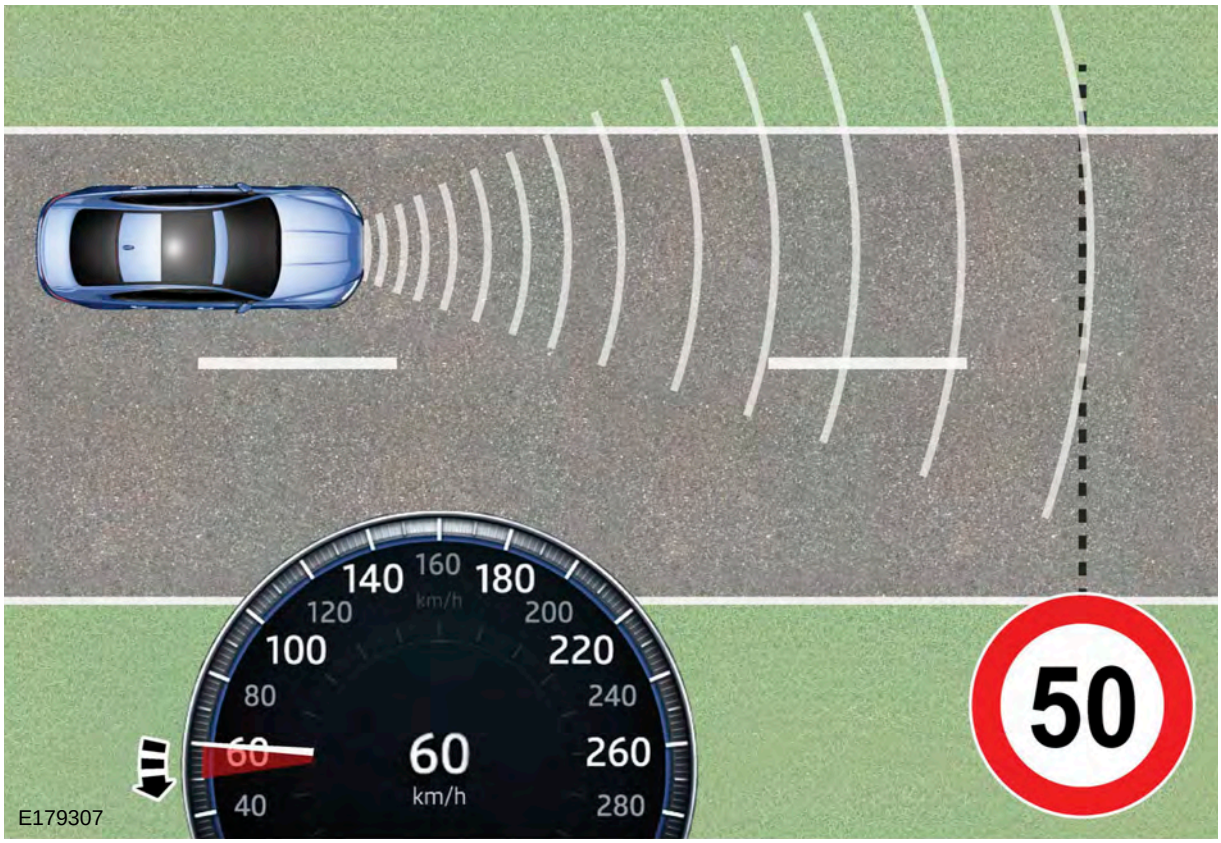
Intelligent Speed Limiter

The Intelligent Speed Limiter (ISL) combines the Automatic Speed Limiter (ASL), which allows the driver to manually enter a 'set speed' for the limiting function, with Traffic Sign Recognition (TSR), which uses a windscreen mounted camera and satellite navigation to inform the driver of the prevailing speed limit. By combining the two functions, ISL is able to automatically update the set speed to match the current speed limit.



The ISL software is hosted by the Engine Control Module (ECM), with speed data provided by the Image Processing Module (IPM) within the camera housing. ISL is only available on vehicles equipped with TSR and ASL.

ISL functions using data from the TSR and ASL systems, providing a speed limiter which changes its set speed according to speed limit data received from the TSR system. The ISL feature is operated in a similar manner to Adaptive Speed Control, using the same set of operating buttons on the steering wheel.

When ISL is active, the driver does not experience any difference in the behavior of the vehicle, as long as the vehicle speed remains below the set speed of the ISL setting. When the vehicle reaches the set speed, the ECM overrides any further throttle movement. This prevents the vehicle from exceeding the set speed, effectively creating a dead spot within the throttle travel, where there is no response to further inputs above the point required to maintain the set speed.

NOTE: The driver can temporarily override the system by firmly depressing the accelerator pedal.

Although the vehicle will update the set speed according to the current speed limit, the driver can use the steering wheel '+' and ' – ' buttons to offset the set speed by up to 10 mph (6 km/h) from the speed limit. Alternatively, the driver can select the ASL mode to set a constant speed limit that the vehicle will not update. The driver can switch between ISL and ASL modes via the IC menu or via a long hold on the 'Cancel' button (located on the steering wheel). The feature defaults back to ASL at the start of each ignition cycle.

When the vehicle detects a new speed limit, the set speed will automatically update. If the driver is pressing the accelerator pedal enough for limiting to take place, the vehicle will gently increase speed until a new higher speed limit is reached, or provide gentle deceleration if the vehicle speed needs to be reduced to meet the new lower set speed. The driver can access a higher rate of acceleration or deceleration if desired by pressing the 'Resume' button to acknowledge the new speed limit.

The feature will only use engine braking to slow the vehicle, so the driver will still need to apply the brakes as per a normal driving style when a higher rate of deceleration is required. If the driver does not slow the vehicle sufficiently prior to entering a lower speed limit, the feature will provide a warning to indicate that the new speed limit is being exceeded.

The driver can cancel the feature at any time by pressing the 'Cancel' button on the steering wheel, which will result in no speed limiting being provided. Pressing the 'Resume' button will then reactivate speed limiting. The driver can also override the feature at any time by fully depressing the accelerator pedal to enter kickdown mode. When this happens, speed limiting will be suspended to allow the driver to exceed the speed limit. Normal speed limiting will be resumed as soon as the driver slows the vehicle to a point where speed is equal to, or lower than, the set speed.

The ISL also communicates with the vehicle navigation system to assist with accurately maintaining the appropriate maximum speed when distances between the speed limit signs are greater, for example, on long country roads.

If the TSR loses track of the speed limit, through lack of road signs and loss of satellite navigation data, the TSR feature will display ' – – – ' to indicate that the speed limit is not known. When this happens, the ISL feature will assume the speed limit has remained the same, and the set speed will therefore not change until further speed limit information becomes available or the driver makes a manual change.

The driver is provided with a warning when the vehicle speed is above the set speed (e.g. going downhill, or when entering a lower speed limit).

The set speed cannot control the vehicle speed lower than 19mph (30 km/h), so will, for example, only limit the vehicle at 19 mph (30 km/h) when 10 mph (16 km/h) signs are detected. At the other end of the speed range, the set speed cannot go above 80 mph (130 km/h). Speed limit signs above this will result in the speed being unlimited.

The following ISL function limitations apply:

- The vehicle may still exceed the speed limit
- Speed limits may be applied to the vehicle just after the road speed limit changes or just before but without enough time to allow the vehicle to decelerate to stay within the legal limits
- The system does not interact with vehicle service brakes
- The system operation is dependent on accurate TSR functionality
- The system must be activated by the driver after each ignition cycle.

NOTE: The ISL software is hosted by the Engine Control Module.