

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

CR45

TECHNICAL
MANUAL





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 CR45 wheelchair. This technical manual does not replace, but aids the user instruction 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 CR45 User Instruction Manual. The user instruction manual 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 it's function properly without damaging any parts or hardware on the chair.

Tools Needed		
• 3mm Allen Wrench	• Two 8mm Wrenches	• Phillips Screwdriver
• 4mm Allen Wrench	• Two 10mm Wrenches	• 19mm Wrench
• 5mm Allen Wrench	• Two 13mm Wrenches	• 11mm Wrench
• Torque Wrench		

Frame Tube Size Guide

Tubing sizes subject to change without notice

This information is a reference for situations where the tube sizes are needed for certain attachments.

Frame Tube
Base Frame: 1 1/4" (Square)
Seat Frame: 1"
Back Canes
Fixed Height Back Canes: 1"
Lower Adjustable Height/Adjustable Handle: 1"
Upper Adjustable Height/Adjustable Handle: 7/8"
Removable Stroller Handle: 7/8"
Adjustable Rigidizer Bar: 7/8"
Reclining Back: 1"
Fixed Height Adjustable Push Handle: 1"
Arms
Upper T-Arm: 7/8"
Transfer Tube T-Arm: 3/4"
Angle Adjustable Flip Up: 1"
Footrests
S/A Hanger: 1"
S/A Extension Tube: 3/4"
ELR Upper Hanger: 1"
Pediatric Pro and Pro ELR Hanger: 1"

Spoke Tension Values

OAD Spoke	60-100 kgf
Drum brake Spoke	90-120 kgf radial side / 60-90 kgf crossed side
Maxx Spoke	60-100 kgf
Low Cost Spoke	60-100 kgf
Superlight Spoke	92-112 kgf

Seat Height - Configuration Charts

Select wheels and casters based on desired seat height. Make adjustment of axle sleeves, caster arms and caster stems based on the subsequent sections. Subsequent sections define these activities and provide guidance for fastener locations.

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
12" Pneumatic	4	16	5	High	5	Short	3
		16.5	6	High	5	Short	4
	5	15.5	5	Low	6	Short	3
		16	5	Low	6	Short	4
		16.5	6	Low	6	Short	5
		17	7	Low	6	Short	6
		17.5	8	Low	7	Short	3
	6	16	5	Low	6	Short	3
		16.5	6	Low	6	Short	4
		17	7	Low	6	Short	5
		17.5	8	Low	7	Short	6
	6X2	16	5	Low	6W	Short	1
		16.5	6	Low	6W	Short	2
		17	7	Low	6W	Short	3
		17.5	8	Low	6W	Short	4
	7	17	7	Low	6	Short	4
		17.5	8	Low	6	Short	5
	8	Not Available					

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
12" Poly	4	15	5	Low	5	Short	3
		15.5	6	Low	5	Short	4
		16	7	High	5	Short	3
		16.5	8	High	5	Short	4
	5	15	5	Low	5	Short	2
		15.5	6	Low	5	Short	3
		16	7	Low	6	Short	4
		16.5	8	Low	6	Short	5
	6	16	7	Low	6	Short	3
		16.5	8	Low	6	Short	4
	6X2	16	7	Low	6W	Short	1
		16.5	8	Low	6W	Short	2
	7	Not Available					
	8	Not Available					

Seat Height - Configuration Charts

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
16" Pneumatic	4	14	1	Low	4	Short	1
		14.5	2	Low	5	Short	2
		15	3	Low	5	Short	3
		15.5	4	Low	5	Short	4
	5	15	4	Low	6	Short	2
		17	5	Low	6	Tall	4
		17.5	5	Low	6	Short	3
		18	6	Low	7	Short	4
		18.5	7	High	7	Short	3
		19	8	High	7	Short	4
	6	17.5	5	High	6	Short	4
		18	6	High	6	Short	5
		18.5	7	High	7	Short	2
		19	8	High	7	Short	3
	6X2	17	5	Low	7W	Short	2
		17.5	6	Low	7W	Short	3
		18	7	Low	7W	Short	4
		18.5	8	Low	7W	Short	5
		19	8	Low	7W	Tall	3
	7	17	5	Low	7	Short	1
		17.5	6	Low	7	Short	2
		18	7	Low	7	Short	3
		18.5	8	Low	7	Short	4
		19	8	High	6	Short	6
	8	18	6	Low	7	Short	1
		18.5	7	Low	7	Short	2
		19	8	Low	7	Short	3

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
16" Poly	4	14	1	Low	4	Short	1
		14.5	2	Low	5	Short	2
		15	3	Low	5	Short	3
		15.5	4	Low	5	Short	4
	5	15	3	Low	6	Short	2
		15.5	4	Low	6	Short	3
		17	5	Low	6	Tall	4
		17.5	5	Low	6	Short	3
		18	6	Low	7	Short	4
		18.5	7	High	7	Short	3
		19	8	High	7	Short	4
		17.5	5	High	6	Short	4
	6	18	6	High	6	Short	5
		18.5	7	High	7	Short	2
		19	8	High	7	Short	3
	6X2	17.5	5	Low	7W	Short	3
		18	6	Low	7W	Short	4
		18.5	7	Low	7W	Short	5
		19	8	Low	7W	Tall	3
	7	17.5	5	Low	7	Short	2
		18	6	Low	7	Short	3
		18.5	7	Low	7	Short	4
		19	8	Low	7	Short	5
	8	18	6	Low	7	Short	1
		18.5	7	Low	7	Short	2
		19	8	Low	7	Short	3

Seat Height - Configuration Charts

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
16" Low Poly	4	14	3	Low	4	Short	1
		14.5	4	Low	4	Short	2
		16.5	5	High	5	Short	4
	5	16	5	Low	5	Tall	2
		16.5	5	High	6	Short	3
		17	6	High	6	Short	4
		17.5	7	High	6	Short	5
		18	8	High	6	Short	6
	6	16.5	5	Low	6	Short	4
		17	6	Low	6	Short	5
		17.5	7	High	6	Short	4
		18	8	High	6	Short	5
	6X2	16.5	5	Low	6W	Short	2
		17	6	Low	6W	Short	3
		17.5	7	High	6W	Short	2
		18	8	High	6W	Short	3
	7	17	6	Low	7	Short	4
		17.5	7	Low	7	Short	5
		18	8	Low	7	Short	6
	8	18	8	Low	7	Short	1

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
20" Mag Pneumatic	4	16	1	High	5	Short	3
		16.5	2	High	5	Short	4
	5	16	1	Low	6	Short	4
		16.5	2	Low	6	Short	5
		17	3	High	6	Short	4
		17.5	4	High	6	Short	5
		19.5	5	High	7	Tall	3
		20	6	High	7	Tall	4
		20.5	7	High	7	Tall	5
	6	16	1	Low	6	Short	3
		16.5	2	Low	6	Short	4
		17	3	Low	6	Short	5
		17.5	4	Low	6	Short	6
		19.5	5	High	7	Tall	2
		20	6	High	7	Tall	3
		20.5	7	High	7	Tall	4
	6X2	16	1	Low	6W	Short	1
		16.5	2	Low	6W	Short	2
		17	3	Low	6W	Short	3
		17.5	4	Low	6W	Short	4
		19.5	5	High	7W	Tall	2
		20	6	High	7W	Tall	3
		20.5	7	High	7W	Tall	4
	7	17	3	Low	6	Short	4
		17.5	4	Low	6	Short	5
		19.5	5	High	7	Tall	1
		20	6	High	7	Tall	2
		20.5	7	High	7	Tall	3
	8	19.5	5	High	7	Short	2
		20	5	High	7	Short	3
		20.5	6	High	7	Short	4

Seat Height - Configuration Charts

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
20" Poly	4	16	1	High	5	Short	3
		16.5	2	High	5	Short	4
	5	16	1	Low	6	Short	4
		16.5	2	Low	6	Short	5
		17	3	High	6	Short	4
		17.5	4	High	6	Short	5
		19.5	5	High	7	Tall	3
		20	6	High	7	Tall	4
		20.5	7	High	7	Tall	5
	6	16	1	Low	6	Short	3
		16.5	2	Low	6	Short	4
		17	3	Low	6	Short	5
		17.5	4	Low	6	Short	6
		19	5	High	7	Short	4
		19.5	5	High	7	Tall	2
		20	6	High	7	Tall	3
		20.5	7	High	7	Tall	4
	6X2	16	1	Low	6W	Short	1
		16.5	2	Low	6W	Short	2
		17	3	Low	6W	Short	3
		17.5	4	Low	6W	Short	4
		19.5	5	High	7W	Tall	2
		20	6	High	7W	Tall	3
		20.5	7	High	7W	Tall	4
	7	17	3	Low	6	Short	4
		17.5	4	Low	6	Short	5
		19.5	5	High	7	Tall	1
		20	6	High	7	Tall	2
		20.5	7	High	7	Tall	3
	8	19.5	5	High	7	Short	2
		20	6	High	7	Short	3
		20.5	7	High	7	Short	4

Seat Height - Configuration Charts

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
22" Mag Pneumatic	4	Not Available					
	5	16.5	1	Low	6	Tall	3
		17	2	Low	6	Tall	4
		17.5	2	Low	7	Short	3
		18	3	Low	7	Short	4
		18.5	4	Low	7	Short	5
		20.5	5	High	7	Tall	5
	6	17	1	High	6	Short	3
		17.5	2	High	6	Short	4
		18	3	High	6	Short	5
		18.5	4	High	6	Short	6
		20.5	5	High	7	Tall	4
	6X2	16.5	1	Low	7W	Short	1
		17	1	High	6W	Short	1
		17.5	2	High	6W	Short	2
		18	3	High	6W	Short	3
		18.5	4	High	6W	Short	4
		20.5	5	High	7W	Tall	4
	7	17	1	Low	6	Short	4
		17.5	2	Low	6	Short	5
		18	3	Low	6	Short	6
		18.5	4	High	6	Short	5
		20.5	4	High	7	Tall	3
	8	18	3	Low	7	Short	1
		18.5	4	Low	7	Short	2
		20.5	5	High	7	Short	4

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
22" Poly	4	Not Available					
	5	16.5	1	Low	6	Tall	3
		17	2	Low	6	Tall	4
		17.5	2	Low	7	Short	3
		18	3	Low	7	Short	4
		18.5	4	Low	7	Short	5
		20.5	5	High	7	Tall	5
	6	17	1	High	6	Short	3
		17.5	2	High	6	Short	4
		18	3	High	6	Short	5
		18.5	4	High	6	Short	6
		20.5	5	High	7	Tall	4
	6X2	16.5	1	Low	7W	Short	1
		17	1	High	6W	Short	1
		17.5	2	High	6W	Short	2
		18	3	High	6W	Short	3
		18.5	4	High	6W	Short	4
		20.5	5	High	7W	Tall	4
	7	17	1	Low	6	Short	4
		17.5	2	Low	6	Short	5
		18	3	Low	6	Short	6
		18.5	4	High	6	Short	5
		20.5	4	High	7	Tall	3
	8	18	3	Low	7	Short	1
		18.5	4	Low	7	Short	2
		20.5	5	High	7	Short	4

Seat Height - Configuration Charts

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
24" Mag Pneumatic	4	Not Available					
	5	17.5	1	High	6	Tall	3
		18	2	High	6	Tall	4
		18.5	3	High	6	Tall	5
		19	4	High	6	Tall	6
	6	17.5	1	High	6	Short	4
		18	2	High	6	Short	5
		18.5	2	High	7	Short	2
		19	3	High	7	Short	3
	6X2	17.5	1	High	7W	Short	1
		18	2	High	7W	Short	2
		18.5	3	High	7W	Short	3
		19	4	High	7W	Short	4
	7	17.5	1	Low	7	Short	2
		18	2	Low	7	Short	3
		18.5	3	Low	7	Short	4
		19	4	Low	7	Short	5
	8	18	2	Low	7	Short	1
		18.5	2	Low	7	Short	2
		19	3	Low	7	Short	3

Tire Type	Caster Size	Seat Height	Axle Position	Base Frame	Caster Fork	Caster Stem	Fork Hole
24" Mag Poly	4	Not Available					
	5	17.5	2	High	6	Tall	3
		18	3	High	6	Tall	4
		18.5	4	High	6	Tall	5
		19	4	High	6	Tall	6
	6	17.5	1	High	6	Short	4
		18	2	High	6	Short	5
		18.5	3	High	7	Short	2
		19	4	High	7	Short	3
	6X2	17	1	Low	7W	Short	2
		17.5	2	Low	7W	Short	3
		18	3	Low	7W	Short	4
		18.5	4	Low	7W	Short	5
		19	4	Low	7W	Tall	3
	7	17	1	Low	7	Short	1
		17.5	1	Low	7	Short	2
		18	2	Low	7	Short	3
		18.5	3	Low	7	Short	4
		19	4	High	6	Short	6
	8	18	2	Low	7	Short	1
		18.5	3	Low	7	Short	2
		19	4	Low	7	Short	3

Frame Setup by Depth Charts

Frame Depth	Frame Width	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
				1	2	3	4	5-8	Recline
14	14	1	1	8	7	6	5	4	8
14	15	1	1	8	7	6	5	4	8
14	16	1	1	8	7	6	5	4	8
14	17	1	1	8	7	6	5	4	8
14	18	1	1	8	7	6	5	4	8
14	19	1	1	8	7	6	5	4	8
14	20	1	1	8	7	6	5	4	8
14	21	1	1	8	7	6	5	4	8
14	22	1	1	8	7	6	5	4	8
15	14	1	1	8	7	6	5	4	8
15	15	1	1	8	7	6	5	4	8
15	16	2	1	8	7	6	5	4	8
15	17	2	1	8	7	6	5	4	8
15	18	3	1	8	7	6	5	5	9
15	19	3	1	8	7	6	5	5	9
15	20	3	1	8	7	6	5	5	9
15	21	3	1	8	7	6	5	5	9
15	22	3	1	8	7	6	5	5	9
16	14	1	2	9	8	7	6	5	9
16	15	2	1	8	7	6	5	4	8
16	16	2	1	8	7	6	5	4	8
16	17	3	1	8	7	6	5	5	9
16	18	3	1	8	7	6	5	5	9
16	19	4	1	8	7	6	5	5	9
16	20	4	1	8	7	6	5	5	9
16	21	5	1	8	7	6	6	6	10
16	22	5	1	8	7	6	6	6	10
17	14	2	2	9	8	7	6	5	9
17	15	2	2	9	8	7	6	5	9
17	16	3	2	9	8	7	6	6	10
17	17	3	2	9	8	7	6	6	10
17	18	4	1	8	7	6	5	5	9
17	19	4	1	8	7	6	5	5	9
17	20	5	1	8	7	6	6	6	10
17	21	5	1	8	7	6	6	6	10
17	22	6	1	8	7	6	6	6	10
18	14	2	3	10	9	8	7	6	10
18	15	3	3	10	9	8	7	7	11
18	16	3	3	10	9	8	7	7	11
18	17	4	2	9	8	7	6	6	10
18	18	4	2	9	8	7	6	6	10
18	19	5	2	9	8	7	7	7	11
18	20	5	2	9	8	7	7	7	11
18	21	6	1	8	7	6	6	6	10
18	22	6	1	8	7	6	6	6	10

*-indicates sub-optimum CG positioning

+--indicates not available w/Long seat frame

Frame Setup by Depth Charts

Frame Depth	Frame Width	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
				1	2	3	4	5-8	Recline
19	14	3	4	11	10	9	8	8	12
19	15	3	4	11	10	9	8	8	12
19	16	4	3	10	9	8	7	7	11
19	17	4	3	10	9	8	7	7	11
19	18	5	3	10	9	8	8	8	12
19	19	5	3	10	9	8	8	8	12
19	20	6	2	9	8	7	7	7	11
19	21	6	2	9	8	7	7	7	11
19	22	7	2	9	8	8	8	8	12
20	14	3	4	11	10	9	8	8	12
20	15	4	4	11	10	9	8	8	12
20	16	4	4	11	10	9	8	8	12
20	17	5	3	10	9	8	8	8	12
20	18	5	3	10	9	8	8	8	12
20	19	6	3	10	9	8	8	8	12
20	20	6	3	10	9	8	8	8	12
20	21	7	2	9	8	8	8	8	12
20	22	7	2	9	8	8	8	8	12
21	14	5	4	11	10	9	9	9	13
21	15	5	4	11	10	9	9	9	13
21	16	5	4	11	10	9	9	9	13
21	17	5	4	11	10	9	9	9	13
21	18	6	4	11	10	9	9	9	13
21	19	6	4	11	10	9	9	9	13
21	20	7	3	10	9	9	9	9	13
21	21	7	3	10	9	9	9	9	13
21	22	8	3	10	9	9	9	9	13
22	14	6	4	11	10	9	9	9	13
22	15	6	4	11	10	9	9	9	13
22	16	7	4	11	10	10	10	10	14
22	17	7	4	11	10	10	10	10	14
22	18	8	4	11	10	10	10	10	14
22	19	8	4	11	10	10	10	10	14
22	20	9	3	10	10	10	10	10	14
22	21	9	3	10	10	10	10	10	14
22	22	9	3	10	10	10	10	10	14

*-indicates sub-optimum CG positioning

+indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: -2

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
14	14	N/A								
14	15	N/A								
14	16	N/A								
14	17	N/A								
14	18	N/A								
14	19	N/A								
14	20	N/A								
14	21	N/A								
14	22	N/A								
15	14	N/A								
15	15	N/A								
15	16	N/A								
15	17	N/A								
15	18	N/A								
15	19	N/A								
15	20	N/A								
15	21	N/A								
15	22	N/A								
16	14*	14	1	1	8	7	6	6	6	10
16	15*	14	1	1	8	7	6	6	6	10
16	16*	14	1	1	8	7	6	6	6	10
16	17*	14	1	1	8	7	6	6	6	10
16	18*	14	1	1	8	7	6	6	6	10
16	19*	14	1	1	8	7	6	6	6	10
16	20*	14	1	1	8	7	6	6	6	10
16	21	14	1	1	8	7	6	6	6	10
16	22	14	1	1	8	7	6	6	6	10
17	14*	15	1	1	8	7	6	6	6	10
17	15*	15	1	1	8	7	6	6	6	10
17	16*	15	1	1	8	7	6	6	6	10
17	17*	15	1	1	8	7	6	6	6	10
17	18*	15	1	1	8	7	6	6	6	10
17	19*	15	1	1	8	7	6	6	6	10
17	20	15	1	1	8	7	6	6	6	10
17	21	15	1	1	8	7	6	6	6	10
17	22	15	2	1	8	7	6	6	6	10
18	14*	16	1	2	9	8	7	7	7	11
18	15*	16	1	2	9	8	7	7	7	11
18	16*	16	1	2	9	8	7	7	7	11
18	17*	16	1	2	9	8	7	7	7	11
18	18*	16	1	2	9	8	7	7	7	11
18	19	16	1	2	9	8	7	7	7	11
18	20	16	1	2	9	8	7	7	7	11
18	21	16	2	1	8	7	6	6	6	10
18	22	16	2	1	8	7	6	6	6	10

*-indicates sub-optimum CG positioning

+indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: -2

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
19	14*	17	1	3	10	9	8	8	8	12
19	15*	17	1	3	10	9	8	8	8	12
19	16*	17	1	3	10	9	8	8	8	12
19	17*	17	1	3	10	9	8	8	8	12
19	18	17	1	3	10	9	8	8	8	12
19	19	17	1	3	10	9	8	8	8	12
19	20	17	2	2	9	8	7	7	7	11
19	21	17	2	2	9	8	7	7	7	11
19	22	17	3	2	9	8	8	8	8	12
20	14*	18	1	3	10	9	8	8	8	12
20	15*	18	1	3	10	9	8	8	8	12
20	16*	18	1	3	10	9	8	8	8	12
20	17	18	1	3	10	9	8	8	8	12
20	18	18	1	3	10	9	8	8	8	12
20	19	18	2	3	10	9	8	8	8	12
20	20	18	2	3	10	9	8	8	8	12
20	21	18	3	2	9	8	8	8	8	12
20	22	18	3	2	9	8	8	8	8	12
21	14	19	1	4	11	10	9	9	9	13
21	15	19	1	4	11	10	9	9	9	13
21	16	19	1	4	11	10	9	9	9	13
21	17	19	1	4	11	10	9	9	9	13
21	18	19	2	4	11	10	9	9	9	13
21	19	19	2	4	11	10	9	9	9	13
21	20	19	3	3	10	9	9	9	9	13
21	21	19	3	3	10	9	9	9	9	13
21	22	19	4	3	10	9	9	9	9	13
22	14	20	2	4	11	10	9	9	9	13
22	15	20	2	4	11	10	9	9	9	13
22	16	20	3	4	11	10	10	10	10	14
22	17	20	3	4	11	10	10	10	10	14
22	18	20	4	4	11	10	10	10	10	14
22	19	20	4	4	11	10	10	10	10	14
22	20	20	5	3	10	10	10	10	10	14
22	21	20	5	3	10	10	10	10	10	14
22	22	20	5	3	10	10	10	10	10	14

*-indicates sub-optimum CG positioning

+indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: -1

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
14	14	N/A								
14	15	N/A								
14	16	N/A								
14	17	N/A								
14	18	N/A								
14	19	N/A								
14	20	N/A								
14	21	N/A								
14	22	N/A								
15	14*	14	1	1	8	7	6	5	5	9
15	15*	14	1	1	8	7	6	5	5	9
15	16*	14	1	1	8	7	6	5	5	9
15	17*	14	1	1	8	7	6	5	5	9
15	18	14	1	1	8	7	6	5	5	9
15	19	14	1	1	8	7	6	5	5	9
15	20	14	1	1	8	7	6	5	5	9
15	21	14	1	1	8	7	6	5	5	9
15	22	14	1	1	8	7	6	5	5	9
16	14*	15	1	1	8	7	6	5	5	9
16	15*	15	1	1	8	7	6	5	5	9
16	16*	15	1	1	8	7	6	5	5	9
16	17	15	1	1	8	7	6	5	5	9
16	18	15	1	1	8	7	6	5	5	9
16	19	15	2	1	8	7	6	5	5	9
16	20	15	2	1	8	7	6	5	5	9
16	21	15	3	1	8	7	6	6	6	10
16	22	15	3	1	8	7	6	6	6	10
17	14*	16	1	2	9	8	7	6	6	10
17	15*	16	1	2	9	8	7	6	6	10
17	16	16	1	2	9	8	7	6	6	10
17	17	16	1	2	9	8	7	6	6	10
17	18	16	2	1	8	7	7	5	5	9
17	19	16	2	1	8	7	6	5	5	9
17	20	16	3	1	8	7	6	6	6	10
17	21	16	3	1	8	7	6	6	6	10
17	22	16	4	1	8	7	6	6	6	10
18	14*	17	1	3	10	9	8	7	7	11
18	15	17	1	3	10	9	8	7	7	11
18	16	17	1	3	10	9	8	7	7	11
18	17	17	2	2	9	8	7	6	6	10
18	18	17	2	2	9	8	7	6	6	10
18	19	17	3	2	9	8	7	7	7	11
18	20	17	3	2	9	8	7	7	7	11
18	21	17	4	1	8	7	6	6	6	10
18	22	17	4	1	8	7	6	6	6	10

*-indicates sub-optimum CG positioning

+indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: -1

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
19	14	18	1	4	11	10	9	8	8	12
19	15	18	1	4	11	10	9	8	8	12
19	16	18	2	3	10	9	8	7	7	11
19	17	18	2	3	10	9	8	7	7	11
19	18	18	3	3	10	9	8	8	8	12
19	19	18	3	3	10	9	8	8	8	12
19	20	18	4	2	9	8	7	7	7	11
19	21	18	4	2	9	8	7	7	7	11
19	22	18	5	2	9	8	8	8	8	12
20	14	19	1	4	11	10	9	8	8	12
20	15	19	2	4	11	10	9	8	8	12
20	16	19	2	4	11	109	9	8	8	12
20	17	19	3	3	10	9	8	8	8	12
20	18	19	3	3	10	9	8	8	8	12
20	19	19	4	3	10	9	8	8	8	12
20	20	19	4	3	10	9	8	8	8	12
20	21	19	5	2	9	8	8	8	8	12
20	22	19	5	2	9	8	8	8	8	12
21	14	20	3	4	11	10	9	9	9	13
21	15	20	3	4	11	10	9	9	9	13
21	16	20	3	4	11	10	9	9	9	13
21	17	20	3	4	11	10	9	9	9	13
21	18	20	4	4	11	10	9	9	9	13
21	19	20	4	4	11	10	9	9	9	13
21	20	20	5	3	10	9	9	9	9	13
21	21	20	5	3	10	9	9	9	9	13
21	22	20	6	3	10	9	9	9	9	13
22	14	21	4	4	11	10	9	9	9	13
22	15	21	4	4	11	10	9	9	9	13
22	16	21	5	4	11	10	10	10	10	14
22	17	21	5	4	11	10	10	10	10	14
22	18	21	6	4	11	10	10	10	10	14
22	19	21	6	4	11	10	10	10	10	14
22	20	21	7	3	10	10	10	10	10	14
22	21	21	7	3	10	10	10	10	10	14
22	22	21	7	3	10	10	10	10	10	14

