

# **Power-Flex**

## **Power Assist Drive Attachment**

(PFX1214 / PFX1517 / PFX1820)

### **Set-Up Guide**



# **SOUL**

M O B I L I T Y



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## **IMPORTANT START HERE - READ THIS SECTION FIRST!**

### **PROVIDER AND USER:**

You will see “WARNINGS” throughout this manual. Warnings will look like this:



### **WARNING!**

- Warnings are hazards or unsafe ways to use the PFX that MAY CAUSE SEVERE INJURY OR EVEN DEATH to the user or another person.
- Failure to follow the instructions in this manual and those located on your PFX can lead to personal injury and/or damage to the PFX and your wheelchair including voiding the warranty.
- **READ ALL WARNINGS AND MAKE SURE YOU UNDERSTAND THEM!**
- **DO NOT** use the PFX until you are sure you understand how to avoid these hazards and unsafe ways to use it.
- When adding the PFX to your existing manual wheelchair you must continue to maneuver the complete unit as the manual chair is intended to be used. The PFX does not change the intended use of the Manual chair. It is intended to assist.



### **WARNING!**

A Soul Mobility Provider or a qualified technician must perform the initial setup of this device and must perform all of the procedures in this manual.

- For correct performance, the manual wheelchair **MUST** be configured to fit the wheelchair user by their Rehab Technology Professional. The Power-Flex (PFX) must also be configured to work with the wheelchair it will be used on. **ALWAYS** use parts and/or accessories that have been recommended and approved by Soul Mobility. If you are unable to follow the PFX set-up guide as shown for correct configuration, please discontinue set-up and return the PFX.
- Use of a manual wheelchair with the PFX that is not configured for the user will create and unsafe condition and void all warranties
- Read and follow all instructions, warnings, and notes in this set-up guide and the provided User Manual for your PFX unit before attempting to operate your PFX for the first time. Your safety depends upon you, as well as your provider, caretaker, or healthcare professional in using good judgment.

**NOTE: If you ever lose or misplace your copy of this Set-up Guide, contact us and we will be glad to send you a new one immediately.**

### **Future Updates and Modifications:**

This set-up guide is compiled from the latest specifications and product information available at the time of publication. We reserve the right to make changes as they become necessary. Any changes to our products may cause slight variations between the illustrations and explanations in this manual and the product you have purchased. The latest/current version of this manual is available on our website.



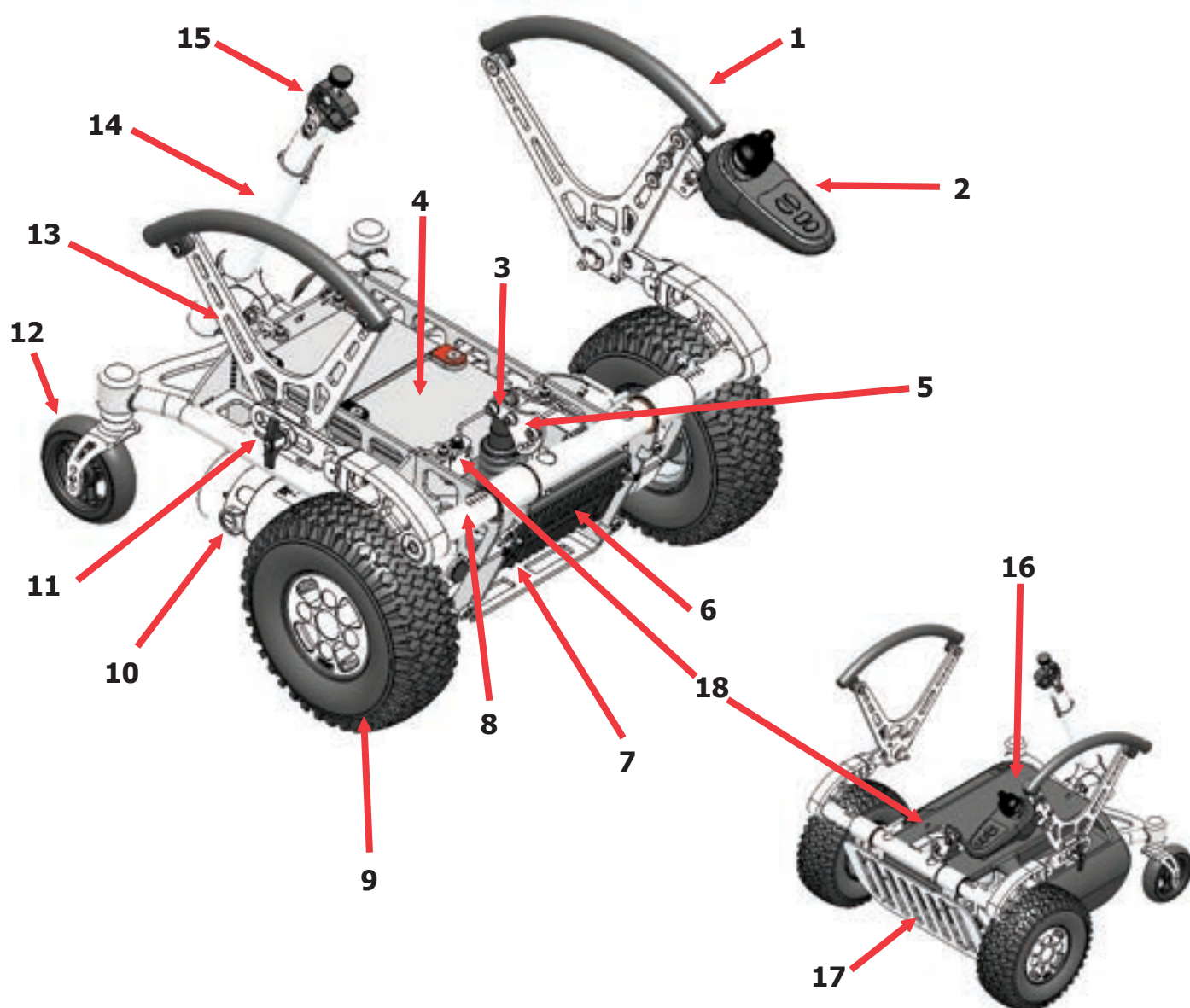
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## PFX Components

