2. DAESSY Rigid Mount – DRM1 and DRM1ROP

2.1 Product Overview

DAESSY Rigid Mount – DRM1

Figure 2.1-1 The DAESSY Rigid Mount assembled on a power wheelchair

The DAESSY Rigid Mount - DRM1 consists of two lengths of stainless steel tube joined to form a right angle structure that is supported on the wheelchair by a Frame Clamp Assembly permanently attached to either the left or right side of the wheelchair.

The Frame Clamp Assembly is composed of a Frame Clamp Inner Piece (UFCxxxxIP) and a Frame Clamp Outer Piece (UFCOP). The Inner Piece is clamped to the wheelchair frame while the Outer Piece holds the Vertical Tube. An Index Clamp (IC1) secured around the lower end of the Vertical Tube engages with a positioning pin on the Frame Clamp Outer Piece to position the tube and prevent rotation.

The mounted device is first attached to a quick release plate, either directly or with use of a specific adapter, and attached to the Horizontal Tube of the mount assembly by means of a Total Quick Release Base (TUSB) that secures the device and allows for quick detaching of the device from the mount.

The complete mount can be lifted out of the Frame Clamp and removed from the wheelchair leaving only the Frame Clamp assembly attached to the wheelchair frame.

A Tube Connector (TC90) joins the Horizontal and Vertical Tubes of the DAESSY Rigid Mount - DRM1 at a fixed 90° angle. The mount can be lifted slightly until the positioning pin is cleared and rotated away from the user positioning it at 90° increments.

Caution

The DAESSY Rigid Mount - DRM1 can support equipment that is heavy enough to unbalance a lightweight unoccupied wheelchair, particularly when the mount is swung aside. The mounted device must be detached from the mount before the wheelchair is vacated.

When used on a manual wheelchair it is advisable to remove the device and mount when the user is transferred from the wheelchair.

The standard DAESSY Rigid Mount - DRM1 can be installed with the Vertical Tube angled at most 15° from vertical allowing for more precise positioning and adjustability. When used on a wheelchair with a tilting seat system or when the Vertical Tube must installed at an angle greater than 15° from vertical the DAESSY Rigid Mount ROP Version - DRM1ROP should be used.

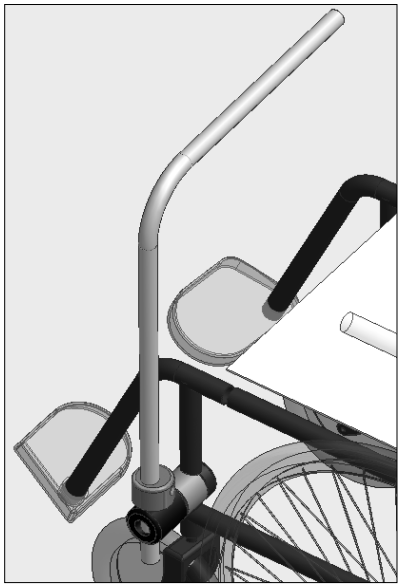
DAESSY Rigid Mount ROP Version – DRM1ROP

Figure 2.1-2 The DAESSY Rigid Mount ROP Version may be installed on a tilting seat system.

The ROP Version uses a Removable Outer Piece & Receiver (ROP-RFCR) in place of the standard Outer Piece and Index Clamp. When used with the DRM1 the Removable Outer Piece eliminates the ability to swing the mount to the side, the mount must be removed from the wheelchair to provide unimpeded access to the user.

The Removable Frame Clamp Receiver (RFCR) has a Locking Knob that secures the mount in position on the wheelchair allowing the Vertical Tube to be tilted considerably without any premature wearing of components.

Bent-tube Rigid Mount – DRM1-BT



A single tube, bent at a right-angle can be substituted for the vertical S-Bend Tube, the horizontal Straight Tube and Tube Connector on either the standard or ROP version of the Rigid Mount to make a Bent-tube Rigid Mount – DRM1-BT. This is the most basic mount assembly available. The components of the Bent-tube Rigid Mount are similar to those of the DAESSY Rigid Mount and the DAESSY Folding Mount allowing for an easy upgrade to either mount with the purchase of individual components.

The Bent-tube Rigid Mount can also be provided in an ROP Version with order code ***DRM1ROP-BT***.

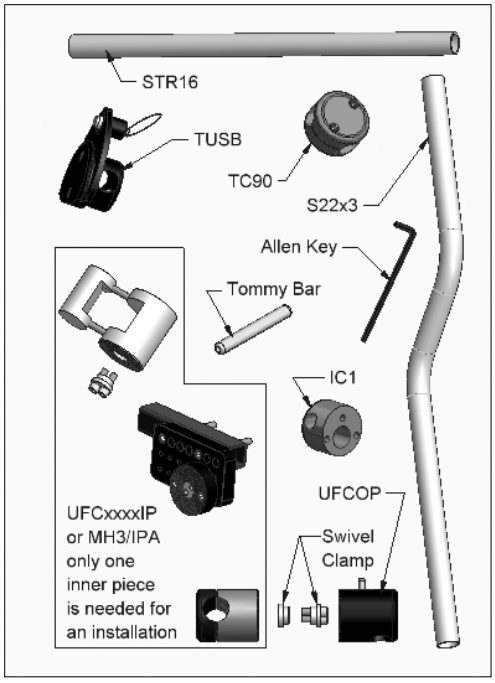
Figure 2.1-3 The DAESSY Bent tube Rigid Mount is a basic assembly.

