1974-79 TUNE-UP PROCEDURES
Mercedes-Benz 4-Cylinder Diesel

240D

ENGINE IDENTIFICATION

First 6 digits of engine identification number identify engine. Number is located on a tag at the rear, left side of engine crankcase.

ENGINE CODES

Application	Code
1974-76 Models	616.916
1977-79 Models	616.912

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

First 6 digits of Vehicle Identification Number, located on a tag on left, front window post (visible through windshield) and on rear firewall in engine compartment, identify model as follows.

VIN CODES

Application	Code
1974-76 Models	115.117
1977-79 Models	123.123

ENGINE COMPRESSION

Check compression pressure with engine at normal operating temperature and throttle valve fully open. Crank engine through at least 8 revolutions.

COMPRESSION PRESSURE SPECIFICATIONS

Application	Pressure psi (kg/cm²)
Normal	319-348 (22.5-24.5)
Minimum	218 (15)
Maximum Variation	44 (3)

VALVE CLEARANCE

VALVE CLEARANCE SPECIFICATIONS

Application	Intake	Exhaust
Cold	.004" (.10 mm)	.012" (.30 mm)
Hot	.006" (.15 mm)	.014" (.35 mm)

VALVE ARRANGEMENT

E-I-I-E-E-I-I-E - Front-to-rear.

GLOW PLUGS

GLOW PLUG SPECIFICATIONS

Application	Specification
Part No.	0 250 001 016
Torque	36 ft. lbs. (49 N.m)

ADJUSTMENTS

NOTE: Also see Bosch Diesel Fuel Injection article in FUEL SYSTEMS section for additional adjustments.

IDLE SPEED

1974-76 Models - 1) Warm engine to normal operating temperature. Turn idle control knob on instrument panel to extreme right position. This setting should create some slack between angle lever and idle adjustment cable.

2) Remove oil plug screw from engine and install tachometer drive. Disconnect rod connecting angle lever to throttle duct. Adjust idle speed to 700-800 RPM by turning idle speed screw. *See Fig. 1.*

3) Adjust idle control cable by turning idle control knob on instrument panel to extreme right position. Move adjustable cable stop to provide a clearance of .004-.008" (.10-.20 mm) between cable stop and angle lever. If after adjusting idle speed, the engine shakes or surges, it may be necessary to adjust throttle control linkage.

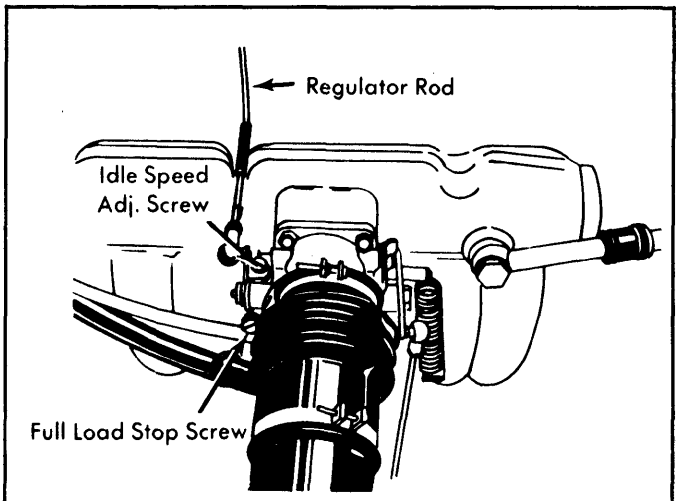

Fig. 1: 1974-76 Idle Speed Adjustment

1977 Models - 1) Check throttle linkage for free movement and wear. Warm engine to normal operating temperature. Turn idle speed regulator knob on dashboard as far as it will go. Distance between collar and spring should be .040" (1.0 mm). Adjust if necessary.

2) Depress stop lever above fuel injection pump. Cruise control cable should rest tension-free against bellcrank. Adjust cable if necessary. Release stop lever. Cable should have play.

3) Disconnect control rod at bellcrank lever and check idle speed. If necessary, loosen lock-nut and turn idle adjusting screw on side of injection pump housing. Reconnect control rod and adjust throttle linkage (if necessary).

4) Place automatic transmission in Drive. Turn A/C on and turn steering wheel to a full-lock position. Engine must run smoothly. If necessary, readjust idle speed.

