



The Nuts and Bolts of Mounting CTG 2019



Learning Objectives

- Identify 3 types of wheelchairs and the wheelchair hardware used with each
- Identify 3 common barriers and solutions related to installing a mounting system
- Identify 3 resources for wheelchair attachment support

Speaker Disclosure

Mary Kay Walch
COTA, Director of Sales and Marketing
BlueSky Designs
Minneapolis, MN



Why do you need a mount?



Why - **for person's physical and psychological well being** to be able to readily and independently access food, drinks, technology and more!

Need to position and secure these items for optimal access through every stage of a condition. Adapt to physical changes and access method changes.

Independence!!!



Access

Increasing

- independence
- quality of life
- productivity



Challenges

What is your experience?

A Lets get started....first we need some information:

Contact Person

Organization _____
Name _____
Street _____
City/State/Zip _____
Phone # _____
Email _____

Wheelchair - Stroller - Walker - Bed

Make/Model _____
Power wheelchair ☐ Walker ☐
Stroller ☐ Power standing wheelchair ☐
Tilting wheelchair ☐ Bed ☐

Device [See website for Device Plate Graph](#)

AAC Make/Model _____
Phone Make/Model _____
(We will need exact dimensions of phone)
Tablet Make/Model _____
(We will need exact dimensions for Tray)

Where to Mount

Mount to clients right/left side? _____
Additional mounting requirements
(2nd wheelchair, floorstand, table stand, bed?)

Client

Name _____
Street _____
City/State _____
Zip Code _____

Client Characteristics

How does client access their device?
(Direct select, switch, eyegaze/head tracker?)

If direct select: (gentle touch, strong touch, or medium touch) _____

Can client use both arms/hands? Preference? _____

What is clients range of motion?
(Do they have enough range of motion to reach across the midline?)

Would a locking or non-locking mount be preferred? _____

(FYI - the tension on the non-locking mount can be adjusted to require a light or heavy touch to move it)

NOTES: _____

B Attaching the Mount'n Mover pictures are very useful!

Please send JPEGs of each of these views



Angled view



Side view



Front view



close-up view

Mount Mentor We can help!

- Complete
- Take photos
- Submit
- Support

Pictures Please!

B *Attaching the Mount'n Mover pictures are very useful!*

Please send JPEGs of each of these views to info@blueskydesigns.us



Angled view



Side view



Front view



close-up view

Pointers:

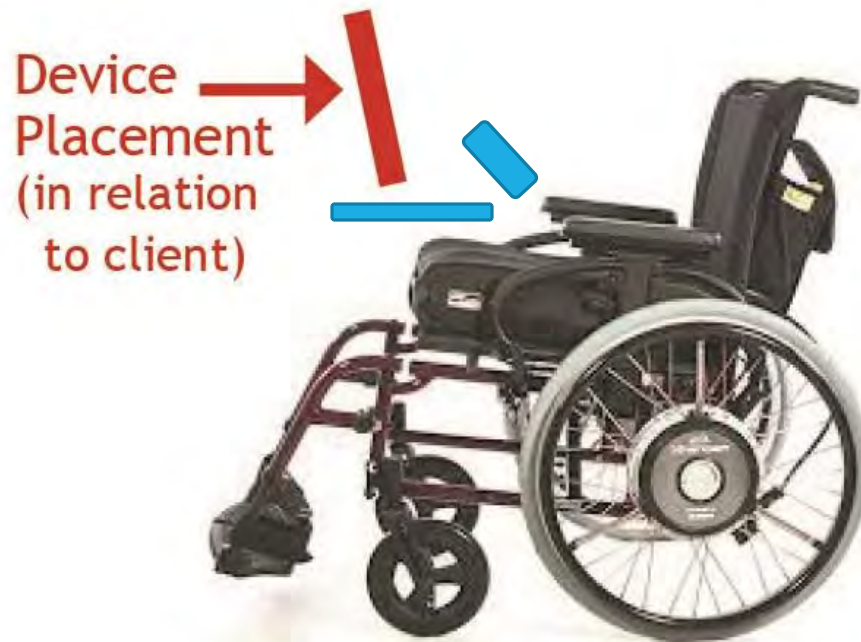
- Hold the device where you want it in relation to the client
- Move lap belts, blankets etc so the frame is visible
- Please include client in wheelchair.

* See website for wheelchair examples and more specific information

Getting Started!



Determine Position of Device and/or Tray



Side view

Location, Location, Location

Can they use both arms/hands? If not, what is their preference?

Do they have enough range of motion to cross midline?

Do they drive a power chair? Avoid controls.

Eye gaze - **user's challenge center** placement!

Do they need to swing away or remove footrests?

Do they have a tray?



Unique Operating Position



Needed iPad mounted at seat level.
Low location provided ability to
stabilized arm for direct select access.

Access Above Tray

Michael is able to move his mount to the side to pull up to a desk and still access his tray.







- Multiple mounts
- Dual Arm Mount
- Loc - Line



Wheelchair Hardware Considerations & Safety

Determine best side of wheelchair is best to attach hardware. What side do they transfer from?

Must not interfere with operation of brakes footrests, tilt, tie-down, folding, arm rest, power controls

Consider possible interference with other activities or care

Safety:

- stay clear of power controls,
- stow device when in car
- turn power off chair when installing
- hold device with one hand when removing from mount

Step by Step

Step 1 Review Mounting Guide

Step 2 Attach hardware

Step 3 Attach Wheelchair Bracket

Step 4 Attach Post

Step 5 Attach mount to Post

Step 6 Attach Device to Mount

Powered and Manual



Step 1

Review Mounting Guide

Support Tab Wheelchair Mounting Overview

A) Choosing the right mounting hardware

B) Selecting a wheelchair bracket

C) Selecting a mounting location

Offset options

Extension information


Mount Location

Determine attachment location to suit end-use

Attaching to the seat rail minimizes post length and allows users to maintain access to devices at different tilt angles.

Seat-Rail: Use if mount needs to tilt with the seat.

Example:
A speech device tilts to allow communication from any angle



Select your wheelchair or other item below to see hardware recommendations and mounting instructions


Brand/Model
Select -

View mounting guide

If you prefer that the mounted device does not tilt with a tilting wheelchair, attach to the sub-frame or base.

Frame-Rail: Use if mount must remain stable regardless of seat angle.

Example:
A tray for eating needn't tilt.



Mounting hardware by wheelchair type

Check out our mounting options list, where we have mounting guides for many wheelchairs, walkers and more.

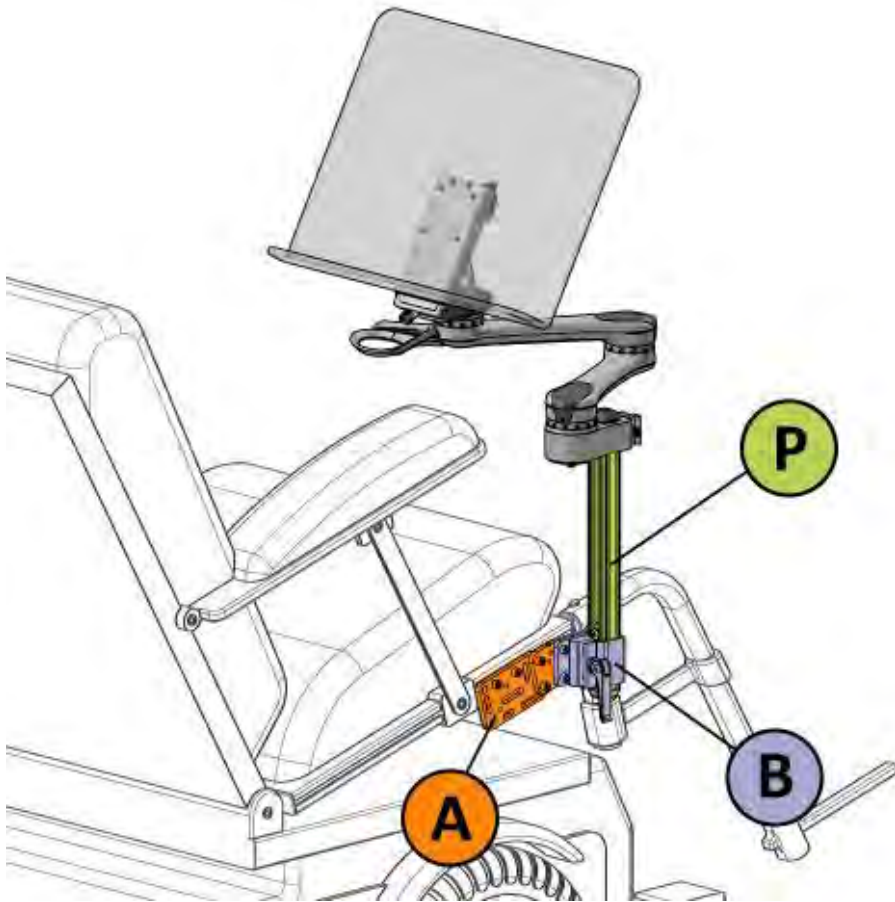
We also have generic guides for various frame types, listed in the Mounting Guides menu.

