

**BRAUN**



**CONSUMER**

**Rear Entry Folding Ramp**

**RAMPVAN**

**Wheelchair-Accessible  
Lowered Floor Conversion  
featuring 2005  
Toyota Minivans**

**THE BRAUN  
CORPORATION**<sup>®</sup>  
"Providing Access to the World"<sup>®</sup>

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**32070**

**September 2005**

**RE Folding Ramp Rampvan<sup>®</sup>  
featuring Toyota Minivans**

# Operator's Manual

**! WARNING**



**Read manual  
before operating.  
Failure to do  
so may result in  
serious bodily  
injury and/or  
property damage.  
Keep manual in  
Entervan.**

**RE Folding Ramp Rampvan<sup>®</sup>  
featuring Toyota Minivans**

## **Congratulations**

We at The Braun Corporation wish to express our fullest appreciation on your new purchase. With you in mind, our skilled craftsmen have designed and assembled the finest lowered floor vehicle available.

This manual includes safety precautions, operating instructions, manual operating instructions, and instructions for maintenance and lubrication procedures.

Your Rampvan® is built for dependability, and will bring you years of pleasure and independence, as long as the maintenance is performed regularly and the Rampvan® is operated by an instructed person.

Sincerely,

THE BRAUN CORPORATION

A handwritten signature in black ink that reads "Ralph W. Braun". The signature is written in a cursive style with a large, prominent "R" and "B".

Ralph W. Braun  
Chief Executive Officer

<b>WARRANTY AND REGISTRATION INSTRUCTIONS</b> .....	2
<b>INTRODUCTION</b> .....	3
<b>CONVERSIONS (Half-Drop and Full-Drop)</b> .....	4
<b>FEATURES</b> .....	5, 6
<b>SAFETY PRECAUTIONS</b> .....	7
<b>OPERATION</b>	
Terminology .....	8
One-Touch Control System .....	8
Control Switches .....	9-11
Ramp Access Rear Hatch .....	12
Kneel System .....	13
Ramp .....	14, 15
Manual Ramp Operation .....	16
Manual Kneel Operation .....	17
Ramp Safety .....	17-19
<b>WHEELCHAIR AND OCCUPANT RESTRAINT</b> .....	20
<b>SEAT REMOVAL AND INSTALLATION</b> .....	21-26
<b>WARRANTY</b> .....	27-30
<b>RETURN AUTHORIZATION PROCEDURE</b> .....	30
<b>PREVENTIVE MAINTENANCE</b> .....	31, 32
<b>JACKING AND TIRE CHANGING</b> .....	33

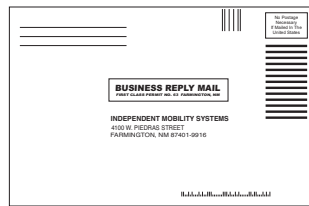
## WARRANTY AND REGISTRATION INSTRUCTIONS

Examine your Rampvan for any damage. Should any damage have occurred during delivery, notify the carrier at once with any claims.

A warranty/registration card and a delivery checklist are supplied with each Rampvan (shown at right). Review and fill out the checklist and warranty with your sales representative and mail both to The Braun Corporation (as addressed).

A detailed Warranty section is provided within this manual. The warranty card must be processed to activate the warranty.

Record the last eight digits of the vehicle identification number (VIN) and the tag number in the spaces provided for future reference. This information must be provided when filing a warranty claim or ordering parts.



Vehicle Identification (VIN) Number \_\_\_\_\_

Tag Number (5 Digit) \_\_\_\_\_

The Braun Rampvan RE (rear entry) lowered floor conversion is designed to provide years of pleasure and mobility independence. Familiarity with proper operation and maintenance procedures will help ensure safe, trouble free operation.

The Braun Corporation encourages wheelchair passengers and their attendant(s) to review the material contained in this manual with your Braun sales representative, **before attempting operation**. Any questions or concerns can be answered by your sales representative at that time.

This manual addresses Rampvan rear entry conversions, standard features and options. Refer to the instructions applicable for your package, and disregard the information that does not apply.

Contact The Braun Corporation at 1-800-THE LIFT® if any of this information is not understood.

Store this manual in the vehicle along with your Toyota owner's manual.

If you experience an operation problem or there is any sign of wear, damage, or other abnormal

condition, contact your sales representative or call The Braun Corporation at 1-800-THE LIFT®. One of our national Product Support representatives will direct you to a Braun authorized service center.

## CONVERSIONS

### Half-Drop Conversion

The half-drop conversion combines a powered rear hatch, powered bi-fold ramp, and powered kneel system with a lowered floor area extending from the rear hatch to the passenger side second row seating position. This allows a wheelchair user to ride in the passenger side second row seating position.



### Full-Drop Conversion

In addition to the powered rear hatch, powered bi-fold ramp, and powered kneel system, the full-drop conversion features a lowered floor area extending from the rear hatch up to the front passenger toe-pan. The Rampvan rear entry full-drop conversion allows a wheelchair user to perform a standard side-transfer into the driver's seat. The conversion also includes a front passenger side captain's chair on a raised, quick release platform, so ambulatory passengers have the option of riding in the front passenger position.



**Half-Drop Conversion**

**Full-Drop Conversion**

**One-Touch Electronic Control**

**System:** The Rampvan One-Touch electronic control system provides simple one-touch activation of all Rampvan power features. For your convenience, the control system can be activated using the remote keyless entry transmitter, any one of the interior-mounted control switches or the optional magnetic entry.

**Power Rear Hatch:** The One-Touch electronic control system activates the power rear hatch for ramp access. The rear hatch and lowered floor configuration provides 55" clear vertical passageway.

**"Secure-Lock" Rear Hatch**

**Latching Mechanism:** This device holds the rear hatch securely when closed, and helps to protect

the vehicle occupants in the event of a rear-end collision.

