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GCX Mounting Solutions

Installation Manual for VHM-25™ Series Arm - Desktop Clamp Mount

For Desktops / Mounting Surfaces up to 2.75" [7cm] Thick

Install Time: 10-15 minutes

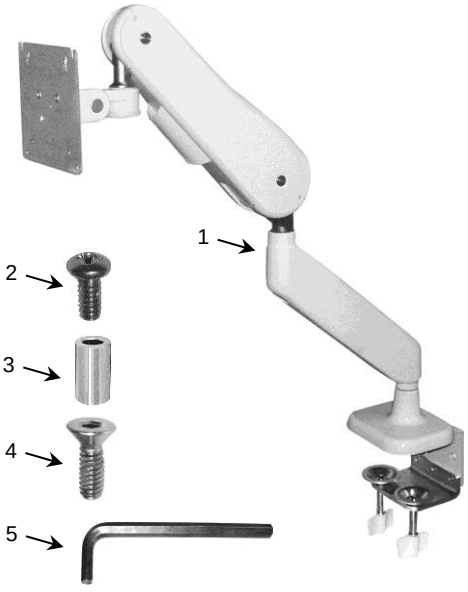
The purpose of this manual is to describe general installation and adjustment procedures for the VHM-25™ Series Desktop Clamp Mounts. This manual should be used in conjunction with any instrument-specific installation material. Please read this manual and all instrument-specific installation material before installing or using this product.

Table of Contents

1.0 Parts Reference

The following parts and hardware are included with this installation kit:

Item #	Description	Qty
1	VHM-25 Desktop Mount	1
2	M4 x 6,8,10,12,16,20,25,30mm Pan Head Machine Screws (PHMS)	4 Ea.
3	Nylon Spacers (3/8" x 1/2") and (3/8" x 5/8")	4 Ea.
4	M4 x 16mm Flat Head Socket Cap Screw (FHSCS)	2
5	1/8", 5/32", 3/16" and 2.5mm Hex Wrench	1 Ea.



2.0 Tools required:

- 1/8”, 5/32”, 3/16”, and 2.5mm Hex Wrench (provided)
- #2 Phillips Screwdriver (not provided)
- Socket Wrench with Extension (not provided)
- 1/2” (13mm) and 3/4” (19mm) Socket (not provided)
- 1/2” or 13mm Open End Wrench (not provided)

3.0 Installation and Maintenance Warnings

This section contains warnings regarding the installation and maintenance of the VHM-25. This section must be read in its entirety before installing and maintaining the VHM-25. Failure to follow these warnings may result in damage to equipment or injury to personnel. Refer to qualified personnel for installation.

Warnings

- Do not position the VHM-25 or mounted display above a patient. Note that the VHM-25 has a wide range of motion both up/down and side to side. Please consider carefully the display being mounted and the proximity of the mounting assembly to other equipment, hospital personnel, and the patients. GCX recommends that the hospital’s risk management personnel verify that the application is appropriate prior to installation and use of the VHM-25.

- Ensure the desk top has adequate strength and stability to support this installation. Consider tip stability through the full range of motion.

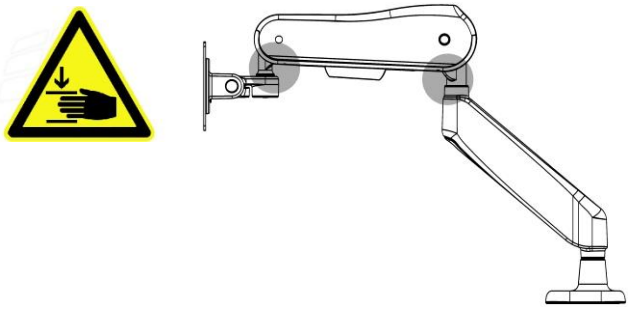
- Ensure that the weight of the display being mounted is within the weight limit of the VHM-25 Arm – Refer to labeling on the VHM-25 Arm.

- Do not use power tools to make any adjustments on the VHM-25.

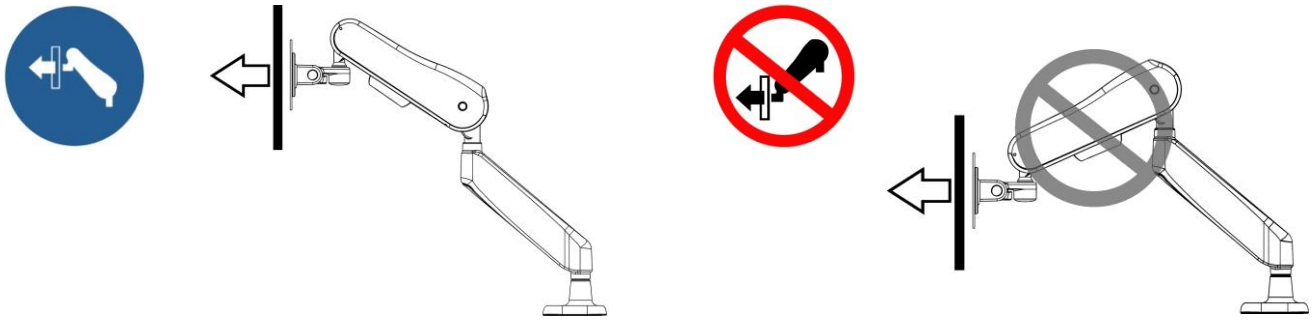
- The VHM-25 or mounted device may move suddenly due to improper adjustment, see Section 6 for adjustment instructions. The mount or mounted device may move suddenly due to wear or gas spring end of life. The gas spring has a limited life span and will lose strength over time. Fasteners used with the VHM-25 and mounted device must be inspected and maintained at least once a year as outlined in Section 8.