*-indicates sub-optimum CG positioning

+indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: 0

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
14	14	14	1	1	8	7	6	5	4	8
14	15	14	1	1	8	7	6	5	4	8
14	16	14	1	1	8	7	6	5	4	8
14	17	14	1	1	8	7	6	5	4	8
14	18	14	1	1	8	7	6	5	4	8
14	19	14	1	1	8	7	6	5	4	8
14	20	14	1	1	8	7	6	5	4	8
14	21	14	1	1	8	7	6	5	4	8
14	22	14	1	1	8	7	6	5	4	8
15	14	15	1	1	8	7	6	5	4	8
15	15	15	1	1	8	7	6	5	4	8
15	16	15	2	1	8	7	6	5	4	8
15	17	15	2	1	8	7	6	5	4	8
15	18	15	3	1	8	7	6	5	5	9
15	19	15	3	1	8	7	6	5	5	9
15	20	15	3	1	8	7	6	5	5	9
15	21	15	3	1	8	7	6	5	5	9
15	22	15	3	1	8	7	6	5	5	9
16	14	16	1	2	9	8	7	6	5	9
16	15	16	2	1	8	7	6	5	4	8
16	16	16	2	1	8	7	6	5	4	8
16	17	16	3	1	8	7	6	5	5	9
16	18	16	3	1	8	7	6	5	5	9
16	19	16	4	1	8	7	6	5	5	9
16	20	16	4	1	8	7	6	5	5	9
16	21	16	5	1	8	7	6	5	6	10
16	22	16	5	1	8	7	6	5	6	10
17	14	17	2	2	9	8	7	6	5	9
17	15	17	2	2	9	8	7	6	5	9
17	16	17	3	2	9	8	7	6	6	10
17	17	17	3	2	9	8	7	6	6	10
17	18	17	4	1	8	7	6	5	5	9
17	19	17	4	1	8	7	6	5	5	9
17	20	17	5	1	8	7	6	6	6	10
17	21	17	5	1	8	7	6	6	6	10
17	22	17	6	1	8	7	6	6	6	10
18	14	18	2	3	10	9	8	7	6	10
18	15	18	3	3	10	9	8	7	7	11
18	16	18	3	3	10	9	8	7	7	11
18	17	18	4	2	9	8	7	6	6	10
18	18	18	4	2	9	8	7	6	6	10
18	19	18	5	2	9	8	7	7	7	11
18	20	18	5	2	9	8	7	7	7	11
18+	21	18	6	1	8	7	6	6	6	10
18+	22	18	6	1	8	7	6	6	6	10

*-indicates sub-optimum CG positioning

+--indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: 0

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
19	14	19	3	4	11	10	9	8	8	12
19	15	19	3	4	11	10	9	8	8	12
19	16	19	4	3	10	9	8	7	7	11
19	17	19	4	3	10	9	8	7	7	11
19	18	19	5	3	10	9	8	8	8	12
19	19	19	5	3	10	9	8	8	8	12
19	20	19	6	2	9	8	7	7	7	11
19	21	19	6	2	9	8	7	7	7	11
19	22	19	7	2	9	8	8	8	8	12
20	14	20	3	4	11	10	9	8	8	12
20	15	20	4	4	11	10	9	8	8	12
20	16	20	4	4	11	10	9	8	8	12
20	17	20	5	3	10	9	8	8	8	12
20	18	20	5	3	10	9	8	8	8	12
20	19	20	6	3	10	9	8	8	8	12
20	20	20	6	3	10	9	8	8	8	12
20	21	20	7	2	9	8	8	8	8	12
20	22	20	7	2	9	8	8	8	8	12
21	14	21	5	4	11	10	9	9	9	13
21	15	21	5	4	11	10	9	9	9	13
21	16	21	5	4	11	10	9	9	9	13
21	17	21	5	4	11	10	9	9	9	13
21	18	21	6	4	11	10	9	9	9	13
21	19	21	6	4	11	10	9	9	9	13
21	20	21	7	3	10	9	9	9	9	13
21	21	21	7	3	10	9	9	9	9	13
21	22	21	8	3	10	9	9	9	9	13
22	14	22	6	4	11	10	9	9	9	13
22	15	22	6	4	11	10	9	9	9	13
22	16	22	7	4	11	10	10	10	10	14
22	17	22	7	4	11	10	10	10	10	14
22	18	22	8	4	11	10	10	10	10	14
22	19	22	8	4	11	10	10	10	10	14
22	20	22	9	3	10	10	10	10	10	14
22	21	22	9	3	10	10	10	10	10	14
22	22	22	9	3	10	10	10	10	10	14

*-indicates sub-optimum CG positioning

+indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: +1

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
14	14	15	3	1	8	7	6	5	4	8
14	15	15	3	1	8	7	6	5	4	8
14	16	15	3	1	8	7	6	5	4	8
14	17	15	3	1	8	7	6	5	4	8
14	18	15	3	1	8	7	6	5	4	8
14	19	15	3	1	8	7	6	5	4	8
14	20	15	3	1	8	7	6	5	4	8
14	21	15	3	1	8	7	6	5	4	8
14	22	15	3	1	8	7	6	5	4	8
15	14	16	3	1	8	7	6	5	4	8
15	15	16	3	1	8	7	6	5	4	8
15	16	16	4	1	8	7	6	5	4	8
15	17	16	4	1	8	7	6	5	4	8
15	18	16	5	1	8	7	6	5	5	9
15	19	16	5	1	8	7	6	5	5	9
15	20	16	5	1	8	7	6	5	5	9
15	21	16	5	1	8	7	6	5	5	9
15	22	16	5	1	8	7	6	5	5	9
16	14	17	3	2	9	8	7	6	5	9
16	15	17	4	1	8	7	6	5	4	8
16	16	17	4	1	8	7	6	5	4	8
16	17	17	5	1	8	7	6	5	5	9
16	18	17	5	1	8	7	6	5	5	9
16	19	17	6	1	8	7	6	5	5	9
16	20	17	6	1	8	7	6	5	5	9
16	21	17	7	1	8	7	6	6	6	10
16	22	17	7	1	8	7	6	6	6	10
17	14	18	4	2	9	8	7	6	5	9
17	15	18	4	2	9	8	7	6	5	9
17	16	18	5	2	9	8	7	6	6	10
17	17	18	5	2	9	8	7	6	6	10
17+	18	18	6	1	8	7	6	5	5	9
17+	19	18	6	1	8	7	6	5	5	9
17+	20	18	7	1	8	7	6	6	6	10
17+	21	18	7	1	8	7	6	6	6	10
17+	22	18	8	1	8	7	6	6	6	10
18	14	19	4	3	10	9	8	7	6	10
18	15	19	5	3	10	9	8	7	7	11
18	16	19	5	3	10	9	8	7	7	11
18	17	19	6	2	9	8	7	6	6	10
18	18	19	6	2	9	8	7	6	6	10
18	19	19	7	2	9	8	7	7	7	11
18	20	19	7	2	9	8	7	7	7	11
18+	21	19	8	1	8	7	6	6	6	10
18+	22	19	8	1	8	7	6	6	6	10

*-indicates sub-optimum CG positioning

+--indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: +1

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
19	14	20	5	4	11	10	9	8	8	12
19	15	20	5	4	11	10	9	8	8	12
19	16	20	6	3	10	9	8	7	7	1
19	17	20	6	3	10	9	8	7	7	1
19	18	20	7	3	10	9	8	8	8	12
19	19	20	7	3	10	9	8	8	8	12
19	20	20	8	2	9	8	7	7	7	11
19	21	20	8	2	9	8	7	7	7	11
19	22	20	9	2	9	8	8	8	8	12
20	14	21	5	4	11	10	9	8	8	12
20	15	21	6	4	11	10	9	8	8	12
20	16	21	6	4	11	10	9	8	8	12
20	17	21	7	3	10	9	8	8	8	12
20	18	21	7	3	10	9	8	8	8	12
20	19	21	8	3	10	9	8	8	8	12
20	20	21	8	3	10	9	8	8	8	12
20	21	21	9	2	9	8	8	8	8	12
20	22	21	9	2	9	8	8	8	8	12
21	14	22	7	4	11	10	9	9	9	13
21	15	22	7	4	11	10	9	9	9	13
21	16	22	7	4	11	10	9	9	9	13
21	17	22	7	4	11	10	9	9	9	13
21	18	22	8	4	11	10	9	9	9	13
21	19	22	8	4	11	10	9	9	9	13
21	20	22	9	3	10	9	9	9	9	13
21	21	22	9	3	10	9	9	9	9	13
21	22	22	10	3	10	9	9	9	9	13
22	14	N/A								
22	15	N/A								
22	16	N/A								
22	17	N/A								
22	18	N/A								
22	19	N/A								
22	20	N/A								
22	21	N/A								
22	22	N/A								

*-indicates sub-optimum CG positioning

+indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: +2

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
14	14	16	5	1	8	7	6	5	4	8
14	15	16	5	1	8	7	6	5	4	8
14	16	16	5	1	8	7	6	5	4	8
14	17	16	5	1	8	7	6	5	4	8
14	18	16	5	1	8	7	6	5	4	8
14	19	16	5	1	8	7	6	5	4	8
14	20	16	5	1	8	7	6	5	4	8
14	21	16	5	1	8	7	6	5	4	8
14	22	16	5	1	8	7	6	5	4	8
15	14	17	5	1	8	7	6	5	4	8
15	15	17	5	1	8	7	6	5	4	8
15	16	17	6	1	8	7	6	5	4	8
15	17	17	6	1	8	7	6	5	4	8
15	18	17	7	1	8	7	6	5	5	9
15	19	17	7	1	8	7	6	5	5	9
15	20	17	7	1	8	7	6	5	5	9
15	21	17	7	1	8	7	6	5	5	9
15	22	17	7	1	8	7	6	5	5	9
16	14	18	5	2	9	8	7	6	5	9
16+	15	18	6	1	8	7	6	5	4	8
16+	16	18	6	1	8	7	6	5	4	8
16+	17	18	7	1	8	7	6	5	5	9
16+	18	18	7	1	8	7	6	5	5	9
16+	19	18	8	1	8	7	6	5	5	9
16+	20	18	8	1	8	7	6	5	5	9
16+	21	18	9	1	8	7	6	6	6	10
16+	22	18	9	1	8	7	6	6	6	10
17	14	19	6	2	9	8	7	6	5	9
17	15	19	6	2	9	8	7	6	5	9
17	16	19	7	2	9	8	7	6	6	10
17	17	19	7	2	9	8	7	6	6	10
17+	18	19	8	1	8	7	6	5	5	9
17+	19	19	8	1	8	7	6	5	5	9
17+	20	19	9	1	8	7	6	6	6	10
17+	21	19	9	1	8	7	6	6	6	10
17+	22	19	10	1	8	7	6	6	6	10
18	14	20	6	3	10	9	8	8	6	10
18	15	20	7	3	10	9	8	8	7	11
18	16	20	7	3	10	9	8	8	7	11
18	17	20	8	2	9	8	7	7	6	10
18	18	20	8	2	9	8	7	7	6	10
18	19	20	9	2	9	8	7	7	7	11
18	20	20	9	2	9	8	7	7	7	11
18+	21	20	10	1	8	7	6	6	6	10
18+	22	20	10	1	8	7	6	6	6	10

*-indicates sub-optimum CG positioning

+--indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: +2

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
19	14	21	7	4	11	10	9	8	8	12
19	15	21	7	4	11	10	9	8	8	12
19	16	21	8	3	10	9	8	7	7	11
19	17	21	8	3	10	9	8	7	7	11
19	18	21	9	3	10	9	8	8	8	12
19	19	21	9	3	10	9	8	8	8	12
19	20	21	10	2	9	8	7	7	7	11
19	21	21	10	2	9	8	7	7	7	11
19	22*	21	10	2	9	8	7	7	7	11
20	14	22	7	4	11	10	9	8	8	12
20	15	22	8	4	11	10	9	8	8	12
20	16	22	8	4	11	10	9	8	8	12
20	17	22	9	3	10	9	8	8	8	12
20	18	22	9	3	10	9	8	8	8	12
20	19	22	10	3	10	9	8	8	8	12
20	20	22	10	3	10	9	8	8	8	12
20	21*	22	10	3	10	9	8	8	8	12
20	22*	22	10	3	10	9	8	8	8	12
21	14	N/A								
21	15	N/A								
21	16	N/A								
21	17	N/A								
21	18	N/A								
21	19	N/A								
21	20	N/A								
21	21	N/A								
21	22	N/A								
22	14	N/A								
22	15	N/A								
22	16	N/A								
22	17	N/A								
22	18	N/A								
22	19	N/A								
22	20	N/A								
22	21	N/A								
22	22	N/A								

*-indicates sub-optimum CG positioning

+indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: +3

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
14	14	17	7	1	8	7	6	5	4	8
14	15	17	7	1	8	7	6	5	4	8
14	16	17	7	1	8	7	6	5	4	8
14	17	17	7	1	8	7	6	5	4	8
14	18	17	7	1	8	7	6	5	4	8
14	19	17	7	1	8	7	6	5	4	8
14	20	17	7	1	8	7	6	5	4	8
14	21	17	7	1	8	7	6	5	4	8
14	22	17	7	1	8	7	6	5	4	8
15+	14	18	7	1	8	7	6	5	4	8
15+	15	18	7	1	8	7	6	5	4	8
15+	16	18	8	1	8	7	6	5	4	8
15+	17	18	8	1	8	7	6	5	4	8
15+	18	18	9	1	8	7	6	5	5	9
15+	19	18	9	1	8	7	6	5	5	9
15+	20	18	9	1	8	7	6	5	5	9
15+	21	18	9	1	8	7	6	5	5	9
15+	22	18	9	1	8	7	6	5	5	9
16	14	19	7	2	9	8	7	6	5	9
16+	15	19	8	1	8	7	6	5	4	8
16+	16	19	8	1	8	7	6	5	4	8
16+	17	19	9	1	8	7	6	5	5	9
16+	18	19	9	1	8	7	6	5	5	9
16+	19	19	10	1	8	7	6	5	5	9
16+	20	19	10	1	8	7	6	5	5	9
16+	21*	19	10	1	8	7	6	5	5	9
16+	22*	19	10	1	8	7	6	5	5	9
17	14	20	8	2	9	8	7	6	5	9
17	15	20	8	2	9	8	7	6	5	9
17	16	20	9	2	9	8	7	6	6	10
17	17	20	9	2	9	8	7	6	6	10
17+	18	20	10	1	8	7	6	5	5	9
17+	19	20	10	1	8	7	6	5	5	9
17+	20*	20	10	1	8	7	6	5	5	9
17+	21*	20	10	1	8	7	6	5	5	9
17+	22*	20	10	1	8	7	6	5	5	9
18	14	21	8	3	10	9	8	7	6	10
18	15	21	9	3	10	9	8	7	7	11
18	16	21	9	3	10	9	8	7	7	11
18	17	21	10	2	9	8	7	6	6	10
18	18	21	10	2	9	8	7	6	6	10
18	19*	21	10	2	9	8	7	6	6	10
18	20*	21	10	2	9	8	7	6	6	10
18	21*	21	10	2	9	8	7	6	6	10
18	22*	21	10	2	9	8	7	6	6	10

*-indicates sub-optimum CG positioning

+--indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: +3

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
19	14	22	9	4	11	10	9	8	8	12
19	15	22	9	4	11	10	9	8	8	12
19	16	22	10	3	10	9	8	7	7	11
19	17	22	10	3	10	9	8	7	7	11
19	18*	22	10	3	10	9	8	7	7	11
19	19*	22	10	3	10	9	8	7	7	11
19	20*	22	10	3	10	9	8	7	7	11
19	21*	22	10	3	10	9	8	7	7	11
19	22*	22	10	3	10	9	8	7	7	11
20	14	N/A								
20	15	N/A								
20	16	N/A								
20	17	N/A								
20	18	N/A								
20	19	N/A								
20	20	N/A								
20	21	N/A								
20	22	N/A								
21	14	N/A								
21	15	N/A								
21	16	N/A								
21	17	N/A								
21	18	N/A								
21	19	N/A								
21	20	N/A								
21	21	N/A								
21	22	N/A								
22	14	N/A								
22	15	N/A								
22	16	N/A								
22	17	N/A								
22	18	N/A								
22	19	N/A								
22	20	N/A								
22	21	N/A								
22	22	N/A								

*-indicates sub-optimum CG positioning
 +-indicates not available w/Long seat frame

Frame Setup Charts - Setup by Ki, Backrest Offset: +4

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
14+	14	18	9	1	8	7	6	5	4	8
14+	15	18	9	1	8	7	6	5	4	8
14+	16	18	9	1	8	7	6	5	4	8
14+	17	18	9	1	8	7	6	5	4	8
14+	18	18	9	1	8	7	6	5	4	8
14+	19	18	9	1	8	7	6	5	4	8
14+	20	18	9	1	8	7	6	5	4	8
14+	21	18	9	1	8	7	6	5	4	8
14+	22	18	9	1	8	7	6	5	4	8
15+	14	19	9	1	8	7	6	5	4	8
15+	15	19	9	1	8	7	6	5	4	8
15+	16	19	10	1	8	7	6	5	4	8
15+	17	19	10	1	8	7	6	5	4	8
15+	18*	19	10	1	8	7	6	5	4	8
15+	19*	19	10	1	8	7	6	5	4	8
15+	20*	19	10	1	8	7	6	5	4	8
15+	21*	19	10	1	8	7	6	5	4	8
15+	22*	19	10	1	8	7	6	5	4	8
16	14	20	9	2	9	8	7	6	5	9
16+	15	20	10	1	8	7	6	5	4	8
16+	16	20	10	1	8	7	6	5	4	8
16+	17*	20	10	1	8	7	6	5	4	8
16+	18*	20	10	1	8	7	6	5	4	8
16+	19*	20	10	1	8	7	6	5	4	8
16+	20*	20	10	1	8	7	6	5	4	8
16+	21*	20	10	1	8	7	6	5	4	8
16+	22*	20	10	1	8	7	6	5	4	8
17	14	21	10	2	9	8	7	6	5	9
17	15	21	10	2	9	8	7	6	5	9
17	16*	21	10	2	9	8	7	6	5	9
17	17*	21	10	2	9	8	7	6	5	9
17	18*	21	10	2	9	8	7	6	5	9
17	19*	21	10	2	9	8	7	6	5	9
17	20*	21	10	2	9	8	7	6	5	9
17	21*	21	10	2	9	8	7	6	5	9
17	22*	21	10	2	9	8	7	6	5	9
18	14	22	10	3	10	9	8	7	6	10
18	15*	22	10	3	10	9	8	7	6	10
18	16*	22	10	3	10	9	8	7	6	10
18	17*	22	10	3	10	9	8	7	6	10
18	18*	22	10	3	10	9	8	7	6	10
18	19*	22	10	3	10	9	8	7	6	10
18	20*	22	10	3	10	9	8	7	6	10
18	21*	22	10	3	10	9	8	7	6	10
18	22*	22	10	3	10	9	8	7	6	10

*-indicates sub-optimum CG positioning

+indicates not available w/Long seat frame

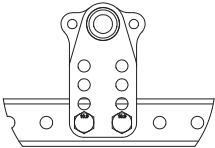
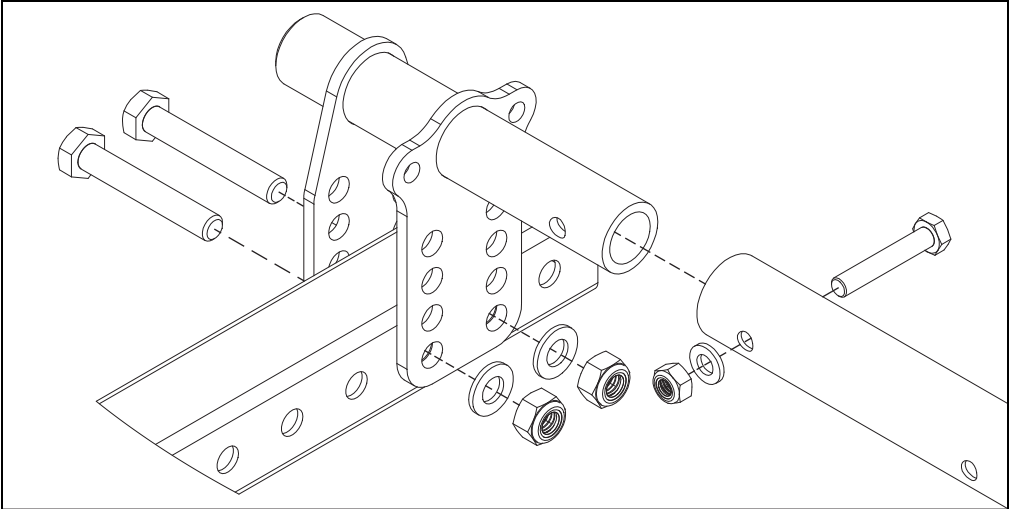
Frame Setup Charts - Setup by Ki, Backrest Offset: +4

Seat Depth	Frame Width	Frame Depth	CG Position	Roller Position	Axle Plate Position for Axle Sleeve Position (See Page 30 & 31)					
					1	2	3	4	5-8	Recline
19	14	N/A								
19	15	N/A								
19	16	N/A								
19	17	N/A								
19	18*	N/A								
19	19*	N/A								
19	20*	N/A								
19	21*	N/A								
19	22*	N/A								
20	14	N/A								
20	15	N/A								
20	16	N/A								
20	17	N/A								
20	18	N/A								
20	19	N/A								
20	20	N/A								
20	21	N/A								
20	22	N/A								
21	14	N/A								
21	15	N/A								
21	16	N/A								
21	17	N/A								
21	18	N/A								
21	19	N/A								
21	20	N/A								
21	21	N/A								
21	22	N/A								
22	14	N/A								
22	15	N/A								
22	16	N/A								
22	17	N/A								
22	18	N/A								
22	19	N/A								
22	20	N/A								
22	21	N/A								
22	22	N/A								

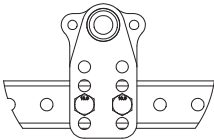
*-indicates sub-optimum CG positioning
 +-indicates not available w/Long seat frame

Axle Diagram References

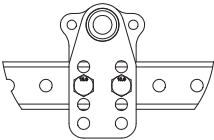
With the correct configuration determined from the charts above, use the diagrams below to identify parts and hole locations. See the next page for actual hardware and assembly instructions after identifying parts and hole locations.



