

# Owner's Operations Manual

## HEAVY DUTY ORION II 500

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 **Future Mobility Healthcare**  
*Innovative seating and mobility solutions*

**NOTE:** Check all parts for shipping damages before using.  
In case of damage, do NOT use the equipment.  
Contact the Equipment Supplier for further instructions.

**WARNING**

DO NOT install this equipment without first reading and understanding this instruction booklet. If you are unable to understand these instructions, contact a healthcare professional, dealer or technical personnel before attempting to install this equipment - otherwise, injury or damage may occur.

**NOTICE**

Information contained within this document is subject to change without notice.

**OPERATING SAFETY WARNINGS**

**Please read and obey all instructions and warnings listed in this manual, ignoring these warnings could result in serious injury to the patient or attendants.**

- Ensure anti-tippers are always installed in the correct position when using the wheelchair.
- **Never** lift the wheelchair by the armrests or front rigging.
- Any change of seat depth may require repositioning of the rear wheels, always test the stability of the chair before use.
- **Never** stand on the footplates during transfers in and out of the wheelchair.
- Ensure wheel locks are fully engaged while stopped on any incline/decline and while patient is transferring to and from the wheelchair.
- **Never** tilt the wheelchair on two wheels without assistance. When in any tilt or recline position, this chair must be operated by an attendant.
- **Never** use the wheel locks to stop a moving wheelchair.
- It is not recommended to transport users in vehicles of any kind while seated in the wheelchair. Do not use any kind of wheelchair Tie-Down restraints that are not approved by Transport Canada.

## ORION II 500 STANDARD FEATURES

- Tilt Function (25 Degrees)
- 24" – 32" wide
- 15" – 22" depth
- Stroller Push Bar
- Fixed Height Full-Length Arms
  - 2-Point Fixed
  - Height of 9-1/2"
  - Arm location for Tray Placement
- Fixed Back angle adjustable (+7 to -21 degrees)
- 16-1/2" STF
- 12", 20", 22" or 24" Rear wheels
- 5", 6" or 8" Casters
- Multi-adjustable Axle Plate
- 70 Degree Front Rigging with Footplate
- Heel Loops
- Spring Back Push to Lock Wheel Locks
- Aluminium Seat Pan
- PRISM™ Ideal Cushion
- Adjustable Orion Back
- Two-Way, Padded, Contoured Headrest
- "Anti-rattle" rear Anti-Tippers
- Choice of 2 spirited colours

\* User Weight limit: 500 lbs

### **SPECIFICATIONS:**

Tilt Range: 3 - 28 degrees

Fixed Back Angle adjustment: +7 to -21 degrees

#### **Overall Dimensions**

*(26" x 18" tilt, 16 1/2" STF)*

Chair Width: 35"

Chair Length: 49" (with footboard)

Chair Height: 39"

Chair Weight: 70 lbs. (not including cushion, back, arm rests and front riggings)

## OVERALL MAINTENANCE

1. Make sure all nuts and bolts are tight before operating the wheelchair
2. Make adjustments to the wheel locks to coincide with tire wear.
3. Inspect gas cylinders for leaks or wear and replace if required.
4. Inspect all cables and insure they are free from kinks and operate freely.
5. Wash and wax wheelchair to keep it free from excessive dirt and grease that might interfere with the operation of the chair.

### Transporting the Wheelchair

1. Remove the seating system.
2. Turn the anti-tippers to the upward position.
3. Remove the front rigging.
4. Remove the armrests.
5. Remove rear wheels (if necessary).

## OPERATING INSTRUCTIONS

<b>WARNING</b>
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After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely – otherwise injury or damage may occur. Most operations **MUST** be performed by a qualified technician. The operations described pertain to both sides of the wheelchair. For example if one changes the height of the T-Style Arm Rest on one side of the chair, the same should be done to the other side if required.

### **T-Style Arm Rests** (refer to Figure 1a)

#### ***Installing and removing T-style Armrest***

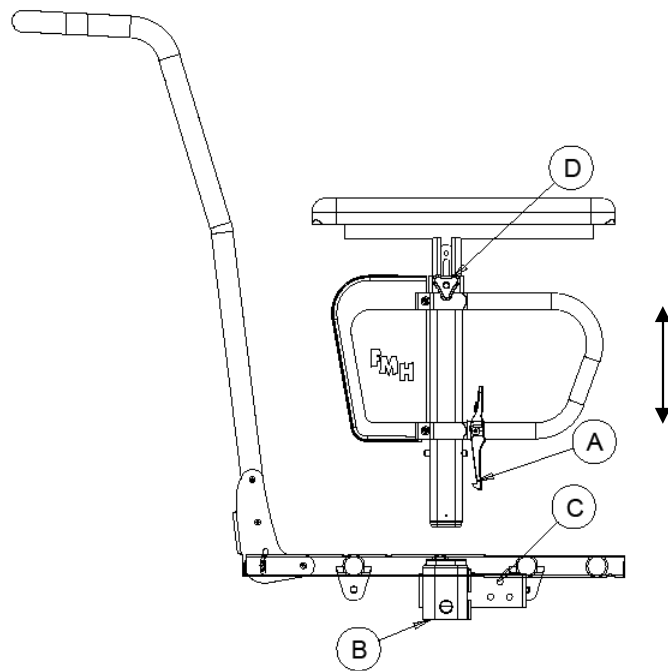
1. Push armrest into arm socket until lock is engaged into slot.
2. For removal, push and hold release lever ('A'), while lifting armrest from arm socket.