- Due to risk of personal injury or damage to the equipment, the VHM-25 housing must never be disassembled by non-GCX personnel. Failure to comply will void the warranty.

- Note that the VHM-25 mount has a wide range of motion both up/down and side to side. Please consider potential pinch points that may cause personal injury.



- Remove the display only when the VHM-25 mount is at the highest position. Due to the counterbalance function, the VHM-25 mount will naturally rise to the highest position when weight is removed. This can happen suddenly if the weight is removed at any height other than the highest point.

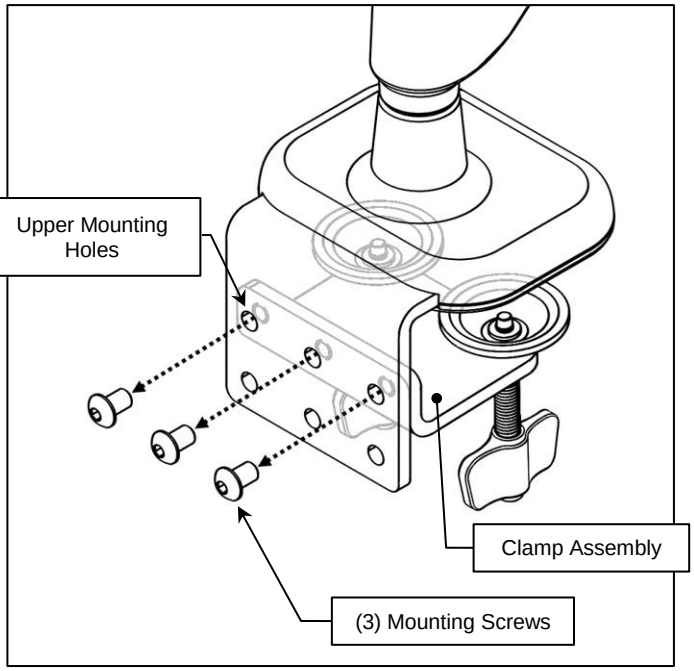


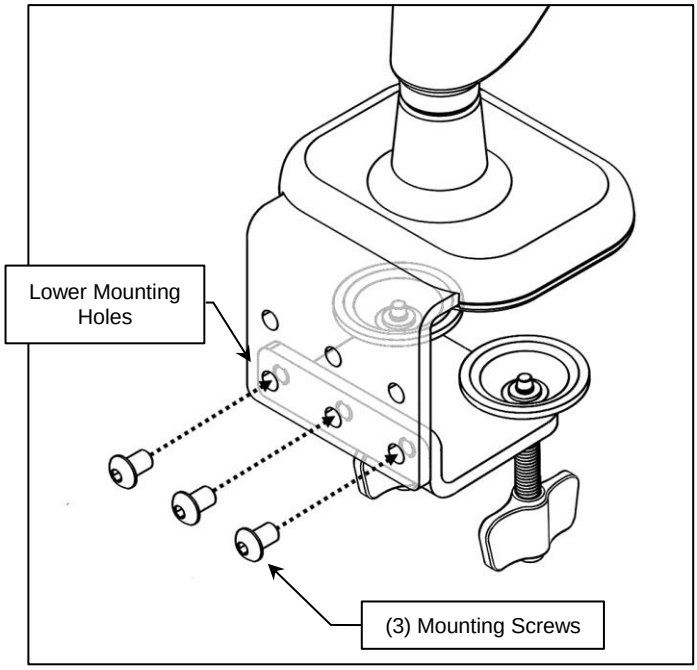
4.0 Installing the VHM-25 Desktop Clamp Mount

Installation Notes:

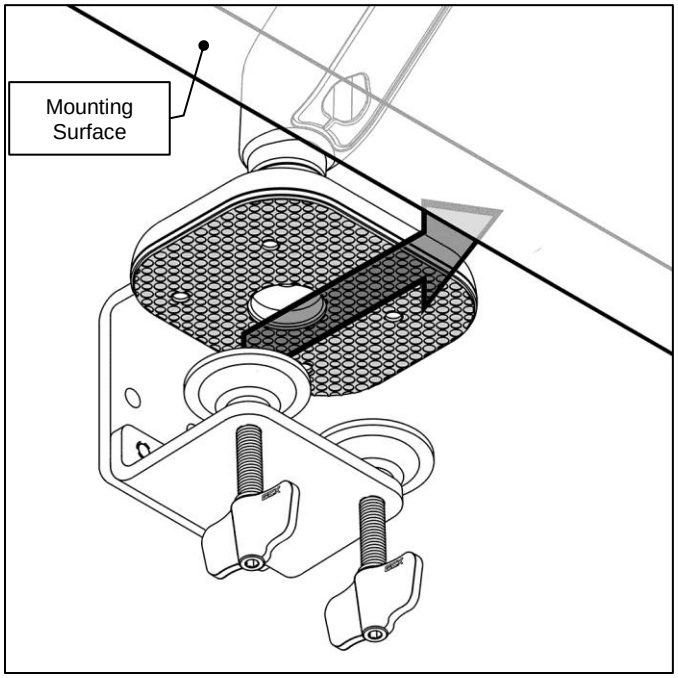
- Consider the Desktop Mount's full range of motion with mounted display when determining the mounting location.
- The rear pivot tension is adjusted for an average display. If additional adjustment is needed, review section 6.4 (Rear Pivot Tension Adjustment) on page 6 prior to installing mount.