2.2 Parts of DRM1, DRM1ROP and DRM1-BT

The standard parts of the DAESSY Rigid Mount and common variations are listed below; Parts which may differ from situation to situation are indicated with a *.

Part Code	Part Name	DRM1	DRM1ROP	DRM1-BT	DRM1ROP-BT
STR16	Straight Tube – 16”	✓	✓		
***S22x3**	S-bent Tube – 22” with 3” offset	✓	✓		
RT22x16	Right-angle bent tube			✓	✓
TC90	Tube Connector - 90°	✓	✓		
***TUSB**	Total Quick Release Base	✓	✓	✓	✓
***UFCxxxxIP**	Frame Clamp Inner Piece	✓	✓	✓	✓
UFCOP	Frame Clamp Outer Piece	✓		✓	
IC1	Index Clamp	✓		✓	
RFCR	Removable Frame Clamp Receiver		✓		✓
ROP	Removable Outer Piece		✓		✓
DMSTools	Assembly Tools	✓	✓	✓	✓

The size and shape of the required Frame Clamp Inner Piece must be specified with the order of a standard mount. ***1.3 Attaching and Positioning DAESSY – Frame Clamps*** provides comprehensive information on DAESSY Frame Clamp options.



The standard part list will be appropriate from many mounting situations. Variations in the standard list will be necessary for some situations. Common variations include changes in the length and shape of the Vertical Tube (STR22x3), additional Frame Clamp components to avoid obstructions with other wheelchair fittings, and different styles of the Quick Release Base. More information can be found in ***1.4 Attaching and Positioning DAESSY – Tube Lengths and Shapes*** and ***1.5 Attachment of Devices to DAESSY Mounts – The Quick Release System.*** Following the Fitting Procedure (**2.3 Fitting the DAESSY Rigid Mount DRM1, DRM1ROP, DRM1-BT)** will identify what variations are necessary.

Figure 2.2-1
Standard Parts layout for
DAESSY Rigid Mount DRM1

In addition to the standard and variation parts an adapter plate or device holder is necessary to complete the mount. ***1.6 Attachment of Devices to DAESSY Mounts – Adapters and Holders*** provides comprehensive information on DAESSY Adapters plates and Holders.

2.3 Fitting the DAESSY Rigid Mount DRM1, DRM1ROP, DRM1-BT

A communication device or laptop computer, when mounted on a wheelchair, must be correctly positioned to make it comfortably accessible to the user. The Fitting procedure for the determines the attachment point for the Frame Clamp assembly on the wheelchair, and the tube lengths required to place the device correctly relative to this attachment location. Before the fitting procedure is started it is necessary to first determine the required position for the device, which will depend on the needs of the user and the type of device used.

The Fitting procedure is the same for the DAESSY Rigid Mount DRM1 and the DAESSY Folding Mount DFM2.

Standard Mounting Assemblies and Fitting Exceptions

The standard tube length of 22 inches with an S-bend offset of 3 inches is suitable for many situations when the device is mounted for direct access on a medium size wheelchair but it is essential that the fitting procedure be followed for mounting a scanning or headpointer operated device as these are normally mounted higher and further away from the user than is possible with the standard tube dimensions. When the mount will be installed on a small wheelchair for a young or smaller user, the fitting procedure should be followed to ensure the correct tube dimensions are ordered. Tubing is available in a wide range of lengths and S-bend offsets and should not be cut to length during the Installation procedure.

Caution:

The ends of the stainless steel tube provided by Daedalus Technologies, Inc. are fully machined and chamfered to minimize sharp edges. Daedalus Technologies, Inc. strongly disapproves of the tube being cut to length by purchasers. Cutting the stainless steel tube by any method produces very sharp and hazardous edges.

Steps in the Fitting Procedure

- Selecting the Frame Clamp attachment location
- Determining the Frame Clamp size
- Measuring and Specifying the Tube Length and Shape

2.3.1 Selecting Frame Clamp attachment location

Comprehensive information for selecting a Frame Clamp attachment location can be found in ***1.3 Attaching and Positioning DAESSY – Frame Clamps.***

The DAESSY Rigid Mount – DRM1 can be mounted on either the left or right side of a wheelchair as defined from the position of the person seated in the wheelchair.

The Frame Clamp Inner Piece (UFCxxxxIP) requires slightly more than two inches of length and three-quarter inches of space above and below the wheelchair frame tube to which it will be clamped. There should be sufficient room for a hand to reach behind the tube to tighten bolts. It does not matter how the wheelchair frame tube is oriented because the Swivel Clamps allow the Offset Links and Rear Folding Adapter to be rotated to any angle relative to the Frame Clamp Inner Piece.

Caution:

The selected location must be part of the wheelchair frame, not a removable armrest or footrest.

Most often the best location for the Frame Clamp assembly will be near the front caster wheel but preferably not above it. The Vertical Tube for the mount protrudes down through the hole in the Frame Clamp Outer Piece and the range of height adjustment for the mount may be limited if the tube interferes with the caster wheel.

In most situations the Frame Clamp Inner Piece will be located forward or backward from the position for the mounted device and the Vertical Tube supported by the Frame Clamp Outer Piece will have an S-bend.

