

and sends the steering wheel angle sensor data to the ABS module via the HS-CAN2. The ABS module uses this message from the PSCM to generate the steering angle message that is sent to the IPMB through the HS-CAN2. The IPMB sends the steering angle data to the rear parking aid camera via the LIN circuit. The camera uses this data to generate the active guidelines over the video image.

When the steering wheel is in the straight-ahead position, the active guidelines are not shown.

Active guidelines are not shown when the tailgate is open.

If the vehicle is equipped with a TRM, the active guidelines are not shown when a trailer is electrically connected to the vehicle.

Manual Zoom

The manual zoom is only supported by the rear camera. The manual zoom is only available for Rear 360 + Normal and Rear Normal views.

The manual zoom feature has one level of zoom. If the manual zoom feature is on and the vehicle is shifted out of reverse gear, the manual zoom feature is disabled. The manual zoom feature must be re-enabled the next time reverse gear is selected. When the driver turns the zoom on or off at the FDIM, the command is sent from the APIM via the HS-CAN3 to the GWM. The GWM then sends the message to the IPMB through the HS-CAN2. The IPMB sends the manual zoom request message to the rear parking aid camera via the LIN circuit. The camera then turns the zoom on or off.

Video Delay

When the video delay is turned on, the APIM keeps the rear normal view display enabled after the transmission is shifted out of reverse gear, into any gear other than park, until the vehicle speed reaches 10 km/h (6 mph). With the delay off (default), the image displays until the transmission is shifted out of reverse gear.

360 Degree View Camera Alignment

To create a 360 degree overhead image from the 4 separate camera images, the IPMB must align the camera images to each other and to the vehicle. As the camera alignment is very sensitive, the alignment process is necessary any time a camera or any component that a camera is attached to is removed or adjusted.

The alignment process is completed using a diagnostic scan tool and the camera calibration mats. Refer to: 360 Degree View Camera Alignment .

DESCRIPTION AND OPERATION > PARKING AID - SYSTEM OPERATION AND COMPONENT DESCRIPTION > COMPONENT DESCRIPTION

Rear Parking Aid Camera

The rear parking aid camera is located on the tailgate, below the tailgate release handle. On vehicles equipped with the 360 degree view camera system or with the rear only parking aid camera system with PTBA, the rear camera communicates with the IPMB through a LIN circuit. On vehicles equipped with the rear only parking aid camera system without PTBA, the rear camera communicates with the BCM through a LIN circuit. The camera must be configured using a diagnostic scan tool after replacement in order for all features to operate properly. (Electrical>Service Functions> LIN New Module Initialization or Electrical>Service Functions>LIN New Module Initialization- IPMB)

On vehicles equipped with the 360 degree view camera system, the 360 degree view camera alignment must be performed after the tailgate, tailgate handle, or any parking aid camera is removed from the vehicle.

On vehicles equipped with the 360 degree view camera system and PTBA, the 360 degree view camera alignment **and** the PTBA camera alignment must be performed after the tailgate, tailgate handle, or any parking aid camera is removed from the vehicle.

On vehicles equipped with the rear only parking aid camera system and PTBA, the PTBA camera alignment must be performed after the tailgate, tailgate handle, or rear parking aid camera is removed from the vehicle.

Refer to: 360 Degree View Camera Alignment .

Front Parking Aid Camera (If Equipped)

The front parking aid camera is located on the front grille, below the center emblem. The camera communicates with the IPMB through a LIN circuit. The camera must be configured using a diagnostic scan tool (Electrical>Service Functions> LIN New Module Initialization- IPMB) after replacement in order for all features to operate properly.

The 360 degree view camera alignment must be performed after the front grille or front camera is removed from the vehicle. Refer to: 360 Degree View Camera Alignment .

LH And RH Side Parking Aid Camera (If Equipped)

The side parking aid cameras are located inside the LH and RH exterior rear view mirrors and are serviceable separately from the mirrors. The side cameras generate an image any time they receive voltage and ground. The side cameras receive voltage from the IPMB when the ignition is on. The LH and RH side parking aid cameras do not require configuration after replacement.

The 360 degree view camera alignment must be performed after the LH or RH side camera or exterior mirror is removed from the vehicle. Refer to: 360 Degree View Camera Alignment .

Camera selection switch (If Equipped)

The camera selection FCIM mounted switch is a momentary contact switch and an input to the FCIM. The camera views are shown on the FDIM when the camera selection switch is pressed.

Front Camera Washer (If Equipped)

Washer solvent is directed to the front camera lens when the washer pump is active. For additional information on the front camera washer, Refer to: Wipers and Washers - System Operation and Component Description .

BCM (Vehicles Equipped With Rear Only Parking Aid Camera Without PTBA)

The BCM serves as a gateway between the rear parking aid camera and other modules on the HS-CAN1. It communicates with the rear camera via the LIN and stores Diagnostic Trouble Codes (DTCs) for the camera and the LIN in the event of a concern.

The BCM requires PMI when replaced. Refer to: Module Configuration - System Operation and Component Description .

IPMB (Vehicles Equipped With Rear Only Parking Aid Camera With PTBA or 360 Degree View Camera)