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4. DAESSY Locking Swing Away Mount

4.1 Applications and Restrictions



Figure 4.1-1 The DAESSY Locking Swing Away Mount on a power wheelchair

The DAESSY Locking Swing Away Mount – DLSA7 consists of a single length of stainless steel tube bent to form a right angle. This bent tube is supported in a Frame Clamp Assembly permanently attached to the left or right side of the wheelchair. Locking Swing-Away Outer Piece holds the bent tube with one arm of the right angle coming vertically up the side of the chair and the other passing horizontally across in front of the user. A spring-loaded Locking Pin in the Index Clamp for Locking Swing-Away secured to the lower end of the vertical section of the bent tube engages with one of three holes in the Outer Piece to prevent rotation of the mount.

The spring loaded Locking Pin is retracted by pulling a Release Cable that passes along the horizontal section of the tube under the mounted device. This allows the mount to be freely swung away from the user. Depending on the orientation of the ICLSA the mount can be relocked at two positions 90° or 180° or 270° away from the user. The DAESSY Locking Swing Away Mount may also be lifted entirely out of the Locking Swing-Away Outer Piece (LSAOP) and completely removed from the wheelchair.

The DLSA7 is especially suited to users with the dexterity to reach the Release Cable under the mounted device, unlock the mount, and swing it away and the ability to reach the mount to swing it back. Alternatively an aide may operate the Release Cable and this mount may be easier to move away from the user than the similar DAESSY Rigid Mount – DRM1.

Caution:

When the Locking Swing-Away Mount is swung away the mounted device is located outside the wheels of the wheelchair, which makes it vulnerable to collision if the wheelchair is driven.

In the swung away position the weight of the device may unbalance a manual wheelchair. When used on this type of chair the mount should be removed or the mounted device detached before the chair is vacated.

The DLSA7 may not be an appropriate choice for scanning and head-pointer applications or for very small wheelchairs.

The Locking Swing-Away mount is not suitable for tilting seat systems.

4.2 Parts of the DAESSY Locking Swing-Away Mount DLSA7

The standard DAESSY Locking Swing Away Mount - DLSA7 consists of the parts listed below:

| Part Code | Part Name |
|-----------|--|
| UFCxxxxIP | Frame Clamp Inner Piece. |
| LSAOP | Locking Swing Away Outer Piece |
| O3L | Offset Link. |
| ICLSA | Index Clamp for Locking Swing Away. |
| CABLE | Cable Assembly to release the Locking Pin, preinstalled on Right Angle Tube. |
| RT22x16 | Right Angle Tube 22 inches vertical by 16 inches horizontal. |
| TUSB | Total Quick Release Base |

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.

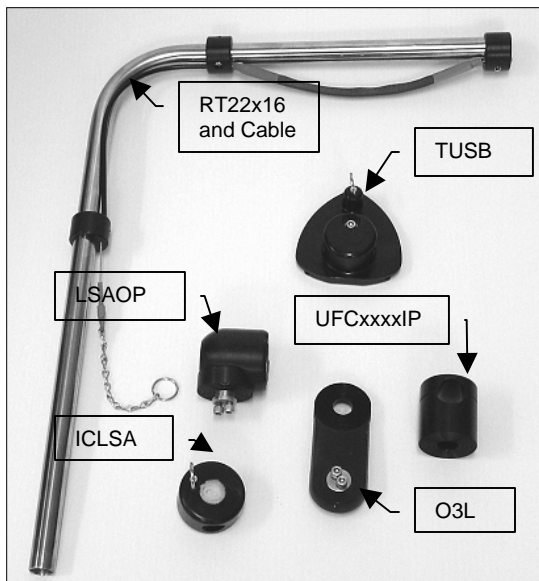


Figure 4.2-1 Standard parts layout for the DAESSY Locking Swing Away Mount – DLSA7.

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 of the Right Angle Tube (RT22x16), 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**.

The Fitting Procedure (**4.3 Fitting the DAESSY Locking Swing-Away Mount DLSA7**) will identify what variations are necessary.

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.

4.3 Fitting the DAESSY Locking Swing-Away Mount DLSA7

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 determines the 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. This position will depend upon the needs of the user and the type of device being mounted.

Standard Mounting Assemblies and Fitting Exceptions

The standard tube length of 22 inches vertical with a right-angle bend and 16 inches horizontal is suitable for many situations when the device is mounted for direct access on a medium size wheelchair.