### The PFX and it's Components

|                            |   |                             |   |
|----------------------------|---|-----------------------------|---|
| 1. Handrim Support         | 2 | 10. Drive Motors            | 2 |
| 2. Joystick Controller     | 1 | 11. Axle Pins               | 2 |
| 3. Suspension Shock        | 1 | 12. Rear Casters            | 2 |
| 4. Batteries               | 2 | 13. Manual Tilt Lower Clamp | 1 |
| 5. Ride Height Adj. Plate  | 2 | 14. Manual Tilt Assembly    | 1 |
| 6. Power Module            | 1 | 15. Manual Tilt Upper Clamp | 1 |
| 7. Wire Harnesses & Fuses  | 2 | 16. Battery Cover           | 1 |
| 8. Width Adjustment Shafts | 2 | 17. Front Grill             | 1 |
| 9. Drive Wheels            | 2 | 18. 50A Circuit Breaker     | 1 |



## 1. Initial Set-up & Adjustment

### 1A. Pre Set-up

#### **Box Contents:**

- Power Attachment Unit
- Manual Tilt Assembly
- 5A / 24V charger & Manual
- Manual / Set-up Guide

#### **Tools Needed:**

- Tape Measure
- 13mm Box Wrench / Adjustable Wrench
- 26mm (1") Box Wrench / Adjustable Wrench
- 5mm & 6mm Hex Keys



### **WARNING!**

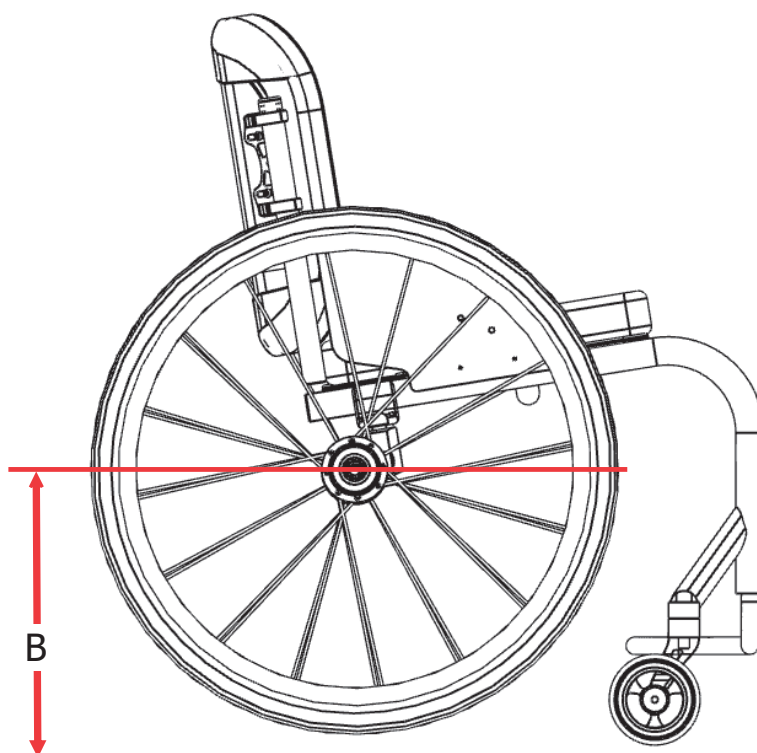
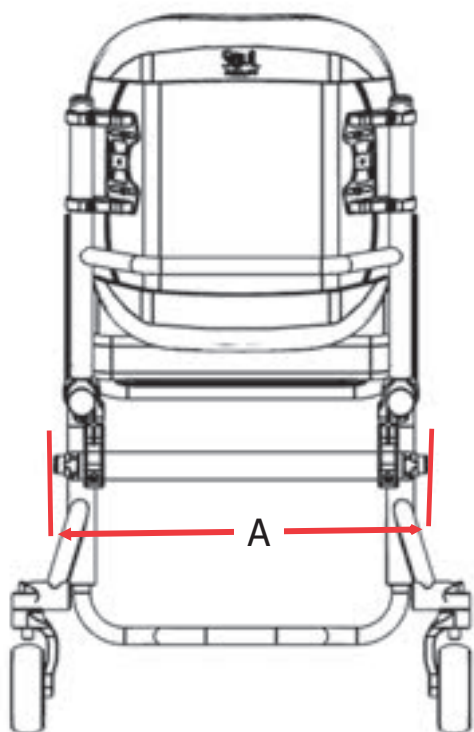
No persons should sit in the manual chair frame until after all installation steps are complete, the manual tilt assembly is installed onto the unit, and the manual tilt clamp secured to the manual chair rear support bar.

Sitting in the manual chair frame without the manual tilt assembly installed and attached is dangerous as the chair could fully tilt backwards causing severe injury.

#### **Manual Chair Measurements Required:**

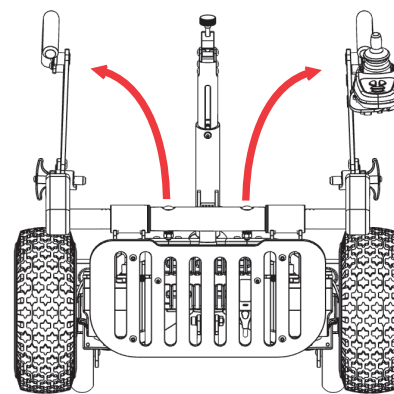
A. Axle Receiver Width = \_\_\_\_\_

B. Axle Height = \_\_\_\_\_

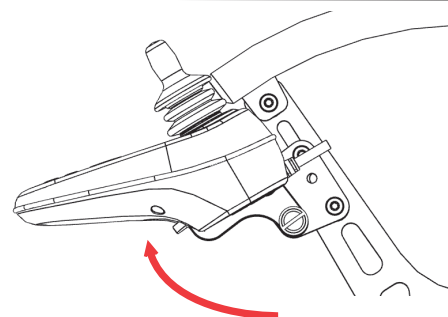


## 1A. Pre Set-Up (continued)

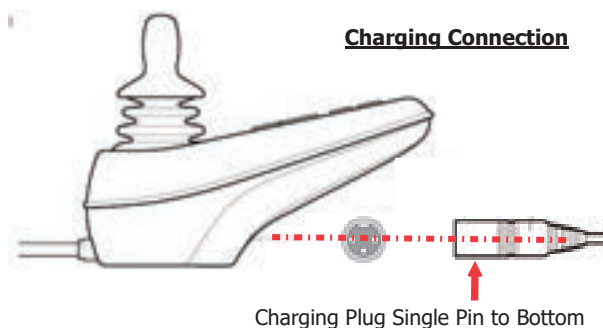
- Rotate the handrim support assemblies to the vertical position



