



Safe Use in a Motor Vehicle



Icon™ Back System Tall , Icon™ Back System Deep, Evolution Back™ Tall, Evolution Back™ Deep and eBack™ Tall

When traveling in a motor vehicle, it is generally safest for wheelchair users to transfer to a vehicle seat and use the vehicle seatbelt system or a child safety seat that complies with federal safety standards. The wheelchair should then be stored and secured in the vehicle.

If transferring is not feasible, it is very important to secure the wheelchair to the vehicle facing forward and to use crash-tested seatbelts for the wheelchair seated rider.

For more information, download the RideSafe brochure from www.varilite.com.

 **WARNING**

This seating system has been dynamically tested and complies with RESNA WC-4: 2012, Section 20, hereafter referred to as WC20, and conforms to ISO 16840-4 for the safe use of seating devices for use in motor vehicles when used with a wheelchair base that complies with the performance requirements of WC19 or ISO 7176-19. A surrogate wheelchair base and Hybrid III Midsize Male ATD were used in the forward facing frontal impact test. The ATD was restrained by both pelvic and upper torso restraints.

This seating system should be used only with a wheelchair that has securement points located on the wheelchair base and that complies with the performance requirements of WC19 or ISO 7176-19 or the wheelchair seated traveler may be at increased risk of injury in a crash.

The seating system should be used only for forward facing seating in a motor vehicle.

The seating system should be used only as indicated in the accompanying User Manual. The User Manual can also be found at www.varilite.com

Alterations or substitutions should not be made to the seating system structure, parts or components without consulting a VARILITE representative.

Wheelchair-mounted trays that are not specifically intended to be used in transport should:

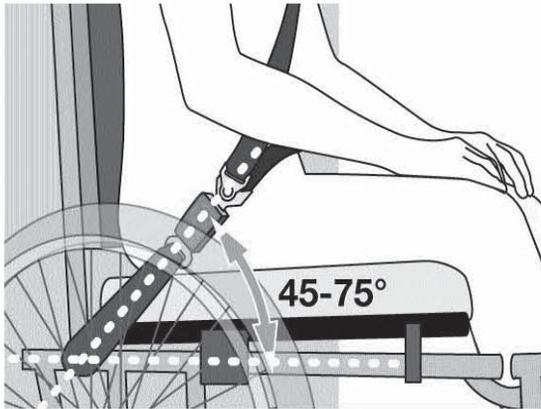
1. be removed and secured separately in the vehicle, or;
2. be secured to the wheelchair but positioned away from the seating unit occupant with energy absorbing padding placed between the tray and the occupant.

Postural support devices that are not labeled as conforming to WC20 or not conforming to ISO 16840-4 may be used when in transit, but should not be relied on for occupant restraint in a moving vehicle.

To achieve effective occupant restraint and optimum protection in a vehicle impact, both pelvic and upper torso occupant restraints, which meet WC18 as part of a complete wheelchair tiedown and occupant restraint system (WTORS) should be used. The belts should be fitted to the user in accordance with WTORS manufacturer's instructions.

Failure to use the appropriate equipment for restraint in a vehicle can result in serious injury or death.

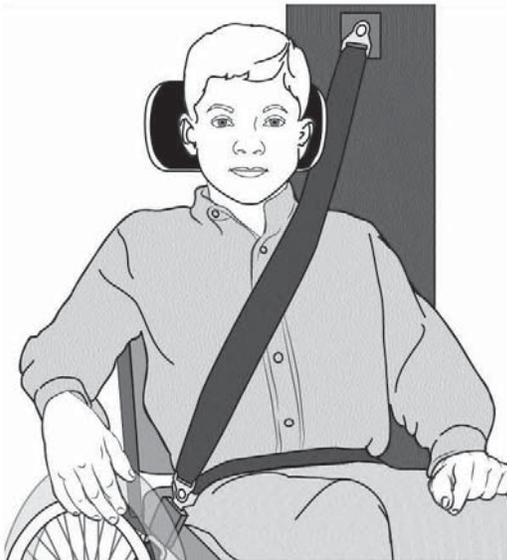
The pelvic restraint belt should be worn low across the front of the pelvis, so that the angle of the pelvic belt is within the preferred zone of 45° to 75° to the horizontal, or the optional zone of 30° to 45° to the horizontal.



Pelvic Belt Angle



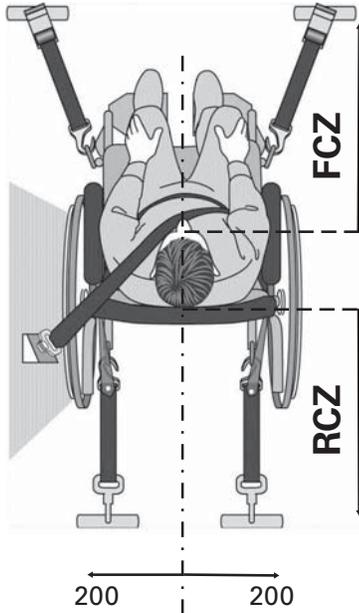
Tiedown Strap Angle



Occupant restraints should not be held away from the body by the wheelchair and seating component.

Upper torso restraint belts should fit over the shoulders.

Occupant restraints should be adjusted as firmly as possible, consistent with user comfort, and belts should not be twisted.

 **WARNING**

Clear zones recommended for occupants restrained by both pelvic and upper torso restraints:

The frontal clear zone (FCZ) and rear clear zone (RCZ) extend from the wheelchair ground plane to the head height (HHT).

The FCZ is measured from the front most point on an occupant's head.

FCZ recommendations

- 650 mm with pelvic and upper-torso belts
- 950 mm with only a pelvic belt

FCZ needs to be larger when upper torso restraints are not used. **NOTE:** It is strongly recommended that both pelvic and upper-torso belts be used.

FCZ may not be achievable for wheelchair-seated drivers.

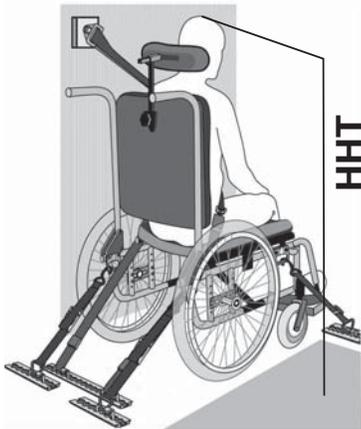
The RCZ is measured from the rear most point on an occupant's head.

RCZ recommendation

- 450 mm

HHT is the estimated seated height from the wheelchair ground plane to the top of the wheelchair-seated occupant's head.

HHTs range from about 1200 mm for a small adult female, to about 1550 mm for a tall adult male.



If you have questions about the use of **VARILITE®** back supports for wheelchair seating in motor vehicles, contact Customer Service at (800) 827-4548 or (206) 505-9500, or at info@varilite.com.

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