Offsets and extensions

Mounting to a wheelchair can sometimes be tricky. There will be situations where

MOUNTNMOVER.COM

Attachment Area



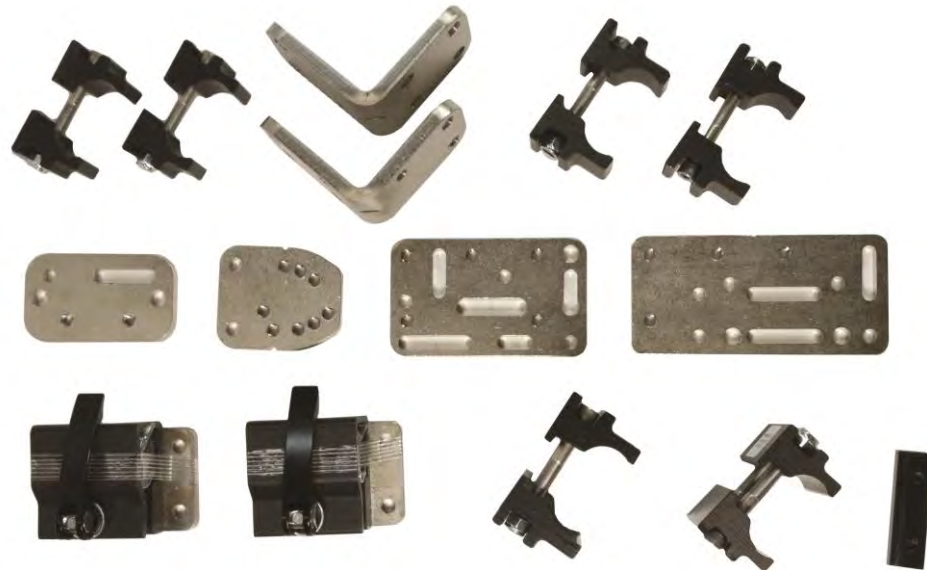
- A – Adapter Plate
- B – Wheelchair Bracket
- C - Post



Components

Support

- Online
- Phone
- Email (photos help)
- Skype
- Office visit if local

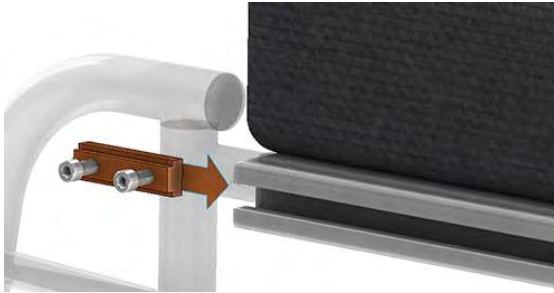


Attaches mount to the vast majority of wheelchairs.

Step 2

Attach Hardware

Types of Frames



Slide Track



Frames with Holes



Round Tubing

Custom - Drill Holes,
Seat Base

Also - walkers, beds,
tables, floor stands

Slide Track Attachment


Orientation 4 - tilted left

Orientation 4 - tilted right

4: Attach the Wheelchair Bracket, or Extension

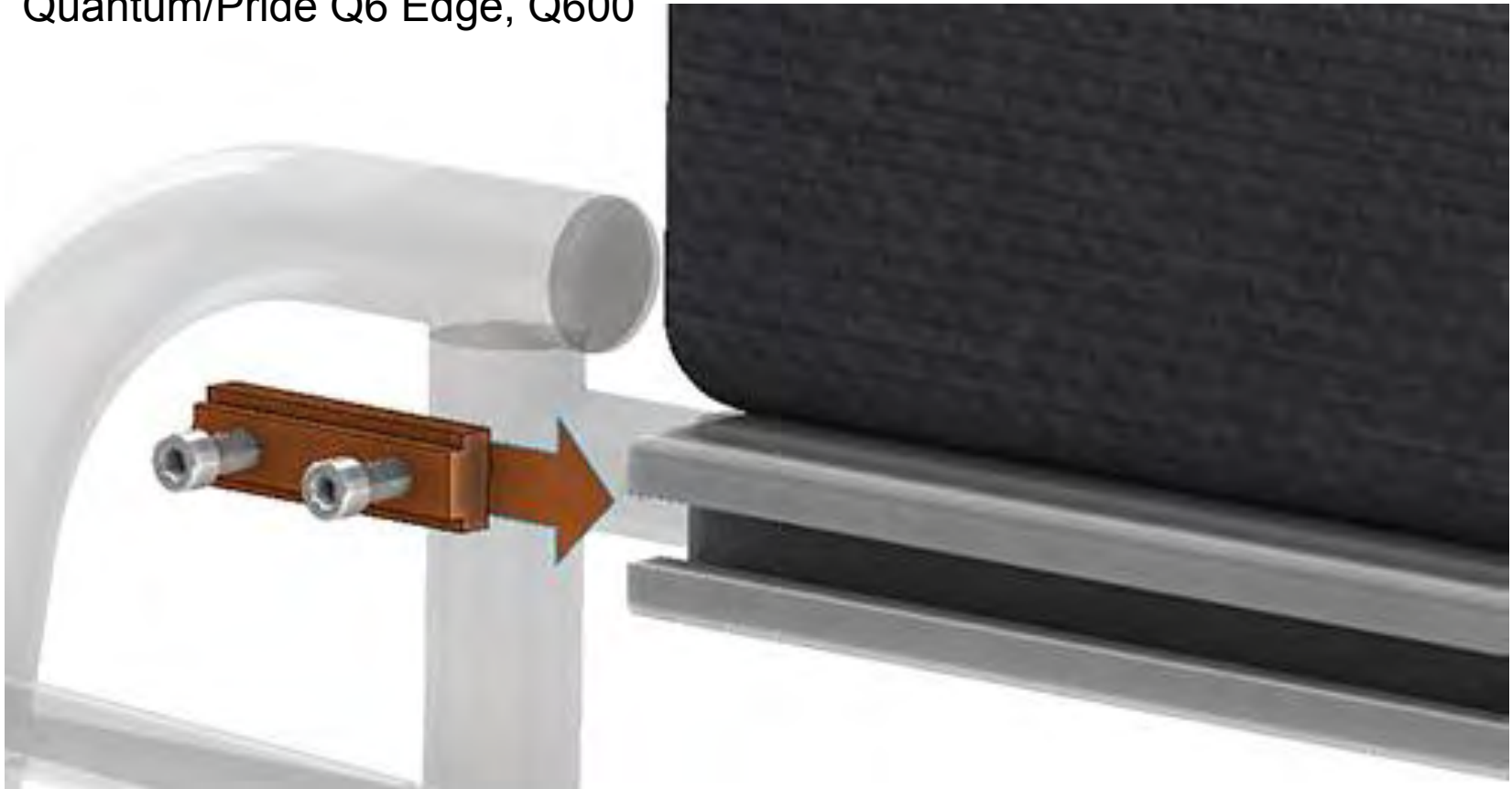
There are many attachment positions available when mounting the next component

- Angle Adjustment Plate (WC-AAP)
- Adjustable Wheelchair Bracket (WB)
- Extension: L-Angle Extension (WC-LAE)
- Extension: Adapter Plate 2 (WC-AP2)
- Extension: Adapter Plate 4 (WC-AP4)



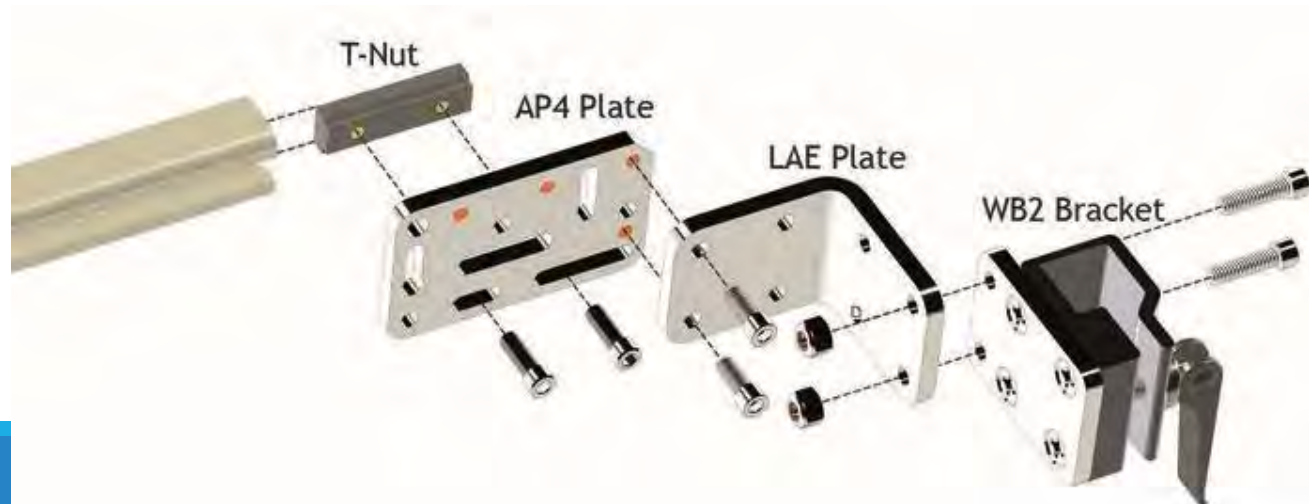
Slide Track Frame

Quantum/Pride Q6 Edge, Q600



T-Nut

Quantum



Dove Tail Nut

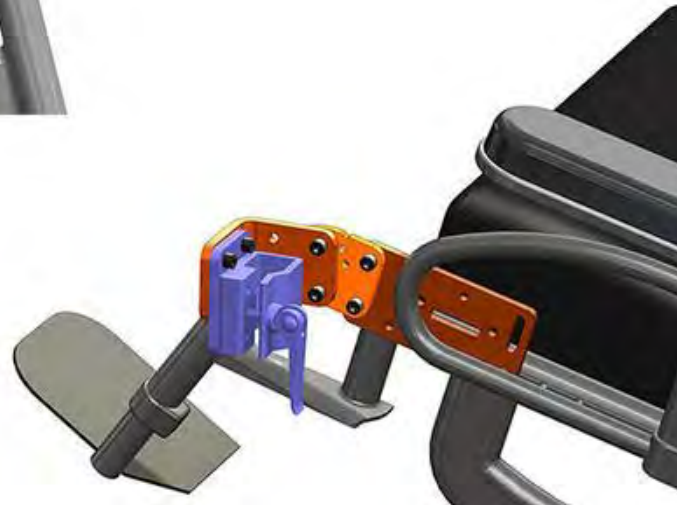
Quickie QM710, Rhythm 636, 646 SE, Pulse