- Raise the joystick controller to the user position



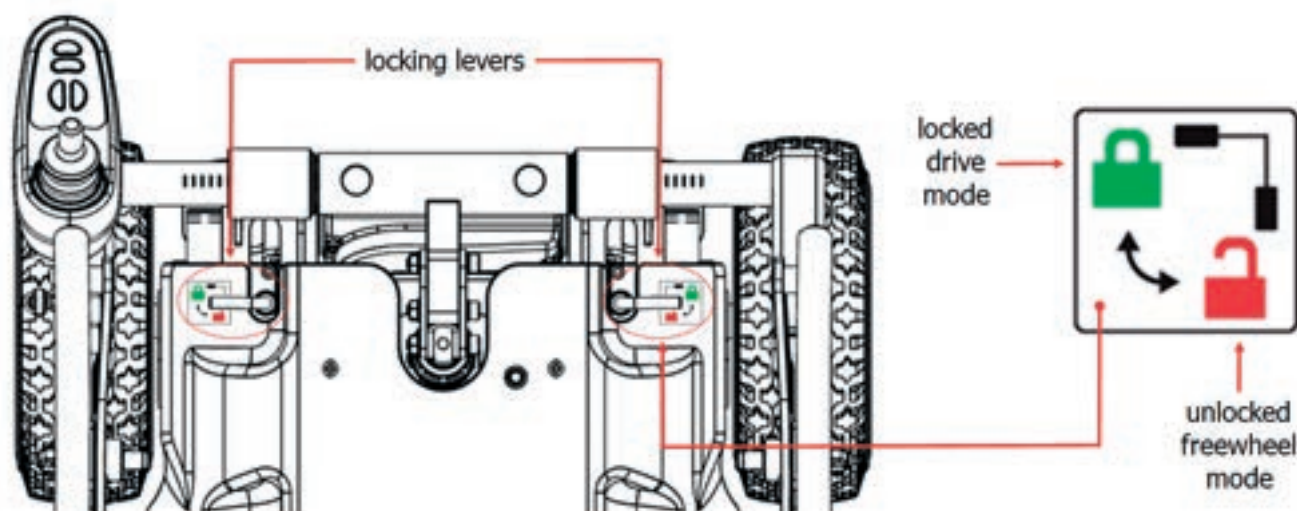
- Unpack the battery charger and read the included battery charger manual
- Plug the battery charger 3-pin connector into the joystick & charge the unit batteries fully before first use



- Turn the motor lock levers on each wheel to the "LOCK"  position.

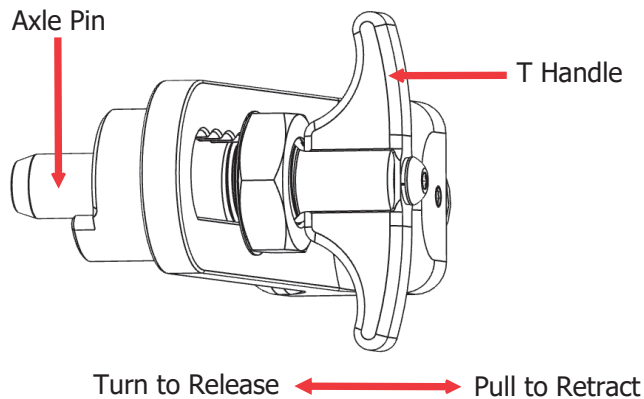
### **WARNING!**

Ensure the unit is turned off before engaging the wheel motors into the "LOCK" position

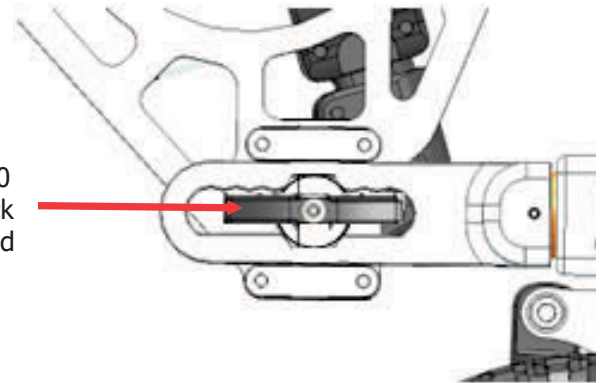


## 1B. Setting Unit Axle Width

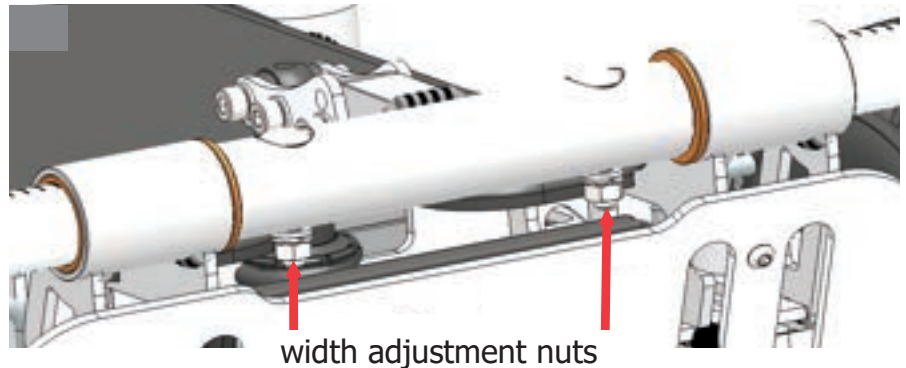
- Retract each axle pin by pulling the "T" handle out fully and rotating handle 90 degrees to a horizontal position



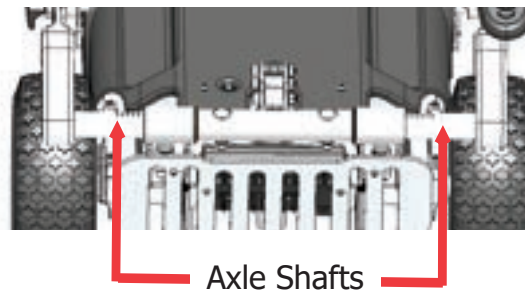
turn handle 90 degrees to lock out in retracted position



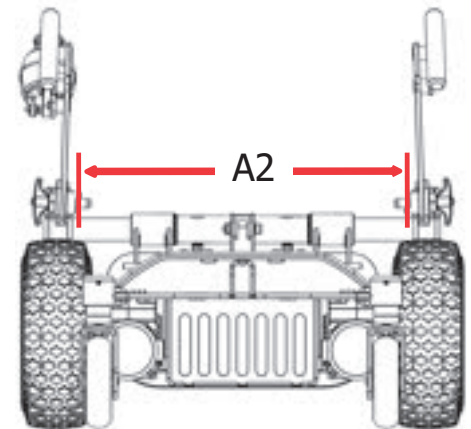
- Loosen the (2) front nuts on the axle width adjustment bolts with a 13mm box wrench. (Do not remove the nuts)



