# THIS TECHNICAL MANUAL HAS BEEN DEVELOPED FOR AND INTENDED TO BE USED BY A QUALIFIED TECHNICIAN WORKING FOR AN AUTHORIZED KI MOBILITY DEALER.

# ROGUE & ROGUE TECHNICAL MANUAI





WARNING: Repairs and adjustments not made by a qualified technician working for an authorized Ki Mobility Dealer can result in poor performance or failure of the device which may cause serious injury or death.

This technical manual is designed to aid in the different procedures that may be needed for the Rogue and Rogue XP wheelchairs. This technical manual does not replace, but aids the owner manual, adjustment guides and instructions. The procedures shown in this technical manual should only be performed by an Assistive Technology Practitioner (ATP) or clinical professional trained to do wheelchair repairs, adjustments and retrofits.

Additional information can be found in the Rogue and Rogue XP Owner Manuals. The owner manuals can be found on the Ki Mobility website.

If you have any questions or concerns about any aspect of this wheelchair, this manual, or the service provided by us or your retail supplier, please do not hesitate to contact us by telephone at:

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# **Tools**

Please see the list below to identify the tools needed throughout this tech manual. Always check tools to ensure the ends are not stripped and that the tool can perform its function properly without damaging any parts or hardware on the chair.

Tools Needed				
2.5mm Allen Wrench	Two 8mm Wrenches			
3mm Allen Wrench	Two 10mm Wrenches			
4mm Allen Wrench	13mm Wrench			
5mm Allen Wrench	17mm Wrench			
5.5mm Allen Wrench	19mm Wrench			
6mm Allen Wrench	24mm Wrench			
Utility Blade	Phillips Screwdriver			
Torque Wrench	Punch (or small screwdriver)			
Rubber Mallet				

#### **Chair Measurement References**

The Rogue and Rogue XP wheelchairs are capable of many adjustments to configure the chair to the user's needs. See the diagram below for terms that are commonly used during the process of adjusting the chairs.

#### A. Seat Width (see diagram 1)

Measured from outside of frame tube on one side to the outside of frame tube on the other side.

#### B. Seat Depth (see diagram 3)

Measured from front of back posts to front edge of seat sling. Seat sling starts at beginning of bend at front of frame.

#### C. Sling Position (see diagram 2)

In Performance Position (0"), sling is at front of frame to keep chair shorter and more maneuverable. The 1" or 2" seat sling position extends the frame in front of the sling by that amount. Adding more frame can improve stability and provide support to aid in transfers.

#### D. Front Frame Bend (see diagram 3)

Angle between front seat tube and ground.

#### E. Footrest Taper (see diagram 1)

Indicates bend of front frame creating footrest. Taper is measured from outside of seat frame to outside of front tube.

#### F. Front Seat Height (see diagram 1)

Measured from floor to top of seat tube at front of seat sling.

#### G. Footrest Width (see diagram 1)

Measured from inside of front tube to inside of front tube on other side. Footrest width is listed below for each seat width and taper.

Seat Width	Straight	2" Taper	
Outside Measurement	2" Narrower than Seat Width	4" Narrower than Seat Width	6" Narrower than Seat Width
12"	9.5"	7.5"	
13"	10.5"	8.5"	
14"	11.5"	9.5"	
15"	12.5"	10.5"	
16"	13.5"	11.5"	9.5"
17"	14.5"	12.5"	10.5"
18"	15.5"	13.5"	11.5"
19"	16.5"	14.5"	12.5"
20"	17.5"	15.5"	13.5"

#### H. Seat to Footrest Length (see diagram 3)

Measured from front edge of seat sling to top rear of footrest. Footrest length of at least 2.5" shorter than front seat height recommended.

#### I. Rear Seat Height (see diagram 3)

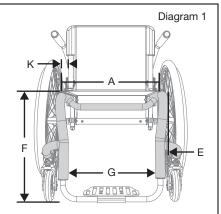
Measured from floor to top of seat tube at front of back post. Rear seat height is custom to needs.

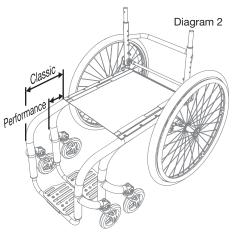
#### J. Center of Gravity Preset (see diagram 3)

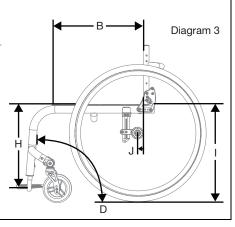
Measured from front of back post to center of rear axle. 0" indicates axle will be directly under back post.

#### K. Rear Wheel Spacing (see diagram 1)

Measured from outside of seat back to inside of rear tire. Adjustable out .5" from setting.

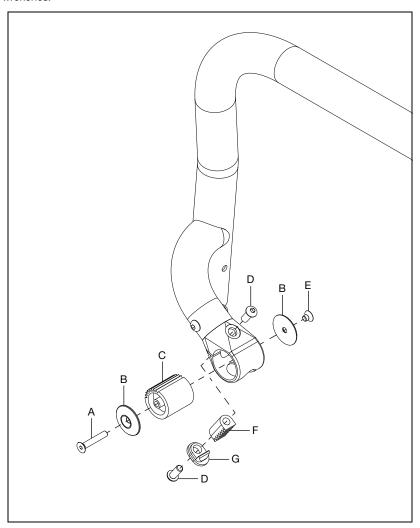






# **Caster Mount**

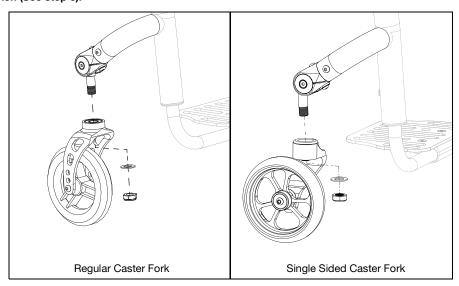
- 1. Install the caster mount pinion (C) into the caster mount housing with the two caster pinion caps (B) with two screws (A & E) using two 3mm Allen wrenches.
- 2. Install the caster adjust (F) and the pinion housing bolt plate (G) with the two screws (D) using two 5mm Allen wrenches.



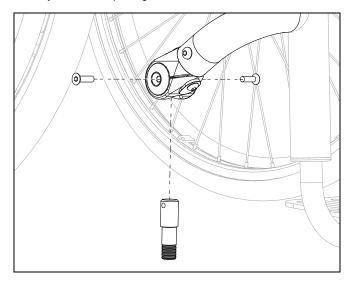
#### **Remove Caster Fork and Stem**

1. Remove bottom nut and washer using a 19mm or ¾" socket wrench. Remove fork assembly.

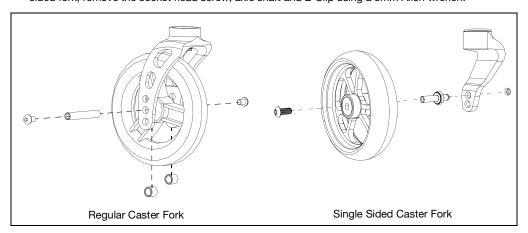
NOTE: Based on your configuration, the caster may need to be removed first to allow clearance for wrench (See step 3).



Remove two socket screws using two 3mm Allen wrenches and remove stem. Save hardware for later use. Save the stem if you are not replacing stem.



3. If you are replacing your forks continue for instructions. For a regular caster fork, remove caster wheel by removing two socket head screws and two spacers using two 4mm Allen wrenches. For a single sided fork, remove the socket head screw, axle shaft and E-Clip using a 5mm Allen wrench.

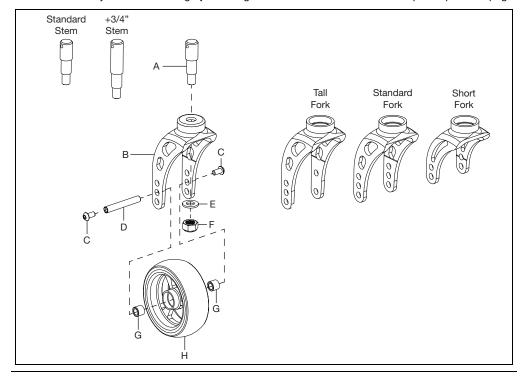


#### Install Caster Fork and Stem

- 1. Install stem (A) into fork (B) with washer (E) and nut (F) using a 16mm wrench.
- 2. Install caster wheel (H) into fork (B) with two screws (C), a threaded barrel (D) and two spacers (G) using two 4mm Allen wrenches.

NOTE: There are two sizes of caster stems (standard and +3/4") and three sizes of forks (tall, standard and short) that can be used. The image below shows the stems and forks. The installation process is the same for whichever stem and fork you use.

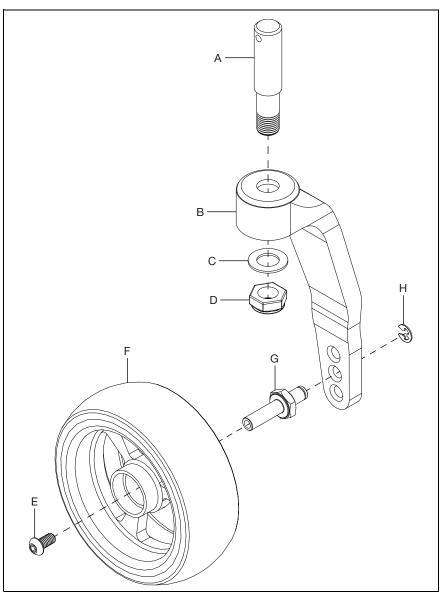
3. Install assembly to caster housing by installing the two socket screws seen in step 2 on previous page.



#### Single Sided Fork

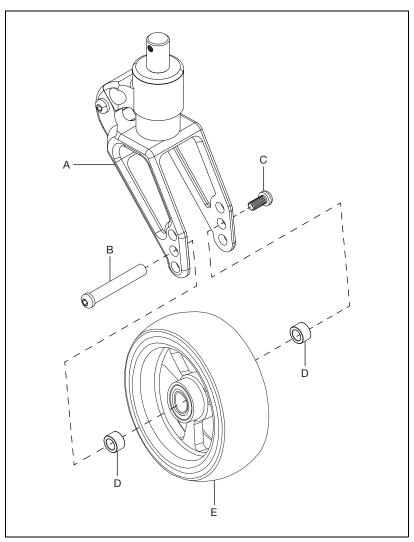
- 1. Install stem (A) into single sided fork (B) with washer (C) and nut (D) using a ½" wrench.
- 2. Install caster wheel (F) onto fork (B) with a screw (E), the axle shaft (G) and secure with E-Ring (H).

NOTE: There are two sizes of caster stems (standard and +3/4") and two sizes of forks (short and tall) that can be used. The installation process is the same for whichever stem and fork you use.



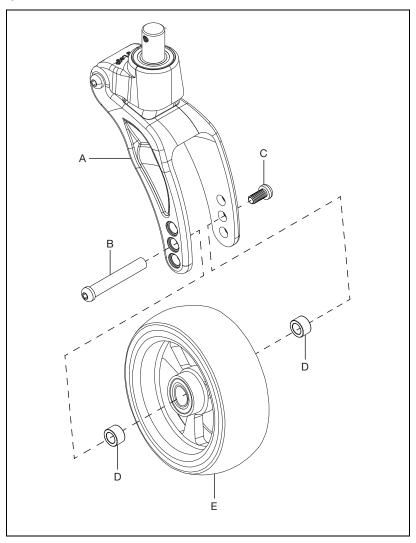
#### Frog Legs Ultra Sport Fork Assembly

1. Install Frog Leg Ultra Sport Fork (A) onto caster wheel (E) with axle (B), screw (C) and two spacers (D) using two 4mm Allen wrenches.