#### ***Frame Adjustment Position***

1. Remove armrest from the chair.
2. Remove the three inside bolts holding the arm socket to the seat frame ('B').
3. Move the arm socket to the forward mounting position ('C') and replace the three bolts ('B').
4. Re-install the armrest in the arm socket.

#### ***Arm Height Adjustment***

1. Loosen knob ('D').
2. Lift armrest until desired position is acquired (ranges from 9 ½" – 14" in ½" increments).
3. "Re-tighten" knob ('D').



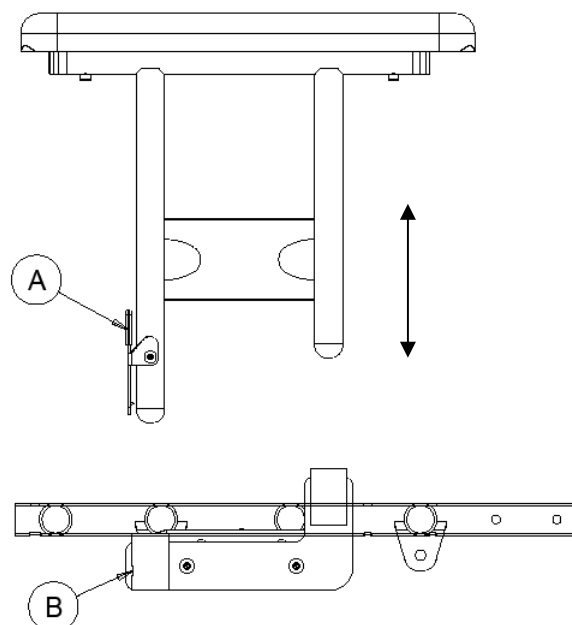
**Figure 1a**

## **2-Point Heavy Duty Arm Rests (refer to Figure 1b)**

### ***Installing and removing 2-Point Heavy Duty Armrest***

1. Push armrest into 2-point mounting bracket until lock is engaged into hole ('B')
2. For removal, push and hold release lever ('A'), while lifting armrest from 2-point mounting plate

**Note:** The 2-point Heavy Duty Arm Rest is not adjustable in height



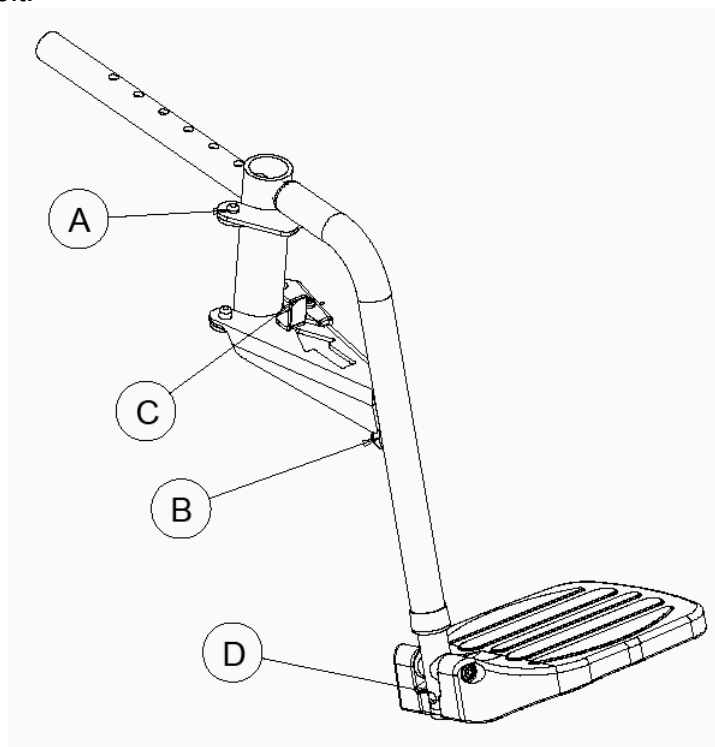
**Figure 1b**

## **Footrest Pin-Style (refer to Figure 2a)**

1. Position swing-away leg rest tabs onto pins ('A')
2. Grasp the swing-away leg rest and rotate the assembly inwards such that the footplates are facing inward when the swing-away assembly comes to rest.
3. The swing-away leg rest should 'lock' into place when one hears a 'click' noise
4. To remove the pin style swing-away leg rest pull the latch ('C') and release the swing-away assembly from the pins located on the hanger.

### ***Footplate Adjustment***

1. Remove footrest bracket bolt ('B'). Slide footrest extension tube ('D') up or down to desired height.
2. "Re-tighten" bolt.