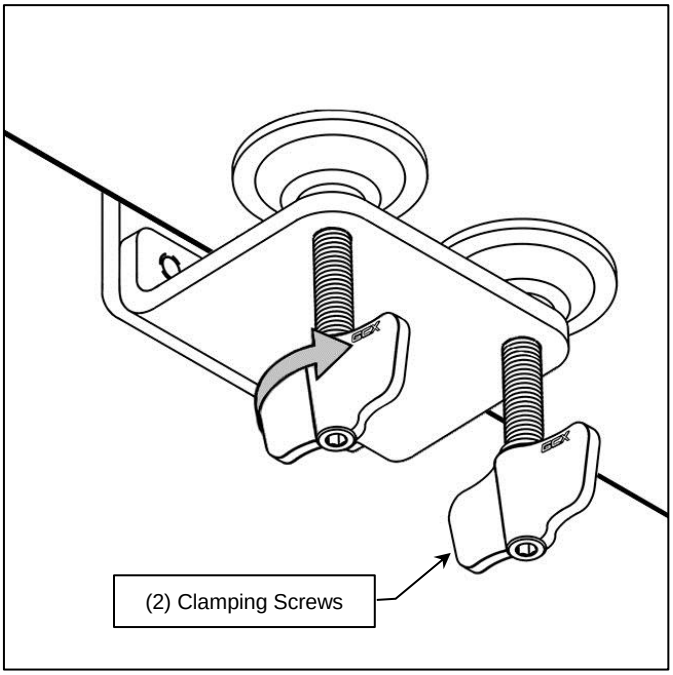
4.1 The Desktop Mount comes with the clamp assembly mounted in the upper set of mounting holes. This will allow the mount to be clamped to a surface that is up to 1.25" [3.18cm] thick. When attaching to surfaces that are 1.25" [3.18cm] to 2.75" [7cm] thick, the clamp assembly must be repositioned to the lower set of mounting holes. This is achieved by removing the (3) mounting screws with a 3/16" hex wrench, and installing the clamp assembly on to the lower mounting holes. Determine the mounting surface thickness and adjust the mount accordingly.





4.2 To install the Desktop Mount, slide the Clamp Assembly onto mounting surface (below left) and alternately tighten the (2) Clamping Ccrews (below right) until the mount is secure.



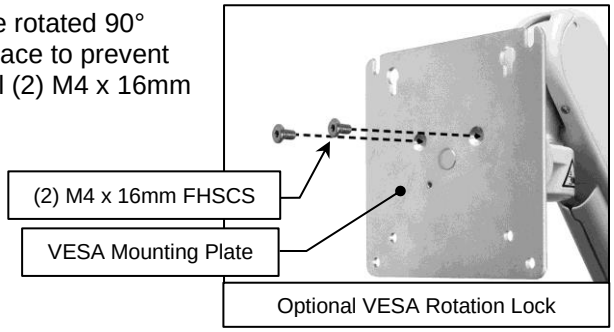


5.0 Mounting a Display on the VHM-25

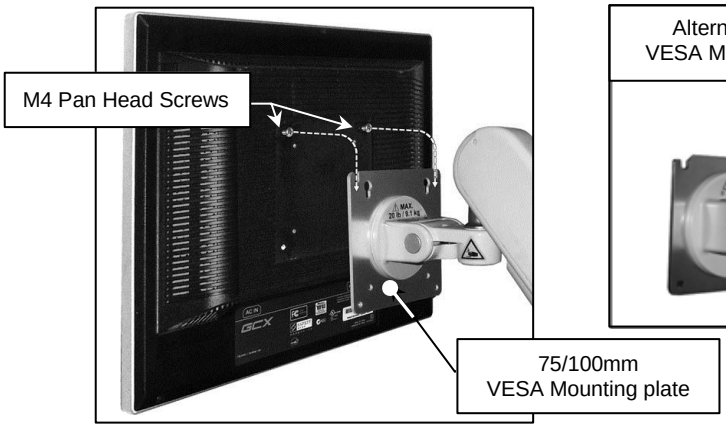
WARNING: This mounting kit provides an assortment of hardware for a wide variety of display mounting applications. It is the responsibility of the installer of this product to ensure that all screws used to mount the display have a minimum thread engagement of (4) 360º turns into threaded inserts in the rear of display when mounted. It is also the responsibility of the installer to ensure that screws are not inserted too far into the display, causing damage to internal components. Failure to adhere to this warning could result in damage to equipment or injury to patients or personnel.