When the device to be mounted is a scanning or head-pointer operated, or when the mount will be installed on a small wheelchair it is essential to follow the fitting procedure as the standard tube dimensions are not likely to be suitable. It may be that the Locking Swing-Away Mount – DLSA7 is not suitable for these non-standard situations. The DAESSY Rigid Mount – DRM1 may be a better choice.

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
- Determining the Offset Links required and the Vertical Tube length

4.3.1 Selecting the 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 Locking Swing Away Mount – DLSA7 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 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

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. The Offset Link (O3L) used as part of the Frame Clamp Assembly for the DLSA7 allows the Outer Piece to be offset from the attachment point of the Inner Piece. An additional Offset Link may be required for large offsets.

Obstructions

Obstructions directly above the selected location for the Frame Clamp Inner Piece, such as the brake lever or other controls, which are closer than 10" 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 Piece 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 frame tube which has enough space to be gripped by three fingers when reaching from inside the wheelchair frame.

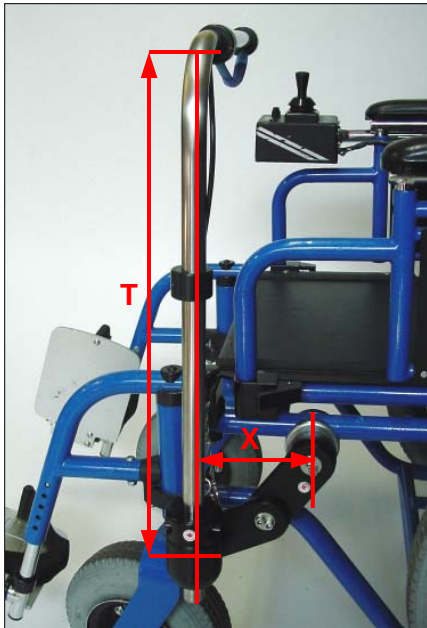
Unusual Situations

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 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 Measuring and Specifying the Size of the Frame Clamp Inner Piece.***

4.3.2 Determining the Frame Clamp size

Comprehensive information for determining the correct Frame Clamp size can be found in ***1.3 Attaching and Positioning DAESSY – Frame Clamps.***

4.3.3 Determining the Required Offset Links and the Vertical Tube length



The Right Angle Tube supports the DAESSY Locking Swing-Away Mount with the vertical arm of the tube in the Locking Swing Away Outer Piece (LSAOP). This vertical arm must be truly vertical and the LSAOP must be located in the same front-to-back position on the wheelchair as the mounted device. One Offset Link (O3L) is always used with this mount and this allows the Outer Piece to be positioned 3 inches in any direction from the location of the Frame Clamp Inner Piece. An additional Offset Link may be used for greater offset distance.

Figure 4.3-1 X is the front-back offset distance between the location of the Frame Clamp Inner Piece and the LSAOP. T is the required length for the Vertical Tube.

When the DAESSY Quick Release System is used to attach the device to the Horizontal Tube the centreline of most devices is between 1" and 3" forward of the tube. For very precise horizontal positioning contact Daedalus Technologies, Inc. for more information.

Determining the number of required Offset Links, and orientations

One Offset Link (O3L) provides three inches of offset between the location of the Frame Clamp Inner Piece (UFCxxxxIP) and the position of the Locking Swing-Away Outer Piece (LSAOP). The Offset Link may be set at any angle, thus the horizontal distance between the UFCxxxxIP and LSAOP may be any measure between zero and 3 inches. With an additional Offset Link in the Frame Clamp Assembly the maximum offset is 6".



Figure 4.3-2 Each Offset Link provides three inches of offset adjustment.

Adjusting the angle of the Offset Link to set the required horizontal offset to achieve the correct device location will also affect the vertical distance between the LSAOP and UFCxxxxIP. This may affect the length of Vertical Tube that is required to place the device at the correct height and avoid interference with wheelchair fittings, wheels or the ground.

When the Inner Piece is located low on the wheelchair frame the Offset Link (O3L) would be oriented to place the Outer Piece (LSAOP) higher, particularly if the required location for the for the LSAOP is in line with the front caster wheel.