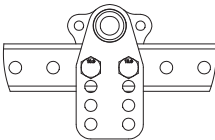
Sleeve Position 1



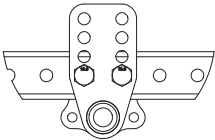
Sleeve Position 2



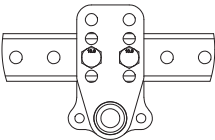
Sleeve Position 3



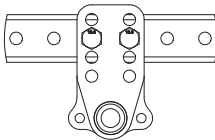
Sleeve Position 4



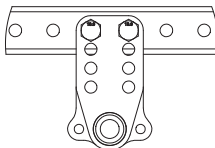
Sleeve Position 5



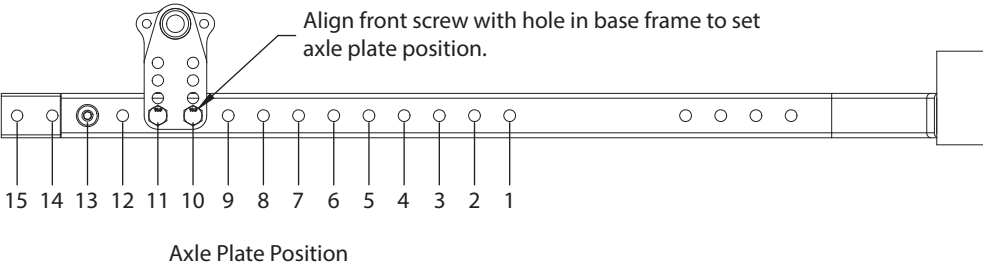
Sleeve Position 6



Sleeve Position 7



Sleeve Position 8

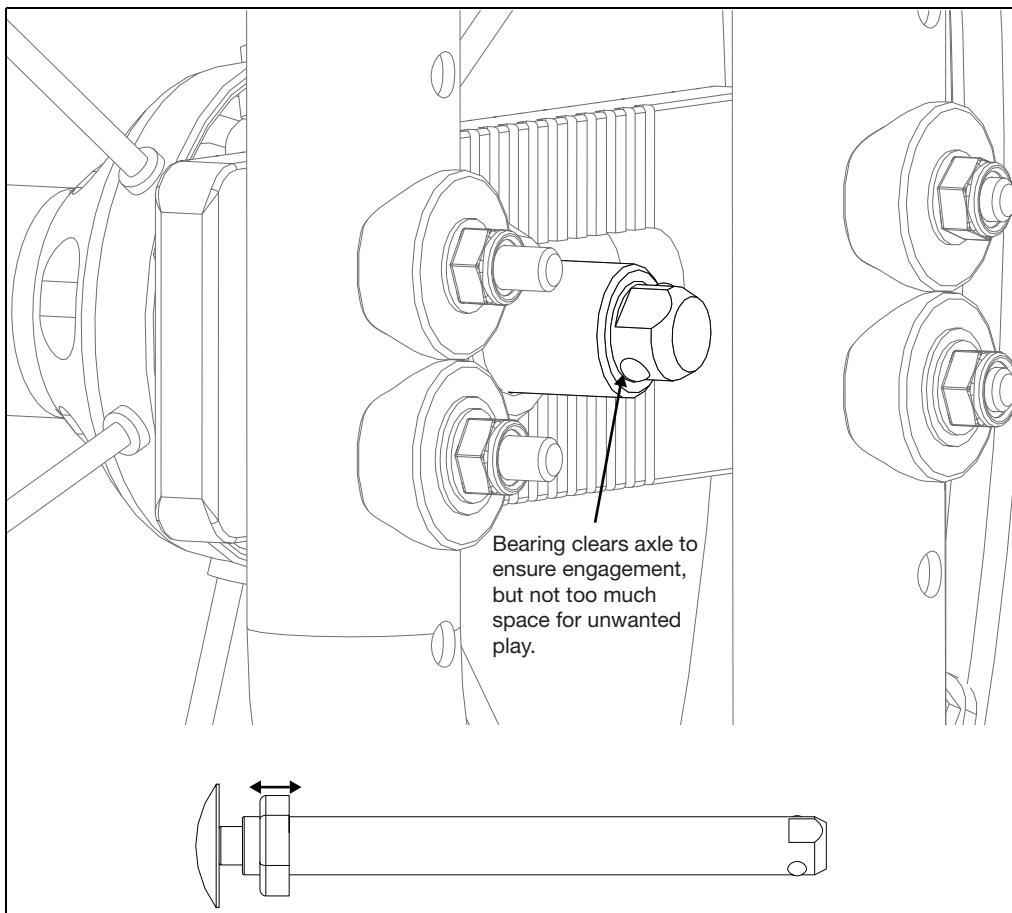


Quick Release Axle Adjustment

If the quick release axle bearing is set too long, there may be play in the wheel. If the quick release axle bearing is set too short, the bearing won't release and secure the wheel to the chair.

1. Hold the end of the quick release axle with an 11mm wrench and use a 19mm wrench to adjust the nut on the quick release axle. Rotating the nut towards the push button will increase the length and rotating the nut towards the bearing end will shorten the length.
2. Always test the quick release axle with no user in the chair first, to ensure the bearing clears and locks the axle to the frame with little play.

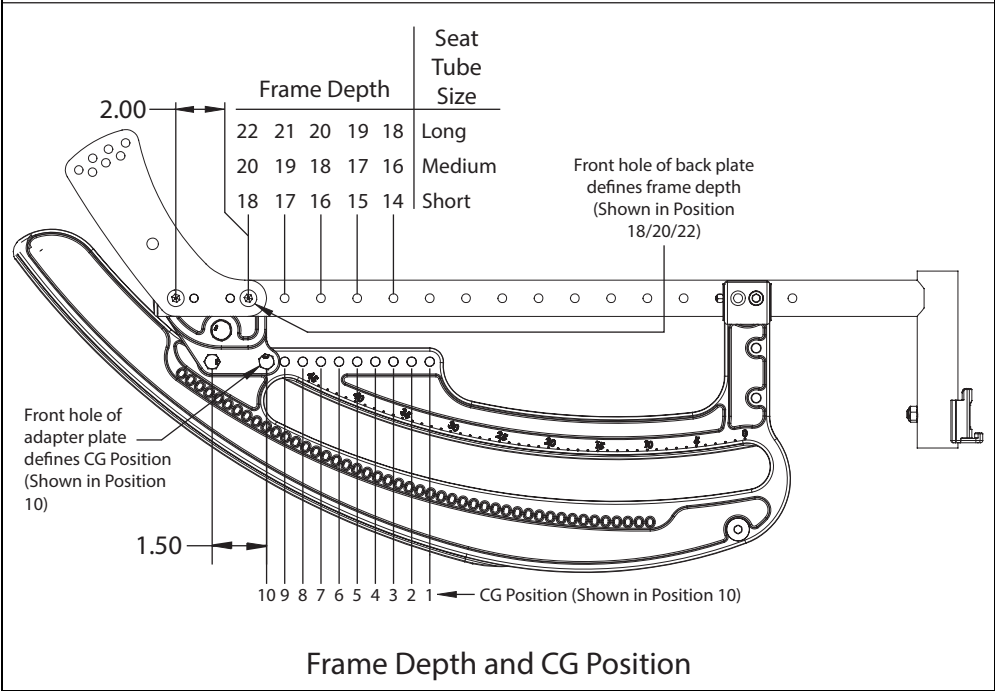
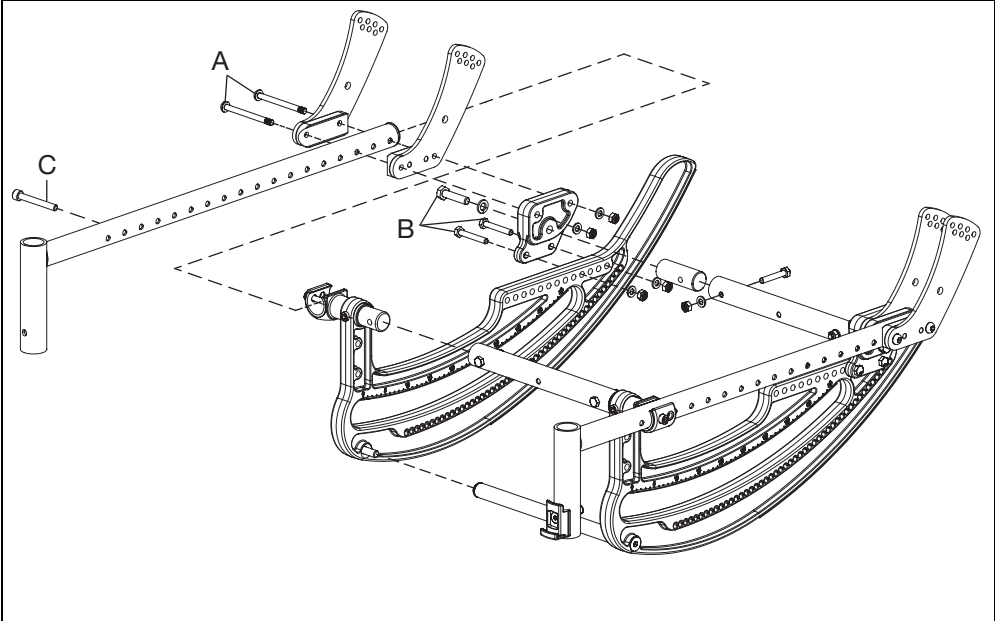
NOTE: The image below might show a different model of chair, but the image is to show the bearing clearing the axle .



Frame Depth and CG Position References

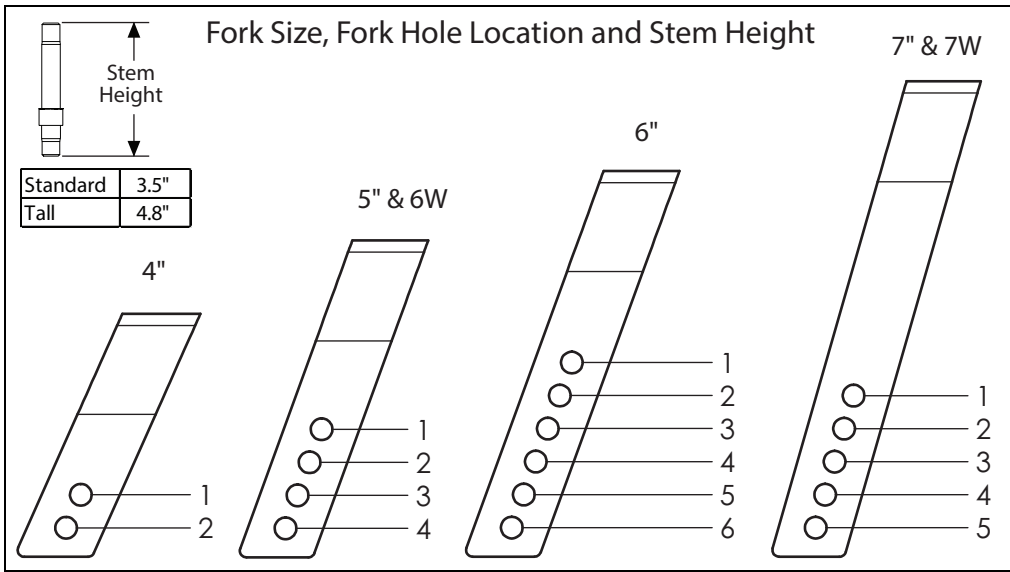
See below for diagrams of the Frame Depth and CG Position references. The front hole of the adapter plate defines the CG Position, as shown below, and hardware is installed/adjusted using a 5mm Allen wrench and a 10mm wrench.

NOTE: When changing Frame Depth: Remove bolts A and B from both sides (8 bolts). Slide back canes to desired frame depth. Insert Bolts A and remove bolts C. Set COG and reinstall bolts C and B. Always perform a final COG test with client in the chair.

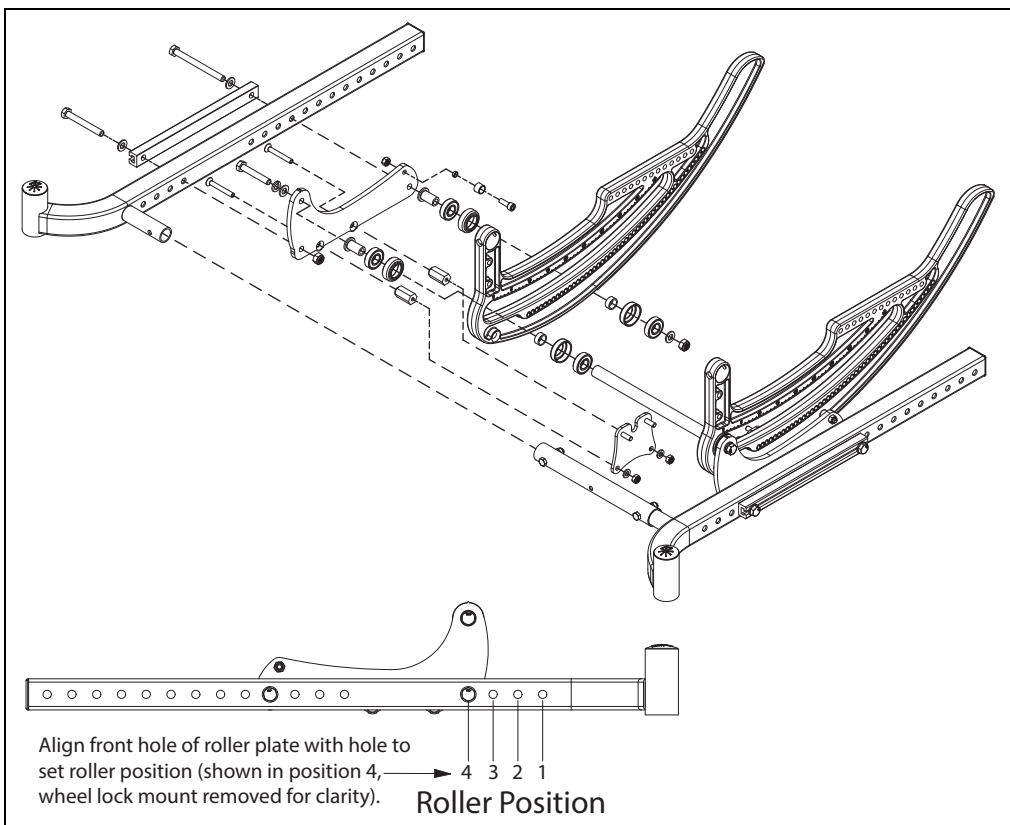


Frame Depth and CG Position

Fork Diagram References



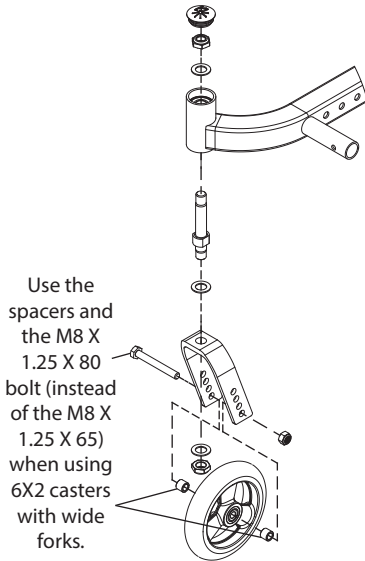
Base Frame & Roller Plate References



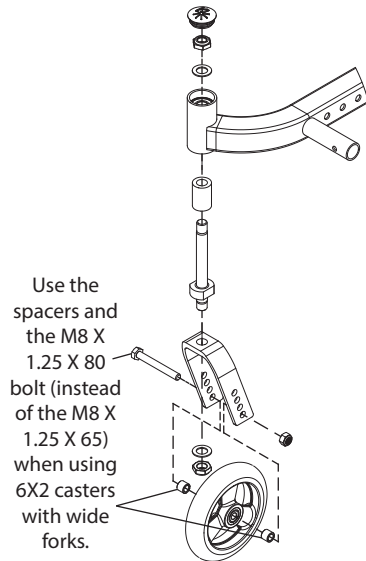
Caster Construction

Caster assemblies are shown below. Securing the caster wheel to the fork requires two 13mm wrenches. Securing the stem to the fork requires an 19mm wrench.

Caster Assembly - Standard Stem



Caster Assembly - Tall Stem



Caster Seat Height Matrix

Caster Seat Height Matrix

Seat Height Master Matrix																										
Rear Wheel Size	Tire Type	Axle Sleeve Pos.	Caster	6" Caster																						
			Base	Low									High													
			Fork	6					7				6					7								
			Stem	Short			Tall		Short			Tall		Short			Tall		Short			Tall				
			Fork Hole	3	4	5	6	3	4	5	6	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
			Seat Ht.	16.0	16.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	17.0	17.5	18.0	18.5	19.0	19.5	20.0	17.0	17.5	18.0	18.5	19.0	19.5	20.0
12" Mag		Pneu	1																							
			2																							
			3																							
			4																							
			5																							
16" Mag		Poly	1																							
			2																							
			3																							
			4																							
			5																							
16" Mag		Pneu	1																							
			2																							
			3																							
			4																							
			5																							
16" Mag		Poly	1																							
			2																							
			3																							
			4																							
			5																							
16" Mag		LPoly	1																							
			2																							
			3																							
			4																							
			5																							
20" Mag		Pneu	1																							
			2																							
			3																							
			4																							
			5																							
20" Mag		Poly	1																							
			2																							
			3																							
			4																							
			5																							
22" Mag		Pneu	1																							
			2																							
			3																							
			4																							
			5																							
22" Mag		Poly	1																							
			2																							
			3																							
			4																							
			5																							
24" Mag		Pneu	1																							
			2																							
			3																							
			4																							
			5																							
24" Mag		Poly	1																							
			2																							
			3																							
			4																							
			5																							

Caster Seat Height Matrix

		= Default		= Optional		Seat Height Master Matrix																								
Rear Wheel Size	Tire Type	Axle Sleeve Pos.	Caster	6"x2" Wide Caster																										
			Base	Low										High																
			Fork	6W					7W					6W					7W											
			Stem	Short		Tall			Short		Tall			Short		Tall			Short		Tall									
			Fork Hole	1	2	3	4	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5			
			Seat Ht.	16.0	16.5	17.0	17.5	17.0	17.5	18.0	18.5	19.0	19.5	20.0	17.0	17.5	18.0	18.5	19.0	19.5	17.5	18.0	18.5	19.0	19.5	19.0	19.5	20.0	20.5	21.0
12" Mag	Pneu	1																												
		2																												
		3																												
		4																												
		5																												
	Poly	1																												
		2																												
		3																												
		4																												
		5																												
16" Mag	Pneu	1																												
		2																												
		3																												
		4																												
		5																												
	Poly	1																												
		2																												
		3																												
		4																												
		5																												
LPoly	1																													
	2																													
	3																													
	4																													
	5																													
20" Mag	Pneu	1																												
		2																												
		3																												
		4																												
		5																												
	Poly	1																												
		2																												
		3																												
		4																												
		5																												
22" Mag	Pneu	1																												
		2																												
		3																												
		4																												
		5																												
	Poly	1																												
		2																												
		3																												
		4																												
		5																												
24" Mag	Pneu	1																												
		2																												
		3																												
		4																												
		5																												
	Poly	1																												
		2																												
		3																												
		4																												
		5																												

Caster Seat Height Matrix

 = Default
 = Optional

Seat Height Master Matrix

Rear Wheel Size	Tire Type	Axle Sleeve Pos.	Caster	7" Caster												8" Caster											
			Base	Low						High						Low						High					
			Fork	6			7			6			7			7			7			7			7		
			Stem	Short	Tall		Short	Tall		Short	Tall		Short	Tall		Short	Tall		Short	Tall		Short	Tall		Short	Tall	
			Fork Hole	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6	4	5	6
			Seat Ht.	17.0	17.5	18.0	18.0	18.5	19.0	17.0	17.5	18.0	18.0	18.5	19.0	17.0	17.5	18.0	18.0	18.5	19.0	17.0	17.5	18.0	18.0	18.5	19.0
12" Mag	Pneu																										
	Poly																										
16" Mag	Pneu																										
	Poly																										
	LPoly																										
20" Mag	Pneu																										
	Poly																										
22" Mag	Pneu																										
	Poly																										
24" Mag	Pneu																										
	Poly																										

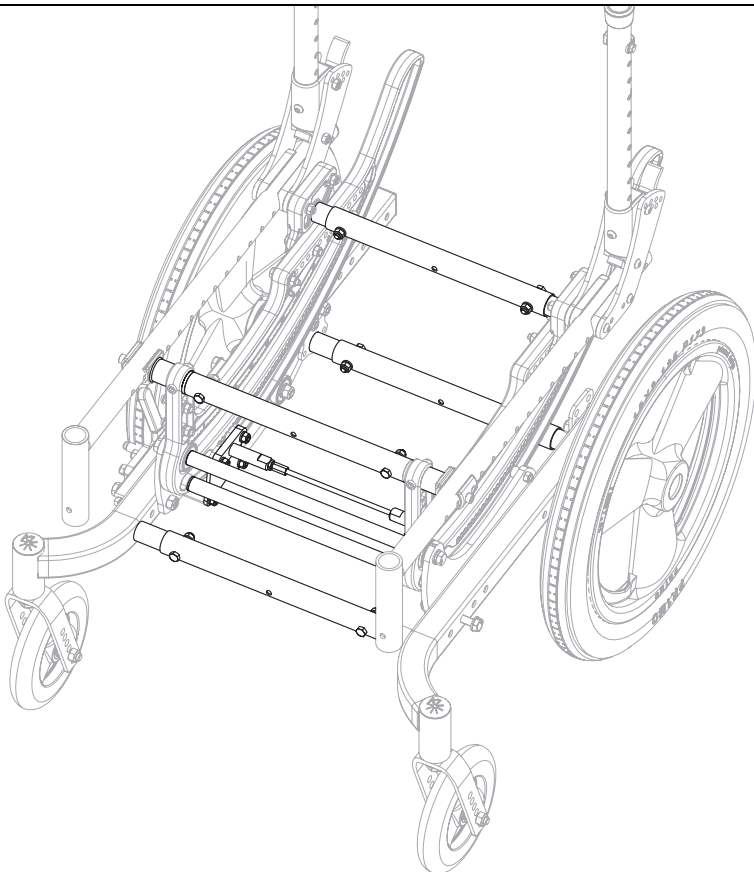
Chair Width

To adjust chair width, use two 10mm wrenches and a 5mm Allen wrench to remove the two sets of hardware on each strut tube. Reinstall hardware with new width struts. The struts correspond with the desired frame width which is available from 14" - 22".

NOTE: Anything that may be on a strut tube, such as a foot tilt mount or an attendant foot lock mount, would need to be transferred to the new struts.

NOTE: The tilt plates are also removed to detach the tilt cable assembly using a 10mm wrench.

NOTE: Depending on the width change, new cables may be needed for the tilt assembly. See cable chart below for the width ranges of the cables.



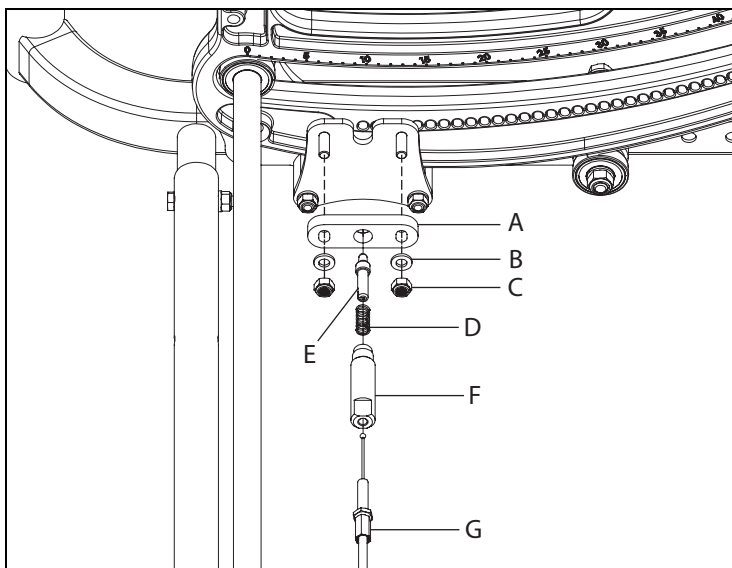
Foot Tilt Cable Width Ranges		
Chair Width	Same Side Cable	Opposite Side Cable
14 - 18	SHORT	SHORT
19 - 22	SHORT	MED
14 - 18 (Recline)	MED	MED
19 - 22 (Recline)	MED	LONG

Hand Tilt Cable Width Ranges		
Backrest Style	Back Height	Cable
Stroller	20"	SHORT
	24"	MED
Height Adjustable	18 - 23"	LONG
	24 - 27"	XL
Fixed Height Adjustable Push Handle	22"	LONG
	26"	XL
Recline	22"	SHORT
	26"	MED

Hand Tilt Mechanism Installation

NOTE: Remove any seating / cushion on the chair along with the seat pan for access in later steps.

3. Fully thread the cable (G) onto the housing plunger (F) until the ball end of the cable emerges from the end of the plunger (F).
4. Install the spring (D) onto the end of the plunger (F) and hook the pin (E) onto the ball end of the cable (G).
5. Thread the cable assembly into the plunger adapter (A).
6. Install the plunger adapter assembly onto the tilt plate and secure with two washers (B) and two nuts (C) using a 10mm wrench.