**Figure 2a**

## **Footrest Upgraded Style(refer to Figure 2b)**

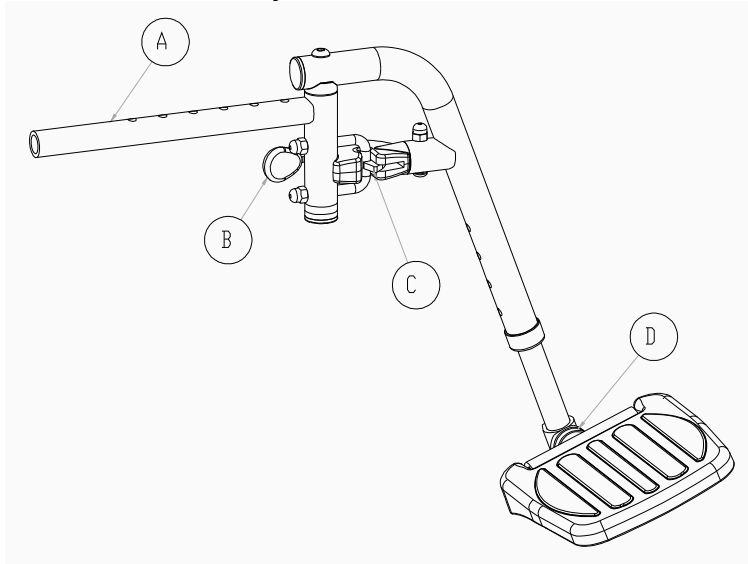
1. Position swing-away footrest onto hanger ('A') insuring pivot plug sits flush onto hanger tube.
2. To remove footrest depress handle ('B') releasing latch ('C') and swing footrest outward.

### ***Footplate Length Adjustment***

1. Remove footrest bracket bolt. Slide footrest extension tube up or down to desired height.
2. "Re-install" bolt.

### **Footplate Angle Adjustment (For Angle Adjustable Footplates only)**

1. Loosen bolt ('D') to adjust footplate angle and horizontal position.
2. "Re-tighten" bolt after final adjustment.



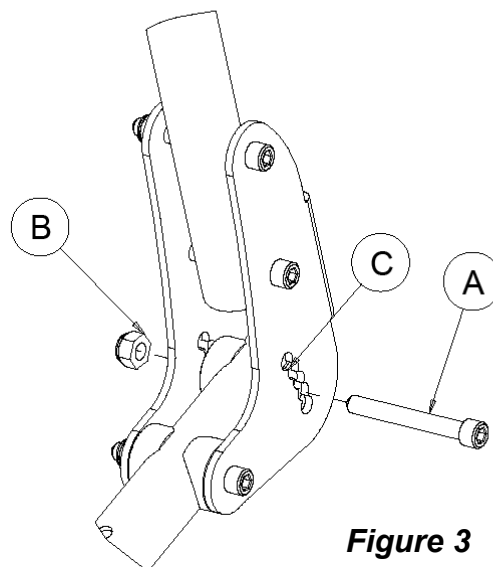
**Figure 2b**

### **Chair Back (refer to figure 3)**

#### **To adjust angle of back canes**

*Manufacturer's setting is -7 degrees, with each hole representing 7 degree increments (holes range from +7 degrees to -21 degrees).*

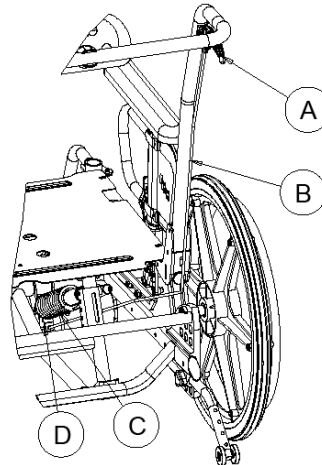
1. Remove bolt ('A') and nut ('B') on both sides of the back post.
2. Rotate back cane to desired angle and insert nuts and bolts making sure covered spacers are in place. Repeat for other back post and ensure back is 'locked' in position prior to placing occupant into wheelchair.



**Figure 3**

## **Tilting Chair (refer to figure 4)**

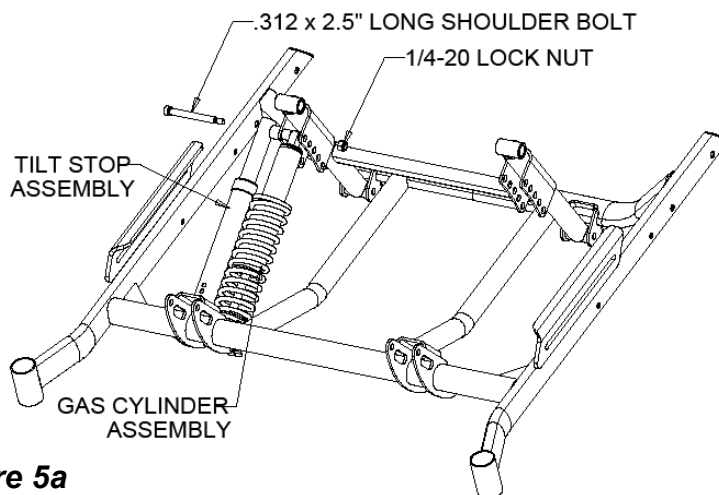
1. Grasp trigger handle ('A') with one's fingers and pull the handle upwards. The Orion II 500 wheelchair has 2 handles – 1 located on each push cane respectively or both located on the push bar.
2. The trigger handle has a cable ('B') which attaches to a heavy duty pin actuator ('C'). When the trigger handle is pulled the pin actuator causes the gas cylinder spring ('D') to compress and the wheelchair is 'unlocked' from the previous tilt angle.
3. With both handles pulled upwards, the attendant can change the tilt angle of the wheelchair to the desired angle and then release the trigger handles. The wheelchair should 'lock' in position. After tilting ensure the wheelchair is stable to prevent injury to the end user.