When the UFCxxxxIP is attached high on the wheelchair frame and the mounted device is positioned for direct access it may be preferable to place the LSAOP lower because the Release Cable and Locking Swing-Away Index Clamp require that the Vertical Tube length be at least 12 inches.

When the mounted device is positioned for scanning or head pointer access the LSAOP may be positioned above the UFCxxxxIP to minimize the required Vertical Tube length.

Avoiding Interference between the Vertical Tube and wheelchair fittings

When fittings on the wheelchair obstruct the vertical arm of the Right Angle Tube a Frame Clamp Spacer (UFCSPCR) can be used to move the Locking Swing Away Outer Piece (LSAOP) further away from the wheelchair frame. This will increase the clearance width of the wheelchair, which is a consideration for manoeuvring in tight spaces.



When the obstruction is not avoided by the use of a UFCSPCR it will be necessary to compromise on the position of the mounted device and move the LSAOP forward or backward using the Offset Link (O3L).

Caution:

The Vertical Arm of the Right Angle Tube must be truly vertical, not leaning to avoid obstructions.

Figure 4.3-3 The Frame Clamp must not interfere with, or contact any fittings on the wheelchair, for example the front caster wheel.

Determining the Vertical Tube length – T

The required length for the Vertical Tube is the distance from the Locking Swing-Away Outer Piece (LSAOP) to the bottom of the mounted device. When the Offset Link (O3L) within the Frame Clamp Assembly is at an angle other than horizontal the Vertical Tube Length – T – will not be the same as the distance from the Frame Clamp Inner Piece (UFCxxxxIP) to the bottom of the device. This distance is illustrated in Figure 4.3-1.

If there are no obstructions with wheelchair components below the LSAOP the Vertical Tube Length can include several inches of vertical adjustment length that will extend below the LSAOP.

There must be a minimum of 12 inches of vertical extent on the Tube to have enough room for the Cable Release Assembly.

4.4 Installing the DAESSY Locking Swing Away Mount

Steps in the Installing Procedure

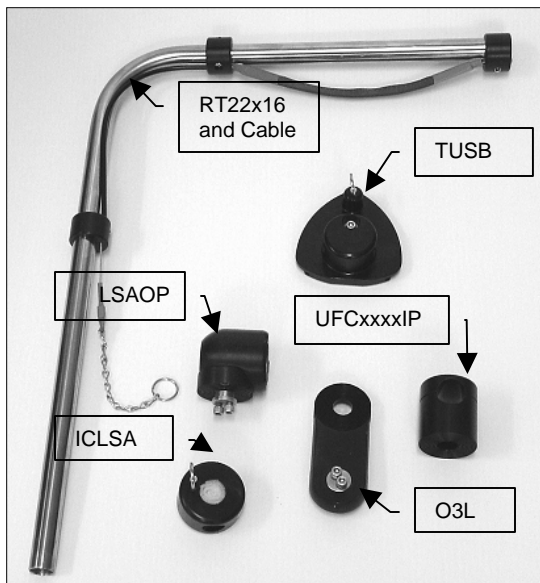
- Identify the Parts
- Install the Locking Swing-Away Frame Clamp Assembly
- Install the Right Angle Tube-Locking Index Clamp
- Install the Total Quick Release Base
- Adjust the Release Cable
- Final Adjustments and Checklist

4.4.1 Identify the Parts of the DAESSY Locking Swing-Away Mount – DLSA7

The standard DAESSY Locking Swing-Away Mount consists of the parts listed below:

| Part Code | Part Name |
|-----------|--|
| UFCxxxxIP | Frame Clamp Inner Piece. |
| LSAOP | Locking Swing Away Outer Piece |
| O3L | Offset Link. |
| ICLSA | Index Clamp for Locking Swing Away. |
| CABLE | Cable Assembly to release the Locking Pin, preinstalled on Right Angle Tube. |
| RT22x16 | Right Angle Tube 22 inches vertical by 16 inches horizontal. |
| TUSB | Total Quick Release Base |
| DMSTools | Assembly Tools |
| | Installation Instructions |

The black anodized aluminium components have part codes stamped or engraved into the metal. These should be identified and laid out.



The DAESSY Locking Swing-Away Mount – DLSA7 is usually supplied partially assembled. The Release Cable is attached to the Right Angle Tube; other parts are packed separately. The Pinch Clamps for the Locking Swing-Away Index Clamp (ICLSA) and Total Quick Release Base (TUSB) are installed in their hole and retained by plastic plugs.

