



VARILITE®

Installation Instructions

*(eBack™, Evolution Back™, and
Evolution Back Deep™)*

*This manual explains how to install
your VARILITE back support, how to
operate it, and how to maintain it*

Important Note for Dealers: Please
provide the User or Caregiver with
this manual.

***Important Note for Users and
Caregivers:*** Please keep this
manual for future reference.

If you do not understand this
instruction manual or if you have
any questions, please contact
VARILITE Customer Service toll free
at 800.827.4548, or 206.505.9500, or
at info@varilite.com.





Installation Instructions

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WARNING

TO AVOID INJURY, read, understand and follow all instructions and warnings in this manual before using your *VARILITE* back support.

There are hazards associated with the use of wheelchairs and adaptive equipment. If you misuse your wheelchair or your back support you can be seriously injured.

Installation and adjustment of your *VARILITE* back support should be performed only by an authorized dealer or qualified therapist. Improper installation or adjustment can result in equipment damage and serious injuries.

- Ensure that your *VARILITE* hardware is tightened and functions according to these instructions before using your wheelchair. If you are unable to check the tightness of hardware, please seek qualified assistance.
- Never use your wheelchair if any *VARILITE* hardware is missing, malfunctioning, or broken. Seek qualified assistance with any repairs or adjustments.
- Never exceed the weight capacity of the back support. Never perform weight training that causes you to exceed the weight capacity of the back support. If you exceed the recommended weight capacity you can damage equipment and be seriously injured.
- Never exceed the weight capacity of the wheelchair as specified by the wheelchair manufacturer. Never perform weight training that causes you to exceed the weight capacity of the wheelchair. If you exceed the recommended weight capacity you can damage equipment and be seriously injured.
- Never lift the wheelchair by the back support.
- Never use the back support without its cover. For your safety, *VARILITE* cushion covers are made with flame retardant materials.
- Never modify your *VARILITE* back support or use it in a way not described by these instructions.
- Follow all instructions and warnings provided by the wheelchair manufacturer.



Installation Instructions

Use in a Motor Vehicle

For eBack™ Tall, Evolution Back™ Tall and Evolution Back Deep™

WARNING

This seating system has been dynamically tested and meets requirements of ANSI WC20/Vol 4 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 performance requirements of ANSI WC19 or ISO 7176-19.

A surrogate wheelchair base and Hybrid III Midsize Male ATD were used in the frontal impact test.

Any postural support devices and belts that have not been successfully tested in accordance with ANSI/RESNA WC18 or WC19 should not be relied upon as an occupant restraint in a vehicle.

For additional information regarding the use of seating systems in motor vehicles, refer to *Safe Use in a Motor Vehicle* provided with this system and at www.varilite.com

For eBack™ Regular and Evolution Back™ Regular

WARNING

This seating system has not been dynamically tested and does not meet requirements of ANSI WC20/Vol 4 or conform to ISO 16840-4 for the safe use of seating devices for use in motor vehicles. To avoid serious injury or death, do not use this seating system in a motor vehicle.

For additional information regarding the use of seating systems in motor vehicles, refer to *Safe Use in a Motor Vehicle* at www.varilite.com.



VARILITE

Installation Instructions

WARNING

Wheelchair Compatibility

VARILITE eBack, Evolution Back and Evolution Back Deep are designed to be compatible with most wheelchairs, noting the following exceptions:

The system can be used only with wheelchairs with cane diameters equal to 1 inch (25 mm) or less.

The system can be used only with wheelchairs with round canes.

Wheelchairs are not required to have stabilizer bars provided the canes can maintain their position.



1 in. (25mm)
maximum cane
diameter

stabilizer bar



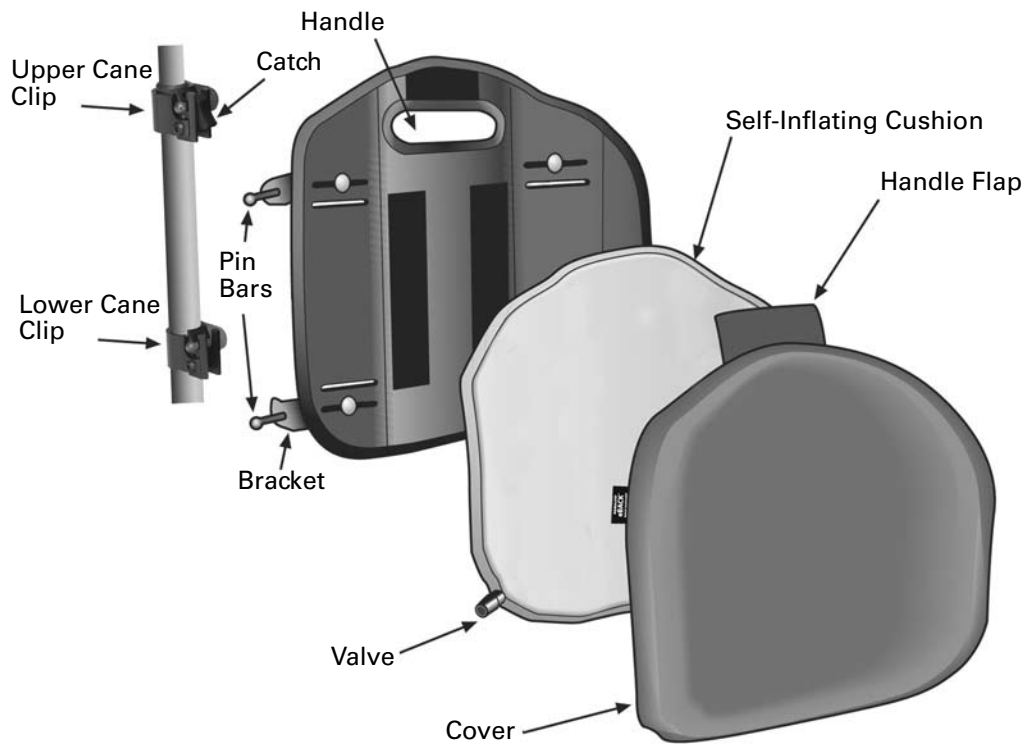
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Installation Instructions