**Clean Bumper Design:** The bumper cutout is integrated into the rear hatch, giving the Rampvan a clean OEM look when the hatch is closed.

**Ramp:** Fully automatic power ramp is 30" in width.

**Electromechanical Power Kneeling Rear Suspension:** "Kneeling" is the lowering motion of the electromechanical rear suspension. The kneel feature reduces the slope of the ramp when deployed.

**Lowered Floor Area:** The half-drop conversion features a lowered floor area extending from the rear hatch to the passenger side

second row seating position. The full-drop conversion lowered floor area extends from the rear hatch to the front passenger toe-pan.

**Unmodified Driver Side Second**

**Row Seat:** This allows the second row passenger to ride with the same level of comfort and safety as a passenger in an unconverted Sienna.

**Floor Track for Wheelchair and Occupant Securement in Midpoint Lowered Floor Area:** Floor track provided in the midpoint lowered floor area (Position **B** on Figure 1 and 2 next page) can be utilized for restraint of a wheelchair passenger. Securement position may have limitations based on the dimensions of specific wheelchairs.

## FEATURES

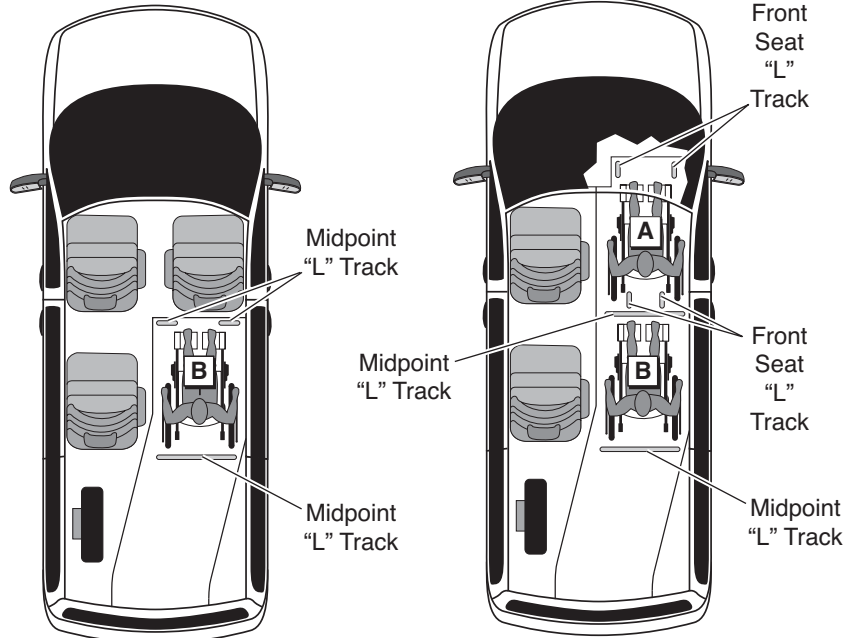
### Quick-Release Front Passenger Seat with Floor Track for Wheelchair and Occupant Securement (Full-Drop Conversion Only):

The passenger seat (Position A on Figure 2) is equipped with quick-release seat attachments (making seat removal and installation procedures simple). The seat can be removed and the seat location can be utilized by a wheelchair occupant (floor track provided).

### Forward-Facing Wheelchair and Occupant Belt/Track System:

One Forward-Facing Wheelchair and Occupant Belt Kit is supplied for the restraint of one wheelchair and occupant. The belt kit is used in conjunction with the floor track.

**Note:** Additional belt kits can be purchased (option).



**Figure 1**

**Figure 2**



**Safety Symbols**

**SAFETY FIRST!** Know That....

**A** All information contained in this manual and supplements (if included), is provided for your safety. Familiarity with proper operation instructions as well as proper maintenance procedures are necessary to ensure safe, trouble free operation. Safety precautions are provided to identify potentially hazardous situations and provide instruction on how to avoid them.

**B**

<p><b>▲WARNING</b></p> <p><b>This symbol indicates important safety information regarding a potentially hazardous situation that could result in serious bodily injury and/or property damage.</b></p>
--

**C**

<p><b>▲CAUTION</b></p> <p><b>This symbol indicates important information regarding how to avoid a hazardous situation that could result in minor personal injury or property damage.</b></p>
--

**D** **Note:** Additional information provided to help clarify or detail a specific subject.

These symbols will appear throughout this manual and may appear on labels posted on your Rampvan.  
**Recognize the seriousness of this information.**

Whenever parking your Rampvan RE and before utilizing Rampvan features, always engage the vehicle transmission in Park “P” and engage the vehicle parking brake. The vehicle transmission **must** be engaged in Park “P,” before operating the Rampvan automatic features. **Note:** Pressing the “Back Door Off” switch disables Rampvan power functions (located at driver lower left knee bolster). See page 10 for details.

### Terminology

The term “Unfold” indicates the lowering motion of the ramp to the deployed position. “Fold” is the raising motion of the ramp to the vertical (stowed) position.

The terms “Open” and “Close” refer to sequences of power func-

tions that will occur when activated by the One-Touch electronic control system. When activating the Open functions, the power hatch opens, the kneel system lowers the rear of the vehicle and the ramp unfolds. When activating Close functions, the ramp folds, the kneel system raises the rear of the vehicle and the power hatch closes.

### One-Touch Control System

Rampvan power functions are managed by the One-Touch electronic control system. The control system can be activated using the remote keyless entry transmitter or any one of the controls addressed on pages 9-11.

**Do not** attempt to interface aftermarket control systems.

### Braun Corporation Aftermarket Control Systems Policy:

The Braun Corporation manufactures dedicated control systems for its products. These control systems have been designed and tested for use in conjunction with specific Braun products. Braun control systems are the **only** control systems authorized for use with Braun products.