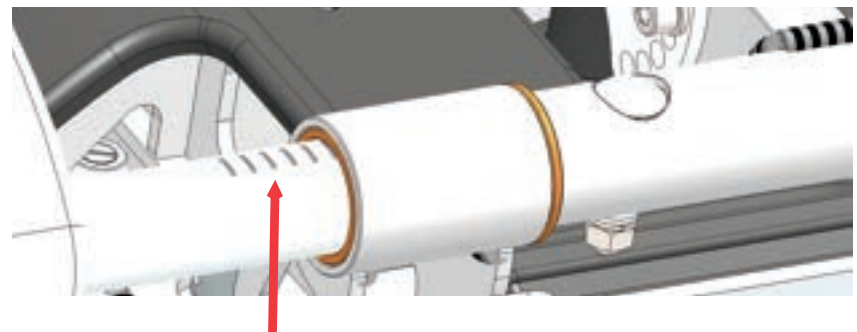
- Slide the right and left axle shafts equally to match the manual chair axle receiver width - A (Page 5)



**Note:** For easy chair installation: Unit width A2 should be  $\frac{1}{16}'' > A$  (Manual Chair Axle Receiver Width)

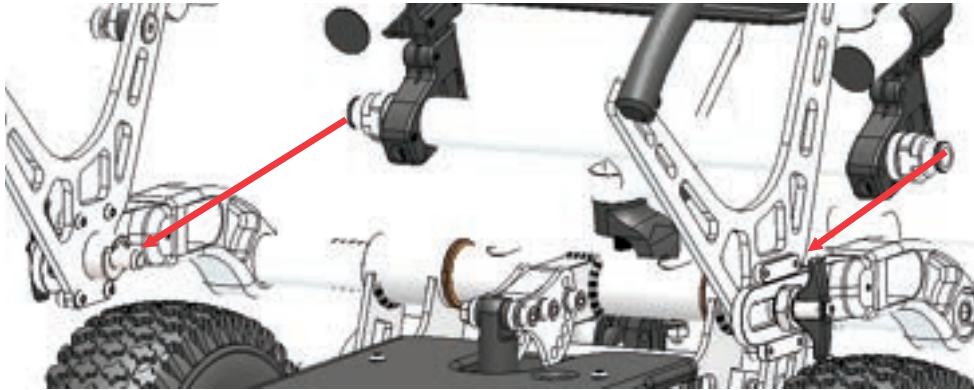


- Check axle shaft width adjustment marks to ensure equal spacing right to left

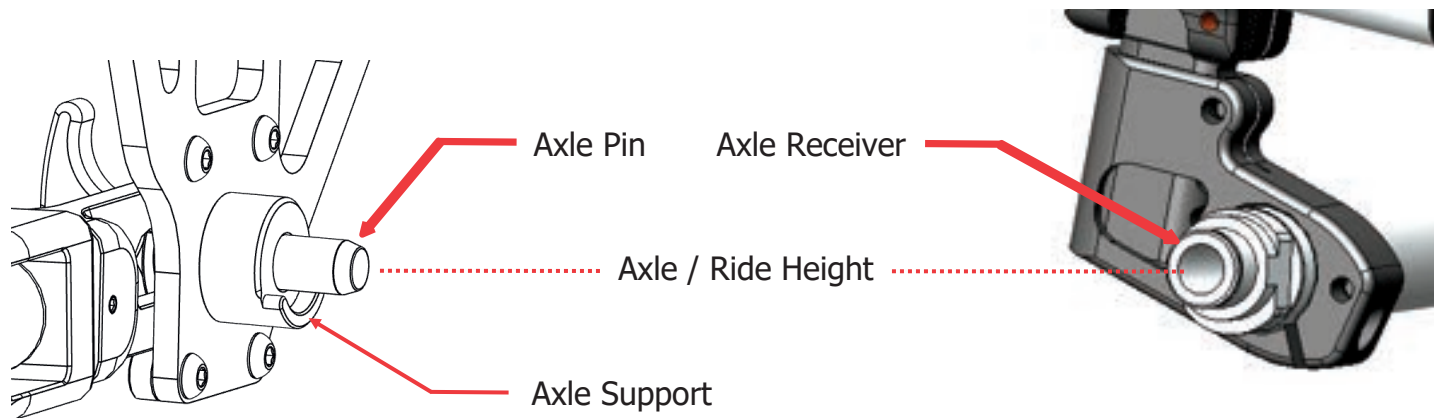


## 1B. Setting Unit Axle Width (continued)

- Align manual chair axle receivers with unit axle pin and rest frame on the axle supports.



align axes into the axle supports



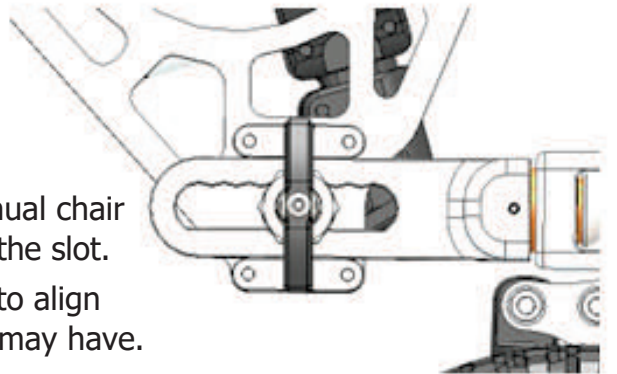
- Rotate the "T" handles to vertical to engage the axle pins with the chair axle receivers



### WARNING!

Ensure the axle pins are fully engaged and inserted into the manual chair frame axle receivers. The "T" handle should be fully seated in the slot.

**Note:** You may need to rotate the handrim support assembly to align unit axle pins with any camber the manual chair axle receivers may have.



- Retract the axle pins and remove the manual chair

- Tighten the (2) front nuts on the axle width adjustment bolts with 13mm box wrench.



width adjustment nuts

## 1C. Setting Unit Ride Height



### WARNING!

Maintaining user ride height and seating position is controlled by the axle height position when locked into the unit. It is important that a qualified technician ensures the axle height is set correctly. If the axle height is too high it may affect user stability, increasing the potential of a person falling from the chair causing severe injury.

**Note:** When the manual chair is installed the frame and the unit axle pin support are integrated with the units suspension. Therefore, the final ride height will change with the users mass.