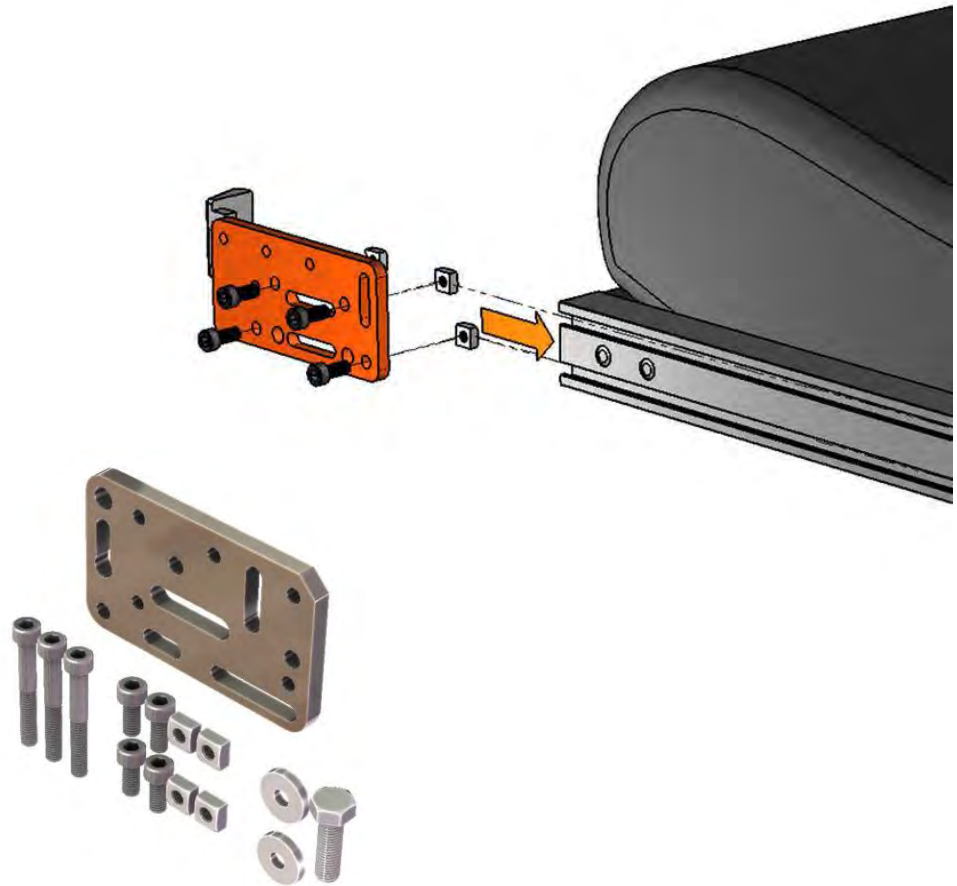
Angle Adjust Plate



**Angled Offset examples using
Angle Adjust Plate (WC-AAP)**

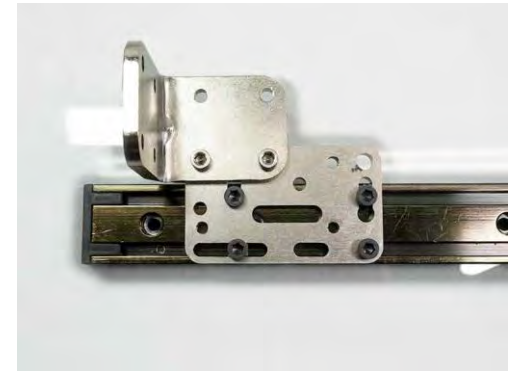
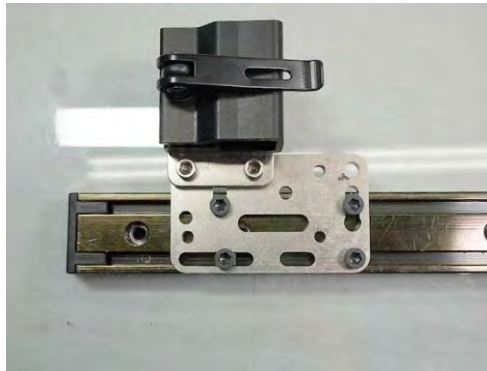


Permobil Unitrack Frame



Attaching to Permobil

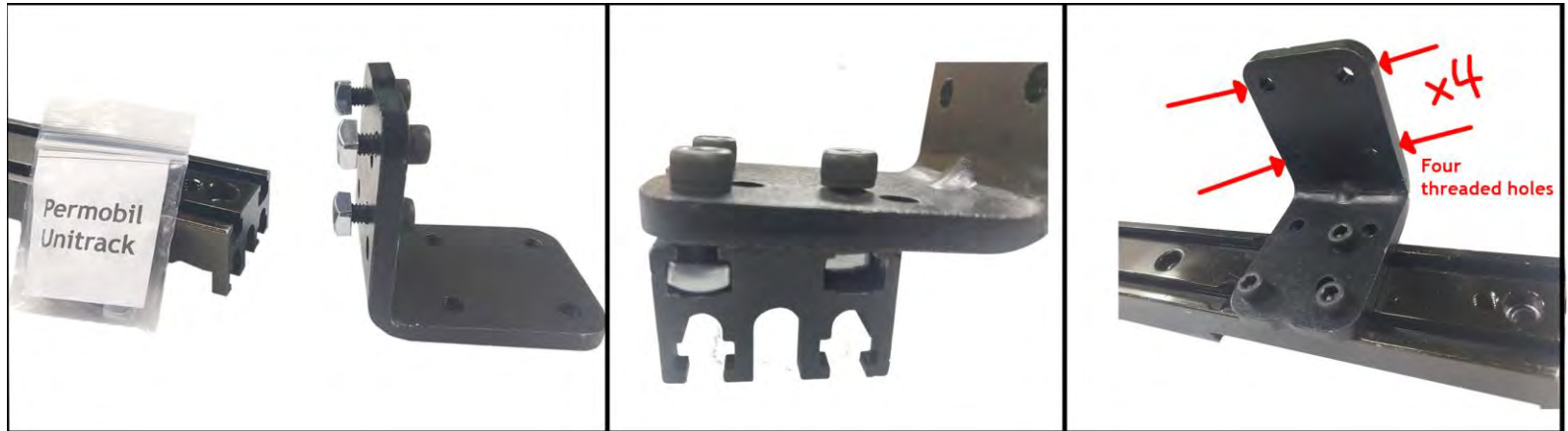
1. Clear the UniTrack path - cap, side-supports, transfer aids
2. Pre-assemble the screw, plate and nuts
3. Insert into the UniTrack - line up nuts
4. Attach wheelchair bracket or offset hardware



Standing Wheelchair



Permobil Armrest Unitrack



Pass through Permobil Unitrack bolts through the NON-THREADED holes on the L-Angle Extension Bracket. Loosely thread on the nuts.

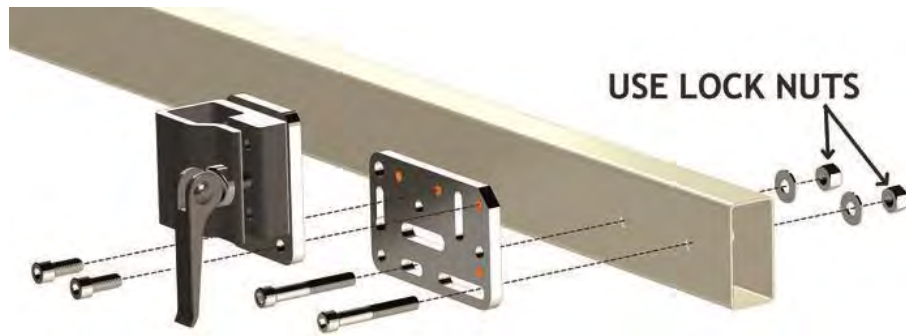
Feed the nuts into both Unitracks under the armrest.

There should be two nuts in one track and one nut in the other track.