VARILITE eBack Parts

Regular and Tall

Please familiarize yourself with the parts of the eBack before installation, adjustment or use.





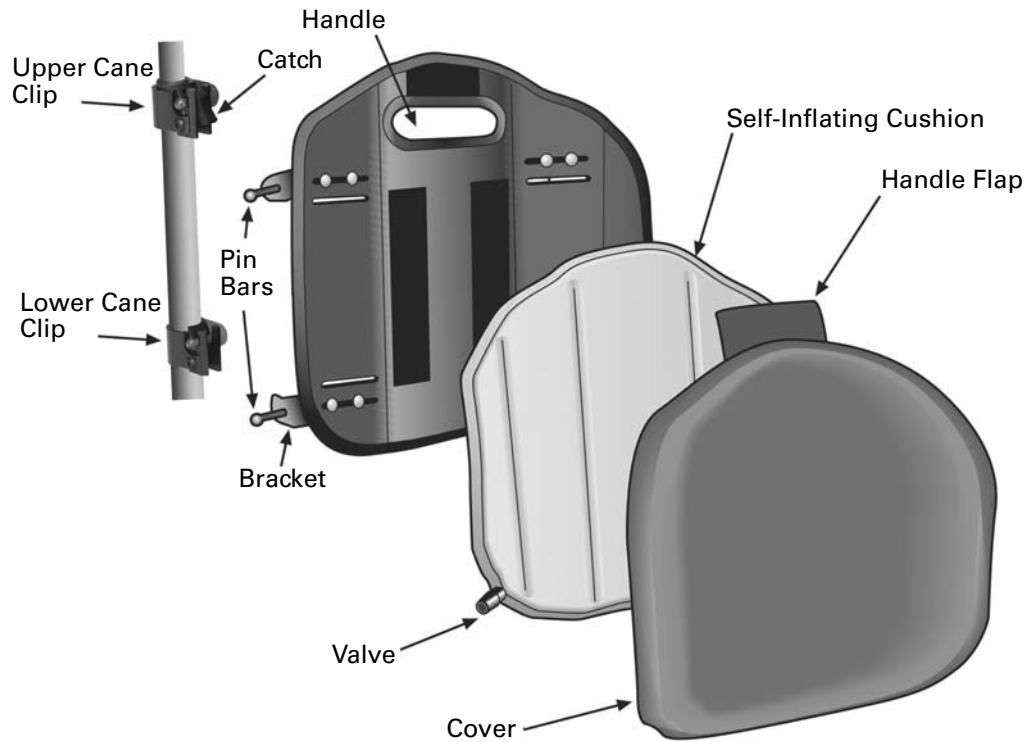
VARILITE

Installation Instructions

VARILITE Evolution Back Parts

Regular and Tall

Please familiarize yourself with the parts of the Evolution Back before installation, adjustment or use.