**From the chart** - Determine the best position for setting the unit axle/ride height

|                 |      | 750 lb Spring |      |      | 1,000 lb Spring |      |      |
|-----------------|------|---------------|------|------|-----------------|------|------|
| User Mass (lbs) | 0    | 60            | 120  | 150  | 180             | 240  | 300  |
| Position 1      | 13.5 | 13.4          | 13.1 | 13.0 | 12.9            | 12.6 | 12.4 |
| Position 2      | 13.0 | 12.9          | 12.6 | 12.5 | 12.4            | 12.1 | 11.9 |
| Position 3      | 12.5 | 12.4          | 12.2 | 12.0 | 12.0            | 11.7 | 11.4 |
| Position 4      | 12.0 | 12.0          | 11.7 | 11.5 | 11.5            | 11.2 | 11.0 |
| Position 5      | 11.5 | 11.5          | 11.2 | 11.1 | 11.0            | 10.7 | 10.5 |
| Position 6      | 11.0 | 10.9          |      |      |                 |      |      |

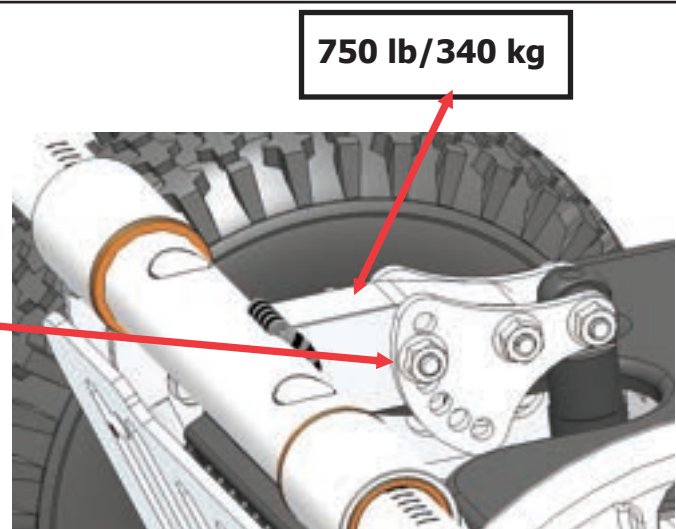
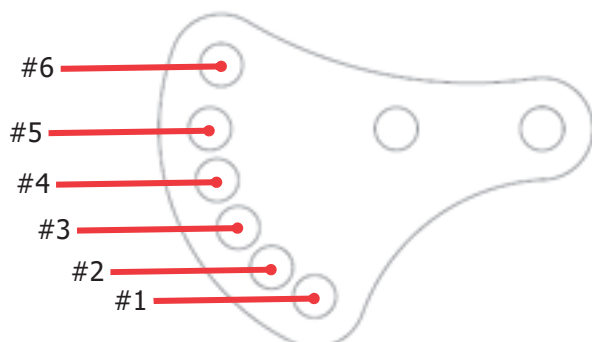
### Using The Above Chart:

Based on the user mass, determine the proper position 1-6 of the ride height adjustment that most closely matches the measurement B - Manual chair Axle Height (Page 5)

**Example:** User mass = 120 lbs. and manual chair Axle Height (B) = 12.0" (24" Wheel)  
Use position 3 = 12.2"

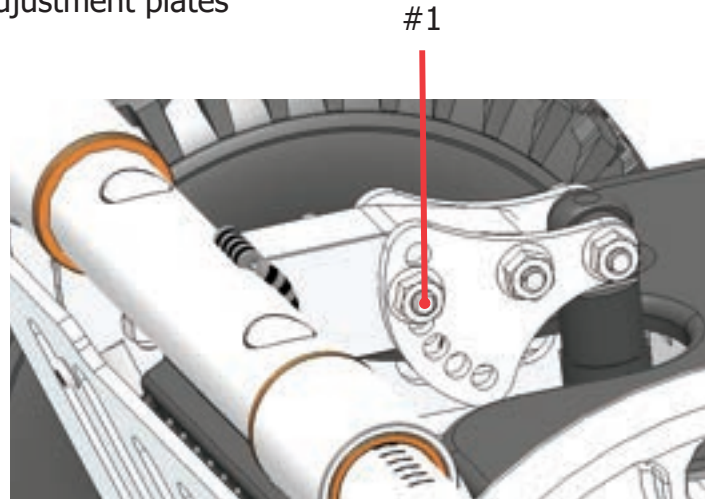
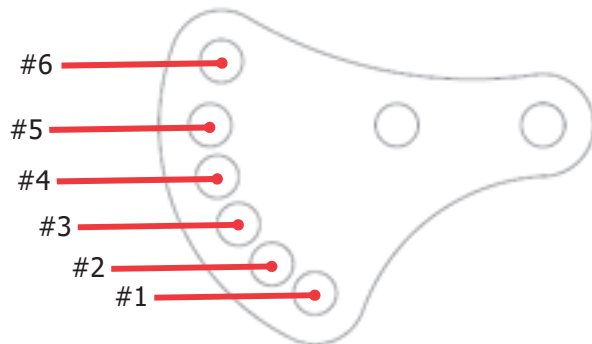
**Note:** Suspension spring: 750lb or 1,000lb spring is labelled on your unit between the ride height adjusters or on the base of the unit in front of the shock. Make sure the proper spring is being used for the user mass.

### Ride Height Adjustment Plate



## 1C. Setting Unit Ride Height (continued)

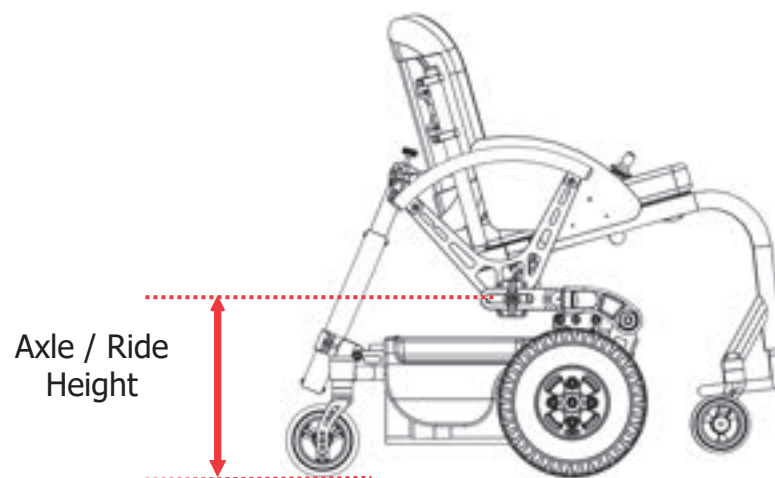
- Loosen the 3 nuts on the ride height adjustment plates using a 13mm wrench and 6mm hex key
- Remove the front bolt (#1) in the ride height adjustment plates



- Pivot the axles and handrim support assemblies up or down and align to the proper position 1-6 for desired axle height.
- Re-insert the bolt (#1) to hold axle height in place and tighten all 3 nuts firmly using a 13mm wrench and 6mm hex key
- Measure the height of the unit axle position and compare it to the manual chair height measurement B on Page 5.