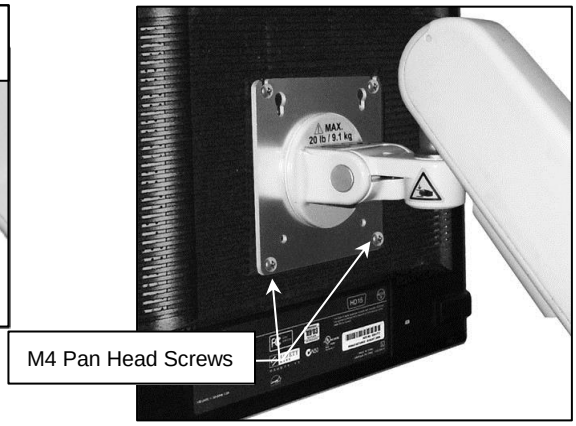
Installation Note: If the VESA mounting pattern is located in a recessed area of the display in which the VESA Mounting Plate will not fit, See *Using Nylon Spacers* (below), then follow mounting procedures on this page.

5.1 **Optional VESA Rotation Lock-** The VESA mounting plate can be rotated 90° from landscape to portrait. This mounting plate can be locked in place to prevent the display from rotating. To lock the VESA mounting plate, install (2) M4 x 16mm FHSCS with a 2.5mm hex wrench prior to installing the display.

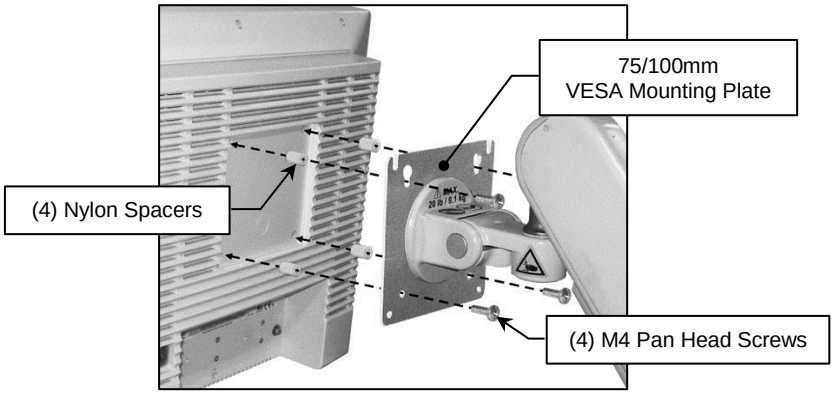


5.2 Thread (2) M4 Pan Head screws into the top (2) threaded holes of the VESA mounting pattern located on the back of the display, leaving 4mm (about 6 full turns) of thread exposed. Lift display onto VESA Mounting Plate and guide the M4 Pan Head screws into the (2) slots or (2) keyholes in top of Plate. Thread (2) M4 Pan Head screws into lower mounting holes. **Tighten all screws to secure**. To help prevent stripping the M4 screws in this procedure, use a # 2 Phillips screwdriver.





5.3 **Using Nylon Spacers-** An assortment of Nylon Spacers and longer M4 Pan Head screws (see *Parts Reference on page 1*) are included for extending the VESA Mounting Plate out of a recessed mounting area in display housing. Select the appropriate length Nylon Spacers and M4 Pan Head screws to mount the display with a minimum of (4) 360º turns of thread engagement. An additional person may be needed to hold the display when installing the Nylon Spacers between the display and the VESA Mounting Plate. To help prevent stripping the M4 screws in this procedure, use a # 2 Phillips screwdriver.

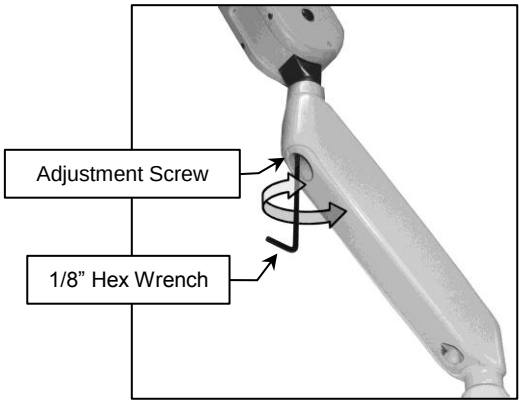


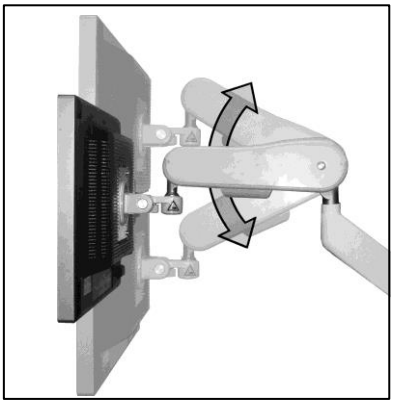
6.0 Adjusting the VHM-25

Caution: Before the VHM-25 is properly counterbalanced, be sure the weight of the display on the arm can be supported while setting counterbalance. Use more than one person if required. Some of the following pictures do not show the mounted display for detail purposes.