Post Extension



Frames With Holes



Cove Spacers Avoids Wobble

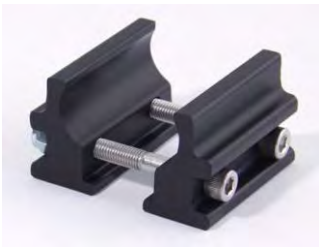


Cove Spacer and Clamp

Round Tubes - Bridge Clamps

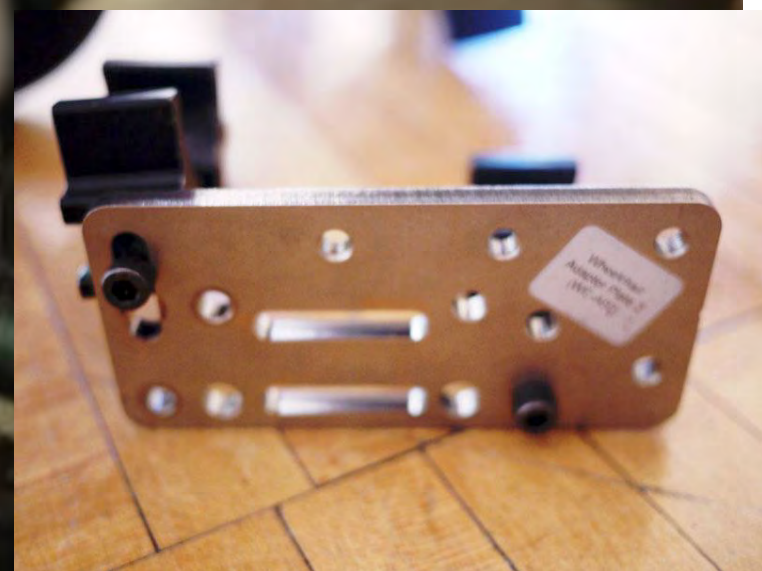


1" and 7/8" size clamps





Bridge Clamp





Frame Type

Measure Tube Circumference

D What type of frame do you have?

☐ Permobil Unitrack Frame

☐ Single slide track
(Invacare, Quantum, Amy)

☐ Round tubing
Please measure circumference →
☐ Round tubing with holes

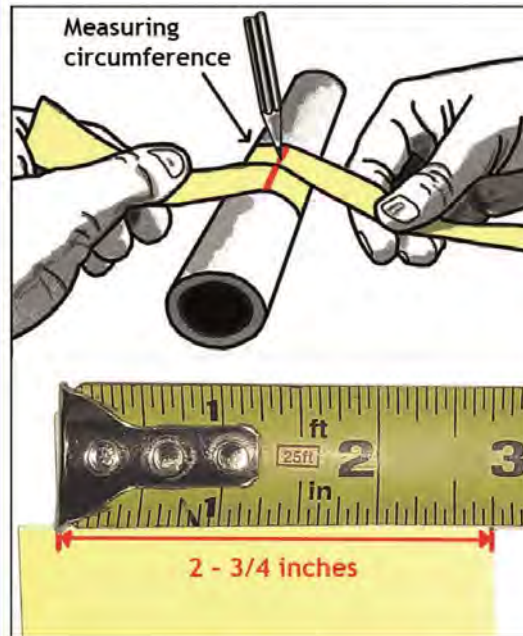
Circumference measurements:

Horizontal tube _____

Vertical tube _____

NOTES: _____

Measuring your round tubing for correct clamp size



Common Clamp Sizes

Circumference	Diameter
2 3/4"	7/8"
2 3/8"	3/4"
3 3/16"	1"
3 17/32"	1 1/8"
3 29/32"	1 1/4"
4 5/16"	1 3/8"

*We can fit many more sizes than shown above. Just tell us your circumference!

See wheelchair mounting guides on our website (www.mountnmover.com)
If you don't see your chair...call us!

Two Approaches



Attach to the holes in the frame using cove spacers and adapter plate

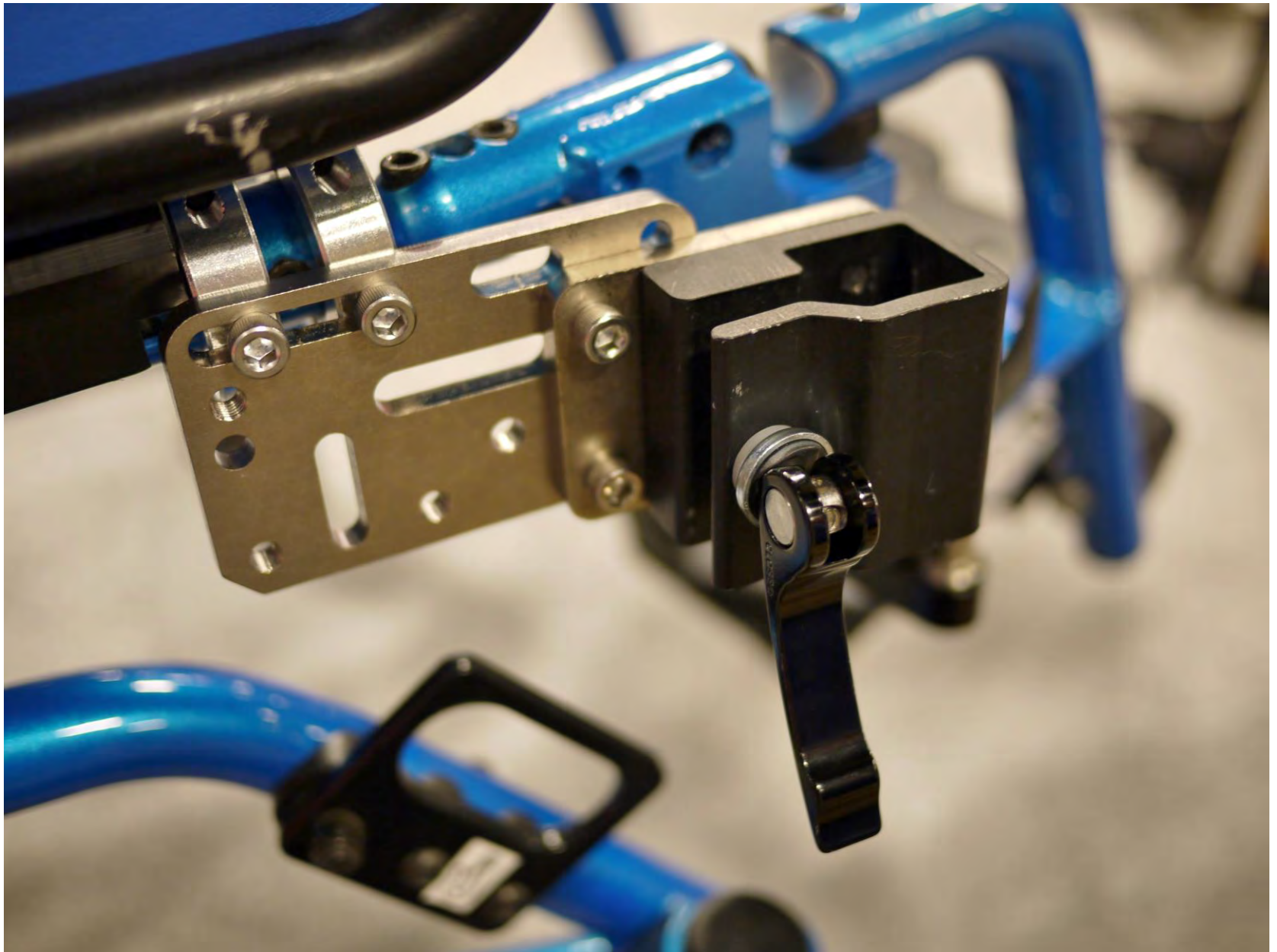
Attach using a bridge clamp created with a 1.25" collar clamp and 1" bridge clamp and an adapter plate

