



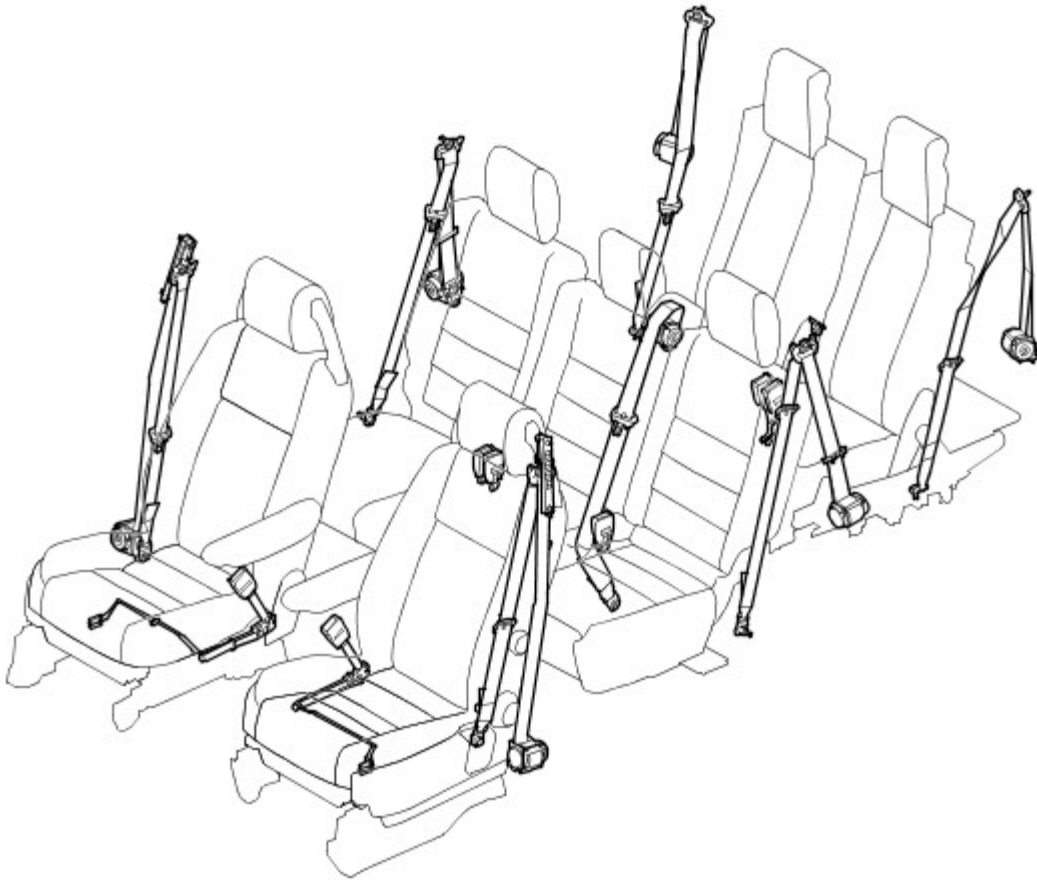
## Safety Belt System

### COMPONENT LOCATIONS (FIVE SEAT VEHICLES)



E44815

### COMPONENT LOCATIONS (SEVEN SEAT VEHICLES)



E44835

## GENERAL

A three point safety belt is installed at each seat position. Except in North American Specification (NAS) markets, all of the safety belts have Emergency Locking Retractors (ELR). In NAS markets, only the driver seat is fitted with an ELR; all of the passenger safety belts have Automatic Locking Retractors (ALR).

Both types of retractor incorporate a liftshaft locking system with webbing sensor and car sensor activating mechanisms. The webbing sensor activates the locking system if the webbing is subjected to a sharp pull. The car sensor activates the locking system if the vehicle is subjected to sudden deceleration or a severe tilt angle.

The ALR has a mode of operation where the retractor will take up slack in the webbing, but not allow any slack to be paid out. This mode of operation can be used to secure a child seat.

- **To engage the ALR child seat mode of operation:** Pull the webbing out of the retractor to its full extent.
- **To cancel the ALR child seat mode of operation:** Allow the retractor to fully rewind the webbing.

A safety belt warning indicator is installed in the instrument cluster to remind the front seat occupants to fasten their safety belts. On NAS vehicles, when the ignition switch is turned to position II, the warning indicator illuminates if the safety belt of an occupied front seat is not fastened. The warning indicator remains illuminated until the safety belt of each occupied front seat is fastened, or the ignition is switched off. In all markets except NAS, a belt minder function provides a more intrusive reminder to fasten the front safety belts.