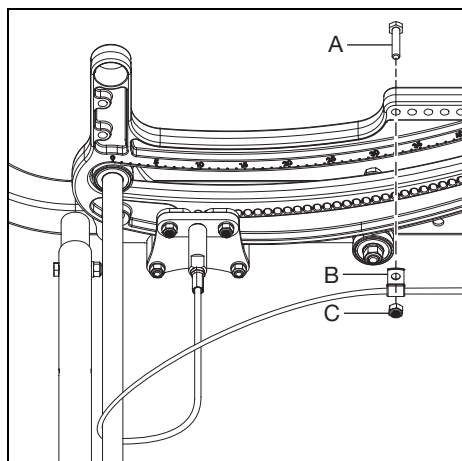


Routing Cable

1. Install the P-Clip (B) to the rotary frame with the bolt (A) and nut (C) using two 10mm wrenches.

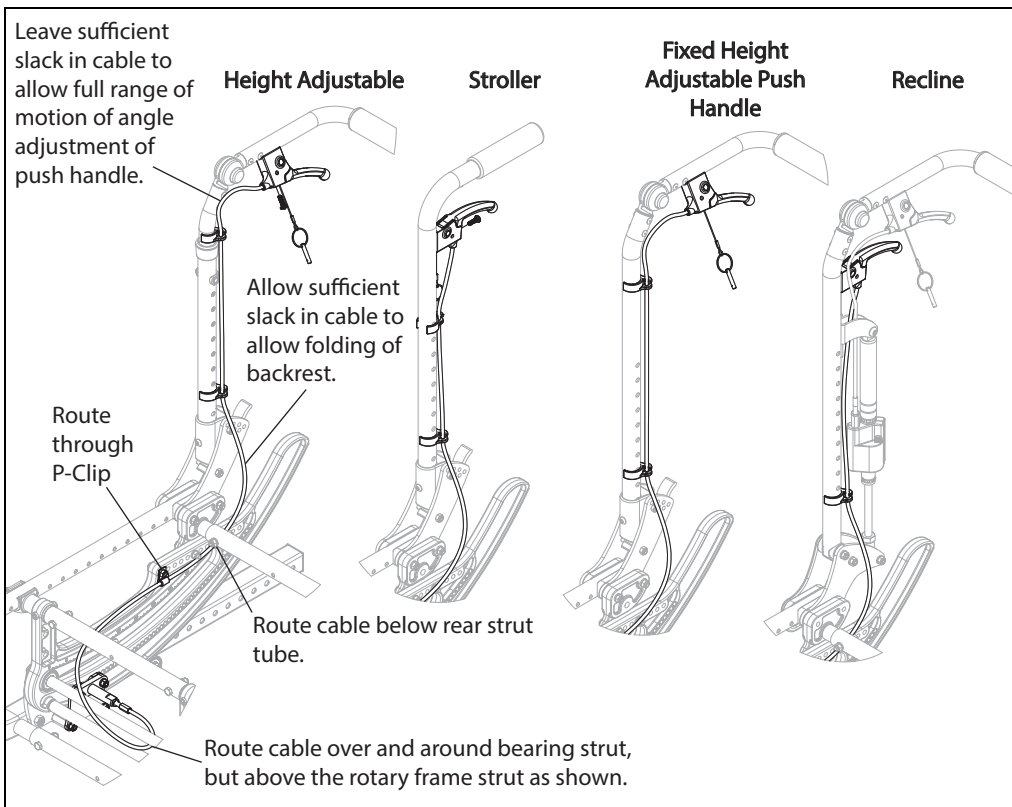
NOTE: If the chair CG setting is 1 or 2, install the P-Clip under the front nut of the adapter plate. If not, always install in the frontmost hole.

NOTE: The cable is routed over and around the bearing strut, but above the rotary frame strut as shown in the image below. Cable routing is more clearly shown on the next page also.



Hand Tilt Mechanism Installation

2. Route the cable as shown in the images below.

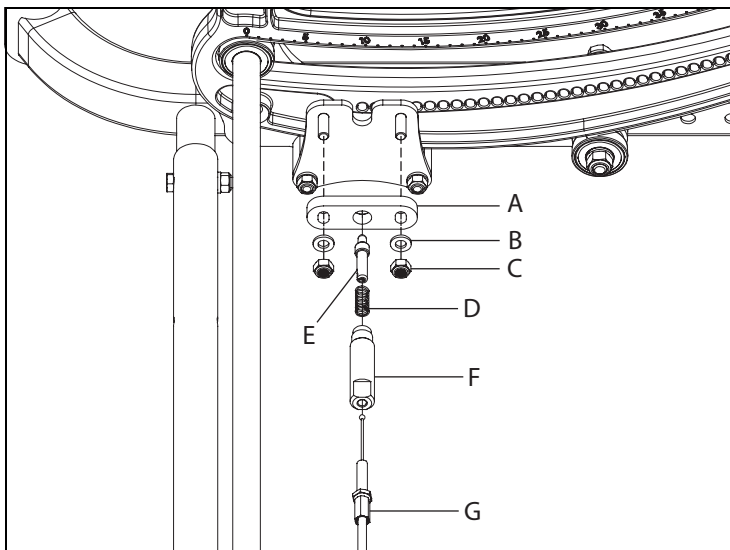


3. Always test the tilt mechanism with no user in the chair. Ensure the cable fully releases when levers are squeezed and the pins fully engage the rotary frames when the levers are released at all push handle angles and all tilt angle.

Foot Tilt Mechanism Installation

NOTE: Remove any seating / cushion on the chair along with the seat pan for access in later steps.

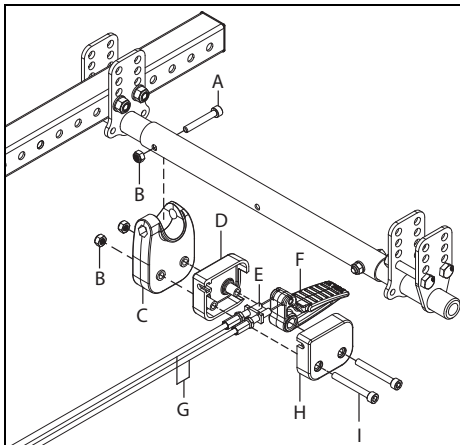
1. Fully thread the cable (G) onto the housing plunger (F) until the ball end of the cable emerges from the end of the plunger (F).
2. Install the spring (D) onto the end of the plunger (F) and hook the pin (E) onto the ball end of the cable (G).
3. Thread the cable assembly into the plunger adapter (A).
4. Install the plunger adapter assembly onto the tilt plate and secure with two washers (B) and two nuts (C) using a 10mm wrench.



Installing Foot Tilt Pedal

NOTE: An image of the correct cable routing is located on the next page. Reference the image before installing the cable into the foot tilt pedal.

1. Install the cables (G) into the nut plate (E) and the foot pedal (F).
2. Install the covers (D & H) over the cable and foot pedal assembly and onto the foot mount (C) with two bolts (I) and two nuts (B) using a 5mm Allen wrench and a 10mm wrench.
3. Install the foot mount assembly onto the rear strut tube with a bolt (A) and nut (B) using a 5mm Allen wrench and a 10mm wrench.



Foot Tilt Cable		
Chair Width	Same Side Cable	Opposite Side Cable
14 - 18	Standard	Standard
19 - 22	Standard	Medium
14 - 18 (Recline)	Medium	Medium
19 - 22 (Recline)	Medium	Long

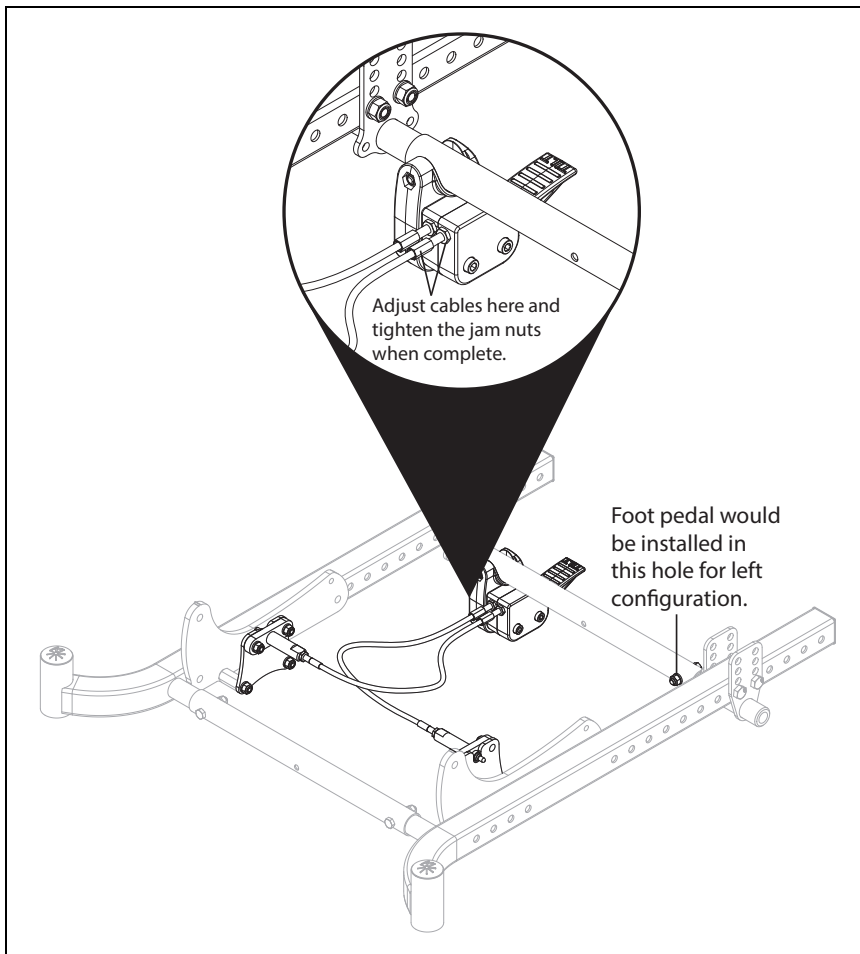
***Same side cable is the cable that goes from foot pedal to the same side of the chair that the foot pedal is mounted on.**

Foot Tilt Mechanism Installation

Foot Tilt Cable Routing

Route cable as shown below. The alternative mounting location of the foot pedal (left configuration) is also called out. Always test and adjust the locking and unlocking of the tilt mechanism with no user in the chair.

NOTE: When the foot pedal is mounted on the left side, opposite of what is shown below, the pedal mount is flipped so the the bolts still install from the inside of the chair with the nuts installed on the outside of the chair.



Always test the tilt mechanism with no user in the chair. Ensure the cable fully releases when the foot lever is pressed and the pins fully engage the rotary frames when the levers are released at all tilt angles.

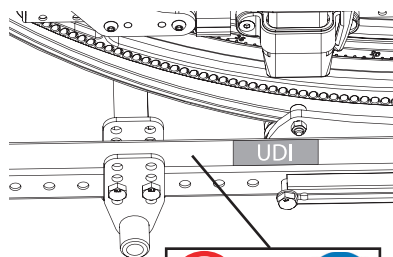
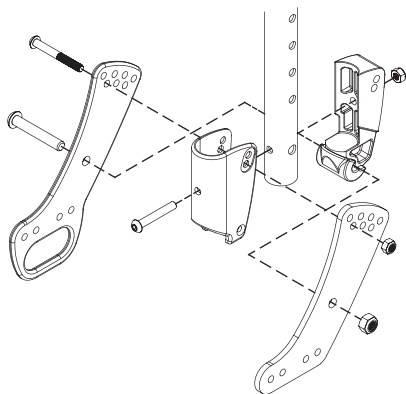
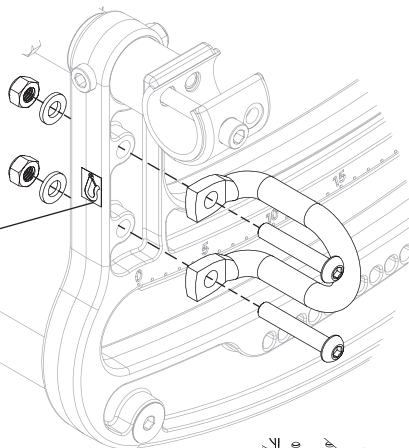
Transit

See the below diagram for transit bracket installation. Two 2.5mm Allen wrenches, a 4mm Allen wrench, a 5mm Allen wrench, a 10mm wrench and a 13mm wrench are needed for this assembly.

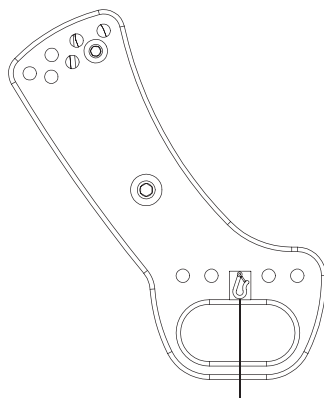
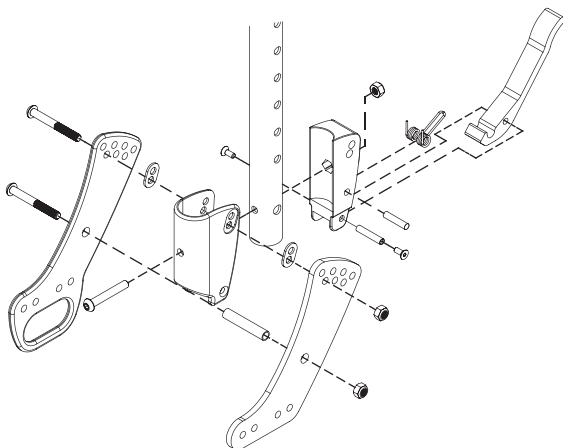
NOTE: The Transit Hook decals must be installed in the correct locations shown below.

NOTE: The No Transit label must be removed if transit is being installed, see image below for location of the label.

Place transit hook decal as shown on each side of the chair.



No Transit Label is removed.
Located on base frame by
UDI/Serial Number Label.



Place transit hook decal as shown on each transit bracket.

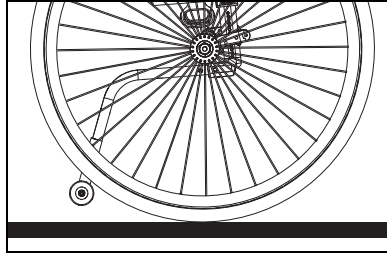
Anti-Tips

1. Anti-tip receiver is installed with two bolts and two nuts using a 5mm Allen wrench and a 10mm wrench.

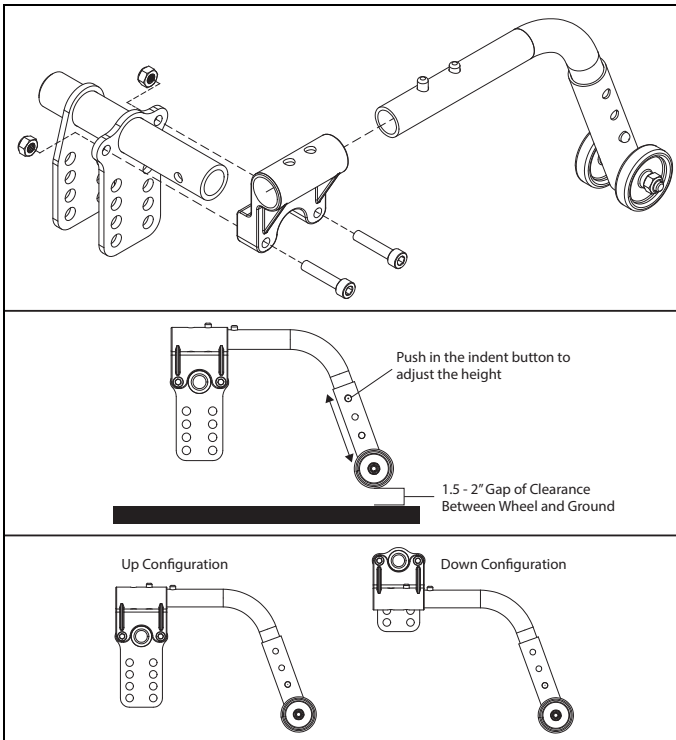
NOTE: The chart and diagram below are used to determine if the anti-tip receiver is installed in the up or down configuration.

2. The anti-tip assembly is installed into the receiver by pushing down on the top indent buttons and installing into the receiver. Release indent buttons and ensure they pop into one of the receiver holes.
3. The anti-tip height can also be adjusted by pushing the lower indent button, sliding the anti-tip tube up or down and releasing the indent button into one of the anti-tip tube holes.

NOTE: After any adjustment, ensure anti-tips clear the wheels as shown below.

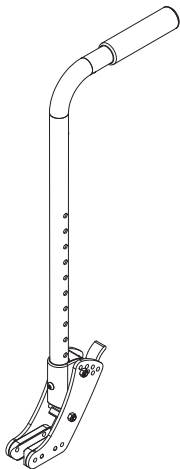


See diagrams and charts below for additional anti-tip information.

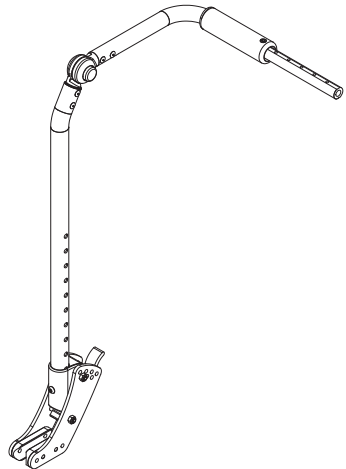


Wheel Size	Anti-Tip Receiver Orientation	Anti-Tip Assembly
12	UP	Low Long
16	DOWN	Low Short
20	DOWN	20"
22	DOWN	22 - 24"
24	DOWN	22 - 24"

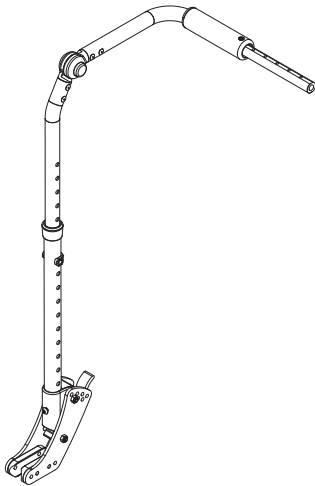
Back Height



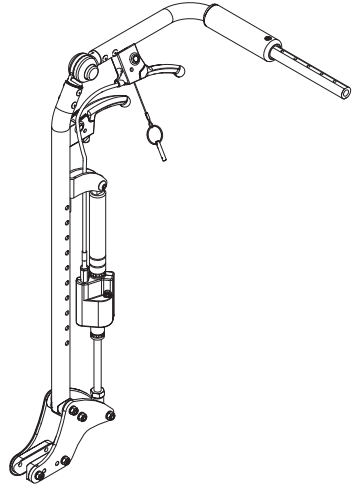
Stroller Handle Backrest - Not Adjustable - Available in STD (20") or Tall (24").



Fixed Height with Adjustable Handle Backrest - Not Adjustable - Available in STD (22") or Tall (26").

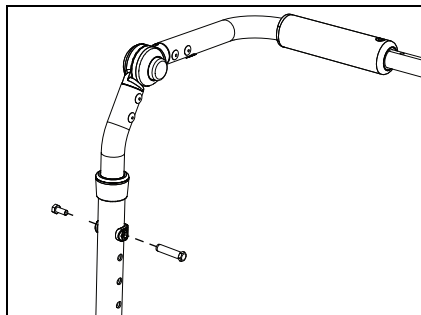


Adjustable Height with Adjustable Handle Backrest - Available in STD (18-25") and Tall (20-27").



Reclining Back with Adjustable Handle Backrest - Not Adjustable - Available in STD (22") or Tall (26").

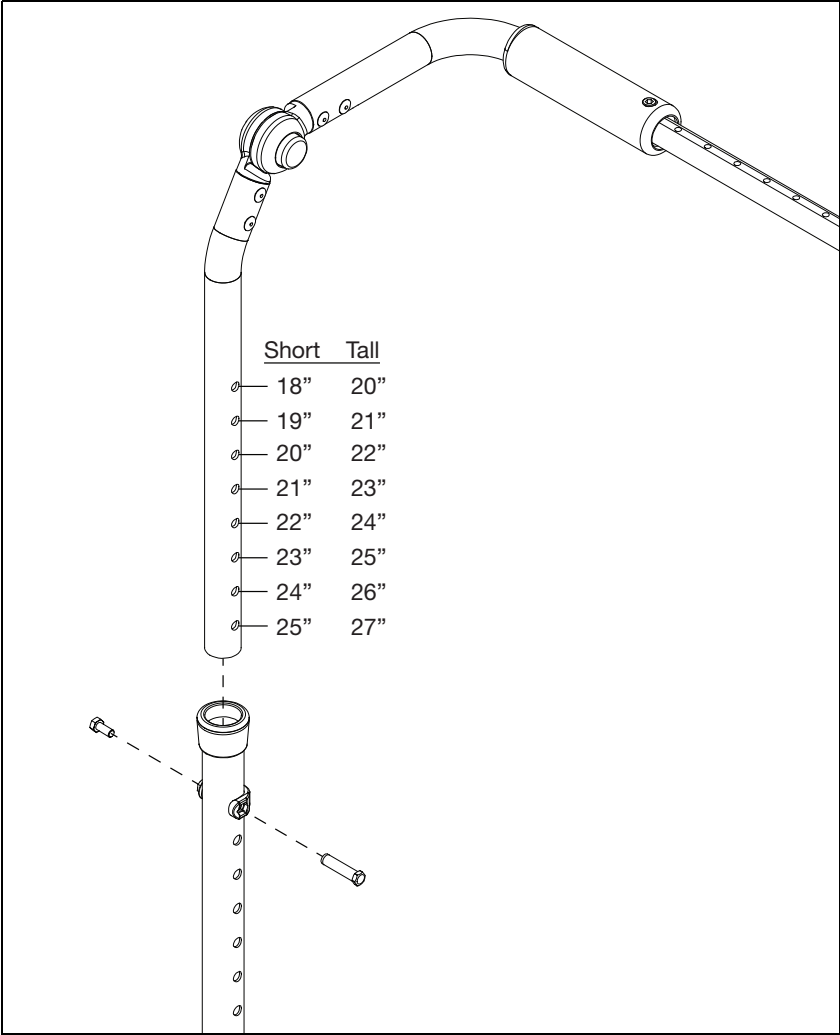
To adjust an adjustable height backrest, remove the screw and insert on each backrest tube using an 8mm wrench. Adjust the telescoping backrest tubes to desired height and reinstall hardware through collar.



Back Height

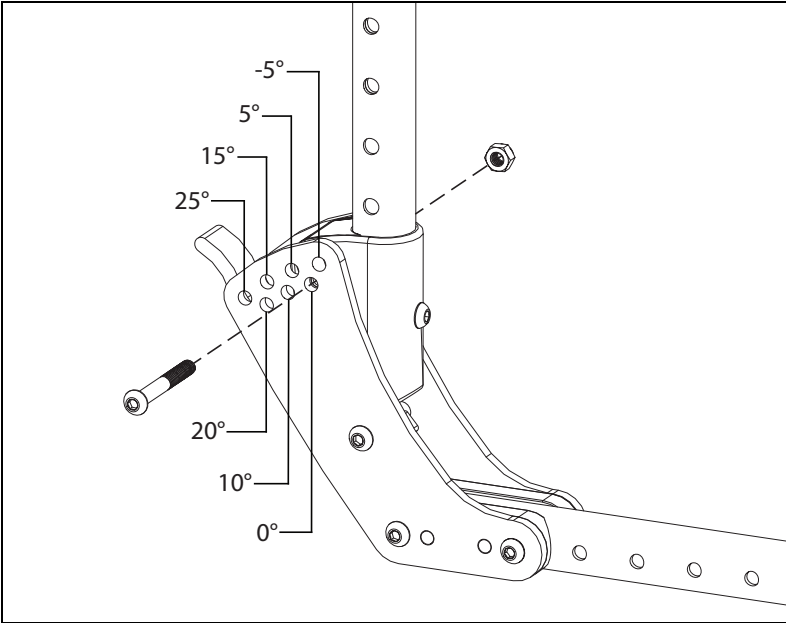
Back Post	Height Range	Back Height							
Stroller Handle Back Post	Short	20							
	Tall	24							
Fixed Height with Adjustable Handle	Short	22							
	Tall	26							
Adjustable Height with Adjustable Handle	Short	18	19	20	21	22	23	24	25
	Tall	20	21	22	23	24	25	26	27
Reclining Back with Adjustable Handle	Short	22							
	Tall	26							

The Adjustable Height with Adjustable Handle backrest is adjustable using an 8mm wrench. See the diagram below.



Backrest Angle Adjustment

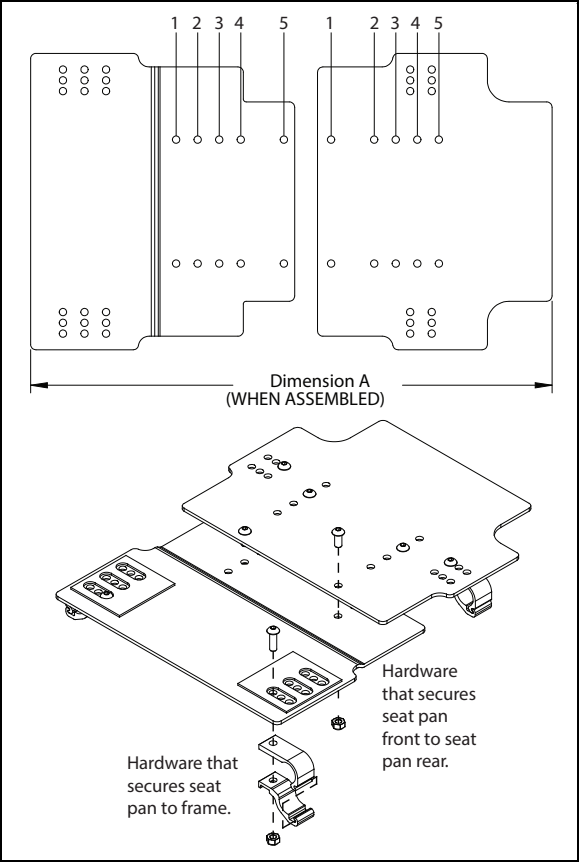
1. Use a 4mm Allen wrench and a 10mm wrench to remove the button head screw and nut on the backrest.
2. Rotate backrest to desired angle. Each hole represents 5° of rotation. See diagram below for the angle for each hole.
3. Replace screw and nut in desired hole location.
4. Repeat for opposite side. Ensure both sides use the same configuration settings.



