



UltraTM

Installation Instructions
Movable and Stationary Models

Form 5908-5

Safety Information

For your safety, read this manual thoroughly before installation of the equipment.

Installation is intended to be performed by properly trained technicians. The safety messages presented here are reminders to the installer to exercise extreme caution during installation and training on the aligner.

There are many variations in procedures, techniques, tools, and parts for installation due to varied shop configurations. Because of the vast versatility of installation the manufacturer cannot possibly anticipate or provide advice or safety messages to cover every situation. It is the technician's responsibility to be knowledgeable of the equipment to be installed. It is essential to use proper service methods and perform installation in an appropriate and acceptable manner that does not endanger your safety, the safety of others in the work area, the end user, the equipment or vehicle being serviced.

It is assumed that, prior to installation of the aligner, the operator has a thorough understanding of imaging alignment systems in general. In addition, it is assumed he has a thorough knowledge of the operation and safety features of the alignment rack or lift, and has the proper hand and power tools necessary to perform the installation in a safe manner.

These safety precautions should always be followed, including:

1. Read all instructions.
2. Care must be taken as burns can occur from touching hot parts.
3. Do not operate power tools or equipment with a damaged power cord or if the equipment has been dropped or damaged until it has been examined by a qualified serviceman.
4. Do not let cord hang over edge of table, bench or counter or come in contact with hot manifolds or moving fan blades.
5. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
6. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
7. Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.
8. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids, such as gasoline.
9. Adequate ventilation should be provided when working on operating internal combustion engines.
10. Keep hair, loose clothing, fingers, and all parts of body away from moving parts.
11. To reduce the risk of electrical shock, do not use on wet surfaces or expose to rain.
12. Use only as described in this manual. Use only manufacturer's recommended attachments.
13. **ALWAYS WEAR SAFETY GLASSES.** Everyday eyeglasses only have impact resistant lenses, they are NOT safety glasses.
14. Know and understand the proper operating procedures for all power tools used.

**IMPORTANT!! SAVE THESE INSTRUCTIONS
DO NOT DISCARD!!**

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INTRODUCTION

An Ultra™ aligner is installed much the same as conventional imaging aligners, however there are unique considerations which must be addressed. Follow these instructions carefully for a successful installation.

An Ultra™ aligner normally does not require RCP calibration at installation. The camera beam is pre-assembled and is factory calibrated and can be placed into service shortly after installation and setup. Camera subassemblies do not have to be replaced as a pair. It is possible to replace camera assemblies individually. A field “RCP” calibration procedure must be performed whenever a camera is replaced, moved or disturbed.

Three types of camera beam mounts are available at this writing, a single rigid, a dual rigid column support, and a movable beam support. This document covers installation of rigid supports, as well as a movable beam supports. Some steps covering moveable installation may not be applicable to rigid installations and vice versa.

These instructions cover the main topics of Ultra™ installation:

- ⇒ Preparing for installation
- ⇒ Qualifying the site for installation
- ⇒ Console assembly and setup
- ⇒ Placement and assembly of the base and support column
- ⇒ Camera Beam mounting procedures
- ⇒ Cable Connection
- ⇒ Initial operation of Ultra™ software

Before attempting installation, read these instructions thoroughly and understand the tasks involved. Review all requirements of installation to avoid oversights resulting in lost revenue, and lost customer confidence. Be aware of the environment conducive to the optimum performance of imaging alignment. Procure the necessary tools to do a quality job and last and most important, perform the installation safely by observing all precautions associated with the task at hand.

INSTALLATION PROCEDURES

1. TOOLS AND EQUIPMENT REQUIRED FOR INSTALLATION

Study the list below and make procurement arrangements prior to installation. Time is poorly spent searching for proper tools once the project has begun. The check list below is comprehensive and based on actual installations in a variety of locations.

- ☐ T-handle Ball-end Hex Wrenches; 3/8, 3/16, 1/8, 3/32, 5/32
- ☐ #1 and #2 Phillips Screwdrivers
- ☐ Box End or Combination Wrenches: 3/4 - 7/8; 9/16 - 1/2; 7/16 - 3/8
- ☐ Tape Measure - Used To Square The Optics With The Lift Center Line, And For Camera offset
- ☐ Chalk Line - Used For Lift Center Line
- ☐ 2 Or 4 Foot Level - Leveling Support Column
- ☐ Tin Snips - Used To Open Carton Banding
- ☐ Box Cutters - Opening Cartons
- ☐ Electrical Tape - Secure Wires
- ☐ Plastic Wire Ties - Dressing Cables
- ☐ VOM - Verifying Supply Voltage
- ☐ 16 Oz. Hammer - Set Anchor Bolts
- ☐ Hammer Drill And Good 1/2" Bit
- ☐ Carpenters Pencil - Mark Support Location On Floor
- ☐ Calibration Bar - Checking the camera view or aim
- ☐ Glass Cleaner And Rags - Cleaning Of Targets After Install if Necessary
- ☐ Small Flashlight
- ☐ Adjustable Wrench
- ☐ Instructions

ASSEMBLY AND SETUP OF THE CONSOLE

Consoles are shipped mostly complete, however some minor assembly is required upon installation. Refer to the illustration below for a completed console. The installation personnel will be required to assemble the clamp hanger brackets to the cabinet, In addition, the computer and its peripherals must be placed into the console and wired together.

