

## General Information

The VDO version of the Cruise Control System has been installed in models 450 SL and 450 SLC starting with Model Year 1976. Subsequent installation of this system into earlier models is not possible.

The second version of the cruise control system consists essentially of the same basic components as the first system.

The push-pull switch for operating the system has been modified into a lever switch and is located behind the left side of the steering wheel.

The speed sensor has been relocated and is attached to the back of the speedometer on vehicles produced as of April, 1976.

The following operational characteristics have either been modified or are new:

- 1) The system is operational immediately after turning on the ignition. It is no longer necessary to activate the system with a separate switch.
- 2) By operating the control switch lever located behind the left side of the steering wheel, any set speed can be increased or decreased as desired.
- 3) The set speed can also be cancelled with this switch as well as by depressing the brake pedal as on the previous system.
- 4) Any speed set prior to cancellation or deactivation of the system can be reset with this switch as long as the vehicle speed exceeds 30 mph. The vehicle will then accelerate to the set speed.

On vehicles produced early during Model Year 1976, the memory circuit will retain the speed setting after turning off the ignition.

The memory, however, will not activate the system until the cruise control lever is moved upwards. On vehicles produced later during Model Year 1976, the memory will be erased when the ignition is turned off.

## Description of Operation

This system is operable after turning on the ignition. The system can be activated at any speed above 30 mph. A momentary touch on the control switch lever towards "ACCEL. SET" or "DECEL. SET" is sufficient in order to maintain the present vehicle speed until either setting a new speed or depressing the brake pedal.

In order to adjust the vehicle speed to the traffic flow, the speed can be increased or decreased by pushing the control switch lever in direction "ACCEL. SET" or "DECEL. SET" respectively and holding it in this position until the desired speed is reached. Release the lever and the new speed will be maintained automatically. In addition to the brake pedal, the system can also be cancelled with the switch. After braking, cancelling the system or parking the vehicle for some time, the set speed can be obtained again by briefly moving the lever to "RESUME" position after the vehicle has obtained a speed above 30 mph and the vehicle will accelerate to the previously set speed.

The memory circuit will retain the set speed for several hours after parking on Model Year 1976 vehicles up to March production (approximately).

On vehicles as of March 1976 production, the set speed will be erased from the memory as soon as the ignition is turned off.

If the set speed is exceeded by accelerating with the accelerator pedal, for example when passing, the vehicle will automatically reduce its speed to the set speed after the accelerator pedal is released. Actuating the brake pedal will cancel the set speed. The system, however, remains operational until the ignition is turned off.

For safety reasons the system will be deactivated if the vehicle speed falls by approximately 12 mph or more below any set speed, for instance when traveling uphill in mountainous areas. In the event the brake light switch is inoperative (which is one means to deactivate the system), the system may also be can-

celled through braking against engine power to a speed approximately 12 mph below the set speed.

**Caution:** When operating the vehicle with the cruise control system, the shift lever of the automatic transmission should not be placed into neutral in order to avoid over-revving of the engine.

The cruise control system consists essentially of four components: switch behind the steering wheel, speed sensor hooked into the speedometer drive cable, electronic control unit and throttle actuator.

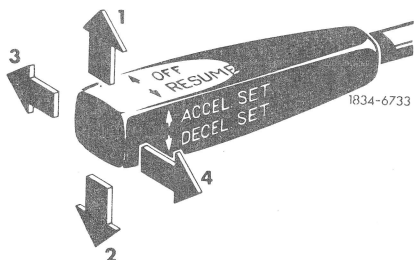


Fig. 1 Cruise Control Switch

- Pos. 1 and 2 = to set speed by briefly touching switch
- Pos. 1 = to increase speed by holding switch up
- Pos. 2 = to decrease speed by holding switch down
- Pos. 3 = to cancel system (momentary touch)
- Pos. 4 = the last set speed will be resumed automatically with the vehicle travelling above 30 mph. (momentary touch)

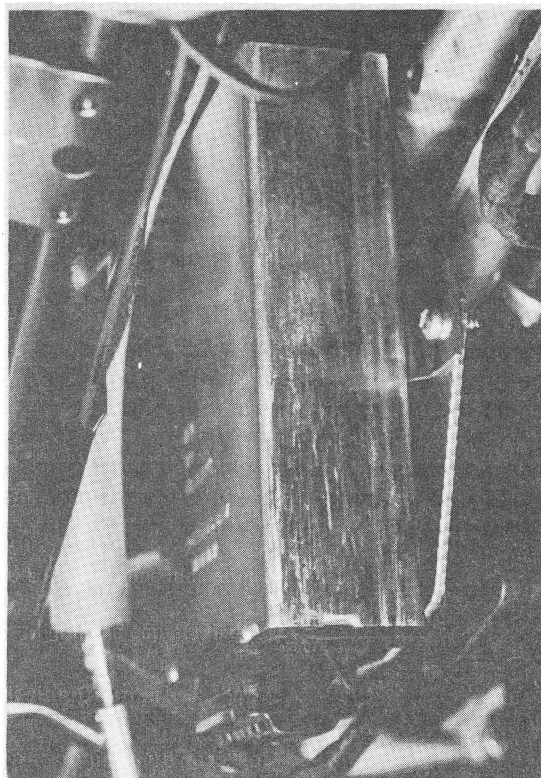


Fig. 2

2 Electronic control unit

The electronic control unit (2) performs a continual comparison between the actual and the "set" speed. If the actual speed deviates from the "set" speed, the control unit will transmit electronic signals to the vacuum operated throttle actuator until the two speeds coincide.