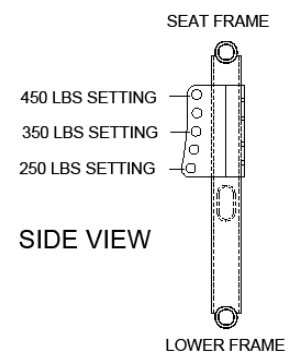
**Figure 4**

## **Adjusting Weight Settings on Gas Springs**

1. To adjust the weight setting on the chair remove the .312 x 2.5" long shoulder bolt and 1/4-20 lock nut connecting the Gas Spring to the Rear H-Link. – see Figure 5a
2. Rotate both the Tilt Stop Assembly and Gas Cylinder Assembly to the proper hole depending on the weight of the occupant ( 250 lbs, 350 lbs or 450 lbs) – see Figure 5b
3. This should be performed on both sides of the chair and ensure the holes selected on each side are the same in order to prevent wheelchair problems.
4. Insert the .312 x 2.5" long shoulder bolt and 1/4-20 lock nut to secure the Tilt Stop Assembly and Gas Cylinder Assembly to the wheelchair.



**Figure 5a**

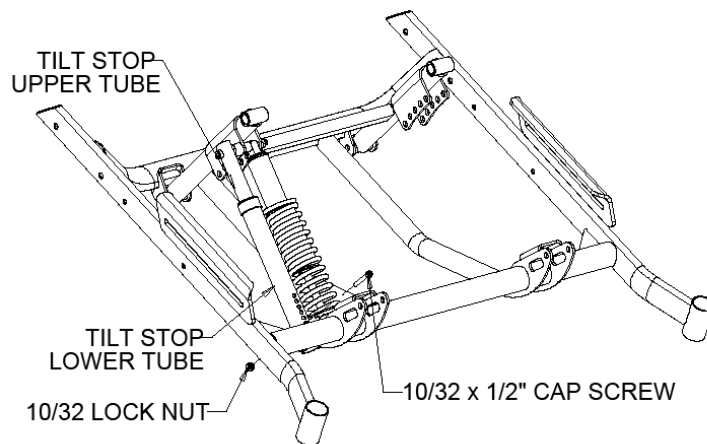


**Figure 5b**

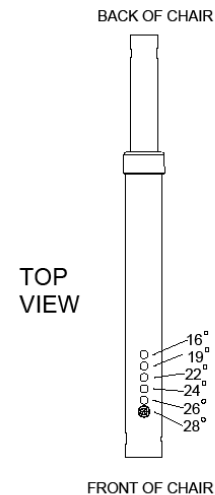


## **Adjusting Tilt Stop Angle Settings**

1. To adjust the tilt stop angle settings one must first place the chair in the nominal 'zero' position where the angle of the seat is approximately 3 degrees. Then remove the 10/32 cap screw and 10/32 lock nut holding the tilt stop upper tube and lower tube in place as shown in Figure 6a.
2. Place the cap screw in the hole shown in Figure 6b to allow the chair to tilt to the approximate angle (16°, 19°, 22°, 24°, 26° or 28°).
3. Insert the 10/32 lock nut in order to hold the 10/32 screw in place.
4. Repeat for other side of chair and ensure the hole chosen for tilt stop is the same on both sides in order to prevent wheelchair problems.