Figure 4.4-1 Standard parts layout for the DAESSY Locking Swing Away Mount – DLSA7.

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 Frame Clamp Inner Piece (UFCxxxxIP) and Offset Link (O3L) is fastened into the hole in the end of the O3L which is stamped IP and the Swivel Clamp for attaching the Locking Swing-Away Outer Piece (LSAOP) to the other end of the O3L is fastened to the LSAOP.

The size and shape of the Frame Clamp Inner Piece (UFCxxxxIP) will depend on the type of wheelchair and the attachment location, and may not be exactly as shown in the diagrams. More than one Offset Link (O3L) may be included.

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

4.4.2 Install the Locking Swing-Away Frame Clamp Assembly

The DLSA7 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 **4.3.1 Selecting the Frame Clamp attachment location**. The Right Angle Tube must be installed vertically therefore the Locking Swing-Away Outer Piece (LSAOP) must be placed directly below the front-to-back position of the mounted device.

One Offset Link (O3L) is always used with the Locking Swing-Away Frame Clamp Assembly and this is sufficient to span a distance of up to three inches between the location of the Inner Piece and the position of the LSAOP. Additional O3Ls may be needed if the required distance from the LSAOP to the Frame Clamp Inner Piece (UFCxxxxIP) is greater than 3”.

Often the Frame Clamp will be installed near the front caster wheel but make sure the selected location is part of the wheelchair frame, not a movable armrest or footrest. If there is interference with the caster wheel, the brake lever, or any controls it may be necessary to use a Frame Clamp Spacer (UFCSPCR) to displace the LSAOP out from the position of the UFCxxxxIP.

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

Figure 4.4-2 The LSAOP, O3L and UFCxxxxIP are the unassembled components of the Frame Clamp assembly



Figure 4.4-3 The components of the Frame Clamp assembled together.



Assemble the Frame Clamp pieces

The pieces of the Frame Clamp Assembly must be connected together before it is installed on the wheelchair frame. These pieces will include a Frame Clamp Inner Piece (UFCxxxxIP), a Locking

Swing Away Outer Piece (LSAOP), an Offset Link (O3L) and when needed additional Offset Links and/or Frame Clamp Spacers (O3L).

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.

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.

The grooved face of the Locking Swing-Away Outer Piece holds a threaded end of a Swivel Clamp. The Offset Link is connected to this face with an unthreaded Swivel Clamp end and two bolts.

Caution:

All the grooved faces must be correctly matched and engaged before the Swivel Clamp bolts are tightened.

When only one O3L is used to connect the UFCxxxIP and the LSAOP the unthreaded end of each Swivel Clamp is inserted into the holes in either end of the O3L. When more Offset Links are needed to correctly position the LSAOP the IP end of one is connected to the OP end of another with a Swivel Clamp. It is convenient to orient the Swivel Clamps so that the bolt heads are accessible from the outside of the wheelchair.

When a Frame Clamp Spacer (UFCSPCR) is needed to gain extra clearance away from the wheelchair frame it can be placed between any connection of the grooved faces, taking care to mate the IP and OP surfaces correctly. Longer Swivel Clamp bolts are provided with the UFCSPCR.

Note:

Offset Links displaying Serial Numbers greater than #406000 may be connected directly together at any angle.

Offset Links that display a Serial Number less than #406000 or have no Serial Number must not be connected together at an angle of less than 135°.

Two Offset Links connected with an intervening Frame Clamp Spacer can be connected at any angle. The Swivel Clamp connecting through the Spacer will require longer bolts that are supplied with the UFCSPCR.

The pieces of the complete Frame Clamp Assembly should be assembled and the Swivel Clamps moderately tightened to hold the unit in approximately the correct orientation before attaching the Frame Clamp Inner Piece to the wheelchair.

Attach and Align the Frame Clamp

There are three steps to attaching and aligning the Frame Clamp Assembly:

- Attach the Inner Piece and align sideways
- Position the Outer Piece
- Align the Outer Piece vertically

Attach the Frame Clamp Inner Piece and Align Sideways

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 Offset Link, should face towards the outside.

