Savaria[™] rear entry Wheelchair Accessible Vehicle



Owner's Manual

Savaria...

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section 1

Congratulations on the purchase of your Savaria[™] rear entry wheelchair accessible vehicle! Savaria has developed this conversion with your safety and satisfaction in mind. This owner's manual will assist you in operating your converted vehicle safely.

Please be sure to read this manual thoroughly before operating your Savaria accessible vehicle. Ensure that you are familiar with all controls and understand how to properly use the supplied equipment. Your Savaria accessible vehicle is a quality product designed to provide many years of dependable service when properly operated and maintained. Improper use or abuse of the conversion may cause severe injury or death.

It is important that any replacement parts used are authorized by Savaria. Do not attempt to modify, change, replace, remove or alter the conversion in any way, as this may render the vehicle unsafe and void any replacement warranties. Always ensure that anyone operating this accessible vehicle is fully capable and has a thorough understanding of all aspects of the vehicle, ramp and tie-down system. Anyone using the conversion must understand the information in this manual.

Safe operation of the vehicle requires complete and unimpaired attention at all times. As with all motor vehicles, do not attempt to operate this vehicle during or after consumption of medication, drugs or alcohol.

For information that is not addressed in this manual, please refer to your factory Owner's Manual. *Thank you for giving Savaria the opportunity to help you achieve better mobility for life!*

section 2

Ramp Operation

2.1 Deploying the Ramp

- 1. Ensure your vehicle is on level ground, the transmission is in park and the ignition is off. Open the rear liftgate.
- 2. Place one hand at the top of the ramp and push inward, while using your other hand to turn the latch release handle in the clockwise direction to disengage the ramp latches.
- 3. Using either of the handles located at the sides of the ramp, carefully pull the ramp out. Unfold the ramp as you continue to lower it to the ground.











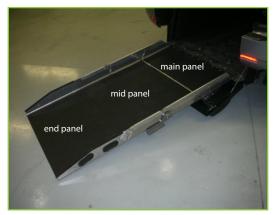


2.2 Stowing the Ramp

- 1. Ensure ramp and hinge points are clear of debris.
- 2. Using the handles located at the sides of the ramp, carefully lift the ramp.
- 3. Guide the ramp to its folded position by rotating the smaller panel so that it is flat against the larger panel. A magnet will hold the ramp in this position.
- 4. Firmly push the ramp towards the vehicle until it is in the latched position. Keep hands in the anti-slip area to avoid potential injuries. If the ramp is not completely latched, rotate the ramp latch release handle clockwise to release the ramp, and push the ramp towards the vehicle with more force. Repeat as necessary. If difficulties arise, please contact Savaria[™] Vehicle Group for further assistance.

2.3 Flat-Floor Ramp (if equipped)

If your accessible vehicle is equipped with a Flat-Floor ramp, you are able to create an entirely flat floor in the cargo area. The Flat-Floor Ramp has three panels separated by hinges; the main panel, the mid panel, and the end panel. The locations of the three panels are shown below.



Deploying the Flat-Floor:

1. Ensure that the ramp is in the closed and locked position (*please refer to section 2.2 for instructions*).

- 2. Release the locking handles at the sides of the ramp by rotating them outward as shown. Be sure to hold the top of the ramp steady while doing this, so the mid-panel does not fall forward.
- 3. Rotate the mid-panel down, and then flip the locking handles back down out of the way.
- 4. Use the cut-out handles located on the side barriers of the endpanel to fold the end-panel out to create a fully flat floor.











Stowing the Flat-Floor:

- 1. Carefully reach into the vehicle and use the cut-out handles to pull the end-panel back, and lay it flat on the mid-panel.
- 2. Rotate the locking handles, located on the sides of the ramp, to sit vertical against the backstop.
- 3. Use the cut-out handles to firmly pull the mid panel to the vertical position. The locking handles will hook onto the ramp to hold it temporarily in the stowed position. While holding the top of the ramp and pulling it outward, re-engage the locking handles by rotating them upward to be parallel with the sides of the ramp.









Always hold the top of the ramp while operating the locking handles. Failure to do this may lead to the ramp falling forward.



