

TCS CONTROL

id041500103800

Outline

- The TCS control actuates torque reduction through engine control, as well as using brake control to control traction.

Note

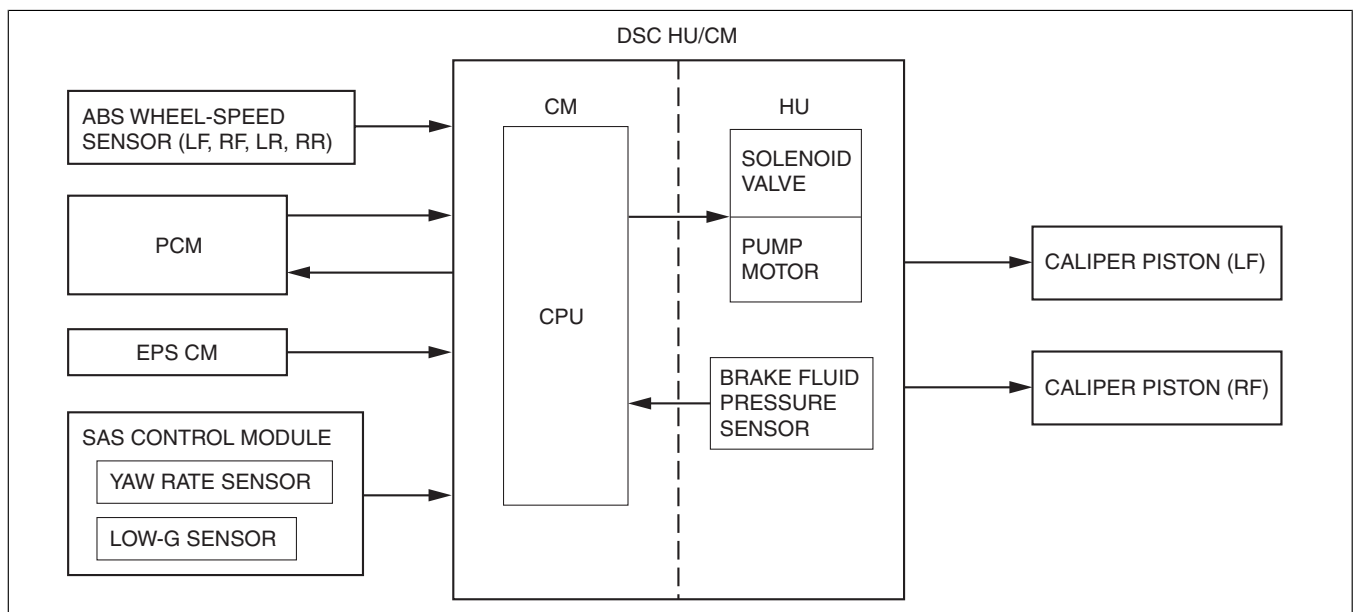
- Engine control: Engine output is lowered by fuel cut and ignition timing control to reduce the traction, preventing driving wheel slip.
- Brake control: Brake fluid pressure from the hydraulic unit (HU) to the driving wheel that is slipping is increased, operating the brake and preventing driving wheel slip.

Features

- The left and right wheels are controlled at the same time by engine control. Therefore, when the road surface friction coefficients differ between the left and right wheels, proper torque reduction cannot be performed separately for each wheel. When this occurs, torque reduction is performed by independent left and right wheel brake control, providing more stable vehicle control.
- The TCS OFF switch allows the driver to optionally enable/disable the TCS control at the driver's discretion.
 - When both driving wheels are stuck, traction control according to the driver's operation can be performed by inhibiting the TCS control.
 - The TCS control returns to normal operation automatically at the next ignition cycle.

Construction

Block Diagram



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Operation

- TCS control detects driving wheel spin based on the signals listed below, sends torque reduction request signals to the PCM, and also controls the solenoid valves and pump motor in the DSC HU/CM.
 - Vehicle wheel speed signals from the front and rear ABS wheel-speed sensors
 - Engine torque signal from the PCM
 - Steering angle signal from the EPS CM
 - Yaw rate and lateral-G signals from the SAS control module
 - Fluid pressure signal from the brake fluid pressure sensor (built into the DSC HU/CM)