NeoX™

PHYSIPRO

Owners Manual

This manual contains important information about this product.
Please pass it to the final user upon delivery.

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Physipro Inc. is delighted to have you as one of our clients. We sincerely wish to thank you for the trust you have shown in our company by choosing one of our products. This user manual has been designed to allow you, the client, to use the NEOX™ Tilt-in-Space safely and in an optimal way. For all adjustments and settings, Physipro Inc. strongly recommends you consult a qualified professional. Physipro Inc. provides you with specific verifications you should perform on a regular basis in order to optimize the performance of your NEOX™ Tilt-in-Space and extend its operational life. Physipro Inc. relieves itself from any liability should any bodily injury or property damage result from a lack of care or misuse or from any modification made to the product without prior written consent of the company. For Physipro Inc., your satisfaction remains a priority.

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1. Components

The main components are provided with the standard model. Several options and accessories are also available. Please contact us for more details or refer to the purchase order.

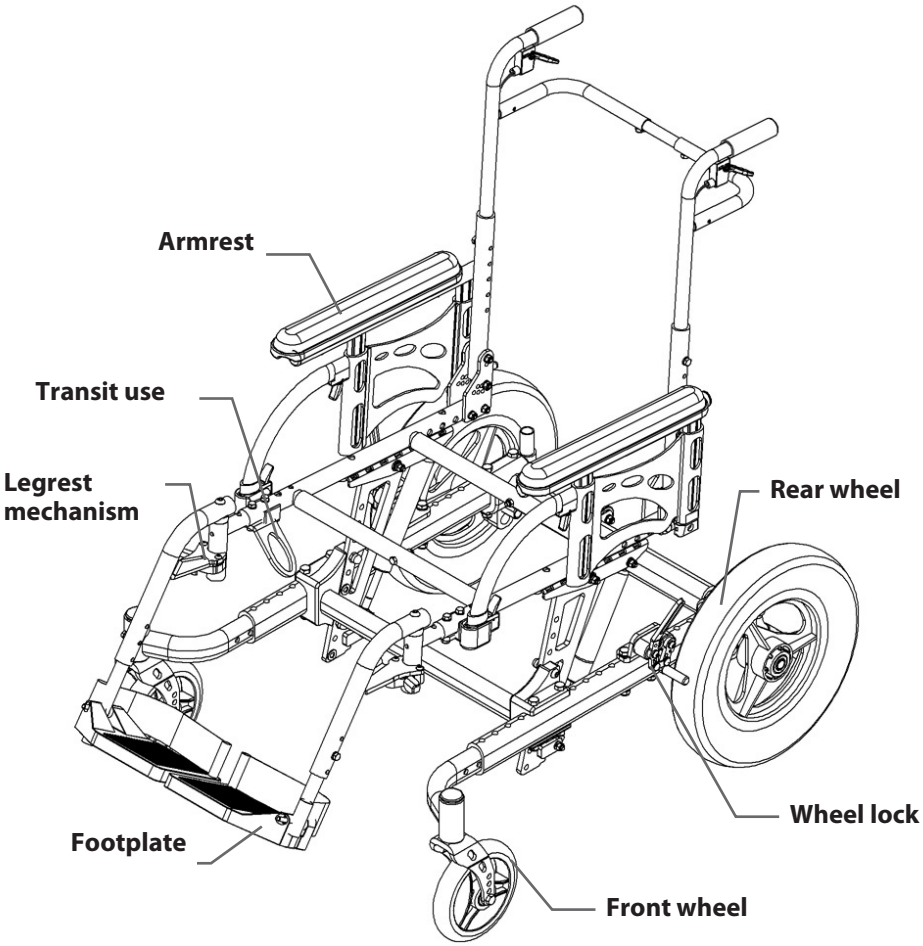
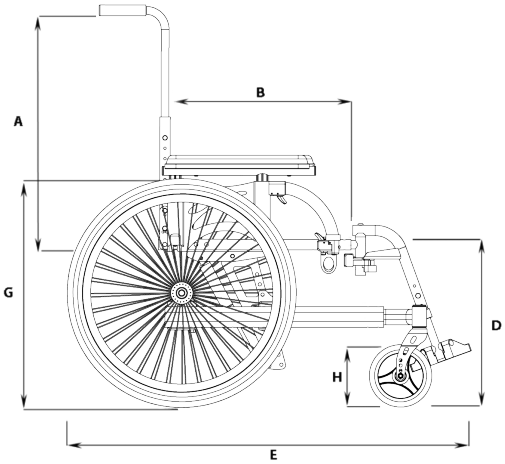


Figure 1 : Main Base Components of the NEOX Standard

2. Specifications



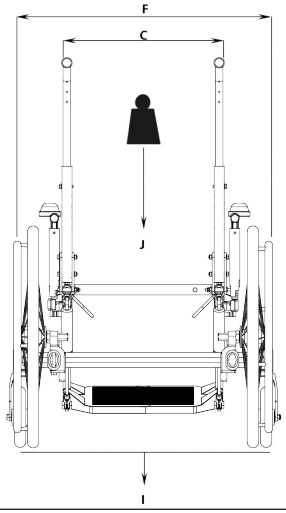


Table 1 : Specifications

A	**Back height**	12" to 25"
B	**Seat depth**	14" to 22" (± 1" adjustable)
C	**Seat width**	Small frame 14" to 19" / Extended frame 19" to 22" / HD frame 20" to 26"
D	**Seat to floor height**	13" to 20"
E	**Overall length**	42"
F	**Overall width**	+8" to +12" based on option chosen
G	**Rear wheel diameter**	12", 16", 20", 22", 24"
H	**Front wheel diameter**	5", 6", 8"
I	**Transport weight***	Neox 4 wheels: 50.8 lb Neox 6 wheels: 55.8 lb Neox CSF : 54 lb (24.5kg)
J	**Maximum load**	250 lb / 350 lb
Back angle 85° to 120°, (5° increments) **Gas recline back** max 130°		
Tilt** Neox Standard: (-) 5° to 45° Neox CSF 0° to 30°		
Armrest : **« U » Type** 7" to 12" **« U » Type lowered** 6" to 9"		
Footrest : 60° - 70° - 90°		
Legrest : elevating/articulating legrest		

*Weight based on 16" x 16" wheelchair with all standard components except for rear wheels. Rear wheels are excluded since there are multiple different weights for possible wheel configurations. Example, a pair of standard 22" rear wheels weighs 7.8 lb.

** Refer to Appendix A for limitation table.

Rear Wheel	
Casters	Short
Axles	Threaded, Quick Release
Wheel Locks	Push to lock, Attendant Wheel lock, Unilateral Wheel lock, Wheel Lock Extension, Retractable Wheel lock extension
Transit option	

Physipro Inc. offers several accessories and options to help you customize your wheelchair according to your specific needs.

Please contact us for more details or refer to the purchase order.

Do not use this equipment without having read and understood this user manual in its entirety. This manual includes critical information intended to ensure the safety of the user and the individuals who handle the NEOX™.

3. Recommendations

3.1 Safety Inspection Checklist

Maintenance procedures:

- ☐ Ensure that the wheelchair rolls straight and that all parts work smoothly;
- ☐ Check for noise, vibration, or a change in ease of use;
- ☐ Make sure that the wheel locks do not interfere with tires when rolling;
- ☐ Verify that the wheel locks are easy to engage;
- ☐ Make sure the anti-tip tubes lock in place;
- ☐ Ensure that the wheel locks prevent the wheelchair from moving when engaged;
- ☐ Ensure the seat and backrest are stable and secured to the frame;
- ☐ Inspect the seat and backrest for loose or broken hardware;
- ☐ Check for proper tire inflation pressure;
- ☐ Inspect tires for flat spots and wear;
- ☐ Ensure armrests are secured when locked;
- ☐ Check if footrests are positioned and secured properly;
- ☐ Ensure there is no heavy object fixed to the backrest;
- ☐ Ensure the seat positioning strap is secured to the frame and adjusted to the client's needs;
- ☐ Check to see that both quick-release rear axles are locked.

3.2 Safety

Several safety measures must be applied to ensure the safety of the user and the individuals who handle or use the wheelchair. Note that the following list is not exhaustive. Therefore, the user and the individuals who handle or use the wheelchair have the responsibility to handle it or use it cautiously.

- ✓ Never use the wheelchair with improper tire inflation pressure;
- ✓ Never attempt to reach an object if you have to lean forward, backward or sideways;
- ✓ Do not attempt to approach an obstacle whose height could reduce the stability of the wheelchair;
- ✓ Never carry passengers;
- ✓ Do not fasten objects to the backrest, except those provided with the wheelchair;
- ✓ Do not attempt to tilt the wheelchair without any assistance;
- ✓ Never use the footplate as a platform. When getting in or out of the wheelchair, make sure that the footplates are in the upward position;
- ✓ Do not stand on the frame of the wheelchair;
- ✓ Do not expose the wheelchair directly to the sun, the hot surfaces could cause severe burns;
- ✓ Always keep fingers and hands clear of any moving parts;
- ✓ Use the provided anchorage rings for specialized transportation. These anchorage rings do not substitute for the restraining system certified by Transport Canada.

Steps

1. Unlock and rotate the anti-tip tubes up in order to avoid conflict with the stairs.
2. The assistant should grab both push handles and position the wheelchair on the top step and tilt it in order to lift the front wheels.
3. The assistant must maintain this position and push cautiously forward until the front wheels of the wheelchair touch the ground.

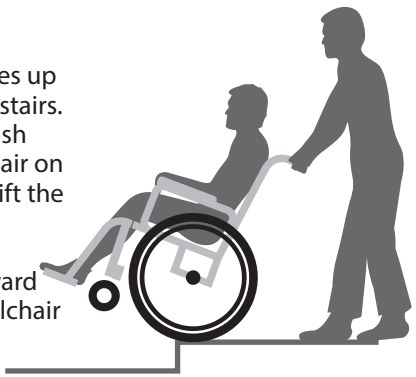


Figure 2 : Steps

Note - Never try to descend a step without assistance.

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Going up and down stairs
The intervention of two assistants is required to go up or down stairs. To do so, one assistant should stand behind the wheelchair holding the push handles. The second assistant should maintain a fixed part of the frame at the front of the wheelchair to prevent it from rolling forward.

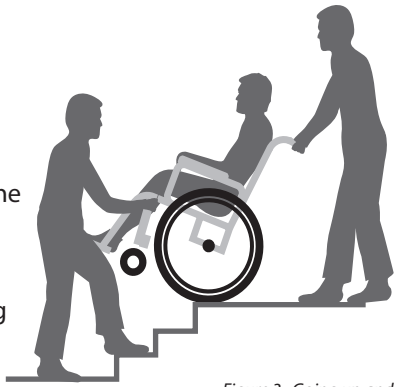

Figure 3 : Going up and down stairs

Going down slopes
It is very important to control your direction and your speed when going down slopes. To make a safe descent, lean back and let the handrims slide slowly in your hands. You should always be able to stop the wheelchair by blocking the handrims.

Note- Always have an assistant behind the wheelchair when going down long slopes.

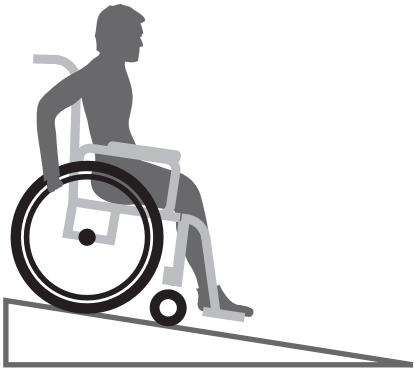

Figure 4 : Going down slopes

Going up slopes
Lean your body forward and propel evenly with both hands.

WARNING
When on a slope, the center of balance of your wheelchair may be affected. Your wheelchair could tip backwards, forwards or sideways and anti-tip tubes may not prevent a fall or tip-over. Your wheelchair is less stable when riding on a slope.

Note – Use a transfer board if at all possible.

Figure 5 : Going up slopes

WARNING
It is not recommended to transfer without the help of an assistant; it requires good balance and agility. Be warned that there is a time during the transfer when the wheelchair is not below you.

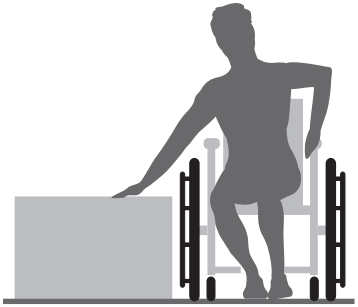

Figure 6 : Transfer

Lifting
DO NOT attempt to lift the wheelchair by any removable parts.
Lifting the wheelchair by its removable parts may result in injury or damage to the wheelchair.

Exterior Use
- At night, use reflective tape on your chair and clothing.
- Do not cross a road with dense fast-moving traffic of more than two lanes.
- Make eye contact with drivers before you go forward when you cross a street.
- Be extremely careful when you use your wheelchair on a wet or slick surface. In case of any doubt do not hesitate to ask for help.
- Avoid excess moisture

Weight Limitation
NEVER exceed the weight limit for combined weight of user and items carried. Exceeding the weight limit may result in injury or damage to your chair, a fall, tip-over or loss of control. (For weight limit, please refer to table 1, page 6)

Terrain
Do not use your wheelchair on sand or gravel surface soils. This may damage wheels or axles or loosen fasteners of your chair.

Seat Positioning Strap
Always wear your seat positioning strap. The seat positioning strap is an option on this chair. You may order without the seat positioning strap. To ensure an additional safeguard, Physipro strongly recommends ordering the seat positioning strap. However, the seat positioning strap as a primary purpose of positioning. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. Immediately replace the strap If signs of wear appear. Serious injury can occur in the event of a fall from a wheelchair.

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WARNING
The anti-tippers are not to be used as tipping levers.

Tires
Ensure your wheelchair has the proper tire pressure before using it. Proper pressure extends the life of your tires and facilitates its use. The recommended tire pressure is listed on the tire.

- Do not overinflate the tires.
- Do not use your wheelchair if the tires are under or over-inflated
- Low air pressure may make the wheel lock slip and allow the wheel to turn unexpectedly.
- Over-inflated tires may burst.

Failure to follow these suggestions may result in serious bodily injury to the user and damage to the wheelchair.

3.3 Cleaning, recommendations and storage

3.3.1 Paint :
- ✓ Cleaning your wheelchair with mild soap or a diluted neutral desinfectant (2 ounces for 8 liters of water) is recommended at least once a month.
- ✓ To protect the paint, we suggest that you put a coat of non-abrasive car wax every 3 months.

3.3.2 Recommendations :
- ✓ Remove any filth (organic and / or biological) immediately.
- ✓ Do not flush with water (the tubing and other parts could corrode from the inside). If so, dry as soon as possible.
- ✓ You can dry clean your wheelchair with the proper equipment.
- ✓ If the user is contagious, disinfect the seat, the armrests, the backrests and every other surface daily with a disinfectant. Do not rinse or wipe, just let it dry.

3.3.3 Storage :
- ✓ Store your chair in a clean, dry area.
- ✓ If stored for more than 3 months, have your chair inspected by an authorized dealer before use.

4. Depth and Width adjustments

4.1 Seat depth modification

The NEOX™ seat depth can be modified by moving the backrest canes. All seat depths ordered allow for an increase or decrease of the depth by 1". Please note that a 14" seat depth only increases by 2" and a seat 22" only decreases by 2".

Follow these steps to modify the depth:

1. Using a 4 mm and 10 mm Allen Key, unscrew bolt **A**, **B** and **C**;
2. Using a flat punch, remove the sleeves; (figure 7-b);
3. Move the back posts backward or forward to get the desired depth;
4. Replace sleeves, bolts and armrest hardware, tighten. (Warning - Do not over tighten bolts **A** to avoid blocking the armrest hardware pivot.)