Growing Seat Pan

Seat Pan Size	Frame Depth	Front Seat Pan Mounting Holes	Rear Seat Pan Mounting Holes	Dimension A
Short	14	1 & 5	1 & 5	15.0"
	15	2 & 5	1 & 4	16.0"
	16	3 & 5	1 & 3	17.0"
	17	4 & 5	1 & 2	18.0"
	18	4 & 5	1 & 2	18.0"
Medium	16	1 & 5	1 & 5	17.0"
	17	2 & 5	1 & 4	18.0"
	18	3 & 5	1 & 3	19.0"
	19	4 & 5	1 & 2	20.0"
	20	4 & 5	1 & 2	20.0"
Long	18	1 & 5	1 & 5	19.0"
	19	2 & 5	1 & 4	20.0"
	20	3 & 5	1 & 3	21.0"
	21	4 & 5	1 & 2	22.0"
	22	4 & 5	1 & 2	22.0"

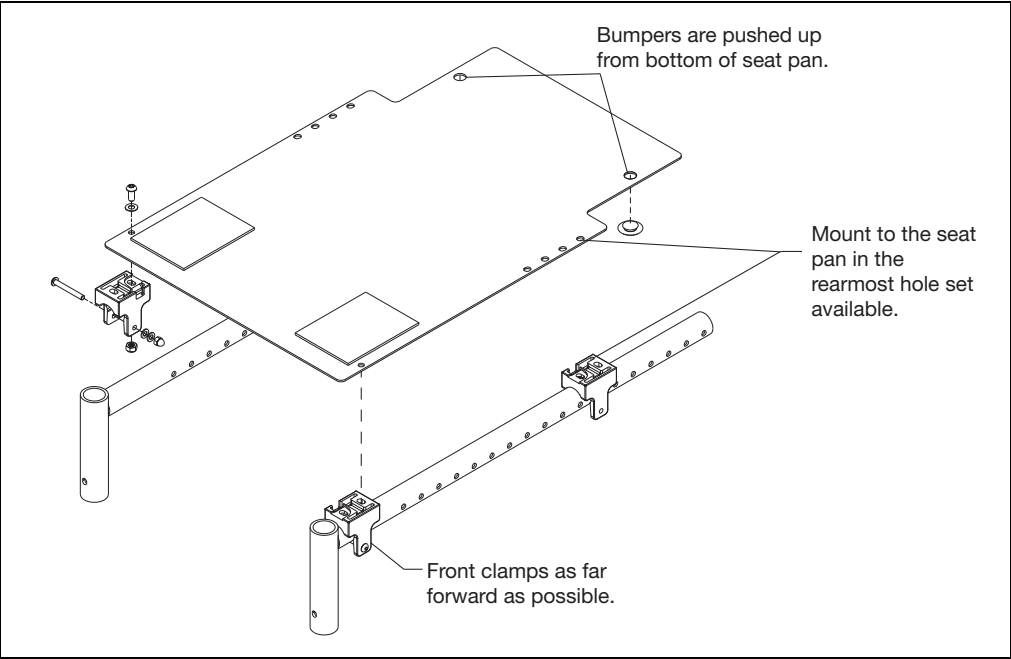
After referencing the chart above, see the assembly diagram below.



Solid Seat Pan

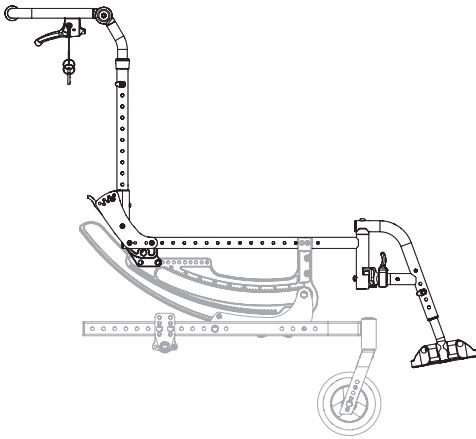
Seat Pan Selection			
Frame Width	Depth Range		
	Short	Medium	Long
14	117940	117949	117958
15	117941	117950	117959
16	117942	117951	117960
17	117943	117952	117961
18	117944	117953	117962
19	117945	117954	117963
20	117946	117955	117964
21	117947	117956	117965
22	117948	117957	117966

After referencing the chart above, see the assembly diagram below. A 3mm and 4mm Allen wrench are used along with a 8mm wrench.

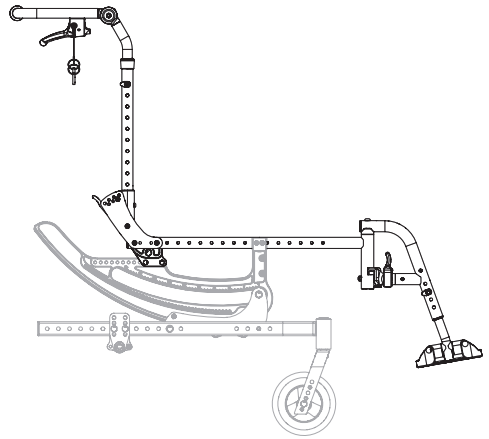


Center of Gravity (COG)

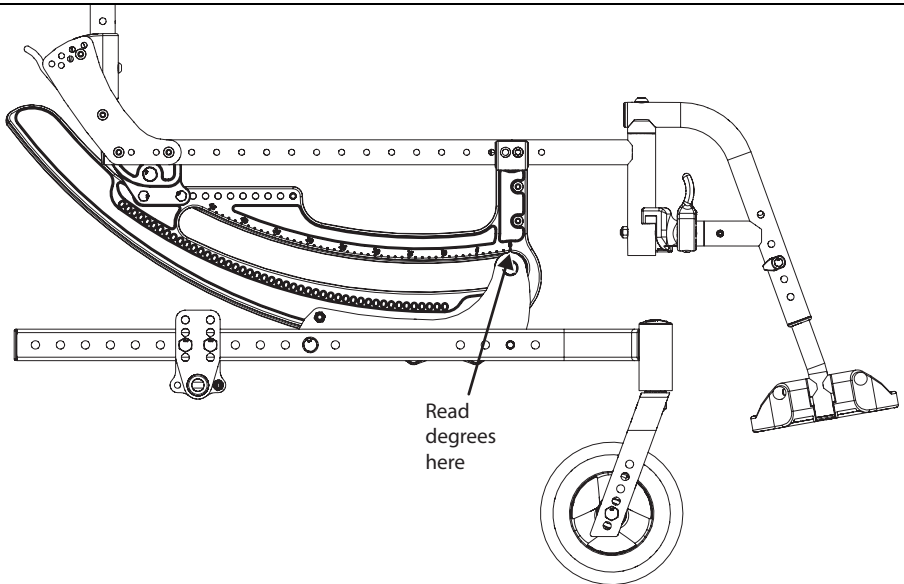
COG Fully Rearward



COG Fully Forward



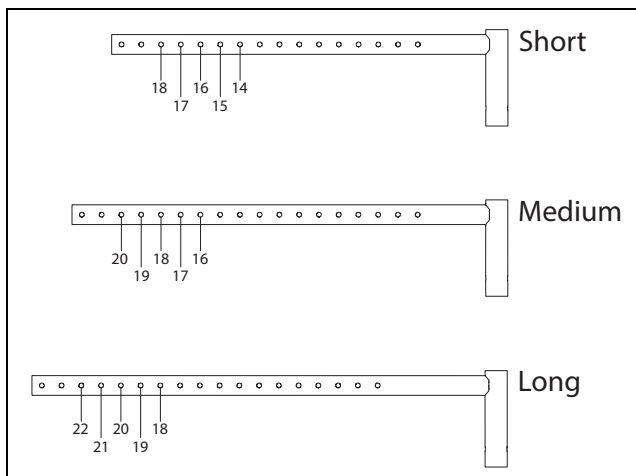
Check your current COG by retracting levers or pressing on the foot tilt pedal and letting the chair (with user seated) settle into its natural resting point. Read the degree on the rotary frame (shown below). 20° is the desired resting angle position.



Center of Gravity (COG)

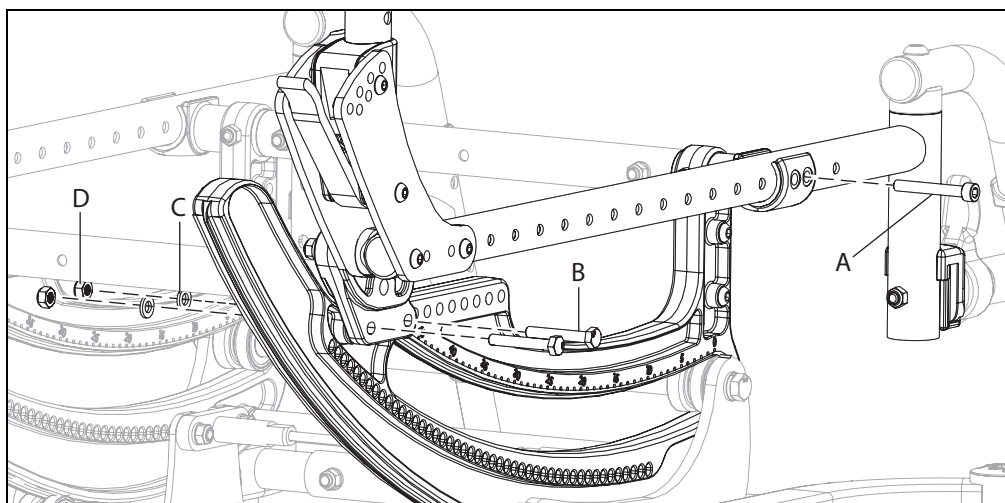
If the chair COG needs adjusting use the diagrams and chart below to correct.

System Resting Position	Adjustment Required
System Rests Between 44 and 35	2 Holes Forward
System Rests Between 34 and 25	1 Hole Forward
System Rests Between 24 and 16	Acceptable
System Rests Between 15 and 7	1 Hole Rearward
System Rests Between 6 and 0	2 Holes Rearward



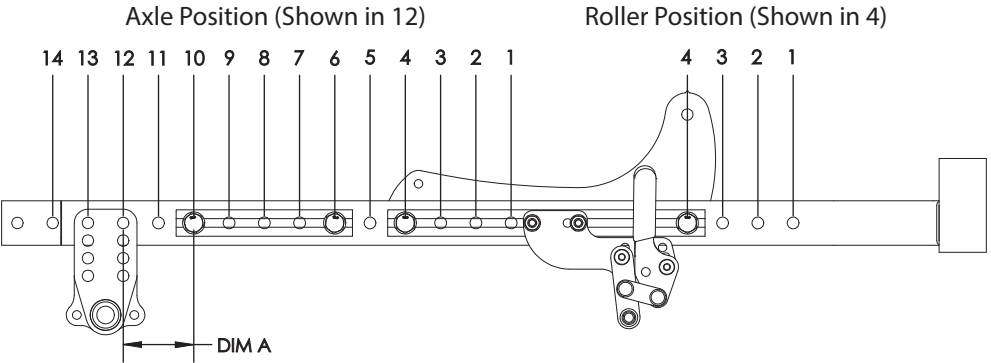
Adjusting the COG

1. Remove the two adapter plate bolts (B), washers (C) and nuts (D) using two 10mm wrenches.
2. Remove the side frame tube bolt (A) using a 5mm Allen wrench.
3. Adjust the side frame assembly to the desired COG settings, using the charts and diagrams listed earlier, and reinstall the hardware.



Wheel Lock Configurations

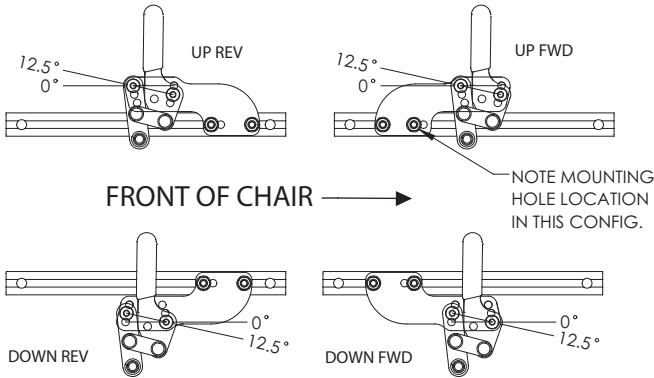
FRAME SETUP



Wheel	Dimension A
12"	3"
12" Poly	2"
16" Poly	3"

*If Dimension A causes the short wheel lock channel to interfere with the long wheel lock channel, position the short wheel lock channel directly behind the long short wheel lock channel.

MOUNT CONFIGURATIONS AND ANGLES



Wheel Locks

Wheel Size	Axle Sleeve Position	Wheel Lock Mount Configuration	Mount Angle
12"	5 - 8	DOWN	12.5°
12" Poly	5 - 8	DOWN	12.5°
16"	1 - 4	UP	12.5°
	5 - 8	DOWN	12.5°
16" Low Poly	1 - 4	UP	12.5°
	5 - 8	DOWN	12.5°
20"	1 - 4	UP	12.5°
	5 - 8	UP	0°
22"	1 - 4	UP	12.5°
	5	UP	0°
24"	1 - 4	UP	12.5°

Wheel Lock Configurations

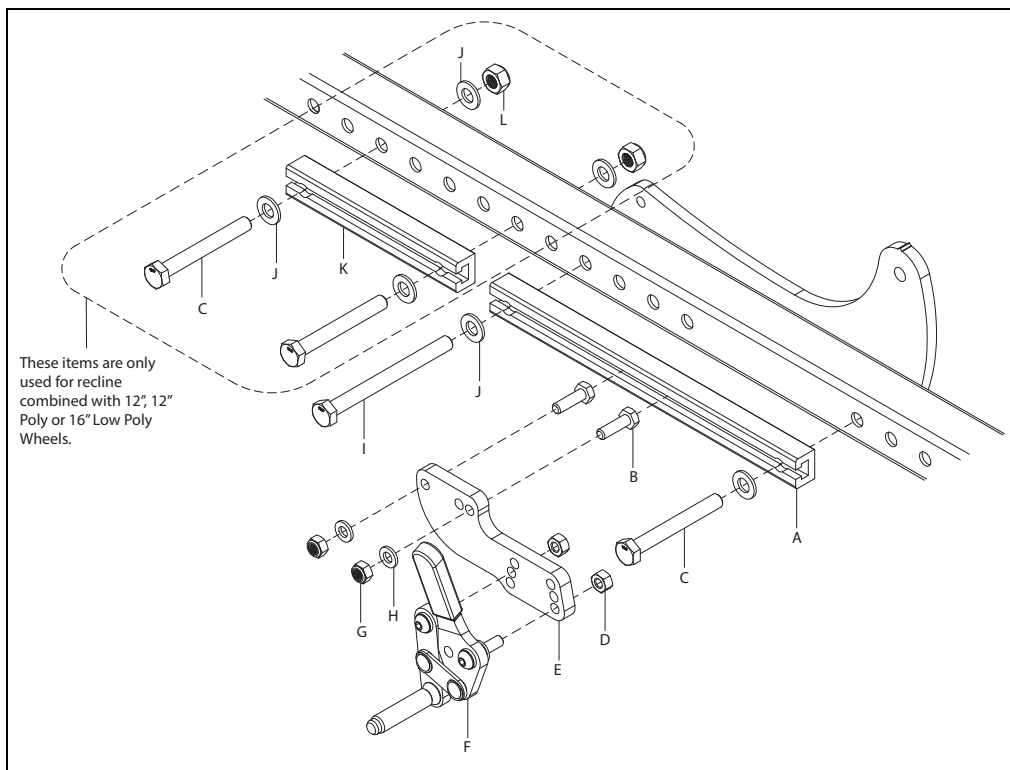
Roller Position	Axle Plate Position	Wheel Lock Mount Direction (FWD/REV) for Wheel Size						
		12"	12" Poly	16"	16" Low Poly	20"	22"	24"
1	4	FWD	REV	FWD	FWD	FWD	FWD	N/A
	5	REV	REV	FWD	REV	FWD	FWD	FWD
	6	REV	REV	FWD	REV	FWD	FWD	FWD
	7	REV	REV	REV	REV	FWD	FWD	FWD
	8	REV	REV	REV	REV	FWD	FWD	FWD
	9	FWD*	FWD*	REV	REV	REV	REV	FWD
	10	FWD*	FWD*	REV	REV	REV	REV	REV
2	5	FWD	REV	FWD	FWD	FWD	FWD	N/A
	6	REV	REV	FWD	REV	FWD	FWD	FWD
	7	REV	REV	FWD	REV	FWD	FWD	FWD
	8	REV	REV	REV	REV	FWD	FWD	FWD
	9	REV	REV	REV	REV	FWD	FWD	FWD
	10	FWD*	FWD*	REV	REV	REV	REV	FWD
	11	FWD*	FWD*	REV	REV	REV	REV	REV
3	6	FWD	REV	FWD	FWD	FWD	FWD	N/A
	7	REV	REV	FWD	REV	FWD	FWD	FWD
	8	REV	REV	FWD	REV	FWD	FWD	FWD
	9	REV	REV	REV	REV	FWD	FWD	FWD
	10	REV	REV	REV	REV	FWD	FWD	FWD
	11	FWD*	FWD*	REV	REV	REV	REV	FWD
	12	FWD*	FWD*	REV	REV	REV	REV	REV
4	7	FWD	REV	FWD	FWD	FWD	FWD	N/A
	8	REV	REV	FWD	REV	FWD	FWD	FWD
	9	REV	REV	FWD	REV	FWD	FWD	FWD
	10	REV	REV	REV	REV	FWD	FWD	FWD
	11	REV	REV	REV	REV	FWD	FWD	FWD
	12	FWD*	FWD*	REV	REV	REV	REV	FWD
	13	FWD*	FWD*	REV	REV	REV	REV	FWD
	14	FWD*	FWD*	REV	FWD*	REV	REV	REV

Wheel Lock Configurations

Wheel Lock Assembly

1. Slide the head of the bolts (B) into the channel (A).
2. Install the channel onto the frame using the holes determined in the earlier charts and diagrams with two bolts (C & I) and two washers (J) which requires a 13mm wrench.
3. Install the wheel lock assembly (F) onto the wheel lock mount (E) with the two nuts (D) using a 10mm wrench.
4. Secure the wheel lock assembly and mount to the channel with the bolts that are currently in the channel and two washers (H) and two nuts (G) using a 10mm wrench.

NOTE: The wheel lock assembly can move along the channel when the two nuts (G) are loosened. Always test the wheel lock to ensure it locks and engages properly before use.



Attendant Foot Lock

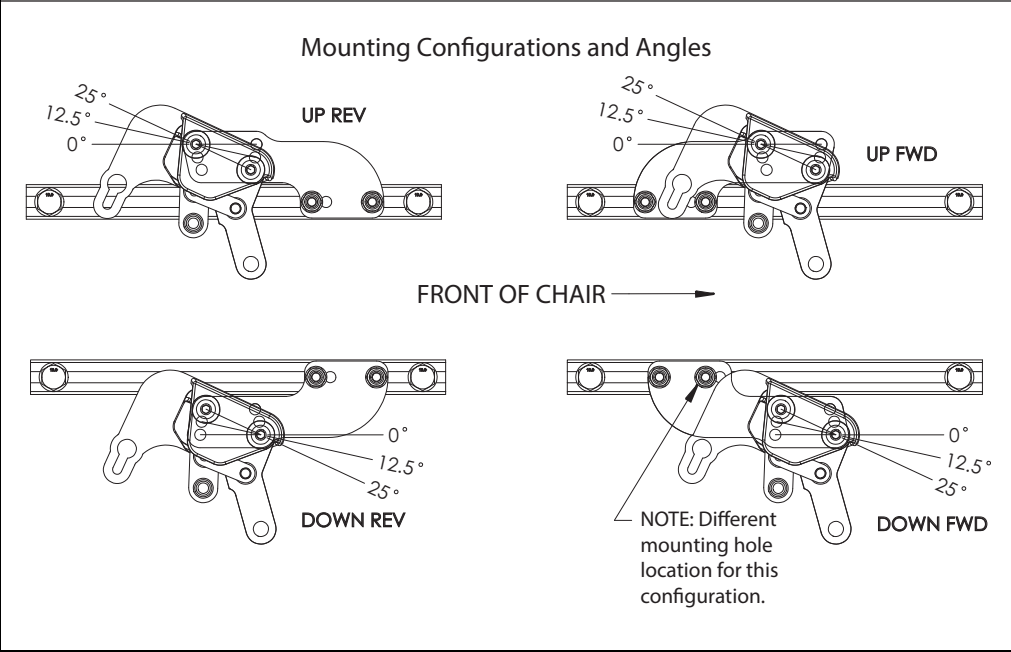
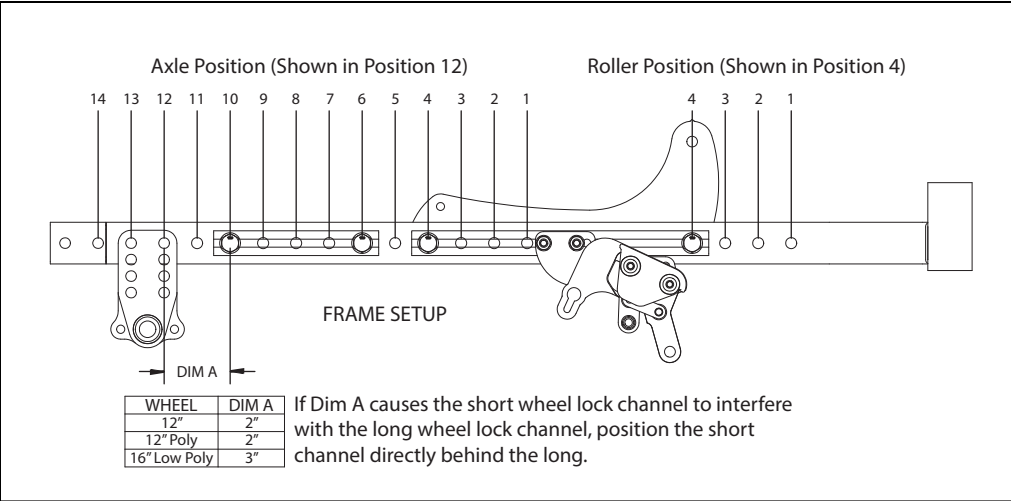
Attendant Foot Lock Reference Diagrams and Charts

Wheel Size	Axle Sleeve Position	Wheel Lock Mount Configuration	Mount Angle
12"	5 - 8	DOWN	25°
12" Poly	5 - 8	DOWN	25°
16"	1 - 4	UP	25°
	5 - 8	DOWN	25°
16" Low Poly	1 - 4	UP	25°
	5 - 8	DOWN	25°
20"	1 - 4	UP	25°
	5 - 8	UP	12.5°
22"	1 - 4	UP	25°
	5	UP	12.5°
24"	1 - 4	UP	25°

Roller Position	Axle Plate Position	Wheel Lock Mount Direction (FWD/REV) FOR WHEEL SIZE						
		12"	12" Poly	16"	16" Low Poly	20"	22"	24"
1	4	REV	REV	FWD	FWD	FWD	FWD	N/A
	5	REV	REV	FWD	REV	FWD	FWD	FWD
	6	REV	REV	REV	REV	FWD	FWD	FWD
	7	REV	REV	REV	REV	FWD	FWD	FWD
	8	REV	REV	REV	REV	REV	FWD	FWD
	9	FWD*	FWD*	REV	REV	REV	REV	REV
2	10	FWD*	FWD*	REV	FWD*	REV	REV	REV
	5	REV	REV	FWD	FWD	FWD	FWD	N/A
	6	REV	REV	FWD	REV	FWD	FWD	FWD
	7	REV	REV	REV	REV	FWD	FWD	FWD
	8	REV	REV	REV	REV	FWD	FWD	FWD
	9	REV	REV	REV	REV	REV	FWD	FWD
	10	FWD*	FWD*	REV	REV	REV	REV	REV
3	11	FWD*	FWD*	REV	FWD*	REV	REV	REV
	12	FWD*	FWD*	REV	FWD*	REV	REV	REV
	13	FWD*	FWD*	REV	FWD*	REV	REV	REV
	6	REV	REV	FWD	FWD	FWD	FWD	N/A
	7	REV	REV	FWD	REV	FWD	FWD	FWD
	8	REV	REV	REV	REV	FWD	FWD	FWD
	9	REV	REV	REV	REV	FWD	FWD	FWD
4	10	REV	REV	REV	REV	FWD	FWD	FWD
	11	REV	REV	REV	REV	REV	FWD	FWD
	12	FWD*	FWD*	REV	REV	REV	REV	REV
	13	FWD*	FWD*	REV	FWD*	REV	REV	REV
	14	FWD*	FWD*	REV	FWD*	REV	REV	REV
	7	REV	REV	FWD	FWD	FWD	FWD	N/A
	8	REV	REV	FWD	REV	FWD	FWD	FWD
	9	REV	REV	REV	REV	FWD	FWD	FWD

Attendant Foot Lock

Attendant Foot Lock Reference Diagrams and Charts

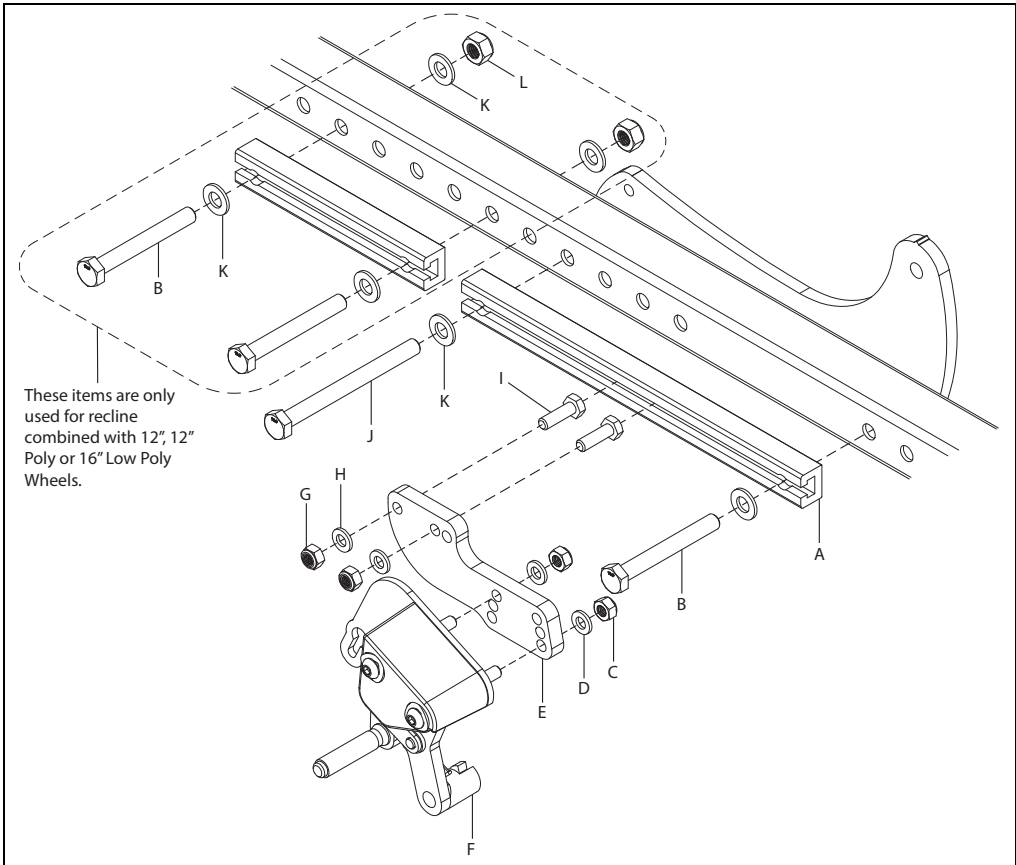


Attendant Foot Lock

Attendant Foot Lock Assembly

1. Slide the head of the bolts (I) into the channel (A).
2. Install the channel onto the frame using the holes determined in the earlier charts and diagrams with two bolts (B & J) and two washers (K) which requires a 13mm wrench.
3. Install the attendant foot lock assembly (F) onto the wheel lock mount (E) with the two washers (D) and two nuts (C) using a 10mm wrench.
4. Secure the wheel lock assembly and mount to the channel with the bolts that are currently in the channel and two washers (H) and two nuts (G) using a 10mm wrench.