#### Frog Legs Phase 2 Carbon Fork Assembly

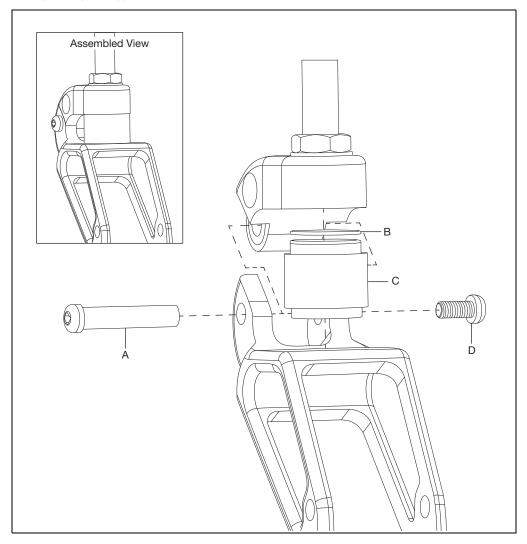
1. Install Frog Leg Phase 2 Carbon Fork (A) onto caster wheel (E) with axle (B), screw (C) and two spacers (D) using two 4mm Allen wrenches.



#### Frog Legs Ultra Sport Fork Polymer Replacement

NOTE: The Ultra Sport fork has different polymers that can be used based on the chair user's weight and preferred ride. The Phase 2 fork has one polymer that works for any configuration. If ever needed, the replacement procedure is the same for a Phase 2, but no coin is needed.

- 1. Remove the pivot pin screw (D) using a 4mm Allen wrench.
- 2. Use a punch or small screwdriver and a rubber mallet to push the pivot pin (A) out.
- 3. Open the fork assembly and remove the polymer (C) and coin (B).
- 4. Install the new polymer (C) and coin (B).
- 5. Insert the pivot pin (A) back into the fork assembly. A punch or small screwdriver can be used to help align holes if needed.
- 6. Secure the assembly by reinstalling the pivot pin screw (D) using a 4mm Allen wrench.
- 7. Repeat steps on opposite side.



# **Caster Angle and Squaring**

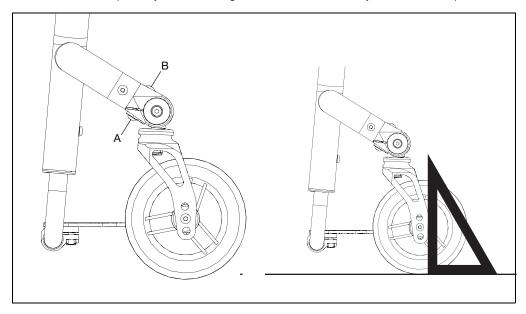
To maintain optimal performance of your Rogue, the front caster housing should always be aligned perpendicular to the ground. Your Rogue is shipped aligned. It is recommended that caster squareness is checked after making adjustments to the chair configuration related to any of the following items: caster size or type, camber, rear wheel, tire, center of gravity and seat heights. Caster squareness should always be the last check made prior to use after adjustments or changes to the chair have been made.

After all other adjustments are made you should check your caster housing alignment and realign if the housing is not perpendicular to the ground.

#### Adjusting the Caster Angle:

For optimum performance, the caster housing should always be at 90° angle to the floor (perpendicular to the ground).

- 1. To change the angle, you will need an M5 Allen wrench.
- Loosen the M8 button head screw (A) on the bottom of the caster housing wing. Turn the screw on the top of the caster housing wing (B). Loosening will begin to tilt the caster forward. By tightening, you will turn rearward.
- 3. Turn until you have aligned the caster stem so it is perpendicular to the floor.
- 4. Place a large right triangle against the flat surface of the fork as shown.
- 5. With the rack and pinion system of the Rogue, the casters should always be able to be square.

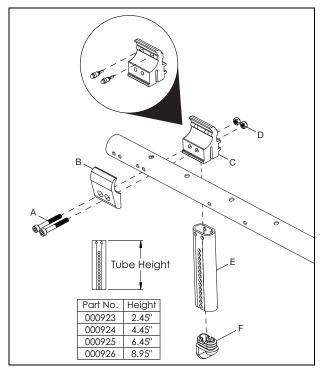


#### **Camber Mount Assembly**

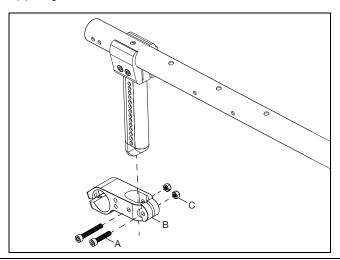
NOTE: Install one side at a time so you are able to install the camber tube properly in a later step. NOTE: The outside clamp (B) is not used when the COG is set at -0.25 or less.

NOTE: In some rare configurations where the seat depth is shallow, arm receivers are present and there is a rare amount of COG, the camber tube clamps are rotated so the camber tube is more forward facing than rear facing. In these instances, call customer service at Ki Mobility.

1. Install the tower clamps (B & C) onto the frame with the camber mount tube (E) and the camber tube cap (F) using two screws (A) and two nuts (D) with a 4mm Allen wrench.

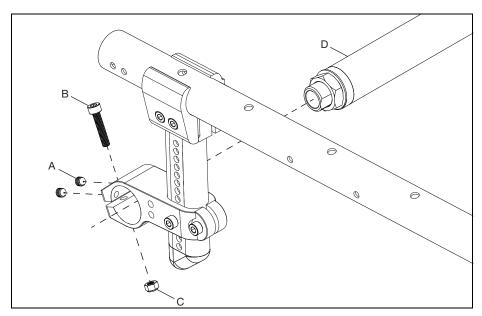


2. Install the camber tube mounting clamp (B) onto the camber mount tube and secure with two screws (A) and two nuts (C) using a 4mm Allen wrench and an 8mm wrench.



# **Camber Mount Assembly**

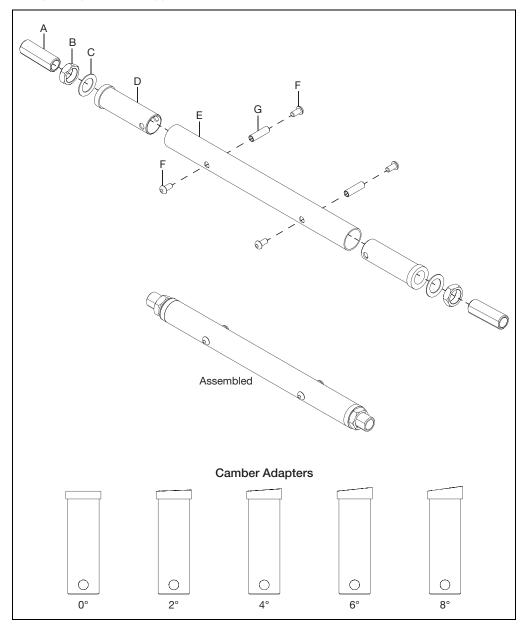
3. Install camber tube (D) into the camber tube mounting clamp and secure with screw (B) and nut (C) using a 4mm Allen wrench and an 8mm wrench. Install and tighten the two set screws (A) with a 2.5mm Allen wrench.



4. Repeat steps on opposite side.

# **Camber Tube and Adapters**

- 1. Install axle receiver, axle receiver nut, axle plate washer and camber adapter into the camber tube.
- NOTE: The camber adapter is available with 0°, 2°, 4°, 6° and 8° camber.
- Secure the camber adapter into the camber tube with two screws and a threaded barrel using two 4mm Allen wrenches.
- 3. Repeat steps 1 and 2 on opposite end of camber tube.



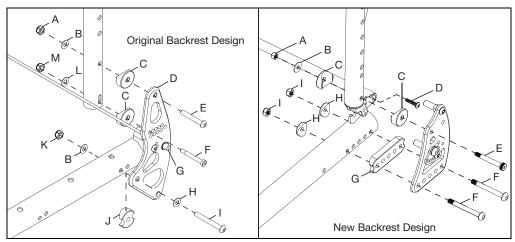
# **Backrest Assembly - Rogue**

NOTE: There are two backrest styles that have been used on Rogue. Each one uses different backrest tubes. The mounting holes which are used to secure the tubes to the backrest bracket vary between these two designs and are not cross compatible. The difference can be seen at the lower section of the tubes in the two images below.

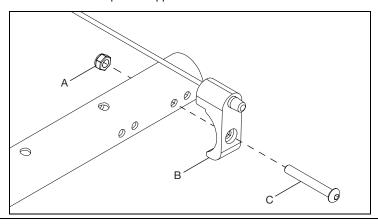
Remove any cushion or seating components that may be in the way of the current backrest removal.
 Also, remove any backrest tubes and/or handles that may be used after the backrest installation process.

NOTE: Refer to parts manual for additional information on compatibility restrictions for the new backrest design.

- There are two types of backrests. Use the two images in the figure below to determine the version you have.
  - a. For an original backrest, remove three bolts (E, F & I), three saddles (C & J), four washers (B, H & L) and three nuts (A, K & M) from back plate (D) to remove the back post using a 4mm Allen wrench, an 8mm wrench and a 10mm wrench. Twist off the cable housing to detach cable from back plate. Repeat on opposite side.
  - b. For a new backrest, remove three bolts (E & F), one washer (B), four saddles (C & H), one saddle back (G) and three nuts (A & I) using a 4mm Allen wrench, a 5mm Allen wrench, an 8mm wrench and a 10mm wrench. Remove the screw (D) from the backrest release bar using a Phillips screwdriver and repeat on opposite side.

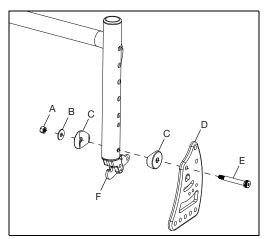


Remove the pin lock housing (B) and cable by removing the bolt (C) and nut (A) using a 4mm Allen wrench and a 10mm wrench. Repeat on opposite side.



# **Backrest Assembly - Rogue**

 Install new backrest by installing pivot (F) into new backrest tubes and securing with bolt (E), back plate (D), two saddles (C), washer (B) and nut (A) using a 5mm Allen wrench and an 8mm wrench. Repeat on opposite side.



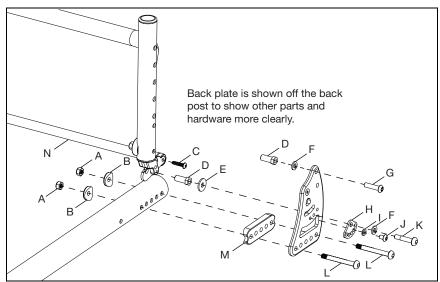
- 5. Install bolt (G), lock washer (F) and strike hex (D) using a 4mm Allen wrench and a 10mm wrench.
- 6. Install backrest release bar (N) and secure with screw (C) using a Phillips screwdriver. Repeat on opposite side.
- Install two bolts (J & K), two lock washers (F & I), arc adjustment cam (H), washer (E) and strike hex (D) using a 3mm and 4mm Allen wrench and a 10mm wrench.

NOTE: The angle of the backrest can be adjusted using the different arc adjustment cam holes. Choose the configuration that works best for the chair user.

8. Secure backrest assembly to the frame by installing two bolts (L), saddleback (M), two saddles (B) and two nuts (A) using a 4mm Allen wrench and a 10mm wrench.

NOTE: The two bolts (L) determine the seat depth based on the frame holes that are used. Choose the configuration that works best for the chair user.

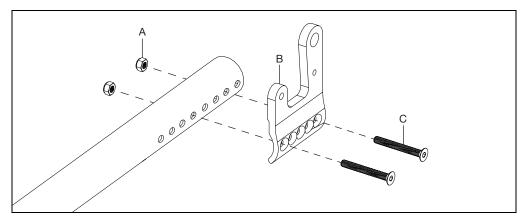
NOTE: Longer fasteners have been provided to accomodate a setup where the backrest and CG are set in the same spot.



