CHILTON LIBRARY

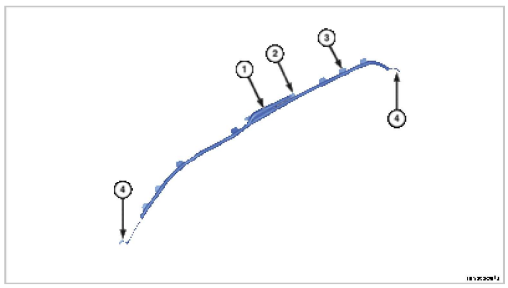
YOUR CURRENT VEHICLE

2018 Chrysler Pacifica

Description & Operation

DESCRIPTION AND OPERATION

DESCRIPTION



Side curtain airbags (also known as Side AirBag Inflatable Curtains/SABIC) are standard equipment for this vehicle on all models of this vehicle in North America except Mexico and export markets in which some models are not equipped with SABIC. These airbags are passive, inflatable Supplemental Restraint System (SRS) components. The side curtain airbag system is designed to reduce injuries to the vehicle occupants in the event of a side impact collision. Each side curtain airbag cushion provides coverage of the side glass adjacent to all seating positions on the same side of the vehicle as the monitored impact.

Each vehicle is equipped with two individually controlled side curtain airbag units (1). These side curtain airbag units are concealed and mounted above the headliner where they are each secured to one of the roof side rails. Each folded airbag cushion is contained within a fabric wrap and several miniature plastic wrappers (3) that extend along the roof rail from the A-pillar at the front of the vehicle to the D-pillar. A tether (4) extends from the front and the rear of the side curtain airbag cushion. The end of each tether is secured to the A-pillar (front tether) or D-pillar (rear tether) sheet metal.

The inflator bracket and the plastic wrappers are secured with nuts to weld studs on the roof rail. The airbag inflator is connected to the vehicle electrical system through a dedicated take out and connector (2) of the body wire harness near the top of the C-pillar. The body wire harness connects the side curtain airbag unit to the Occupant Restraint Controller (ORC).

The side curtain airbag units cannot be adjusted or repaired and must be replaced if deployed, ineffective, or in any way damaged. Once a side curtain airbag has been deployed, the complete side curtain airbag unit,

the headliner, the upper A, B, C and D-pillar trim, as well as all other visibly damaged components must be replaced.

OPERATION

Each SABIC is deployed individually by an electrical signal generated by the ORC to which it is connected through the left or right SABIC line 1 and line 2 (or squib) circuits. The hybrid-type inflator assembly for each airbag contains a small canister of highly compressed inert gas. When the ORC sends the proper electrical signal to the airbag inflator, the electrical energy creates enough heat to ignite chemical pellets within the inflator.

Once ignited, these chemicals burn rapidly and produce the pressure necessary to rupture a containment disk in the inert gas canister. The inflator and inert gas canister are sealed and connected to a tubular manifold so that all of the released gas is directed into the folded airbag cushion, causing the cushion to inflate. As the cushion inflates it will drop down from the roof rail between the edge of the headliner and the side glass/body pillars to form a curtain-like cushion to protect the vehicle occupants during a side impact collision incident. The cushion features large chambers that inflate adjacent to the head of each front and, if equipped, rear seat occupant.

The front tether keeps the side curtain airbag cushion taut to the side of the vehicle. In addition, ramps integral to the side trim of the interior and integral to the side curtain airbag modules themselves guide the cushion into the proper deployment position. Following the deployment, the cushion slowly deflates by venting the inert gas through the loose weave of the cushion fabric and the deflated cushion hangs down loosely from the roof rail.

The ORC monitors the condition of the side curtain airbags through circuit resistance. If any fault is detected the ORC will illuminate the airbag indicator in the instrument cluster and store a Diagnostic Trouble Code (DTC). Proper diagnosis of the side curtain airbag inflator and squib circuits requires the use of a diagnostic scan tool and may also require the use of the SRS Load Tool special tool along with the appropriate Load Tool Jumpers and Adapters. Refer to the appropriate diagnostic information.