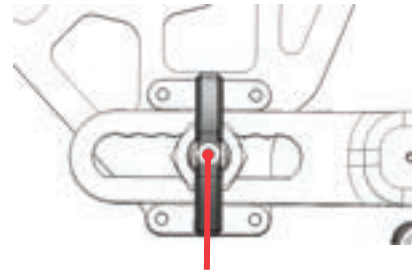
**Note:** The axle height should be slightly greater than the manual chair axle height B without the frame installed and user sitting in the unit due to the suspension.

- Adjust if needed up or down by repeating the steps above as necessary to achieve the correct axle/ride height.



## 1D. Positioning the Chair Seat Frame - Front to Rear

**Note:** The chair is shipped with the axle receivers in the center position of the front to rear adjustment slots.



8 forward / aft axle positions

- Place the manual chair frame onto the units axle receivers and engage axle pins to lock the chair frame into place.

- Check the front caster to front drive tire spacing

With front casters in the trailing position:

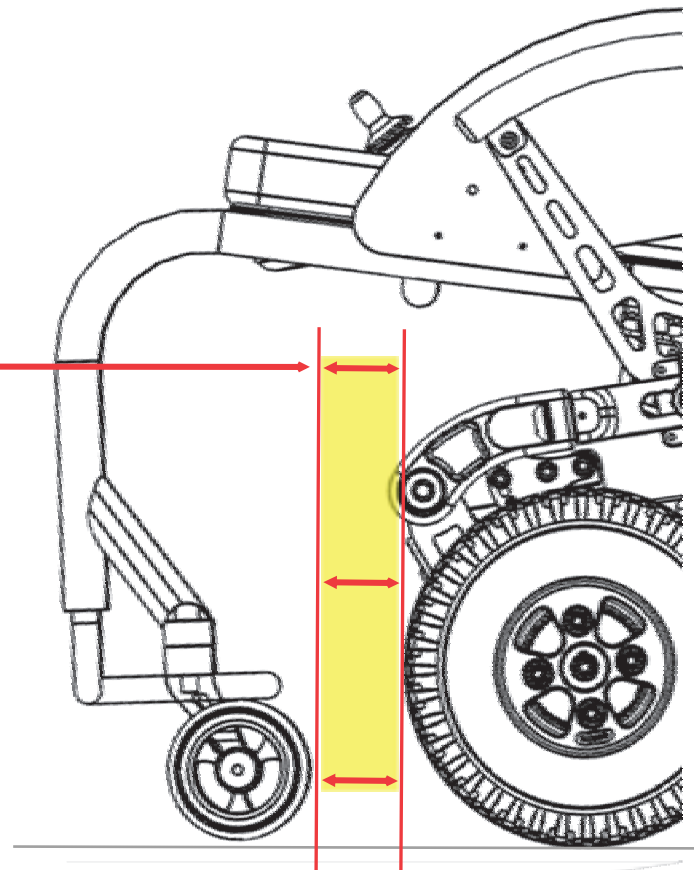
The clearance should be 2.0" - 4.0" inches

If clearance is < 2.0" - adjust the fore/aft position of the axles forward to increase the clearance

If clearance is > 4.0" - adjust the fore/aft position of the axles back to decrease the clearance

### **WARNING!**

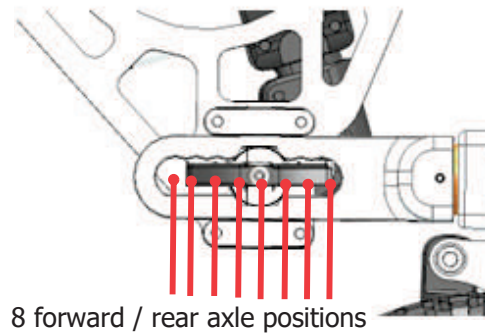
Manual wheelchair frames with front suspension forks need proper clearance to flex. If the clearance is < 2.0" this may pose a dangerous situation where the front caster could contact the front drive wheel when impacted and cause an unstable situation. DO NOT operate the unit with a manual wheelchair if clearance of > 2.0" can not be achieved when using suspension caster forks.



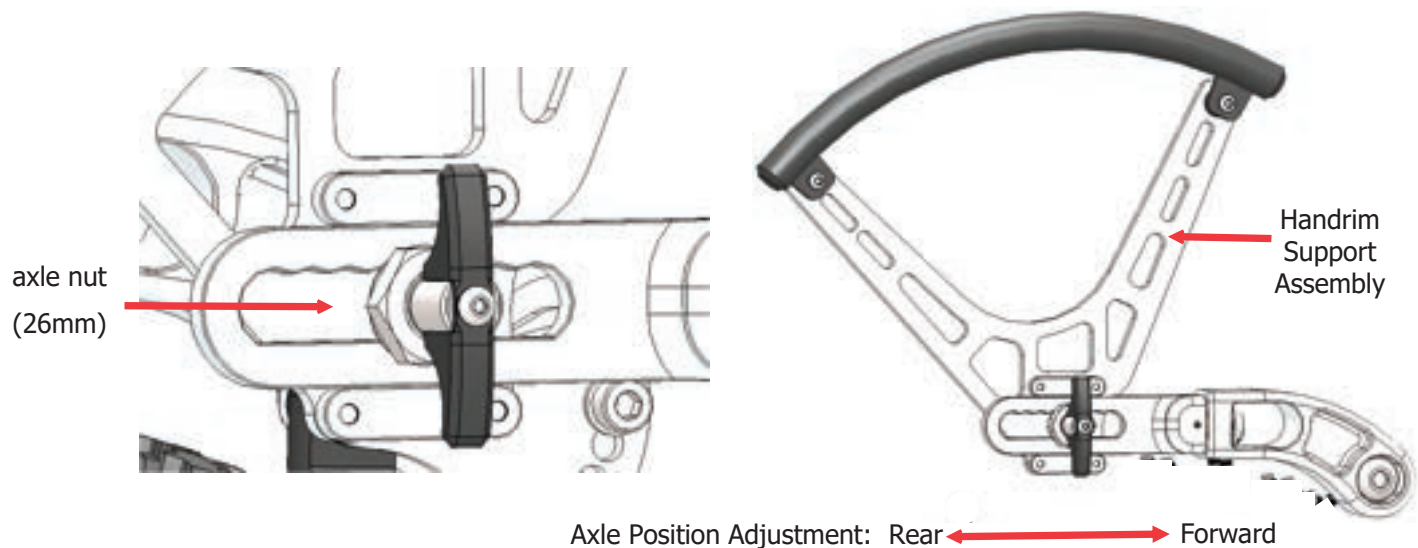
## 1D. Positioning the Chair Seat Frame - Front to Rear (continued)