**Do not** attempt to interface aftermarket control systems without authorization from The Braun Corporation. **To do so may result in serious bodily injury and/or property damage.**

### Control Switches

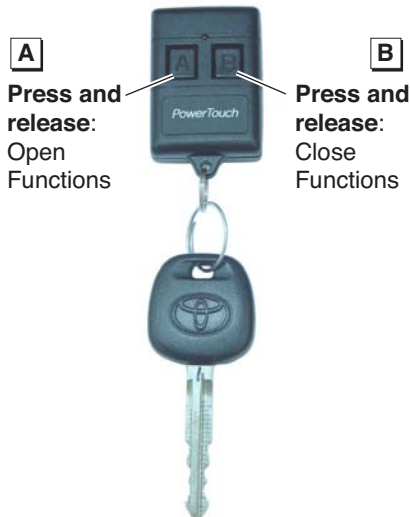
For your convenience, the Rampvan One-Touch electronic control system can be activated using remote transmitter, any one of the specified interior-mounted control switches or the optional magnetic entry (control photos and details are provided).

### One-Touch Control Activation

Rampvan power hatch, kneel and ramp functions are activated by **pressing and releasing** any specified control switch. **Note:** Pressing the "Back Door Off" switch disables Rampvan power functions (located at driver lower left knee bolster). See page 10 for details.

### Remote Entry Transmitter

The remote transmitter has dedicated One-Touch buttons for the Open functions (Button A) and Close functions (Button B).



### Dash-mount Console Switches

**Open/Close Switch:** Center console mounted One-Touch button for Rampvan function operation from the driver seat.



**Press and release:**  
One-Touch Switch

## OPERATION

### Dash-mount Console Switches

**Kneel On/Off Switch:** Center console mounted On/Off toggle switch for the Rampvan kneel system. The kneel system can be enabled (On) or disabled (Off) with this console mounted switch.



**Toggle Off:**  
Kneel Disabled



**Toggle On:**  
Kneel Enabled

### “Back Door Off” Override Switch

The switch is located on the driver lower left knee bolster. Pressing the switch In disables Rampvan power functions. Pressing the switch again and returning it to the Out (raised position with orange band visible) enables Rampvan power functions.



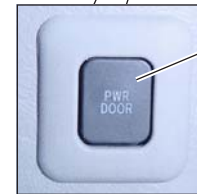
**Switch In:**  
Power Functions Disabled



**Switch Out:**  
Power Functions Enabled

### “C” Pillar Switch

A One-Touch button is located on C-Pillar interior panel, rear of the driver side slide door.



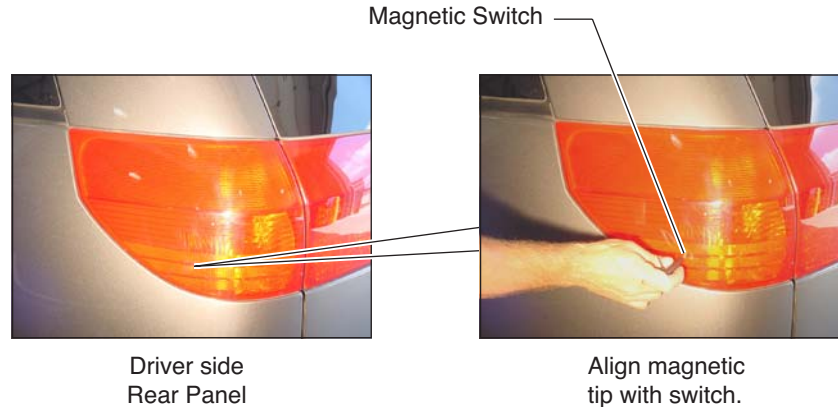
**Press and release:**  
One-Touch Switch

## Magnetic Entry

A magnetic switch is built into the driver side rear panel (near tail-light). The switch is **not** labeled.

A key-style magnet is supplied for switch activation. Simply align the magnet tip with the switch target (identified in photos). The Rampvan power door, kneel functions and ramp will be activated.

When activating the Open functions using the magnetic entry, there is approximately a **one second delay before** the Rampvan Open sequence of functions is activated. The One-Touch electronic control system unlocks all vehicle doors before activating Rampvan power functions.



## OPERATION

### Ramp Access Rear Hatch

The rear hatch may be opened using the Rampvan One-Touch Control System or it may be opened manually. Press and release the remote transmitter, any one of the interior mounted control switches or the optional magnetic entry to activate the hatch. When a control switch is pressed, the door will open and the Open sequence of functions will continue.

If a control switch is pressed and released while the hatch is opening, the hatch will open fully and stop (ramp will not deploy). Press the switch again and the hatch will close.

Once the Open sequence of functions is complete (hatch is fully open and ramp is unfolded), press and release a control switch to

close the hatch. The hatch will close after the ramp folds, completing the Close sequence of functions.

If a control switch is pressed while the hatch is closing, the door will continue to close fully. Press a control switch again to start Open functions.

**Note:** Pressing the "Back Door Off" switch disables Rampvan power functions (located at driver lower left knee bolster). See page 10 for details.



**Note:** If the power hatch is obstructed while opening or closing, the hatch will reverse direction, provided it meets sufficient resistance.

Keep clear of the area in which the power door operates. Ensure door travel path is clear. Personal injury or property damage may occur during power door operation. Be sure the door is fully closed and latched before driving.

## Kneel System

Kneeling is the lowering motion of the Rampvan electromechanical rear suspension. The kneel system lowers the rear of the vehicle. Lowering the rear of the vehicle reduces the slope of the ramp.

The kneel system is automatically activated by the One-Touch electronic control system. When a control switch is pressed to start the Open functions, the rear of the vehicle begins to lower at the same time the hatch starts to open. When the Close functions are activated, the vehicle starts to raise at the same time the ramp starts to stow (retract).

**Note:** Do not leave your Rampvan in the kneeled (lowered) position for extended periods of time. Doing so may result in battery drain.