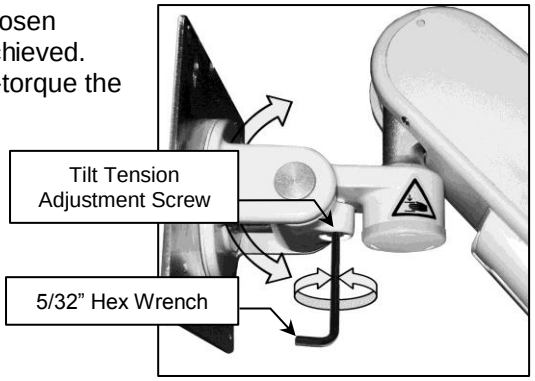
Installation Note: Adjustments are factory pre-set for a display weighing approximately 10lb (4.5kg). Adjustments to counterbalance, tilt tension and pivot tensions may all be required to achieve a proper installation. Detailed instructions for making adjustments follow in the section below. When properly adjusted the mounted display will "float" throughout the height range and can be positioned safely and with a desired feel throughout the full range of motion. Refer to the Routine Maintenance Check List (Section 8), for a quick guide to these functional checks.

6.1 Counterbalance Adjustment – Grasp the mounted display and move the Arm to a level horizontal position. Using a 1/8" hex wrench, tighten (CW) or loosen (CCW) the Adjustment Screw located under the center pivot point. Counterbalance is correctly adjusted when the mounted instrument can be moved up or down with minimal force and does not rise or fall after releasing the Arm. The full range of adjustment is approximately 18 turns.

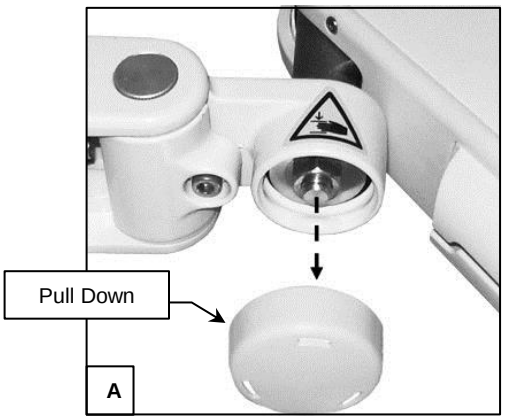


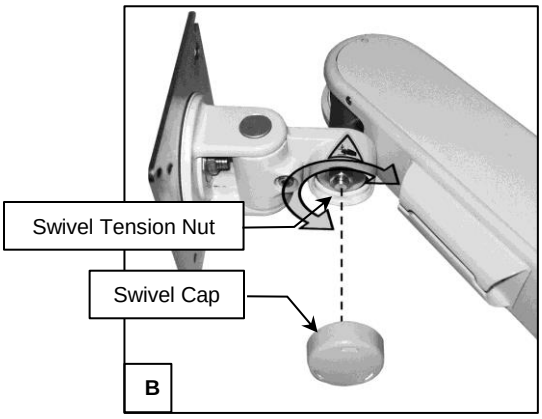


6.2 Tilt Tension Adjustment – Using a 5/32 hex wrench, tighten (CW) or loosen (CCW) the Tilt Tension Adjustment Screw until desired Tilt Tension is achieved. Adjustment range is approximately 1/2 turn total. Do not remove or over-torque the Adjustment Screw.

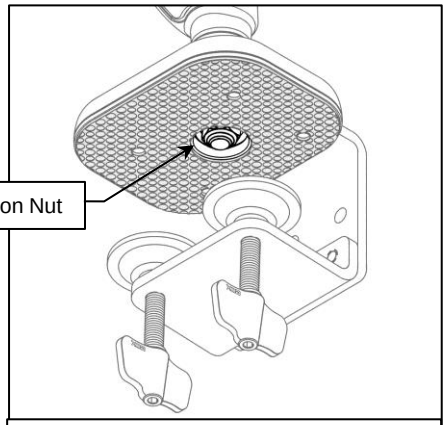


6.3 Swivel Tension Adjustment – Remove the Swivel Cap by pulling straight down on the Cap (Fig. A). Tighten (CW) or loosen (CCW) the Swivel Tension Nut with a 1/2" or a 13 mm socket wrench until desired tension is achieved (Fig. B). Do not remove the Swivel Tension Nut. Total adjustment range is approximately 1/2 turn. Snap Swivel Cap back into place.





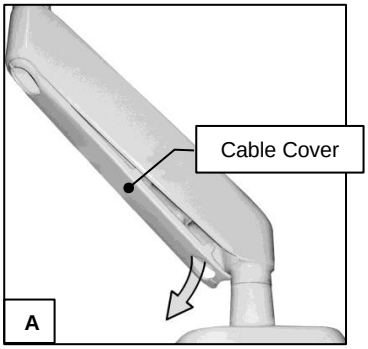
6.4 **Rear Pivot Tension Adjustment** – The pivot tension nut can only be accessed after the desktop mount has been removed. The rear pivot tension nut can be adjusted using a socket wrench with extension and a 3/4" or 19 mm socket. Tighten (CW) or loosen (CCW) the Pivot Tension Nut until desired tension is achieved. Do not remove the Pivot Tension Nut.