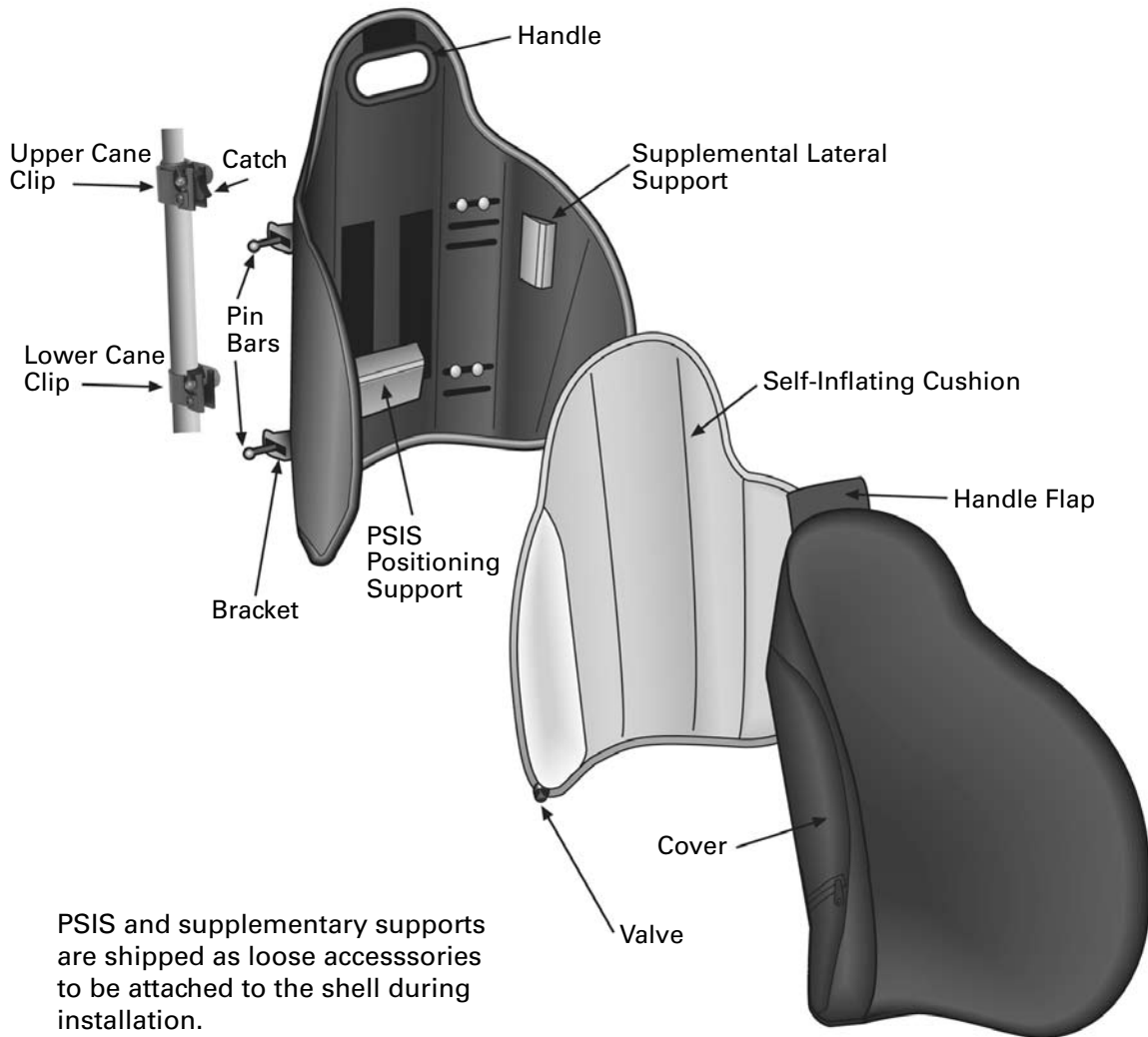


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Installation Instructions

VARILITE Evolution Deep Back Parts

Please familiarize yourself with the parts of the Evolution Back Deep before installation, adjustment or use.