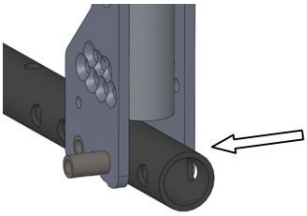


Figure 7-b : Seat Depth Modification

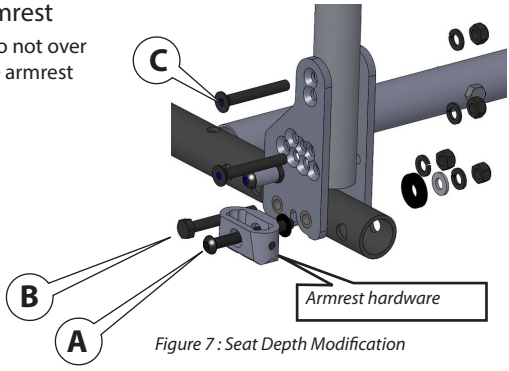


Figure 7 : Seat Depth Modification

It is also necessary to follow these steps, if you changed the seat depth:

1. Using 2 wrenches at 10 mm, unscrew screw **D** and **E**;
2. Move the back posts backward or forward to get the desired depth;
3. You can adjust the legrest depth at the same time;
4. Replace the screws, tighten.

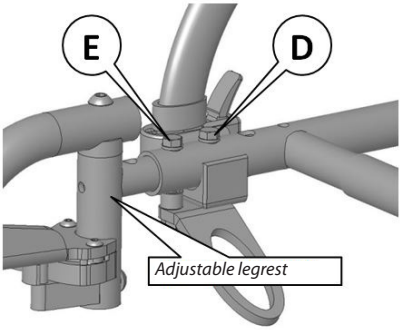


Figure 8 : Seat depth modification

Modify the seat depth will affect the center of mass location. Please refer to appendix A for proper configuration.

4.2 Seat width modification

The seat width can be modified by adjusting the crossbars. Three types of configurations are possible; small frame 14" to 19", extended frame 19" to 22" and HD frame 20" to 26".

Follow these steps to modify the width:

1. Using a 3 mm and 8 mm Allen key, unscrew bolt **A**, remove the rigidizer **B**, if needed;
2. Using two 10 mm Allen Keys, unscrew bolt **D** and using two 13 mm Allen Keys, unscrew bolt **C** ;
3. Expand or shrink simultaneously the frame and the seat in the desired position.
4. Replace bolts **C** and **D**, tighten.
5. Change the rigidizer and tighten the bolts.

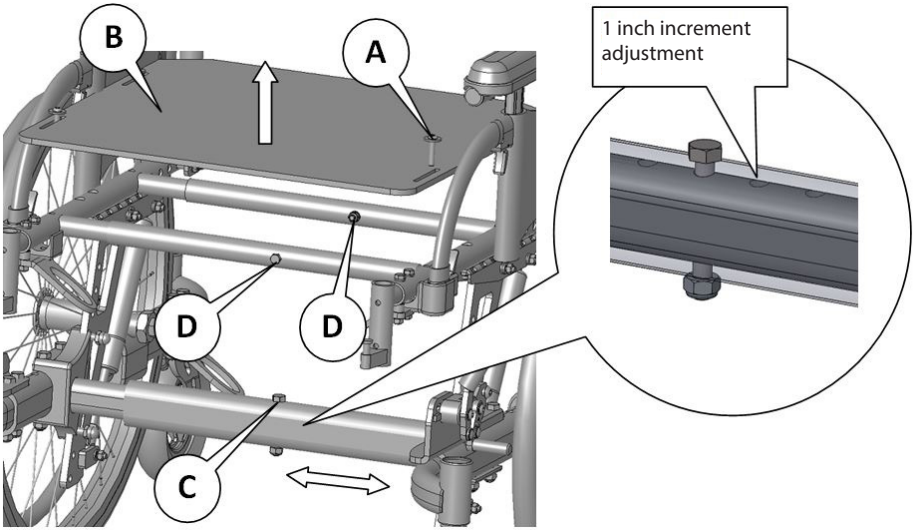


Figure 9 : Seat width modification

Any modifications made on the NEOX™ must be performed by a professional. Failure to respect this warning can cause serious injury to the user or others.

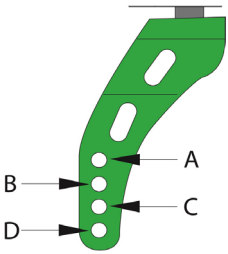
Consult Appendix A for overall width and possible tilt limitation according to configuration.

5. Seat to floor height

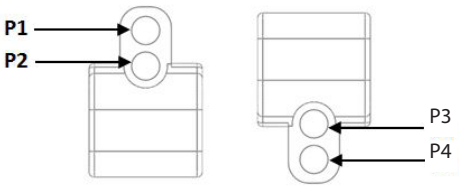
Please note that the minimum seat to floor height of the NEOX™ can vary depending on the rear wheel and front wheel diameter combination. The other heights available can be obtained by adjusting the frame.

4 wheel configuration				
Rear wheel	Front wheel	Position Rear Wheel	Position Casters	Seat to Floor heights
1"	5"	P3	D	13" to 18"
	6"	P3	C	13" to 18"
	8"	P4	D	15" to 20"
16"	8"	P3	D	15" to 20"
	8"	P4	D	15" to 20"
20"	5"	P1	C	13" to 18"
	6"	P1	B	13" to 18"
	6"	P2	D	14" to 19"
	D6"	P2	B	14" to 19"
22"	6"	P1	D	14" to 19"
	D6"	P1	B	14" to 19"
	8"	P2	D	15" to 20"
24"	D6"	P1	D	15" to 20"
	8"	P1	D	15" to 20"

Position Casters



Position Rear Wheel



Limited tilt in space with a seat-to-floor height of 13" and 14"

Figure 10 : Seat to Floor heights

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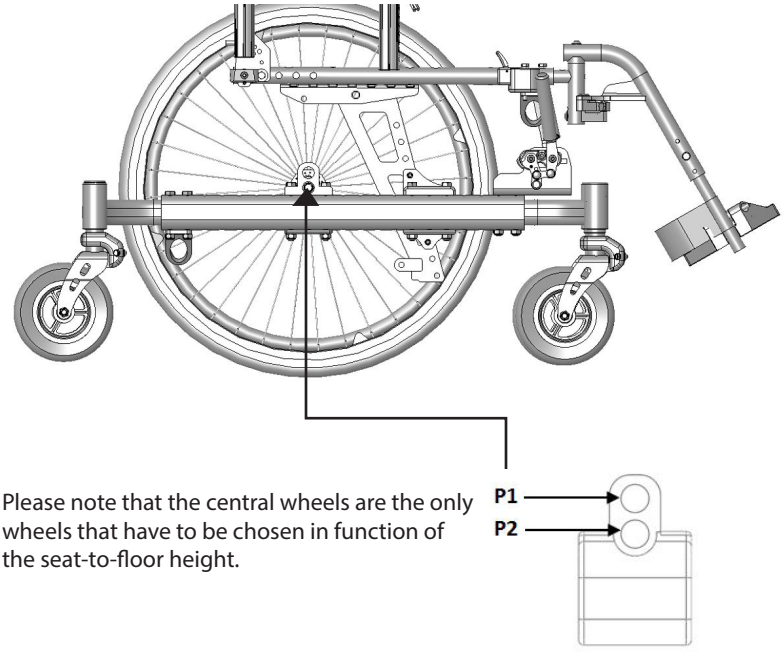
Self propelling configuration (Standard Neox Only)

6 Wheel configurations			
Mid-Wheel Drive	Seat-to-Floor height	Required Location	
		P1	P2
20"	14" to 19"		X
22"	14" to 19"	X	
24"	15" to 20"	X	



Please note that the central wheels are the only wheels that have to be chosen in function of the seat-to-floor height.

Figure 11 - Mid-Wheel Drive

6. Rear wheels

6.1 Rear Wheel installation and height adjustment

The wheels available for the NEOX™ are from 12" to 24" and 6 positions are possible for the height.

Follow these steps to install the rear wheel:

1. Insert the positioning device **B** in the hole corresponding to the desired height (Figure 12);
2. Slide axle **A** inside the positioning device **B**;
3. Insert nut **C** at the end of the axle **A**;
4. Tighten nut **C** with a ¾" wrench while holding the axle **A** with a ¾" ratchet.

Note – To simplify this process; place the NEOX™ on a flat surface such as a table or a bench.

6.2 To Uninstall the rear wheel

1. Loosen nut **C** with a ¾" wrench while holding the axle **A** with a ¾" ratchet;
2. Remove nut **C** at the end of the axle **A**;
3. Slide axle **A** outside the positioning device **B**;
4. Remove axle **A** from the wheel.

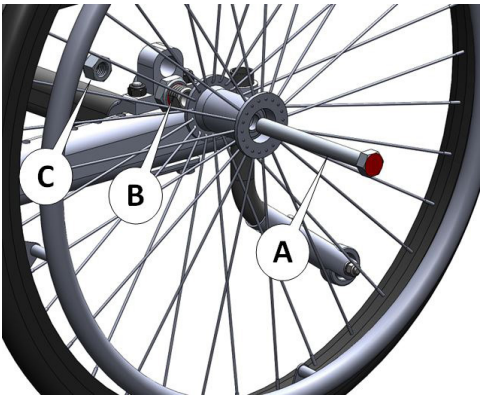


Figure 12 : Rear Wheel Installation

Always check the steadiness of the wheelchair. It may require a modification of the seat or the mid wheel positioning device.

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6.3 Installing Rear Wheels - Permanent Wheel Axle

1. Make sure the positioning device **E** is inserted in block **F**;
2. Secure it firmly in place with the lock washer **D** and nut **C**;
3. Insert axle **A** in the positioning device **E** with the wheel hub **B**;
4. Tighten nut **G** with a 3/4" monkey wrench while holding axle **A** with a 3/4" socket wrench.

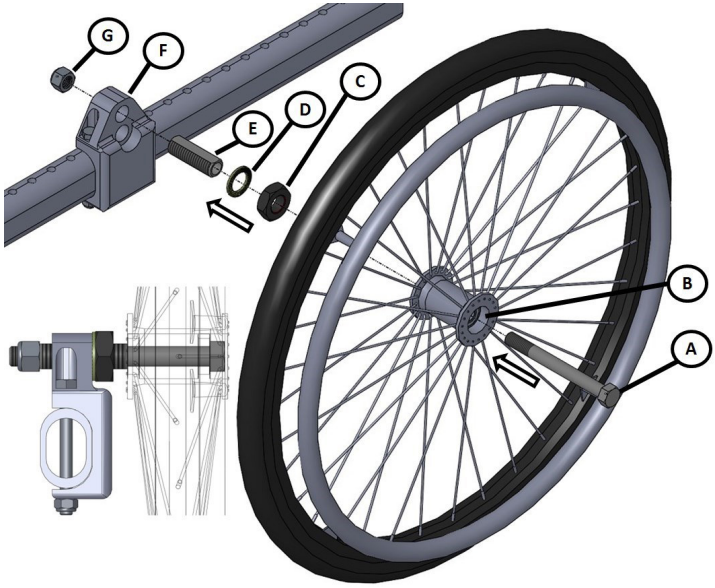

Figure 13 : Rear Wheel Installation

6.4 Installing Rear Wheels - Quick-Release Axle

1. Make sure the positioning device **E** is inserted in block **F**;
2. Secure it firmly in place with the lock washer **D** and nut **C**;
3. Insert axle **A** in the positioning device **E** with the wheel hub **B**.

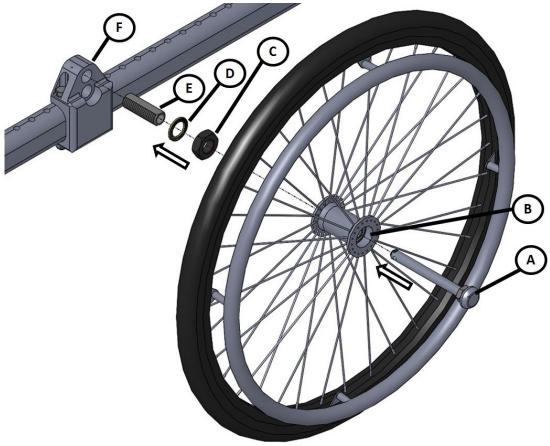

Figure 14 : Rear Wheel Installation

6.5 Adjusting Quick Release Axle

Tighten or loosen nut **C** with a 3/4" wrench and a 7/16" wrench.

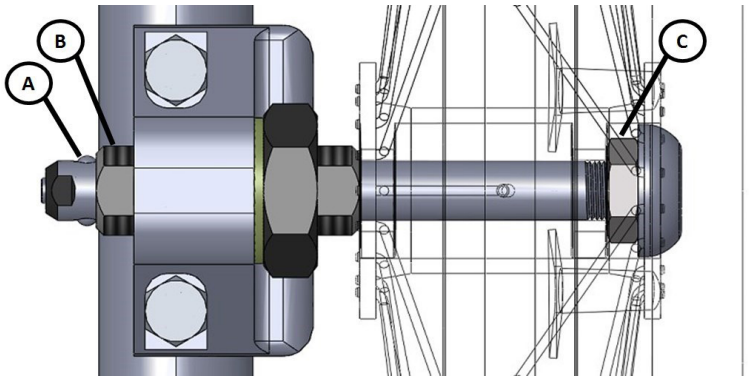

Figure 15: Adjusting Quick Release Axle

Make sure the detent pin and detent balls of the quick release axle are fully release before operating the wheelchair. The detent balls MUST be protruding past the inside of the rear wheel axle bushing for a positive lock. Lubricate if necessary.

Keep quick-release axles free of dirt and lint to ensure positive locking and proper operation.

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6.6 Quick release axle (Optional)

Follow these steps to uninstall quick release:

1. Release the wheel lock by pulling it backward;
2. Completely depress quick-release button **A**;
3. Remove the wheel while keeping the button **A** pushed in.

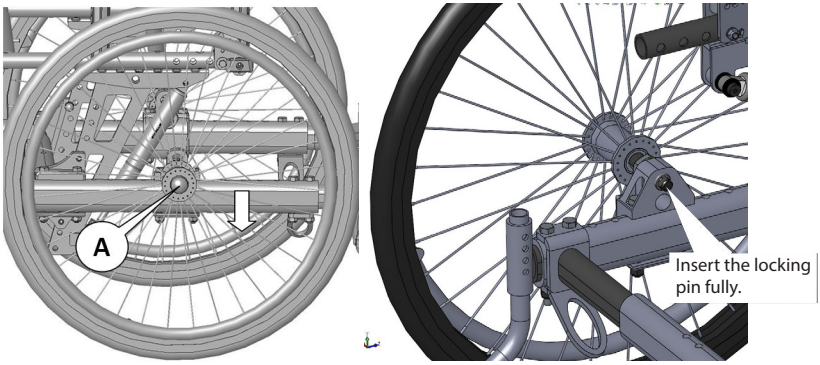

Figure 16 : Quick Release Use

When you re-install the quick release axle, ensure that both quick-release rear axles are locked. An unlocked axle may come off during use and cause a fall.

6.7 Adjusting the Wheelbase forward and back

The mid wheel drives' position is very important for the base stability. The more the mid wheel drives are positioned forward, the more the stability is decreased. However, it facilitates propelling. To satisfy the need of each individual it is possible to proceed to different horizontal adjustments.

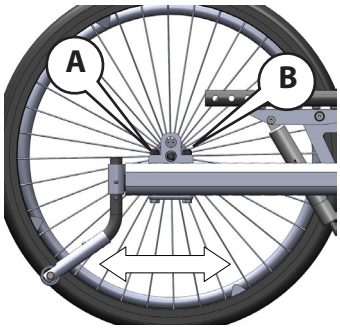

Figure 17 : Adjusting the Wheelbase forward and back

Follow these steps:

1. Remove the rear wheel (refer to section 7);
2. Unscrew screw **A** and **B** using 13 mm Allen Key;
3. Slip the anchoring plate to obtain the desired position;
4. Replace screw **A** and **B**, tighten.

Always use the more stable position (Wheel Backward) to guaranty stability. To propel, consider the 6 wheel configuration.

