

Traction Control

Overview

Traction control equipped vehicles utilize engine torque reduction, transmission shift control and individual rear brake application to help control wheel spin when starting up and during acceleration at low vehicle speeds. When TC is switched ON (TC is ON by default), the ABS / TC CM will initiate control if one drive wheel rotates faster than the other or both drive wheel rotate faster than the comparative norm of the front wheels. As soon as a drive wheel begins to slip during acceleration, the system reduces engine torque, signals the TCM that traction control is active and switches on the pump / motor unit to provide brake apply pressure. The TCM adopts a traction control shift strategy and, if required, brake apply pressure is directed to the slipping wheel by the ABS / TC CM.

Sedan Range Traction Control

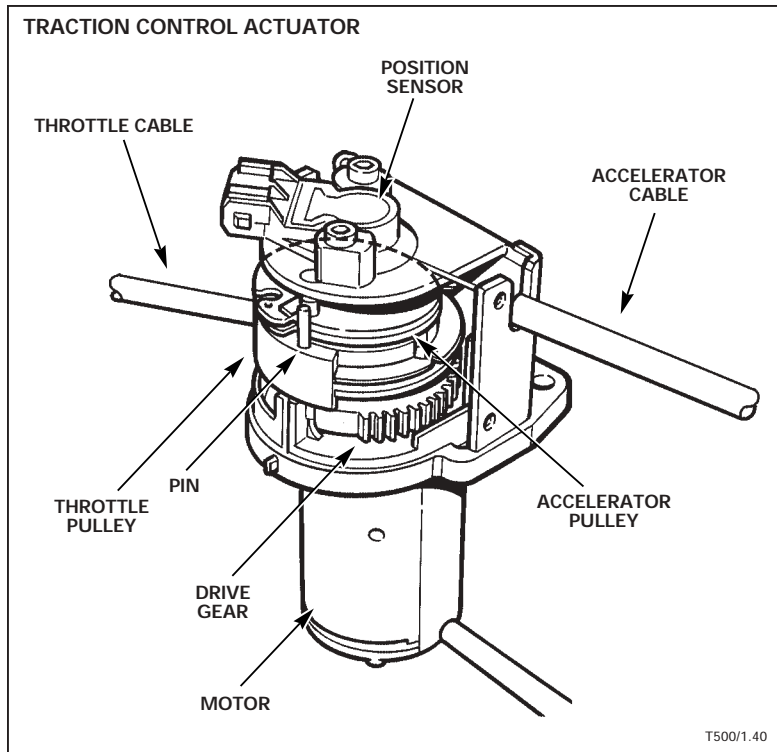
Sedan Range vehicles use a traction control actuator to control engine torque. As soon as a drive wheel starts to slip, the ABS / TC CM reduces engine torque by closing the throttle via the traction control actuator. At the same time the CM applies modulated brake pressure to the spinning wheel(s). A traction active signal is output to the TCM to inhibit shifting and a cruise control inhibit signal is output to cancel cruise control. Cruise control must be reset after traction control activation. If the brake is applied while traction control is active, traction control is immediately canceled.

Traction control is ON by default each time the engine is started. An instrument panel switch can switch traction control OFF, activating the TRAC OFF indicator. When the vehicle is next started, traction control will default to ON.