### Adjusting Axle Receivers Front/Rear:

- Retract axle pins and leave "T" handle in outer / horizontal position
- Remove the manual chair frame from the power attachment



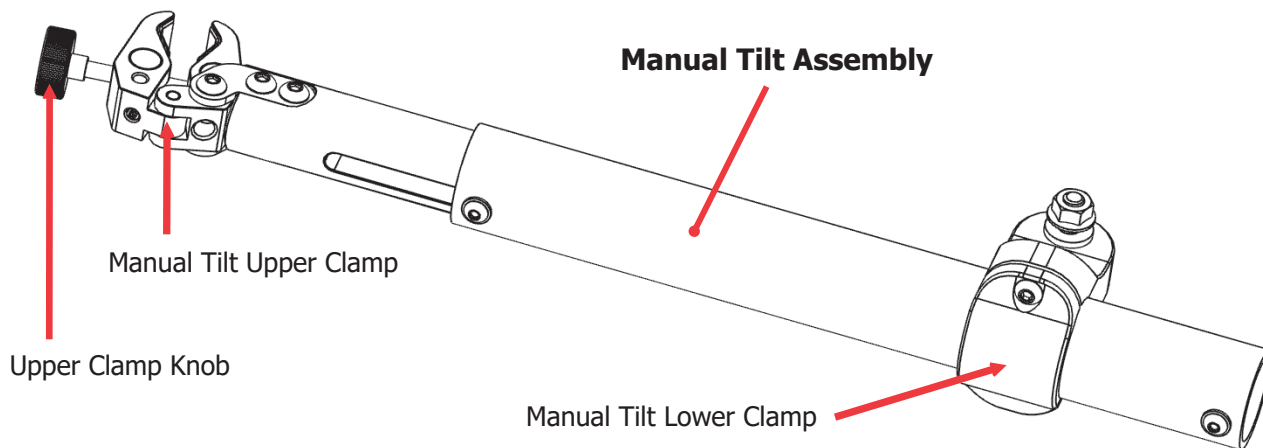
- With T handle retracted, loosen the axle receiver nut using a 26mm box wrench
- Fully unthread nut off the axle receiver main body
- Push the axle receiver body inward until threaded portion is no longer engaged with slots



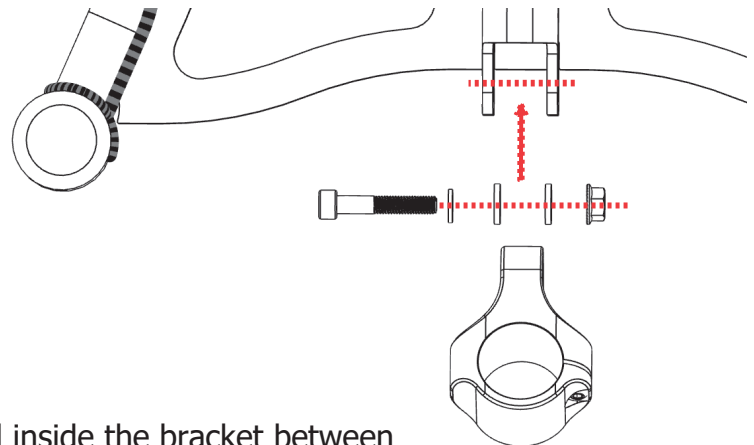
- Slide the Handrim Support Assembly and axle receivers forward or aft to the desired position
- Push the axle receiver body outward until engaged with the slot and tighten nut
- Repeat on the other side, ensuring axle pins are in same slot location on both sides

## 1E. Manual Tilt Assembly Installation

**NOTE:** With the chair installed into the axle receivers - install the rear manual tilt assembly

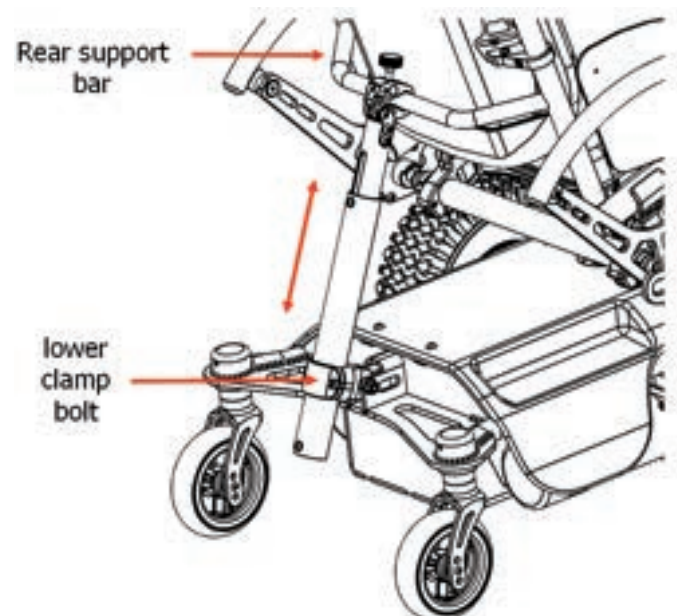


- Remove the bolt, washers, and nut from the lower clamp
- Align the lower clamp with the rear bracket on the unit, and install the bolt through the bracket and lower tube clamp
- Tighten the bolt and nut until snug ensuring the lower clamp can pivot in the bracket using a 13mm wrench and 6mm hex key.



**Note:** Ensure the (2) plastic washers are installed inside the bracket between the lower clamp and bracket. One on either side of the lower clamp.

- With the upper clamp jaws open, slide the assembly up/down to align the clamp with the manual chair rear support bar. Place the bottom jaw of the clamp on the underside of the bar, turn the clamp knob to tighten the clamp until secure
- Tighten lower clamp bolt with a 5mm hex key until tight to secure assembly into place
- Tilt the chair backward ensuring movement is smooth and without interference



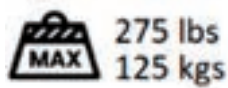
## 1F. Verify User Position & Set-up

- With the manual frame fully installed per steps 1A - 1E, the unit can now be occupied by the user safely to verify proper ride height, seating position, and overall comfort and stability when seated in the manual frame attached to the Power-Flex unit.