Obstructions

Obstructions directly above the selected location, such as the brake lever or other controls that are closer than 10 inches may interfere with insertion and removal of the Vertical Tube. To avoid this interference it may be necessary to use an Offset Link (O3L) or a Frame Clamp Spacer (UFCSPCR) between the Inner and Outer Pieces of the Frame Clamp to move the Outer Piece further out, or position it sideways from the location of the Inner Piece. More information on Frame Clamp Spacers and Offset Links can be found in ***1.3.5 Connecting Frame Clamp Inner and Outer Pieces***.

Quick Check

A quick check for a suitable location for the Frame Clamp Inner Piece is to find a part of the wheelchair frame tube which has enough space to be gripped by three fingers when reaching from inside the wheelchair frame.

Unusual Situations

Some wheelchairs do not have any tubing freely accessible on the frame or do not have a tube frame. When a seat pan restricts access to the upper edge of the wheelchair frame tubing, it may be possible to use a Side Mount Frame Clamp Inner Piece, which requires no clearance on the topside of the tube and only 1 1/4” clearance on the bottomside. When the wheelchair does not have a tube frame it may have boltholes or other possible attachment methods in a suitable location. In some cases a Bolt-on Adapter may be substituted for the Inner Piece. More information on the complete range of available Frame Clamp Inner Pieces can be found in ***1.3.1 Frame Clamp Inner Piece Styles***.

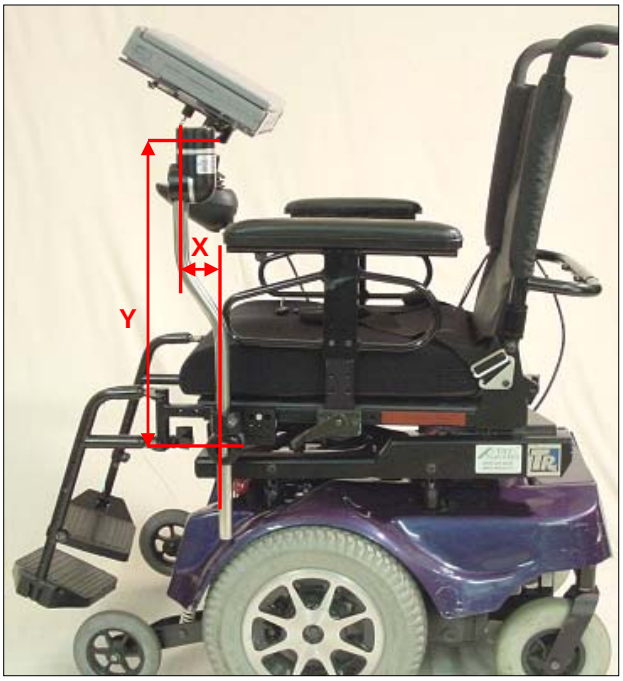
2.3.2 Determining Frame Clamp size

Comprehensive information for determining the correct Frame Clamp size can be found in ***1.3.3 Measuring and Specifying the Size of Frame Clamp Inner Piece***.

2.3.3 Measuring and Specifying Tube Lengths and Bends

The Vertical Tube of the DRM1 is supported in the Frame Clamp Outer Piece and connected to the Horizontal Tube by the Tube Connector (TC90). Often the correct position for the device requires the Horizontal Tube to be offset forward or backwards from the location of the Frame Clamp Outer Piece and the Vertical Tube will have two bends to form an S-shape that offsets the ends of the tube. On some wheelchairs an offset may be needed to allow the upper end of the Vertical Tube to clear a lap tray or control module.

Vertical Tube dimensions (Length and Offset)



Two measurements are needed to determine the length and shape of the Vertical Tube. As shown in the diagram, these measurements are the horizontal distance (X) and vertical distance (Y) up the side of the wheelchair, between the Frame Clamp Outer Piece and the intended location of the Horizontal Tube. These measurements must be taken from the location of the Frame Clamp Outer Piece not the location of the Frame Clamp Inner Piece. When an Offset Link is used the Outer Piece will not be located at the same place as the Inner Piece.

Figure 2.3 - 1 X and Y measurements to determine the length and offset of the Vertical Tube.

When the DAESSY Quick Release is used to attach the device to the Horizontal Tube the centerline of most devices is between 1 inch and 3 inches forward of the tube (away from the user). For very precise horizontal positioning contact Daedalus Technologies Inc. for more information.

Interference between Vertical Tube and Fittings on a Wheelchair

Fittings on the wheelchair between the location of the Frame Clamp Outer Piece and the position of the Horizontal Tube may interfere with the Vertical Tube. Sometimes this can be avoided by the correct placement of the S-bend. This is often possible when the S-bend can be nearer one end of the tube with the offset above the obstruction.

Position and Orientation of S-bend

The S-bend on the Vertical Tube can be placed near one end of the tube or at the midpoint. The standard tube has 4 inches of straight tube at one end and 12 inches at the other. Either end may

be at the top or bottom. The only limit on the location of the bend is that the shortest straight end possible is 2 inches.

Interference within 10 inches of the Frame Clamp location

When the obstruction is directly above the location of the Frame Clamp Inner Piece and at a distance of less than 10 inches it may not allow sufficient clearance for the Vertical Tube to be lowered into the hole in the Frame Clamp Outer Piece. When the Frame Clamp Inner Piece is located very low on the wheelchair frame or above the front caster wheel height adjustment of the mount by moving the Index Clamp up and down the Vertical Tube will be limited to the amount of clearance between the bottom of the Frame Clamp Outer Piece and the obstruction. In both these cases it may be necessary to use an Offset Link (O3L) or Spacer (UFCSPCR) to move the Outer Piece away from the location of the Inner Piece.