Please refer to Appendix B for wheel position restrictions for the NEOX CSF.

6.8 Rear Wheel Lateral Adjustment

This modification is used to move the rear wheels closer or further from the frame.

To do so, follow these instructions:

1. Remove the rear wheel (refer to section 6.2 ; 6.3);
2. Untighten nut **A** to release the positioning device **B** with the use of a 1 1/8" wrench;
3. Unscrew or screw the positioning device **B** in or out in order to obtain the desired position;
4. Firmly tighten nut **A** with the use of a 1 1/8" wrench;
5. Re-install the rear wheel.

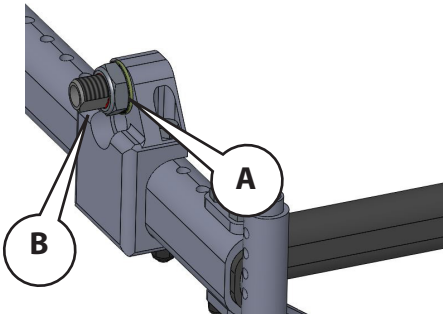

Figure 18 : Outermost Position of the Wheel

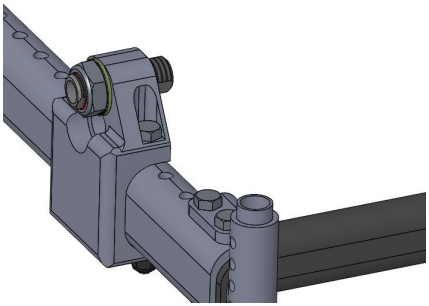

Figure 19 : Innermost Position of the Wheel

After any adjustments, make sure all attaching hardware is tightened securely – otherwise injury or damage may occur.

6.9 To install the tilt rear caster adjustable strap

1. Insert the adjustable strap in the clamping ring.
2. Insert the adjustable strap in the eyebolt.

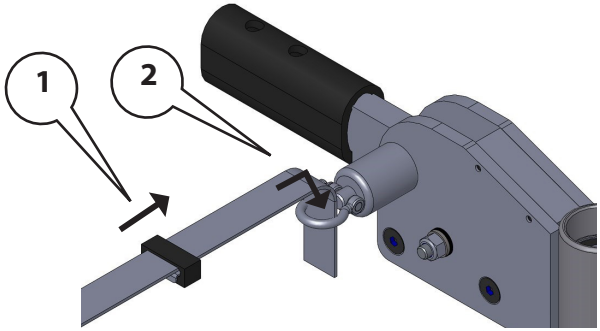

Figure 20

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3. Fold in the adjustable strap on itself.
4. Move the clamping ring on the overlap adjustable strap.

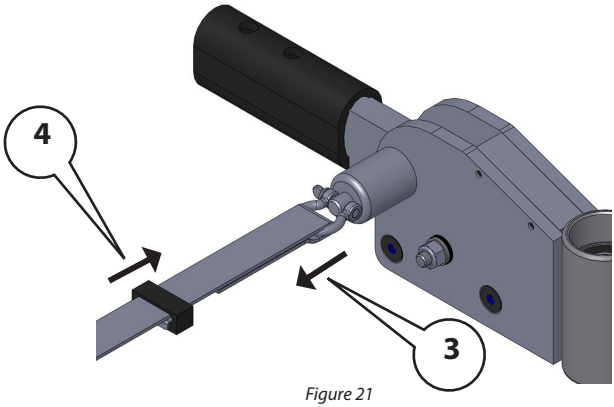

Figure 21

5. Tighten the screw using a 3mm Allen Key.

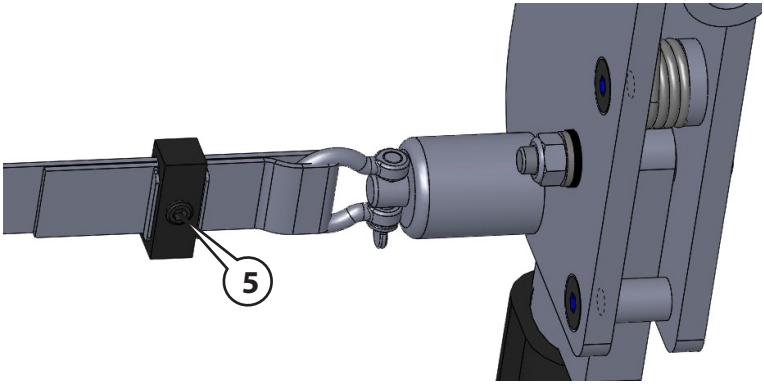

Figure 22

6.10 Clearing obstacles – Tilt Rear Wheel Mechanism (6-wheel configuration)

1. For security reasons, it is important to **HAVE THE UPHOLSTERY PARALLEL TO THE GROUND** and to **REMOVE THE PATIENT'S WEIGHT FROM THE BACK WHEELS** before using the mechanism.

2. To clear obstacles, **LIFT THE HANDLES** to remove the patient's weight from the back wheels.

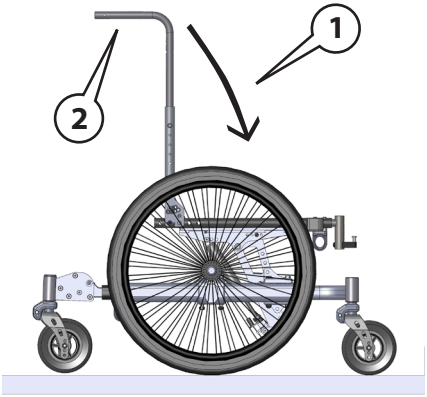

Figure 23

WARNING! The back wheels should no longer touch the ground.

3. Once the back wheels are free, lightly pull or push the strap to release the plungers from the mechanism.

   Note: Pulling the strap (instead of pushing) will help to remove patient's weight from the back wheels.

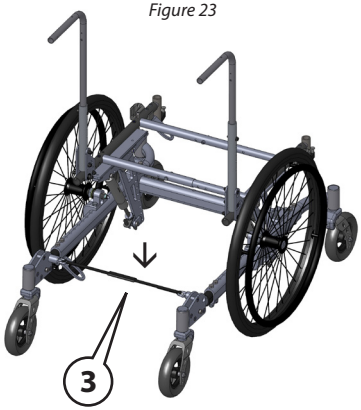

Figure 24

4. Keeping your foot on the strap, tilt the wheelchair backward until the front wheels clear the obstacle.

WARNING! The maximum height for a clearable obstacle is 5 inches.

5. Once the obstacle is cleared, tilt the wheelchair frontward until the wheels are supported. The back wheels will go back to their original position.

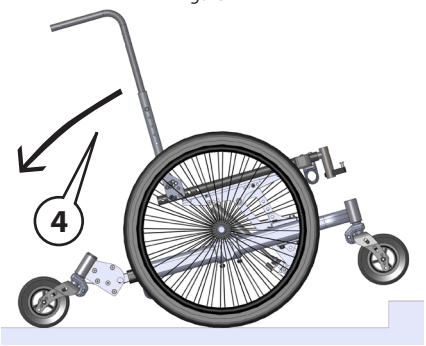

Figure 25

WARNING! Make sure the mechanism is locked in by looking at the plungers' position.

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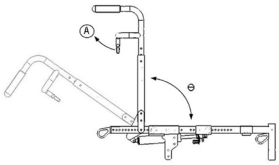
7. Front Wheels

7.1 Front wheels installation

To change the wheels, simply follow these instructions:

1. Determine the front wheel position on the fork. Refer to section 5.
2. Insert screw **A** in the corresponding hole with both spacers **B** between the wheel and fork on each side.
3. Put bolt **C** at the end of screw **A** and tighten with two 13 mm wrenches.



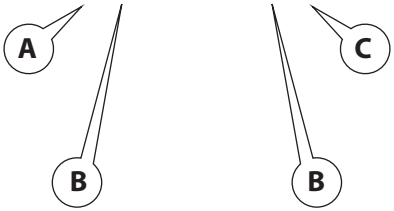


Figure 26 : Front wheel installation

The modification of a wheel of 1" for a wheel of 2 ", or vice versa, requires the acquisition of an adapted fork for each case.

This step is required when a front wheel position or seat height has been changed. It will help to always have a straight line, therefore easier propulsion. Please refer to section 5.

Once tightened, the wheel must turn easily

7.2 Caster installation

To change the Caster, simply follow these instructions:

1. Insert ball bearings **G** and bushing **H** inside the frame housing **C** if needed.
2. Slide bolts **F** in fork **E**.
3. Assemble fork components, bolts **F** and washer **D** in the frame housing **C**.
4. Fasten the fork by tightening nut **B** using a socket and a ¾" wrench.
5. Install cap **A** on the frame housing

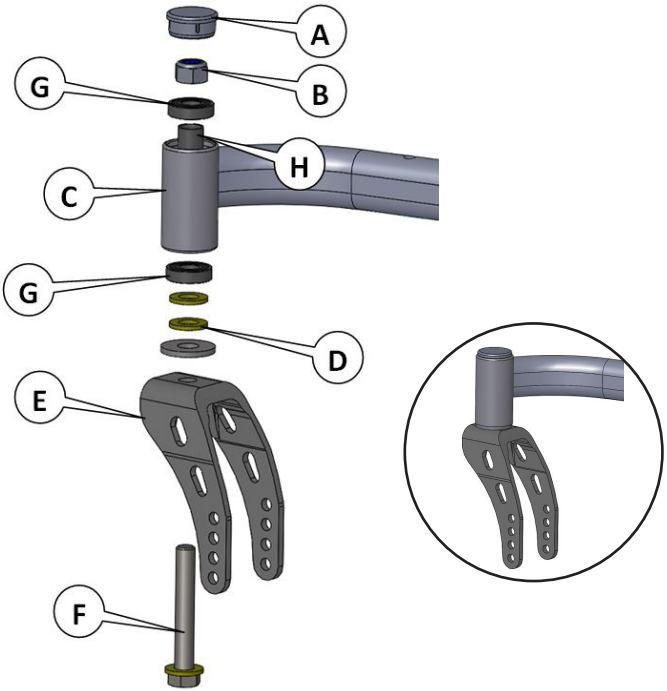


Figure 27: Caster Installation

Ensure tightness when the forks are installed. Verify that the fork rotates properly. Otherwise, loosen nut slightly.

Any change to the Neox™ must be performed by a professional. Non-compliance with this notice may result in severe consequences for the safety of the users and individuals in contact with the base.

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8. Back

8.1 Back angle modification

The NEOX™ back angle can be adjusted to satisfy your client's needs.

To do so, follow these instructions:

1. Unscrew screw **A** with a 10 mm and a 4 mm Allen key.
2. Once the screw has been removed, modify the angle to meet your client's needs.
3. When the desired angle is reached put screw **A** in one of the preset holes.
4. Tighten

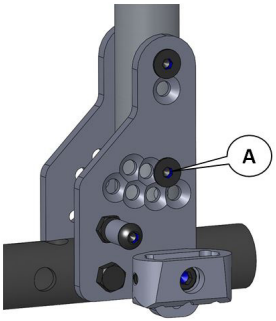
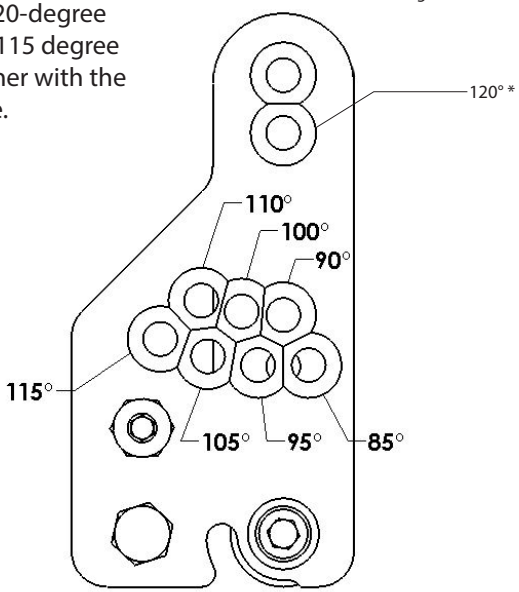


Figure 28 : Back Angle Modification

* To obtain a 120-degree angle, use the 115 degree position together with the upper 120 hole.



Note: There is a 5º angle between every hole position.

Follow these instructions to replace a standard back by a dynamic back.

Changing back angle will affect stability. Please refer to Appendix A for table and limitations.

8.2 Dynamic Backrest Installation

Follow these instructions to replace a standard back width a dynamic back:

1. Remove the armrests and the wheels;
2. Remove the backrest ;
3. Unscrew bolt **A** to remove the back posts;

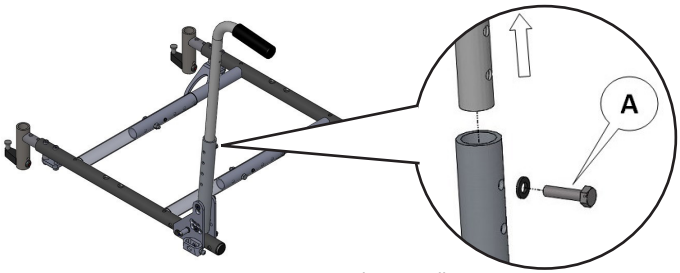


Figure 29: Dynamic Backrest Installation

4. Remove the armrest hardware **B**, screw **C** and screw **H** on the small tube;
5. Remove bolt **D**;
6. Using a flat punch remove sleeves **E** to release the plate. ;

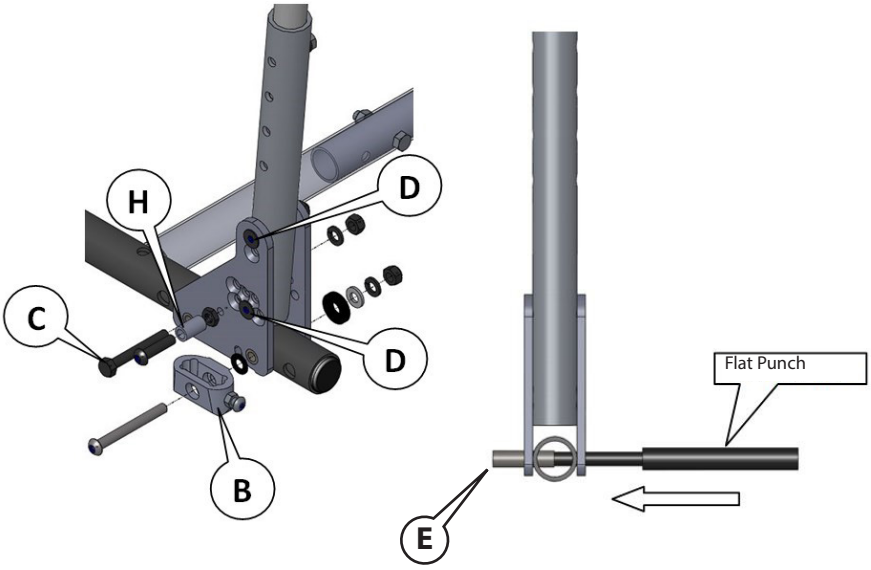


Figure 30: Dynamic Backrest Installation

7. Install the bottom part of the dynamic back post by re-inserting the two sleeves **E**;
8. Re-install bolts **J** and armrest hardware;
9. Re-install back post and backrest;
10. Replace armrest and rear wheels.
11. Adjust the tension by screwing or releasing the tension by unscrewing the handle without exceeding the end of adjustment represented by the red indicator.