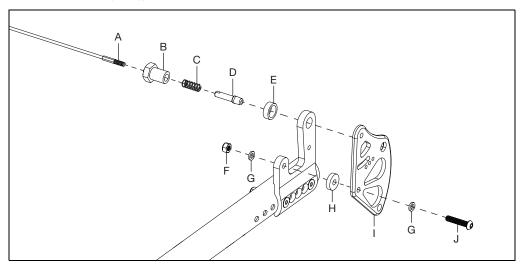
# **Backrest Assembly - Rogue XP**

- 1. Remove any cushion or seating components that may be in the way of the current backrest removal.
- 2. Install the back mount (B) onto the chair frame with two bolts (C) and two nuts (A) using a 4mm Allen wrench and a 10mm wrench.

NOTE: The holes used for mounting are determined by the user's desired seat depth and CG.



- 3. Secure the backrest plate (I) to the back mount with bolt (J), nylon washer (G), large nylon washer (H), washer (G) and nut (F) using a 4mm Allen wrench and a 10mm wrench.
- 4. Install the release cable (A), pin receiver (B), spring (C), lockout pin (D) and spacer into the back mount and the backrest plate (I).

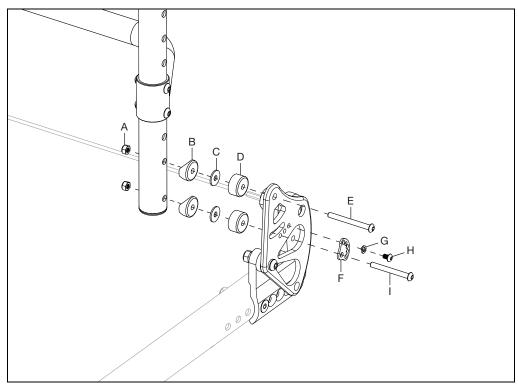


# **Backrest Assembly - Rogue XP**

- 5. Secure backrest plate to back posts with bolt (E), washer (C), saddle (B) and nut (A) using a 4mm Allen wrench and a 10mm wrench.
- 6. Install the arc adjustment cam (C) onto the backrest plate with bolt (I), washer (C), saddle (B) and nut (A) using a 4mm Allen wrench and a 10mm wrench.

NOTE: An offset backrest spacer (D) is used in both sets of hardware that attach to the back post when installing the 1" Offset Backrest Mount.

7. Set the angle of the backrest by turning the arc adjustment cam and aligning the cam holes with the backrest plate holes. Once desired angle is achieved, secure by installing the bolt (H) and lock washer (G) using a 3mm Allen wrench.



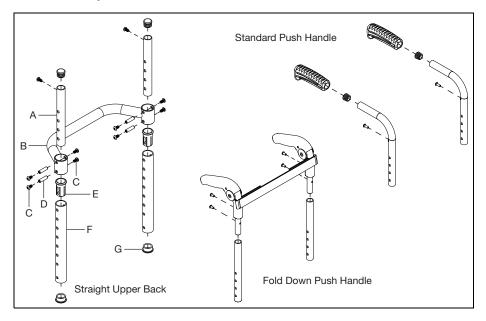
8. Repeat steps on opposite side. Ensure the same mounting and angle holes are used so both sides of the backrest match.

# **Height Adjustable Back Post**

1. Install the height adjustable back post (F), plugs (G), sleeve (E), screws (C), threaded barrels (D) and the upper back tube assembly (A) using two 3mm Allen wrenches.

NOTE: The straight upper back, standard push handle and fold down push handle upper backs are shown in the image below.

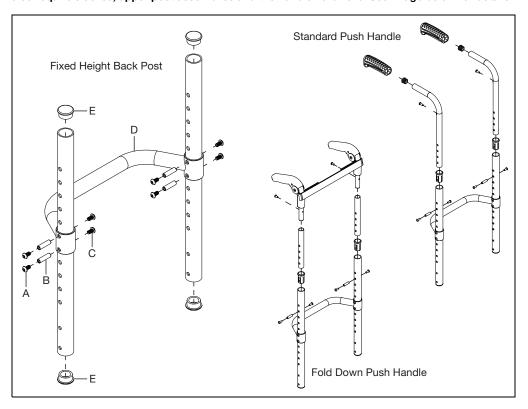
NOTE: The hole patterns on the lower section of the tubes differ between designs, but the process of installation and adjustment is the same.



# **Fixed Height Back Post**

1. For the fixed height back post, install the rigidizer bar (D), screws (A & C), threaded barrels (B) and plugs (E) using two 3mm Allen wrenches.

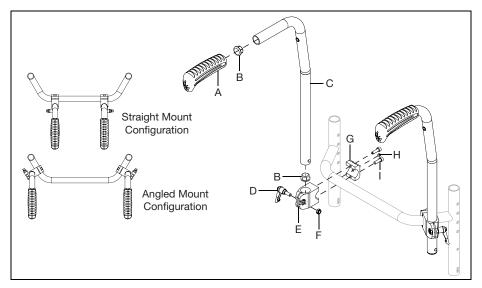
NOTE: The fixed height back post, standard push handle and fold down push handle upper backs are shown in the image below. The standard push handle and fold down push handle upper backs also require sleeves, upper post assemblies and the handle hardware. See image below for details.



# **Rigid Stroller Handle**

- 1. Install the stroller handle clamp (E & G) onto the rigidizer bar and secure with two screws (I) and a set screw (H) using a 5mm Allen wrench. The clamps can be installed in the straight mount configuration or the angled mount configuration. See image below.
- 2. Install the backpost (C), with the handles (A) and plugs (B) installed, into the clamp and secure by installing the clamp handle (D) and nut (F) using a 10mm wrench.

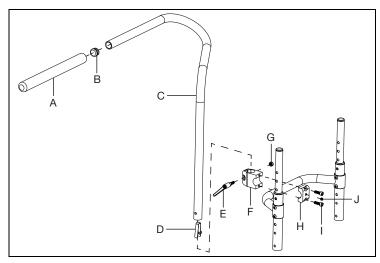
NOTE: The detent button on the bottom of the back post will click into place when properly installed.



# Ergo Stroller Handle - Available on Rogue XP

- 1. Install the ergo stroller handle clamp (F & H) onto the middle of the rigidizer bar and secure with two screws (I) and a set screw (J) using a 5mm Allen wrench.
- 2. Install the backpost (C), with the handle (A) and plug (B) installed, into the clamp and secure by installing the clamp handle (E) and nut (G) using a 10mm wrench.

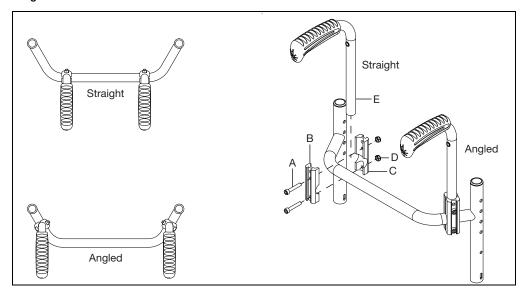
NOTE: The detent button (D) on the bottom of the back post will click into place when properly installed.



#### **Bolt-On Push Handle**

1. Install the clamps (B & C) and bolt-on push handle tube (E) onto the rigidizer bar and secure with two screws (A) and two nuts (D) using a 5mm Allen wrench.

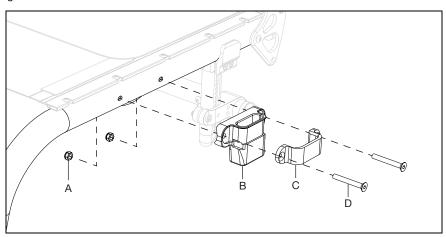
NOTE: The clamps can be installed onto the rigidizer bar in the straight or angled orientation. See image below for details.



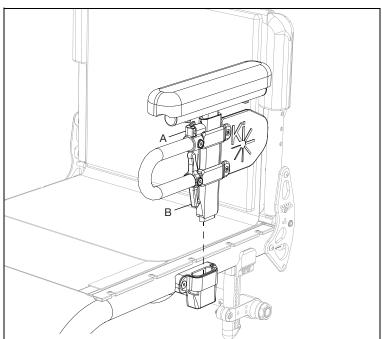
2. Repeat installation step with the second bolt-on push handle.

# **Height Adjustable T-Arm**

1. Install the T-Arm receiver (B) and the T-Arm bracket (C) onto frame with two bolts (D) and two nuts (A) using a 5mm Allen wrench and a 10mm wrench.



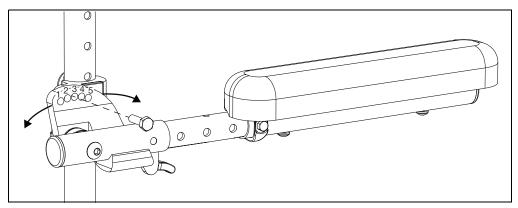
2. Install the T-Arm assembly into the receiver. Ensure the latch (B) "clicks" into place. Adjust the height by loosening the height lever (A) and sliding the T-Arm post up or down. Repeat steps on opposite side.



#### Angle Adj. Locking Flip Up Extendable Armrest - Available on Rogue XP

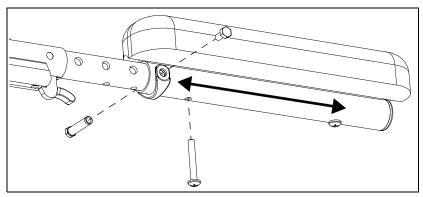
1. Set the angle of the armrest. Tighten the bolt once angle is set.

NOTE: There are 7 angle adjustments in 5° increments from -5° to 25°.

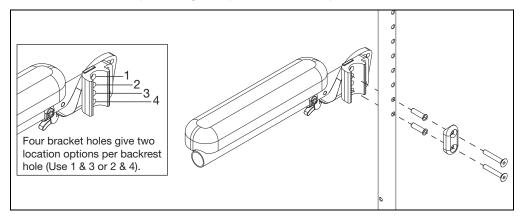


Set the length of the armrest. To adjust the length, remove the bolts and spacer on the tube and the screw closest to the back of the chair. Slide the armrest to desired length available by the predrilled holes and reinstall the screw and bolts.

#### NOTE: The armrest can extend up to 4" in 1" increments.



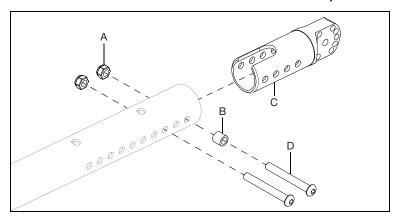
3. Set the height of the armrest. There are four holes on the armrest that allow for two different height settings for each set of holes on the back tube. Use the holes that provide the correct height setting for the user. The two bolts pass through the spacer, sleeves, back posts and into the armrest.



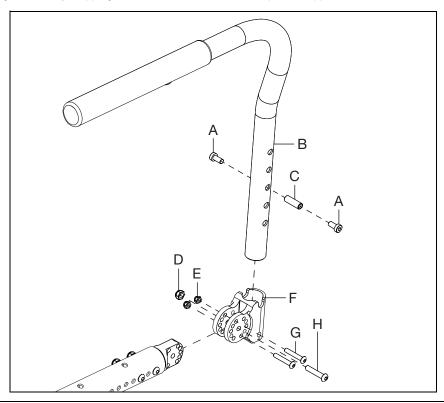
# Swing Away Armrest - Available on Rogue

1. Install the swing away arm mount (C) onto the end of the frame tube with two bolts (D), bushing (B) and two nuts (A) using a 4mm Allen wrench and a 10mm wrench. Repeat on opposite side.

NOTE: Depending on the configuration, the backrest hardware may need to be removed to install the arm mount. Reinstall with the same hardware once the arm mount is in place.