**Kneel On/Off Feature:** This feature provides the option of kneeling the vehicle when operating the power door and ramp. A kneel On/Off switch is provided on the center console (see photo on page 10). The kneel system can be enabled (On) or disabled (Off) with this console mounted switch.

**Emergency Kneeling Override:** In the event the Rampvan is in the kneeled position, the Kneel Actuator Emergency Release (Override) feature allows the rear of the vehicle to be raised to the normal position. See page 17 also.

**Do not** drive the Rampvan with the rear of the vehicle in the lowered position. Attempting to do so will result in an extremely rough and unstable ride. In the event of a kneel system failure, have the kneel system repaired immediately.

A release switch is located on the driver side C-pillar as shown below.

**To Release Kneel:** Press and hold the Emergency Kneel Raise switch until the motor "clicks," ensuring the kneel has been completely released (vehicle raises).

**To Engage Kneel:** Release the Emergency Kneel Raise switch to re-engage the kneel actuator motor.



**Press and hold:**  
Release Kneel (raise vehicle)

## OPERATION

### Ramp

Fully automatic power ramp with manual override.

**Power Ramp Operation:** The power ramp is activated by the One-Touch electronic control system. When a control switch is pressed to start the Open functions, the ramp unfolds after the hatch is fully open. When the Close functions are activated, the ramp folds immediately.

If a control switch is pressed and released while the ramp is unfolding, the ramp motor will stop running.

**Note:** Since the ramp is not completely stowed, it may gravity down and descend to the ground. Press a switch again and the ramp will fold and the hatch will close.

Once the Open sequence of functions is complete (hatch is fully open and ramp is unfolded), press and release a control switch to fold the ramp. If a control switch is pressed while the ramp is folding, the ramp motor will stop running. Press a control switch again and the ramp will fold and the hatch will close.

**Note:** If the power ramp is obstructed while unfolding or folding, the ramp motor will stop running, provided it meets sufficient resistance. If the ramp is obstructed during the unfold cycle, press the switch again and the ramp will fold and the hatch will close. If obstructed during the fold cycle, press the switch again and the ramp motor stops running and the ramp unfolds by the force of gravity.

**Note:** When unfolding the ramp, the ramp motor stops running when the ramp reaches the nearly-horizontal position (approximately 6" - 8" above ground level). The ramp continues to lower the remaining distance by the force of gravity. Allow the power ramp to unfold (deploy) fully before boarding the ramp. Forcing the ramp out or down during the unfold function, or boarding onto the ramp before it is fully-deployed **may result in damage** to the ramp and/or motor assembly.

### CAUTION

**Allow ramp to deploy fully before boarding. Failure to do so may result in damage.**

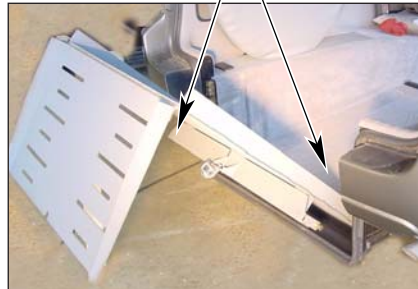


**Power Ramp Safety:** Be certain there is adequate clearance outside the Rampvan before unfolding the power ramp.

Keep clear of area in which the ramp operates. Be certain no person or obstruction is within the path of the ramp when unfolding or folding the ramp. Keep clear of all power ramp moving parts. Do not attempt to grip or hold the ramp or ramp folding mechanism (fold arm and bearing assembly).



Keep body parts and obstructions clear of the area in which the ramp operates.



## OPERATION

**Manual Operation:** If you experience power or equipment failure, power ramps can be manually folded and unfolded. The power ramp can also be manually folded and unfolded if the "Back Door Off" override switch is pressed in.

**Manual Ramp Operation:** When manual use of ramp is required, the ramp should be manually unfolded and folded by an attendant. Keep clear of the area in which the hinged ramp bi-fold extension folds and unfolds. Remember to use good body mechanics when folding and unfolding the ramp.

**Deploy Ramp:** The ramp may be deployed by disengaging the latch release assemblies located on the upper floor section on each side of the ramp. Slide the levers toward the center of the van. When the release levers are positioned properly they lock into place at an angle. Push the ramp out (away from the

vehicle) and the ramp will continue to deploy by the force of gravity.

**Stow Ramp:** Rotate the latch release assemblies toward the outer walls of the vehicle. **Note:** Push downward and then outward to position release levers. Manually raise the ramp until it is locked into the stowed position. **Be sure** the ramp is locked in position by attempting to push/pull the ramp out from the vehicle. The ramp should remain locked in position.



**Manual Kneel Operation:** In the event the Rampvan is in the kneeled position and you experience power or equipment failure, the Kneel Actuator Manual Release (Override) feature allows the rear of the vehicle to be raised to the normal position.

The kneel manual release is operated with a ratcheting wrench. The kneel motor release nut is located in a compartment on the driver side rear raised floor (see photo). Remove access door and use a ratcheting wrench to raise the vehicle (release the kneel).



Use the Kneel Manual Release **only** if the vehicle will not raise electrically. **Do not** drive the Rampvan with the rear of the vehicle in the lowered position. Attempting to do so will result in an extremely rough

and unstable ride. In the event of a kneel system failure, have the kneel system repaired immediately.

**Ramp Safety:** Wheelchair passengers and attendants (when applicable), must use basic common sense and good judgment regarding ramp safety. Each wheelchair passenger has a unique set of physical abilities combined with the physical characteristics of his or her wheelchair that dictate the method in which he or she will enter and exit the Rampvan. Consequently, the procedures for safe operation outlined in this manual are general in nature. Wheelchair attendants should be instructed on any special needs and/or procedures required for safe transport of wheelchair passengers.