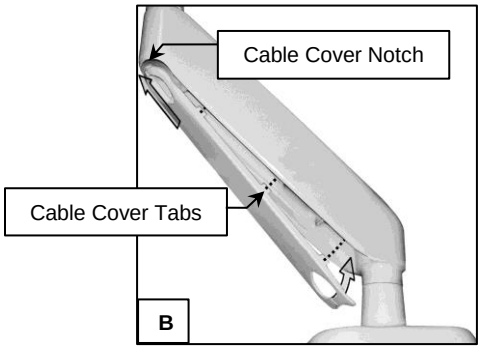


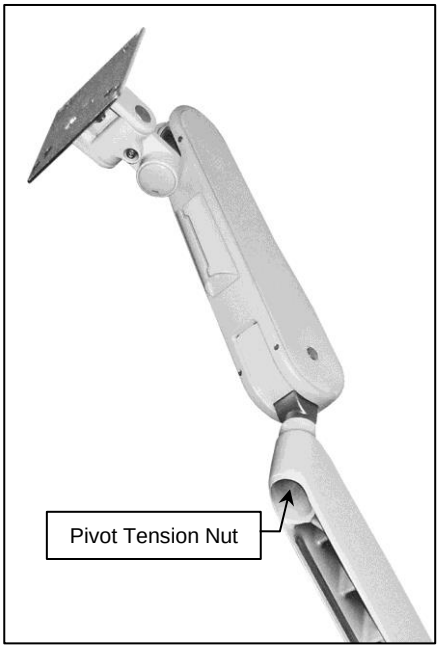
Pivot Adjustment Under Desktop Mount

6.5 **Center Pivot Tension Adjustment** – Insert a finger into the front of the Cable Cover and pull down to remove (Fig. A). Using a socket wrench with extension and a 3/4" or a 19 mm socket, tighten (CW) or loosen (CCW) the Pivot Tension Nut until desired tension is achieved (right). Re-install the Cable Cover by inserting Cable Cover Notch up into the Arm and rotate the cover until the tabs on the sides snap into place (Fig. B). Do not remove the Pivot Tension Nut.

Installation Note: For optimal Arm performance and ease of movement, the rear pivot tension should be adjusted slightly tighter than the center pivot tension.



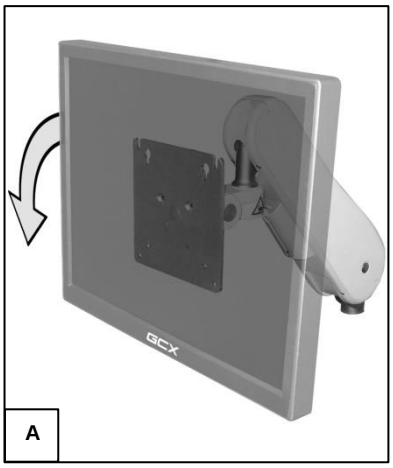


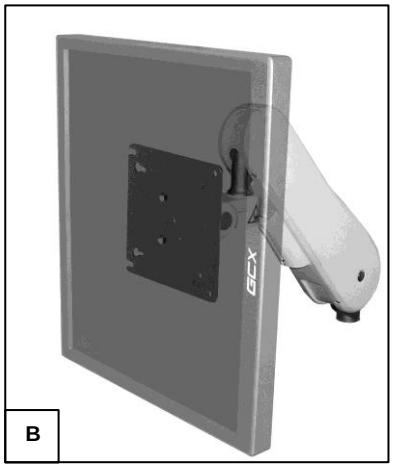


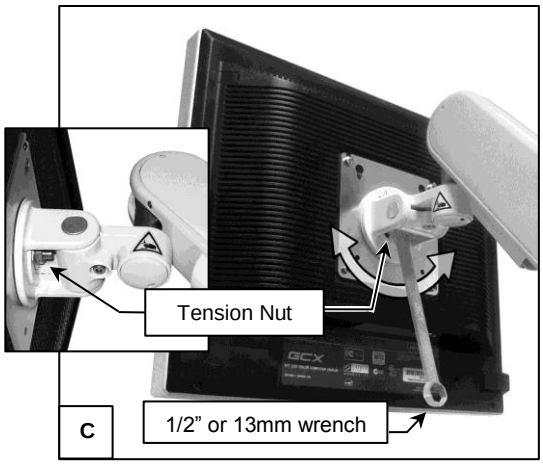
6.6 **VESA Rotation Tension Adjustment**

Installation Note: This section does not apply if the VESA mounting plate is locked. See Section 5.1 for details.

The display can be rotated 90° from landscape to portrait (A-B) by grasping the sides of the display and rotating CCW. The rotation tension can be adjusted by tightening (CW) or loosening (CCW) the Rotation Tension Nut with a 1/2" or 13mm open end wrench (Fig. C). Total adjustment range is approximately 1/2 turn. Do not remove the Rotation Tension Nut.