1. Remove the console from the skid.
2. Install the wheel clamp hanger brackets onto the side of the console.
3. Locate all cartons associated with the console and computer assembly.
4. Inspect each component for damage, notify shipping company immediately if damaged, report any shortages to customer service.
5. Place the Monitor on the console top, secure with the sliding fasteners.
6. Remove the back panel from the rear of the console as shown in Figure 2.
7. Place the desktop PC into the top console shelf from the front.
8. Place the keyboard and the mouse on the sliding drawer. Feed the cables through the hole in the middle of the drawer. Secure cables to underside of drawer with plastic cable ties.
9. Place the printer in the bottom console drawer. Install toner cartridges and paper.
10. Route cables from each of the above peripherals to the rear of the PC. Refer to the drawing detail in Figures 2 and 3 for proper cable connections.

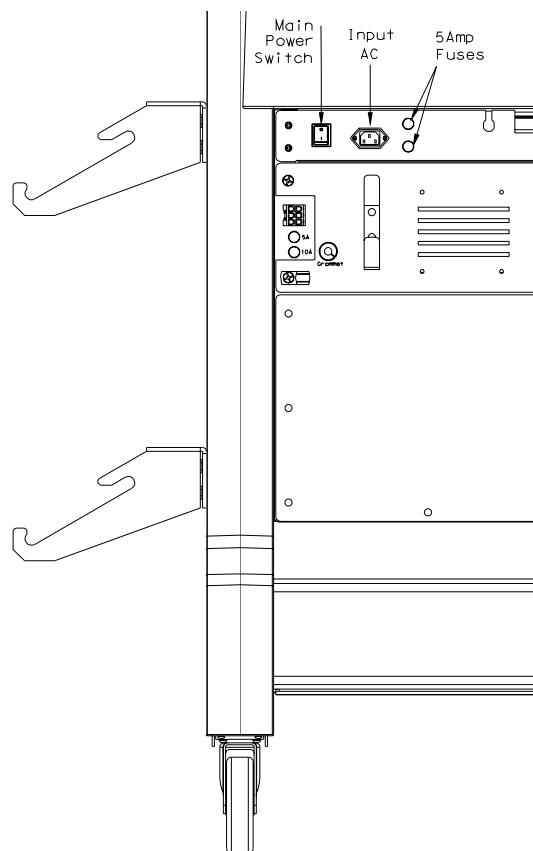


Figure 2 - Console rear view with PC access panel attached

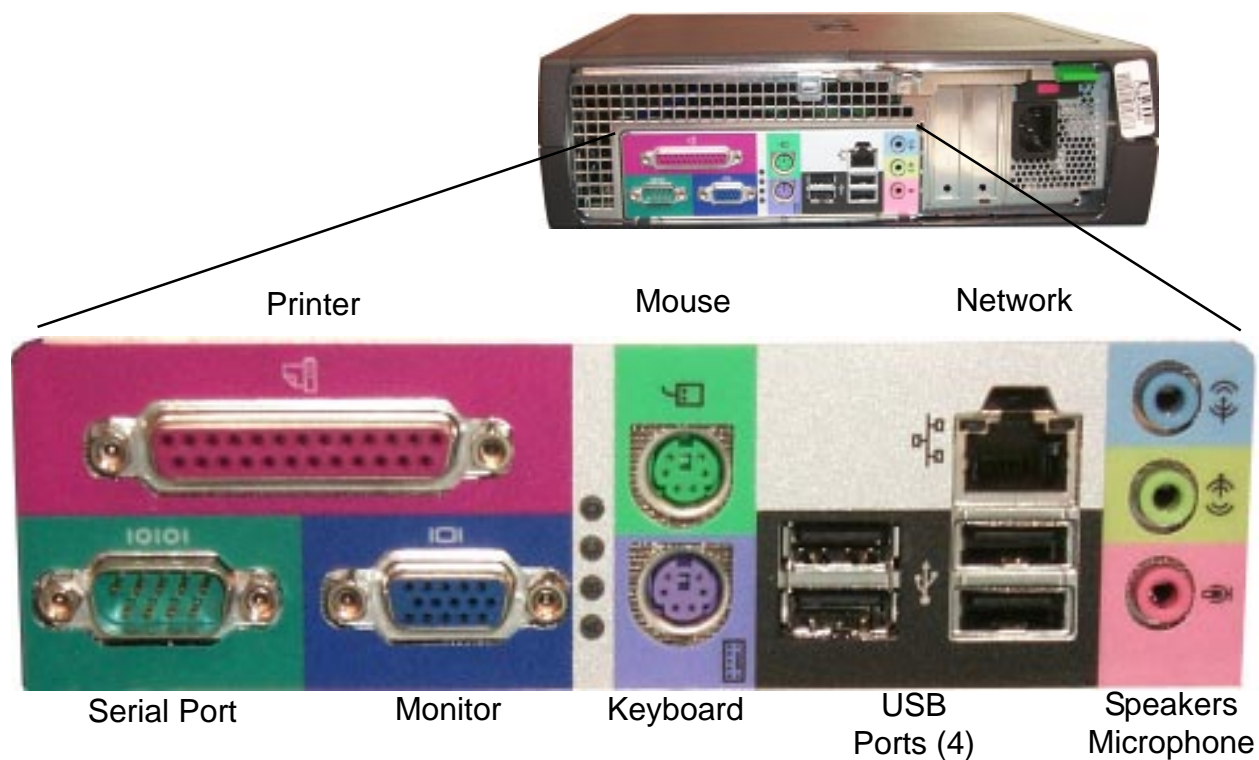


Figure 3 - Rear view of PC

NOTE: Check interconnect harnesses and cables before applying powering to PC. Using the Console to View Camera Assembly Instructions

Once the Console is assembled, the PC can be booted and software configuration finalized. Verify proper PC operation before reattaching rear panel.

QUALIFY THE SITE FOR INSTALLATION

The Pre-Installation checklist was created primarily with sales personnel in mind, however it can be used as tool to verify bay conformance to requirements. Below are some key issues to consider for a successful installation. See Figures 4 and 5 on pages 8 and 9 for a typical bay layout.

Power Source

115 volts AC, 15 amp noise free dedicated service, assure a good ground

Rack integrity:

Is the rack/lift safe, are the lock mechanisms secure?

Check for runway coplanar at all heights

Is rack relatively level? - for ease of rollback

Turntable condition - free from binding, do they exhibit good rotational stability

Rollback requirements - is a kit required - acquire if necessary

Is the field of view conducive with imaging alignment (no obstructions)

Floor integrity:

Will the floor adequately support the rack, has a core test been performed?

Is the concrete properly cured?, new flooring should be cured at least 28 days

Are there any pipes, or wiring under the floor that could be drilled into?

Will the floor flex, crumble, are there expansion joints?