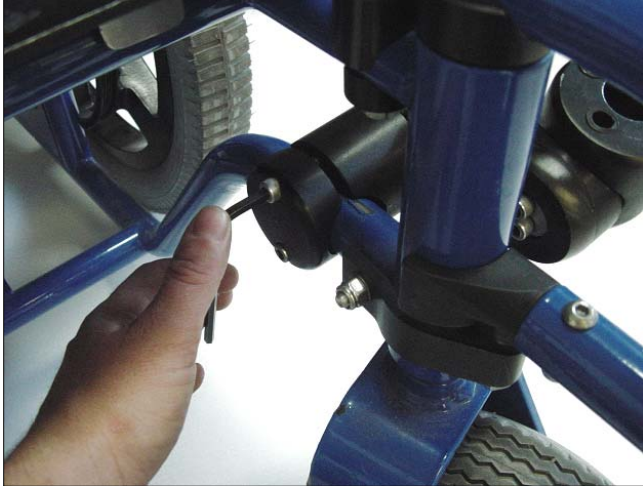


Figure 4.4-4
Attach the Frame Clamp Inner Piece Cap and Body around the wheelchair frame tubing at the selected location. Replace the bolts and tighten them alternately, but not fully at this step.

When the Frame Clamp is attached to round tubing on a wheelchair frame sideways alignment ensures that the Right Angle Tube is parallel to the side of the wheelchair and perpendicular to the ground. With the Inner Piece bolts lightly tightened the Frame Clamp Assembly can be rotated about the attachment location to align it. The Right Angle Tube can be inserted through the LSAOP for extra leverage and to act as an alignment guide.

Hold the 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.

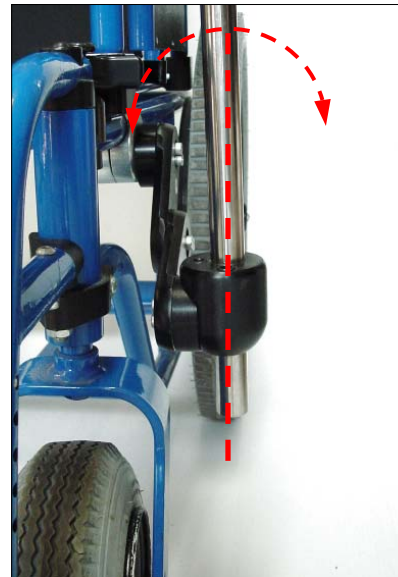
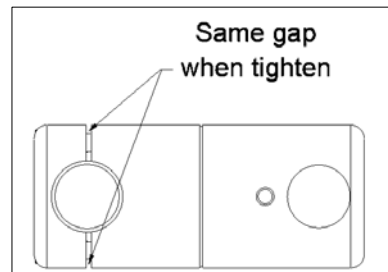


Figure 4.4-5 Use the tube as a lever to align the Frame Clamp parallel to the side of the wheelchair.

Important Note:

When the bolts are fully tight and the wheelchair frame 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 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.



Position the Outer Piece

The Offset Link (O3L) holds the Locking Swing-Away Outer Piece (LSAOP) three inches away from the Frame Clamp Inner Piece (UFCxxxxIP) at any angle. The location of the LSAOP can be adjusted up and down and forward and backward by adjusting the angle of the Offset Link. Section **4.3.3 Determining the Required Offset Links and the Vertical Tube length** describes some considerations for choosing the O3L angle.

There should be about one inch of tube protruding beyond the bottom of the LSAOP when the Horizontal Tube is at the correct height for accessing the device.

When the correct location for the LSAOP is determined the Swivel Clamp bolts that connect the Frame Clamp Inner Piece (UFCxxxxIP) to the Offset Link (O3L) should be firmly tightened, as should any Swivel Clamps connecting additional Offset Links and Frame Clamp Spacers. The Swivel Clamp bolts connecting the Locking Swing Away Outer Piece to the Offset Link should not be tightened yet.

Align the Outer Piece vertically

The tube hole in the Locking Swing-Away Outer Piece is aligned vertically by rotating the tube forward or backward before tightening the two bolts on the final Swivel Clamp.

The tube hole in the Locking Swing-Away Outer Piece should be truly vertical or tilted very slightly back toward the wheelchair. If the tube hole is tilted forward the mount will swing out by itself when the Locking Pin is disengaged, and may be difficult to pull back into position.

Once the LSAOP has been aligned vertically all Swivel Clamp bolts should be fully tightened. The two bolts in each Swivel Clamp should be tightened alternately to get the most efficient grip.