Ki Mobility Focus TIS

Round Tubes Collar Clamps



- For odd size tubes
- Fits narrow space





ZRA Chair
Collar Clamps 1 ¼ inch

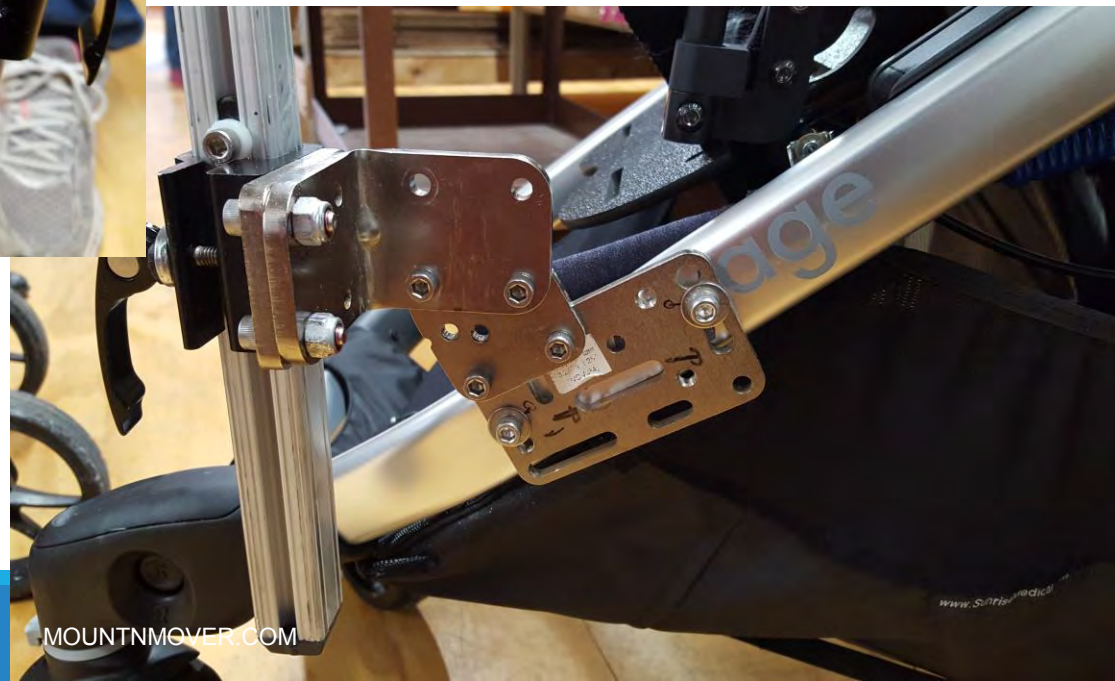




Easy Mover Dual Arm
Laptop Tray
Custom add-on: Modular Hose phone holder



Drill Holes if Needed



Offset to Clear Armrests, Brakes, Controls or Extend for Eye Gaze

Multiple Offset Orientations using a single WC-LAE



Some Offset Orientation Examples using a PAIR of WC-LAE



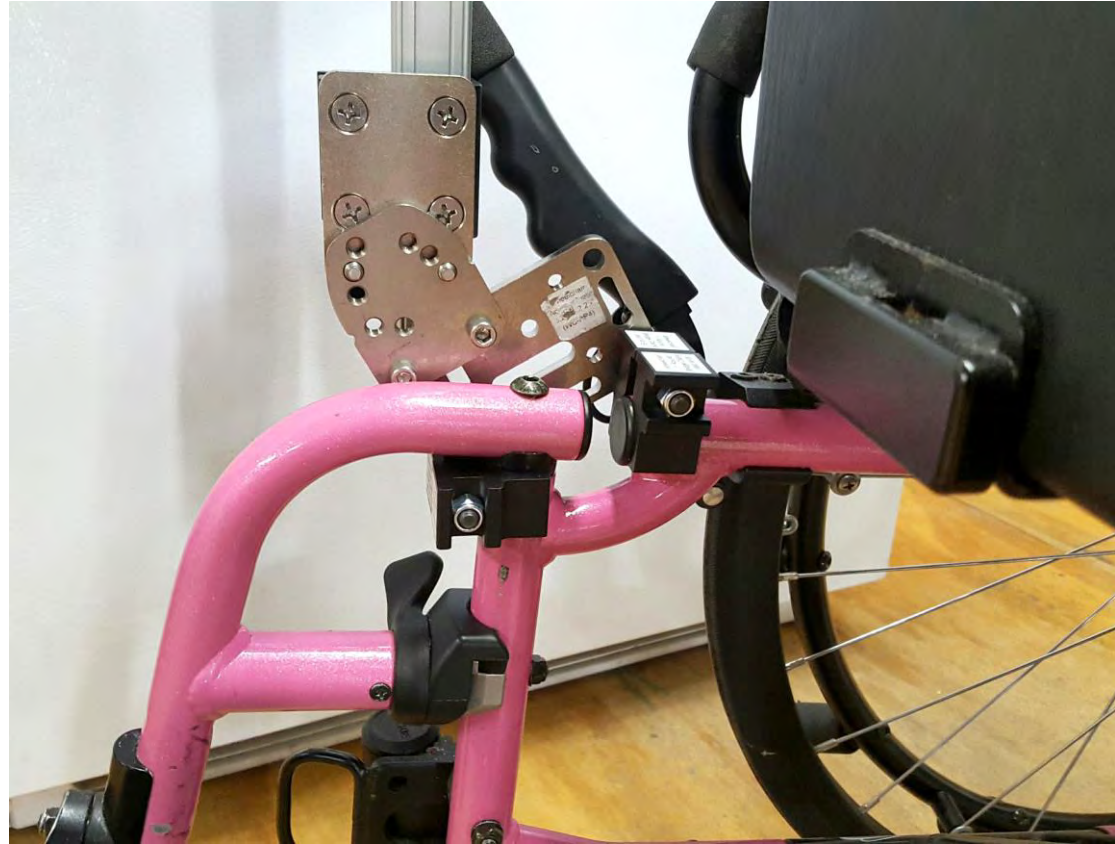
Offset examples using Adapter Plate 2 (WC-AP2)



Offset examples using Adapter Plate 4 (WC-AP4)



Offset Away From Brakes



Frames with Daessy Hardware

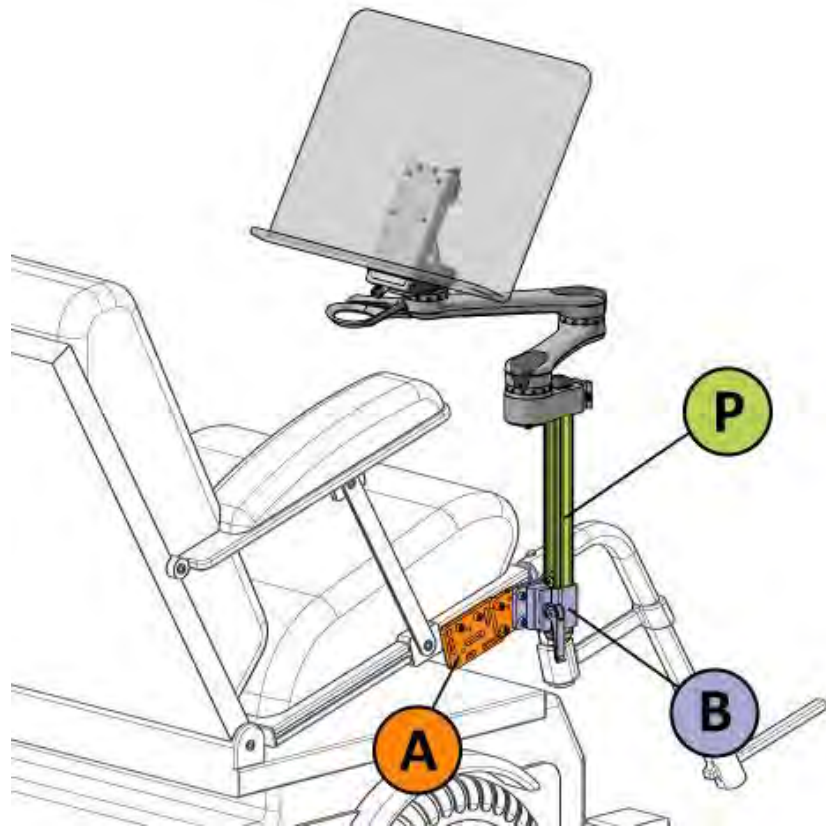


BlueSky Designs Daessy Adapter



Step 4

Attach Post



Measure Post Length



(C) Determining Post Length - A

Bottom of Device

Distance A

Mounting Point

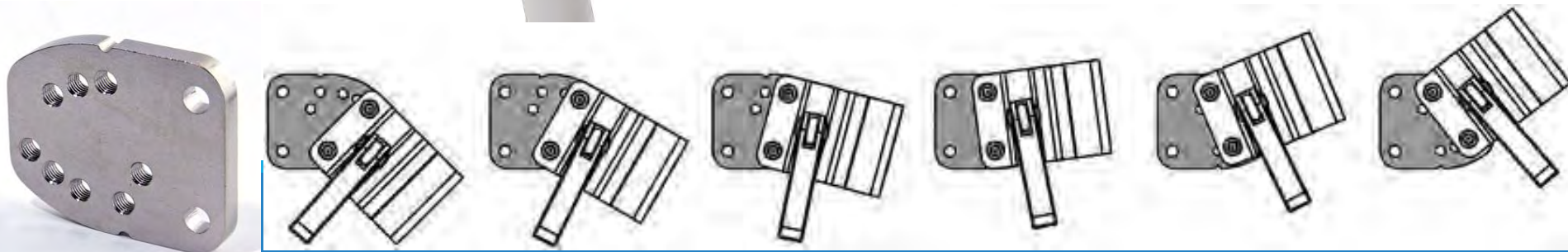
Posts come in the following sizes:

8" ☐ 12" ☐ 18" ☐ 24" ☐ 36" ☐

Need a custom size? _____"

Orientation of Wheelchair Bracket

Post should be vertical when placed in bracket.
Angle Adjust Plate can compensate for tilt.