Specifying the Dimensions of the Vertical Tube

When the X and Y measurements are used for specifying the length and offset the Y measurement will be rounded up to the nearest even number of inches and this will be the **L** distance for the tube supplied. The **X** measurement will be the **O** distance for the tube supplied and the **S** distance will be 4 inches.

When the S-bend must be a different distance from the end, or when extra length is added to provide a greater range of height adjustment the complete for overall length **L**, S-bend Offset **O**, and straight length on one end **S** should be included in any order.

2.4 Installing the DAESSY Rigid Mount DRM1, DRM1ROP, DRM1-BT

Steps in the Installing Procedure

- Identify the Parts
- Install the Frame Clamp Inner Piece (and RFCR – ROP Version)
- Install the Vertical Tube with Index Clamp (or ROP – ROP Version)
- Install the Tubing Connector and Horizontal Tube
- Install the Total Quick Release Base

2.4.1 Identify the Parts

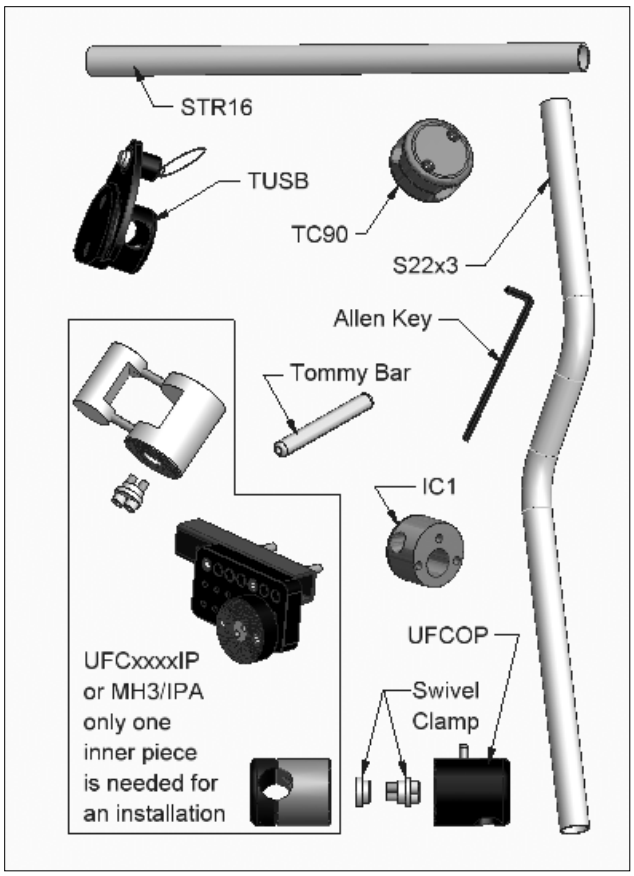
The standard DAESSY Rigid Mount consists of the following parts:

Part Code	Part Name	DRM1	DRM1ROP	DRM1-BT	DRM1ROP-BT
STR16	Straight Tube – 16”	✓	✓		
S22x3	S-bent Tube – 22” with 3” offset	✓	✓		
RT22x16	Right-angle bent tube			✓	✓
TC90	Tube Connector - 90°	✓	✓		
TUSB	Total Quick Release Base	✓	✓	✓	✓
UFCxxxxIP	Frame Clamp Inner Piece	✓	✓	✓	✓
UFCOP	Frame Clamp Outer Piece	✓		✓	
IC1	Index Clamp	✓		✓	
RFCR	Removable Frame Clamp Receiver		✓		✓
ROP	Removable Outer Piece		✓		✓
Swivel	Swivel Clamp	✓	✓	✓	✓
DMSTools	Assembly Tools	✓	✓	✓	✓
	Instruction Papers	✓	✓	✓	✓

All the black anodized aluminium components have a part code stamped into the metal and these should be identified and laid out as shown in the picture. The Frame Clamp Inner Piece (UFCxxxxIP) may not be exactly as shown, and an Offset Link may be included. Bent-tube versions of the DAESSY Rigid Mount will have one Right-Angle tube in place of the Straight Tube, S-bend Tube and Tube Connector. ROP Versions of the DAESSY Rigid Mount will have a Removable Frame Clamp Receiver and Removable Outer Piece (RFCR-ROP) in place of the IC1 and UFCOP.

Caution:

It is very important that all packaging be thoroughly inspected for loose parts and instruction papers. All the mount components must be identified and checked against the standard parts list, and the order list BEFORE any packaging is thrown away.



The Swivel Clamp for joining the UFCxxxxIP and UFCOP (or RFCR) is normally fastened into the axial hole of the UFCOP. Pinch Clamps for securing the tubes into the TUSB and IC1 (or ROP) are normally installed in their holes in the parts and retained by a plastic plug in the tube hole.

The parts shown in Figure 2.4-1 are for a standard order. A customized mount may have different parts substituted.

Specific installation instructions may be supplied with components, especially components that vary from the standard parts list. In the case of contradictory instructions, component specific instructions provided with the mounting components will supersede the installation procedures outlined in this document

Figure 2.4-1
Standard Parts layout for
DAESSY Rigid Mount DRM1

2.4.2 Install the Frame Clamp

The DAESSY Rigid Mount (DRM1) can be mounted on either the left or right side of a wheelchair as defined from the position of the person seated in the wheelchair.