Do not use the Flat-Floor ramp or operate the Flat-Floor ramp handle mechanism when there is a wheelchair occupant inside the vehicle.

section 3

Securement of Wheelchair in Vehicle

- 3.1 Boarding a Wheelchair Passenger
 - 1. Deploy the ramp (please refer to Section 2 for instructions).
 - 2. Guide the wheelchair passenger up the ramp and into the vehicle. Wheelchair occupants must not attempt to enter or exit the vehicle unassisted.
 - 3. Ensure the wheelchair passenger is seated in a forward-facing direction, in the centre of the vehicle.



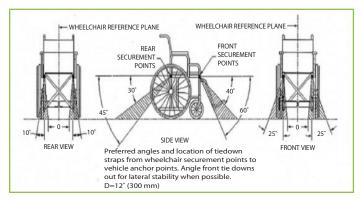
4. Once the wheelchair passenger has been safely positioned, lock the wheelchair in place by applying the wheelchair brakes.

\rm Maximum allowable weight on ramp is 1000 lbs.

Never attempt to enter the vehicle in a wheelchair unless being assisted by someone who is capable of guiding the wheelchair up the ramp and into position for safe transportation.

3.2 Securing the Wheelchair

 Locate the wheelchair in the van to optimize the wheelchair user's comfort while keeping the retractor webbing and seatbelts within the safe operating angles. Utilize the alternative rear Slide 'N Click tie down locations and the forward track to achieve this goal. See the picture below illustrating the safe webbing angles, or refer to the Q'Straint user guide.



Failure to maintain the angles shown in the above diagram will prevent the restraints from functioning as intended, which could result in serious injury during a vehicle collision.

2. Fasten the front retractors to the tracks (L-track rails in the Caravan, and L-track oval pockets in the Sienna) located on either side of the floor as shown in the image below. To attach a retractor to the track, push down and slide the retractor fitting along the track until the spring-loaded plunger is locked in place. For the Caravan (1), both left and right retractors should be located the same distance from the front of the lowered floor. For the Sienna (2), both front retractors should be located the sides of the lowered floor.





Pull firmly on the fitting to ensure that the plunger is properly seated and locked in the track.

To remove the front retractor, lift the lock plunger and slide the fitting in either direction along the track while lifting the assembly out of the track.



3. Once the retractors have been fastened to the track, attach the J-hook on the retractor webbing to the front of the wheelchair frame. The front securement point should be positioned as high as possible on the wheelchair frame for maximum safety as recommended by the wheelchair manufacturer. Refer to your Q'Straint Instruction Guide for ideal fastening geometry.



Refer to your wheelchair manual for instructions on selecting the most appropriate wheelchair securing locations.

- 4. Allow the retractor to spool in and remove excess slack in the tie down once the J-hook has been attached. Two front retractors are required per wheelchair.
- 5. Attach the Q'Straint rear Slide 'n Click retractors by sliding the anchor of the retractor over the appropriate disk on the floor until it clicks in place. Rotate the assembly until it faces the front of the vehicle.





To remove the rear retractor, lift the lock plunger at the back of the retractor and slide the assembly rearward off of the disk in the floor as shown below.





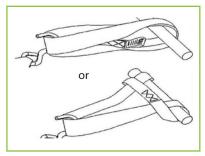
6. The rear of the wheelchair may now be secured to the rear retractors. Attach the J-hooks to the rear of the wheelchair frame in the locations outlined in your wheelchair manual. Refer to the Q'Straint Instruction Guide for ideal fastening geometry. Allow the retractor to spool in and remove excess slack in the tie-down once the J-hook has been attached. The tie down can be tightened further by rocking the wheelchair back and forth or by turning the knob on the side of the retractor. Two rear retractors are required per wheelchair.



Refer to your wheelchair manual for instructions on selecting the most appropriate wheelchair securing locations.

L Be careful to keep straps away from sharp edges or corners.

All Q'Straint automatic retractors have a red tab located at the rear of the unit. This tab is used to release the locking mechanism within the retractor allowing the user to either extend the tie down or release the wheelchair from its restrained position. Where attachment to the wheelchair is not possible with the J-hooks, the use of an optional webbing loop is acceptable if affixed by either method to the wheelchair as shown in the diagram.



