



Preliminary Information

PIT5481E Diagnostic Tip - Lane Keep Assist and Lane Departure Warning Functionality

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Buick	Enclave	2018 - 2020	All	All	All	All
Buick	Envision	2016 - 2020	All	All	All	All
Cadillac	Escalade Models	2016 - 2020	All	All	All	All
Cadillac	XT4	2019 - 2020	All	All	All	All
Chevrolet	Blazer	2019 - 2020	All	All	All	All
Chevrolet	Equinox	2018 - 2020	All	All	All	All
Chevrolet	Silverado 1500	2016 - 2020	All	All	All	All
Chevrolet	Suburban	2016 - 2020	All	All	All	All
Chevrolet	Tahoe	2016 - 2020	All	All	All	All
Chevrolet	Traverse	2018 - 2020	All	All	All	All
GMC	Sierra 1500	2016 - 2020	All	All	All	All
GMC	Terrain	2018 - 2020	All	All	All	All
GMC	Yukon Models	2016 - 2020	All	All	All	All

With Lane Keep Assist (RPO UHX)

Supersession Statement

This PI was superseded to update the models, years and Condition\Concerns, Recommendation sections. Please discard PIT5481D.

This PI is to provide additional information on the functionality of Lane Keep Assist and why customers may not get a lane departure warning alert (audible chime or safety alert seat vibration) when they cross a lane marker.

The Lane Keep Assist system (RPO UHX) replaced the Lane Departure Warning system (RPO UFL) starting with the 2016 model year. The Lane Keep Assist system incorporates the functionality of the Lane Departure Warning system, but it works slightly different when compared to a vehicle that does not have Lane Keep Assist. Lane Keep Assist is designed to assist the driver in keeping the vehicle from drifting out of a driving lane that has clearly identified lane markings. The electric power steering provides a gentle steering correction if a lane marking has been crossed and the driver has NOT actively responded (i.e. steering, accelerating, braking, use of turn signal). In situations where the steering corrections does not keep the vehicle from crossing the lane marker and the driver has NOT actively responded (ie. steering, accelerating, braking, use of turn signal), the Lane Departure Warning may activate and provide an alert (chime or safety alert seat vibration) to the driver.

If the driver tries to "test" the Lane Departure Warning alert and over comes the Lane Keep Assist correction so the vehicle intentionally crosses the lane marker, the system may interpret this as an active response, and in many cases, the system will NOT provide an

alert. Therefore, alerts do NOT occur as often with Lane Keep Assist when compared to the Lane Departure Warning system used in the previous model year vehicles.

For Lane Keep Assist to start providing assist, the following criteria must be met:

- Vehicle speed between 38 mph and 111 mph
- Lane markings are clearly visible
- Lane Keep Assist is turned "on" via the enable/disable button located on the dash. When enabled, the LED on the button will illuminate.
- Lane marker width meets Lane Keep Assist criteria (not too wide or narrow)
- Lane marker radius meets Lane Keep Assist criteria (curve is not too tight)

When the criteria listed above is met, the Lane Keep Assist icon will illuminate, as seen in the photo below.



The Lane Keep Assist icon has several different indication modes:

- Solid green indicates the system is ready to assist.
- Solid amber indicates Lane Keep Assist intervention is occurring.
- Flashing amber indicates a Lane Departure Warning alert (chime or safety seat vibration)
- Lane Keep Assist and Lane Departure Warning alerts are suppressed with any deliberate driver response (ie. steering, accelerating, braking, use of turn signal, see below)

Drivers can suppress/override Lane Keep Assist with the following deliberate maneuvers:

- Turning the steering wheel
- Braking
- Accelerating
- Turn signal is on in the direction of the lane crossing

Proper operation may be affected by factors outside the vehicle, including:

- Nearby vehicles ahead (tailgating)
- Sudden lighting changes, such as going through a tunnel
- Banked roads
- Poor lane markings, such as on some two-lane roads
- Snow, frost, ice, dirt, mud, bugs, etc on the windshield that are blocking the front camera
- Tar marks, cracks, shadows, temporary lane markings and other road imperfections
- Lane markings on one side of the road only (Lane Keep Assist provides assist only on the side with markings).

The driver is advised to turn off the system when these conditions are present; this does not indicate a system failure.

In addition, do not use Lane Keep Assist while towing a trailer or on a slippery road, as this may cause a loss of vehicle control.



GENERAL MOTORS