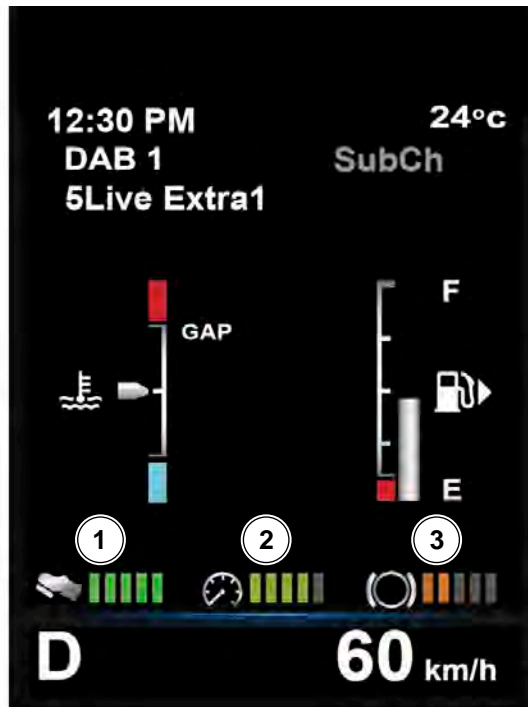


Message Center Display



NP16XF007

Item	Description	Item	Description
1	Throttle Usage	3	Braking
2	Vehicle and Engine Speed		

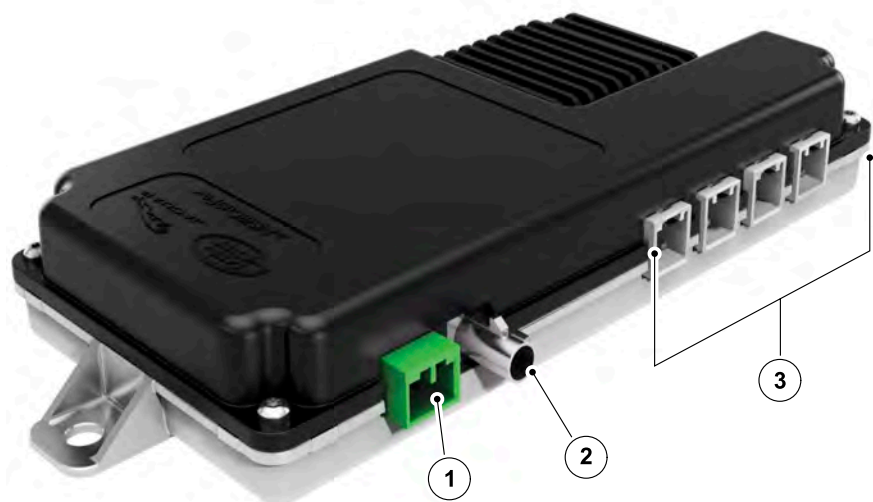
The bars display ratings for the following, and the driving tips function gives suggestions on efficient driving:

- Throttle usage – accelerate smoothly and progressively; lift off the accelerator
- Vehicle and engine speed – keep engine rpm low, accelerate and decelerate smoothly, cruise at lower speeds
- Braking – apply lightly and smoothly, lift off accelerator to slow vehicle, anticipate traffic flow ahead to avoid sudden braking.

The bars change color from red, through amber, to green with increasingly efficient driving.

NOTE: The ECO Data System will only begin displaying data after the vehicle has travelled a distance of 1 km (0.6 miles).

Camera Control Module



E171239

Item	Description	Item	Description
1	Power supply, ground and Comfort HS CAN bus connector		
2	Image signal output connection	3	Camera input connections (x4)

The Camera Control Module (CCM) receives the images via Low-Voltage Differential Signaling (LVDS) lines from each camera. The module processes the images, analyzing and altering the input data, to adjust perspectives and apply corrections. The resulting processed images are transmitted to the Touch Screen.

The image output signal is transmitted from the CCM to the Audio Head Unit (AHU) or Infotainment Master Controller (IMC). The signal is then passed to the Touch Screen via the Automotive Pixel Link 2 (APIX2) high speed digital serial link.

The module adds guidance and warning overlays to the camera images, creating the various driving-aid features supported by the camera proximity system; for example, visual direction overlay lines are made available when reversing the vehicle.

Cameras

The system uses four 4-megapixel cameras, permanently powered whenever the ignition is 'on'. Each camera provides an image covering a zone approximately 130° wide by 112° deep, and is capable of capturing approximately 30 frames per second.



E171240

The positioning accuracy of all the cameras is crucial for the successful operation of the Proximity Camera System. The camera housings are manufactured using metal, which maintains a structural stability in high ambient temperatures. Without this stability, a loss of image focus would be a possibility; therefore care must be taken when mounting the cameras to make sure they are fitted correctly. Secure mounting of the cameras provides an initial 'build up' tolerance accurate to 2 mm. In the event of camera replacement, a calibration routine must be performed.

Proximity Camera Calibration

A calibration procedure is required to maintain a level of accuracy after any service procedures affecting the Proximity Camera System are performed on the vehicle. Should the CCM or any of the cameras require replacement, re-calibration must be carried out using the Jaguar Approved Diagnostic Equipment.

Camera replacement is detected by the CCM through the recognition of a new serial number during the 'camera count' procedure, which takes place during the 'ignition on' phase. If a new camera is installed, calibration must be performed using the diagnostic equipment and the vehicle Touch Screen.

During the calibration procedure, setup software in the control module overlays fine colored lines on the Touch Screen, highlighting reference points on the vehicle bodywork, which assist with the camera setup procedure. Direction arrows are pressed to shift the camera image in the desired direction to meet the reference points viewed on the Touch Screen.

Adjustments include the following:

- Up
- Down
- Left
- Right
- Rotation

When the reference points correspond exactly, the setting is saved and the calibration procedure is complete for the individual camera. In the event of camera fault, a DTC is logged in the CCM. A fault icon is displayed to the driver on the Touch Screen where the camera image would normally be viewed.