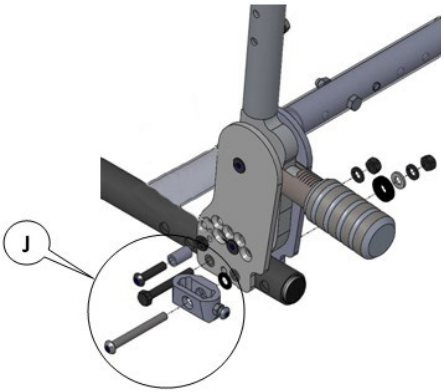


Figure 31 : Dynamic Backrest Installation

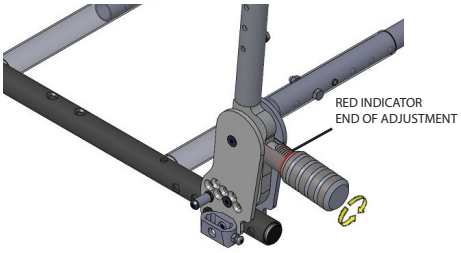


Figure 32 : Dynamic Backrest Installation

8.3 Back posts height modification

Adjustable or swing away back posts are available in 3 different sizes.

It can be adjusted by 13" to 16", 17" to 21" or 22" to 26".

To modify the height, follow these steps:

1. Remove screw **A** with a 10 mm wrench.
2. To get the desired height, pull the back posts up or down as needed.
3. Replace screw **A**, tighten

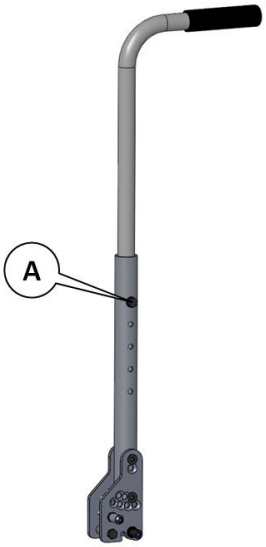


Figure 33 : Back posts Height Modification

8.4 Recliner backrest

To recline the back, simultaneously press handles **A**, located on the reclining back bar, and set the back angle. Release both handle **A** to lock.

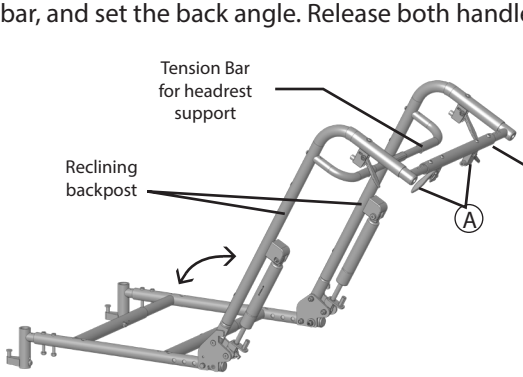


Figure 34 : Recliner Backrest

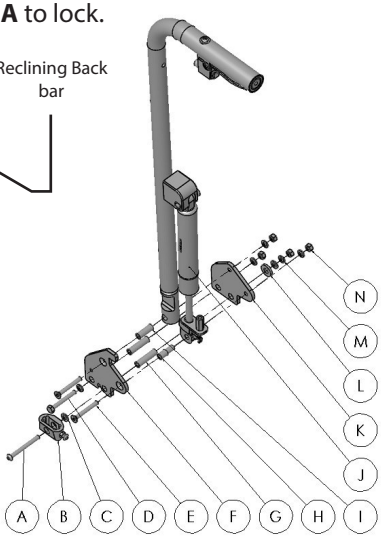


Figure 35 : Recliner Backrest

Quantity for one backpost assembly

#	DESCRIPTION	TOOLS	DESCRIPTION	QT
A	Pivot Screw	Allen Key 4 mm	Button M6 X 55 mm	1
B	Pivot Block	-	-	1
C	Friction Ring	-	1/2" X 1/16" plastic	2
D	Bolts	10 mm Wrench	Hex M6 X 45 mm	1
E	Screw for the plate	Allen Key 4 mm	Flat M6 X 45 mm	2
F	Interior Bushing	-	-	1
G	Large Bushing	-	-	2
H	Small Bushing	-	-	1
I	Double Bushing	-	-	1
J	Assembly	-	-	1
K	Exterior Plate	-	-	1
L	Friction Disc	-	3/4" X 1/8" plastic	1
M	Lock Washer	-	M6	5
N	Nut	10 mm Wrench	M6 Nylon	4

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1. Determine the position of the backpost **J** depending on the desired seat depth.

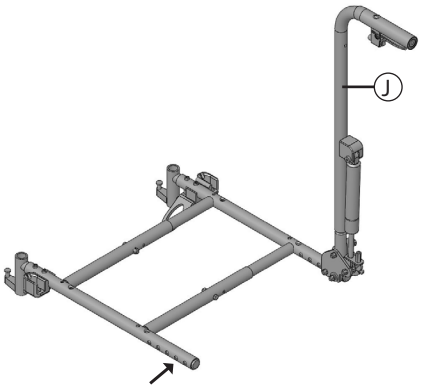


Figure 36 : Recliner Backrest

2. Insert bushing **G**, **H** and **I** inside the holes of plates **F** and **K**.

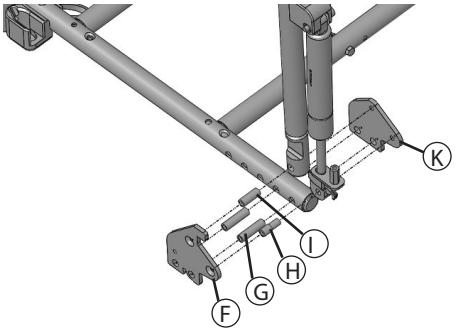


Figure 37 : Recliner Backrest

3. Complete assembly with hardware
4. Repeat these steps for the right backpost.

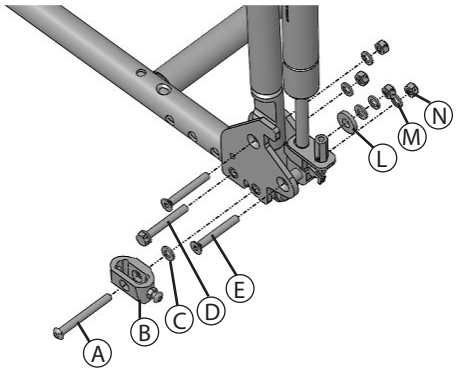


Figure 38 : Recliner Backrest

8.5 Reclining back bar

1. Insert the adjustable bar of the reclining back **O** in the tube **P**.
2. Using a 4 mm Allen Key, tighten screw **Q**.

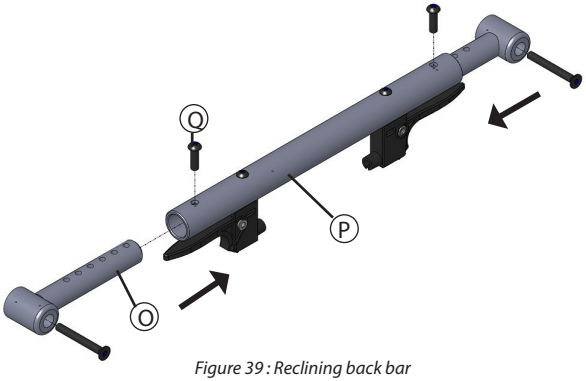
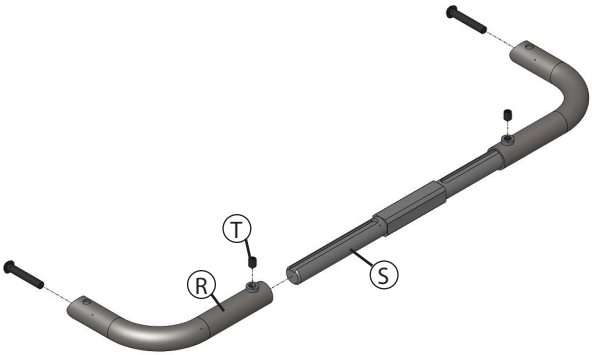


Figure 39 : Reclining back bar

8.6 Tension bar for headrest support

1. Insert **R** in tube **S**.
2. Using a 3 mm Allen Key tighten screw **T**.



Backpost (Left side shown)

Figure 40 : Tension bar for headrest support

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Installation of the reclining back bar

1. Using a 4 mm Allen Key tighten screws **U**.

Installation of the tension bar for headrest support

2. Using a 4 mm Allen Key tighten screws **V**.

Recline handles installation

3. Install the recline handle **W** using a 1/8" Allen Key to screw in **X** screw.

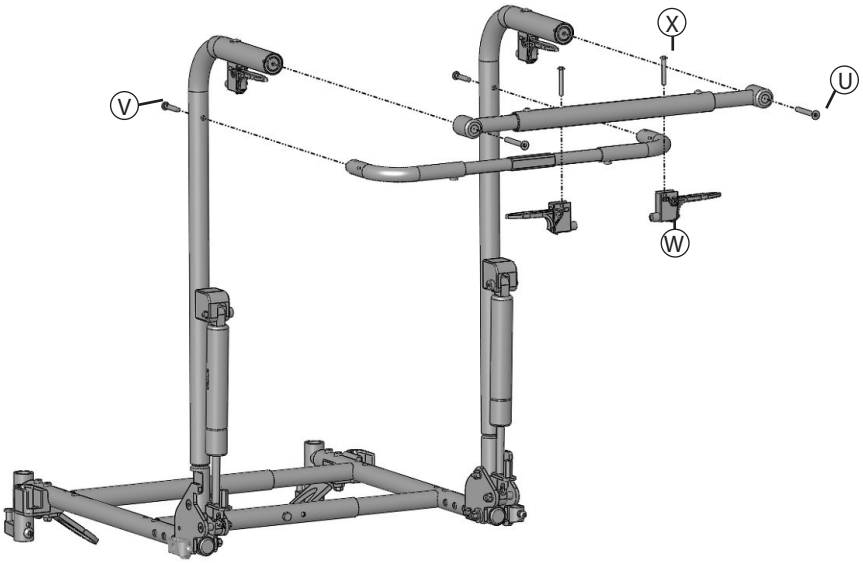

Figure 41 : Installation of the reclining back bar, the tension bar for headrest support and the recline handles

8.7 Installation - Angle adjustable pushhandle (optional)

To install the pushhandle please follow these instructions:

1. Remove the original coating (if applicable);
2. Insert the tube into the back tube receiver and screw bolt **A** using a 3 mm Allen key;
3. Once adjusted and inserted, tighten locking screws **B** to lock tube **C**.

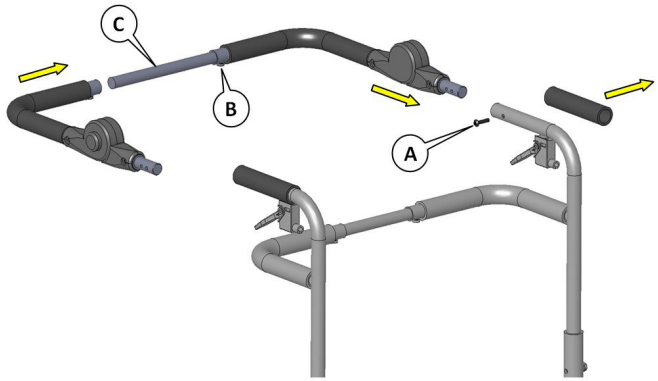

Figure 42 : Installation of the angle adjustable pushhandle

Do not lift the wheelchair using the push handle.

8.8 Angle adjustment of the pushhandle

1. Depress both push buttons **A** simultaneously. This will allow the handles to rotate freely. Once the desired position is achieved, release push buttons **A** and the handles will lock.

Figure 43: Angle adjustment of the pushhandle

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9. Tilt-in-Space

9.1 Positive Tilt

The Neox™ can be tilted backward, in a positive tilt, please follow these steps to do so:

1. Activate the wheel lock **B** before positioning the Neox™ in a positive tilt. (Figure 21). Refer to section 14.3;
2. Tilt the Neox™ by simultaneously pressing the 2 handles **A;**
3. Release the handles to the desired tilt;
4. If needed, the maximum positive tilt can be limited by a locking collar **C** installed on the interior part of the cylinder (see next page);

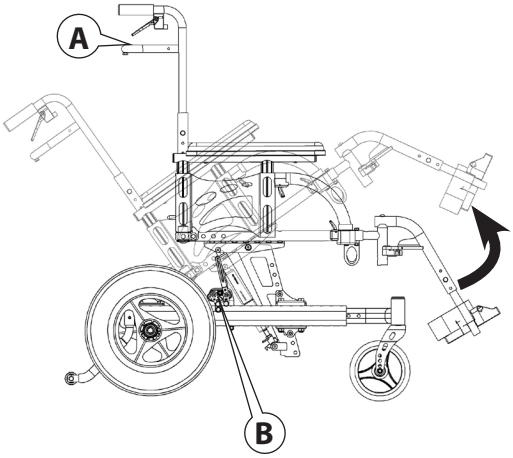

Figure 44 : Operation of the Positive Tilt

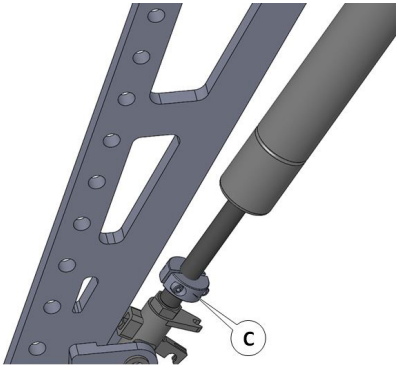

Figure 45 : Tilt-in-Space control

Please refer to **Appendix A and B** for each Neox model's tilt limitations.

9.2 Negative Tilt

To facilitate transfer, the NEOX™ can be tilted forward, in a negative tilt, please follow these steps to do so:

1. Activate the wheel lock **H** (figure 47) before positioning the NEOX™ in a negative tilt. The tilt Θ can vary according to the seat to floor height and the rear wheels position.
2. By default, the upright position is 0°. To obtain a negative tilt, move the adjustment block **D** and the gas cylinder **G** forward (figure 48-b).
3. Position the NEOX™ in a positive tilt and then unscrew bolts **E** and **F** using a 4 mm Allen key and a 10 mm wrench.
4. To obtain a negative tilt, move the adjustment block **D** and the gas cylinder **G** toward the holes for the negative tilt (figure 48-b).
5. Replace screw **E** and **F**, tighten.

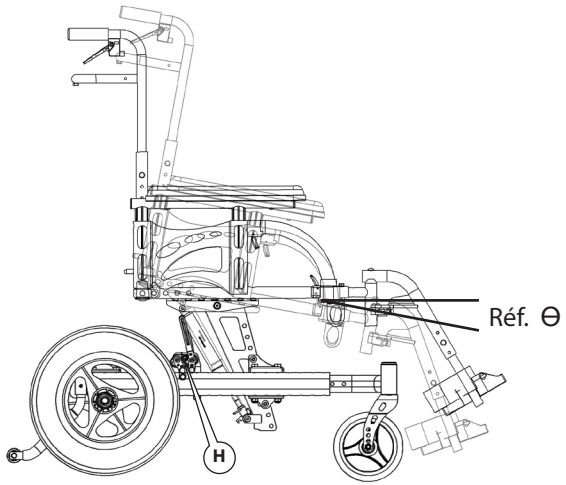

Figure 46: Negative Tilt

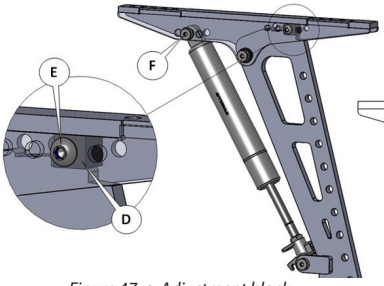

Figure 47-a: Adjustment block

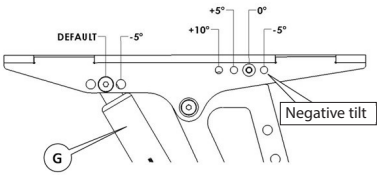

Figure 47-b: Tilt-in-Space Adjustment

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10. Armrests

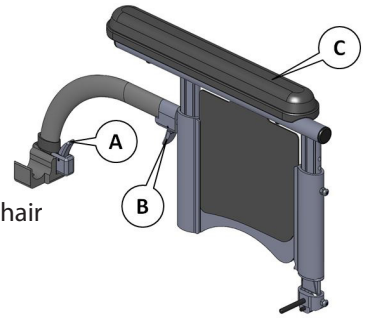

Figure 48 :Type "U in Armrest

10.1 Armrests Type «U»

11.1.1 **Flipping Armrest Back**

1. Depress the release latch **A**
2. Pull the armrest toward back of wheelchair

11.1.2 **Armrest Height Adjustment**

1. Push the release latch **B**;
2. Slide arm pad **C** up or down to the desired height;
3. When the desired height is reached, release latch **B** making sure the armrest is properly anchored in the right adjustment hole.

