

DESCRIPTION AND OPERATION

Anti-Lock Control - Traction Control

The traction control system is integrated into the anti-lock brake system and uses the same wheel speed sensors and hydraulic control unit (HCU).

The HCU has additional internal solenoid valves and a self priming pump incorporated to enable brake pressure increases without pressure in the master cylinder.

Brake Traction Control System (BTCS)

Brake traction control uses controlled braking of the spinning driving wheel when there is a variation in traction at the driven wheels.

The BTCS assists traction in a pull away from rest situation and can become active at road speeds . When the BTCS is active the driver is made aware of the fact by the flashes of a warning indicator located in the instrument cluster.

The spinning wheel is braked by the anti-lock braking system (ABS) which transfers a greater proportion of the engine torque, via the differential, to the other driven wheel, thereby increasing the utilization of the available traction.

To prevent the **risk of stalling the engine**, the BTCS reads engine speed data from the high speed CAN bus. **If this data is faulted or not available, the BTCS will not function and the warning will be permanently on.**

There is no driver disable switch for BTCS, BTCS is turned off when the ESP Off switch is pushed at 2WD mode in 2WD and 4WD vehicle. And, BTCS is not turned off even if the ESP Off switch is pushed when the mode is 4WD Hi and 4WD Lo in 4WD vehicle. Also, BTCS is always off regardless of ON/OFF of the ESP Off switch when ELRD(electronic Locking Rear Differential) is on.

ESP has the logic of the brake fade detection named BTM(Brake Temperature Mode). This logic presumes the temperature of the brake pad, and prohibits BTCS when state of the brake fade(**overheat**). **And, it lights up the ESP warning indicator.** When the brake gets cold, ESP warning indicator is turned off. And, it returns to the state that BTCS can be operated again. As a result, the thermal destruction of the base brake is prevented.