Avoid

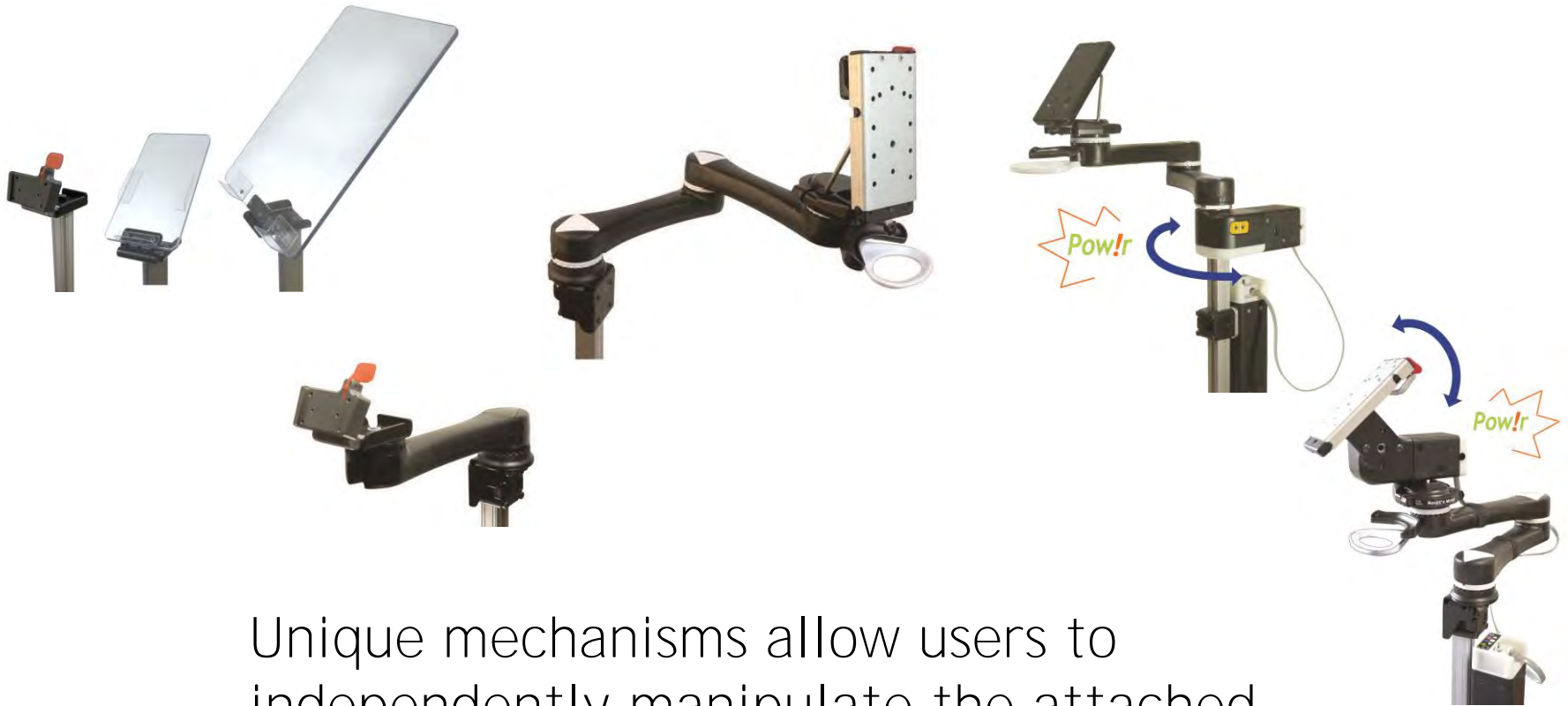
Attaching to footrests and arm rests- not stable

Excess Post below clamp may hit caster wheel or wheel well

Step by Step

Attach Mount to Post

Movable Mounts



Unique mechanisms allow users to independently manipulate the attached device with great ease and flexibility.

Movable mounts promote independence and access

Individuals using a movable mounting system experienced functional gains and psychosocial benefits resulting from increases in their independence and self-esteem (Kinney, Gitlow, Goodwin, 2014)



Single or Dual Arm

Less than 1.5 pound force to unlock

Holds 15 pounds

Single: extends 7.5 - **10.5” from shoulder to wrist joint**

Limited upper extremity strength or range of motion

Small client



Dual: extends 15 - **18” from shoulder to wrist joint**

Folds - wrap to the side for storage



Optimal Device Positioning



Single Arm



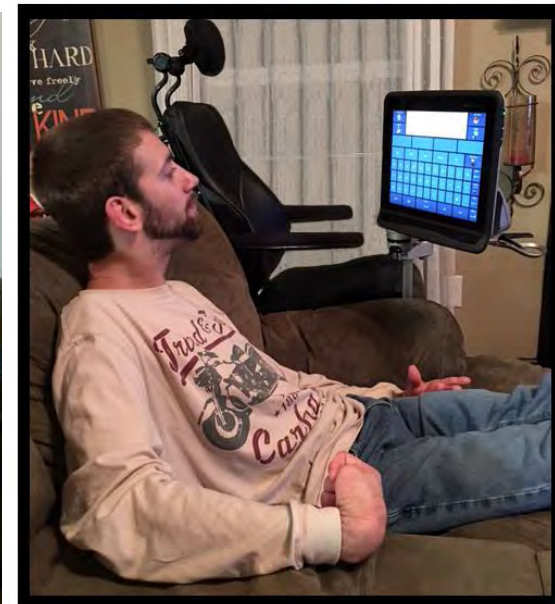
Dual Arm



Access Beyond the Chair

Swing mount around to still access device from chair or bed.

Can eliminate need for additional bed or table mount!



Access Method Eye Gaze or Head Tracker

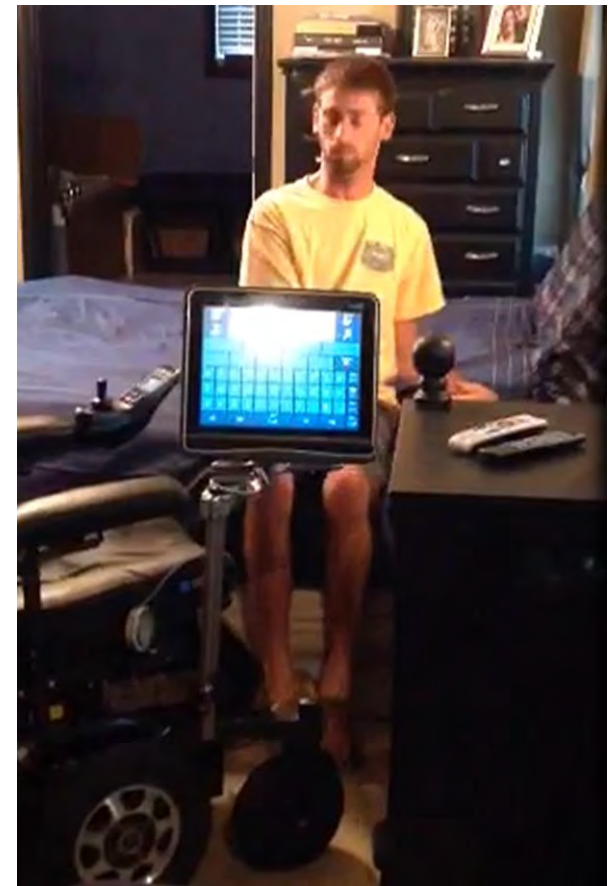


Independence

Transfer from Chair to Bed

Life changing:

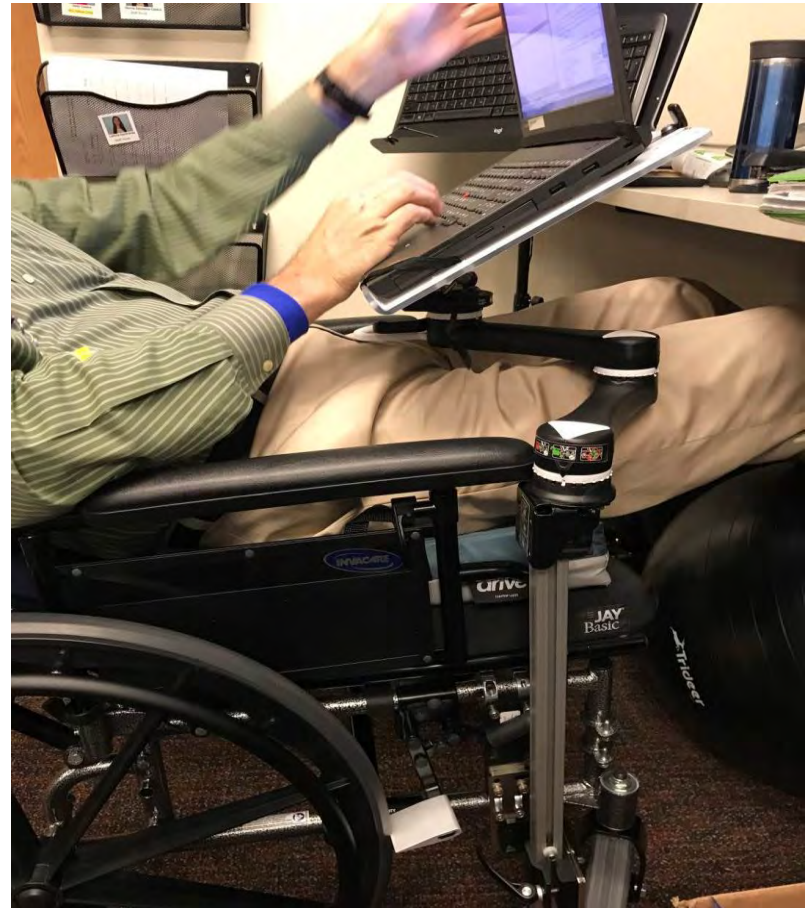
Ryan is no longer dependent on family members for removing device to transfer. He moves it to the side when transferring.