Find the location on the wheelchair to attach the Frame Clamp Inner Piece. This should have been chosen during the Fitting Procedure as described in ***2.3.1 Selecting the Frame Clamp attachment location***. Frequently the Frame Clamp will be installed near the front caster wheel. The selected location must be part of the wheelchair frame, not a movable armrest or footrest.

Check that both the Frame Clamp and the Vertical Tube will not interfere with any of the wheelchair fittings or components. The caster wheel at the bottom should be free to spin; the brake lever and any other controls should remain accessible. If there is interference it may be necessary to use an Offset Link (O3L) or Frame Clamp Spacer (UFCSPCR) to displace the Frame Clamp Outer Piece forward, backward or further out from the position of the Frame Clamp Inner Piece. These components can be ordered individually from DAESSY if they have not been provided with the mount.

It does not matter how the wheelchair frame tube is oriented because the Swivel Clamp allows the Frame Clamp Outer Piece to be rotated to any angle relative to the Frame Clamp Inner Piece.

Assemble the Frame Clamp pieces

The pieces of the complete Frame Clamp Assembly should be connected together before it is installed on the wheelchair frame. For a standard mount these pieces will include a Frame Clamp Inner Piece (UFCxxxxIP) and a Frame Clamp Outer Piece (UFCOP) and a Swivel Clamp. The ROP Version mount will have a Frame Clamp Assembly consisting of a Frame Clamp Inner Piece (UFCxxxxIP), a Removable Frame Clamp Receiver (RFCR) and a Removable Outer Piece (ROP). The UFCxxxxIP and RFCR will be connected with a Swivel Clamp. Additionally the Frame Clamp Assembly may include Offset Links (O3L) and/or Frame Clamp Spacers (UFCSPCR) to clear any obstructions.

When the Inner Piece has a Cap and Body fastened with two screws the Cap must be removed so that the threaded end of the Swivel Clamp can be fitted in the long hole through the Inner Piece. Some Inner Pieces have integrated threaded holes for the Swivel Clamp bolts and do not use the threaded end.

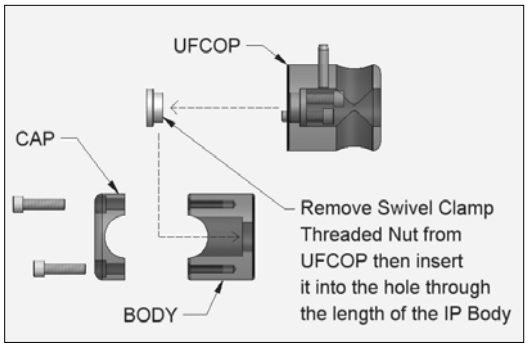


Figure 2.4-2
The threaded end of a Swivel Clamp is inserted into the axial hole through the Frame Clamp Inner Piece Body.

On the standard Frame Clamp Assembly the unthreaded end of the Swivel Clamp fits in the hole through the length of the UFCOP. The long arm of the 3/16” Allen Key will be needed to reach the heads of the two bolts through the hole in the UFCOP. For the ROP Version the unthreaded end of the Swivel Clamp fits in the centre hole of the RFCR.

If there are no Offset Links or Spacers needed to avoid obstructions the Frame Clamp Inner Piece is connected directly to the UFCOP or RFCR with one Swivel Clamp. If Offset Links or Frame Clamp Spacers are needed, these are connected between the UFCxxxxIP and UFCOP or RFCR with a Swivel Clamp at each joint. Longer Swivel Clamp bolts are provided with the UFCSPCR. The Swivel Clamps should be inserted into each joint so that the threaded end is closest to the wheelchair and the bolt heads remain accessible.

The adjoining faces of all the parts for a Frame Clamp Assembly have circular grooves to give extra friction against movement when assembled. The grooves on an Inner Piece engage with the grooves on an Outer Piece but will not engage with the grooves on another Inner Piece. Offset Links and Frame Clamp Spacers have the letters IP stamped into the metal beside the grooves that attach to the Inner Piece and OP stamped into the metal beside the grooves that attach to the Outer Piece.

Caution:

All the grooved faces must be correctly matched and engaged before the swivel clamp bolts are tightened.

The bolts do not need to be fully tightened at this step. However when the bolts are finally tightened it may be necessary to use an extender on the short arm of the Allen Key to obtain sufficient torque, as shown in Figure 2.4-3. A four-inch length of aluminium with a long hole to fit the Allen Key is provided for this purpose. This tool is called the Tommy Bar.

Caution:

Do not use the Tommy Bar to extend the long arm of the Allen Key.

With the DRM1ROP the Removable Outer Piece (ROP) should be inserted and locked into the Removable Frame Clamp Receiver (RFCR) to complete the assembly of the Frame Clamp. It may be necessary to loosen or remove the Pinch Clamp inside the ROP so that the Vertical Tube can be temporarily inserted for aligning the Frame Clamp.

Attach the Frame Clamp to the wheelchair – Round Tubing

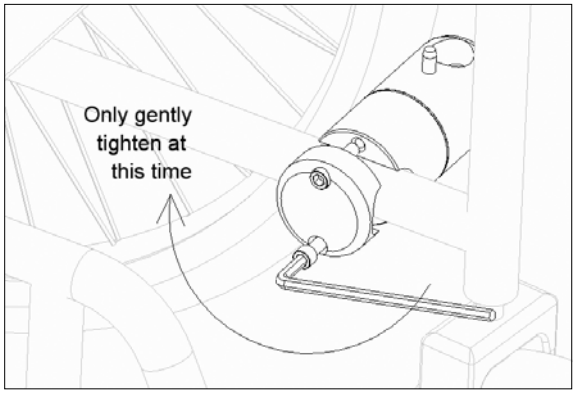


Figure 2.4-4
The Cap and Body of the Frame Clamp Inner Piece fit around the wheelchair tube at the selected location. The two bolts are evenly, but gently tightened.