It is recommended that the front retractors are stored on the L-track rails or oval pockets, and the rear retractors are anchored to the Slide 'N Click fittings when not in use.





It is not recommended to store retractors in the rear storage bin or the spare tire cover pocket.

3.3 Occupant Restraint System

- 1. The supplied Q'Straint occupant restraint system is made up of three parts: a lap belt, a belt buckle and a shoulder belt. The system should only be used on the vehicle with which it was supplied, and only as a complete unit. The system is not deemed safe for use if any one or more parts are not available, or are not used correctly.
- 2. The D-rings on the lap and buckle belts attach to the anchor pin located on the top of each rear retractor. Attach these D-rings as illustrated in the image below. The lap belt section attaches to the driver's side rear retractor, and the buckle section attaches to the passenger's side rear retractor.





3. Pass the free ends of the belt buckle and the lap belt through the right and left sides of the wheelchair, where they will be positioned as low as possible across the pelvis of the wheelchair occupant.

4. Attach the shoulder belt anchor pin to the D-ring connection at the rear roofline of the vehicle.



5. Pass the free end of the shoulder belt over the passenger's left shoulder. Connect the belts together using the D-ring end of the shoulder belt and the anchor pin on the lap belt. Clip the lap belt assembly to the belt buckle at the passenger's right hip. Remove slack from the belts and ensure the occupant is comfortable.



When the occupant restraints are not in use, the spare tire cover pocket and/or the rear storage bin provides a convenient storage area.

3.4 Electric Retractors

Refer to www.savaria.com/video/retractors for an instructional video on the procedure and tips for safely securing the wheelchair in your vehicle using electric retractors.

Boarding the Wheelchair Passenger:

- 1. Secure the front retractors. Ensure that they are located the same distance from the front of the lowered floor. The front electric retractors can be locked into the most forward position on the L-track, approximately 30 inches from the front as provided by the length of the electric cable. Choose the optimum position for the electric retractors based on the intended position of the wheelchair occupant and the Q'Straint user guide.
- 2. Guide the wheelchair occupant to the base of the ramp and lock the wheelchair.
- 3. Press the red "unlock" button on the black control box located on the passenger side at the rear of the vehicle.
- 4. Hook both front retractors to the wheelchair frame.

5. Press the black "lock" button on the black control box.



- 6. Unlock the wheelchair and guide the wheelchair occupant into the van, pulling back as you go to take up slack as the webbing spools in the retractor. Failure to tighten the webbing in this manner may result in the wheelchair user rolling back a few inches when the vehicle is in motion.
- 7. When the wheelchair passenger is in the desired location, lock the wheelchair.
- 8. Secure the Q'Straint Slide 'N Click rear retractors to the discs fixed to the floor (*please refer to section 3.2.4 for instructions*).
- 9. Connect the Occupant Restraint System (*please refer to section 3.3 for instructions*).

Deboarding the Wheelchair Passenger:

- 1. Disconnect the Occupant Restraint System.
- 2. Remove the rear retractors. Don't forget to press the red release button on the rear retractor to release the lock and provide slack in the webbing.
- 3. Press the red "unlock" button on the black control box.
- 4. Unlock the wheelchair and push it slightly forward to release tension in the webbing.
- 5. Guide the wheelchair passenger out of the van and down the ramp.
- 6. Lock the wheelchair.
- 7. Remove the webbing hooks from the front of the wheelchair frame and reattach them to the D-rings on the rear panels.

section 4

Vehicle Seating *4.1 Dodge Grand Caravan*

2nd and 3rd Row Seating Configuration				enger ription	Total Cap (Passengers	Max. Remaining
2nd Row	3rd Row				+ Cargo)	Cargo Cap*
Bench Original Equipment	Savaria bench 2 person		أ 7	° •	524 kg (1155 lb)	42 kg (91 lb)
Bench Original Equipment	Savaria stowed bench		5	1	524 kg (1155 lb)	111 kg (243 lb)
Bench Original Equipment			5	1	559 kg (1231 lb)	146 kg (319 lb)
Buckets Original Equipment	Savaria bench 2 person		6	°.	556 kg (1225 lb)	142 kg (313 lb)
Buckets Original Equipment	Stowed bench		† 4	1	556 kg (1225 lb)	211 kg (465 lb)
Stowed Buckets Original Equipment	Stowed bench		n 2	2	556 kg (1225 lb)	280 kg (617 lb)
Buckets Original Equipment			† 4		631 kg (1389 lb)	286 kg (629 lb)
Stowed Buckets Original Equipment			1 2	نځ 2	631 kg (1389 lb)	355 kg (781 lb)

* Calculation in previous table assumes all usable seats are occupied and each passenger weighs 150 lbs. Passenger weight does not include weight of wheelchair; wheelchair weight must be included as cargo.