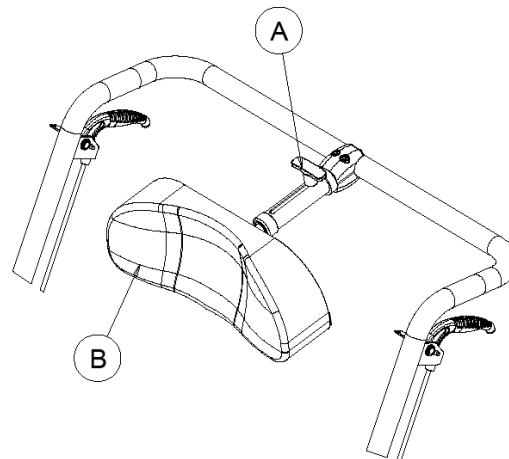
**Figure 6a**



**Figure 6b**

## **Adjusting Headrest (refer to figure 7)**

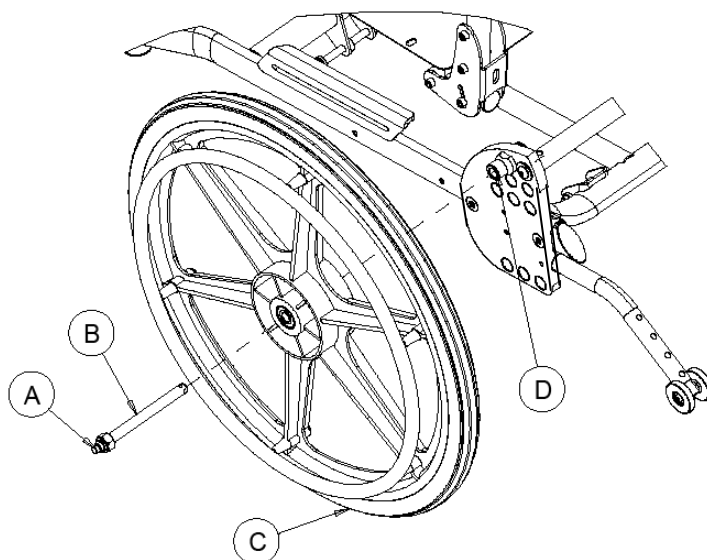
5. To adjust the headrest location horizontally turn the t-handle assembly ('A') counter clockwise to loosen the headrest from its current position.
6. Gently grasp the headrest ('B') and either move it either inwards or outwards depending on needs of the end user.
7. When the desired position is obtained turn the t-handle assembly clockwise to 'lock' the headrest in position.



**Figure 7**

## **Removing/Installing Rear Wheels(refer to figure 8)**

1. Push in the detent pin ('A') of the quick-release axle ('B') and pull the axle out through the opening in the center of the rear wheel ('C') and shaft spacer ('D').
2. Push in the detent pin of the quick-release axle again and pull the axle out of the rear wheel and shaft spacer.
3. To reinstall the rear wheel onto the wheelchair, reverse steps 1 to 2.
4. If using the Push-to-Lock or Pull-to-Lock mechanism ensure the wheel locks properly. See the section ADJUSTING THE WHEEL LOCKS.

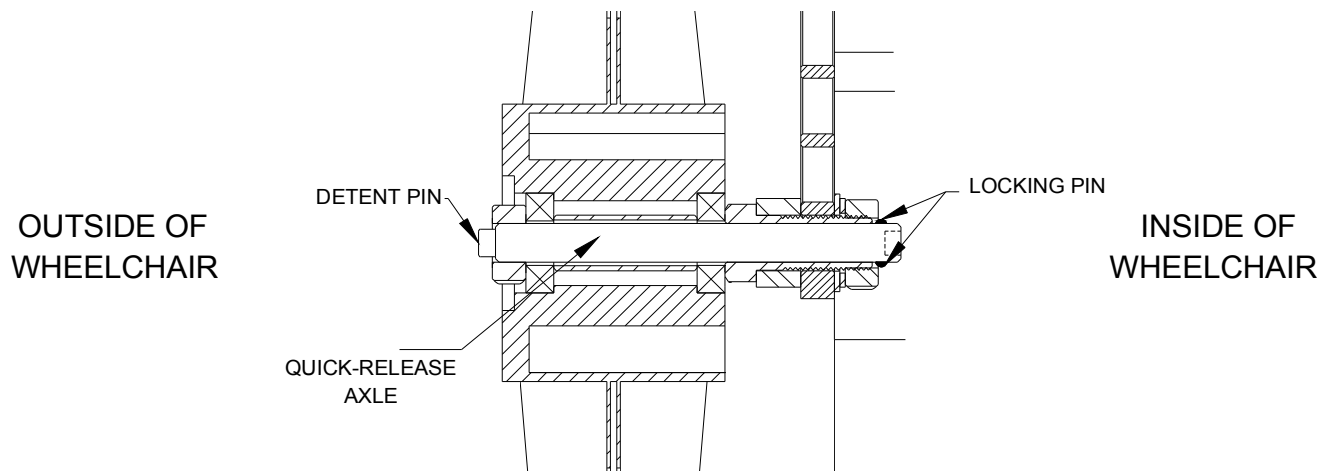


**Figure 8**

Make sure the detent pin and locking pins of the quick-release axle are fully released BEFORE operating the wheelchair.

The locking pins MUST be protruding past the inside of the rear wheel axle bushing for a positive lock. Keep locking pins clean.

Future Mobility Healthcare Inc. recommends inserting quick-release axles with the detent pin to the inside of the wheelchair to prevent accidental release during contact activities.