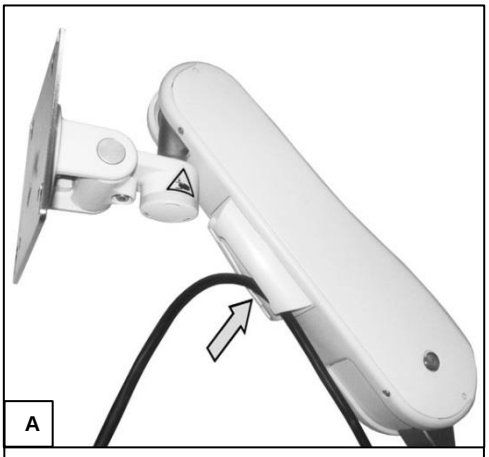


7.0 Cable Management

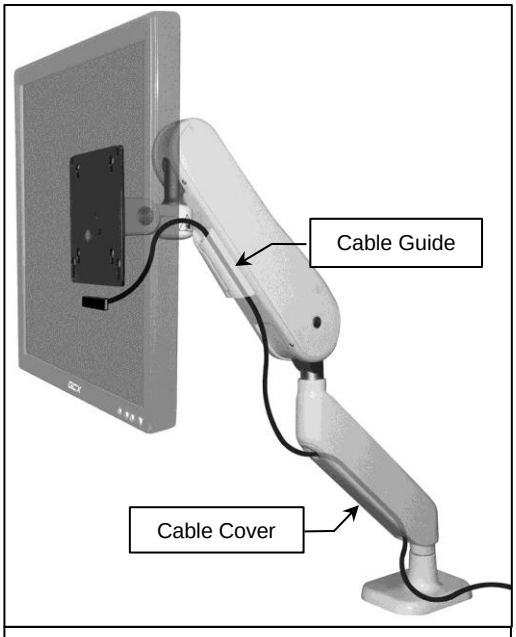
7.1 VHM-25 Cable Management- The VHM-25 has two cable management features that allow placement and routing of cables.

7.1.1 A flexible Cable Guide beneath the arm manages cables going between the front and rear of the arm. To install cables, use your thumb and press cables through the center seam of the Cable Guide (Fig A).

Caution: Keep fingers outside of Cable Guide when installing cables.

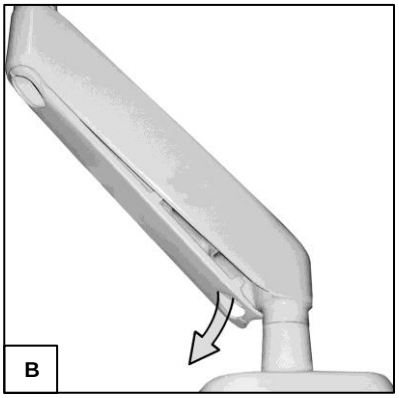


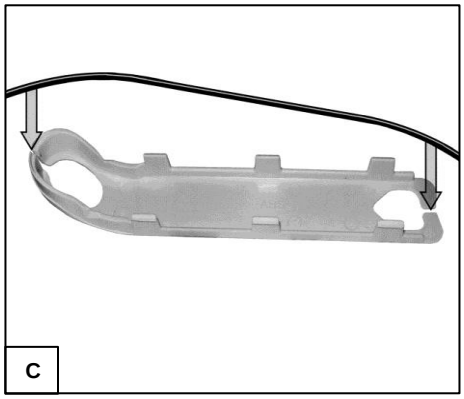
Press cables into Cable Guide with thumb.

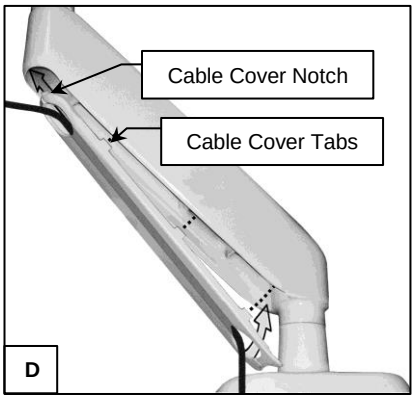


VHM-25 Cable Routing

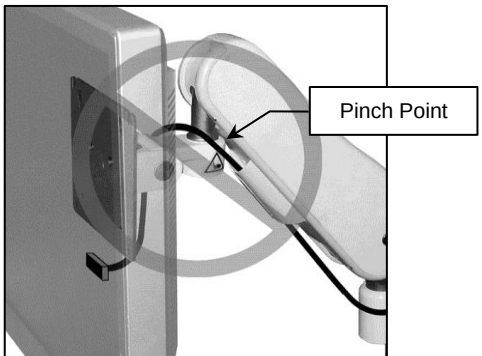
7.1.2 An open cavity beneath the extension with a removable Cable Cover manages cables going between the Arm and the countertop base. To install cables, remove Cable Cover by inserting finger into the front of the Cable Cover and pulling down (Fig. B). Push Cables into Cable Cover access holes as shown (Fig. C). Reinstall Cable Cover by inserting Cable Cover Notch up into the extension and rotate the cover until the tabs on the sides snap into place (Fig. D).