Be cautious when lifting seats. Never attempt to lift a bench unless there are at least two people involved who are capable of heavy lifting. Always use proper lifting techniques to avoid injury

Lowering the Bucket Seat Backrest & Headrest:

- 1. Pull the lever on the outboard side of the bucket seat while holding the backrest.
- 2. Gently lower the backrest while standing clear of the headrest.



⚠️ In 2008-2010 Grand Caravan models, the headrest must be manually lowered prior to folding the backrest.



In 2011 and newer Grand Caravan models, the headrest automatically flips down when the lever is pulled for the backrest. Use caution when folding the backrest down, as the mechanism is under extreme tension. The headrest will flip down quickly as the backrest is released, so stand clear of the headrest when pulling the lever. Lowering the Bench Centre Seat Backrest and Headrest:

- 1. Pull upward on the black nylon strap beside the headrest at the top of the seat.
- 2. Press downward on the lever located at the back of the middle seat, and fold the backrest forward.





4.1.1 2nd Row Fixed Bucket Seat

Removal:

- 1. Lower the backrest and headrest.
- 2. Locate the black thumb screw handle located at the front near the bottom of the seat base, and twist it in the counter-clockwise direction until it is completely removed. Put this handle in a safe place, such as the storage bin at the rear of the van or the spare tire cover pocket.

- 3. Slide the base towards the rear of the vehicle until the three black seat anchors are aligned with the larger end of the corresponding keyholes.
- 4. Carefully lift the base and remove it from the vehicle through the side door.



Installation:

- 1. Lift the seat into the vehicle. The larger end of the three keyholes on the bottom of the base should line up with the bolt pattern on the vehicle floor.
- 2. While ensuring the rear claw is lined up with the hook in the floor, slide the base in the forward direction until the black anchor bolts bottom out against the end of the keyhole. The front thumb screw hole will not line up unless the three black anchor bolts are fully positioned, and the rear claw and hook are fully engaged.
- 3. Install the front thumb screw by lining up the screw post with the front threaded hole and turning it in a clockwise direction while firmly pressing downward. Thread it all the way down, and ensure it is hand-tight.

4. Raise the backrest and headrest.

🗥 It is not safe to drive the vehicle if the thumb screw in the seat base is not installed.

4.1.2 2nd Row Flip Bucket Seats

For removal and installation, follow the steps outlined in Section 4.1.1.

Flipping the seat to the side (from the driver's side):

- 1. Lower the backrest and headrest.
- 2. Locate the black release handle underneath the seat as shown, and pull it upward. If the handle seems difficult to pull, try pushing down on the inboard side of the seat while pulling up on the release handle. This will relieve pressure on the locking pin.





3. While holding the release handle in the up position, use the other hand to pull upward on the inboard side of the seat, allowing the seat to flip to the side.



4. A click will be heard when the seat is in the "up and locked" position. Verify this by ensuring that the pin at the rear of the seat base is through the top hole.





Flipping the seat down (from the driver's side):

- Place one hand on the top of the seat, and one hand on the black release handle. Push the seat inward slightly, and then pull the release handle outward all the way. Flip the seat down with a generous amount of force.
- Check to make sure the locking pin is all the way through the hole at the back (see below). If the pin is not through the hole, pull the seat back up and push it down once again with more force. Repeat as necessary. If further assistance is required, contact Savaria[™] Vehicle Group.
- 3. Raise the backrest and headrest.











The pin must be fully engaged in the "down and locked" position before it is used by a passenger. If the vehicle is driven with an occupant sitting in a flip seat which is not locked, serious injury or death may result.