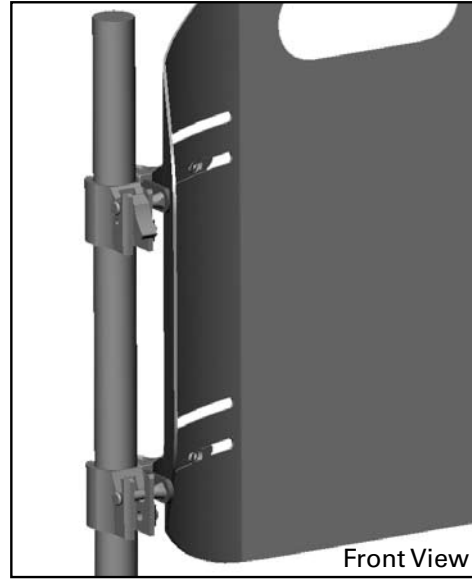




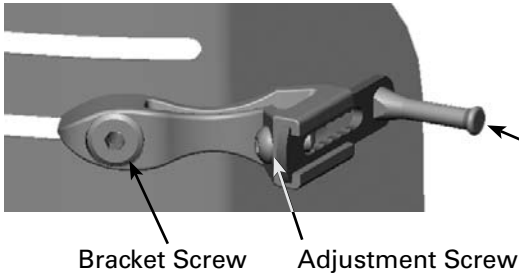
VARILITE

Installation Instructions

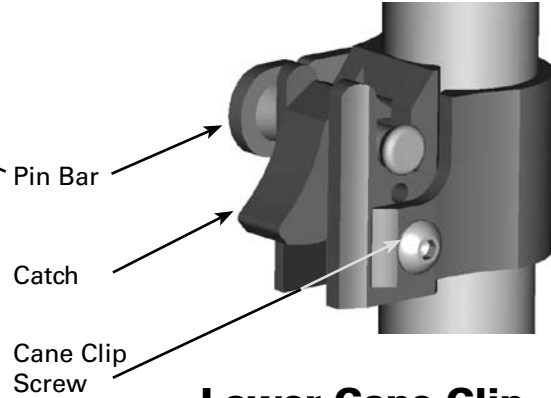
VARILITE Back Hardware Components



Bracket



Upper Cane Clip



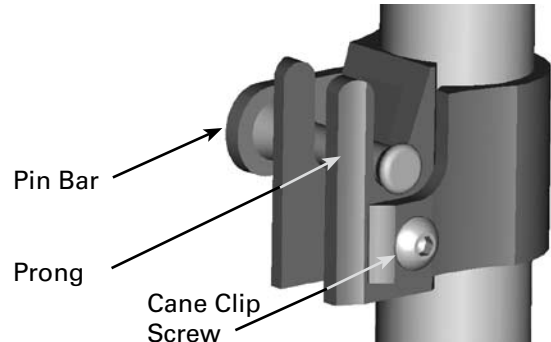
eBack Pin Bar



Evolution Back Pin Bar



Lower Cane Clip





Installation Instructions

VARILITE Back Support Part Numbers

	12 in.	14 in.	15 in.	16 in.	17 in.	18 in.	20 in.	22 in.	24 in.
	30 cm	35 cm	37 cm	40 cm	43 cm	45 cm	50 cm	55 cm	60 cm
<u>eBack</u>									
Aluminum Shell	04323	04367	04368	04369	04371	04372	04373	04324	04332
Cushion	01560	01561	01562	01563	01564	01565	01566	01567	01568
Cushion Cover	01714	01715	01716	01717	01718	01719	01720	01721	01722
Complete Assembly	420011121	420011141	420011151	420011161	420011171	420011181	420011201	422011221	422011241

<u>eBack Tall</u>									
Aluminum Shell	04273	04381	04382	04383	04384	04386	04387	n/a	n/a
Cushion	01570	01571	01572	01573	01574	01575	01576	n/a	n/a
Cushion Cover	01723	01724	01725	01726	01727	01728	01729	n/a	n/a
Complete Assembly	420021121	420021141	420021151	420021161	420021171	420021181	420021201	n/a	n/a

<u>Evolution Back Reg.</u>									
Aluminum Shell	04323	04367	04368	04369	04371	04372	04373	04324	04332
Cushion	01348	01267	01268	01269	01288	01289	01293	01349	01350
Cushion Cover	04618	04610	04611	04612	04613	04614	04615	04619	04636
Complete Assembly	47506	47500	47501	47502	47503	47504	47505	47507	47508

<u>Evolution Back Tall</u>									
Aluminum Shell	04273	04381	04382	04383	04384	04386	04387	n/a	n/a
Cushion	01358	01312	01308	01309	01317	01318	01319	n/a	n/a
Cushion Cover	04637	04630	04631	04632	04633	04634	04635	n/a	n/a
Complete Assembly	47516	47510	47511	47512	47513	47514	47515	n/a	n/a

<u>Evolution Back Deep</u>									
Aluminum Shell	n/a	04376	04310	04312	04313	04314	04322	n/a	n/a
Cushion	n/a	01364	01337	01338	01339	01343	01347	n/a	n/a
Cushion Cover	n/a	04639	04603	04604	04609	04616	04617	n/a	n/a
Complete Assembly	n/a	47518	47520	47522	47524	47526	47528	n/a	n/a

	12 in.	14 in.	15 in.	16 in.	17 in.	18 in.	20 in.	22 in.	24 in.
	30 cm	35 cm	37 cm	40 cm	43 cm	45 cm	50 cm	55 cm	60 cm

Accessories

04650	Hardware Kit
04660	Upper Cane Clip Hardware Kit
04670	Lower Cane Clip Hardware Kit
04248	PSIS Block, Small
04249	PSIS Block, Medium
04259	PSIS Block, Large
04266	Supplemental Lateral Support
04581	Standard Pin Bar Assembly
04582	Extended Pin Bar Assembly

Assembly and Mounting Steps

Adjustment to the Brackets may be necessary to complete the installation and accommodate the width of the wheelchair, or for desired seat depth, angle and rotation.

Complete steps 1-15 without the client sitting in the wheelchair. Final adjustments, steps 15-20, can be made with the client in the wheelchair.

1. Determine optimal height of back on wheelchair.
2. Clean canes using alcohol wipes provided with back support.
3. Attach each Lower Cane Clip to the wheelchair canes, facing front. **(Fig. 1)**
4. Lower and Upper Cane Clips are sized for 1 in. (25 mm) diameter wheelchair canes. Shims are provided for wheelchair canes that are less than 1 in. (25 mm) in diameter.



Fig. 1

Snap shims on to canes at appropriate height. Cane Clip then attaches over shim **(Fig. 2)**. Use "Fitting Cane Clip Shims" chart below to properly fit your wheelchair cane diameter. **(Fig. 3)**

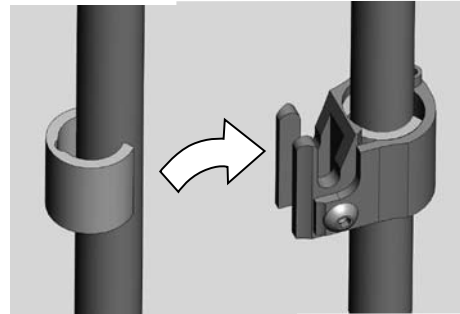


Fig. 2

Fitting Cane Clip Shims

Cane Size	Shim Size	Included with Hardware?
7/8 in. (22 mm)	1/8 in. (3 mm)	Yes
3/4 in. (19 mm)	1/4 in. (6 mm)	Yes
5/8 in. (16 mm)	3/8 in. (9 mm)	Provided upon request
1/2 in. (12 mm)	1/2 in. (12 mm)	Provided upon request

Fig. 3

5. Align the two Lower Cane Clips so they are level with each other. Tighten Cane Clip Screws enough to hold Lower Cane Clips lightly in place.
6. Attach Upper Cane Clips to wheelchair canes facing front. Tighten Cane Clip Screws just enough to hold Upper Cane Clips lightly in place.