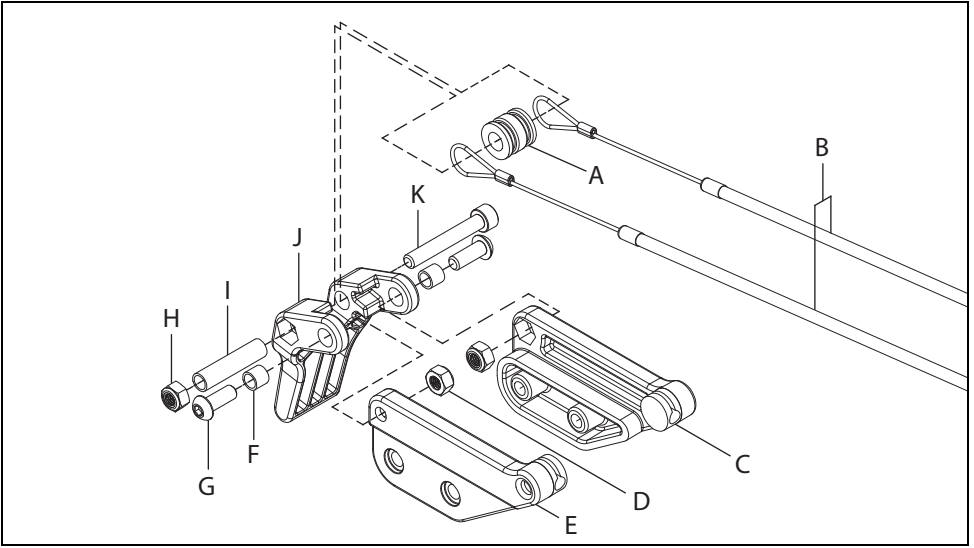
NOTE: The wheel lock assembly can move along the channel when the two nuts (G) are loosened. Always test the wheel lock to ensure it locks and engages properly before use.



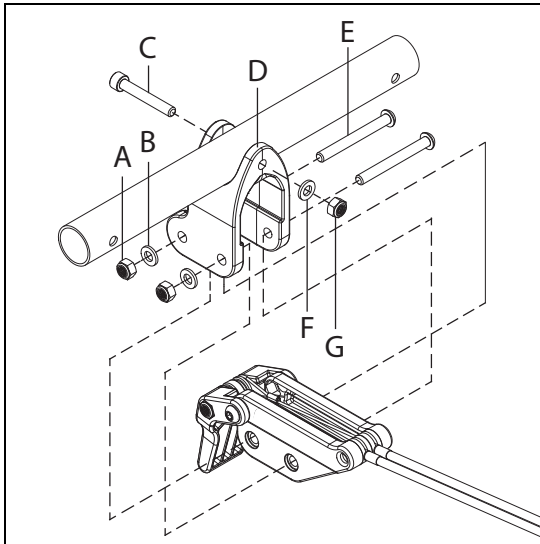
Attendant Foot Lock

Attendant Foot Lock Pedal Assembly

1. Install the foot lock cables (B) and spool (A) into the foot lock pedal (J) and pedal mounts (C & E) with three bolts (K & G), three spacers (I & F) and three nuts (D & H) using a 5mm Allen wrench, a 10mm wrench and a 4mm Allen wrench.

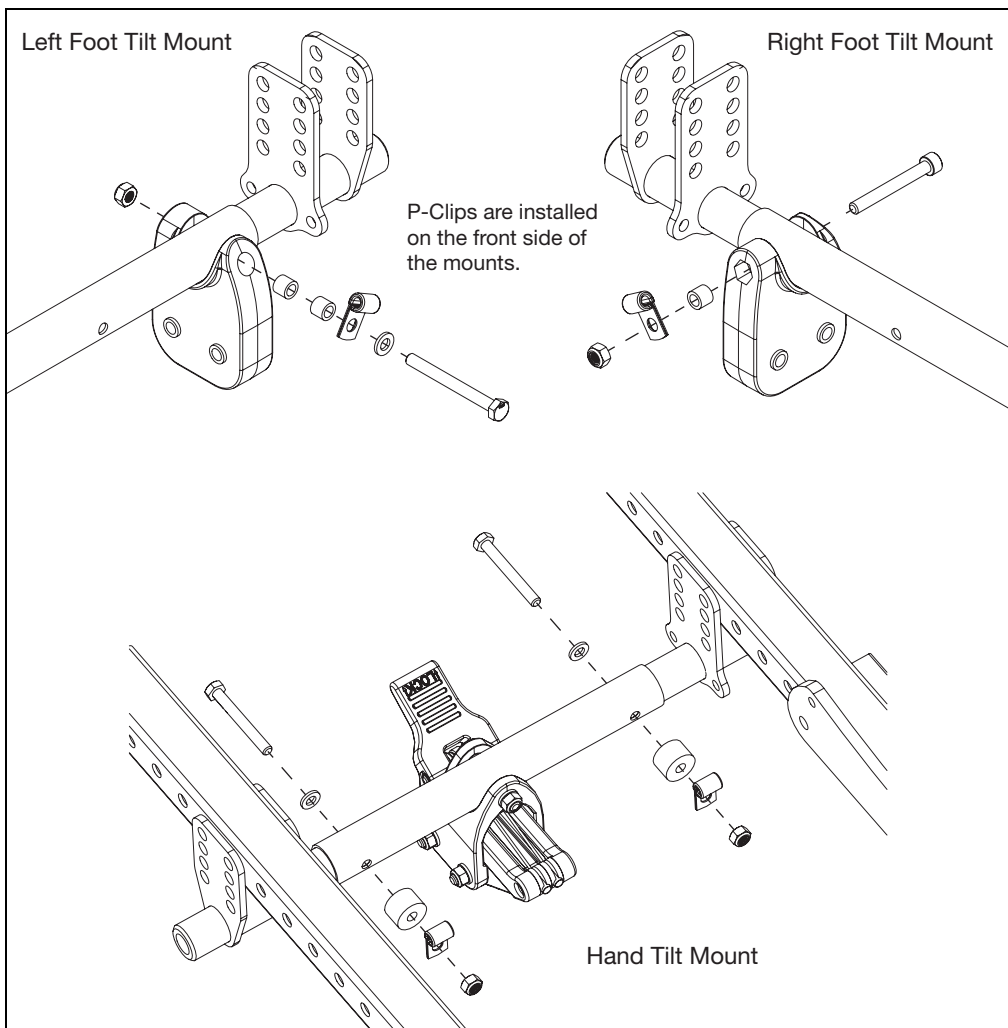


2. Install the foot lock assembly into the bracket mount (D) with two bolts (E), two washers (B) and two nuts (A) using a 4mm Allen wrench and a 10mm wrench. Install the bracket mount assembly onto the rear strut tube with a bolt (C), washer (F) and nut (G) using a 5mm Allen wrench and a 10mm wrench.



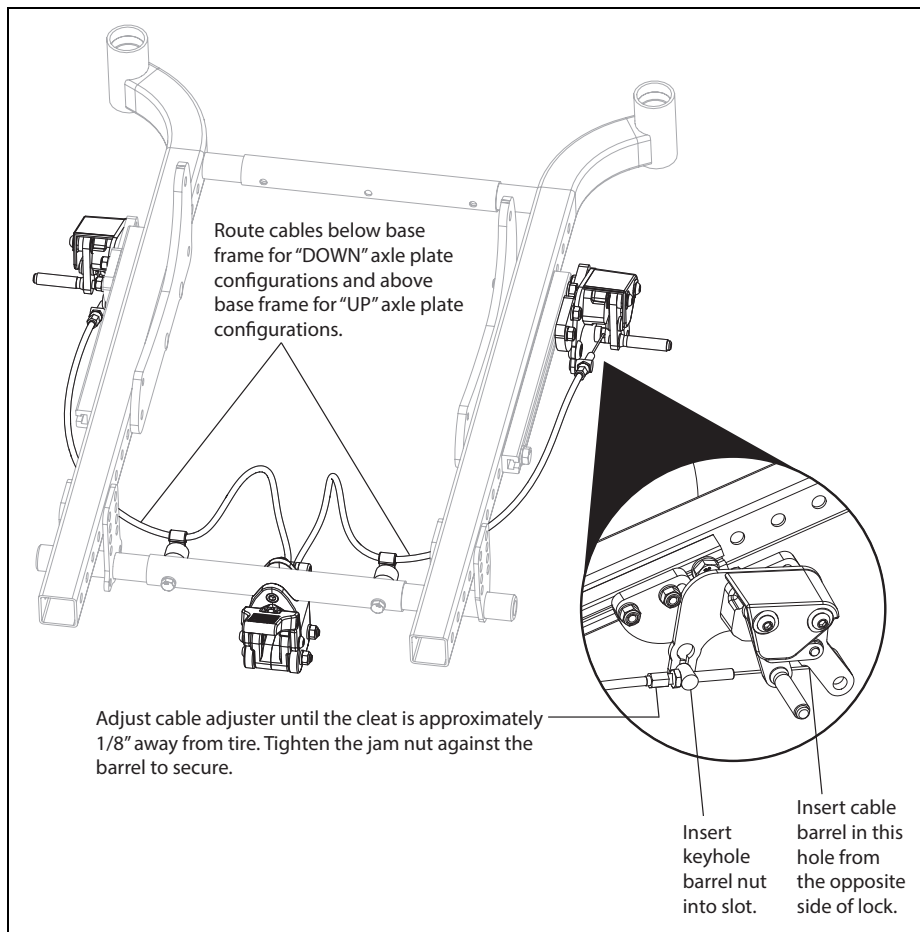
Attendant Foot Lock

3. Install P-Clips for cable routing as shown below using two 10mm wrenches or a 10mm wrench and a 5mm Allen wrench (if foot mount tilt is present).



Attendant Foot Lock

4. Route cable as shown below. The cable is attached the lock assembly by inserting the cable barrel into the hole called out below from the opposite side of the lock. The keyhole barrel nut is installed into the slot called out below. Adjust the cable adjuster until the cleat is approximately 1/8" away from the tire. Tighten the jam nut against the barrel to secure. Always check the lock engages and disengages properly with no user in the chair.

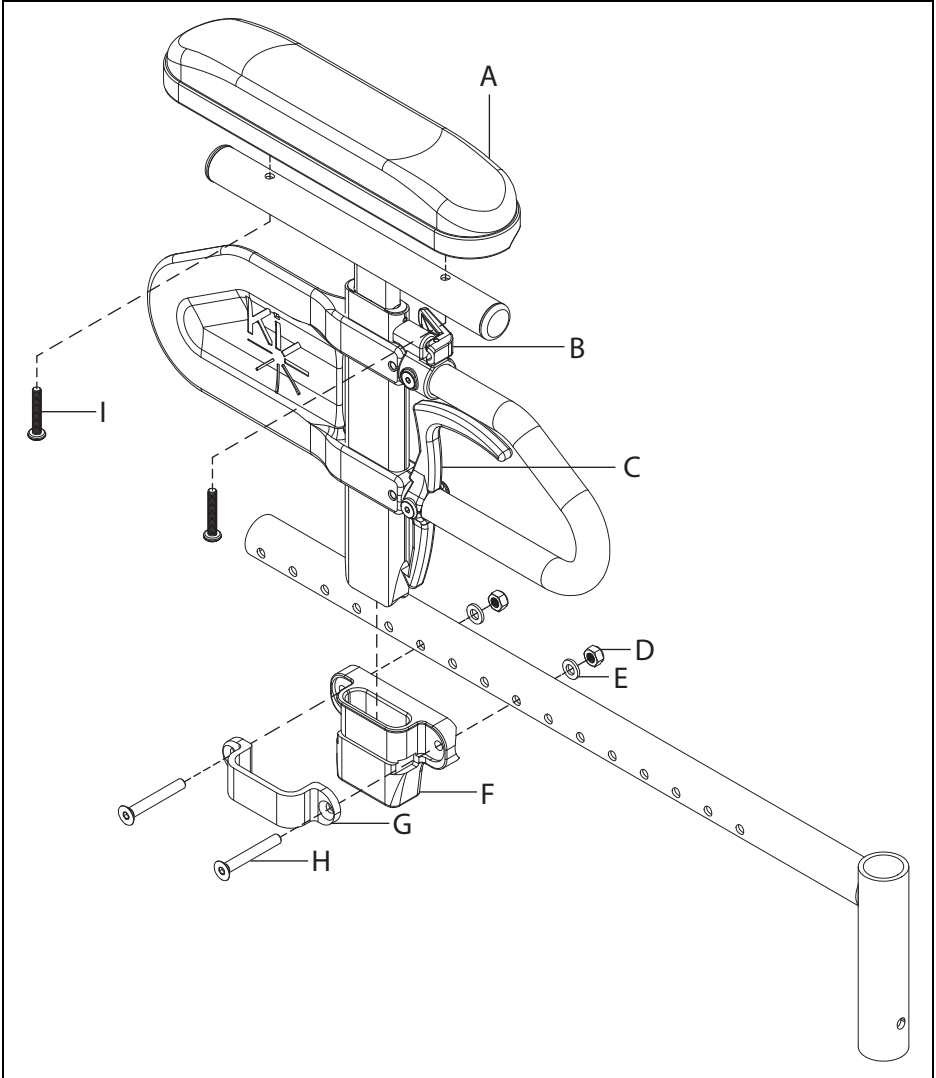


Height Adjustable T-Arm

Installation

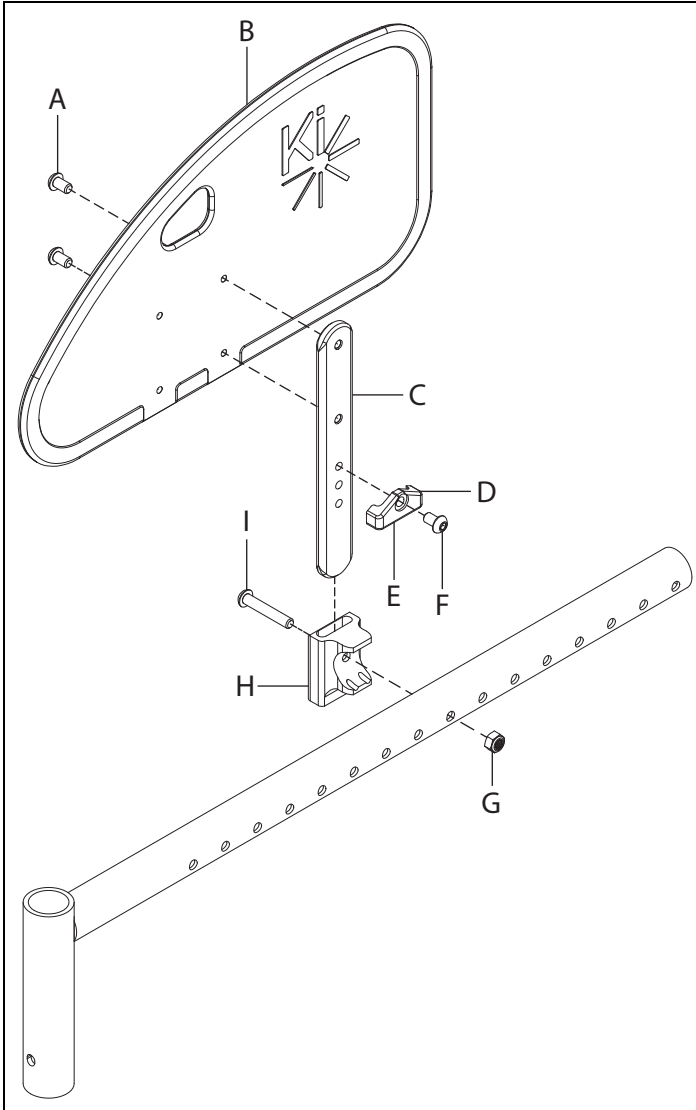
1. Install the arm pad onto the armrest with two screws using a Philips head screwdriver.
2. Install the T-Arm receiver onto the outside of the seat frame with the T-Arm bracket, two bolts, two washers and two nuts using a 4mm Allen wrench and a 10mm wrench.
3. Install the T-Arm assembly into the receiver until the latch locks.

NOTE: The height can be adjusted by pulling the height lever, adjusting the T-Arm assembly up or down, then closing the height lever until it locks into place.



Side Guard

1. Install the side guard post (C) onto the side guard panel (B) with two screws (A) using a Philips head screwdriver.
2. Install the post stop (D) onto the side guard post (C) with a screw (F) using a Philips head screwdriver.
3. Install the side guard receiver (H) onto the outside of the seat frame with a bolt (I) and nut (G) using a 3mm Allen wrench and a 10mm wrench.
4. The side guard assembly then drops into the receiver. The height can be adjusted by reinstalling the stop into the other hole option on the post.

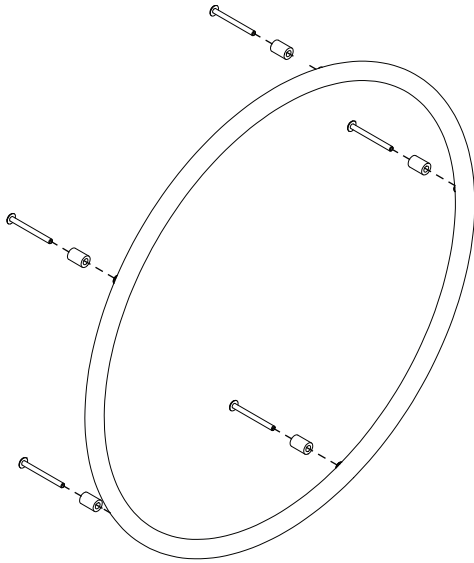


Handrim Configurations

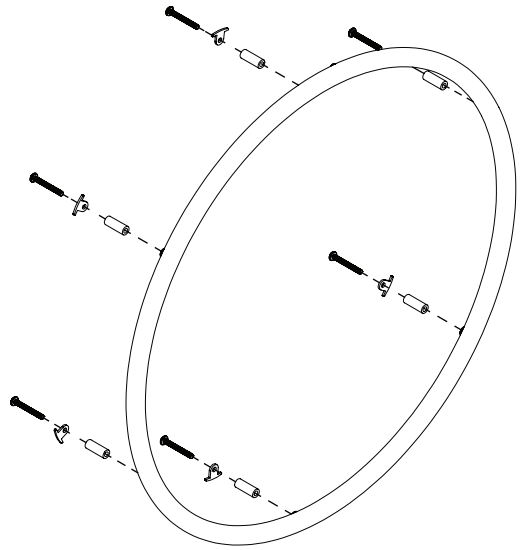
For handrim sizing, hardware and more information please visit our parts manual or click the link [HERE](#) to jump to the Handrim Chart.

Handrim Construction

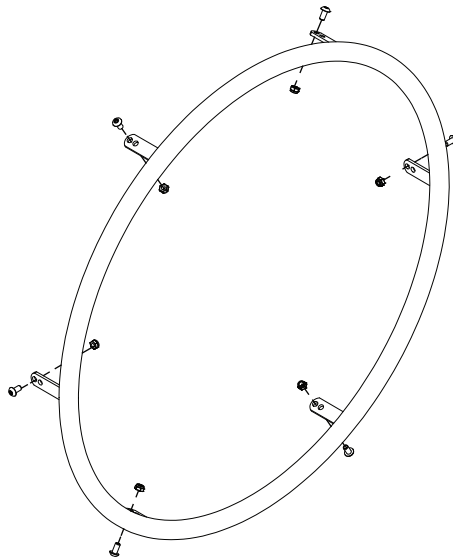
The sequencing of hardware for the three styles of handrims is shown below. The specific hardware used is determined in the chart on the previous page, based on the tire and handrim being used. Tightening instructions are on the next page.



Spacer Style



Detached Tab Style



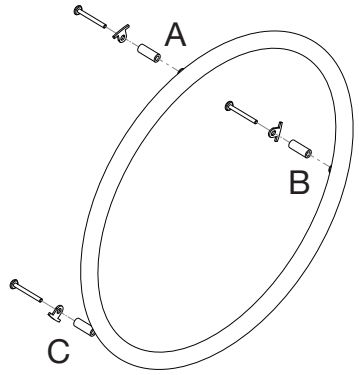
Tab Style

Handrim Tightening

The correct tightening patterns are shown below.

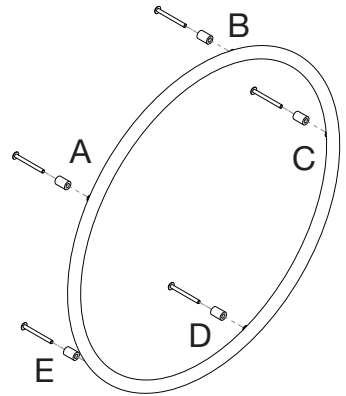
3-Hole Pattern

Use A, B, C pattern leaving A loose until C is tightened completely.



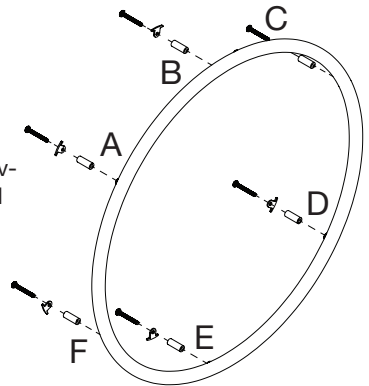
5-Hole Pattern

Use A, C, E, B, D (STAR) pattern leaving A loose until D is tightened completely.