10.2 «T» Armrest

10.2.1 **Removing Armrest**

1. Press on the release lever **A**;
2. Pull the armrest **B** out to remove.

10.2.2 **Installing Armrest**

1. Press and hold release lever **A**;
2. Slide the armrest back into de receiver;
3. Release lever **A**, the armrest should lock back into place.

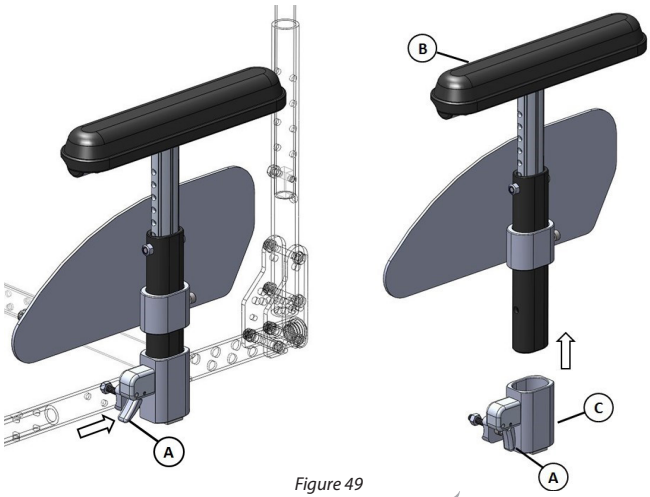

Figure 49

10.2.3 Height Adjustment

1. Unscrew screw **E** and nut **D**;
2. Slide the armrest up or down to desired height;
3. Reinsert screw **E** and tighten nut **D**.

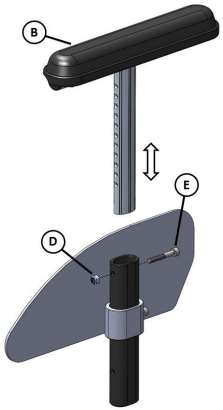

Figure 50

10.2.4 Side-Guard Height Adjustment

1. Unscrew screw **F**;
2. Slide the side guard **G** up or down to desired height;
3. Tighten screw **F** firmly in place.

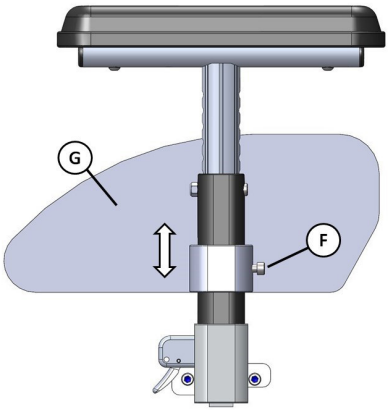

Figure 51

ENGLISH

10.2.5 Depth Adjustment

1. Unscrew screw **I** and nut **H** to remove the receiver **C** of the armrest;
2. Place receiver **C** to desired position;
3. Reinsert screw **I** and nut **H**;
4. Tighten firmly in place;
5. Repeat opposite side.

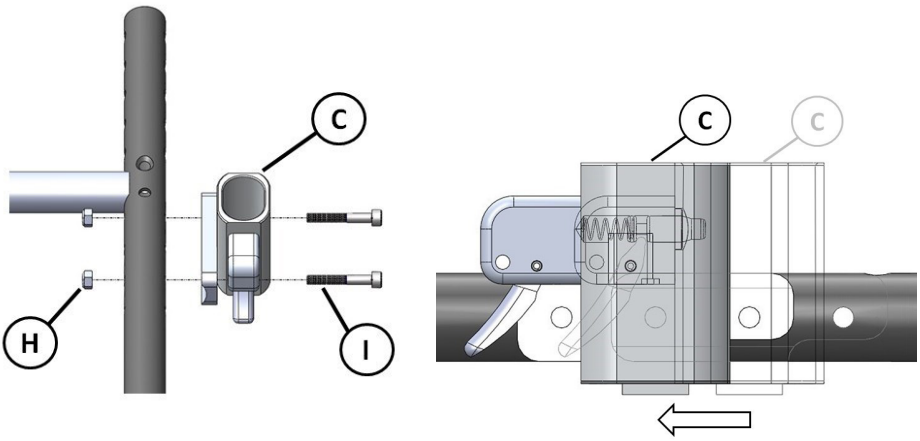

Figure 52

NOTE: All adjustments can be perform with a 5 mm Allen key and a 10 mm Wrench.

Always make sure the armrest are locked in place after any adjustments. Failure to do so may result in a fall or lost of control and may cause serious injury or death.

Never attempt to lif the chair by the armrests; they may break or disconnect resulting in a fall or loss of control and may cause serious injury or death.

After any adjustments, make sure all attaching hardware is tightened securely – otherwise injury or damage may occur.

11. Footrests

11.1 Remove footrest

1. Press and hold the shutter button **A** while turning the foot pad outward;
2. Raise the footrest to remove it completely.

Install footrest

1. Insert plastic foot pivot **B** into the front chassis cavity;
2. Turn the footrest inwards until the trigger closes.

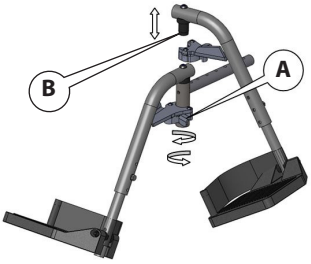

Figure 53 : Swing-out Footrests

11.2 Height adjustment

To modify the length of the footrests, please follow these steps:

1. Remove screw **A** using a 10 mm wrench;
2. Slide footrest extension up or down inside the frame tube to the desired height;
3. Replace screw **A**, tighten.

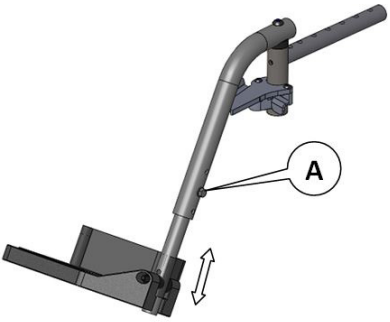

Figure 54 : Footrest Height Adjustment

11.3 Angle Adjustment

1. With a 5 mm Allen key, loosen screw **A** (about ½ turn) ;
2. Turn the footplate around the footrest mechanism to adjust the footplate to desired angular position;
3. Re-tighten screw **A** once the adjustment is done.

11.4 Depth Adjustment

1. With a 5 mm Allen key, loosen screw **A** ;
2. For a depth adjustment, slide forward or backward the footrest on its rail;
3. Re-tighten screw **A** once the adjustment is done.

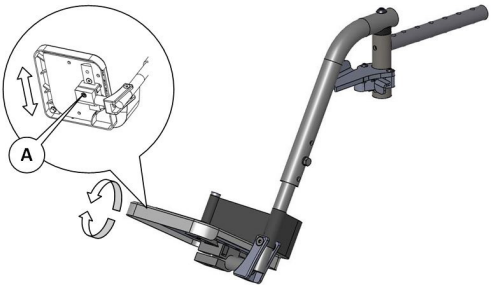

Figure 55 : Footplate Adjustment

11.5 Footplate Vertical Adjustment

To fold, simply pivot footplate upward to vertical position.

To adjust the footplate according to angle ß (Figure 31), slightly unscrew screw **E** using ¼" Allen Key.

Please note that the Allen key must be inserted opposite side of the adjustment block. Rotate clockwise to increase the angle and counter-clockwise to decrease it.

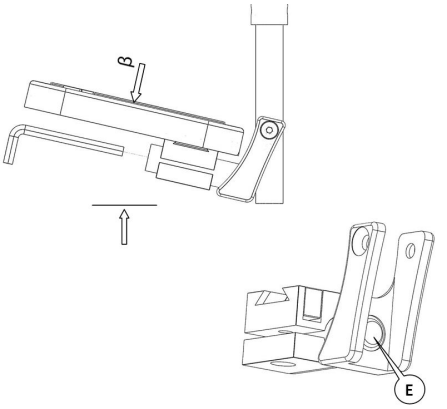

Figure 56 : Footplate Vertical Adjustment

Do not lift the wheelchair using its footrests to avoid injuries or damages to your wheelchair. Use the rigid parts of the frame.

12. Articulated Legrest

12.1 Installation of the articulated legrest

1. Place the legrest into the receiver on front frame tube with the legrest facing outward from the frame;
2. Rotate the legrest inward until it locks into place on locking bolt;
3. To remove that leg rest, press push button **A**, rotate the articulated legrest outward and lift.

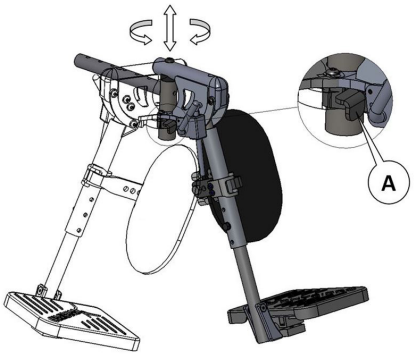

Figure 57: Installation of the articulated legrest

12.2 Height adjustment

1. Remove screw **B** using a 10 mm wrench;
2. Slide footrest extension up or down inside the frame tube to the desired height;
3. Replace screw **A**, tighten.

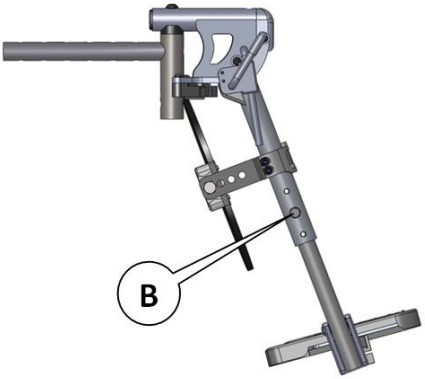

Figure 58: Articulated Legrest Height Adjustment

12.3 Angle adjustment

1. To raise legrest, hold the lower part of the footrest while pulling it up ;
2. To lower the leg angle, press the lever **C** while holding the user's leg to the desired angle.

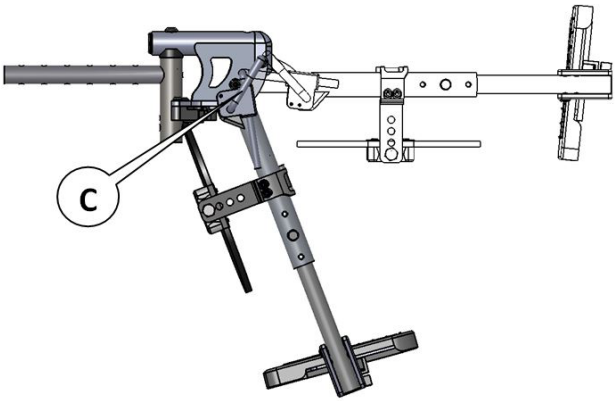

Figure 59 : Articulating Legrest Angle Adjustment

13. Wheel lock

13.1 Wheel lock installation

The wheel size will determine the location of the mid-wheels lock. The installation of the wheel lock must be made when the rear wheels are installed. Refer to section 7.1 to install the mid-wheels.

1. Determine the wheel lock location according to the adjustment hole;
2. Using a 13 mm Allen key secure tightly the wheel lock with bolts and nuts **A**.

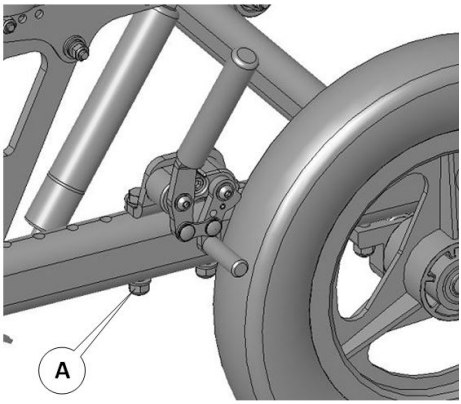

Figure 60: Wheel Lock

13.2 Adjust the tension applied to the wheel by the wheel lock

1. Loosen bolt **B** using a 4 mm Allen key;
2. As needed, move the wheel lock assembly forward or backward;
3. Tighten bolt **B**;
4. Verify if the desired tension is obtained and ensure the wheel locks properly and securely;
5. Firmly tighten.

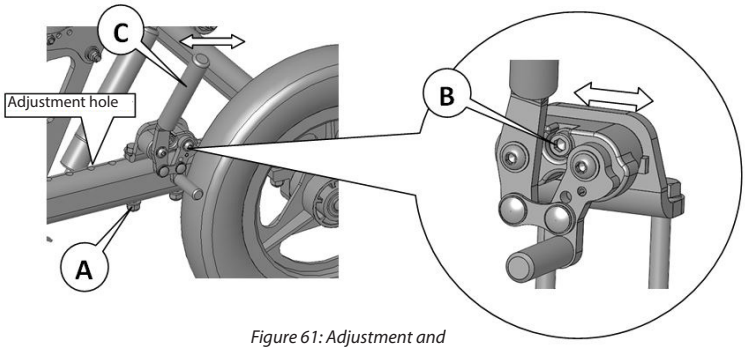

Figure 61: Adjustment and Applying wheel lock

13.3 To apply brakes

1. Pull the handle **C** backward to apply the brake;
2. Push the handle **C** forward to release the brake.

Never stop a moving wheelchair with wheel locks. Wheel locks are not brakes.

When breaks are applied, the breaking stop must sink into the tire by 1/8" to ¼".

It is important to adjust the brakes if modifications of the rear wheels are done or if the tires are worn out.

Ensure that all the nuts are securely fastened after each adjustment.

13.4 Attendant Wheel Lock – 4 wheel option

1. Adjust **A** and **B** according to the frame structure **E** by inserting them on the tube **C**.
2. Center tube **C** and firmly tighten screw **D** using a 10 mm Wrench.
3. Position and adjust the foot operated brake **F** on the frame structure **E** by tightening bolts **G** and nuts **H** with transit **I**.