4.1.3 2nd Row Flip-Assisted Bench Seat

This bench is equipped with two black release levers to release the rear latches, accessible from either side of the bench. A single lever will release both rear latches.

Flipping the bench up (from the driver's side):

- 1. Ensure all backrests are folded down, and all headrests are in the lowered position.
- 2. Locate the black release lever and pull it in the upward direction to release the rear latches.





3. Slowly pivot the bench about the front anchorages until it stops. The locking tether on the passenger side should automatically engage when the bench is at 60 degrees (see "1" below). Check that the bench is locked by attempting to pivot the bench back down. If the tether is not locked, try firmly pressing the hinge point until it makes contact with the frame (see "2" below). When the locking tether is in this position, the bench should not fall down until the locking tether is released.





Flipping the bench down (from the driver's side):

1. Release the locking tether by pulling the black strap (located at the hinge point) in the rearward direction.



- Using a generous amount of force, pivot the rear of the bench downward until the rear latches engage with the hooks in the floor. If one or both latches fail to engage, pull the black release lever at the side of the bench and pivot it downward once again with more force. If difficulties arise, contact Savaria[™] Vehicle Group.
- 3. Flip the backrests and headrests up.



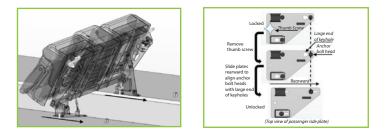
Removal:

It takes a minimum of two people to install/remove this bench seat.

- 1. Lower the backrests and headrests.
- 2. Locate the black thumb screw handles and twist them in the counter-clockwise direction until both are completely removed. Put them in a safe place, such as the storage bin at the rear of the van or the spare tire cover pocket.



- 3. Flip the bench forward (see "Flipping the bench up", above).
- 4. With one person standing at the driver's side and one at the passenger side, slide the bench towards the rear of the vehicle until the three black seat anchors are aligned with the larger end of the corresponding keyholes.



5. With the holes aligned, carefully lift the bench up out of the van and set it down out of harm's way. Do not store the bench in the upright position as it may fall and cause injury.

Installation:

- 1. Lift the bench into the van while lining up the large end of the keyholes in the plate with the black seat anchors in the floor.
- 2. Slide the bench forward until the black seat anchors are bottomed out against the small end of the keyholes in the plate. When the plates are in the correct position, the hole at the front will be lined up with the threaded bushing underneath.

- 3. Insert the thumb screws into the threaded hole at the front of the keyhole plate.
- 4. Release the locking tether (see "Flipping the bench down", above
- 5. Ensuring the rear latches are in the open position, flip the rear of the bench down with sufficient force to engage the rear latches with the hooks in the floor. If one or both of the rear latches does not engage, pull the black release lever and try again with more force. If difficulty arises, contact Savaria[™] Vehicle Group.
- 6. Flip the backrests and headrests up.

4.1.4 2nd Row Removable Bench Seat

This bench is equipped with a black release strap (located at the rear of the bench) to temporarily pivot forward for removal or to allow passengers to enter/exit through the side doors.



Since there is no safety tether on this bench, the vehicle should not be driven if the rear latches are disengaged as the bench could fall down and cause serious injury. It takes a minimum of two people to install/remove this bench seat. Flipping the bench up (from the driver's side):

- 1. Ensure all backrests are folded down, and all headrests are in the lowered position.
- 2. Locate the black release strap and pull it in the rearward direction to release the rear latches.
- 3. Slowly pivot the bench about the front anchorages until it stops.

Flipping the bench down (from the driver's side):

- Using a generous amount of force, pivot the rear of the bench downward until the rear latches engage with the hooks in the floor. If one or both latches fail to engage, pull the black release lever at the side of the bench and pivot it downward once again with more force. If difficulties arise, contact Savaria[™] Vehicle Group.
- 2. Flip the backrests and headrests up.

For removal and installation, see section 4.1.3 as well as the instructions above for flipping this bench up/down.

4.1.5 3rd Row Flip Bench Seat

Note: There are variations of the third row bench, and although the one in your vehicle may not look identical to the one in the pictures below, it operates the same way.