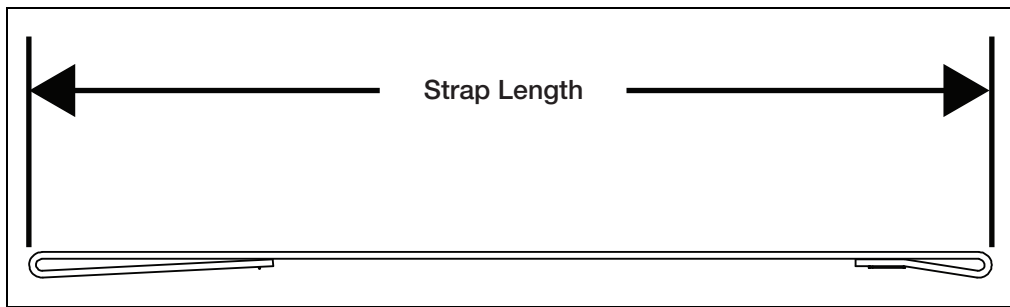
6-Hole Pattern

Use A, D, B, E, C, F pattern leaving A loose until F is tightened completely.

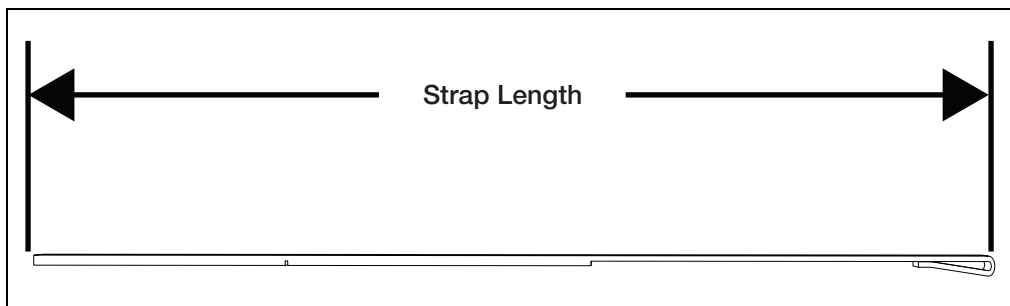


Footplate and Heel Loops

For additional footplate information, see pages 16 - 20 for the Caster - Footplate Compatibility Charts.



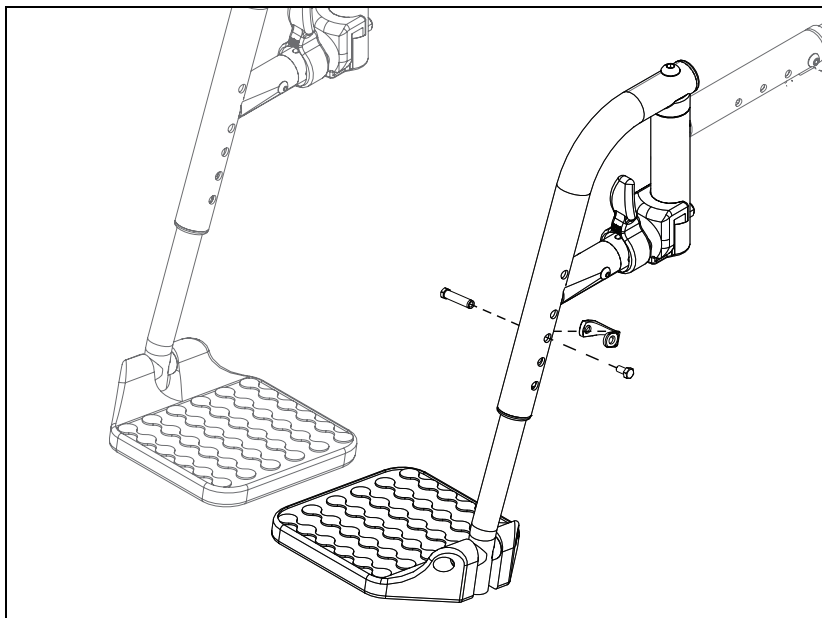
Heel Loop (Reference image above)								
Size	Part Number	Standard Hanger			Offset Hanger			Strap Length
		Angle Adjustable	Composite	Composite Angle Adjustable	Angle Adjustable	Composite	Composite Angle Adjustable	
Short	100591	N/A	14" - 15"	N/A	N/A	N/A	N/A	9.4"
Medium	100592	14" - 15"	16" - 17"	15" - 16"	N/A	14" - 15"	15" - 16"	10.4"
Long	100593	16" - 22"	18" - 22"	17" - 22"	16" - 22"	16" - 22"	17" - 22"	11.4"



Adjustable Heel Loop (Reference image above)								
Size	Part Number	Standard Hanger			Offset Hanger			Strap Length
		Angle Adjustable	Composite	Composite Angle Adjustable	Angle Adjustable	Composite	Composite Angle Adjustable	
Short	103364	14" - 17"	14" - 18"	14" - 17"	N/A	14" - 16"	N/A	19"
Medium	103365	18" - 20"	19" - 22"	18" - 20"	16" - 18"	17" - 22"	16" - 18"	21"
Long	103366	21" - 22"	N/A	21" - 22"	19" - 22"	N/A	19" - 22"	25"

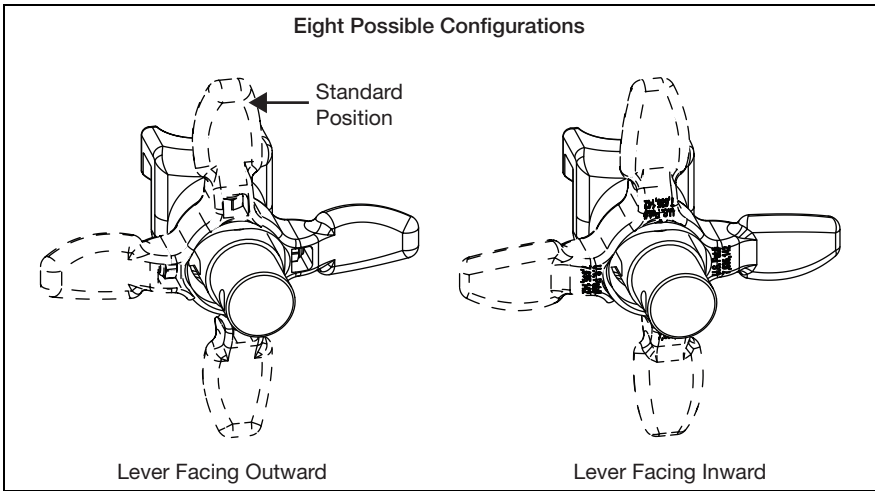
Footrest Length Adjustment

1. Remove the bolt (D) and threaded insert (B) from the footrest with a 8m wrench.
 2. Slide the adjustment collar (C) to the desired hole and move the extension to the desired length.
- NOTE: The adjustment collar doesn't need to come all the way off, it is shown off to clearly show the part being called out.**
3. Reinstall the bolt and threaded insert through the adjustment collar and footrest tubes to secure.
 4. Repeat steps 1 - 3 on opposite side.
 5. To ensure safe use, verify that the distance between the footplate and the ground is greater than or equal to 2.5" and always look ahead for potential obstructions or surface transitions.



Rotating 4-Way Latch

The 4-Way latch has eight possible configurations, four with the curve of the lever facing outward and four with the curve of the lever facing inward. See diagram below.

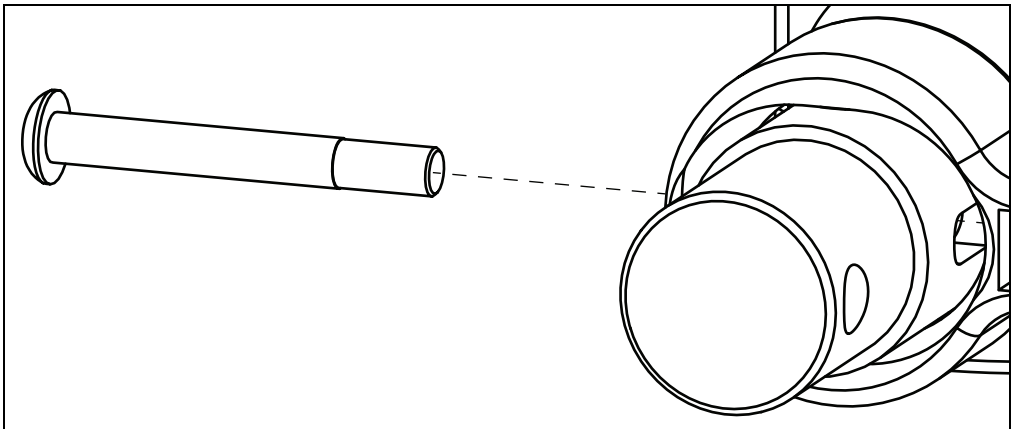


Rotating

6. To rotate the 4-Way Latch, remove the screw using a 3mm Allen wrench while the hanger is still on the chair (spring must be engaged to remove and reinsert screw and keeping the hanger on the chair keeps the spring engaged.) Ensure the nut does not fall out.
7. Rotate the 4-Way Latch to desired orientation and reinsert screw with a 3mm Allen wrench. Ensure that the nut stays in position while tightening the screw. Do not overtighten screw or mechanism will bind.

NOTE: To reverse the 4-way latch, the same screw is removed, but the hanger has to be removed from the latch block. Once removed, slide the latch off, flip over and reinstall. Ensure spring is engaged, by pushing and holding the latch button in, and nut stays in position while reinstalling the screw.

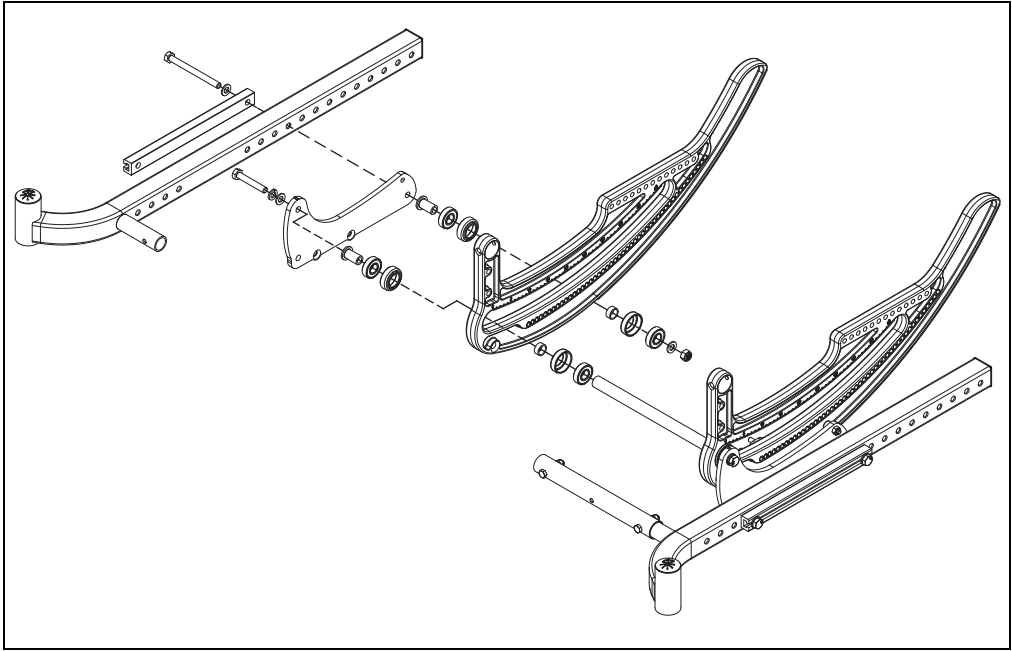
NOTE: In-line position is not achievable with the Pro ELR Footrest option.



Bearing Construction

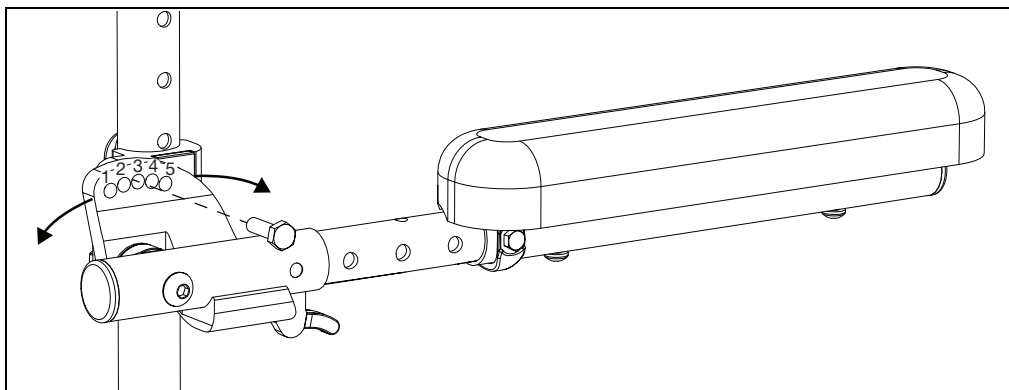
There are two sets of bearings used within the tilt function of the CR45 chair. Use two 13mm wrenches to remove and/or assemble the bearings. See diagram below for sequencing of parts.

NOTE: The positioning of the roller plate is shown in the **Base Frame & Roller Plate References** section earlier in this manual.

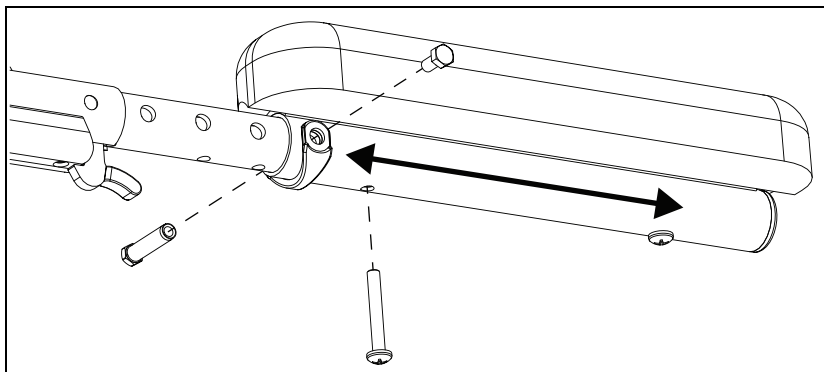


Angle Adjustable Locking Flip Up Extendable Armrest

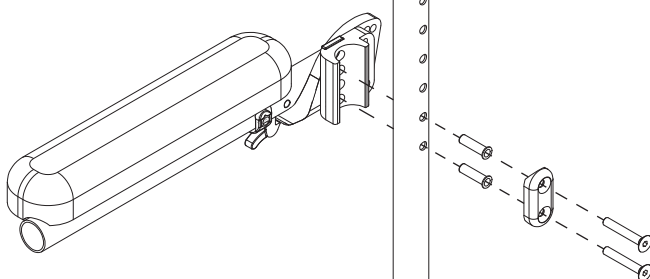
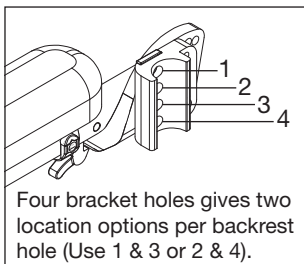
1. Set the angle of the armrest. There are five holes that can be used to set the angle. Tighten the bolt using a 10mm wrench once angle is set.



2. 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 using a 10mm wrench and a Phillips screwdriver. Slide the armrest to desired length available by the predrilled holes and reinstall the screw and bolts.

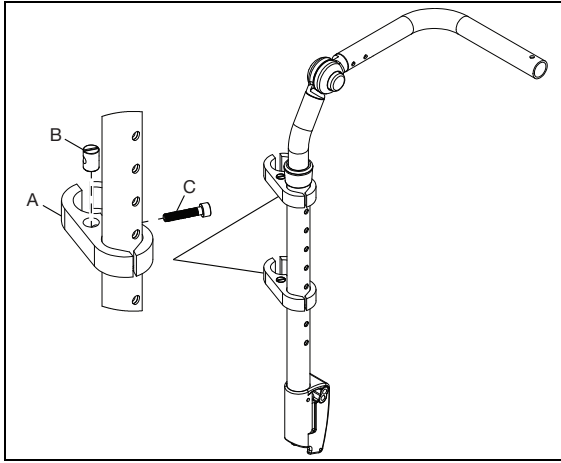


3. Set the height of the armrest. There are four holes on the armrest that allow for two different height settings for each set of holes on the back tube. Use the holes that provide the correct height setting for the user. The two bolts pass through the spacer, sleeves, back posts and into the armrest using a 4mm Allen wrench.

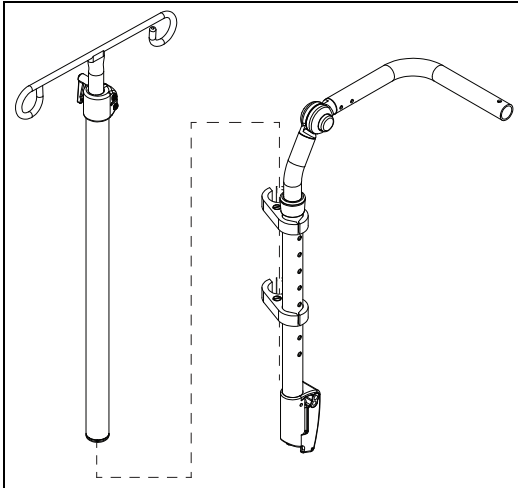


IV Holder

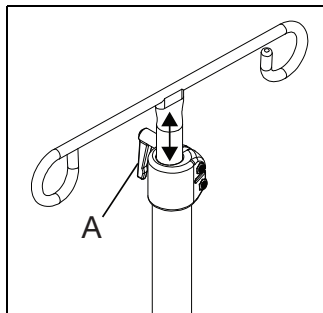
1. Place the two hole clamps (A) with the barrel nut (B) and screw (C) using a 5mm Allen wrench. Ensure the sides of the clamp with the flats are used on the backrest tube. Turn the screw (C) finger tight into the barrel nut (B).



2. From the top, slide the IV pole assembly into the two clamps and tighten the clamp screws to secure pole.



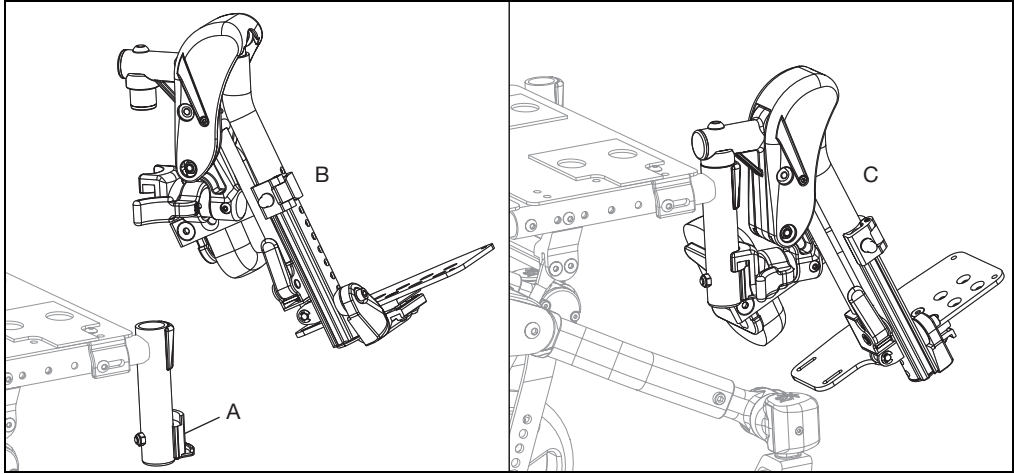
3. Turn the handle (A) to adjust the height of the IV pole.



Pediatric Pro ELR

Installing Pediatric Pro Elevated Leg Rest Assembly

1. Remove current hangers from chair if applicable. Install latch blocks (A) if not present.
2. Install the Pediatric Pro ELR the same way as a swing away hanger. Place the swing away pivot saddle into the receiver on the front frame tube with the leg rest facing either inward or outward from the frame (B).
3. Rotate the leg rest so that it aligns with the frame until it locks into place in the latch block (C).

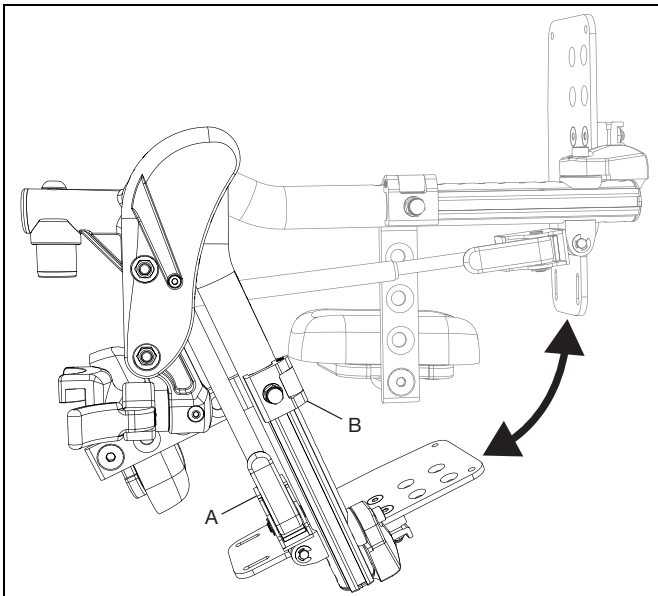


Use

1. To raise the Pediatric Pro ELR, lift the leg rest tube (B) to desired angle of elevation.
2. To lower the Pediatric Pro ELR, press and hold the lever lock (A) while pushing the leg rest tube (A) down.

NOTE: Support or remove weight from the Pediatric Pro ELR while lowering to avoid a sudden drop when the lever lock is pushed.

NOTE: The calf pad can swing outward to clear the front of the chair for transfers.



Pediatric Pro ELR

Removal (Refer to first image in Pediatric Pro ELR Section)

1. To remove leg rest, push or pull release latch.
2. Lift the leg rest straight upward to remove. You may also swing the leg rest inward or outward before lifting it off.

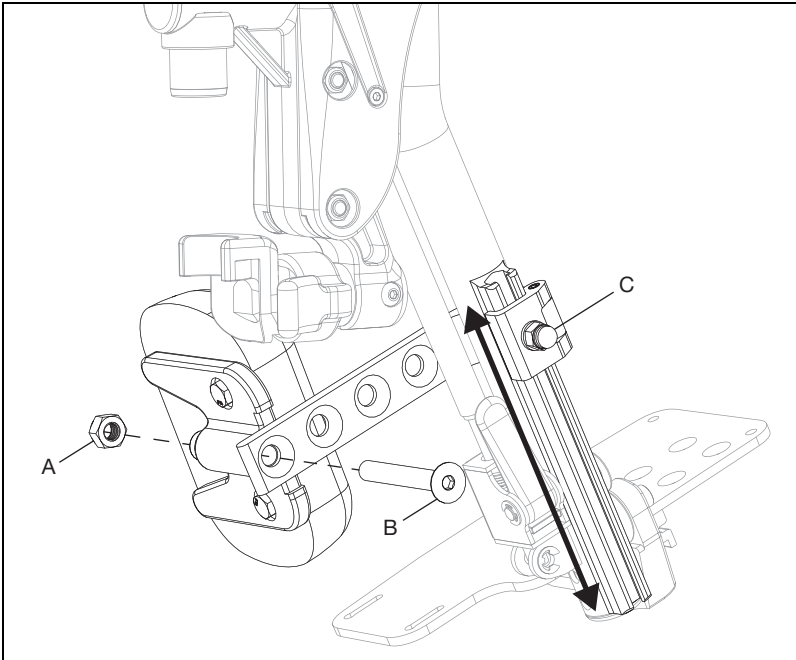
Adjusting Calf Pad

Adjusting Height of Calf Pad

1. Loosen nut (C) using a 10mm wrench.
2. Slide calf pad arm up or down to desired location. Retighten nut.

Adjusting Depth of Calf Pad

1. Remove screw (B) and nut (A) on calf pad arm using a 5mm Allen wrench and a 13mm wrench.
2. Pick the desired location based on the four predrilled holes and reinstall screw and nut.