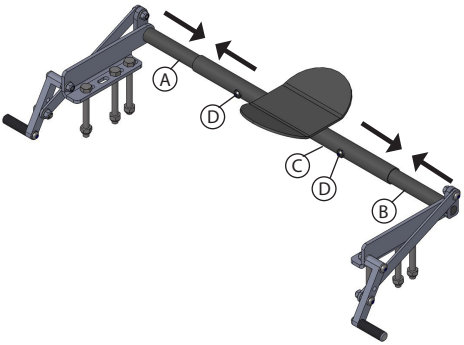

Figure 62: Attendant Wheel Lock 4 wheels

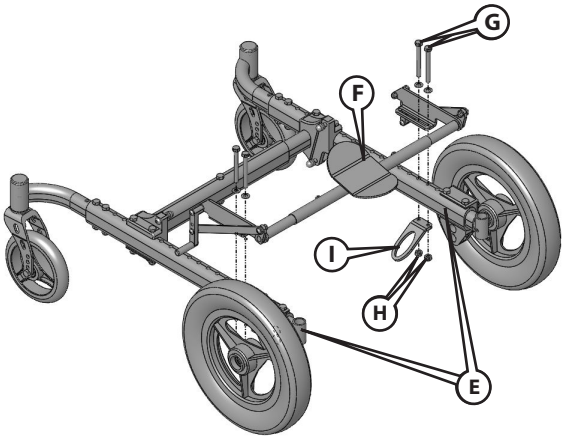

Figure 63: Attendant Wheel Lock 4 wheels

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13.5 To Apply Attendant Wheel Lock 4 wheel option

1. Push the footplate on the side **J** to apply the brakes.
2. Push the handle on the side **K** to release the brakes.

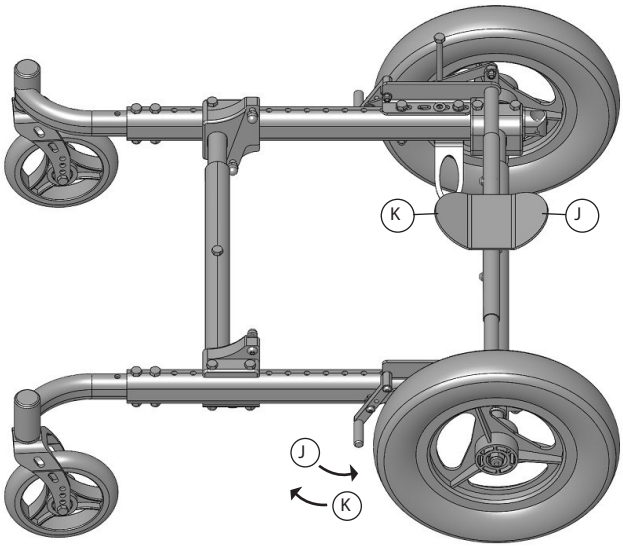
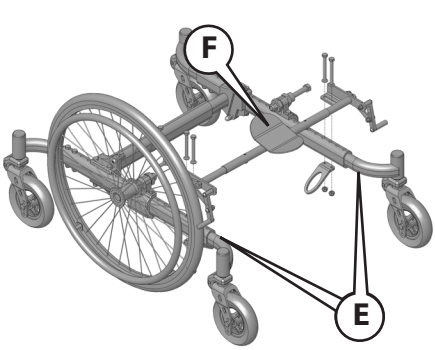


Figure 64: Apply brakes 4 wheels

13.6 Attendant Wheel Lock 6 wheel option

1. Unscrew bolts **G** and nuts **H** to remove the transit **I**.
2. Adjust **A** and **B** according to the frame structure **E** by inserting them on the tube **C**.
3. Center tube **C** and firmly tighten screw **D**.



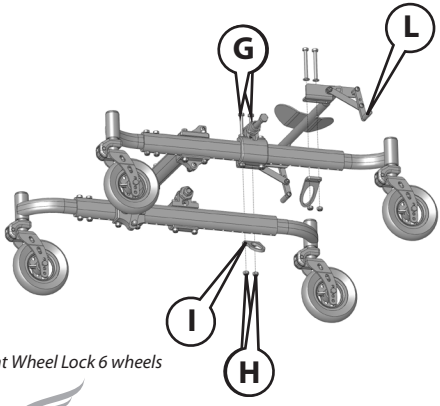


Figure 65 and 66: Attendant Wheel Lock 6 wheels

4. Position and adjust the foot operated brake **F** on the frame structure **E** by tightening bolts **G** and nuts **H** with transit **I**.

Note: Ensure that the wheel lock rods are located at ½" of the wheel when the wheel lock is not applied.

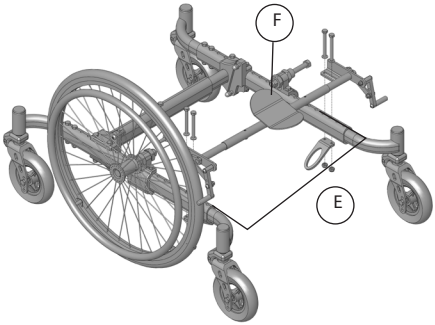


Figure 67: Attendant Wheel Lock
6 wheels

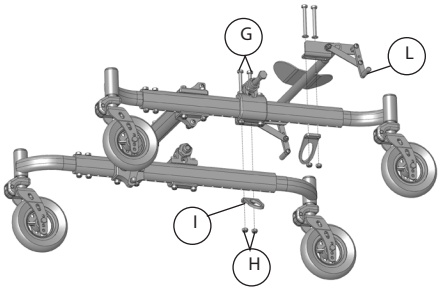


Figure 68: Attendant Wheel Lock
6 wheels

13.7 To Apply Attendant Wheel Lock 6 wheel option

1. Push the footplate on the side **J** to apply the brakes.
2. Push the handle on the side **K** to release the brakes.

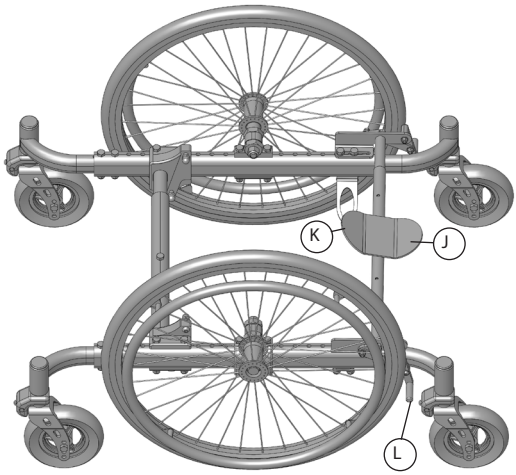


Figure 69: Apply brakes 6 wheels

14. Anti-tip tubes

14.1 Inserting anti-tippers in Receiver

Press the rear anti-tipper release pin **A** on the anti-tipper tube so that both release pins are drawn inside. Insert into the anti-tipper receiver. Slide the anti-tipper until release pin is positioned through the lower receiver mounting hole. Repeat the process with the second anti-tip tube.

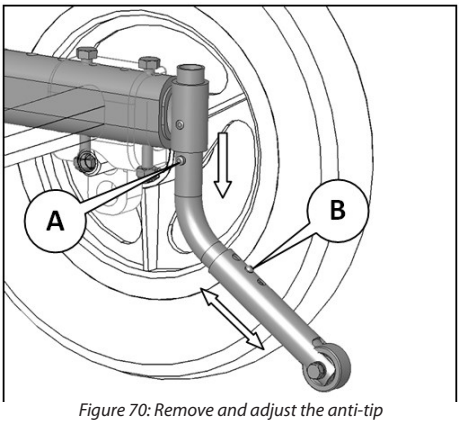


Figure 70: Remove and adjust the anti-tip

14.2 Adjusting anti-tippers

Once the anti-tipper is installed, you must adjust its height to the proper setting. To do so, press anti-tipper release pin **B** and raise or lower the moving part of the anti-tipper.

Make sure the anti-tippers are fully engaged and release buttons fully protruding out of adjustment holes. Anti-tippers must always be use. When outdoors on wet, soft ground or on gravel surfaces, anti tippers may not provide the same level of protection against tipover.

Always verify if the anti-tippers are at proper height after making any adjustment or modification to the wheelchair in order to ensure the safety of the user.

Physipro recommends anti-tippers for all wheelchairs. The anti-tippers are not to be used as tipping levers.

14.3 Turning the anti-tippers

Turn anti-tippers inwards towards the frame when being pushed by an attendant or overcoming obstacles such as climbing curbs.

1. Press the rear anti-tipper release pin **A** on the anti-tipper tube so that both release pins are drawn inside.
2. Hold pin and turn anti-tipper inwards towards the frame
3. Repeat with second anti-tipper
4. Ensure to return anti-tip tubes to initial position once maneuver is complete.

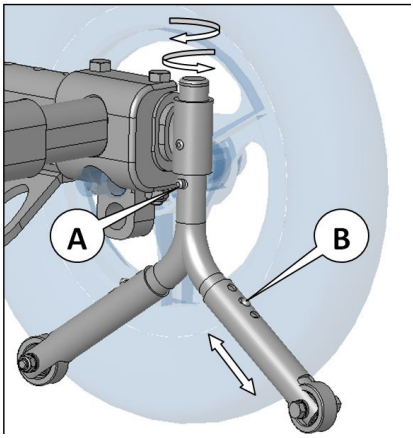


Figure 71 : Anti-Tip Tubes

Make sure the anti-tippers are fully engaged and release buttons fully potruding out of adjustment holes. Anti-tippers must always be used.

When outdoors on wet, soft ground or on gravel surfaces, anti tippers may not provide the same level of protection against tip over. Ensure both anti-tippers are adjusted to the same mounting hole.

Always verify if the anti-tippers are at the proper height after making any adjustment or modification to the wheelchair in order to ensure the safety of the user.

For maximum safety, the distance between the ground and the anti-tipper must not exceed 2".

The anti-tippers are not to be used as tipping levers.

15. Neox Power Tilt System

15.1 List of components

Number	Name	Physipro Number
1	Control box	ST-03707
2	Battery	ST-03709
3	Power cylinder	ST-03696
4	Control box cable	PH-05070
5	Joystick control box	PH-04590
6	Plastic cap	ST-03708
7	Battery cable	ST-03710
8	Cylinder cable	ST-03713
9	Power supply cable	ST-03711
10	Split collar	PH-03999
11	Battery assembly bracket	PH-05071
12	Electric tilt assembly lower bracket	PH-03993
13	Electric tilt assembly upper bracket	PH-04545

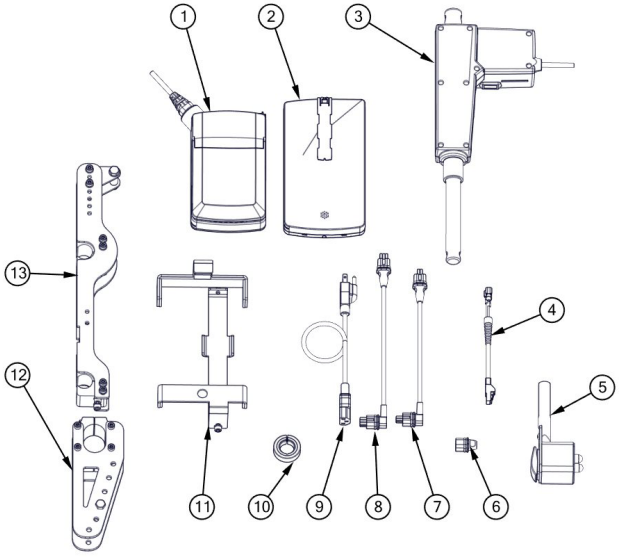


Figure 68

15.2 Introduction

The NEOX power tilt control system is designed to replace the gas cylinder tilt system. This allows users to modify the tilt of their wheelchair without requiring the help of another person. Installing this system does not require drilling or welding; it can be installed directly during manufacturing, or onto a wheelchair already equipped with gas cylinders. This latter procedure requires some extra steps. The following section describes the steps to take prior to replacing the gas cylinders with the power tilt system. If you are installing the system on a new wheelchair without gas cylinders, skip to section 4—Installation.

15.3 Modifying a wheelchair already equipped with gas cylinders

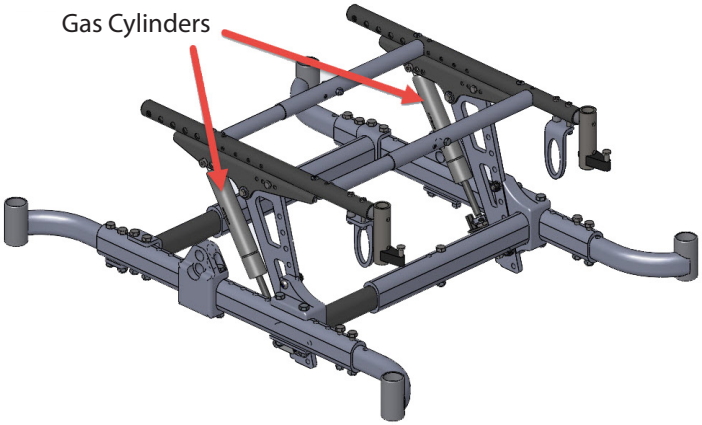


Figure 69

1. Remove the cushion and the seat to gain access to the upper seat frame.

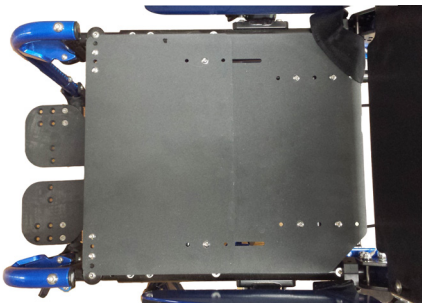


Figure 70

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2. Remove the gas cylinders.

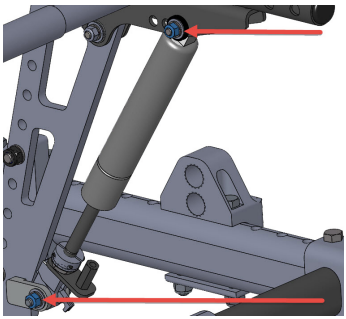

Figure 71

Warning!
The seat is now free to tilt. Place a block under the upper seat frame to hold it in place.

3. Remove the gas cylinder activation levers located on the wheelchair handles.

Figure 72

4. Remove the tilt limiter stops.

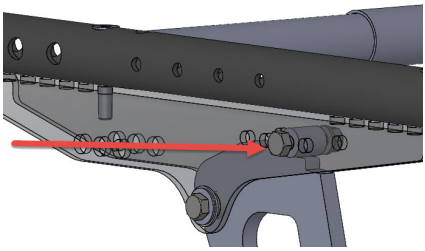

Figure 73

The NEOX tilt-in-space is now ready for installation of the power tilt control system. Follow the steps in the following section.

15.4 Installation

1. Install the lower support block (10) on the NEOX's frame. Do not tighten the screws. Wait until installation is complete before tightening all the components. This prevents problems with the alignment of the linear actuator.

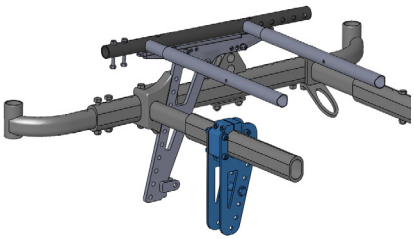

Figure 74

2 . Install the stem of the linear actuator (5) on the pivot of the lower support block, as illustrated. Refer to section 5 to determine which adjustment hole the pivot should be installed in.

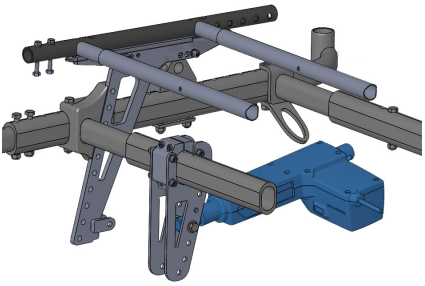

Figure 75

3. Install the upper support block (7) on the upper frame.

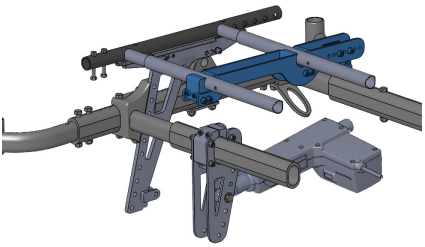

Figure 76

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4. Install the battery holder (6) on the upper frame.

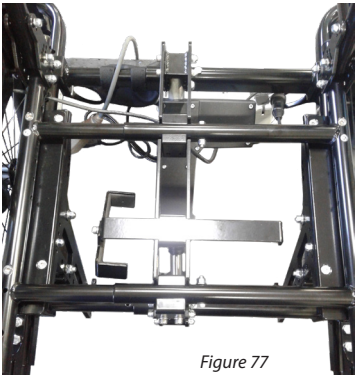

Figure 77

5. Insert the control casing into the holder.

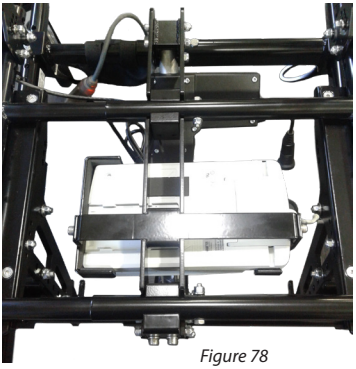

Figure 78

6. Make the following 5 connections:

   1. Connect the plastic cap (6) to the control casing (1).
   2. Connect the cylinder cable (8) to the control casing and the other end to the power cylinder (3).
   3. Connect the battery cable to the control casing and the other end to the battery (2).
   4. Connect the control box cable (4) to the control casing and the other end to the joystick control box (5).
   5. Connect the power supply cable (9 to the control casing.

