

Seatbelt Systems - System Operation and Component Description

System Operation

Emergency Locking Retractor (ELR)

All retractors have an Emergency Locking Retractor (ELR) mode, which is a vehicle-sensitive feature designed to activate and lock the seatbelt webbing during hard braking, cornering, or an impact of approximately 24 km/h (14.9 mph). The Emergency Locking Retractor (ELR) feature helps reduce the forward movement of the driver and passengers. For testing, see Functional Test - Seatbelt Retractor, Road Test Inspection. Refer to: Seatbelt Systems (501-20A Seatbelt Systems, Diagnosis and Testing).

Automatic Locking Retractor (ALR)

The Automatic Locking Retractor (ALR) mode is used when locking a child seat in any passenger seating position. The Automatic Locking Retractor (ALR) mode automatically activates when the seatbelt webbing is fully extracted from the retractor and then allowed to retract. As the seatbelt webbing retracts back onto the spool, an audible clicking sound is made, indicating the seatbelt retractor is in Automatic Locking Retractor (ALR) mode and the seatbelt webbing cannot pull back out of the seatbelt retractor. The Automatic Locking Retractor (ALR) mode disengages when the webbing is allowed to fully retract back into the retractor. For testing, see Functional Test - Seatbelt Retractor, Automatic Locking Retractor (ALR) Mode, Refer to: Seatbelt Systems (501-20A Seatbelt Systems, Diagnosis and Testing).

Seatbelt Warning Chime

The conditions of operation for the driver seatbelt warning indicator and chime operate as follows:

- If the driver seatbelt is not buckled with the ignition ON, then the seatbelt warning indicator illuminates for 1 to 2 minutes and the warning chime sounds for 4 to 8 seconds.
- If the driver seatbelt is buckled while the warning indicator is illuminated and the warning chime is sounding, then the indicator and chime turn off.
- If the driver seatbelt is buckled before the ignition is in the ON position, the seatbelt warning indicator and chime remain off.

Belt-Minder®

The Belt-Minder® feature is a supplemental warning to the seatbelt warning function. This feature provides an additional reminder that the driver's seatbelt is unbuckled by intermittently sounding a chime and illuminating the seatbelt warning indicator in the IPC.

The Belt-Minder® warning lasts for approximately 5 minutes.

When a MyKey® is in the ignition, deactivation of Belt-Minder® and the 5-minute Belt-Minder® timer are overridden. The Belt-Minder® feature cannot be deactivated when a MyKey® is in use. Refer to the Owner's Literature for further information on MyKey® functionality.

To activate or deactivate the Belt-Minder® feature,

Refer to: Seatbelt Minder Deactivating/Activating (413-01 Instrumentation, Message Center and Warning Chimes, General Procedures).

The conditions of operation for the Belt-Minder® are as follows:

If...	Then...
the driver's seatbelt is buckled before the ignition is turned ON or less than 1-2 minutes have elapsed since the ignition has been turned ON...	the Belt-Minder® feature will not activate.
the driver's seatbelt is not buckled before the vehicle has reached at least 9.7 km/h (6.0 mph) and 1-2 minutes have elapsed since the ignition has been turned ON...	the Belt-Minder® feature is activated and the seatbelt warning indicator illuminates and the warning chime sounds for 6 seconds every 25 seconds, repeating for approximately 5 minutes or until the seatbelt is buckled.

If...	Then...
the driver's seatbelt becomes unbuckled for approximately one minute while the vehicle is traveling at least 9.7 km/h (6.0 mph) and more than 1-2 minutes have elapsed since the ignition has been ON...	the Belt-Minder® feature is activated – the seatbelt warning indicator illuminates and the warning chime sounds for 6 seconds every 25 seconds, repeating for approximately 5 minutes or until the seatbelt is buckled.

Component Description

Child Safety Seat Tether Anchor

Child safety seat tether anchors are mounted to the cab back wall at both regular cab passenger seating positions and at all rear seating positions on Super Cab and Crew Cab. All are serviced separately.

If a child safety seat was in use during a collision, inspect the child safety seat tether anchor and mounting areas and restore the vehicle to the original production configuration.

Refer to: Seatbelt Procedure After a Collision (501-20A Seatbelt Systems, General Procedures).

Child Safety Seat Tether Anchor - Lower Anchors and Tethers for Children (LATCH)

Lower Anchors and Tethers for Children (LATCH) are located at the rear outboard seating positions of the Super Cab and Crew Cab. They are serviced with the seat cushion frame. Regular cab vehicles do not have a LATCH system.

If a child safety seat was in use during a collision, inspect the LATCH and restore the vehicle to the original production configuration.

Refer to: Seatbelt Procedure After a Collision (501-20A Seatbelt Systems, General Procedures).