5) Depress accelerator pedal slightly. Simultaneously, turn idle speed regulator knob counterclockwise to stop. Release accelerator pedal. Engine speed should be 1000-1100 RPM.

6) If necessary, readjust idle speed by turning idle adjusting screw. Allow engine to run for 3-5 minutes. If engine speed increases by itself, reduce engine speed with idle adjusting screw.

NOTE: On 1977 models, DO NOT adjust engine speed higher than the controlled idle speed range of governor. Engine speed could automatically increase without a load.

1978-79 Models - 1) Inspect throttle linkage for freedom of movement and wear. Start engine and run until oil temperature reaches 140-176°F (60-80°C).

2) Disconnect control rod from bellcrank on control lever of injection pump. *See Fig. 2.* Adjust idle speed adjusting screw to obtain specified engine RPM. Reconnect control rod free of tension. Adjust throttle linkage if necessary.

1974-79 TUNE-UP PROCEDURES
Mercedes-Benz 4-Cylinder Diesel (Cont.)

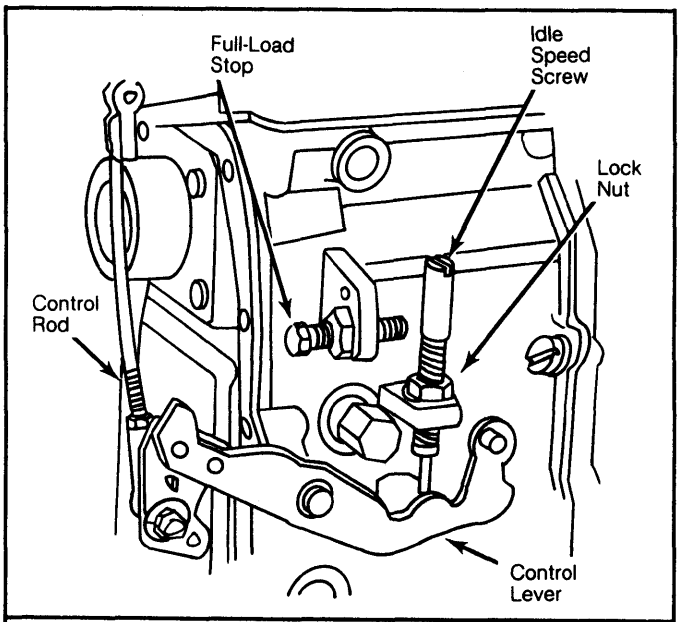

Fig. 2: 1978-79 Idle Speed Adjustment

IDLE SPEED SPECIFICATIONS

Application	Idle RPM
All Models	650-750

THROTTLE CONTROL LINKAGE

1975-76 Models - 1) With idle speed properly adjusted, detach rod between throttle duct and angle lever. Check that rod length is approximately 12.2" (310 mm), measured from center of ball sockets. Reconnect rod to throttle duct.

2) To check rod length between lever and injection pump, disconnect rod from angle lever only. Push downward on rod until it reaches mechanical stop of injection pump actuating lever. Check that distance between rod socket and angle lever ball is .157" (4 mm).

FUEL SYSTEM

1974 FUEL PUMP SPECIFICATIONS

Application	Specification
Delivery Pressure	
At Idle	11.8-22.1 psi (.83-1.6 kg/cm²)
At 3000 RPM	32.3 psi (2.3 kg/cm²) Min.
Discharge Pressure	
At Idle	29.4 psi (2.07 kg/cm²)
At 3000 RPM	36.8 psi (2.59 kg/cm²) Min.
Vacuum (At Idle)	5.9-11.9 in. Hg

1975-76 FUEL PUMP SPECIFICATIONS

Application	Specification
Delivery Pressure [1]	
At Idle	8.5-11.4 psi (.6-.8 kg/cm²)
At 3000 RPM	11.4 psi (.8 kg/cm²) Min.
Vacuum (At Idle) [2]	2.9 in. Hg

[1] - Measured between main filter and injection pump.
[2] - Measured in front of pump inlet.

EXHAUST EMISSION SYSTEMS

See appropriate articles in EXHAUST EMISSION SYSTEMS section.

FUEL PUMP

FUEL INJECTION

All models use Bosch diesel fuel injection.

Other Data & Specifications - See Bosch Diesel Fuel Injection article in FUEL SYSTEMS section.