Installation Instructions

WARNING

Failure to install and use Cane Clip Shims as instructed can result in equipment breakage and serious injury.

CAUTION

Thoroughly clean canes before installing shims.
Grease, oil or other residue on the canes may result in shim slippage

7. If you choose to mount an optional VARILITE PAL™ Swing-Away Lateral or Fixed thoracic support, please follow “Thoracic Support Instructions” on page 17 before proceeding.
8. Accommodate for chair width by adjusting Brackets on the backside of the Shell. **(Fig. 4)**

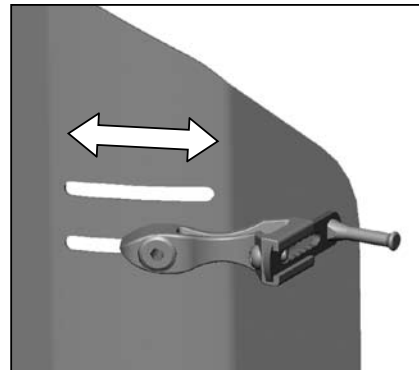


Fig. 4

The Brackets are adjusted correctly when the Pin Bar heads sit on the outside of the Lower Cane Clips. **(Fig. 5)**

To allow seat depth adjustment with the client in the wheelchair, do not tighten Bracket Screws at this time.

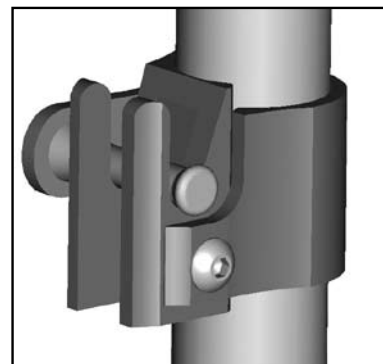


Fig. 5

WARNING

Failure to adjust and use the Pin Bars as instructed can result in equipment breakage and serious injury.

9. Pin Bars can be positioned in the Upper and Lower Brackets with the Pins facing the front or the rear of the wheelchair. **(Fig. 6)**

The orientation of the Pin Bars determines the seat depth and recline angle.

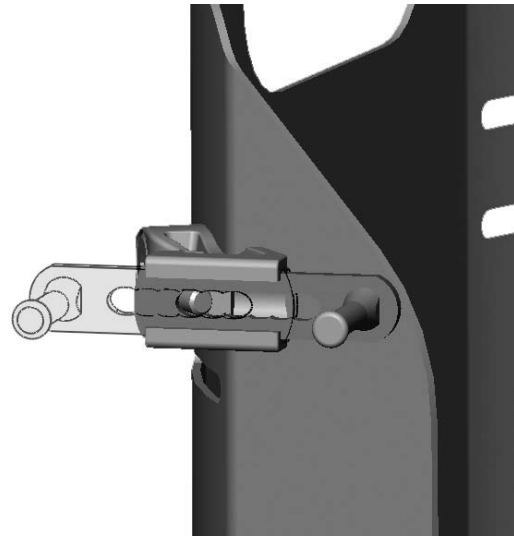


Fig. 6

10. Brackets are shipped with Adjustment Screws in place. **(Fig. 7)**

Once proper seat-to-back angle and seat depth have been determined, tighten Adjustment Screws.

For the greatest amount of angle adjustment, mount the Pin Bars in the Brackets so the pin is in the closest position relative to the Cane Clip. **(Fig. 8 and Fig. 9)**

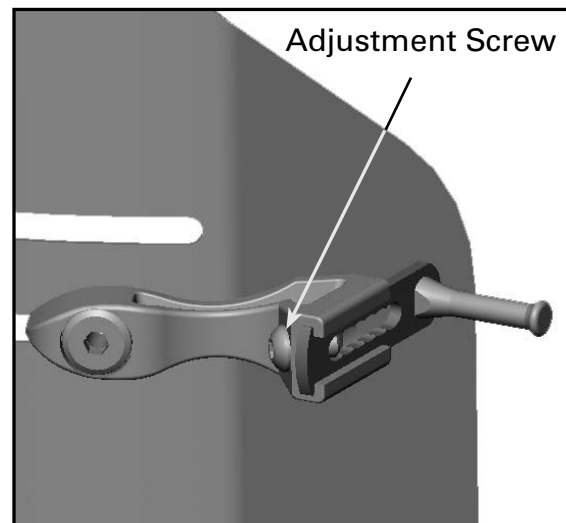
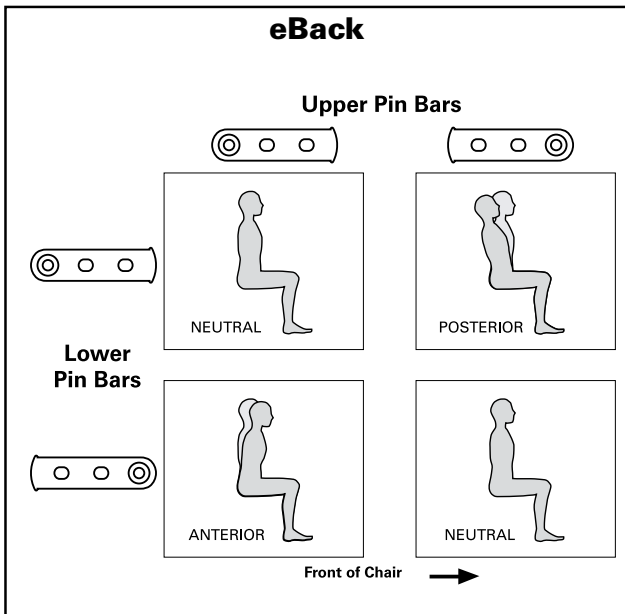


Fig. 7



Installation Instructions



Note: eBack and Evolution Back supports are shipped with standard length Pin Bars pre-mounted.