### **WARNING!**

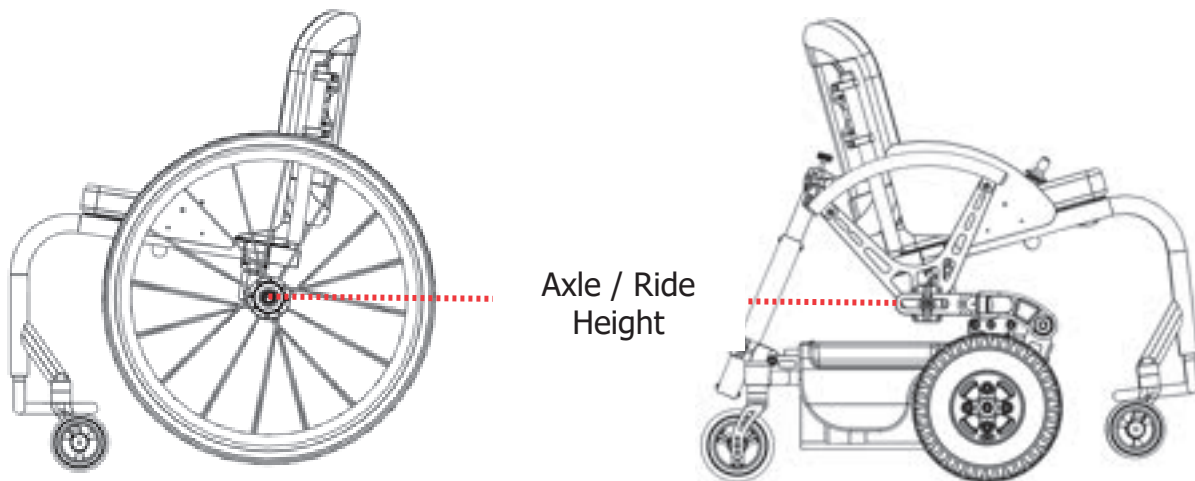
Ensure the unit power is OFF, wheel motor locks in the "LOCK" position, manual chair installed with axle pins engaged, and the manual tilt assembly installed and clamped before allowing the user to occupy the chair.

### **WARNING!**



The Power-Flex unit was designed around a maximum user mass of 275lbs (125kgs). This mass should not be exceeded and includes the combined weight of the user and all items carried. Exceeding the weight limit may damage your manual chair or unit and may increase your risk of falling or tipping over.

- With the user properly seated in the manual frame, check the following items to ensure proper set-up and user stability.
  - Axle pins remain fully engaged
  - Front caster to drive wheel spacing is 2.0" to 4.0"
  - User manual tilt system is operating smoothly and in alignment
  - Unit Axle Height - With user seated in unit, axle height should closely match manual frame wheel axle height - Measurement B from page 5.



### **WARNING!**

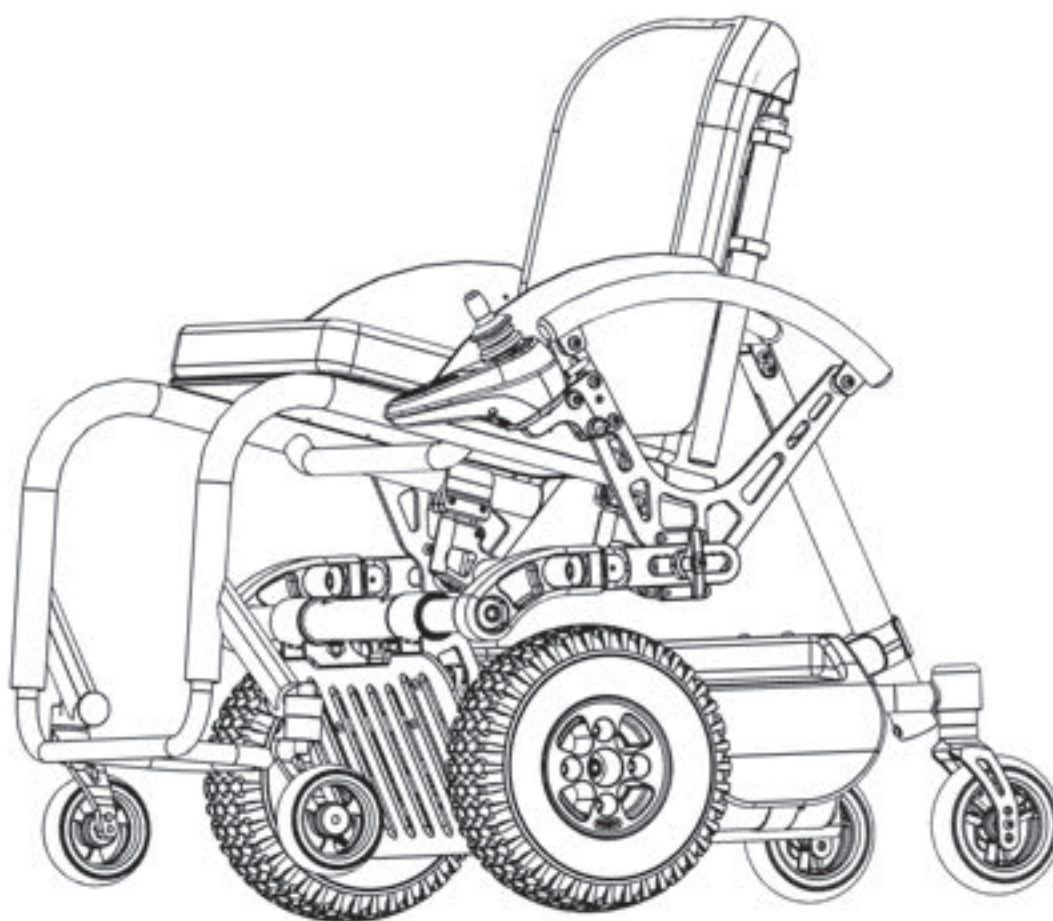
- Test drive the PFX and wheelchair combination. Read and follow all instructions, warnings, and notes in this set-up manual and the provided USERS MANUAL for your PFX unit before attempting to operate your PFX for the first time.



# Power-Flex

## Power Assist Drive Attachment

**Your Set-up is Complete**



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**SOUL**  
M O B I L I T Y

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