine at a time. Start engine and observe fuel seepage from each nozzle. Replace any nozzle that leaks excessively. Torque nozzle clamp bolt to 25 ft. lbs. (34 N.m).

THROTTLE POSITION SWITCH

1) Remove air cleaner assembly. With throttle lever in closed position, loosen TPS-to-fuel injection pump attaching screws. Attach an ohmmeter across ignition (Pink) and EGR terminals or wires. *See Fig. 4.*

2) Using the proper size "switch-closed" gauge block, insert block between gauge boss on injection pump housing and throttle shaft wide open stop screw. Rotate and hold throttle lever against gauge block.

Fig. 4: Adjusting Throttle Position Switch



Rotate clockwise until continuity occurs.

3) Rotate TPS clockwise (facing TPS) until continuity just occurs on ohmmeter. Hold switch body in this position and tighten retaining screws. TPS must be set only while rotating switch body in clockwise rotation.

4) Remove "switch-closed" gauge block and insert proper "switch-open" gauge block. Rotate throttle lever so it rests against "switch-open" gauge block.

5) Ohmmeter reading should indicate no continuity. If no continuity is measured, switch is properly adjusted. If continuity is registered, repeat entire adjustment procedure.

TRANSMISSION VACUUM REGULATOR

1) Loosen vacuum regulator assembly on fuel injection pump. Switch body should just be free to rotate.

2) Attach outside vacuum source to inboard vacuum fitting. Attach vacuum gauge to other vacuum fitting. Apply 9 in. Hg vacuum.

3) Insert vacuum regulator valve "gauge block" between gauge boss on pump and wide open stop screw on throttle lever. Rotate and hold throttle shaft against block.

TUNE-UP (Cont.)

4) Slowly rotate vacuum regulator body clockwise (facing valve) until vacuum gauge reads 5.6 in. Hg. Hold valve body at this position and tighten mounting screws. Valve must be adjusted while rotated in clockwise direction.

5) Check adjustment by releasing throttle shaft, allowing it to return to idle stop position. Rotate throttle shaft back against block. Vacuum gauge reading should be 5.3-5.9 in. Hg. If not, readjust valve.

GENERAL SERVICING

FUEL INJECTION

All models are equipped with General Motors Diesel Fuel Injection.

ELECTRICAL

BATTERIES

Diesel vehicles use two 12 volt negative ground sealed top units. One battery is located on each side of engine compartment and they are wired in parallel.

STARTER

STARTER SPECIFICATIONS

Application	Volts	Amps.	Test RPM
6.2L	9	65-95	7500-10,500

ALTERNATOR

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

ALTERNATOR SPECIFICATIONS

Application	Amp. Output
Standard	61

ALTERNATOR REGULATOR

Delco non-adjustable, integral with alternator.

REGULATOR SPECIFICATIONS

Operating Voltage	[1] 13.8-14.8 V

[1] — At 85°F (29°C).

ADJUSTMENTS

BELT ADJUSTMENT

Tension in Lbs. (kg) Using Strand Tension Gauge		
Application	**New Belt**	**Used Belt**
Air Conditioning	145 (66)	90 (41)
All Others	125 (57)	75 (34)

SERVICE INTERVALS

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	[1] 30,000
Ventilation Regulator Valve	30,000

[1] — Check every 6000 miles.

CAPACITIES

FLUID CAPACITIES

Application	Quantity
Crankcase	[1] 7.0 qts. (6.6L)
Auto. Trans. (Dexron)	[2] 6.0 pts. (2.8L)
Rear Axle (SAE 80W-90)	[3]
Cooling System	
Without A/C	23.0 qts. (21.7L)
With A/C	24.5 qts. (23.2L)
Fuel Tank	
Short W.B. (Main or Aux.)	16 gals. (61L)
Long W.B. (Main or Aux.)	20 gals. (76L)

[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.