Flipping the bench down:

- 1. Disengage the rotational lock by twisting it counter-clockwise.
- 2. Press the lock lever and lower the bench. If the latch re-engages, press the lever again and lower the bench at the same time.





3. Once the bench is lowered all the way, ensure the lock lever is engaged by attempting to pivot the bench back up. If it moves up without locking, push the bench back down with more force and try lifting it again. If difficulty arises, contact Savaria[™] Vehicle Group



4. Raise the backrest by pressing the red lever located at the rear of the bench on the driver's side and lifting it into position.





Flipping the bench sideways:

- 1. Fold the backrest down by pressing downward on the red lever located at the rear of the bench on the driver's side.
- 2. Push upward on the lock lever underneath the bench while pivoting the bench to the side.
- 3. Lift the bench to the vertical position until the primary lock engages.
- 4. Engage the secondary rotational lock by turning it clockwise over the vertical bar.

4.1.6 2nd Row Footplate/Storage Bin

Some Grand Caravan conversions are equipped with a footplate to cover the front of the lowered floor for the comfort of the second row seat occupants. This footplate also acts as the lid to the storage bin underneath, and system can be completely removed to allow a wheelchair passenger to be situated in the second row position.



Removal:

- 1. Open the storage bin by rotating the footplate upward as shown.
- 2. When the footplate is in the vertical position, slide it rearward to line up the slots in the footplate tabs with the studs as shown below. Remove the footplate by lifting it upward.





3. Remove the black partition by lifting it up and out of the vertical slots in the floor wall.





Installation is the opposite of removal.

4.2 Toyota Sienna

2nd and 3rd Row Seating Configuration 2nd Row 3rd Row			Passenger Description		Total Cap. (Passengers + Cargo)	Max. Remaining Cargo Cap.*
3 Buckets Original Equipment	Savaria bench 2 person		† 7	ė	524 kg (1155 lb)	42 kg (91 lb)
3 Buckets Original Equipment	Stowed bench		5	Ċ,	524 kg (1155 lb)	111 kg (243 lb)
2 Buckets Original Equipment	Savaria bench 2 person		F 6	è	524 kg (1155 lb)	133 kg (293 lb)
2 Buckets Original Equipment	Stowed bench		† 4	Ċ,	524 kg (1155 lb)	202 kg (445 lb)
3 Buckets Original Equipment			₽ 5	Č 1	598 kg (1319 lb)	184 kg (407 lb)
2 Buckets Original Equipment			† 4		598 kg (1319 lb)	276 kg (609 lb)

* Calculation assumes all usable seats are occupied and each passenger weighs 150 lbs. Passenger weight does not include weight of wheelchair; wheelchair weight must be included in cargo weight.

For operating instructions for the Sienna 2nd row seats, please refer to your original manufacturer Owner's Manual.

section 5

4.2.1 3rd Row Flip Bench Seat

For instructions on how to operate this seat, please refer to section 4.1.5.

Emergency and Maintenance

5.1 Spare Tire Removal



1. Remove the vinyl cover to access the spare tire.



2. Remove the spare tire handle by turning it in the counter-clockwise direction to unthread it completely. Set the handle and the washer in a secure place.



 Remove the jack cover and the jack, and follow the procedure for spare tire replacement as outlined in your original manufacturer Owner's Manual.

5.2 Routine Maintenance

Routine inspection for obvious signs of damage is all that is required to ensure the safe operation and long life of your conversion. The Savaria[™] rear entry conversion is designed to be maintenance free for the life of the vehicle.

5.3 Towing

Due to the lowered floor design of the Savaria rear entry conversion, there is an increased risk of damage to the rear of the vehicle as a result of towing. In the event that your vehicle requires towing, it is recommended that a flatbed tow truck be used.

Tips

Please familiarize yourself with the SavariaTM warranty. It is important to understand what is covered and how to proceed should you encounter any issues with your Savaria van conversion.

Be sure to register your vehicle within 30 days of purchase using the registration information provided by your dealer, or on our web site.

Regular maintenance is important! Be sure to have your vehicle serviced as indicated by the original manufacturer of your van.

For proper use of your Q'Straint restraint system, please watch the video online at:

http://www.savaria.com/video/retractors



1.855.Savaria

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