At the selected location fit the Cap and Body of the Frame Clamp Inner Piece around the tube. Replace the bolts but do not fully tighten them yet. The Cap should face towards the inside of the wheelchair and the Body, connected to the Outer Piece, should face away from the wheelchair.

Align the Frame Clamp

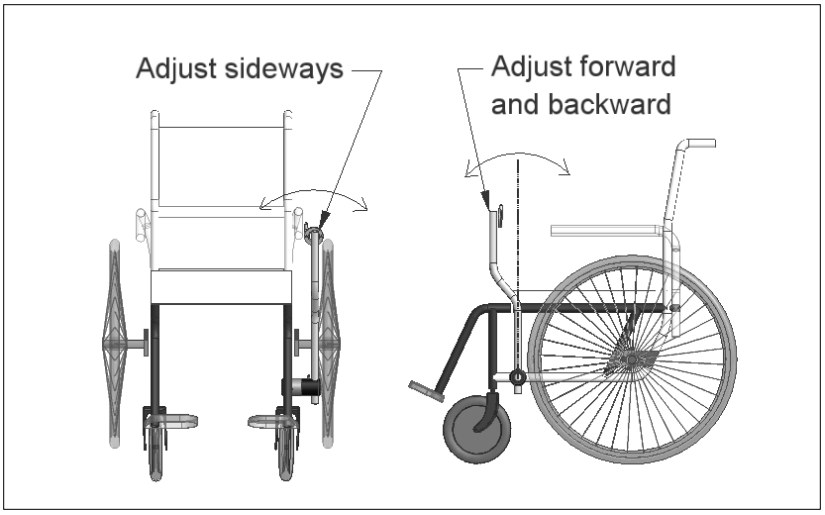


Figure 2.4-5
The Vertical Tube is used as a lever and guide to align the Frame Clamp Sideways and Front to Back

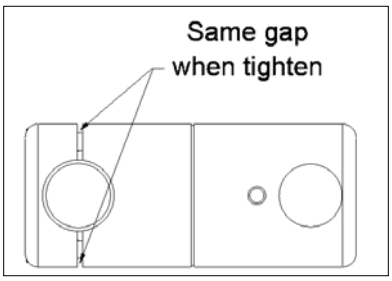
If the mount is supplied with a standard Frame Clamp Inner Piece for round tubing the Frame Clamp Assembly must be aligned in two ways. The Inner Piece must be adjusted on the wheelchair frame tube so that the Outer Piece is facing directly outward. This is referred to as Sideways Alignment and is only necessary when the UFCxxxxIP is attached to round tubing. The Outer Piece must be rotated around the Swivel Clamp so that the tube hole is oriented vertically and the Index Pin is pointing up. This is referred to as Front-Back Alignment.

It is not necessary that the ROP Version of the DRM1 be aligned with the Vertical Tube oriented vertically front to back, however the Vertical Tube should still be aligned sideways to be parallel to the side of the wheelchair.

Sideways Alignment

Use the Vertical Tube in the tube hole of the Outer Piece as a lever and alignment guide as shown in Figure 2.4-5. Hold the Vertical Tube parallel to the side of the wheelchair and alternately tighten the bolts connecting the Cap and Body of the Frame Clamp Inner Piece to clamp the wheelchair tube evenly.

Important Note:



When the bolts are fully tight and the tube is firmly gripped there should be a slight gap of 1/64" to 1/32" between the Cap and Body of the Frame Clamp Inner Piece. If the gap is wider than 1/16" the Frame Clamp Inner Piece is probably too small. If there is no gap and the tube is not gripped firmly when the bolts are fully tight remove the Inner Piece and tightly wrap some aluminium foil around the wheelchair tube at the attachment location. There is some variation in the tube size on different wheelchairs so it is sometimes necessary to use the foil. Make sure the aluminium foil does not get caught between the Cap and Body when the UFCxxxxIP is replaced and the bolts are tightened. Do not use paper or plastic. Do not use more than four layers of aluminium foil; more than this probably means the UFCxxxxIP is too large. Adapter Sleeves (SLV) can be purchased to downsize an overlarge Frame Clamp Inner Piece.

Front-Back Alignment

With the UFCxxxxIP attached firmly to the wheelchair the hole in the Outer Piece is aligned vertically by rotating the Vertical Tube forward or backward before tightening the two bolts on the Swivel Clamp. The Vertical Tube has to be removed to do this so care must be taken not to move the Outer Piece. Use the Tommy Bar to get enough leverage and tighten the two bolts alternately to get the most efficient grip.

With the standard DRM1 (non ROP) the Vertical Tube may lean no more than 15º forward or backward from the vertical if this is necessary to obtain the correct position for the mounted device. Installation of the DRM1 at a greater angle from the vertical places extra load on the Index Pin in the Frame Clamp Outer Piece. In situations when the correct position for the device cannot be reached without leaning the tube beyond 15º, custom S-Tube with a larger bend and/or Offset Links should be used to obtain the correct position, or the ROP Version DRM1ROP may be used.