Extended length Pin Bars, for additional seat depth and recline angle, are available as Evolution Back Regular and Evolution Back Tall accessories.

Evolution Back Deep systems are shipped with Extended Length Pin Bars pre-mounted on the Upper Brackets and standard length Pin Bars on the Lower Brackets.

Fig. 8

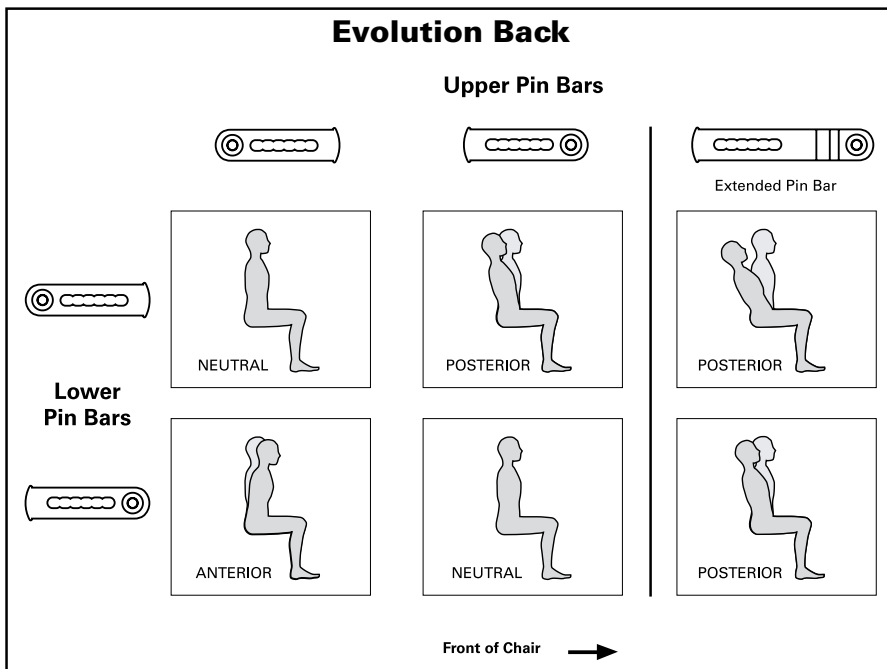


Fig. 9

11. Set the Shell (with Brackets, Lower Pin Bars, and Upper Pin Bars attached) in the Lower Cane Clips, assuring Lower Pin Bars rest in Prong of Lower Cane Clip. **(Fig. 5)**
12. Pull top of Shell backward, so upper Pin Bars are resting on wheelchair canes. **(Fig. 10)**
13. Slide Upper Cane Clips up toward Upper Pin Bars.
14. Firmly raise Upper Cane Clips until Upper Pin Bars snap into place. An audible "click" sound should be heard, and Catch will close around Upper Pin Bars. **(Fig. 11)**



Fig. 10



Fig. 11

Note: The Upper Pin Bars will "click" into place when the back support is locked into position.

If the Upper Pin Bars do not "click" into position, align the two Upper Cane Clips so they are level with each other. Tighten Cane Clip Screws. Push the back assembly downwards, until the Upper Pin Bars "click" into the Upper Cane Clips.

If the Upper Pin Bars still do not "click" into place, the Upper Cane Clips should be re-adjusted by moving them slightly upward.



Installation Instructions

Note: Adjustments made to the Shell Brackets to accommodate wheelchair width, and the positions of the Pin Bars for seat depth and angle, affect the orientation of Pins to the wheelchair canes.

Rotate the Cane Clips as needed make sure the Pins slide freely in the Cane Clips. (**Fig. 12**)

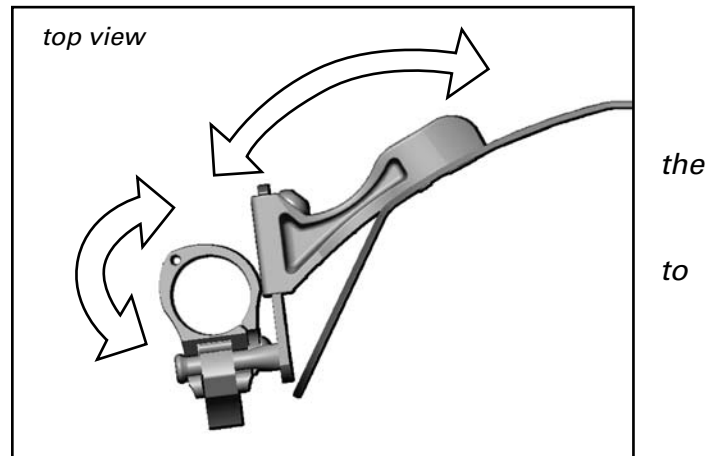


Fig. 12

15. Tighten Cane Clip Screws on Upper and Lower Cane Clips while keeping Adjustment Screws and Bracket Screws lightly tightened.
16. Seat client in wheelchair.