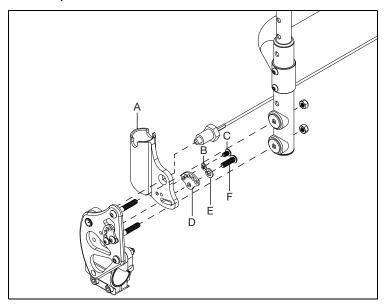
- Install the swing away receiver (F) onto the swing away arm mount with three bolts (G & H) and three
  nuts (D & E) using a 3mm Allen wrench, a 4mm Allen wrench, an 8mm wrench and a 10mm wrench.
  Repeat on opposite side.
- 3. Finish installation by installing the two bolts (A) and the threaded barrel (C) using two 5mm Allen wrenches. The hole that the two bolts and the threaded barrel are installed in determine the armrest height. Finish by dropping the armrest into the receiver. Repeat on opposite side.



#### Swing Away Armrest - Available on Rogue XP

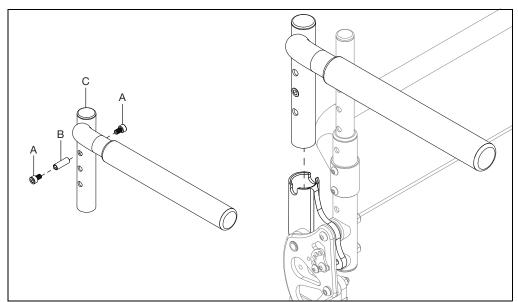
1. Detach the backrest from the backrest plate and install the swing away receiver (A) between the backrest and backrest plate along with arc adjustment cam (D) with two screws (C& F) and two lock washers (B & E) using a 3mm Allen wrench and a 4mm Allen wrench. See image below.

NOTE: The backrest cable will also need to be detached, put through the swing away receiver hole and back into backrest plate.



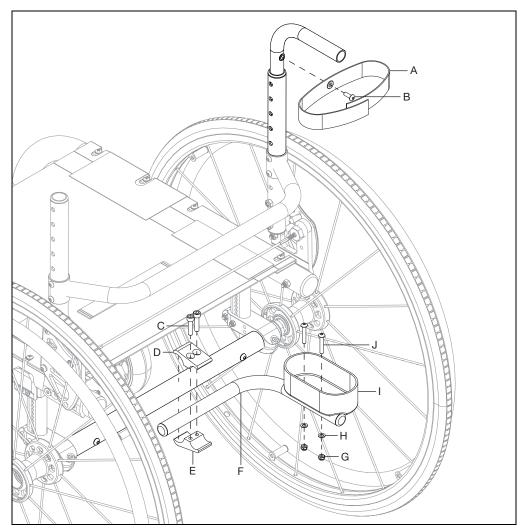
2. Install two bolts (A) and the threaded barrel (B) into the swing away armrest (C). The bolts act as stops when the armrest is dropped into the receiver, controlling the armrest height. Change height setting as needed and repeat steps on opposite side.

NOTE: There is a short and tall swing away arm available. The short has a height range of 7" - 9" and the tall has a height range of 9.25" - 11.25".



# **Cane and Crutch Holder**

- 1. Install crutch holder cup (I) onto the crutch holder tube (F) with two screws (J), two washers (H) and two nuts (G) using a 3mm Allen wrench and an 8mm wrench.
- 2. Install the crutch holder tube assembly onto the camber tube with the clamps (D & E) and two bolts (C) using a 5mm Allen wrench.
- 3. Install the crutch holder velcro strap (A) onto the back post (ensure the crutch holder cup and velcro strap are on the same side of chair) with a screw (B) using a 3mm Allen wrench.



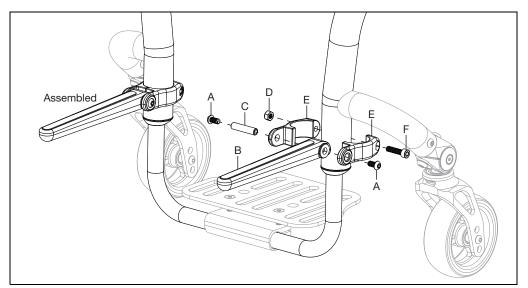
# **Luggage Carrier**

NOTE: There are different sizes of clamps to fit all types of chairs and configurations. The carrier can be mounted to the frame or footrest tube on Rigid chairs. The installation is the same whether it is being installed on the frame or footrest tubes.

- 1. Install luggage carrier fork (B) and clamp (E) by installing two screws (A) and barrel nut (C) through the clamp and fork using two 4mm Allen wrenches.
- 2. Secure the clamp in the desired location by installing and tightening the screw (F) and nut (D) on the backside of the clamp using a 5mm Allen wrench.

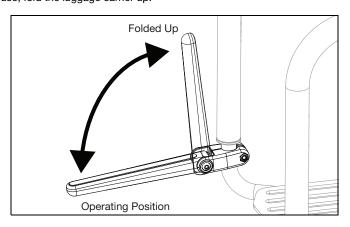
NOTE: The nut for the backside screw goes into a recess in the clamp. Ensure that nut stays in place.

3. Repeat on opposite side.



#### Using the Luggage Carrier

- Operating position for the luggage carrier is when the forks are folded down (See image below). The
  max weight capacity is 55lbs.
- 2. When not in use, fold the luggage carrier up.



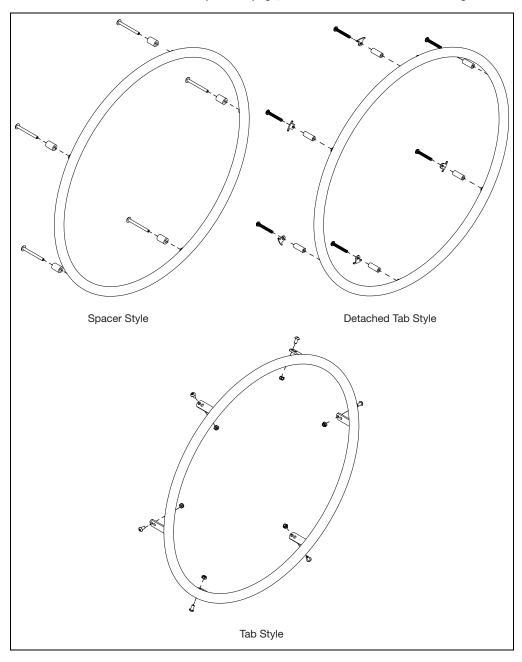
# **Handrim Configurations**

NOTE: Not all wheels listed below are available for specific models. See an order form or the online parts manual for more information on your specific chair model.

		•			Handrim	Hardware C	hart					
Wh	eel		Handrim	Connection					Handrim			
Wheel	Wheel Part Number	Connection Points	Tab	Spacer	Screw	Aluminum Anodized	Superlight	Plastic Coated	Projection	Natural Fit Standard	Natural Fit LT	Flex Rim
18" Ki Spoke	200529	3				100206		101106				
20" Ki Spoke	200530				Aluminum, Plastic	200536		200542				
22" Ki Spoke	200531		100698	100653	Coated, Projection:	100560		100576	100569	200538	200201	
24" Ki Spoke	20053 2	6	100000	100000	100654 Natural Fit:	200349		100577	200547	100793	200202	
25" Ki Spoke	200533				100835	200350		101870	200548	200539	200540	
26" Ki Spoke	200534					200351		100578	200549	100907	101454	
24" Superlight	101159	6			100536	100754	101161	100836		100830	100828	
25" Superlight	101160					101197	101160	101091		101464	101460	
20" 5- Spoke X Core	101961			Aluminum,		101897		101963				
22" 5- Spoke X Core	101962	5		Projection, Natural Fit: 100629	100724	101898		101964				
24" 5- Spoke X Core	100960			Plastic Coated: 101756		100975		100976	200546			
25" 5- Spoke X Core	100960				101893					100768	100769	
20" Spinergy Spox						103125		103179				
22" Spinergy Spox	Coo				Screw:	100827		100808		100889	100888	
24" Spinergy Spox	See Spinergy Spox Page	6			100669 Nut: 100657	100766	101161	100615		100830	100828	
25" Spinergy Spox					100001	100767	101160	100765		101464	101460	
26" Spinergy Spox						101477		101148		200200	100950	
22" Spinergy LX						100827		100808		100889	100888	
24" Spinergy LX	See Spinergy	6			Screw: 100669	100766	101161	100615		100830	100828	200213
25" Spinergy LX	LX Page				Nut: 100657	100767	101160	100765		101464	101460	200208
26" Spinergy LX						101477		101148		200200	100950	
22" Maxx Performance Spoke	105135				Superlight Screw: 100669	100560	101161	100576	100569	200538	200201	
24" Maxx Performance Spoke	105136	6	100698	100653	Superlight Nut: 100657 Screw (Excluding Superlight): 100654	200349		100577	200547	100793	200202	

# **Handrim Construction**

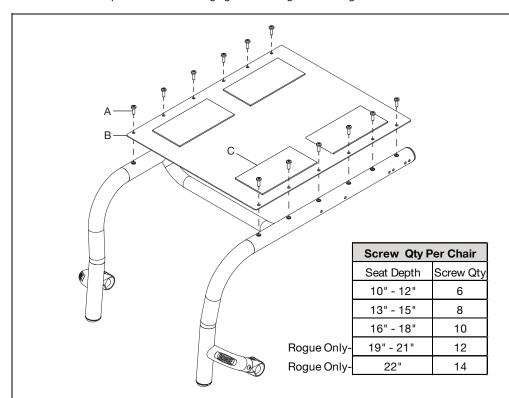
The sequencing of hardware for the three styles of handrims is shown below. The specific hardware used is determined in the chart on the previous page, based on the tire and handrim being used.



#### **Seat Pan**

#### NOTE: Remove any current seating or cushions before installing the seat pan.

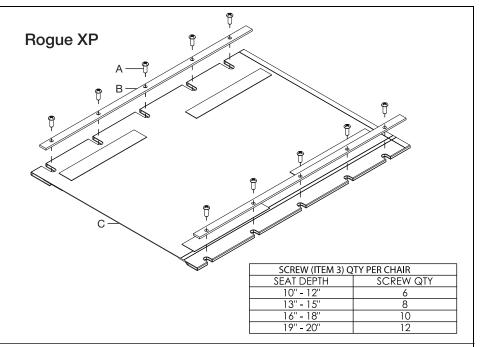
- 1. Install the seat pan (B) onto the chair frame and secure with screws (A) using a Phillips screwdriver.
- 2. If not already done, install the tape onto the seat as shown in the image below. The tape should cover as much area as possible without hanging over the edge or covering one of the screw holes.

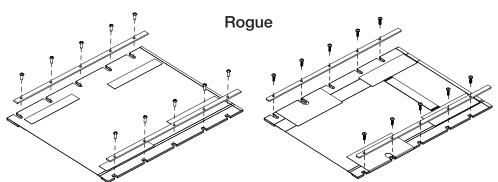


Part Number	Tape Size	Seat Pan Depth
004458	3" X 4"	10" - 11"
004458 & 004459	3" X 4" & 3" X 5"	12"
004459	3" X 5"	13"
004460	3" X 6"	14" - 22" (19" - 22" Rogue Only)

# **Seat Upholstery**

- 1. Install the seat rail (B) into the sleeve on the edge of the seat upholstery (C). Repeat on opposite side. The seat rail is shown outside of the sleeve to show the hole alignment in the image below.
- Secure the seat rail and seat upholstery onto the chair frame with screws (A) using a Phillips screwdriver.