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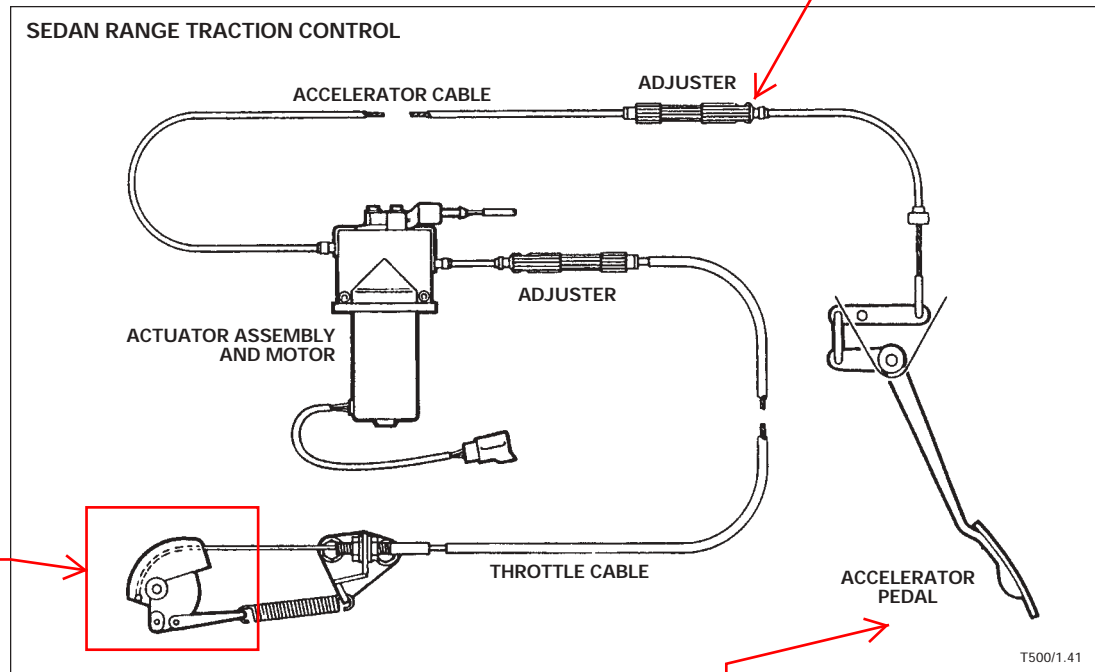
Traction Control (continued)

Sedan Range Traction Control Actuator



The traction control actuator closes the throttle valve from the position set by the accelerator pedal. The accelerator cable connects from the pedal to a pulley in the actuator. The throttle cable connects a second pulley in the actuator to the throttle valve. During normal operation, both pulleys operate together. When traction control is activated, the ABS / TC CM drives the actuator motor, which moves the throttle cable pulley to reduce throttle opening. The CM receives accelerator pedal position feedback from the actuator position sensor.

I have found that it is best to wire-tie this adjuster to the to the pipes/cables etc. just below the engine bay rear weather strip once the adjustment is complete. This cable flopping around seems to constantly alter the adjustment. It will mess with your mind for sure.



Throttle Quadrants

In some cases, it may be necessary to remove the kick-down switch under the pedal and shorten it's mounting stud a bit. May be required to allow enough total pedal travel to achieve 100% throttle body opening once the other cable adjustments are properly set.

Traction control actuator and cable adjustment

- Turn both cable adjusters in fully to give maximum outer cable play.
- Unscrew the accelerator cable adjuster until the pin on the accelerator cable pulley just contacts the arm of the actuator position sensor.
- Unscrew the throttle cable adjuster until there is 0.25 mm (0.010 in) clearance between the throttle quadrants with the throttle resting on its closed stop.
- Actuate the accelerator pedal 20 times to settle the cables.
- Recheck the actuator position sensor and throttle assembly adjustments.
- At full throttle, check that the actuator throttle cable and accelerator pulleys have not separated.
- Adjust the transmission kick down switch.

Traction control actuator diagnostic monitoring

The CM monitors the traction control actuator for electrical and mechanical faults. An incorrect TC actuator position sensor signal or a failure in the TC actuator position sensor circuit will activate a DTC, the TRAC OFF warning, the TRAC FAIL MIL and inhibit the TC function.

Short circuits, open circuits or high resistance in the actuator motor circuit will flag a DTC, illuminate the TC indicator and switch the system OFF.

Refer to the DTC Summaries following the Brakes and Traction Control section of this book.

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