WARNING

Until all Bracket Screws, Cane Clip Screws and Adjustment Screws on Pin Bars are tightened and securely attached, make sure client is safely supported while positioning adjustments are made to prevent the client from falling out of the wheelchair.

17. Position client with desired back depth and seat-to-back angle.
18. Tighten Bracket Screws and Adjustment Screws.
19. As needed, loosen Cane Clip Screws and rotate Cane Clips to make sure the Pins slide freely in the Cane Clips. (**Fig. 12**) Tighten Cane Clip screws.
20. Once client is positioned, make sure all Bracket Screws, Cane Clip Screws, and Adjustment Screws on Pin Bars are tight and securely attached.



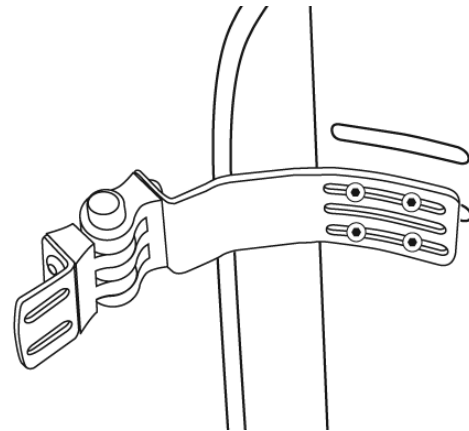
Installation Instructions

Thoracic Support Instructions

Follow installation instructions provided with the Thoracic Support.

If you choose to mount an optional VARILITE PAL™ Swing-Away Lateral or Fixed thoracic support, you may use the existing slots or drill holes in the Shell. The screws that hold the brackets are long enough to secure VARILITE lateral supports.

Note: Although VARILITE's Evolution Back warranty permits drilling the Shell for attachment of thoracic, head or other ancillary supports, these should be installed only by qualified persons.



Operating Instructions

Removing Back Support

1. Depress the Catch on each of the Upper Cane Clips. The Catches will stay open. (Fig. 13)

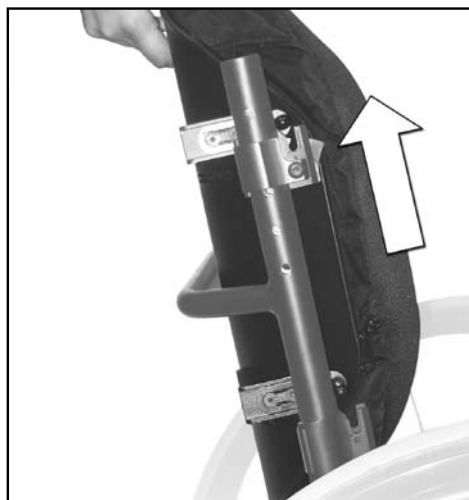


Fig. 14



Fig. 13

2. Lift the Shell straight up so the Pin Bars clear the Cane Clips.

Back can be removed with one hand. (Fig. 14)



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Installation Instructions

Installing Back Support

1. Hold the back assembly so the Pin Bars are against the wheelchair canes, slightly above their respective Cane Clips. **(Fig. 15)**



Fig. 15



Fig. 16

2. Push the shell assembly downward so the Pin Bars are inserted in the Cane Clips, and the Upper Cane Clip clicks into place.

VARILITE back support can be installed with one hand. **(Fig. 16)**



Installation Instructions

Inflating Cushion

1. To inflate cushion, remove load from cushion.
2. Open air valve by turning valve counterclockwise.
3. When cushion is fully inflated, close air valve by turning valve clockwise.

Adjusting Cushion

1. To adjust the air level of the *VARILITE* back support, begin with the cushion fully inflated and the valve closed.
2. Position wheelchair user securely in wheelchair.
3. Turn the valve counterclockwise to open the valve and release air.
4. Close the valve when the air level that provides the support needed for the user's comfort and functionality is reached.

Removing Cushion

1. Pull the cushion up to detach the cover from the shell.
2. Detach the Handle Flap from the hook patch on the inside of the Shell and pull the Handle Flap through the slots in the shell.

Note: *Reverse the steps above to reattach the cushion.*



Installation Instructions

Care and Maintenance

- The aluminum shell can be cleaned with soap and warm water. Do not saturate. Avoid getting water under the edge trim.
- The self-inflating cushion can be wiped with a damp cloth.
- The mesh cushion cover can be removed and washed. Machine wash at 140° F (60° C). Air dry.
- Never store your back support in conditions of extreme heat or exposure to direct sunlight for long periods of time.
- Never store sharp or heavy objects on top of your back cushion.
- Once a week, leave valve open overnight, allowing cushion to fully inflate in an unloaded state. See page 19 for adjustment instructions.



Troubleshooting

- **Side of the shell rubs against the upright canes**

Make sure that all four brackets are mounted an equal distance from the edge of the shell.
- **Not enough seat depth or recline angle adjustment**

Rotate Upper Pin Bars 180° to maximize seat depth and recline angle. See page 13.

Mount brackets in most proximal Shell slots.

Replace standard length Pin Bars with Extended Pin Bars. Contact VARILITE Customer Service at (800) 827-4548 to order replacements.