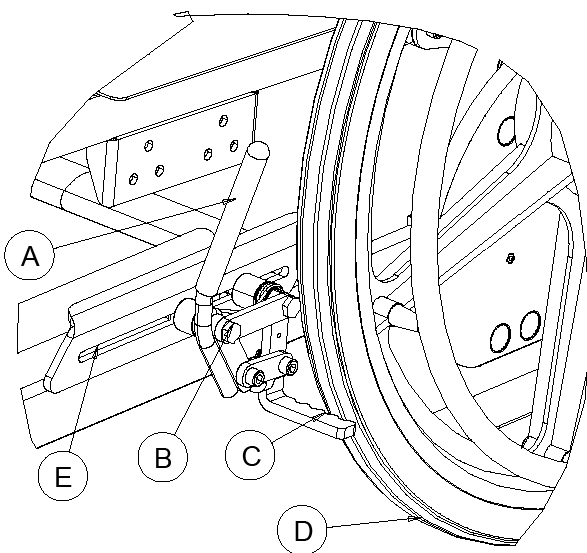


## **USING THE WHEEL LOCKS**(refer to Figure 9a and 9b)

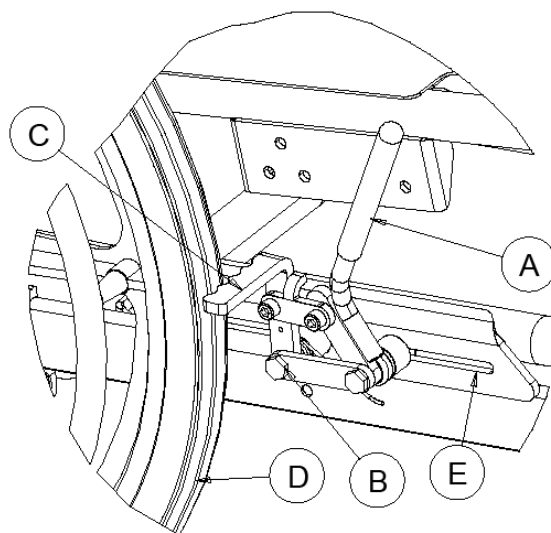
### **WARNING**

**DO NOT** attempt to stop a moving wheelchair with the wheel locks. **WHEEL LOCKS ARE NOT BRAKES** – otherwise injury or damage may occur.

1. Ensure the wheelchair is not moving before engaging the wheel locks.
2. Perform one (1) of the following:
  - a. Push-to-Lock – to engage, push the wheel lock handle ('A') forward
  - b. Pull-to-Lock – to engage, pull the wheel lock handle ('A') backward
3. Disengage the wheel locks by reversing STEP 2.



**Figure 9a**  
**Push-to-Lock**



**Figure 9b**  
**Pull-to-Lock**

## **ADJUSTING THE PATIENT OPERATED WHEEL LOCKS**

1. Disengage the wheel locks ('A').
2. Loosen the two (2) locknuts which hold the wheel lock link 1 ('B') shown in the above figure that secure the wheel lock to the wheelchair frame.
3. Reposition the wheel lock along the brake mount plate ('E') so that when engaged, the wheel lock brake shoe ('C') embeds the tire ('D') 1/8" (3/16" for pneumatic tires) and **HOLDS** the occupied wheelchair in place when pushed.
4. Securely tighten the two locknuts securing the wheel lock to the wheelchair frame.
5. Engage the wheel lock.
6. Measure the distance the wheel lock is embedded into the tire
7. Repeat STEPS 1 to 6 until the wheel lock brake shoe embeds the tire and **HOLDS** the occupied wheelchair in place when pushed.
8. Engage both wheel locks and ensure the occupied wheelchair is held in place when pushed.

## FRONT CASTERS

### WARNING

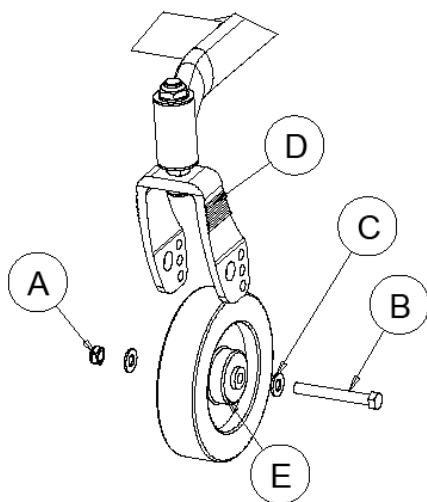
After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely – otherwise injury or damage may occur.

### INSTALLING/REPLACING FRONT CASTERS AND FORKS

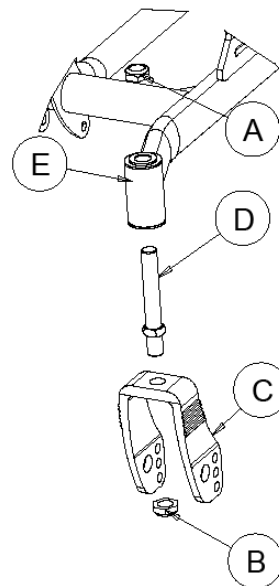
#### REPLACING/INSTALLING FRONT CASTERS – refer to Figure 10a

*Note: This procedure can be performed if replacing the exact same size front caster.*

1. Remove the nut ('A'), bolt ('B') and spacers ('C') which secure the caster to the fork assembly ('D').
2. Remove the front caster ('E').
3. Slide in the new 5, 6 or 8 inch front caster into the space between the fork.
4. Tighten the nut, bolt and spacers to secure the caster into place.
5. Repeat this procedure for the other front caster wheel assembly if required.
6. To properly tighten caster journal system and guard against flutter, perform the following check:
  - a. Tip back of wheelchair to floor
  - b. Pivot both forks and casters to top of their arc simultaneously.
  - c. Let casters drop to bottom of arc (wheels should swing once to one-side, then immediately rest in a straight downward position).
  - d. Adjust locknuts according to freedom of caster swing.
7. Test wheelchair for maneuverability.
8. Re-adjust locknuts if necessary and repeat STEPS 6 to 7 until correct.
9. Snap dust cover over the locknut and stem.