Brea tilts her chair to take a picture of the fish swimming above using her communication device with eye gaze!



Access in a Reclined Position



From Dual to Single Arm



Adjustable Resistance Easy Mover

Albert

Very rough user

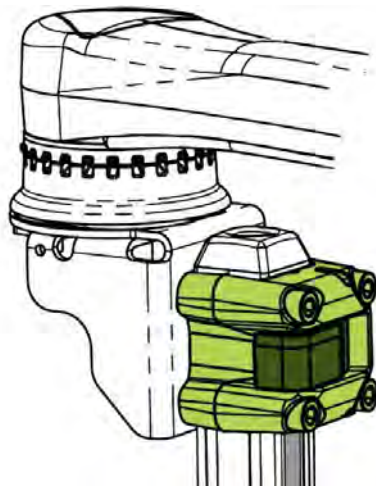
Formerly used lock version

Easy Mover with Tilt plate, DynaVox
Maestro, now I-110

Easy Mover stiff enough to stay in place,
but he can still get it out of the way
himself

High resistance hinge keeps from
moving





Double Decker

Offset Link Cube allows additional arm to be threaded on the post.

Easy Mover Dual Arm holds Tablet

Easy Mover Single arm holds keyboard



Considerations for Choosing an Easy Mover

Progressive disease - can change resistance as strength decreases

Ease of use for multiple caregivers

Family, staff and friends

Easy Mover with Locking Tilt Plate



Simple Mounts



Quick Connect

Speech devices,
Compatible with
other mounts



Small Tray 3.75" x 7"

Phones, remotes, small
devices



Large Tray 11.4" x 9"

Medium devices, eating,
writing and reading

Customizable Support Edges for Trays



Bottom placement



Bottom and
side placement

Corner
placement



Attach 2 edges
make channel



Step 6

Attach Device to Mount

Device & Tray Attachment Options



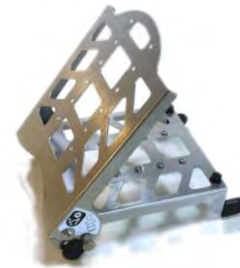
iTab Tray



12" x 12" Tray



Universal
Rotator



Stand +90



Camera



Laptop Tray



Tray with Lip



Phone



Tablet &
Keyboard



Device Plates

Rosie



Operating Positions Adjustability

Attached to power chair
Allows camera to get close to eye
Rotation and tilt



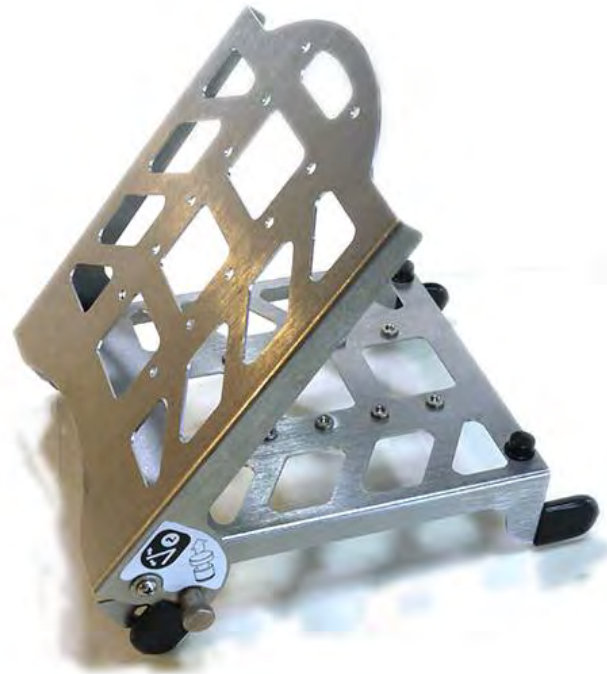
SGD Device Plates



Eye Gaze Options



Universal Rotator



Stand+90

Adjustable Rotation for Head Tilt

Rotation

- Communication device for head tilt and side-lying for eye gaze access
- iPads from landscape to portrait and back



Universal Rotator



Downward Angle for Visual Access with Eye Gaze



Stand +90



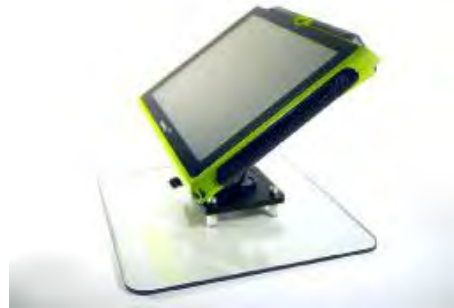
Where to Mount



Floor Stand



Bed



Table



Walkers



Move from Chair to Bed



Table Mounts

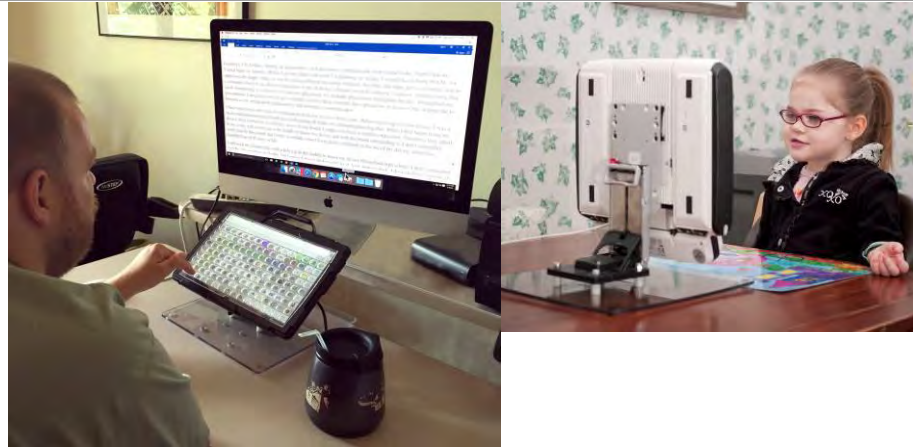
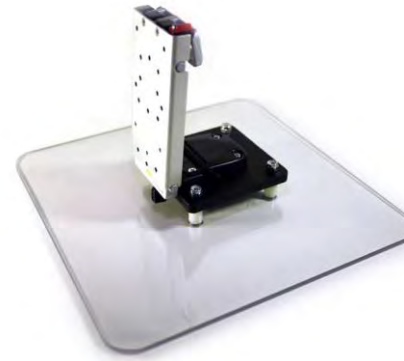
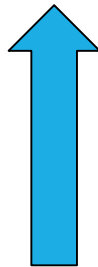


Table Clamp



Mount'n Tilter



Stand +90

Floor Stand has Adjustable Height



Access from bed,
chair, floor, standing



Attaching a Tilt Plate to REHAdapt and Daessy

REHAdapt



Can be used
to hold the
Stand +90
for tilt angle.



Daessy Tilt Plate

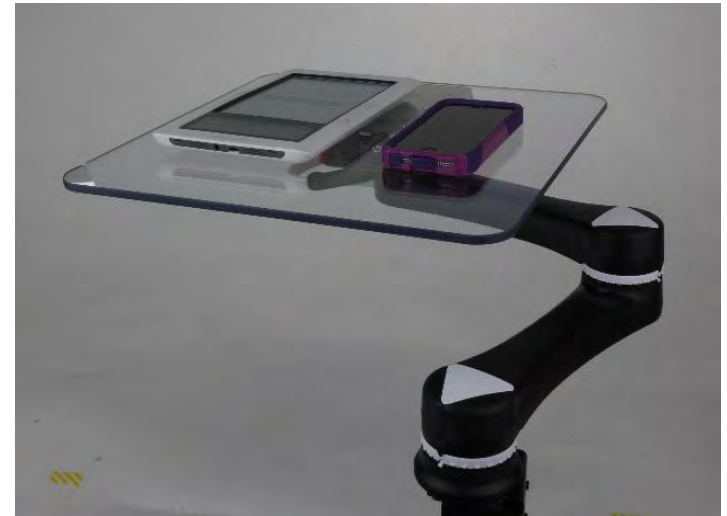
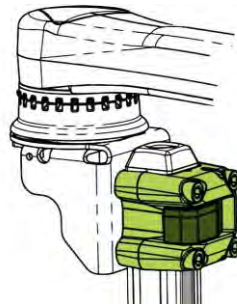


Multi-tasking



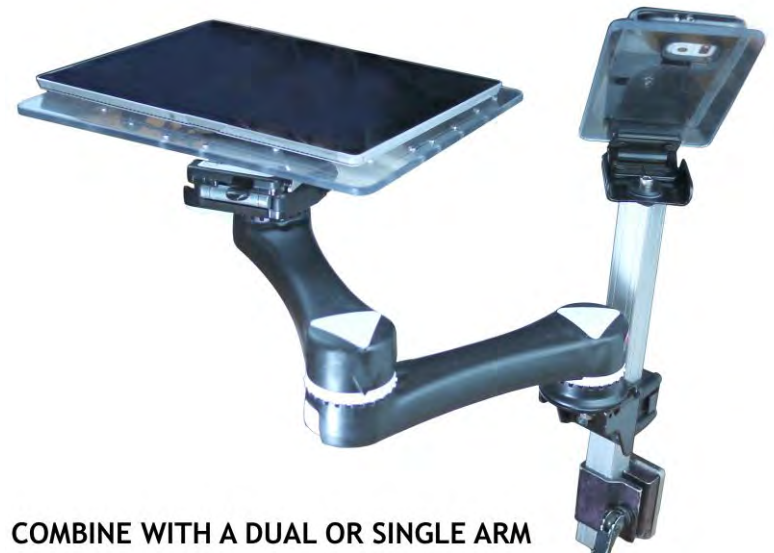
Double Decker
Dual Arm and **Tilt'n** Turner

Offset Link Cube to allow lower placement on post for Double Decker



One tray holding 2 items

Double Decker



COMBINE WITH A DUAL OR SINGLE ARM

Double Decker

Upper level: Dual Arm with Laptop tray with Swing-Away
Lower level: Dual Arm for keyboard



Two Mounts

Dual Arm with locks holds Laptop

Simple Mount with Large Tray holds mouse or phone and offers an arm rest when fatigued.