Seat sling t	usea on	1 10" -	- 13"	wide

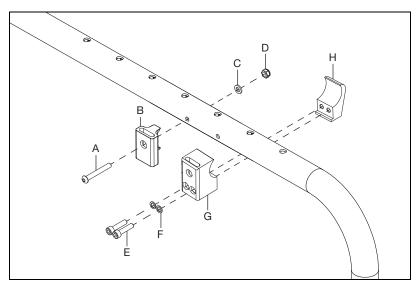
Seat sling used on 14" - 22" wide

SCREW (ITEM 3) QTY PER CHAIR			
SEAT DEPTH	SCREW QTY		
10" - 12"	6		
13" - 15"	8		
16" - 18"	10		
19" - 21"	12		
22"	14		

#### **Side Guards**

#### Side Guard Receiver

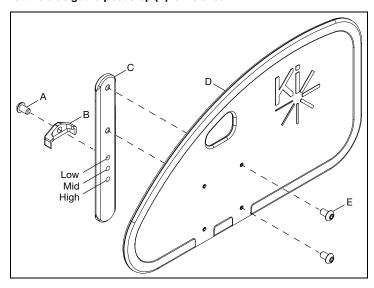
 There are two types of side guard receivers that may be used. The mounted side guard receiver (B) is installed onto the frame with screw (A), washer (C) and nut (D) using a 4mm Allen wrench and a 10mm wrench. The clamp side guard receivers (G & H) are installed onto the frame with two screws (E) and two washers (F) using a 5mm Allen wrench. Repeat on opposite side.



#### Removable Adult Side Guard

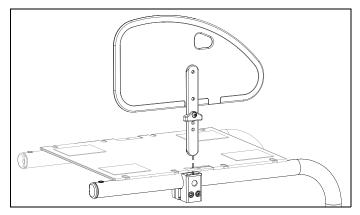
 Install the adult side guard (D) onto the side guard post (C) with two screws (A) using a 4mm Allen wrench. On the opposite side, install the side guard post stop (B) with a screw (A) using a 4mm Allen wrench.

NOTE: There are two sets of holes that the side guard post (C) can be installed onto the side guard with. Choose the holes that place the side guard in the desired position. The height is also adjusted with the hole that the side guard post stop (B) is installed in.



#### **Side Guards**

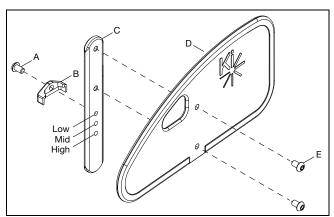
Install the side guard assembly into the receiver so the side guard post stop faces the outside of the chair.



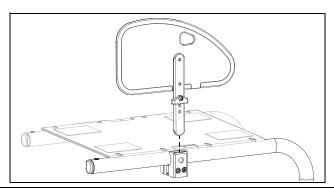
#### Removable Pediatric Side Guard

 Install the pediatric side guard (D) onto the side guard post (C) with two screws (A) using a 4mm Allen wrench. On the opposite side, install the side guard post stop (B) with a screw (A) using a 4mm Allen wrench.

NOTE: The height of the pediatric side guard can be adjusted with the three holes on the side guard post (C).



Install the side guard assembly into the receiver so the side guard post stop faces the outside of the chair.

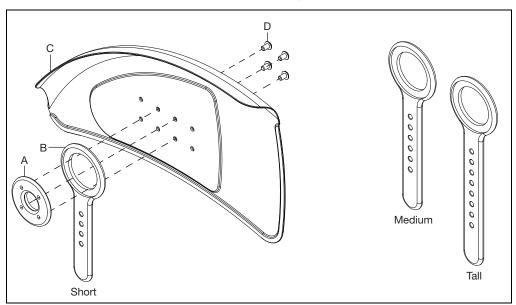


### **Side Guards**

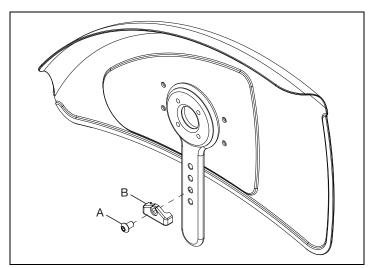
#### Adjustable Fender Side Guard

1. Install post (B), post mount plate (A) and bolts (D) onto the fender (C) using a 3mm Allen wrench.

NOTE: There are three mounting positions that can be used. Pick the holes that put the fender in the desired position for the occupant. This can be adjusted again later.



2. Set the height of the back post by installing the post stop (B) with a screw (A) using a 4mm Allen wrench. The height of the post can also be adjusted later if needed.



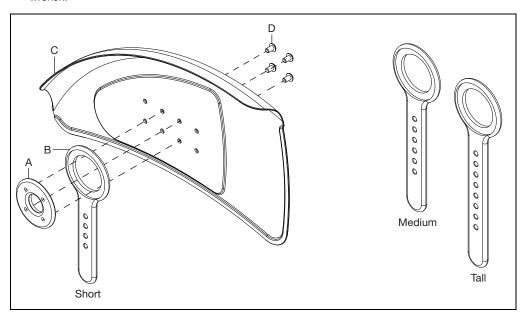
- 3. Install the fender assembly into the receiver by dropping the post into the receiver slot. Adjust the fender if needed.
- 4. Repeat steps on opposite side.

### **Side Guards**

#### **Angle Adjustments**

The angle of the fender can also be changed to align the fender if the profile of the tire if needed.

- 1. Remove the four bolts from the post mount with a 3mm Allen wrench.
- 2. Rotate the fender, either way, to align the fender with the profile of the tire.
- 3. Rotate the post mount plate so the four holes align with the desired holes on the fender.
- 4. Reinstall the the four bolts securing the fender to the post and post mount plate using a 3mm Allen wrench.



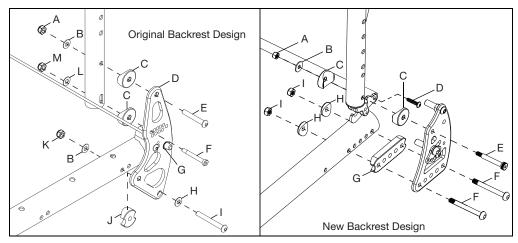
### **Transit**

NOTE: The new backrest assembly, standard and transit, uses new backrest tubes. If the chair does not already have the new backrest design, new backrest tubes are needed as the old tubes are not compatible.

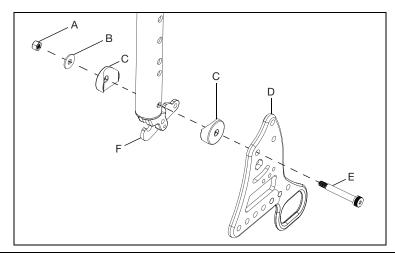
Remove any cushion or seating components that may be in the way of the current backrest removal.
 Also, remove any backrest tubes and/or handles that may be used after the backrest installation process.

# NOTE: Refer to parts manual for additional information on compatibility restrictions for the new backrest design.

2. There are two types of backrests. Use the image below to determine the version you have. For an original backrest, remove three bolts (E, F & I), three saddles (C & J), four washers (B, H & L) and three nuts (A, K & M) from back plate (D) to remove the back post using a 4mm Allen wrench, an 8mm wrench and a 10mm wrench. Twist off the cable housing to detach cable from back plate. Repeat on opposite side. For a new backrest, remove three bolts (E & F), one washer (B), four saddles (C & H), one saddle back (G) and three nuts (A & I) using a 4mm Allen wrench, a 5mm Allen wrench, an 8mm wrench and a 10mm wrench. Remove the screw (D) from the backrest release bar using a Phillips screwdriver and repeat on opposite side.



3. Install new backrest by installing pivot (F) into new backrest tubes and securing with bolt (E), back plate (D), two saddles (C), washer (B) and nut (A) using a 5mm Allen wrench and an 8mm wrench. Repeat on opposite side.



### **Transit**

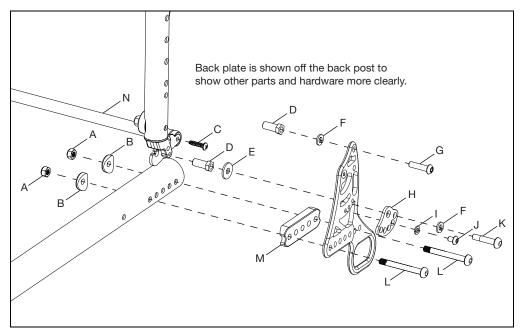
- 4. Install bolt (G), lock washer (F) and strike hex (D) using a 4mm Allen wrench and a 10mm wrench.
- 5. Install backrest release bar (N) and secure with screw (C) using a Phillips screwdriver. Repeat on opposite side.
- 6. Install two bolts (J & K), two lock washers (F & I), arc adjustment cam (H), washer (E) and strike hex (D) using a 3mm and 4mm Allen wrench along with a 10mm wrench.

NOTE: The angle of the backrest can be adjusted using the different arc adjustment cam holes. Choose the configuration that works best for the chair user.

 Secure backrest assembly to the frame by installing two bolts (L), saddleback (M), two saddles (B) and two nuts (A) using a 4mm Allen wrench and a 10mm wrench.

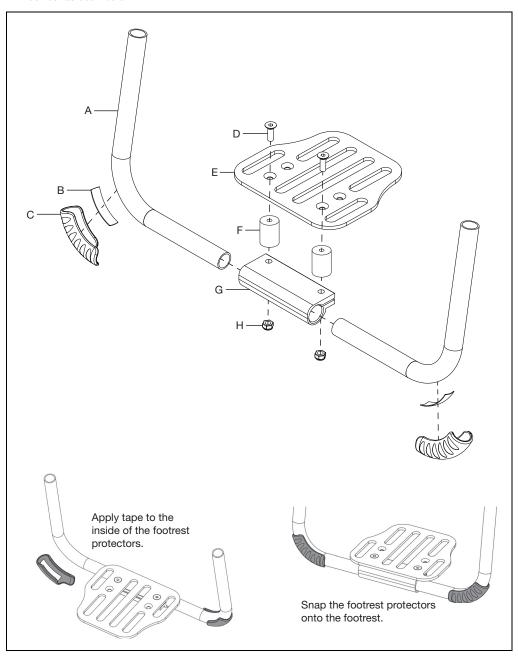
NOTE: The two bolts (L) determine the seat depth based on the frame holes that are used. Choose the configuration that works best for the chair user.

NOTE: Longer fasteners have been provided to accommodate a setup where the backrest and CG are set in the same spot.



### **Angle Adjustable Footrest**

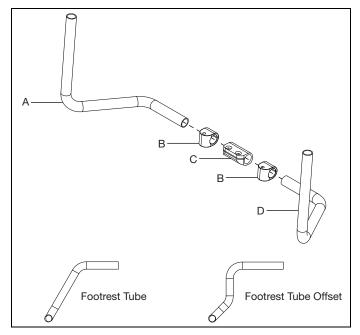
- 1. Install the footrest extension tubes (A) into the footrest adjustable clamp (G).
- 2. Install the footplate (E) onto the clamp and secure with two screws (D) and two nuts (H) using a 5mm Allen wrench and a 10mm wrench. If a riser (F) is being used to elevate the footrest platform, install between the footrest platform and the footrest adjustable clamp.
- 3. Install the footrest protectors (C) by peeling the backing off of the tape (B) and sticking the tape inside the footrest protector. Peel the remaining backing off of the tape and snap footrest protectors onto the footrest as seen below.



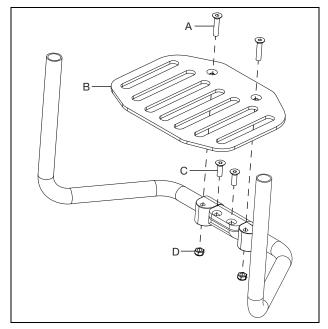
# **Angle Adjustable Flip Under Footrest**

1. Install the footrest tubes (A & D) through the pivots (B) into the footrest flip stop clamp (C).

NOTE: The footrest tube and the footrest tube offset are shown below. The installation process is the same for both footrest tubes.