## ⚠ WARNING

**Position and fasten the wheelchair-equipped occupant seat belt before loading onto the wheelchair ramp. Failure to do so may result in serious bodily injury and/or property damage.**

## OPERATION

Follow all safety instructions regarding torso restraints, stability, balance, weight distribution and use of attendants as specified in the owner's manual supplied with **your** wheelchair. Determine, establish and practice ramp boarding and exiting procedures under the direction of your health care professional, your wheelchair representative, and your Rampvan sales representative to **ensure your ability to do so safely**.

Never board a Rampvan ramp if you or your attendant are intoxicated. The wheelchair should be positioned in the center of the ramp at all times. You must be able to clearly view the ramp whenever boarding and exiting the vehicle.

**It is the responsibility of the wheelchair operator to enter and exit the Rampvan on the ramp in the safest manner.**



### **Wheelchair-Equipped Occupant Seat Belts:**

Wheelchair passengers should position and buckle their wheelchair-equipped seat belt (torso restraint), as specified by the manufacturer, **before** loading onto a wheelchair ramp.

Different types of disabilities require different types of wheelchairs and different types of wheelchair-equipped occupant restraint belt systems (torso restraint). It is the responsibility of the wheelchair passenger to have his or her wheelchair equipped with an occupant restraint (seat belt) under the direction of their health care professional.

**Stabilizing Wheelchairs:** Powered and manual wheelchairs are designed to remain upright and stable during normal operation. All activities which involve movement in a wheelchair have an effect on the combined center of gravity of the occupant and wheelchair. Be aware of the Rampvan ramp slope (angle). The slope of the ramp has a direct effect on the center of gravity. Keep in mind your center of gravity and your ability to maintain stability and balance.

Do not operate your wheelchair on the Rampvan ramp without assistance if you are unable to maintain stability and balance. Counterbalance devices (anti-tippers) may be available from your wheelchair representative to enhance stability and balance.

Do not tilt your wheelchair without assistance. Operate the wheelchair at a slow and constant speed when on the ramp. Do not accelerate suddenly when on the ramp. Do not raise the front wheelchair wheels (pull wheelie) when on the Rampvan ramp.

The aid of an attendant stabilizing the wheelchair is recommended for **optimum safety**. Wheelchair passengers who intend to enter and exit their Ramp-

van without the assistance of an attendant must determine the safest and most practical method and orientation of entering and exiting the Rampvan. This method should be based on the physical characteristics of their personal wheelchair and his or her physical capabilities to maintain stability while the wheelchair is in motion on the Rampvan ramp.

**Wheelchair Attendants:** When assisting a wheelchair occupant, remember to use good body mechanics. When the wheelchair is on the ramp, the attendant must grasp the push handles (or other) securely. Detachable wheelchair parts such as arms or leg rests must never be used for hand holds or lifting supports. Doing so could result in the detachable parts being inadvertently detached from the wheelchair **resulting in possible injury to the wheelchair occupant and/or the attendant**.

**Wheelchair Orientation and Securement During Transport:** The wheelchair occupant **must** face the front of the vehicle and **must** be secured using the forward-facing wheelchair and occupant belt / track system. See belt manufacture instructions for details.

## WHEELCHAIR AND OCCUPANT RESTRAINT

One Forward-Facing Wheelchair and Occupant Belt Kit with instructions is supplied for the restraint of one wheelchair and occupant. "L" track is mounted in the vehicle for belt securement (shown in Figure 3).

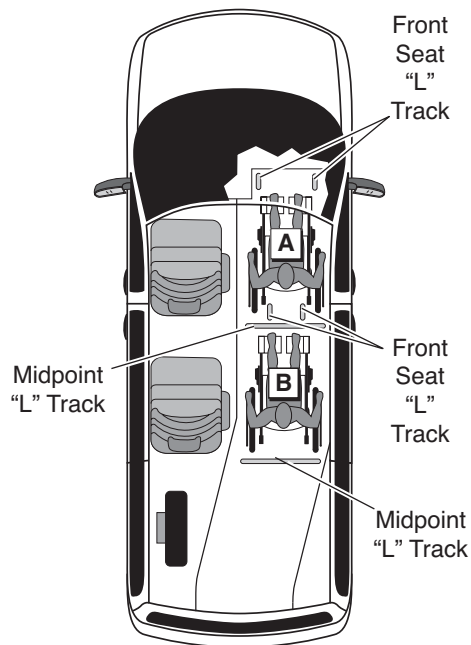
**Note:** Wheelchair passengers shown in Figure 3 depict the available seating positions. Wheelchair capacity at Midpoint (Position **B**) may have limitations based on the physical dimensions of specific wheelchairs. Additional Forward-Facing Wheelchair and Occupant Belt Kits must be purchased for the restraint of each additional wheelchair passenger.

The Rampvan offers the following options for placement and securement of wheelchair passengers.

**Second Row Passenger Seat with Floor Track (Half-drop and Full-drop Conversions):** The second row lowered floor area (Position **B**) can be utilized by a wheelchair occupant.

**Front Passenger Seat with Floor Track (Full-drop Conversion Only):** The passenger seat (Position **A**) can be removed and the seat location can be utilized by a wheelchair occupant. **Note:** The full-drop conversion can utilize both the front passenger and the passenger side second row as wheelchair securement positions, dependant on the size of the wheelchairs.

Refer to the guidelines, illustrations, photos and instruction supplied with the Wheelchair and Occupant Belt Kit for proper use of the belt and track restraint system.



**Figure 3**

**Front Passenger Seat:** In an effort to produce vehicles that can be configured to meet a variety of customer needs, the front passenger seat base has been designed so that it may be removed (full-drop Rampvan **only**). This feature allows the owner and sales representative to determine the appropriate seating arrangement to accommodate owner needs.