“I can now access my laptop everywhere – not just my office” -Cindy



ALS - Mount Changes as Abilities Change

Gae - first mount user!

- Positioning reduces fatigue
- Transfer and use the toilet
- Reboots device, adjusts for glare
- Visual access for driving, TV
- Access to tables and sink
- Moves to exercise her legs
- Moves to side for photos



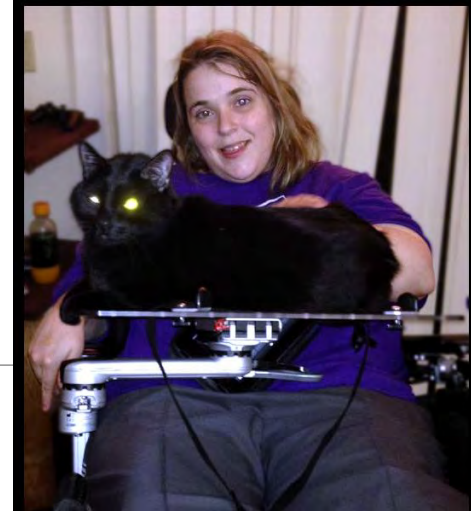
Video: Gae and her **Mount'n** Mover

See how Gae finds ways to preserve her
independence while living with ALS

<https://www.youtube.com/watch?v=4RH5ljYnQjU>



Functional Needs Think Outside the Box!



New Single Pow!r Joint

- Switch operated
- Tilt device – prevent glare, drive
- Move to the side to transfer
- Move close for visual or physical access
- Increase independence



Hybrid configurations: **Mount'n** Mover + Pow!r joint



Custom Pow!r

Shane has a custom Pow!r mount fitted to his chair. With it, he can raise and lower his joystick with the push of a button, allowing him to access his laptop or joystick whenever he pleases instead of having someone move it for him. Allowing him to access his laptop and phone.

For the first time in over 10 years he was able to move his joystick independently!

See his video:

<https://www.mountnmover.com/community/shane-burcaw-independence-restored-power-mount-video>



Shane moves his joystick!



New Pow!r Mount Tilt Hybrid System

Mount'n Mover with Pow!r Tilt

Single or Dual switch control

Three modes of control:

- Alternate directions with one switch
- One switch for each direction
- Go to customizable target positions with one switch



- Pow!r Tilt
- Adjust device angle for taking photographs
- Switch Access – dual head



Future Developments Multi Joint Pow!r



Powerfully Independent!



Developed with the support of the App Factory

mountnmover.com

Future Developments Auto Repositioning



A mount that Auto-Repositions a speech device!

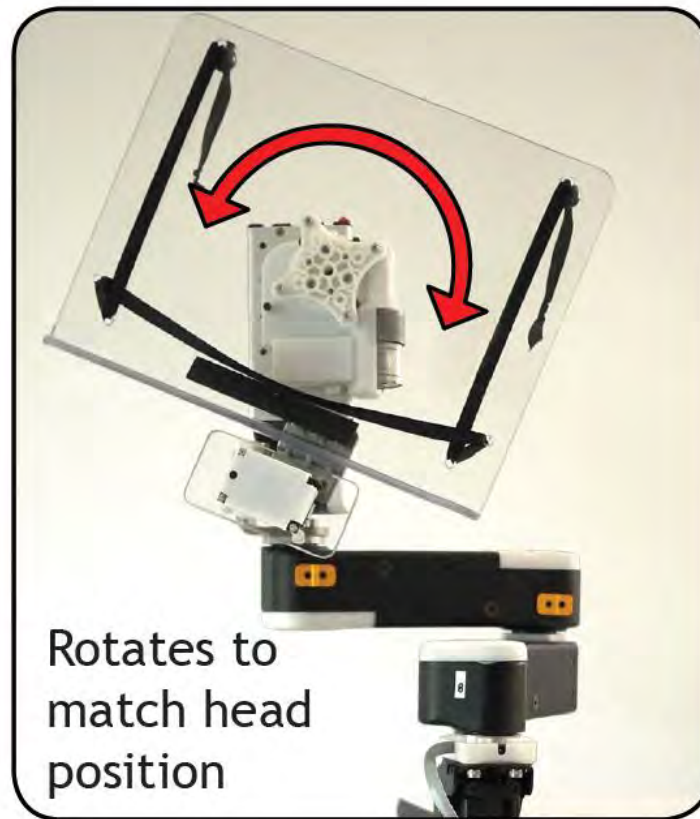


Out of position
(not calibrated)



Pow!r Mount repositions
(calibrated)

Rotates

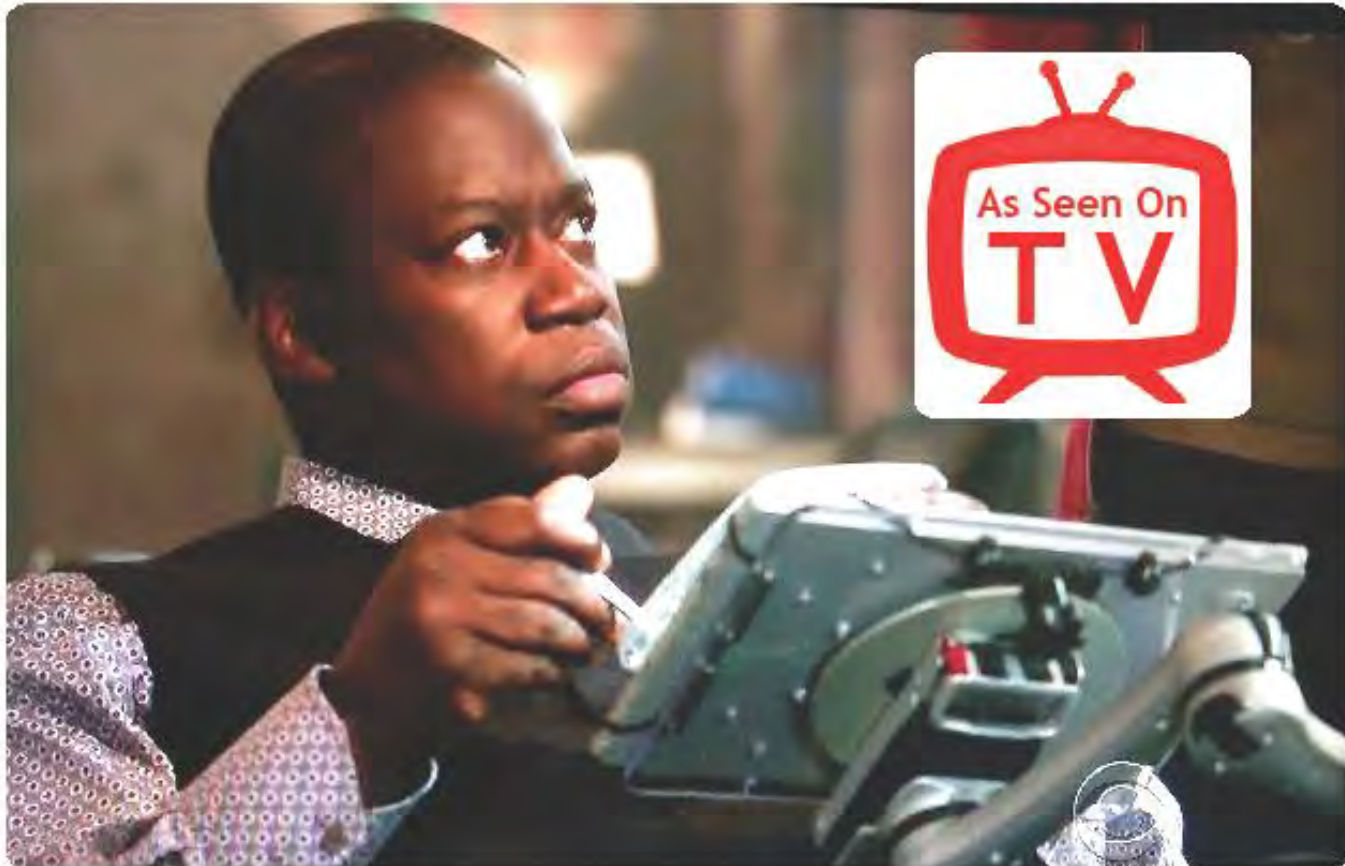


BlueSky Dream Team



NCIS: New Orleans

Daryl Mitchell
(Patton Plame)



Thank you!

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