Once these connections are made, the actuator can be controlled with the joystick.

Figure 79

7. Connect the top of the linear actuator to the pivot of the upper support block. To make this easier, align the holes by adjusting the extension of the actuator stem. Refer to section 5 to determine which adjustment holes the pivot should be installed in.

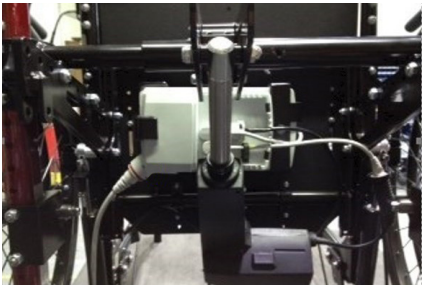

Figure 80

8. Install the joystick casing on the armrest support. To do this, remove the plastic stopper, then unscrew the screw under the armrest. Insert the casing at the desired position, then screw the armrest screw back in.

Figure 81

9. Secure the cables with plastic cable ties in such a way that they do not get caught or jammed when the power tilt system is activated.

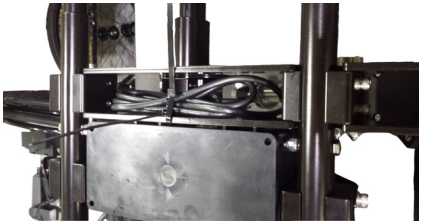

Figure 82

10. Check the positioning of the battery holder relative to the seat to make sure it is attached appropriately. If necessary, move the battery holder. Align the upper and lower supports to make sure that they are at the centre of the wheelchair. Once everything is properly aligned, insert and tighten the bolts.

11. Connect the charger to the control casing. Then attach the charger holder in a safe location on the wheelchair and insert the charger.

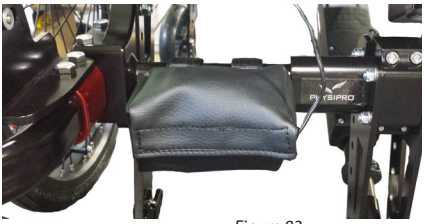

Figure 83

12. Ensure that the seat is completely horizontal when the actuator stem is fully extended. If it is not, check the position of the adjustment holes on the upper and lower support blocks.

13. Ensure that nothing interferes with tilting the wheelchair. In most cases, the motion of the linear actuator has to be limited using the collet (8) and the safety sleeve (9). If there is interference, install these two components on the actuator as shown. Position the chair so that the actuator is about 25 mm away from the position in which there is interference. Place the machined side of the collet against the cylinder housing and tighten it securely in place. Check that the collet properly blocks the actuator's descent before the position in which there is interference. If it does not, raise the actuator and tighten the collet further up the actuator stem.

Figure 84 et 85

Once the system is working without interference, reinstall the seat and put the cushion back in place. Installation is now complete.

15.5 Positioning the adjustment holes

The NEOX system is highly adjustable. Seat-to-floor height and seat depth affect the adjustment of the electric tilt control system. Accordingly, the following guidelines must be followed:

15.5.1 Adjusting seat-to-floor height

The holes in the lower support block are placed in the same increments as those on the height adjustment brackets of the NEOX. The jack stem can therefore simply be installed in the same position as the brackets. Note that, since they go in opposite directions, the last hole on the brackets corresponds to the first hole on the linear actuator support block. Refer to the diagram below to check the positions.

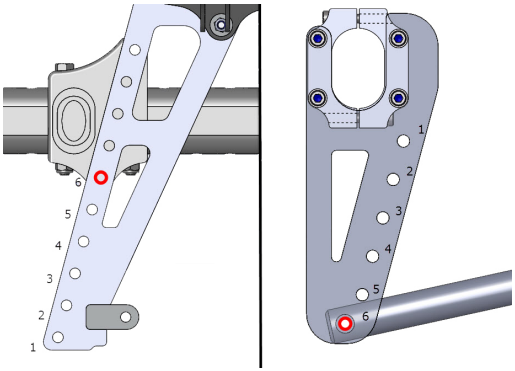

Figure 86 Example of lower mounting in position 6

15.5.2 Adjusting seat depth

Similarly, the upper support block has the same increments as the seat depth adjustment. The reference hole is the countersunk hole at the front of the upper frame. Again, remember that the components work in opposite directions. Refer to the diagram below for proper positioning.

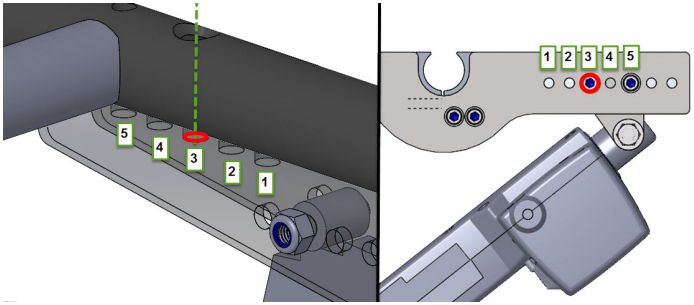

Figure 87 Example of upper mounting in position 3

When the assembly is properly adjusted, the seat will be horizontal when the actuator is fully extended.

15.6 Operation

1. To tilt the chair backward, move the joystick backward;
2. Once maximum tilt is reached, the tilt control will stop even if the joystick is held;
3. To return to a horizontal position, move the joystick forward;
4. If the chair seems unstable or the tilt is uneven, make sure all the bolts are well tightened.

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15.7 Charging

1. Charge the battery with the charger provided, following the package directions.
2. The battery can be charged even while the tilt control is in use.
3. When the battery must be recharged, the control casing will produce an audible alarm. To stop the alarm, plug the charger in.
4. Plug the charger into a wall socket.
5. Function indicator (LED):

FW7118M / FW7218M / FW7318M

LED is off	= fault
LED is yellow	= normal charge
LED is green	= refresh charge

When the charger transitions from the normal charge process to the refresh charge process, the green LED will flicker briefly.

Warning:


Charge in dry areas only.


Do not charge in areas where there is a risk of explosion (e.g. a garage).


The charger must be kept out of reach of children.


Use the charger only in a well-ventilated environment.


If the charger is not being used, is being cleaned, or is being maintained, unplug it from the wall socket.


Do not unplug the plug from the socket by pulling on the cable.


Check the cable regularly and protect it from oil and sharp edges. If the cable is damaged, it must be replaced by a specialist.


Protect the charger from oil, grease, solvents, and abrasives, as these can destroy the casing.


If the charger is dropped or has visible damage, have it checked immediately by a specialist.


The power tilt weight capacity is 250 lbs/115 kg.

16. Transit use

The wheelchair is equipped with securement points which are used to provide increased stability during transportation.

The figure below shows the location of the wheelchair securement points.

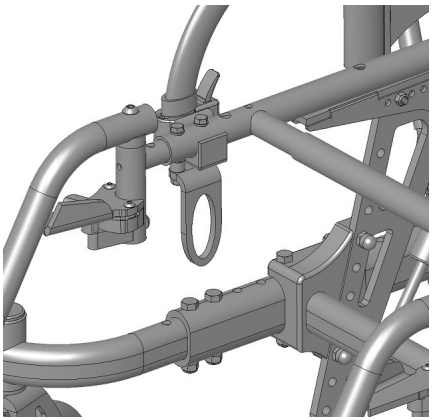

Figure 72: Two securement points in front

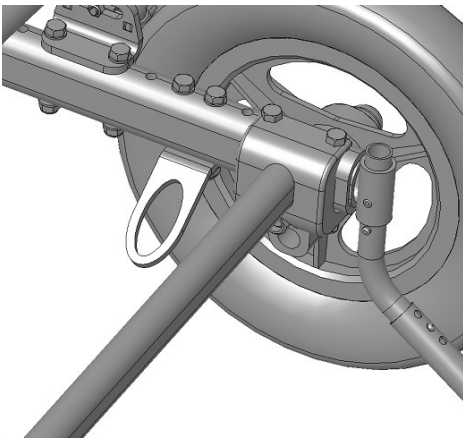

Figure 73 : Two securement points in the back

If the wheelchair is used for transport, it must be used in a forward-facing seating position.

Only use the provided securement points during transportation. Never fix any anchor cable on any other part of the wheelchair. Furthermore, you have to install the cables as recommended by Transport Canada for maximum security.

The anchorage rings of the wheelchair do not substitute for the restraining system certified by Transport Canada.

PHYSIPRO is not responsible for the risks undertaken when using the wheelchair as a seat in public or private transportation.

Failure to follow these warnings may cause damage to your chair, a fall, tip-over or loss of control and cause severe injury to the rider or others.

ENGLISH

17. Maintenance Guide

Maintenance is an essential part of keeping the NEOX™ Tilt-in-Space in good working order. By doing so, you will maximize its operational life and ensure it is always safe to use. Do not forget to have a qualified professional inspect your wheelchair twice a year.

Checklist	At Time of Receipt	Each Week	Each Month	Every Six Months
Front Wheels and Tires				
▪ Check tire inflation pressure (if applicable);	✓	✓		
▪ Ensure the fork turns around its axle;	✓	✓		
▪ Check if tires are worn;	✓	✓		
▪ Ensure the fork and nuts are secured and stable.	✓		✓	
Rear Wheels and Tires				
▪ Check tire inflation pressure (if applicable);	✓	✓		
▪ Ensure wheels are still in proper shape;	✓	✓		
▪ Check if tires are worn;	✓	✓		
▪ Ensure fasteners and nuts are secured and stable;	✓		✓	
▪ Ensure the handrims are secured to the wheels;	✓			✓
▪ Check if handrims are worn.	✓			✓
Brakes				
▪ Check the efficiency of the push-to-lock brakes;	✓		✓	
▪ Ensure brakes do not interfere with the wheel mechanism.	✓		✓	

Checklist	At Time of Receipt	Each Week	Each Month	Every Six Months
Tilt-in-Space cylinder backrest				
▪ Verify the effectiveness of the handle and the cylinder	✓			
▪ Verify that there are no oil leaks	✓		✓	✓
Armrests				
▪ Check if armrests are secured properly and still comfortable.	✓			✓
Footrests				
▪ Check if footplates are worn.				✓
Upholstery				
▪ Check if seat, backrests and armrests are worn;				✓
▪ Ensure restraining belts are secured				✓
Cleaning				
▪ Clean and wax parts;				✓
▪ Clean upholstery.				✓

Never use strong detergents or solvents such as alcohol or thinner. Use a light detergent.

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18. Warranty

5 years
Frame against defects in materials and workmanship.

2 years
Parts for a period of 2 years, covers original defects in material and workmanship of the wheelchair components, optional components and new parts that have been replaced by the supplier or by an authorized dealer, with effect from the delivery date or, if applicable, from the date of replacement, with a copy of the seller's invoice required for coverage under this warranty.

30 days
Tires, inner tubes, comfort upholsteries, armrests, seat covers, backrest covers and ball bearings.

Physipro inc. agrees to repair or replace any inoperative or defective part for the duration of the warranty period. To enjoy this warranty service, please contact Physipro Inc. or an authorized dealer. Do not return this product without prior approval. If you are dissatisfied with this product, send us your comments at the address provided therein, and include the name and address of the supplier, the delivery date, and the serial number of the product.

Limitations and Exclusions
This warranty shall not apply to products that have been altered or abused, whether intentionally or by accident, or been subject to improper use, negligence, lack of maintenance or improper storage, and products whose serial number has been erased or removed. Furthermore, this warranty shall not apply to products that have been damaged through repairs or modifications made without the prior written consent of Physipro Inc. or of an authorized dealer. The same restrictions shall apply for damages resulting from other circumstances beyond the control of Physipro Inc. Finally, this warranty shall not apply to normal wear and tear or to any non-compliance with the guidelines provided therein.

Physipro Inc. shall not be responsible for any damage that occurs to the product during transportation.

SPECIALIZED TRANSPORTATION (Only in Quebec, Canada)
A person may travel in a vehicle specially equipped for the transportation of persons with disabilities while remaining seated in their wheelchair, provided that the said vehicle and the wheelchair of the said person are equipped with restraining systems and tie-down devices that are in line with the applicable rules and regulations.

Physipro Inc. shall not be held responsible for the misuse of the tie-down devices and restraining systems or for any tie-down device and restraining system that do not comply with applicable rules and regulations. The same restrictions apply for any modification made to the wheelchair or tie-down devices without prior consent
of Physipro inc.

Appendix A : NEOX Standard — Settings and Restrictions

This document appendix describe the range of adjustment available and limits on the NEOX tilt in space. It covers the following sections:

- Adjustment sequence
- Seat depth adjustment
- Center of mass adjustment
- Gas cylinder adjustment
- Seat to floor height adjustment / limitations
- Tilt / recline stability limitation
- Overall width and tilt limitation

Adjustment sequence
In order to properly adjust the NEOX Tilt-in-Space, the following sequence should be applied:

- Adjust the seat width according to order form
- Adjust the seat depth according to order form and reference table
- Adjust the center of mass according to reference table
- Adjust gas cylinder according to reference table
- Adjust seat to floor height according to order form
- If required, limit the tilt/recline according to reference table

Seat depth adjustment
Adjust the seat depth according to Table 1. This table consider that the interface between the back and the patient is as define on the Figure 1. A thicker cushion or recessed back will change the adjustment.

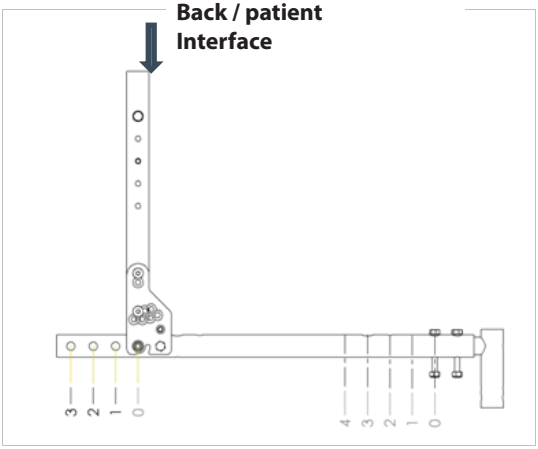

Figure 1: Seat depth adjustment--standard model

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Table 1: Back position and hanger position versus seat depth

SEAT DEPTH STANDARD FRAME (INCHES)	SEAT DEPTH EXTENDED FRAME (INCHES)	BACKREST POSITION	HOOK POSITION
14	16	0	0
15	17	1	0
16	18	2	0
17	19	2	1
18	20	2	3
19	21	2	3
20	22	3	3

Center of mass adjustment

The adjustment of the center of mass is really important. It will affect the stability of the chair as well as the force needed to tilt the chair. The following table is for reference only. It was established according to the mass distribution of the dummy define in the ISO 7176-11:2012 standard. This distribution is a representation of an average person for a specific weight. However, the specific anthropometry may be very different and the proposed table may not be adapted.

Center of mass location

The center of mass location should be adjusted according to Figure 2. Distance A should be around 50 mm (2 inches)

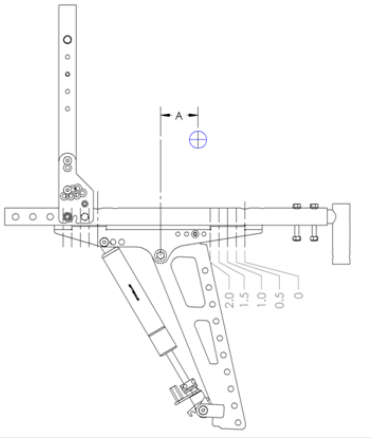

Figure 2: Center of mass adjustment

To achieve this, you can use Table 2 as guidelines. This was established considering the mass distribution of the ISO 7176-11:2012 standard and a 90 to 95 degree backrest angle.