### **WARNING**

**Park vehicle and turn engine off before removing or installing seats. Failure to do so may result in serious bodily injury and/or property damage.**

The full-drop Rampvan front passenger seat is equipped with a quick-release seat attachment (making seat removal and installation procedures simple). The quick-release front passenger seat is installed and removed as detailed on pages 21-26 of this manual.

**Power Seats:** The full-drop Rampvan front passenger seat is equipped with electrical wiring harness to accommodate optional equipment such as heated seats, air bags, etc. **Before removing the front passenger seat, be certain all seat electrical harnesses are disconnected.**

When the seat is removed, the seat electrical harness **plug must**

**be secured to avoid damage to the harness plug.** See Photos A and B on page 22.

When positioning the seat, it is **your responsibility** to reconnect all seat electrical harnesses. Failure to properly connect power seat electrical harnesses may result in power seat functions being disabled and/or the air bag not deploying with the correct readings from the seat sensors.

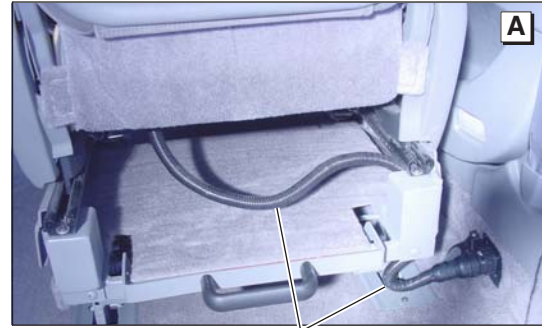
Contact your sales representative or call The Braun Corporation at 1-800-THE LIFT® if any of this information is not understood.

## SEAT REMOVAL AND INSTALLATION

### Front Passenger Seat Wiring Harness and Receptacles:

An electrical harness receptacle is located to the rear of the passenger seat base in the wall (at "B" pillar). The seat wiring harness plug connects to the receptacle socket (screw-on connector details on pages 23 and 24).

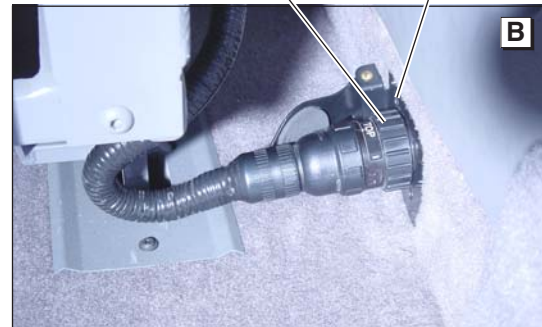
Turn the seat harness connector large diameter knurled grip clockwise to connect (turn gripper nearest socket). See Photo B. Turn knurled grip counterclockwise to disengage connectors. Secure the seat electrical harness plug to avoid damaging the harness or plug when removing the seat.



Seat Wiring Harness

Turn this knurled grip.

Receptacle





### ⚠ CAUTION

**Disconnect seat wiring harness before removing seat. Failure to do so may result in property damage.**

### ⚠ CAUTION

**Secure front seat wiring harness plug to avoid damage to the harness and/or plug of seat base before removing front seat. Failure to do so may result in property damage.**

#### **Front Seat Wiring Harnesses:**

Rampvan front passenger seat is equipped with an electrical wiring harness. See Photos A & B on page 22.

An electrical harness receptacle is located to the rear of the front passenger seat base in the wall (at B-pillar). The seat wiring harness plug connects to the receptacle. **Before removing seats, be certain seat wiring harnesses are disconnected.**

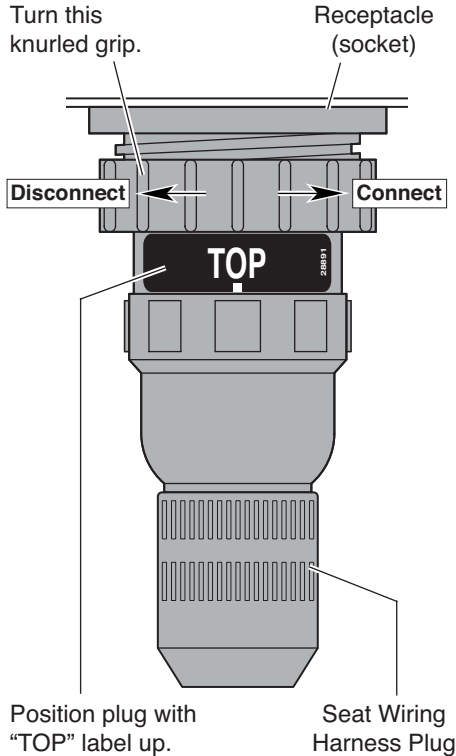
When the seat is removed, the **seat electrical harness plug must be secured** to avoid damage to the harness and/or the plug. When installing the seat, **be certain seat wiring harness is reconnected.** Failure to do so may result in power seat functions being disabled and/or the air bag not deploying with the correct readings from the seat sensors.

**Screw-on Connectors:** The front passenger seat wiring harness is equipped with a screw-on connector (plug). Operate connectors as detailed here and on page 24.

A label is posted on the seat wiring harness plug which identifies the top of the connector (“TOP” decal). Position the plug with the “TOP” label facing up when connecting the plug to the receptacle socket. Use this feature as an alignment guide.

**Note:** Alignment grooves (slots) are provided in receptacle sockets. Receptacle sockets have a single wider alignment groove that is positioned at 12 o’clock (shown on page 24). The seat wiring harness plug is equipped with mating alignment guides (ears).

## SEAT REMOVAL AND INSTALLATION



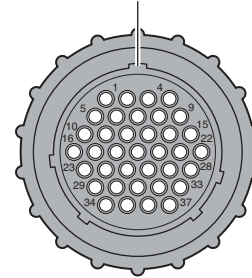
### Screw-on Connectors:

**To Connect:** Align the seat harness connector by positioning the plug with the "TOP" label facing up. Align the seat harness connector alignment guides with the receptacle socket alignment grooves (will only connect one way).