Figure 4.4-6 The LSAOP must be aligned vertically

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.

4.4.3 Install the Right Angle Tube and Locking Index Clamp

The Locking Index Clamp (ICLSA) is attached to the vertical section of the Right Angle Tube and rests on the Locking Swing-Away Outer Piece (LSAOP) with the Locking Pin in one of the three indexing holes. The height of the horizontal section of the Right Angle Tube and the Lock Positions are both adjusted with the Locking Index Clamp. Installation and adjustment has two steps:

- Select the Lock Positions
- Attach the Locking Index Clamp to the Right Angle Tube, adjust the height and set the Lock Positions

Select the Lock Positions

The three holes for the Locking Pin in the Locking Swing-Away Outer Piece (LSAOP) give one position where the mount is locked in front of the user and two positions for the mount to be locked while rotated away. Plugs can be installed in one or two of the Locking Pin holes to reduce the number of lock positions. With all three Locking Pin holes clear there are three possible combinations of In-Use and Swung-Away lock positions.

The Locking Swing Away Index Clamp (ICLSA) holds the spring loaded Locking Pin and is held to the Vertical Tube with a Pinch Clamp. This Pinch Clamp through the ICLSA provides a convenient reference for setting the desired combination of In-Use and Swung-Away positions.

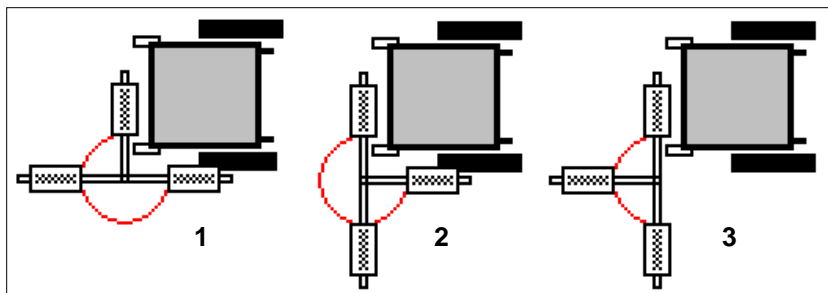


Figure 4.4-7
Top-view diagram
of the possible
combinations of
Lock Positions.

1. When the Pinch Clamp hole is parallel to the wheelchair for the In-Use position the other lock positions are at 90° and 270° away from the user.
2. When the Pinch Clamp hole is perpendicular to the front face of the wheelchair and behind the Vertical Tube for the In-Use position the other lock positions are at 180° and 270° away from the user.
3. When the Pinch Clamp hole is perpendicular to the front face of the wheelchair and ahead of the Vertical Tube for the In-Use position the other lock positions are at 90° and 180°.

Attach the Locking Index Clamp to the Right Angle Tube, adjust the height and set the Lock Positions

Remove the plastic plug holding the Pinch Clamp in its hole in the Locking Index Clamp (ICLSA) and insert the vertical section of the Right Angle Tube through the ICLSA so that the Locking Pin is on the bottom. Refer to **1.7 Adjustment and Maintenance** if the Pinch Clamp is not aligned and the tube will not enter the hole.



With the Locking Index Clamp about three inches from the end of the tube and the hole for the Pinch Clamp correctly oriented for the select Lock Positions, gently tighten the Pinch Clamp bolt. Insert the tube in the hole in the Locking Swing-Away Outer Piece (LSAOP). Check the height and alignment of the horizontal section of the Right Angle Tube for the In-Use position and tighten the Pinch Clamp bolt.

Figure 4.4-8

The height of the Right-angle tube and the alignment of the horizontal section are adjusted at the Index Clamp. There should be at least 1" of tube extending beyond the bottom of the Locking Swing-Away Outer Piece.

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 Horizontal Tube is pushed firmly by a user. By design the Pinch Clamp does not provide an immovable 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.

Retract the Locking Pin by lifting the ring attached to the end and rotate the tube away from the In-Use position to confirm the other Lock Positions.

There must be at least two inches of tube below the Locking Index Clamp (ICLSA) to ensure that the Right Angle Tube is fully inserted through the tube hole in the LSAOP. Extra tube length for future vertical adjustments may protrude below the LSAOP provided it does not interfere with the front caster on the wheelchair. If there is interference it may be necessary to rotate the Offset Link to raise the Outer Piece and use a Right Angle Tube with a shorter vertical section.