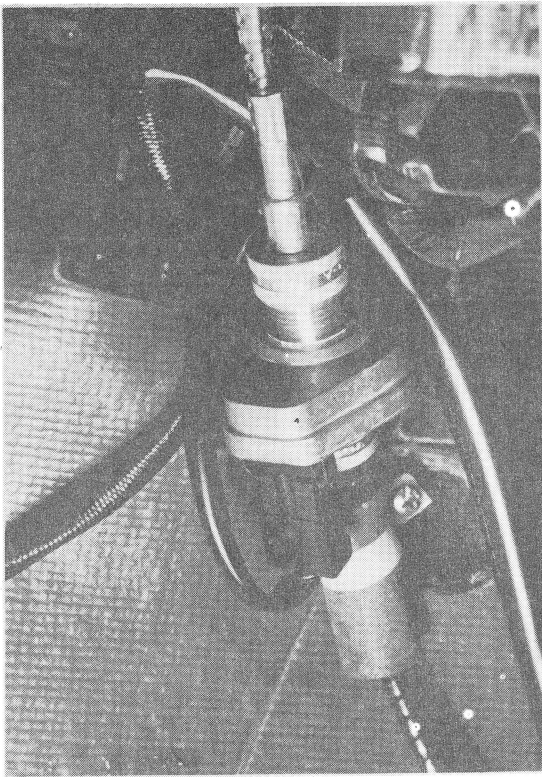


Fig. 3 3 Speed sensor

The speed sensor (3) is driven by the speedometer drive cable and transmits the actual speed through impulses to the electronic control unit (2).

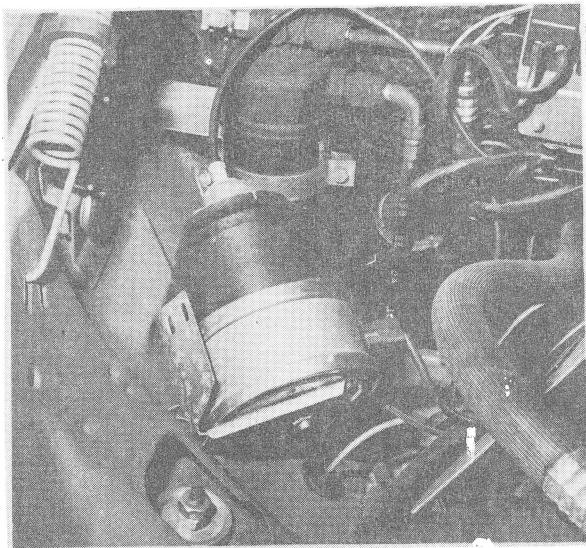


Fig. 4 4 Throttle actuator

The vacuum controlled throttle actuator (4) receives its control impulses from the electronic control unit (2) and operates the throttle linkage via the bowden cable. The required vacuum is supplied from a vacuum tank.

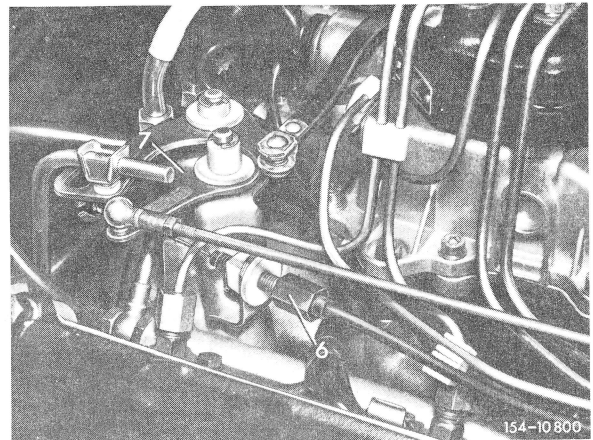


Fig. 5 6 Adjustment nut  
7 Control linkage

It must be noted when adjusting the idle speed that the bowden cable rests against the control linkage (7) free of tension. The bowden cable may be adjusted by turning the adjustment nut (8).

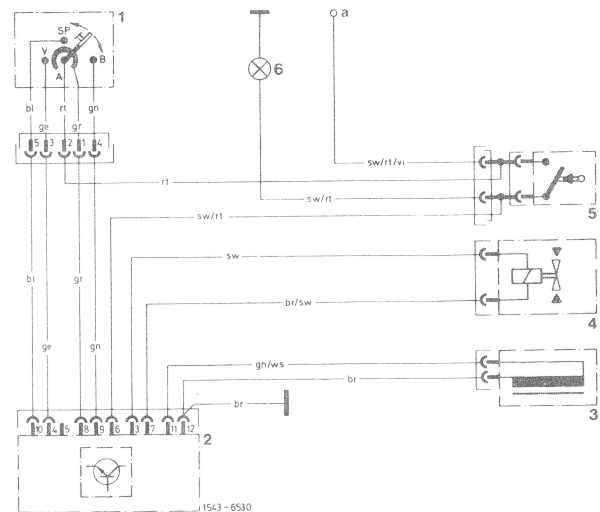


Fig. 6 Electrical wiring diagram

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|---------------------------|----------------------|
| 1 Control switch          | 3 Speed sensor       |
| A Cancel                  | 4 Throttle actuator  |
| V Decelerate              | 5 Brake light switch |
| SP Memory                 | 6 Brake light        |
| B Accelerate              | a Terminal 15        |
| 2 Electronic control unit |                      |

Color Codes:

bl = blue  
br = brown  
ge = yellow

gr = gray  
gn = green  
rt = red

sw = black  
ws = white  
vi = purple