Important Note:

All the bolts should be tightened sufficient to hold the mounting assembly for normal loads; when excessive force is applied the mount may move and should move before the wheelchair frame is likely to bend. It is the responsibility of the installer to ensure the mount is firm enough for their needs, but not over-tight, and to periodically check that the bolts have not vibrated loose.

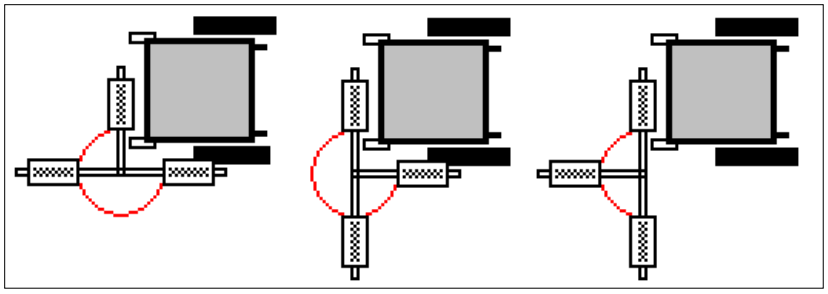
Install the Frame Clamp – Removable Frame Clamp Receiver

The Removable Frame Clamp Receiver (RFCR) is connected to the Inner components of the Frame Clamp Assembly with a Swivel Clamp.

2.4.3 Install the Vertical Tube and Index Clamp or ROP

DRM1 – Install the Vertical Tube and Index Clamp.

The Index Clamp (IC1) is installed on the lower end of the Vertical Tube with the three holes downwards. Either end of the S-bent Vertical Tube can be used as the lower end. When there are obstructions directly above the Outer Piece it will be necessary to have the shorter end of the S down. When the Vertical Tube is several inches longer than the vertical distance from the Outer Piece to the required location of the Horizontal Tube the longer end of the S will be down to allow the extra length of Vertical Tube to pass down through the Outer Piece.



Remove the plastic plug retaining the Pinch Clamp in its hole in the IC1 and insert the end of the Vertical Tube. The Pinch Clamp must be aligned in its hole so that it is even with the inside of the tube hole to allow the Vertical Tube to slide through. Refer to ***1.7 Adjustment and Maintenance*** if the Pinch Clamp is not aligned and the Vertical Tube will not enter the hole. Tighten the bolt in the Pinch Clamp only enough to prevent the IC1 falling off when the Vertical Tube is held upright.

Setting the In-Use and Swung-Away positions of the DRM1

The tube hole in the IC1 is offset from the center of the component leaving a “thick” wall on one side and a “thin” wall on the other side. On the underside of the thick wall are three pinholes, which receive the Index Pin on the UFCOP. One pinhole will provide the in-use position of the mount, while the remaining two pins are swung-away positions. Before the Pinch Clamp is fully tightened the IC1 can be rotated around the Vertical Tube to change the orientation of the swing-away positions for the mount, Figure 2.4-6 illustrates the possibilities. The ROP Version DRM1 does not have the option of rotating away and must be fully removed from the wheelchair to gain unimpeded access to the User.

Figure 2.4-6 There are three configurations for the index positions of the DRM1, dependent on the orientation of the IC1.

DRM1ROP – Install the Vertical Tube and Removable Outer Piece

The Removable Outer Piece (ROP) is installed on the lower end of the Vertical Tube oriented to match the Removable Frame Clamp Receiver (RFCR) that is connected to the wheelchair. Either end of the S-bent Vertical Tube can be used as the lower end. When there are obstructions directly above the ROP it will be necessary to have the shorter end of the S down. When the tube is several inches longer than the vertical distance from the ROP to the required location of the Horizontal Tube the longer end of the S will be down to allow the extra length of tube to pass down through the Outer Piece.

Remove the plastic plug retaining the Pinch Clamp in its hole in ROP and insert the end of the Vertical Tube. The Pinch Clamp must be aligned in its hole so that it is even with the inside of the tube hole to allow the tube to slide through. Refer to ***1.7 Adjustment and Maintenance*** if the Pinch Clamp is not aligned and the tube will not enter the hole. Tighten the bolt in the Pinch Clamp only enough to prevent the ROP falling off when the tube is held upright.

Adjust the height and S-bend orientation

To set the height of the DRM1 slide the IC1 down the Vertical Tube until the "in-use" pinhole engages the Index Pin and the IC1 is resting on the UFCOP. Lower the Vertical Tube through the tube hole in the UFCOP until the top end is at approximately the correct height for the mounted device.

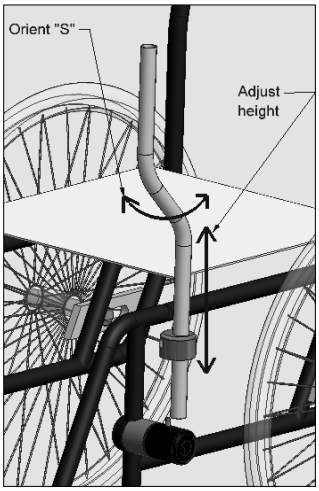


Figure 2.4-7a
The Vertical Tube height, and the orientation of the S-bend are adjusted at the Index Clamp.

