1974-79 TUNE-UP PROCEDURES
Mercedes-Benz 5-Cylinder Diesel

300D, 300CD, 300SD, 300TD

ENGINE IDENTIFICATION

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

ENGINE CODES

Application	Code
1975-76 Models	
300D	617.910
1977-79 Models	
300D, CD & TD	617.912
300SD	617.950

MODEL IDENTIFICATION

VEHICLE IDENTIFICATION NUMBER

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

VIN CODES

Application	Code
1975-76 Models	
300D	115.114
1977-79 Models	
300D	123.130
300CD	123.150
300SD	116.120
300TD	123.190

ENGINE COMPRESSION

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

ENGINE COMPRESSION PRESSURE

Application	Pressure
Normal	319-348 psi (22.5-24.5 kg/cm²)
Minimum	218 psi (15 kg/cm²)
Maximum Variation	44 psi (3.0 kg/cm²)

VALVE CLEARANCE

VALVE CLEARANCE SPECIFICATIONS

Application	Intake	Exhaust
Cold	.004" (.10 mm)	[1] .012" (.30 mm)
Hot	.006" (.15 mm)	[2] .014" (.35 mm)

[1] - Set to .014" (.35 mm) on 300SD.
[2] - Set to .016" (.40 mm) on 300SD.

VALVE ARRANGEMENT

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

GLOW PLUGS

GLOW PLUG SPECIFICATIONS

Application	Specification
Part No.	
300D, CD & TD	0 250 001 016
300SD	0 250 200 054
Torque	36 ft. lbs. (49 N.m)

ADJUSTMENTS

NOTE: Do not adjust engine speed higher than the controlled idle speed range of governor. Engine speed could automatically increase without a load. Also see Bosch Diesel Fuel Injection article in FUEL SYSTEMS section for additional adjustments.

IDLE SPEED

1975-76 Models - 1) Warm engine to normal operating temperature. Ensure that throttle linkage is properly adjusted. Turn idle speed regulator knob on instrument panel clockwise as far as it will go. Check distance between idle speed cable locking collar and spring. Clearance should be .04" (1.0 mm). Adjust cable if necessary.

2) Disconnect throttle control rod from bellcrank lever. Loosen lock nut and adjust idle speed screw until specified idle RPM is obtained. Reconnect throttle control rod and stop engine.

3) Depress accelerator pedal, and at the same time, turn idle speed regulator knob all the way counterclockwise. Start engine and check idle RPM. Engine should now be running at 1000-1100 RPM. If not, adjust idle speed cable. *See Fig. 1.*

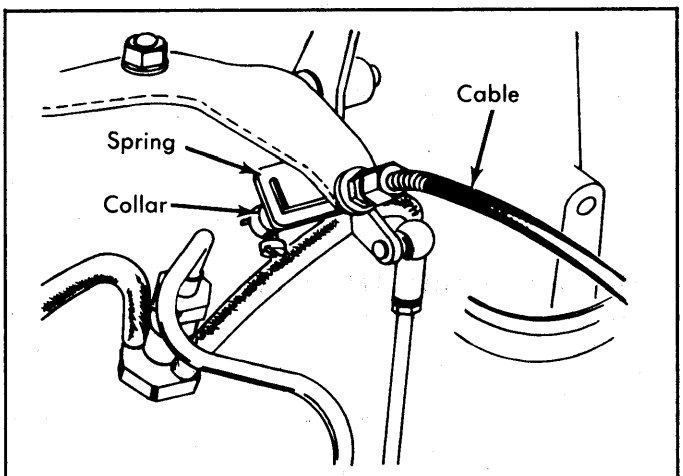

Fig. 1: Adjusting Idle Speed Cable

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 .04" (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 air conditioning system 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.

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. Turn 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 5-Cylinder Diesel (Cont.)

IDLE SPEED SPECIFICATIONS

Application	Idle RPM
1975-76 Models	
300D	700-800
1977-79 Models	
300D, CD & TD	650-750
300SD	650-850

THROTTLE CONTROL LINKAGE

1975-76 Models - 1) Disconnect throttle control linkage. Ensure that control lever on injection pump is against idle stop. Adjust throttle pressure rod to a length of 9.92" (252 mm) and throttle pull rod to a length of 8.86" (25 mm), measured from center of ball sockets.
2) Reconnect rods. Adjust throttle push rod to a length of 6.22" (158 mm) when fully extended. *See Fig. 2.* With engine off, fully depress accelerator pedal and check full throttle stop.
3) Accelerator pedal and control lever on injection pump must rest against full throttle stop. If necessary, adjust control shaft on firewall to obtain full throttle stop.

NOTE: If control linkage cannot be adjusted to obtain full throttle stop on 1976 models, check that spring on idle speed regulator is correctly installed.

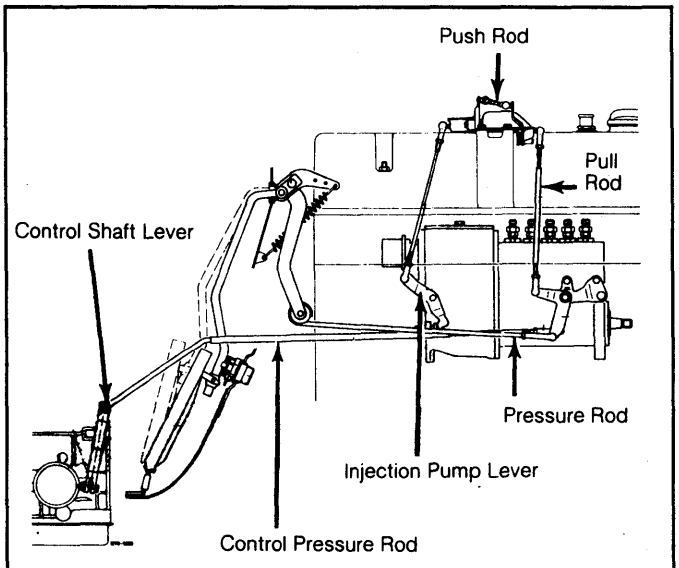

Fig. 2: Adjusting Throttle Control Linkage

CONTROL PRESSURE ROD

1975-76 Models - 1) Disconnect control pressure rod. Depress accelerator pedal to full throttle (not kick-down) position. In this position, control lever on injection pump must be against full throttle stop. **2)** If lever is not against full throttle stop, loosen screw on control shaft lever. Pull control pressure rod forward to full throttle position as adjust lent on ball socket until rod can be reconnected free of tension. Tighten control shaft lever screw.

NOTE: Due to control pressure regulation, adjust pressure control rod as specified. An incorrectly adjusted control pressure rod will lead to a reduction of working pressure, which may cause damage to transmission.

FUEL PUMP

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 SYSTEM

FUEL INJECTION

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