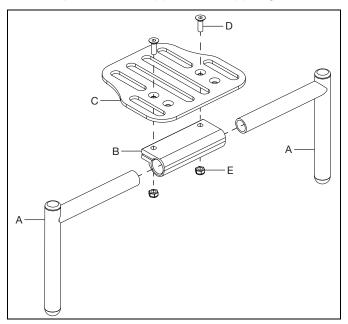


Install two screws (C) into the footrest flip stop clamp to secure the footrest tubes using a 5mm Allen wrench. Install the footrest platform (B) onto the footrest flip stop clamp with two screws (A) and two nuts (D) using a 5mm Allen wrench.

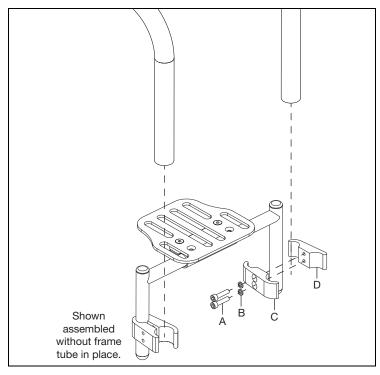


# **High Mount Angle Adjustable Footrest**

1. Install the footrest tubes (A) into the footrest adjustable clamp (B) and secure by installing the footrest platform (C) onto the clamp with two screws (D) and two nuts (E) using a 5mm Allen wrench.

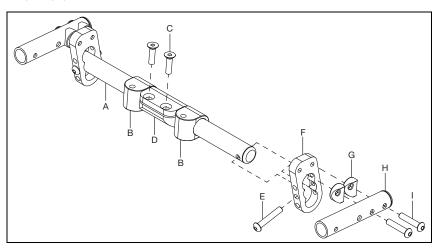


2. Install the two clamps (C & D), one end on the footrest tube and the other end around the frame tube, with two screws (A) and two lock washers (B) using a 5mm Allen wrench.

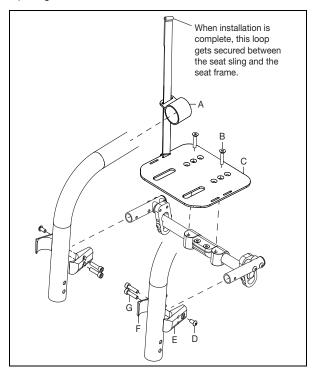


# **High Mount Angle Adjustable Flip Under Footrest**

- Install the pivots (B) and clamp (D) onto the footrest tube (A) and secure with two screws (C) using a 5mm Allen wrench.
- 2. Install the bracket (F) onto the end of the footrest tube and secure with screw (E) using a 4mm Allen wrench.
- 3. Install the footrest flip mount tube (H) onto the bracket with two screws (I) and two saddles (G) using a 4mm Allen wrench.



- 4. Install foot platform (C) onto pivots with two screws (B) using a 5mm Allen wrench. While installing the foot platform, slide the flip foot strap (A) onto frame tube.
- 5. Install the top and bottom footplate clamps (E & F) onto the footrest tubes and the frame tubes with three screws (D & G) using a 4mm Allen wrench and a 5mm Allen wrench.

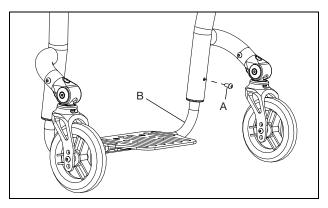


# **Adjusting the Footrest**

NOTE: Some footrests are adjusted by moving the clamps they are attached with up or down. The standard footrest adjustment is shown below.

#### **Height Adjustment of Footrest**

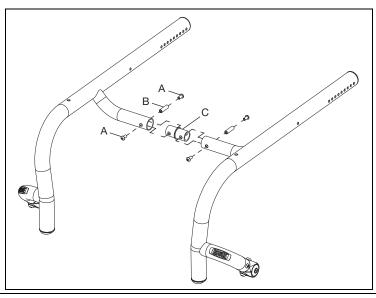
- 1. Locate the set screw on each side of the frame.
- 2. Loosen the set screw on each side of the frame using a 3mm Allen wrench. Do not remove set screws all the way.
- 3. Adjust footrest tube up or down to achieve the desired height (B).
- 4. Ensure both sides are adjusted equally.
- 5. Retighten each set screw to 40 in./lbs.



# **Rogue XP Frame Width**

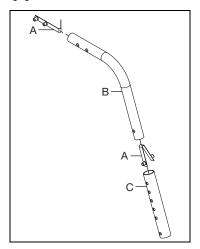
1. The Rogue XP frame width is changed with the frame connector (C), which is available in 0", 1", 2" and 3" lengths. Remove the four screws (A) and two threaded barrels (B) using two 4mm Allen wrenches to remove the frame connector. Swap in the new frame connector and reinstall hardware to secure.

NOTE: Other parts and assemblies on the chair need to checked and/or adjusted when the width of the chair is changed. See the corresponding sections on the different parts and assemblies for information regarding installation and adjustments.

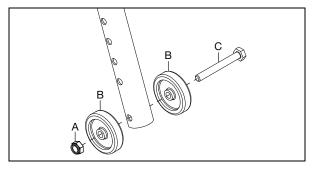


# **Anti-Tips**

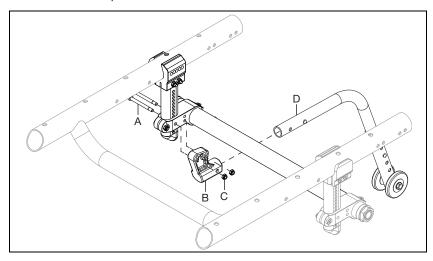
1. Assemble the anti-tip by connecting the two anti-tip tubes (B & C) and ensuring they "click" together when the detent buttons (A) engage.



2. Install the wheels (B) onto the anti-tip tube with a bolt (C) and nut (A) using two 10mm wrenches.

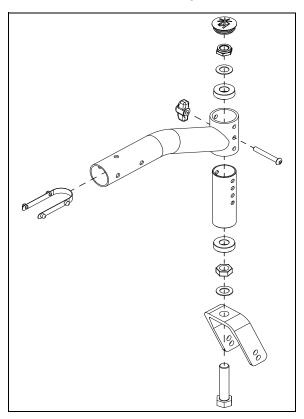


3. Install the anti-tip receiver (B) onto the camber tube mounting clamp with two screws (A) and two nuts (C) using a 4mm Allen wrench and an 8mm wrench. Install anti-tip assembly (D) into receiver until detent button "clicks" into place.

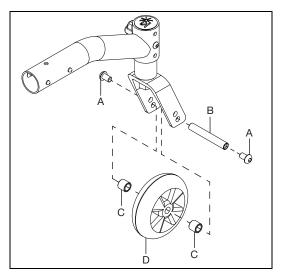


#### Standard 5th Wheel

1. Assemble the 5th wheel arm mount as shown below using two ½" wrenches.

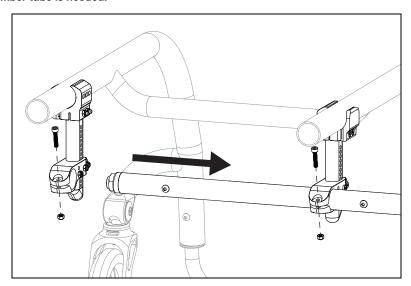


2. Install the caster (D) into the 5th wheel mount forks with two screws (A), threaded barrel (B) and two caster spacers (C) using two 4mm Allen wrenches.

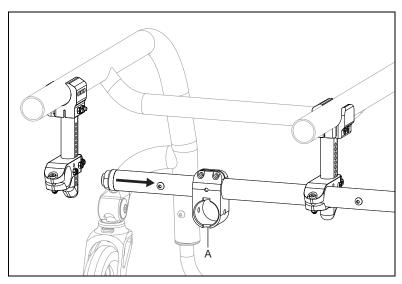


3. Loosen the camber tube mount clamps by removing the bolt and nut from both sides using a 4mm Allen wrench and an 8mm wrench. Slide the camber tube halfway out as shown below.

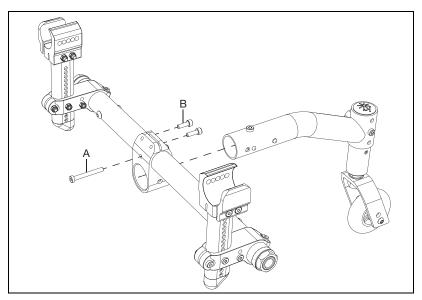
NOTE: If you are retrofitting to the standard 5th wheel, remove the camber tube completely because a new camber tube is needed.



4. Slide the 5th wheel mounting clamp (A) onto the camber tube. Slide the camber tube back to the standard position and reinstall hardware to secure the camber tube in place.

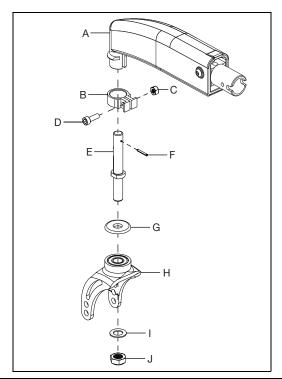


Center the 5th wheel mounting clamp and secure in place by installing three screws (A & B) using a 4mm Allen wrench. Install the 5th wheel into the clamp and ensure the detent buttons "click" or lock into place.

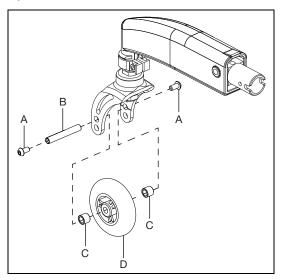


#### **Dynamic 5th Wheel**

1. Assemble the 5th wheel arm mount as shown below using a  $\frac{1}{2}$ " wrench, 10mm wrench and a 5mm Allen wrench.

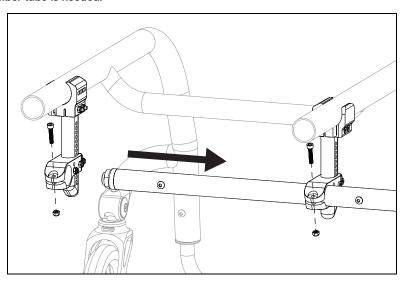


2. Install the caster (D) into the 5th wheel mount forks with two screws (A), threaded barrel (B) and two caster spacers (C) using two 4mm Allen wrenches.

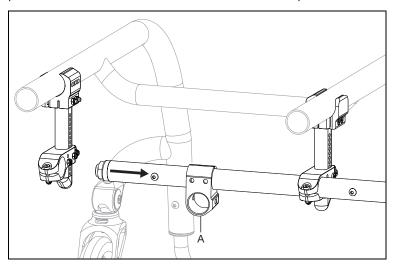


3. Loosen the camber tube mount clamps by removing the bolt and nut from both sides using a 4mm Allen wrench and an 8mm wrench. Slide the camber tube halfway out as shown below.

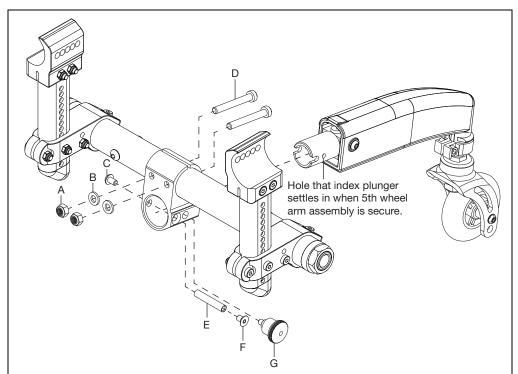
NOTE: If you are retrofitting to the dynamic 5th wheel, remove the camber tube completely because a new camber tube is needed.



4. Slide the 5th wheel mounting clamp (A) onto the camber tube. Slide the camber tube back to the standard position and reinstall hardware to secure the camber tube in place.