Do not connect the Release Cable to the Locking Pin at this step.

4.4.4 Install the Total Quick Release Base (TUSB)



The plastic Cable Anchor holding the Release Cable at the free end of the horizontal arm of the Right Angle Tube must be removed to install the Total Quick Release Base (TUSB). A 5/32" Allen Key will loosen the clamping bolt and the Cable Anchor will pull off.

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.

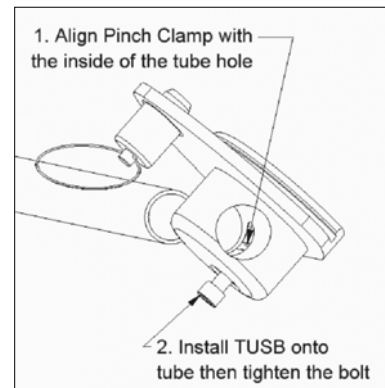
Figure 4.4-9 Remove the Cable Anchor at the end of the horizontal arm of the Right-Angle Tube and slide on the TUSB.

Replace the Cable Anchor and align it so the Release Cable is directly below the tube. Tighten the clamping bolt just enough to prevent the anchor from rotating by hand. The thread in the plastic Cable Anchor will be damaged if the clamping bolt is over-tightened.

Quick Release Orientation

The two Cable Anchors limit sideways adjustment of the position of the Total Quick Release Base (TUSB) on the Horizontal Tube. The Total Quick Release Base 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.

Figure 4.4-10 Install the TUSB onto the horizontal arm of the Right-Angle tube.



4.4.5 Adjust the Release Cable

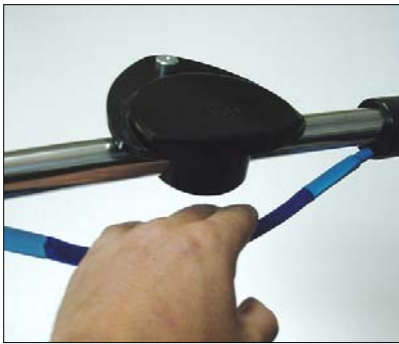
Connecting and adjusting the Release Cable on the Locking Pin involves three steps:

- Align the end of the Release Cable above the Locking Pin
- Adjust the slack in the Release Cable along the horizontal arm of the Right Angle Tube
- Connect the Release Cable to the Locking Pin and adjust the free movement

Align the Release Cable above the Locking Pin

If the end of the Release Cable at the Cable Anchor located along the vertical section of the Right Angle Tube is not directly above the Locking Pin this Cable Anchor will need to be re-aligned. Loosen the clamping bolt in the Cable Anchor and rotate it to position the cable end directly over the Locking Pin, and slide it up or down so that the chain at the end of the cable overlaps the ring on the pin. Retighten the bolt gently enough that the Cable Anchor does not rotate by hand. Do not over-tighten the Cable Anchor clamping bolt.

Adjust the slack in the Release Cable along the horizontal section of the Right Angle Tube



Pull the Release Cable tight at the chain and check the slack in the blue fabric sleeve below the Horizontal Tube. Move the Cable Anchor nearest the bend in the Right Angle Tube to adjust this slack. There should be sufficient clearance to fit a hand between the Release Cable and the Horizontal Tube.

Figure 4.4-11 There should be enough slack in the Release Cable to permit a hand between the tube and the blue fabric sleeve.

Connect the Release Cable to the Locking Pin and adjust the free movement

With the Locking Pin fully engaged in a pin hole and the cable pulled tight connect the ring in the Locking Pin to the closest link in the chain at the end of the Release Cable. Check that the chain is slightly loose and is not lifting the Locking Pin at all. If the Locking Pin is lifted the Cable Anchor will need to be adjusted down towards the Locking Index Clamp. If a small downward pull on the blue fabric sleeve does not disengage the Locking Pin the Cable Anchor will need to be adjusted up towards the Horizontal Tube.

Figure 4.11 Connect the Release Cable chain to the Index Clamp Locking Pin.



4.4.6 Final Adjustments and Checklist

Before attaching a device to the DAESSY Locking Swing-Away Mount DLSA7 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 best grip.
- Pinch Clamp bolts tight