

The supplemental braking assist feature uses the hydraulic pump motor and HCU to provide additional braking assist in the event of severe vacuum loss at the brake booster or during a severe braking event.

The ABS supports the adaptive cruise control system by applying the brakes as necessary to maintain the distance gap set by the driver. For information on the adaptive cruise control system, Refer to: Cruise Control - System Operation and Component Description .

The ABS supports the collision avoidance system by monitoring information and precharging the brake system allowing the vehicle to stop in the shortest distance possible. For information on the collision avoidance system, Refer to: Collision Warning and Collision Avoidance System - System Operation and Component Description .

The traction control system helps prevent loss of traction by reducing drive wheel spin during acceleration.

Some noise from the system and pulsations in the brake pedal are normal conditions during most ABS and stability control events. Also, longer than normal brake pedal travel may be experienced immediately following an ABS or stability control activation.

DESCRIPTION AND OPERATION > ANTI-LOCK BRAKE SYSTEM (ABS) AND STABILITY CONTROL - SYSTEM OPERATION AND COMPONENT DESCRIPTION

System Operation

DESCRIPTION AND OPERATION > ANTI-LOCK BRAKE SYSTEM (ABS) AND STABILITY CONTROL - SYSTEM OPERATION AND COMPONENT DESCRIPTION > NETWORK MESSAGE CHART

Module Network Input Messages - ABS Module

Broadcast Message	Originating Module	Message Purpose
Accelerator pedal position	PCM	This message is sent to the GWM and then to the ABS module. The ABS module uses accelerator pedal position information for correct operation of the traction control, ESC and hill start assist features.
Ambient air temperature	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current ambient air temperature. The ABS module uses this information for calculations in determining the operational status of the various stability control systems and

		features.
Adaptive cruise control braking cancel	CCM	This messages informs the ABS module the adaptive cruise control system no longer requires vehicle braking.
Adaptive cruise control deceleration	CCM	This message is used to request vehicle deceleration by the ABS module for the adaptive cruise control system, including how much brake force is required and if precharging of the brake system is necessary.
Battery low state of charge	BCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of a low state of charge in the vehicle 12-volt battery.
Cruise control system status	PCM	This message is sent to the GWM and then to the ABS module. The ABS module uses cruise control system status for adaptive cruise control deceleration and braking.
Brake pedal applied	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module the driver has pressed the brake pedal. This message is also used by the ABS module to check the brake pressure sensor located inside the HCU.
Clutch pedal position	PCM	This message is sent to the GWM and then to the ABS module. This message is used by the ABS module for the hill start assist feature, launch control feature and line lock feature.
Collision mitigation by braking deceleration	CCM	This message is used to request vehicle deceleration by the ABS module for the collision avoidance system, including how much brake force is required and how much precharging of the brake system is necessary.

Door ajar status	BCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current door ajar status. There is a separate message for each door. The ABS module resets the parameters used for ESC when a door is opened and closed.
Driver seat belt buckle status	RCM	The ABS module resets the parameters used for the ESC function when the driver seat belt is buckled or unbuckled.
Engine disable status	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module the engine is currently disabled or enabled due to the stop-start feature.
Engine RPM	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current engine RPM. This message is used by the ABS module for the hill start assist feature and launch control feature.
Engine torque output	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current engine torque output. This information is used for the hill start assist feature and launch control feature.
Gear lever position	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current transmission gear lever position. This message is used for operation of the hill start assist feature and the ESC feature. The hill start assist feature operates in forward and reverse gears but the ESC feature does not operate when the transmission is in REVERSE.

Hill start assist mode	IPC	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current, driver selected mode for the hill start assist feature; off, auto or manual.
Ignition key type	BCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current ignition key type; MyKey® admin key, MyKey® restricted key, key not programmed - read failure, unknown key type or invalid key type. The ABS module uses the ignition key type for activation and deactivation of certain stability control features.
Ignition status	BCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current ignition status; off, accessory, run, start, unknown or invalid.
Launch control request	IPC	This message is sent to the GWM and then to the ABS module. This message informs the ABS module the driver has requested launch control feature activation.
Launch control system status	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the launch control system status as selected by the driver.
Line lock request	IPC	This message is sent to the GWM and then to the ABS module. This message informs the ABS module the driver has requested line lock feature activation.
Park brake status	BCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current parking brake status; applied or released. The ABS module uses

		this information for the hill start assist feature.
Power pack status	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current engine operation status; Off - torque not available, On - torque not available, On - torque available or Start in Progress - torque not available. This information is used for the activation and operation of the stability control features.
RCM serial number	RCM	The ABS module stores the RCM serial number and verifies the serial number when the vehicle is started or the ignition is set to RUN or ACC. Over time, the ABS module learns the offset of the sensors inside the RCM. When a new serial number is found and the IVD Initialization procedure is carried out using a diagnostic scan tool, the ABS module resets the offset number learned for ESC.
Reverse gear selected	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module the driver has requested REVERSE gear and the current status of REVERSE gear; active, inactive or faulted. This message is used for operation of the hill start assist feature and the ESC feature. The hill start assist feature operates in forward and reverse gears but the ESC feature does not operate when the transmission is in REVERSE.
Selectable drive mode	FCIM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current, driver selected vehicle mode; Normal, Sport, Snow-Wet or Track. The ABS module adjusts the thresholds for anti-lock

		braking and stability control system intervention depending on the mode selected.
Stability-traction control mode	FCIM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module of the current, driver selected mode for the traction control and stability control features; on, off or sport.
Steering angle sensor data	PSCM	Several steering angle messages are sent to the ABS module from the PSCM. These messages include steering angle sensor status, steering wheel angle and steering wheel rotation count. The ABS module uses the steering angle sensor data for ESC feature operation.
Transmission in reverse	PCM	This message is sent to the GWM and then to the ABS module. This message informs the ABS module when the transmission is in REVERSE, this is used for the hill start assist feature and the ESC feature. The hill start assist feature operates in forward and reverse gears. The ESC feature does not operate when the transmission is in REVERSE.
Vehicle configuration data	BCM	This message is sent to the GWM and then to the ABS module. This message provides the ABS module with the current optional and configured items such as tire size, axle ratio, manual or automatic transaxle, keyless entry and VIN.
Vehicle lateral acceleration data	RCM	This message provides the ABS module with the current vehicle lateral acceleration data and notifies the ABS module if the data is valid or invalid. The ABS module uses the lateral acceleration data for ESC feature operation.