**Carefully** insert the seat harness plug in the receptacle socket. Turn seat harness connector large diameter knurled grip clockwise fully (turn grip per nearest to socket).

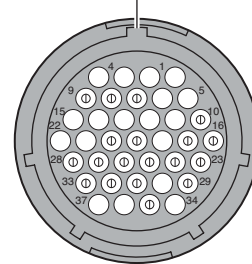
**To Disconnect:** Turn seat harness connector large diameter knurled grip counterclockwise and disengage connectors.

Alignment Groove  
(at 12 o'clock)



Receptacle Socket

Alignment Guide



Seat Harness Plug

### Quick-Release Front Seat Base

Quick-release seat base attachments engage recessed floor strikers (supports). A release handle is located at the rear of the seat base (see Photo C). Pulling the release handle disengages the attachments and allows easy removal of the seat.

Grasp and pull handle up. Then pull up and back on the rear of seat and roll seat base out of vehicle as shown.

**Note:** Push top of seat forward while pulling handle for easier disengagement.



Pull release handle up.



Pull seat up and back.



Roll seat out of Vehicle

## SEAT REMOVAL AND INSTALLATION

### Front Passenger Seat Removal Instructions

**1. Disconnect seat wiring harness before removing seat.**

See pages 22-24 for wiring harness details and photos.

**Secure harness and plug** to avoid damage (see Photos A and B on page 22).

**2. Pull release handle up** (located at the rear of seat base). See

#### **⚠ CAUTION**

**Disconnect seat wiring harness before removing seat. Failure to do so may result in property damage.**

Photo C on page 25. Seat base will release from floor supports.

**Note:** Push top of seat forward while pulling handle for easier disengagement.

**3. Pull upward and then backward** on the rear of the seat and roll seat base out of vehicle. See Photos D and E on page 25.

### Front Passenger Seat Installation Instructions

**1. Roll front passenger seat base** into position (aligning the seat base attachments with the recessed floor strikers).

**2. Push seat down and forward** to latch the front seat attachments with the recessed floor strikers (receptacles). Once the front is latched fully, push downward

on the handle at the rear of the seat to latch the rear seat attachments. **Be sure the seat is fully latched in floor supports** before occupying seat or operating vehicle.

**3. Connect (plug) the electrical harness sockets.** See pages 22-24 for details.

#### **⚠ WARNING**

**Seat attachments must be fully latched in floor supports before occupying seats or operating vehicle. Failure to do so will result in serious bodily injury.**

□ In accordance with the Toyota 5 year/Unlimited mile corrosion warranty, The Braun Corporation warrants to the purchaser of its Rampvan conversion that the metal fabrication on or of the frame, floor and lowered door extension are free from defects in material and factory workmanship for a period of 5 years with unlimited miles. The Braun Corporation further warrants to the purchaser that the remainder

of the modifications and alterations for associated parts are free from defects in material and workmanship for a period of 3 years or 36,000 miles, whichever comes first. For clarification purposes, the following chart outlines The Braun Corporation Rampvan warranty coverage. Refer to your Toyota warranty information booklet for all Toyota OEM (factory) limited warranty details.

<b>Years/Miles in Service</b>	<b>Specific Area Covered</b>
<p><b>3 Year with Unlimited Miles</b></p>	<p>Rampvan frame and floor structural components</p> <p>Rampvan ramp, door and associated structural components</p> <p>Rampvan electrical components including but not limited to switches, wires, connectors and the controller</p>

## WARRANTY

Years/Miles in Service	Specific Area Covered
<p><b>3 Years</b> <b>or</b> <b>36,000 Miles</b> (whichever comes first)</p>	<p>Rampvan appearance items including but not limited to interior floor covering and rear hatch lowered extension assemblies.</p>
<p><b>5 Year</b> <b>with</b> <b>Unlimited Miles</b> <b>Corrosion</b> <b>Warranty</b> see *Exceptions at right</p>	<p><b>Corrosion Warranty:</b></p> <p>Rampvan frame, floor and lower door modification metal fabrication corrosion applies to perforation only. Rampvan lower rear hatch modification corrosion applies to outer-body sheet metal and paint. Perforation is a rust-through condition such as an actual hole in the metal.</p> <p>* Exceptions: Cosmetic or surface corrosion (resulting from stone chips for example) would not be covered or repaired under this coverage. If corrosion does not cause holes, and is not the result of usage and/or environmental conditions, repair coverage lasts for 3 years or 36,000 miles, whichever comes first.</p>

Both the 5 year with Unlimited mile corrosion and the 3 year/36,000 mile warranties described on previous page commence on the date the conversion is put into service, providing the warranty registration card is completed and received by The Braun Corporation within thirty days of the purchase.

The Braun Corporation agrees to repair or replace any of its Rampvan factory-installed parts found to be defective within the appropriate warranty period or mileage. This warranty also covers the cost of labor for the repair or replacement of said parts for three years provided that the repair is authorized by The Braun Corporation and carried out by an authorized service establishment (a Braun labor schedule determines the cost allowance for repairs). The Braun Corporation will not honor any warranty claim for repairs or replacement of parts unless the claim is submitted with the appropriate factory warranty authorization data and the repairs or replacement of the parts are completed by a factory-authorized repairman. The factory authorization data, together with the name and location of the factory-authorized repairman, can be obtained by

either written or telephone contact with The Braun Corporation at the addresses appearing in this manual.

The return authorization procedure must be adhered to in order to process any warranty and repair claims (details on following page).

The Braun Corporation reserves the right to designate where any warranty work is to be performed.