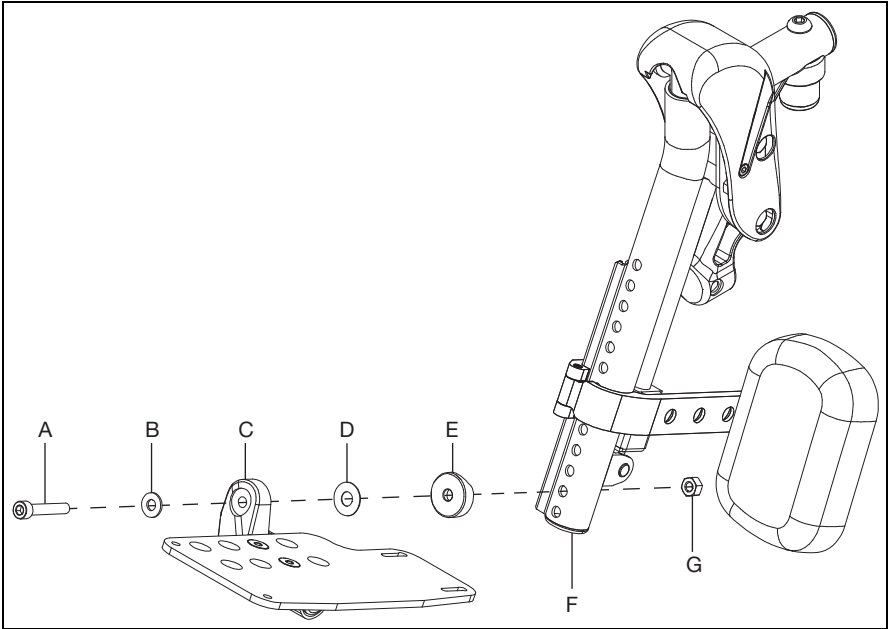


Pediatric Pro ELR

Adjusting Length of Footrest

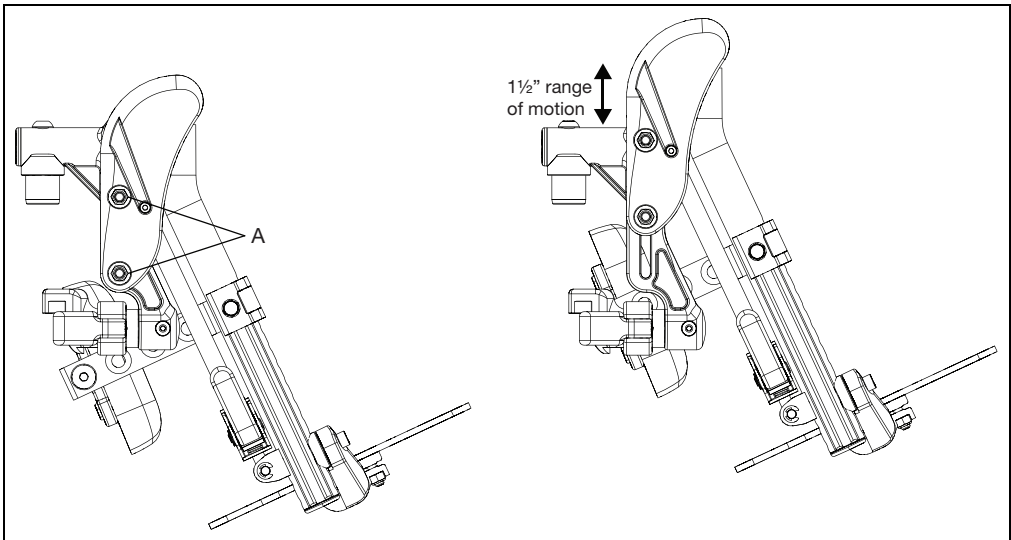
1. Remove bolt (A), washer (B), footplate assembly (C), washer (D), saddle (E), nut (G) and ensure footrest tube insert (F) stays in tube using a 5mm Allen wrench and a 10mm wrench.
2. Move footplate to desired height and reinstall hardware to secure in the hole closest to desired height.

NOTE: Move the calf pad as needed when adjusting the length of the footrest.



Adjusting Knee Height

1. Using two 10mm socket wrenches, loosen the two nuts (A) on the cover.
2. Adjust knee height to desired setting.
3. Retighten the two nuts (A) after desired height is attained.

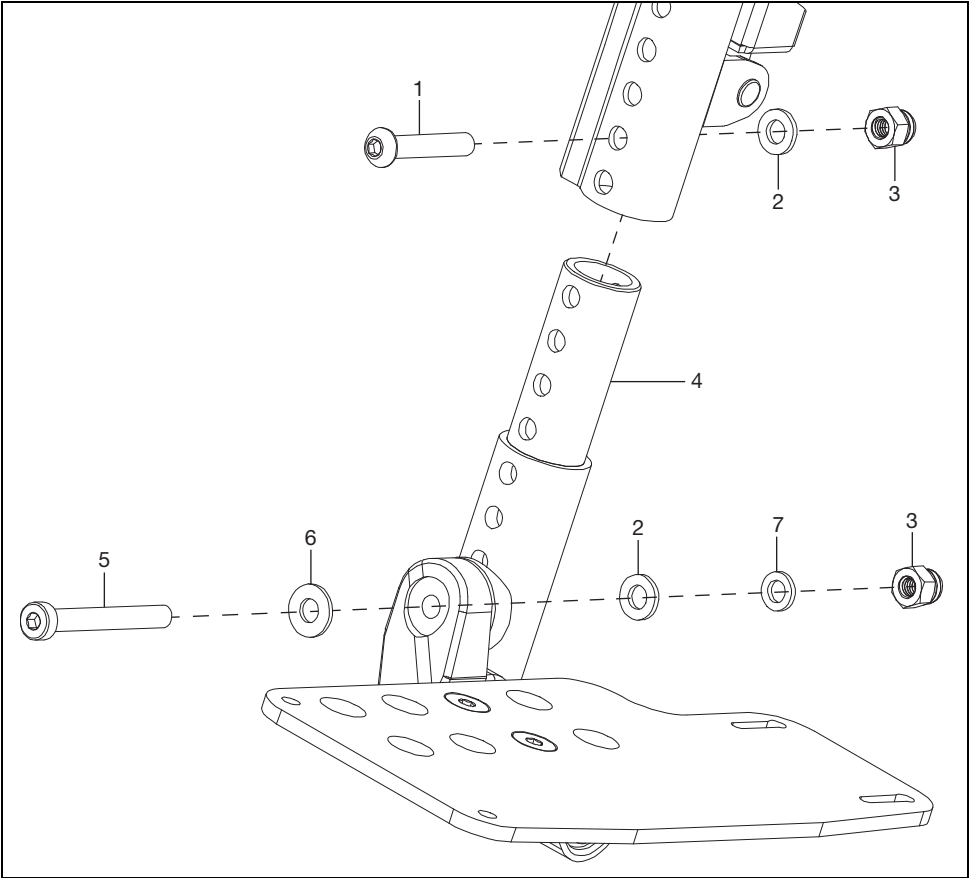


Pediatric Pro ELR

Extension Mount Configuration

Some configurations may require an extension mount to avoid interference with the footplate. Use a 5mm Allen wrench, a 4mm Allen wrench and a 10mm wrench to attach your footplate to the extension mount and the extension mount to the hanger assembly. Extension mount hardware is included in a separate bag.

NOTE: The footrest tube insert is not used when the extension mount is used and the hardware for attaching is different. See figure below for parts diagram (Not all parts are sold individually, refer to parts manual for additional information at www.kimobility.com) and the part description chart below (the rest of the assembly is shown on the next pages).



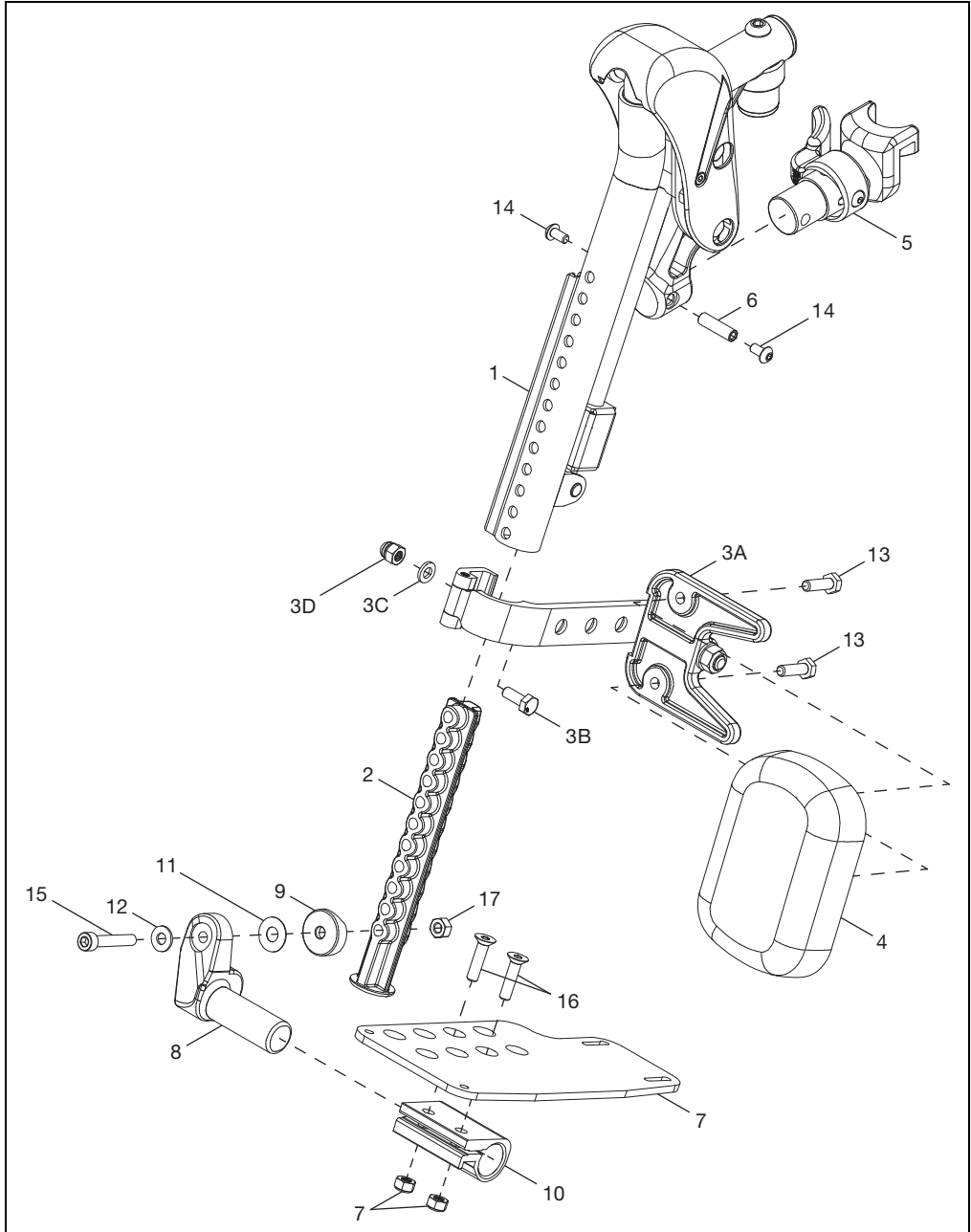
Item Number	Part Number	Description	Quantity
1	101811	BHCS, M6x1.0x35, CL10.9, BLZ, DIN7380	1
2	100746	WASHER, FLAT, M6, BLZ, DIN125A	2
3	100558	NUT, HEX, M6x1.0, DOME, CLS6, BLZ, DIN986	2
4	000164	Hanger Extension - 3"	1
5	101124	SHCS, LOW, M6x1.0x50, CL8.8, BLZ, DIN7984	1
6	101455	M6 BELLEVILLE WASHER	1
7	102072	WASHER NYLON .234IDx.406ODx.062 THICK	1

Pediatric Pro ELR

Replacing Pediatric Pro Elevated Leg Rest Parts

1. See figure below for a parts diagram of the Pediatric Pro ELR (Not all parts are sold individually, refer to parts manual for additional information at www.kimobility.com).

NOTE: Parts chart located on next page.



Pediatric Pro ELR

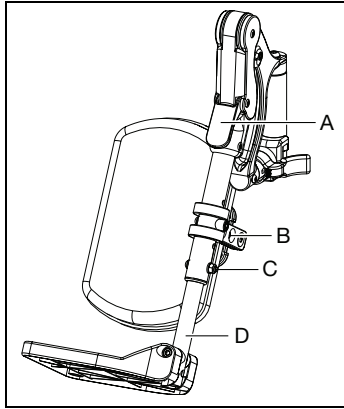
Item Number	Part Number	Description	Quantity
1	003853	Hanger Assy, Pro ELR, FM, R	1
	003854	Hanger Assy, Pro ELR, FM, L	1
2	003843	Insert, Footrest Tube	1
3	003344	Calf Pad Bracket Assembly	1
4	101585	Calf Pad - Large	1
	101470	Calf Pad Pediatric - Medium	1
	003844	Calf Pad, 84mm X 120mm - Small	1
5	003643	Hanger Latch Assy, 4-Way, L	1
	003642	Hanger Latch Assy, 4-Way, R	1
	003416	Hanger Latch Assy, R	1
	003416	Hanger Latch Assy, L	1
6	000073	M5 Threaded Barrel	1
7	001304 - 001307, 000105 - 000110	Footplate, Aluminum Angle Adj, 10-11W - 18-20W, L/R	1
8	000048	Footplate Angle Adj Casting, 1", R	1
	000050	Footplate Angle Adj Casting, 1", L	1
9	003845	Saddle, 1", Rounded	1
10	100502	Angle Adj Footrest Clamp, 2"	1
11	000428	Wear Washer	1
12	101455	M6 Belleville Washer	1
13	101823	HHCS, M6X1.0X20, CLS10.9, NYL, BLZ, DIN933	2
14	100669	BHCS, M5X0.8X10, CLS10.9, BLZ, NYL, ISO7380	2
15	101810	SHCS, M6X1.0X35, CLS12.9, BLZ, DIN912	1
16	100662	FHCS, M6X1.0X25, CLS10.9, BLZ, DIN799 1	2
17	101456	M6 DIN980 CLS8 OVL TOP L/N ZC	1
18	100658	M6 Nylock Nut, BLK ZN	2

ELR Extension Ranges

Small	10.5" - 15.5"
Medium	12.5" - 17.5"
Long	15" - 20"

1. Adjusting the Extension Tube

- Remove the mounting bolt that is threaded into the leg rest tube in the center of the pad bracket (B). In some circumstances, typically when leg rest length is near maximum, a secondary bolt is used (C). Both bolts B and C may need to be removed to achieve short leg rest lengths. If bolt B passes through the extension, only bolt B will be required.
- Slide the footrest extension tube to the desired height.
- Line up the holes and replace the bolt through the leg rest tube and the extension tube.
- Repeat steps a - c on opposite side.

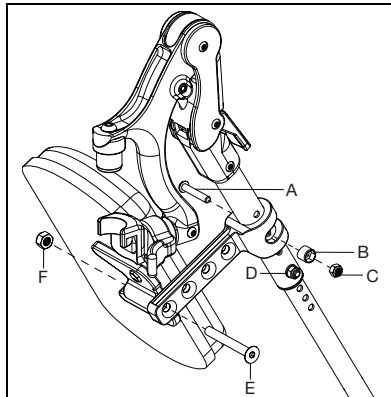


2. Adjusting the Height of the Calf Pad

- Remove bolt (A), saddle (B) and nut (C) using a 4mm Allen wrench.
- Slide the calf pad arm up or down to the available hole for your desired location.
- An extra set of hardware (D) is on the ELR in case the extension tube holes and the calf pad holes don't align.
- Reinstall hardware and repeat on opposite side.

3. Adjusting the Depth of the Calf Pad

- Remove bolt (E) and nut (F) using a 5mm Allen wrench and a 10mm wrench.
- Pick the desired location based on the four predrilled holes and reinstall the bolt and nut.

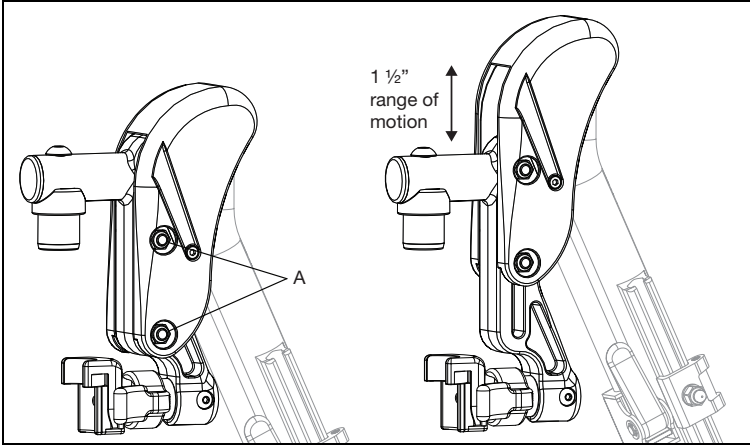


Pro ELR Adjustment

NOTE: Instructions for adjusting the height of the calf pad, the depth of the calf pad and the length of the footrest can be found in the owner manual in the Pro Elevated Leg Rest section.

Adjusting Knee Height

1. Using two 10mm socket wrenches, loosen the two nuts (A) on the cover.
2. Adjust knee height to desired setting.
3. Retighten the two nuts (A) after desired height is attained.

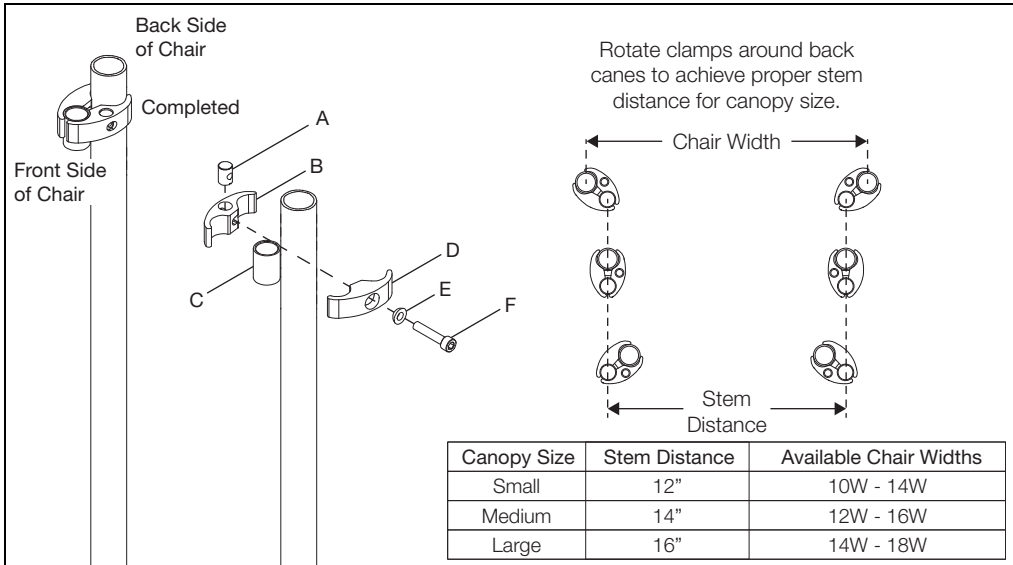


Canopy

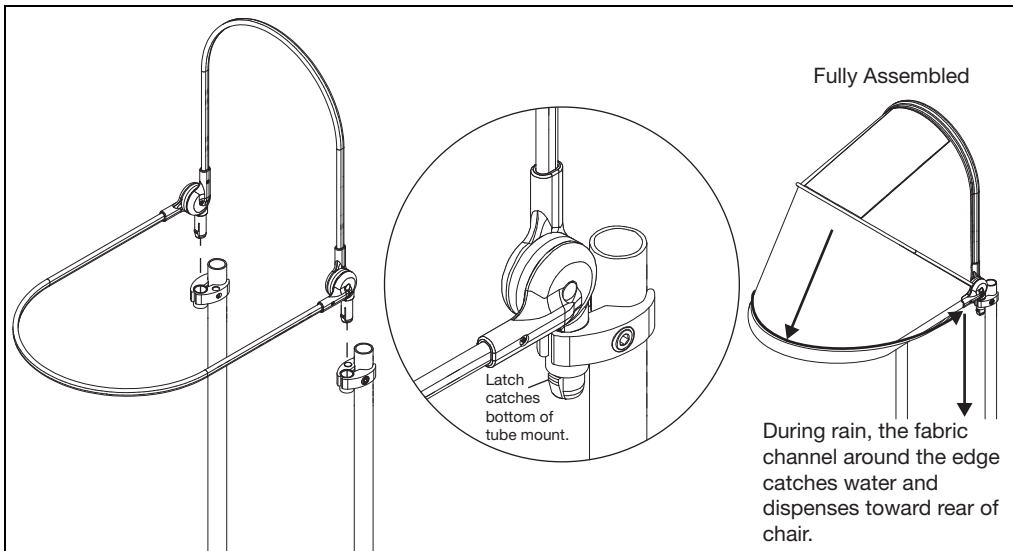
Installation

1. Install tube mount (C), inner clamp (B), outer clamp (D), barrel nut (A), spherical washer (E) and bolt (F) onto backrest tube using a 5mm Allen wrench. Repeat on opposite side.

NOTE: The clamps may need to be rotated to accommodate the chair width while remaining in the correct distance for the stems. See the chart below if a different canopy size is needed.

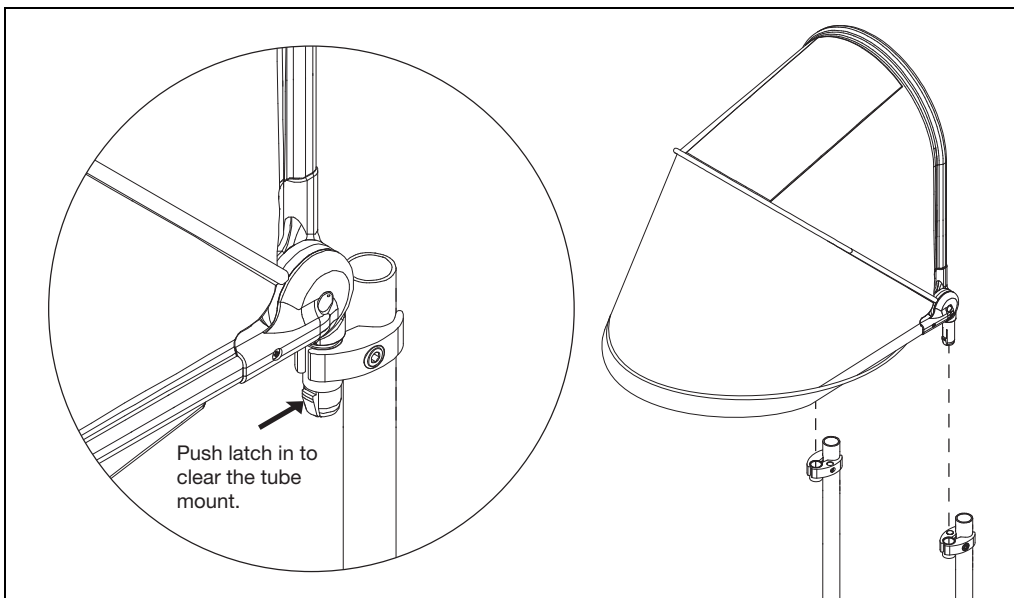


2. Drop the canopy assembly stems into the tube mounts. Ensure latch catches to secure the canopy assembly in the tube mounts. For rain, ensure the fabric around the edge is folded to create the channel which catches water and dispenses it behind the chair.



Canopy

3. To remove just the canopy, push in the latch on both stems and lift up and out of tube mount.

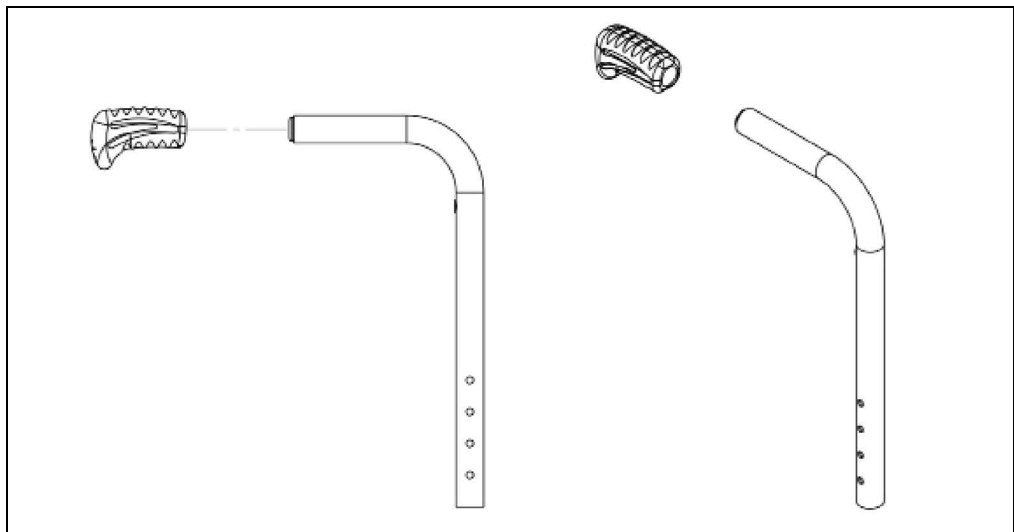


Ergo Grip

Installation

NOTE: The Ergo Grips must be at room temperature prior to installation.

1. Ensure that the old grip has been completely removed and the push handle tube is clean and dry.
2. Apply isopropyl alcohol wipes (70%), P/N 102932, to push handle tube and inside of Ergo Grip.
3. Immediately after applying the isopropyl alcohol wipes, push grip over end cap until cap bottoms out in grip.
4. Align grip to the centerline plane of the backtube.
5. Allow to dry for 30 minutes prior to use.





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