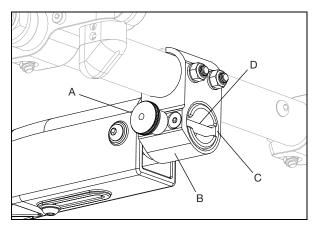


5. Center the dynamic 5th wheel mounting clamp and secure in place by installing two screws (D), two washers (B) and two nuts (A) using a 5mm Allen wrench and a 10mm wrench. Install the two screws (F), a threaded barrel (E) and indexing plunger (G) using two 3mm Allen wrenches. Install the 5th wheel into the clamp and secure in place by pulling the index plunger out, inserting the 5th wheel and then releasing the index plunger. The index plunger secures the 5th wheel in place when reinserted into the 5th wheel tube hole.



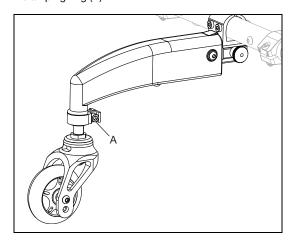
#### Inserting and Removing the Dynamic 5th Wheel

- 1. To remove, pull the release knob (A) to disengage the locking pin and slide assembly out of the tubular receiver (B).
- 2. To insert assembly, pull release knob (A) and insert assembly into tubular receiver (B).
- 3. Rotate the assembly in receiver to align slot (C) and cross pin (D).
- 4. Release knob (A).



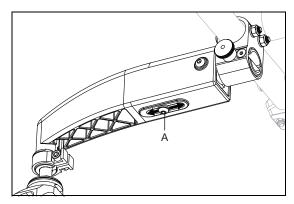
#### Adjusting the Position from the Floor

- 1. The caster stem is adjustable within the Dynamic 5th wheel arm.
- 2. Loosen 6mm bolt in clamping ring (A).
- Grasp caster fork assembly and move up or down to desired position. Take care to not rotate caster stern within housing while repositioning.
- 4. Retighten 6mm bolt in clamping ring (A).



#### **Adjusting Spring Force**

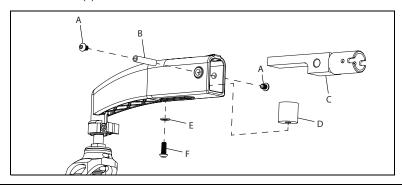
- 1. Remove Dynamic 5th wheel assembly from chair.
- 2. Loosen 6mm screw located on the underside of assembly (Fig. 47:A).
- 3. To decrease spring rate, slide screw and elastomer away from caster fork assembly. To increase spring rate, slide screw and elastomer towards caster fork assembly.
- 4. Retighten 6mm screw (Fig. 47:A). Take care to not overtighten.



#### **Changing or Replacing Elastomer**

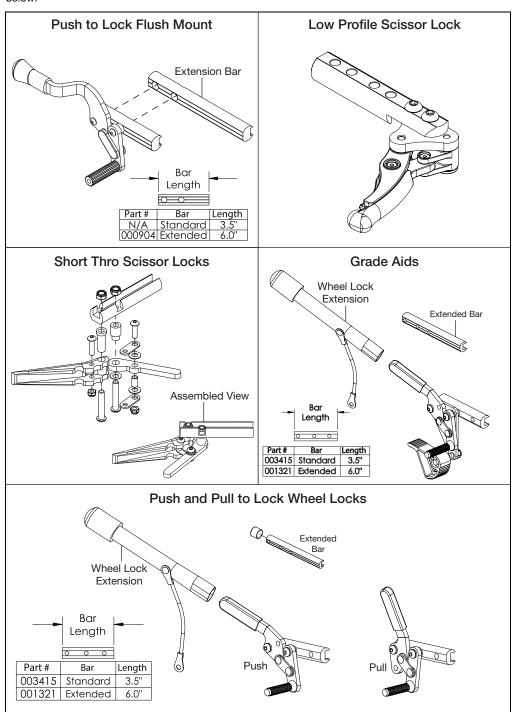
NOTE: There are two elastomers to choose from - a soft (yellow) and a firm (black). The softer elastomer (yellow) offers less resistance to the rider so it will move up and down easier when weight is applied to the system. The firmer elastomer (black) offers more resistance to the rider so it will not move as much when weight is applied to the system.

- 1. Remove dynamic 5th wheel assembly from chair.
- 2. Remove screw (A) using two 4mm Allen wrenches.
- 3. Using Allen wrench, push threaded barrel (B) out of arm assembly.
- 4. Slide tubular receiver (C) out of assembly.
- Remove screw (F) and washer (E) located on the underside of assembly. This will release the elastomer (D). Remove elastomer and set aside.
- Insert new elastomer (D) into opening on arm assembly with threaded insert facing down towards slot, aligned with slot in arm.
- Thread screw (F) and washer (E) through slot and into threaded insert in elastomer. Retighten screw, but do not overtighten.
- 8. Reinsert tubular receiver (C) into arm. Take care to place flat arm of tubular receiver over the top of elastomer.
- 9. Align holes on arm and tubular receiver to insert threaded barrel (B) and screw (A).
- 10. Tighten the two screws (A) with two 4mm Allen wrenches.



### **Wheel Locks**

See image below for information on the types of wheel locks available. Installation of the wheel lock clamps is on the next page. The Under Seat Scissor Lock always comes assembled so it is not shown below.

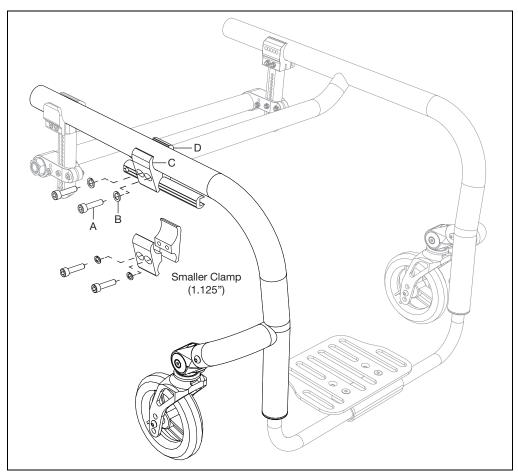


### **Wheel Locks**

#### Installing Wheel Lock Clamps

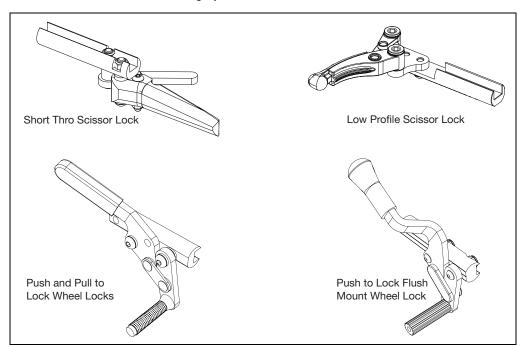
 The wheel lock assemblies with the wheel lock bars are mounted onto the chair using the wheel lock clamps (C & D). There are two types of wheel lock clamps that are shown below. Install hardware with the wheel lock bar and chair frame in position using a 5mm Allen wrench and a 6mm Allen wrench. Once installed, ensure wheel lock engages at least 1/8" into tire and locks properly prevent the chair from moving when engaged.

NOTE: Always tighten wheel lock hardware by alternating between hardware while tightening a little at a time. This prevents overclamping on one set of hardware which can lead to binding of the fasteners and increased difficulty in removal.



### **Reversing Wheel Lock**

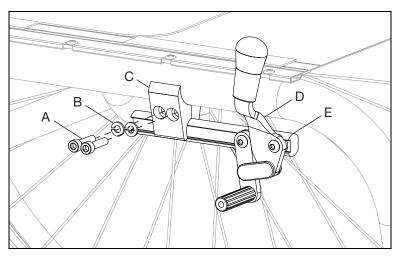
1. Identify the type of wheel lock on the chair. The process of reversing the wheel lock will be the same, but hardware and tools used are slightly different.



2. Remove wheel lock (D) and wheel lock bar (E) from clamp (C) by removing the two bolts (A) and two lock washers (B) with a 5mm Allen wrench.

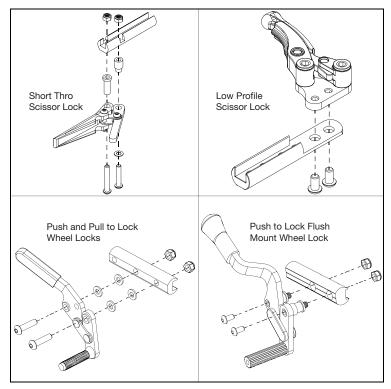
NOTE: The push and pull to lock wheel lock is shown below. The process of removing the clamp is the same for all of the wheel locks.

NOTE: Always loosen wheel lock hardware by alternating between the two bolts while loosening a little at a time. This prevents overclamping on one set of hardware which can lead to binding of the fasteners and increased difficulty in removal.

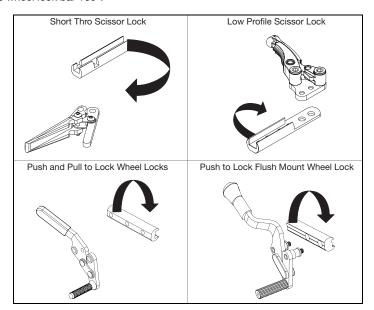


# **Reversing Wheel Lock**

3. Remove the wheel lock assembly from the wheel lock bar. For a low profile scissor lock, use a 5mm Allen wrench to remove the two bolts. For the other three wheel locks, remove hardware using a 4mm Allen wrench and a 10mm wrench.



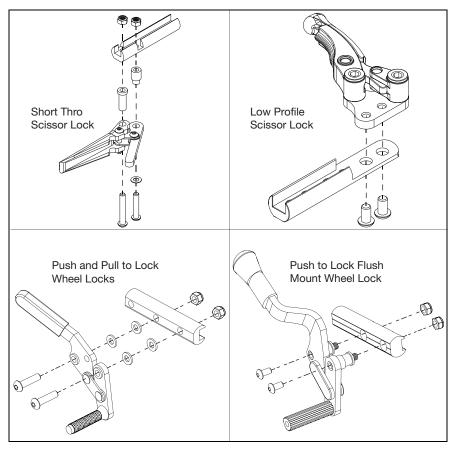
4. Rotate the wheel lock bar 180°.



### **Reversing Wheel Lock**

5. Reinstall the wheel lock assembly onto the wheel lock bar. For a low profile scissor lock, use a 5mm Allen wrench to install the two bolts. For the other three wheel locks, install hardware using a 4mm Allen wrench and a 10mm wrench. See image below.

NOTE: Always tighten wheel lock hardware by alternating between the two bolts while tightening a little at a time. This prevents overclamping on one set of hardware which can lead to binding of the fasteners and increased difficulty in removal.



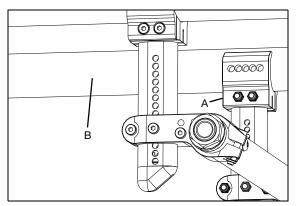
6. Test the wheel locks. Ensure wheel lock arms embed in tires at least 1/8 inch when locked. If they do not embed at least 1/8 inch, readjust wheel lock and test again.

### **Center of Gravity Adjustment**

You can adjust your center of gravity by moving the two camber mount clamps (A) forward or rearward on the seat tube (B). Moving the camber mount clamps forward shortens the wheelbase and lightens the front end, making your chair more maneuverable. Moving the camber mounts rearward makes the chair more stable and less likely to tip over rearward.

NOTE: Changes to the center of gravity may affect the rear seat height, toe-in/toe-out of the rear wheels and the squareness of the casters. If you change your center of gravity position, readjust all of these settings as necessary.

NOTE: Adjusting your chair's center of gravity will require readjusting the location of the wheel locks (if provided). See the Wheel Lock section for instructions on adjusting the wheel locks.



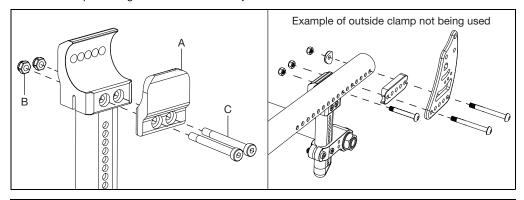
To adjust the center of gravity location:

NOTE: The outside clamp (B) is not used when the COG is set at -0.25 or less. The inside clamp is bolted directly onto the chair frame when outside clamp is not used.