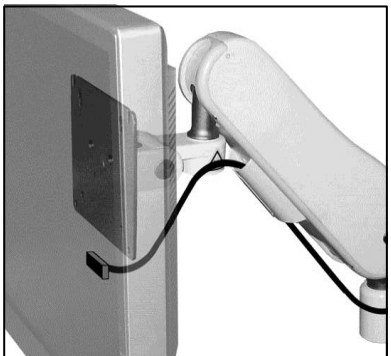




Warning: Route cables away from potential pinch points. A service loop of cable may be needed to accommodate all motion and to prevent cable binding, connector damage, or Cable Guide damage.



Incorrect cable placement.



Correct cable placement.

8.0 Routine Maintenance

The VHM-25 must be inspected and adjusted at least once a year. This inspection must include the steps listed in the Check List below:

✓	Routine Maintanance Check List	Section
	With the display mounted, move the arm through its entire vertical range of motion. The load should maintain its position at every point in the travel of arm. If necessary, the counterbalance mechanism may be adjusted.	6.1
	Grasp the mounted display and tilt it forward and back, through its entire range of motion. There should be enough tension or resistance in the tilt mechanism to prevent the display from tilting forward unexpectedly when in use. If necessary, the tilt tension may be adjusted.	6.2
	Grasp the mounted display and swivel it from side to side. The display should swivel with some tension or resistance, not loosely. If necessary, the swivel tension may be adjusted.	6.3
	Grasp the Arm and pivot it from side to side at the rear pivot. The arm should pivot with some tension or resistance, not loosely. If necessary, the pivot tension may be adjusted.	6.4
	Grasp the Arm and pivot it from side to side at the center pivot. The arm should pivot with some tension or resistance, not loosely. If necessary, the pivot tension may be adjusted.	6.5
	Grasp the sides of the display and swivel it from right to left (If not locked out **Sec. 5.1**). The display should rotate with some tension or resistance, not loosely. If necessary, the rotation tension may be adjusted.	6.6
	Inspect fasteners for looseness. Tighten as required for optimal operation and safety.	4.3, 4.4, 5.1, 5.2, 5.3
	Move the VHM-25 through its entire range of motion and check desk top for deterioration.	3.0, 4.0

9.0 Cleaning the Mounting Assembly

The mounting assembly may be cleaned with most mild, non-abrasive solutions commonly used in the hospital environment (e.g. diluted bleach, ammonia, or alcohol solutions).

The surface finish will be permanently damaged by strong chemicals and solvents such as acetone and trichloroethylene.

Steel wool or other abrasive material should never be used.

Damage caused by the use of unapproved substances or processes will not be warranted. We recommend testing any cleaning solution on a small area of the arm that is not visible, to verify compatibility.

Never submerge or allow liquids to enter the arm. Wipe any cleaning agents off of the arm immediately using a water-dampened cloth. Dry the arm thoroughly after cleaning.

CAUTION: GCX makes no claims regarding the efficacy of the listed chemicals or processes as a means for controlling infection. Consult your hospital's infection control officer or epidemiologist. To clean or sterilize mounted instruments or accessory equipment, refer to the specific instructions delivered with those products.

10.0 Troubleshooting the VHM-25

Symptom	Possible Cause	Remedy
Mounted display does not appear level or parallel to the floor.	Countertop not level	Mounting surface must be leveled.
	Weight of display not compatible with Load Rating of the Arm.	Mount display on arm with compatible Load Rating.
	Swivel hardware loose.	Adjust Swivel Nut (section 6.3).
	Pivot hardware loose.	Adjust Pivot Nut (section 6.4 or 6.5).
	Mounting surface not structurally sound (does not hold mounting hardware).	Mounting surface must be reinforced or replaced.
	Display may be rotated.	Adjust VESA Rotation Tension (section 6.6).
Mounted display drifts up or down.	Arm not counterbalanced correctly for weight of the display.	Perform counterbalance adjustment (section 6.1).
	Weight of mounted display not compatible with Load Rating of Arm.	Use arm with compatible Load Rating.
Mounted display difficult to move up or down.	Arm not counterbalanced correctly for weight of mounted instrument.	Perform counterbalance adjustment (section 6.1).
Arm pivots too freely.	Pivot tension too loose.	Adjust Pivot Tension (section 6.4 or 6.5).
Arm difficult to pivot.	Pivot tension too tight.	
Display swivels too freely.	Swivel tension too loose.	Adjust Swivel Tension (section 6.3).
Display difficult to swivel.	Swivel tension too tight.	
Display difficult to tilt.	Tilt tension too tight.	Adjust tilt tension (section 6.2).
Display will not maintain tilt position.	Tilt tension is too loose.	
Display rotates too freely.	VESA rotation is too loose.	Adjust VESA rotation (section 6.6).
Display is difficult to rotate.	VESA rotation is too tight.	Adjust VESA rotation (section 6.6). Also see (Section 5.1).
Desktop connection base loose.	Clamping assembly or clamping screws are loose.	Tighten clamping assembly (section 4.1) or Clamping Knobs. (section 4.2).
Desktop connection base loose.	Countertop deterioration.	Repair as required or relocate mount.