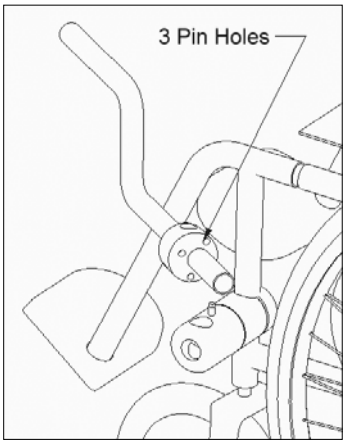


Figure 2.4-7b
The 3 Pin Holes in the bottom of the Index Clamp are oriented to set the in-use and swung-away positions of the mount.

To set the height of the DRM1ROP insert the ROP into the RFCR and lower the Vertical Tube through the tube hole in the ROP until the top end is at approximately the correct height for the mounted device.

Rotate the Vertical Tube within the Outer Piece tube hole until the S-bend is in the correct orientation to avoid obstructions and the top end of the tube is the correct distance front-to-back. Tighten the Pinch Clamp enough to hold the Vertical Tube firmly in place.

Caution:

The bolt on the Pinch Clamp should not be excessively tightened. The Pinch Clamp grips the Vertical Tube sufficient to prevent it rotating in the Index Clamp or Removable Outer Piece when the Horizontal Tube is pushed firmly by a user. By design the Pinch Clamp does not provide an immoveable grip. Extreme tightening of the Pinch Clamp bolt on the Vertical Tube in an attempt to prevent the Horizontal Tube from moving when very forcefully pushed, will crush the tube and jam the Pinch Clamp. DAESSY mounting assemblies are designed to carry the weight of a computer or communication device and are not intended to resist a strong force exerted by the user.

2.4.4 Connect the Horizontal and Vertical Tubes

A Tube Connector (TC90) joins the Vertical Tube to the Horizontal Tube at a right angle.

Separate the two halves of the Tube Connector and insert the Horizontal and Vertical Tubes into the half of the TC90 with the threaded holes. Align the Horizontal Tube straight across the wheelchair. Bolt on the unthreaded half of the TC90 and tighten the bolts alternately until they are fully tight. There will be a slight gap between the halves of the Tube Connector when the bolts are fully tight; this gap should be approximately even around the Tube Connector.
If the connection between the two tubes needs to be reoriented the Tube Connector joint must be fully dismantled. The tube holes in the TC90 are a tight fit on the tubes and will not rotate easily when the bolts are loosened. To release the two halves of the connector from the tubes when the bolts are removed it may be necessary to knock them against a firm surface to jar them loose.

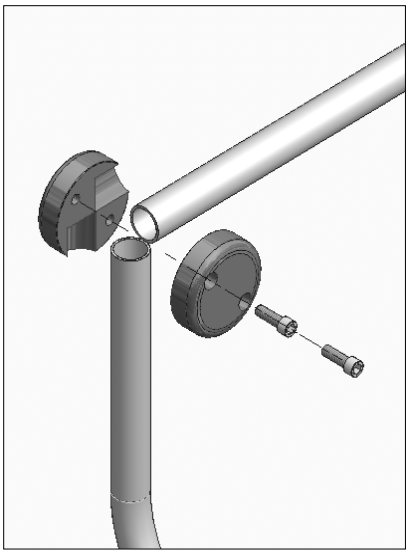


Figure 2.4-8
Install the Horizontal and Vertical Tubes in the Tube Connector.

Figure 2.4-9
The Horizontal Tube should be aligned in front of the wheelchair. The Tube Connector must be fully dismantled if the alignment needs adjusting.

2.4.5 Install the Total Quick Release Base – TUSB

Remove the plastic plug retaining the Pinch Clamp in its hole in the TUSB and slide it onto the Horizontal Tube. The Pinch Clamp must be aligned in its hole so that it is even with the inside of the tube hole to allow the tube to slide through. Refer to ***1.7***: ***Adjustment and Maintenance*** if the Pinch Clamp is not aligned and the tube will not enter the hole.

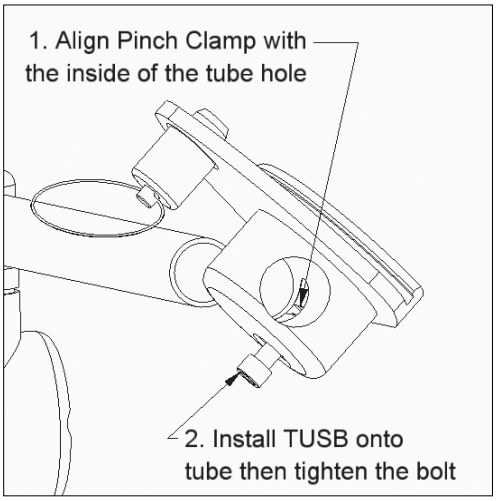


Figure 2.4-10
The Quick Release Base slides on the end of the Horizontal Tube and is held in place with a Pinch Clamp. Normally the Locking Pin is oriented away from the user.

Quick Release Orientation

The Total Quick Release Base can be clamped at any location along the Horizontal Tube and may be rotated around the tube to place the mounted device at any angle. The normal orientation for the TUSB is with the Locking Pin positioned away from the user. Adapters and Holders that attach devices and computers onto the TUSB are assembled for this orientation.

2.4.6 Final Adjustment and Checklist

Before attaching a device to the DAESSY Rigid Mount DRM1 check that the following steps in the installation procedure have been completed.

- Bolts on Frame Clamp Inner Piece fully tight
- Bolts on Swivel Clamp fully tight. Tighten these bolts alternately to get the most effective grip.
- Pinch Clamp bolts tight