NOTE: The outside clamp (B) is also not used when the tower has to be bolted to the frame in the same place as the backrest plate. See example image below.

NOTE: Every Rogue frame that has the Drive Ready option has the COG system bolted to the frame instead of using the clamp system.

- a. Remove both rear wheels.
- b. Loosen the two screws (C) and nuts that secure the camber mounts (A & B) to the seat tubes.
- c. Slide the camber mounts forward or rearward along the seat tube to the desired hole location.
- d. Repeat on the other side.
- e. Ensure the mounts on both sides of the frame are adjusted equally on both sides of the frame before tightening all the screws and nuts.
- f. Once the camber mount clamps are secured, attach the rear wheels, occupy the chair and maneuver it with a spotter to get a feel for the new adjustment.

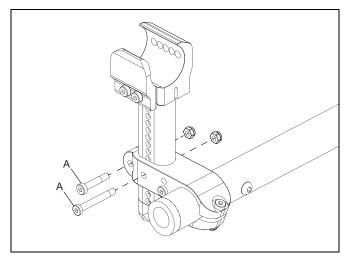


### **Seat Height Adjustment**

#### Rear Seat Height

Rear seat height can be adjusted by repositioning the Tubular Component System (TCS).

- 1. Remove your wheels by depressing the buttons on the quick release axle.
- 2. Use a 4mm Allen wrench and 8mm open end wrench to remove the two bolts (A) holding the upper and lower mounting brackets together. Reposition the mounting brackets to the desired height and replace the two M5 bolts.
- 3. Repeat on both sides of the wheelchair.



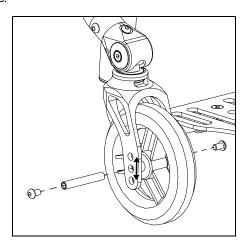
NOTE: Height adjustments are in 1/4" increments.

NOTE: A front caster adjustment should be made to correspond with any change in seat angle.

#### Front Seat Height

The front seat height can be adjusted in ½" increments by repositioning the caster wheel within the fork.

- 1. Use two 4mm Allen wrenches to remove the cap screws and push the internally threaded axle from one hole location and move up or down to the desired location.
- 2. Reposition the two 6mm screws and tighten to 80 in./lbs.
- 3. Resquare caster wheels.



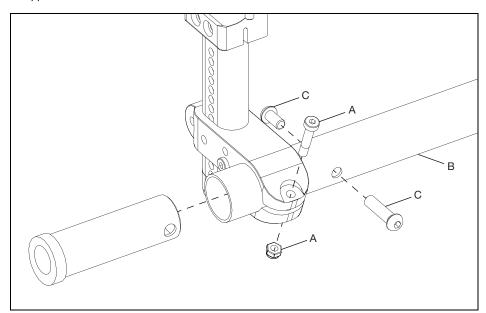
### **Setting Toe to Zero**

NOTE: A wheelchair equipped with 0° camber plugs cannot have a toe-in toe-out condition. This adjustment is only required when using 2°, 4°, 6° and 8° camber adapters.

Toe refers to how well the rear wheels of the chair are aligned relative to the ground. It affects how well the chair will roll. Drag or rolling resistance is optimally minimized when the wheel toe is set to zero.

#### To Set Toe to Zero:

- 1. Loosen the cap screws (A) (1 per side) that secure the camber tube clamp.
- 2. Rotate the camber tube (B) until the screws (C) that secure the camber studs are level with the ground. The toe is now set at zero.
- 3. Before tightening the screws (A), make certain that the camber tube is centered left-to-right relative to the wheelchair frame. There should be an equal gap on both sides or none at all.
- 4. Tighten screws in a balanced fashion tighten one screw to 50 in./lbs and then the second to 50 in./lbs. Return to tighten the first screw to 80 in./lbs. and finally the second screw to 80 in./lbs. Repeat on opposite side.

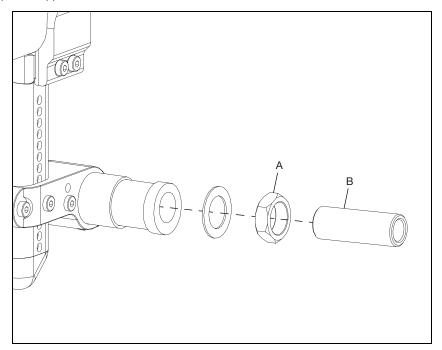


### **Wheelbase Width Adjustment**

Adjusting the wheelbase width allows the rider the option to move the wheels closer or further away from the hips. It also compensates for camber adjustment and gives the proper wheel spacing to maximize pushing efficiency.

#### To Adjust the Wheelbase Width

- 1. Loosen the nut (A) with a 24mm wrench and turn the threaded axle sleeve (B) in or out to desired width.
- 2. Retighten nut.
- 3. Repeat on opposite side.

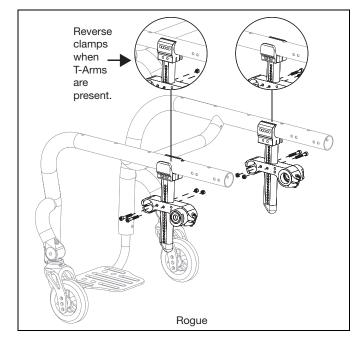


NOTE: Some parts are not shown in drawings for better clarity of parts that are being called out. Installing a New OAD (For converting a Hex OAD to a Blade OAD, skip ahead to Page 63)

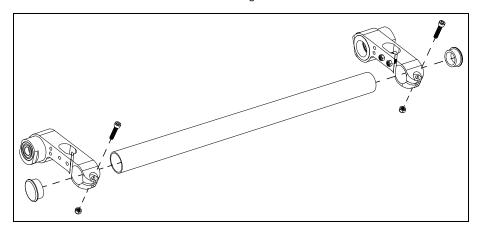
- 1. Remove both wheels from wheelchair.
- 2. Remove the camber tube assembly. Retain all hardware.
- 3. Identify which wheel you will be installing the One Arm Drive and base the following instructions on that wheel/side.
- 4. Install new axle mounts onto towers with the two M5 socket head cap screws and two M5 nylock nuts on each side using a 4mm Allen wrench and an 8mm wrench.

NOTE: The clamps on a Rogue are in the standard orientation (as shown below) except when T-Arms are present, then they are reversed.

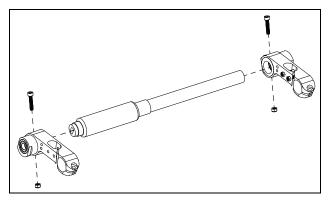




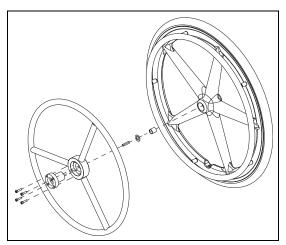
5. Install camber tube to axle mounts and tighten M5 socket head cap screws and M5 nylock nuts using a 4mm Allen wrench and an 8mm wrench. See image below.



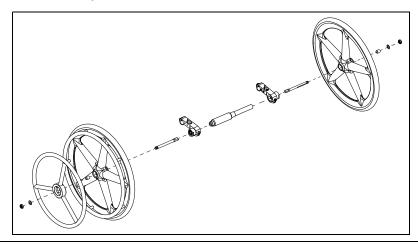
6. Install blade drive shaft to axle mounts and tighten M5 socket head cap screws and M5 nylock nuts using a 4mm Allen wrench and an 8mm wrench. See image below.



Install the handrim hub and OAD handrim onto your drive wheel with the key, washer and spacer and secure with four bolts. Ensure key aligns in key slot.



8. Install blade axles through axle mounts, wheels and handrims. Secure with washer and nut.

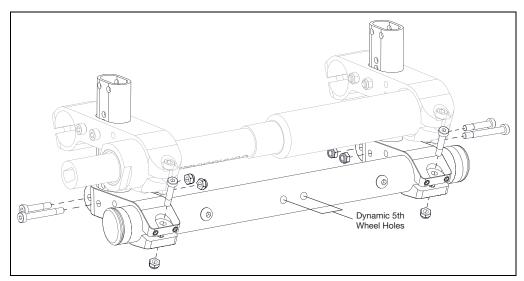


9. Level bearings by using the machined flat areas. Tighten bolts.

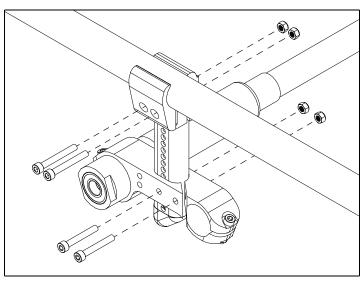
NOTE: If your chair has the 5th wheel option, continue with the instructions. If not, the assembly is complete.

10. Install 5th wheel assembly shown below. The assembly slides onto the towers so that they are mounted on the same towers as the one arm drive system, but just below those parts on the towers. The two holes shown on the bar in image below are used for mounting the Dynamic 5th wheel option and face towards the back of the chair. A Standard 5th wheel option will have one hole and face towards the back of the chair.

NOTE: In some chair configurations, new towers will be provided to add the additional length needed to attach the one arm drive system. In that case, remove old tower and replace with new. See next step if the new towers are needed.

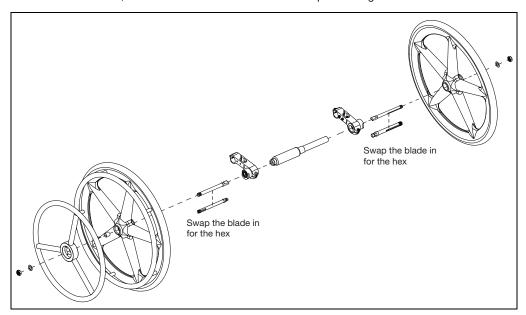


11. If new towers have been provided, remove old towers by removing four bolts and four nuts using a 4mm Allen wrench and an 8mm wrench. Install new towers with the four bolts and four nuts.

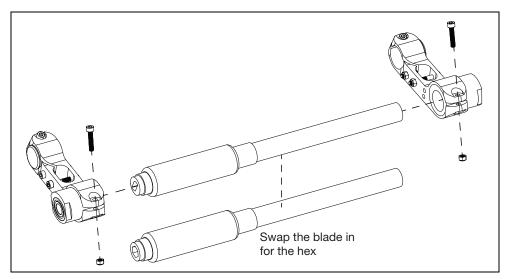


#### Converting Hex OAD to Blade OAD

1. Remove washer and nut from wheel to remove the hex style axles. Swap in the blade style axles. Do not reinstall wheels, washers and nuts until after the next step. See image below.



Loosen the M5 socket head cap screws and M5 nylock nuts using a 4mm Allen wrench and an 8mm wrench to swap the hex drive shaft for the blade drive shaft. Retighten hardware. Reinstall wheels, washers and nuts from previous step. See image below.



### **Growing Your Rogue XP in Width**

It is recommended that you follow the below sequence of adjustments when growing your Rogue XP in width.

#### Remove the following assemblies from chair in order listed:

- 1. Upholstery See seat upholstery section on page 33.
- 2. Backrest Release Cable See backrest assembly section on page 16. Use the section that corresponds with the backrest assembly style found on the chair.
- 3. Rigidizer Bar See back post section which begins on page 20. Use the section that corresponds with the back post style found on the chair.
- 4. Footrest Assembly See footrest section which begins on page 40. Use the section that corresponds with the footrest assembly style found on the chair.
- Camber Tube See camber mount assembly and camber tube and adapters section which begins on page 13.

Replace new assemblies for width adjustment in reverse of order listed above. Reference removal and replacement instructions.



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