## FRONT SAFETY BELTS

The retractor of each front safety belt is attached to the related B pillar. The webbing runs from the retractor through an upper mounting, attached to a shoulder height adjuster on the B pillar, to an anchor point on the front seat.

On NAS vehicles, a tension sensor is integrated into the anchor point of the passenger front safety belt. The tension sensor is part of the occupant classification system. For additional information, refer to [Air Bag and Safety Belt Pretensioner Supplemental Restraint System \(SRS\)](#) (501-20B Supplemental Restraint System)

The retractor for each front safety belt incorporates a load limiter that allows the retractor reel to partially unwind when the load on the webbing exceeds a predetermined limit.

The buckle for each front safety belt is attached to a pretensioner secured to the inboard side of the related front seat frame. Each buckle incorporates a safety belt buckle sensor that provides a status input to the restraints control module, which uses the input to determine the air bag and pretensioner activation strategies. The restraints control module also relays the status of the safety belts to the instrument cluster on the high speed CAN bus.

## Belt Minder Function (Where Fitted)

The belt minder function provides warnings to the driver if the appropriate front safety belts are not fastened when driving. The belt minder function is controlled by the instrument cluster using medium speed CAN bus messages, from the restraints control module, to monitor the status of the front safety belts.

When the ignition switch is turned to position II, the instrument cluster illuminates the safety belt warning indicator until one of the front safety belts is fastened or the belt minder function is triggered. The belt minder function is triggered when the ignition switch is in position II and the following conditions coexist:

- The belt minder function is enabled.
- Vehicle speed is 8 km/h (5 mph) or more.
- The vehicle is not in reverse.
- The driver safety belt or, if the front passenger seat is occupied, the front passenger safety belt, is unfastened.

When the belt minder is triggered, the instrument cluster generates the following warnings for 10 seconds.

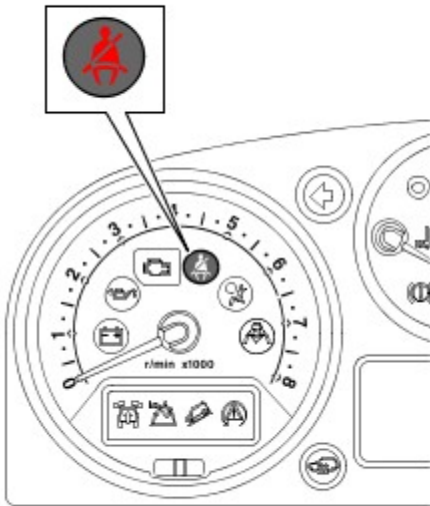
- Flashes the safety belt warning indicator at 2 Hz.
- Sounds a repeating chime in sequence with the flashing safety belt warning indicator.

After 10 seconds, the repeating chime is discontinued and the safety belt warning indicator changes from flashing to continuously illuminated. While the trigger conditions still coexist, the warnings are repeated every 30 seconds until one of the following occurs:

- 5 minutes has elapsed from when the warnings were first triggered.
- The safety belt of each occupied front seat is fastened.
- The ignition switch is turned to position 0.
- The vehicle speed decreases to 5 km/h (3 mph).

The belt minder function can be enabled and disabled using the driver safety belt switch. The instrument cluster changes the state of the belt minder function if, within 60 seconds of first turning the ignition switch to position II, the driver safety belt is fastened and unfastened nine times. Successful completion of the change is indicated by a single chime and the safety belt warning indicator flashing five times, at 2 Hz. The belt minder function can also be enabled and disabled using T4.

## Safety Belt Warning Indicator



E44819

## SECOND ROW SAFETY BELTS

The retractor of each outboard second row safety belt is attached to the body immediately behind the D pillar. The webbing runs from the retractor, through an upper mounting on the D pillar, to an anchor point at the front of the related wheel arch.

The retractor for the center second row safety belt is installed in the top of the seat back. The webbing runs from the retractor, over the top of the seat, to an anchor point at the base of the seat frame.

The buckles for the second row safety belts are attached to the related seat frame.

## THIRD ROW SAFETY BELTS (WHERE FITTED)

The retractor of each third row safety belt is attached to the E pillar. The webbing runs from the retractor, through a mounting on the E pillar to an anchor point on the floor.

The buckles for the third row safety belts are attached to the related seat frame.