**Figure 10a**  
**Front Caster Assembly**



**Figure 10b**  
**Front Fork Assembly**

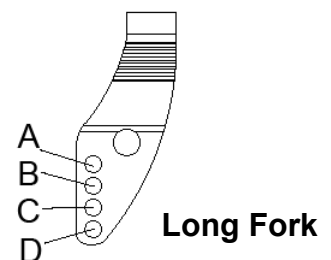
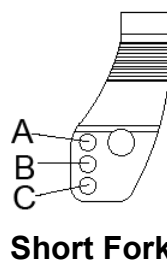
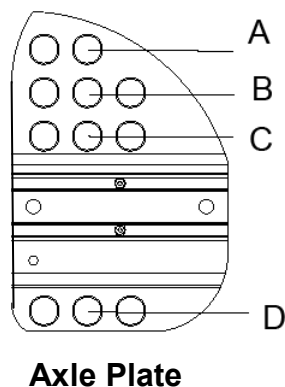
## REPLACING/INSTALLING FRONT FORKS – refer to Figure 10b

1. Remove the locknut ('A') which secures the caster stem bolt ('D') to the caster housing ('E').
2. Drop the front caster and fork assembly out of the caster housing.
3. Remove the locknut ('B') which secures the caster stem to the fork ('C')
4. Follow REPLACING/INSTALLING FRONT CASTERS guide in this section to remove the front caster from the fork assembly.
5. Place the caster in the new fork and assemble with the caster nut and bolt and spacer.
6. Secure the new fork and caster assembly in place by using the locknut and caster stem bolt.
7. Follow steps 5 to 9 of REPLACING/INSTALLING FRONT CASTERS guide to properly install the new fork assembly and prevent fluttering.

## SEAT TO FLOOR

1. Follow the values in the table below to achieve the desired seat to floor height
2. Ensure that no weight is on the wheelchair while performing the operations
3. Ensure after changing the seat to floor height that the wheelchair is still operational and that no wheel flutter or instability occurs.
4. For a weight capacity up to 350 lbs one can use 20", 22" or 24" rear wheel. For weight capacities above 350lbs one should use 20" or 12" rear wheels.
5. The wheel should be inserted in the middle hole on the axle plate to achieve the seat to floor heights listed below. In case the user requires more stability the wheel can be inserted in the hole furthest to the back of the chair and if the user requires more manoeuvrability then the wheel can be inserted in the hole closest to the front of the chair.

STF FRONT (in)	REAR WHEEL (in)	CASTER SIZE (in)	FORK SIZE	FORK HOLE	AXLE PLATE HOLE	STF REAR (in)
15.875	12	6	Short	C	D	14.875
16.375	12	5	Long	D	D	14.875
15.375	20	5	Short	C	B	14.00
16.00	20	6	Short	C	C	15.00
15.75	22	5	Long	A	C	14.00
16.25	22	6	Long	C	B	15.00
17.75	22	8	Long	D	C	16.00
16.25	24	5	Long	D	A	15.00
16.75	24	6	Long	D	A	15.00
18.00	24	8	Long	D	C	17.00



## ANTI-TIPPERS/WHEEL LOCKS

### WARNING

After **ANY** adjustments, repair or service and **BEFORE** use, make sure all attaching hardware is tightened securely – otherwise injury or damage may occur.

### INSTALLING/ADJUSTING THE ANTI-TIPPERS

### WARNING

Anti-tippers are specific to the different seat-to floor angles and/or seat-to-floor heights. Refer to the chart in this section of the manual for correct usage and adjustment. If these requirements **CANNOT** be achieved, **DO NOT** use the wheelchair. Contact a qualified technician. If changing the seat-to-floor height with or without a change to seat-to-floor angle, the correct anti-tippers **MUST** be used to maintain a 1 ½" to 2" ground clearance.

Seat-to-floor angle of 3 degrees to 6 degrees: if so equipped, anti-tippers **MUST** be attached at all times. In as much as the anti-tippers are an option on this wheelchair (you may order with or without the anti-tippers), Future Mobility Healthcare Inc. strongly recommends ordering the anti-tippers as a safeguard for the wheelchair user.

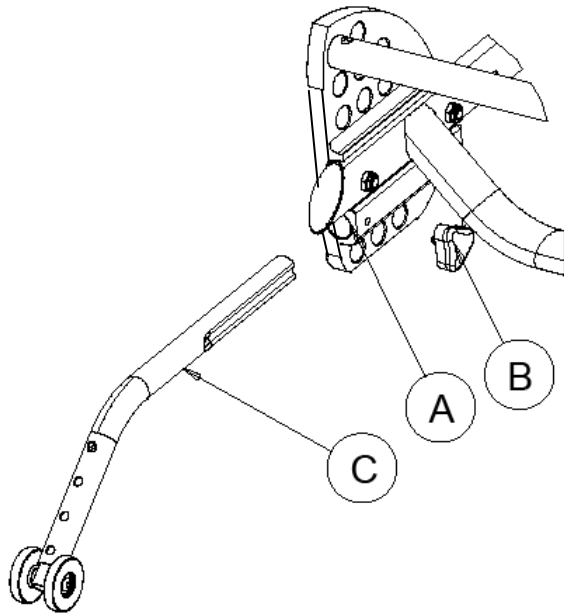
Anti-tippers **MUST** be fully engaged and snap buttons fully protruding out of adjustment holes.

Ensure both anti-tippers are adjusted to the same mounting hole.