Make sure Pin Bar orientation is correct. See page 14.
- **Cushion takes up too much seat depth**

VARILITE eBack, Evolution Back and Evolution Back Deep use Air-Foam Floatation technology for superior comfort and pressure distribution. When fully inflated, the air-foam floatation cushion is thicker than a foam cushion, which can make it appear to take up seat depth.

Adjusting the cushion by releasing air, as described on page 19, reduces the cushion thickness, and seat depth is gained as the user immerses in the cushion.
- **Back assembly does not lift out of the Cane Clips after both Catches are released**

Ensure that both of the catches remain released after they are depressed. The Pin Bars may bind in the Cane Clips due to the Cane Clips being misaligned.

Refer to Assembly and Mounting Steps on page 11 and Cane Clip orientation on page 16 to ensure that Cane Clips are properly aligned.



Installation Instructions

Warranty

LIMITED WARRANTY/LIMITATIONS OF REMEDIES AND LIABILITY U.S.A. and Canada

Limited Warranty. Cascade Designs, Inc. d.b.a. **VARILITE®** ("VARILITE"), to the original owner ("Owner"), under intended use and maintenance, warrants the enclosed product ("Product") to be free from defects in materials and workmanship for two years from date of purchase of the Product. No warranty against defects in materials and workmanship will apply if Product is: (i) altered in any way, except as specifically provided for in product instructions; (ii) used for purposes inconsistent with Product's intended purpose or design; or (iii) improperly maintained. Warranty will furthermore be voided where user: (i) failed to follow Product instructions or warnings; or (ii) subjected Product to misuse, abuse, or neglect.

During the warranty period, original Product parts determined by VARILITE to be defective in materials or workmanship will be repaired or replaced as Owner's sole remedy. VARILITE reserves the right to replace any discontinued product with a new product of comparable value and function. A returned product deemed irreparable becomes the property of VARILITE, and will not be returned.

EXCLUDING THE LIMITED WARRANTY PROVIDED ABOVE, VARILITE, ITS AFFILIATES AND THEIR SUPPLIERS, TO THE MAXIMUM EXTENT PERMITTED BY LAW, MAKE NO WARRANTIES, EXPRESSED OR IMPLIED, AND DISCLAIM ALL WARRANTIES, DUTIES AND CONDITIONS, WHETHER EXPRESSED, IMPLIED, OR STATUTORY, WITH RESPECT TO THE PRODUCT, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, AGAINST LATENT DEFECTS, FITNESS FOR A PARTICULAR PURPOSE, OR CORRESPONDENCE TO DESCRIPTION.

Warranty Service To obtain service under this warranty, the warranty-eligible Product must be presented to a VARILITE authorized dealer. In the United States and Canada, warranty service may also be obtained by calling (800) 827-4548, Monday through Friday 7:00 AM to 4:30 PM Pacific Standard Time. Owner is responsible for all costs associated with returning Product to VARILITE for service. Where at its sole discretion VARILITE deems Product eligible for warranty repair or replacement, VARILITE will pay the shipping and handling associated with returning repaired or replaced Product to Owner. In instances where VARILITE deems a returned product ineligible for warranty service, VARILITE will, if possible, repair product for a reasonable charge that includes return shipping and handling.



Installation Instructions

Limitation of Remedies Should a court of competent jurisdiction find the limited warranty set forth above breached, VARILITE's only obligation will be to, at its option, either repair or replace Product. Should the aforementioned remedy fail of its essential purpose, VARILITE will, in exchange for return of Product, refund to Owner Product's original purchase price. THE FOREGOING REMEDY IS THE SOLE AND EXCLUSIVE REMEDY OF THE PURCHASER AGAINST VARILITE, ITS AFFILIATES AND THEIR SUPPLIERS, REGARDLESS OF LEGAL THEORY.

Limitation of Liability VARILITE's, its affiliates' and their suppliers' maximum liability is limited to incidental damages not to exceed the original purchase price of the Product. VARILITE, ITS AFFILIATES AND THEIR SUPPLIERS HEREBY DISCLAIM AND EXCLUDE ANY LIABILITY FOR ANY CONSEQUENTIAL OR OTHER DAMAGES RESULTING FROM ANY REASON WHATSOEVER. THIS EXCLUSION AND LIMITATION APPLIES TO ALL LEGAL THEORIES UNDER WHICH DAMAGES MAY BE SOUGHT, AND WILL APPLY EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE.

This limited warranty gives you specific legal rights; you may have additional rights which vary state to state.

Always completely follow: safety, use, operation, and maintenance instructions for this or any other VARILITE product.

European Union customer statutory rights are not affected.

Contact Information

VARILITE
4000 1st Ave. S
Seattle, WA 98134

Phone: (206) 505-9500
Toll Free: (800) 827-4548
Fax: (206) 343-5795
Toll Free Fax: (800) 363-7739

Email: info@varilite.com
Website: www.varilite.com

Customer Service Hours:
Monday through Friday from 7:00 AM to 4:30 PM Pacific Standard Time (PST)



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Installation Instructions

NOTES:



4000 1st Ave. S
Seattle, WA 98134
Phone: (800) 827-4548
Fax: (206) 343-5795
www.varilite.com

Authorized EU Representative:
Cascade Designs, Limited
Dwyer Road, Midleton, Co. Cork
Republic of Ireland



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