The Braun Corporation also reserves the right to examine any defective workmanship or part prior to any authorization of necessary repairs. This Rampvan warranty is not intended to replace or substitute any other warranties issued by the original manufacturer of the vehicle or other suppliers of components. This warranty shall not apply to any part or workmanship that may become defective due to misuse, neglect, accident or other casualty, modifications or alterations or unauthorized repairs. Further, this warranty shall not extend to parts or workmanship that may become defective because of the failure of

## WARRANTY

anyone to operate the same in accordance with the printed instructions of The Braun Corporation or because of operation of the same beyond its capacity.

This warranty does not cover normal maintenance, service, or periodic adjustments necessitated by use or wear.

Second buyers of a Braun Rampvan conversion may transfer the remaining warranty, if any, by obtaining a transfer of warranty application from The Braun Corporation. This application must be

returned to The Braun Corporation within thirty days from the date you purchase the vehicle and proof of the date of purchasing must be supplied with the transfer of warranty application.

The Braun Corporation shall not be liable for any incidental or consequential damages resulting from any breach of warranty.

The Braun Corporation shall not be liable for towing charges, travel and lodging, or any other expense incurred due to the loss of use of vehicle or other reason.

## RETURN AUTHORIZATION PROCEDURE

When processing any warranty claims (parts, repairs, etc.), all requests must be processed through The Braun Corporation Product Support Department. Call 1-888-669-4436 during working hours. Product Support will issue a Return Material Authorization (RMA) number and detail the procedures required for

processing returns and/or authorizing credit.

The last eight digits of the vehicle identification number (VIN) **must be provided when filing a warranty claim or ordering parts.**



Maintenance is necessary to ensure safe and trouble-free Rampvan operation. General preventive maintenance consisting of inspections of your Rampvan systems along with cleaning and lubricating procedures should be a part of your routine (lubrication requirements are minimal). Regular preventive maintenance procedures will increase the service life of the Rampvan, as well as enhance safety.

During routine inspections, operate all Rampvan systems and note the following (as equipped):

- Is the power source adequate or weak?
- Does the electronic control system function properly?
- Do the control switches function properly?

- Does the power door (hatch) function properly?
- Does the ramp unfold and fold properly?
- Inspect wheelchair and occupant restraint belts, buckles and hardware for damage, wear, abnormal condition or improper operation.

Rampvan ramps are equipped with sealed bearings and Teflon™ bushings to decrease wear, provide smooth operation and extend the service life of the ramp. These components do not require lubrication under normal conditions (although the ramp should be inspected and cleaned routinely).

Light oil should be applied to the outboard ramp extension hinge. Clean the components and the

surrounding area before applying lubricants. LPS2 General Purpose Penetrating Oil is recommended by and available from the Braun Corporation (part number 15807). Use of improper lubricants can attract dirt or other contaminants which could result in wear or damage to components.

Clean and lubricate the specified points approximately every four weeks or 100 cycles. These intervals are a general guideline and will vary according to frequency of use and conditions. Exposure to severe conditions (weather, environment, heavy usage, etc.) may require inspection and maintenance procedures to be performed more often.

## PREVENTIVE MAINTENANCE

Preventive maintenance visual inspections, cleaning and lubrication procedures **do not** take the place of the procedures specified in the Maintenance and Lubrication Schedule provided in the Rampvan service manual. The procedures outlined in the Maintenance and Lubrication Schedule **must be performed at the recommended scheduled intervals by an authorized Braun Corporation service representative who has attended and been certified by The Braun Corporation Sales and Service School.**

If there is any sign of damage, wear, abnormal condition or improper operation, **discontinue Rampvan use immediately.** Contact your sales representative or call The Braun Corporation at 1-800-THE LIFT®. One of our Product Support representatives will direct you to an authorized service technician who will inspect your Rampvan.

### **WARNING**

**Maintenance and lubrication procedures must be performed by authorized service personnel as specified in the applicable Rampvan service manual. Failure to do so may result in serious bodily injury and/or property damage.**

## JACKING AND TIRE CHANGING

### Jacking and Tire Changing

**Interior Spare Tire Mount:** The spare tire is mounted on the driver side raised portion of the floor by the rear hatch.

The jack and tire changing tools are located in the storage compartment on the passenger side rear interior panel of the vehicle (OEM storage location).

**Front Wheel Jack Points:** Front wheel jacking points have not been affected by the conversion. Their location and jacking procedure is detailed in the Toyota-supplied owner's manual.

**Rear Wheel Jack Points:** Rear wheel jacking points have been repositioned during Rampvan conversion procedures. The rear

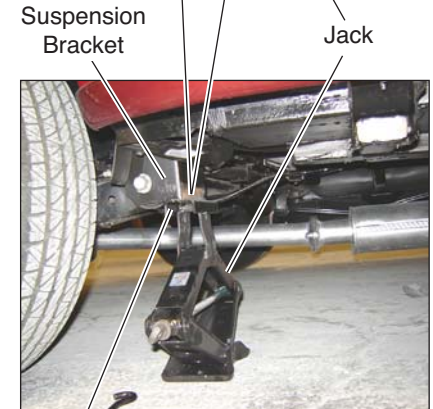
jack points are located just in front of the rear tires. The jacking point is on the rear suspension front mounting bracket. See photos at right.

**Note:** The vehicle jack points are designed with a tab that seats into the jack. The tab keeps the jack in the correct position on the vehicle. See photos at right.

### Jacking and Tire Changing

**Procedures:** Detailed tire changing instructions are provided in the Toyota-supplied owner's manual.

**Refer to the Toyota-supplied manual for tire changing instructions and safety precautions, as well as instructions regarding other roadside emergencies.**



Rear Jack Point

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Dealers Worldwide**

# Operator's Manual

**BRAUN**



**CONSUMER**

**Rear Entry Folding Ramp**

# RAMPVAN

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featuring 2005  
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**32070**

**September 2005**

*All illustrations, descriptions and specifications in this manual are based on the latest product information available at the time of publication. The Braun Corporation reserves the right to make changes at any time without notice.*

**RE Folding Ramp Rampvan®  
featuring Toyota Minivans**