### INSTALLING ANTI-TIPPERS

1. Insert the Anti tip assembly ('C') into the rear part of the axle plate ('A') with the anti-tipper wheels pointing toward the ground/floor until anti tip assembly is snug in place. Hold the anti tip assembly in place by using a knob ball plunger assembly ('B')
2. Measure the distance between the bottom of the anti-tipper wheels and the ground/floor.
3. If the distance between the bottom of the anti-tipper wheels and the ground/floor is not 1 ½ " to 2", adjust the anti-tippers. Refer to ADJUSTING THE ANTI-TIPPERS in this section of the manual.
4. Repeat steps 1-3 for other anti-tip assembly.
5. Ensure the anti tip assembly is 'locked' in place so the wheelchair can operate safely.

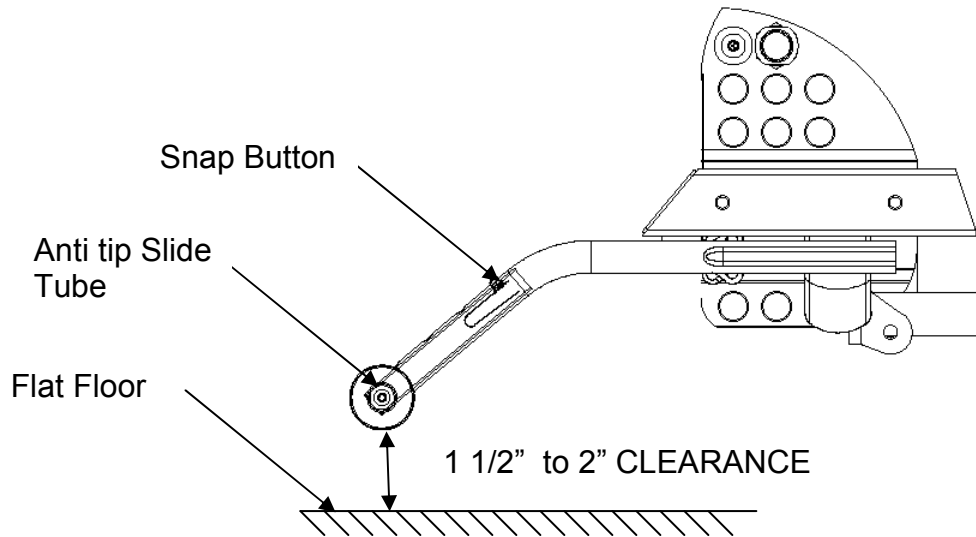
*Note: A 1 ½ " to 2" clearance between the bottom of the anti-tipper wheels and the ground/floor **MUST** be maintained at all times.*



### Installing Anti-Tip Assembly

#### ADJUSTING THE ANTI-TIPPERS

1. Press the snap button on the anti tip assembly and adjust the anti-tip slide tube up or down until a 1 ½" to 2" clearance from the ground is achieved.
2. Check to make sure that the snap buttons are fully engaged in the adjustment holes.



### Adjusting Anti-Tip Assembly

# WARRANTY

This warranty is extended only to the original purchaser/user of our products.

Future Mobility Healthcare Inc. warrants its Orion II 500 wheelchair to be free from defects in materials and workmanship for one (1) year from the date of purchase. The frame is warranted for the lifetime of the original purchaser/user. The Orion Back is warranted for three (3) years and the upholstery for 90 days, upon normal usage by original purchaser. If within this warranty period the product shall be proven to be defective, such product shall be repaired or replaced, at Future Mobility Healthcare Inc. discretion. Future Mobility Healthcare Inc. sole obligation and your exclusive remedy under this warranty shall be limited to the repair and/or replacement of the product or its parts. This warranty does not include any labour or shipping charges incurred in replacement part installation or repair of any product.

For warranty service, please contact the dealer from whom you purchased your Future Mobility Healthcare Inc.. In the event you do not receive satisfactory warranty service, please write directly to Future Mobility Healthcare Inc. at 3223 Orlando Drive, Mississauga, Ontario, L4V 1C5. Provide the dealer's name, address, model number, date of purchase and indicate the nature of the defect.

DO NOT return products to Future Mobility Healthcare Inc. our prior consent. The defective unit or parts must be returned for warranty inspection within thirty (30) days of the return authorization date. (Future Mobility Healthcare Inc. will issue a return authorization number). Please prepay all shipping charges; C.O.D. shipments will be refused.

LIMITATIONS and EXCLUSIONS: This warranty shall not apply to problems arising from normal wear or failure to adhere to the enclosed instructions. Products subjected to negligence, accident, improper usage, maintenance or storage; or products modified without Future Mobility Healthcare Inc. written consent including, but not limited to: modification through the use of any unauthorized parts or attachments; products damaged by reason or repairs made to any component without the specific consent of Future Mobility Healthcare Inc., or products repaired by anyone other than a Future Mobility Products dealer. Such evaluation shall be determined by Future Mobility Healthcare Inc..

The foregoing warranty is exclusive and in lieu of all other expressed warranties. It shall not extend beyond the duration of the expressed warranty provided herein and the remedy for violations of any implied warranty shall be limited to repair or replacement of the defective product pursuant to the terms contained herein. Future Mobility Healthcare Inc. shall not be liable for any consequential or incidental damages whatsoever. This warranty shall be extended to comply with all provincial laws and requirements.

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