Table 2: Center of mass adjustment according to seat depth and patient weight

	115KG (250LB)	75KG (165LB)
SEAT DEPTH (INCHES)	Center of mass position	Center of mass position
14	2	2
15	1	2
16	0	1
17	0	1
18	0	1
19	0	1
20	0	1

Gas cylinder adjustment

With the proper center of mass adjustment, the gas cylinder can be adjusted in the central position for every user (see Figure 3). Here is some situation where a technician may decide to install the cylinder at a different position:

- For a light user (less than 75 kg), you may use the -1 position to ease the tilt maneuver.
- If the backrest has a large angle with the seat and it is not possible to adjust the center of mass as specified, you may use the 1 position to lower the force to return tilted seat to upright position. This position however limits the tilting from 3 to 44 degrees.

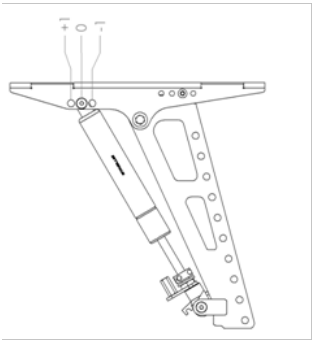

Figure 3: Gas cylinder adjustment

Seat to floor height adjustment / limitations

The NEOX seat to floor height may be adjusted. The overall range is from 13 inches to 20 inches including all wheel configuration. With a specific wheel configuration, the range of adjustment is 5 inches (as shown in Figure 4). Depending on the seat to floor adjustment position, the maximum tilt may be different because of mechanical interference.

The following chart shows the limitations due to seat to floor adjustment for two center of mass adjustment:

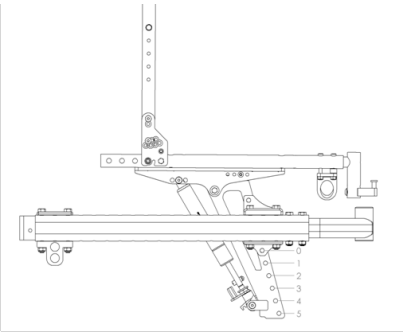

Figure 4: Seat to floor adjustment

Table 3, Tilt limitation due to seat to floor adjustment.

Note that this limitation does not include a possible interference with the armrest.

	C.M. 0	C.M. 2
SEAT TO FLOOR ADJUSTMENT	**Max tilt (deg)**	**Max tilt (deg)**
0	25	15
1	32	25
2	40	30
3	46 (max)	35
4	46 (max)	40
5	46 (max)	46 (max)

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Tilt / recline stability limitation

Stability is a main concern for wheelchair. Combining tilt and recline may cause instability. In order to respect the typical 10 degrees of stability in least stable configuration, a qualified technician may have to limit the tilt and/or the recline range of the wheelchair. The technician can do so by adjusting the collet on the gas spring.

Test were conduct using a reclining backrest to define the maximum tilt /recline combination to obtain a 10 degrees minimum angle in the least stable configuration. The rearward stability was the critical contributor. Tests were done with the highest seat to floor height (worst configuration). Figure 5 shows the rearward stability test. **The table is given as reference only, results could be influence by the anthropometry of the patient.**

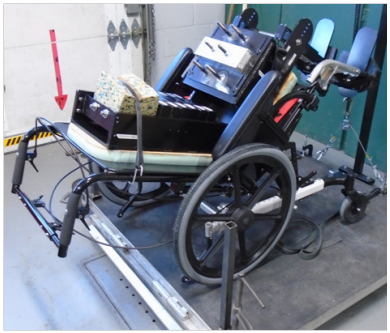

Figure 5: Rearward stability test with a reclining backrest on the NEOX tilt in space.

Table 4: Maximum tilt/recline for 10 degree minimum stability in least stable configuration.

	75 KG (165LB)	115 KG (250LB)	160 KG (350LB)
BACK ANGLE (DEG)	Max tilt (deg)	Max tilt (deg)	Max tilt (deg)
90	46 (max)	46 (max)	22
95	46 (max)	46 (max)	22
100	46 (max)	45	22
105	46 (max)	43	22
110	46 (max)	40	22
115	46 (max)	40	22

Overall width and tilt limitation

Overall width

The overall width of the Neox without pushrim is establish by the following

Overall width=seat width+9.5 inches

For larger seat width, this overall width may not be acceptable. That's why the Neox has optional extension plates that can be installed between the seat frame and the tilting mechanism. The purpose of the plates is to have the wheels underneath the armrest (compare to outside, see Figure 6 and Figure 7) to minimise the overall width and get a better pushing efficiency. With these plates the overall width is **reduced by 2 inches**. By default, these plates are installed at the manufacture for seat width of 19 inches and over.

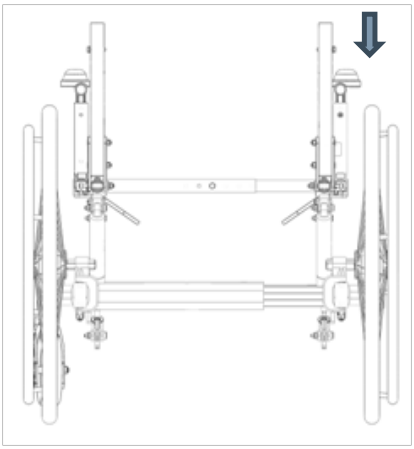

Figure 6: Neox standard

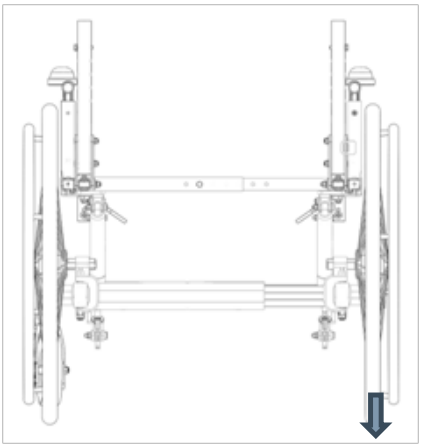

Figure 7: Neox with extension plates

The addition of pushrim will add another 1.5 inches to the overall width. Table 5 on page 50 shows a summary of the overall width.

Table 5, Overall width for different configuration

OVERALL WIDTH (INCHES)				
SEAT WIDTH (INCHES)	Standard with extension plates (+7.5)	Standard with extension plates and pushrim (+9)	Standard (+9.5)	Standard with pushrim (+11)
14	N.A.*	N.A.*	23.5	25
15	N.A.*	N.A.*	24.5	26
16	23.5	25	25.5	27
17	24.5	26	26.5	28
18	25.5	27	27.5	29
19	26.5	28	28.5	30
20	27.5	29	29.5	31
21	28.5	30	30.5	32
22	29.5	31	31.5	33
23	30.5	32	32.5	34
24	31.5	33	33.5	35
25	32.5	34	34.5	36
26	33.5	35	35.5	37

* N.A. = Not available

GREY SECTION :	NOT RECOMMENDED

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TILT LIMITATION

The counter part of adding the extension plates is that it may cause interference between the armrest and the wheel. This interference will depend on different factor such as wheel diameter, seat to floor height, armrest position… Figure 8 and Figure 9 show a typical interference pattern.

Figure 8: Tilt limitation on 4 wheels configuration with extension plates.

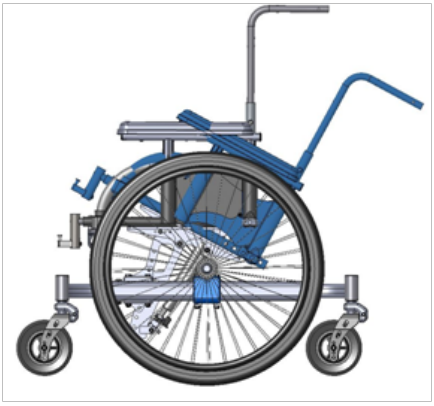

Figure 9: Tilt limitation mid wheel configuration with extension plates

It would not be relevant to give a chart that combine all the possible configuration. As reference here is some tips:

- Avoid the use of larger diameter wheels, especially for lower seat to floor height
- Keep the seat to floor height as high as possible
- Have the armrest as high as possible.

Example of tilt limitation for a 4 wheels configuration on Table 6.

Table 6, Tilt limitation due to armrest/wheel interference. Wheel diameter: 20 inches.

	TILT LIMITATION (DEG)		
SEAT TO FLOOR ADJUST	Armrest Height 8"	Armrest Height 10"	Armrest Height 12"
0	5.5	14.5	22
1	9.5	19	26
2	14	23	31
3	19.5	29	36
4	25	33.5	41
5	28	37	46

Appendix B: Settings and restrictions — NEOX CSF

The Neox CSF (**C**onstant **S**eat to **F**loor height) option allows to tilt the user up to 30 degrees while keeping the knee height almost constant.

This feature gives the patient the ability to propel using his feet.

As illustrated, with this option the pivot point is moved forward, close to the knee. Special pivot brackets are needed.

Figure 1, Neox with CSF option

The instructions below must be followed for proper adjustment of the NEOX CSF Tilt-in-Space:

- Adjust the seat width according to the order form.
- Adjust the seat depth according to the order form and reference table.
- Adjust the NEOX according to the user's weight (cylinder position and wheels), according to the reference table.
- Adjust the seat-to-floor height according to the order form. This can result in tilt limitations; please refer to the tilt limitations table.

Seat depth adjustment

Adjust the seat depth according to table 1. Table 1 assumes that the interface between the seat back and the user is as shown in figure 1. Different adjustments will be needed if a thicker cushion or an embedded back is used.

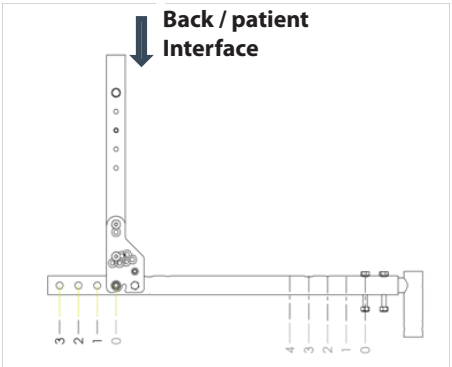

Figure 2: Seat depth adjustment--standard model

Table 1 : Back position and hook position according to seat depth

SEAT DEPTH STANDARD FRAME (INCHES)	SEAT DEPTH EXTENDED FRAME (INCHES)	BACKREST POSITION	HOOK POSITION
14	16	0	0
15	17	1	0
16	18	2	0
17	19	3	0
18	20	3	1
19	21	3	2
20	22	3	3

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Adjustment according to user's weight
The gas cylinders can be positioned according to the user's weight, in order to minimize the effort needed to obtain the desired position when the user is in the NEOX. Three configurations are available as shown in figure 2.

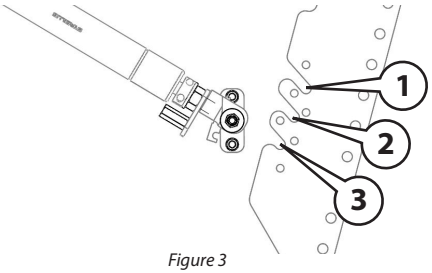

Figure 3

To adjust the position of the gas cylinders, loosen bolt **A** using a 10-mm Allen key. Remove bolts **B** using a 5-mm Allen key. Place the gas cylinder in the desired position. Ensure that the threaded block **C** is in an upright position with the threads aligned with the holes in plate **D**. Put back bolts **B**. Tighten bolts **A** and **B**.

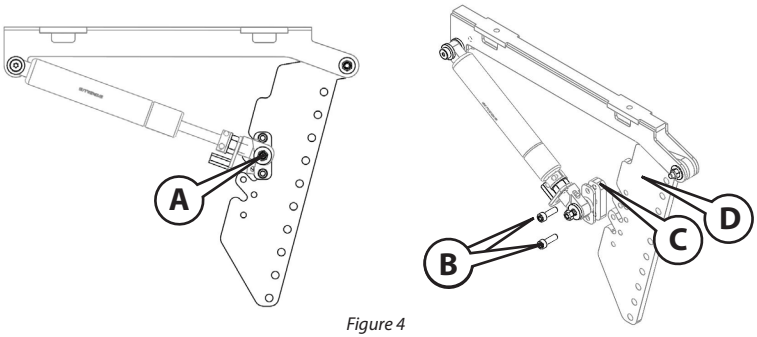

Figure 4

For HD model please note that a different gas cylinder is used with an additional spring **E** as shown in figure 4.

The collar **F** is typically positioned at 100mm (distance **G**) from the cylinder end. Increasing **G** will give more support and might be helpful when the backrest is incline. For lighter user you may decrease **G**.

For stability reasons, the position of the rear wheels also depends on the user's weight and the gas cylinder configuration. Figure 4 shows the rear wheel block position, which is described according to the number of the hole that the rear bolt occupies along the frame. For example, on figure 5, the wheel is set to position 5. Please note that positions 1 and 2 are not accessible because of the crossbar. Please contact us if you need a non-standard configuration.

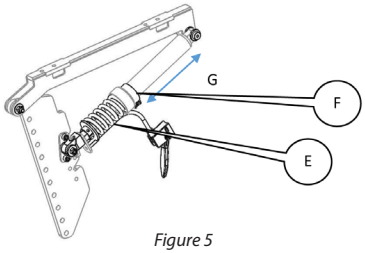

Figure 5

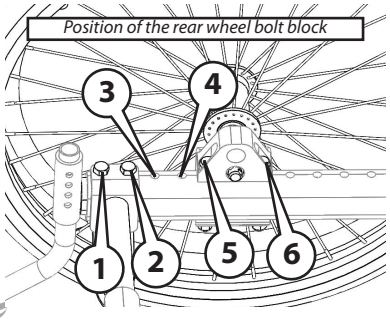

Figure 6

Adjustment table depending on the user's weight

	User weight	Gas cylinder position	Rear wheel position
CSF	Less than 75kg	1	3rd to 6th hole
	From 75 kg to 95 kg	2	3rd to 4th hole
	From 95 kg to 115kg	3	3rd to 5th hole
CSF HD	From 100kg to 120 kg	1	3rd hole
	From 120kg to 140 kg	2	3rd hole
	From 140kg to 160 kg	3	3rd hole

Seat-to-floor height—Settings and restrictions

The seat-to-floor height ajustment range of the NEOX is between 13" to 20" over all the wheel configurations. For any specific wheel configuration, the adjustment range is 5" (as shown in the figure below). Depending on the floor/seat adjustment, maximum inclination may vary due to mechanical interference.

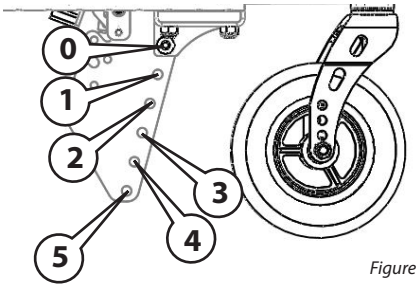

Figure 7

Table 3 — Tilt limitation (degrees) according to seat to floor position and cylinder position

Please note that these restrictions do not take possible interference with the armrest into account. For a low seat-to-floor height, the rear wheel must be set to the rearmost position.

		HQC			HQC HD		
		Cyl. Pos. 1	Cyl. Pos. 2	Cyl. Pos. 3	Cyl. Pos. 1	Cyl. Pos. 2	Cyl. Pos. 3
Seat to floor position	0	12,5	12,5	12,5	5	5	5
	1	16	16	16	8	8	8
	2	21	21	21	10,5	10,5	10,5
	3	25	25	22	14	14	14
	4	25	25	22	17	17	17
	5	29,7	28,7	22	21	21	21

Table 4 Seat to floor height according to seat to floor position and rear wheel dimension

As a reference, Table 4 shows the seat to floor height according to seat to floor position and rear wheel dimension

		Rear wheel dimension								
		12		16		20		22		24
		P3	P4	P3	P4	P1	P2	P1	P2	P1
Seat to floor position	0	13	14	15	16	13	14	14	15	15
	1	14	15	16	17	14	15	15	16	16
	2	15	16	17	18	15	16	16	17	17
	3	16	17	18	19	16	17	17	18	18
	4	17	18	19	20	17	18	18	19	19
	5	18	19	20	21	18	19	19	20	20

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