Environmental concerns

Inspect the area for heaters, reflections, adjacent machinery, fans, RFI etc.

Space requirements

Can the **Camera face** be positioned from the **Turntable** a distance of 80" to 114" (measured from the front mounting hole in the base plate to center of TT)

NOTE: Camera face is on the same vertical plane as the front base plate hole

Adjacent Power Noise

Look for motor noise/hash, shared processors, RFI

Ergonomics

Can the operator move about freely to work safely and view the CRT?

Will the movable camera beam feature be utilized in the installation?

INSTALLATION BASELINE LAYOUT

These instructions assume a lift or rack is being used as the alignment surface. If the floor is to be used, identify the spot where the turntables will rest, and base measurements from that spot. Reference *Installation Dimensions Worksheet 1* for the following steps.

1. Determine the **Lift Centerline**. Measure between runways front and rear and mark midpoints on both. A mark can be made forward of the lift by placing one end of a string at a spot on one side of the lift, placing a marker on the other end of a string, and scribing an arc forward of the lift across the centerline. Repeat scribing an arc from the same spot on the other side of the lift. The intersection of the two arcs is the lift centerline. Use a chalk line to snap a centerline between the marks, and project out at least 114 inches in front of the rack, or to the shop wall if closer. See *Figure 5*.
2. Determine the **Turntable Centerline** by raising the lift to the predetermined alignment height. Use a plumb-bob from the center of the turntable and mark a spot on the floor next to each turntable. Snap a chalk line through the marks to establish the centerline. Use the plumb bob on the outside of the turntables to mark a center spot on the floor on the outside of each runway. See *Figure 5*.
3. Determine the **Turntable Height** (the normal operating height of the rack). On a multilevel lift (i.e. parallelogram) put an average size car on the lift and raise it until the alignment technician feels comfortable performing wheel turns, rolling the vehicle back and forth, and making toe/camber adjustments from underneath. On other lifts/racks (such as a hoist rack) it is necessary to use the leveling leg height. Typical turntable height is from 30" to 36". See Figure 4, page 8.

Measure the distance from the floor to the top of the lift turntables, record this value in the worksheet as TURNTABLE HEIGHT, measurement "A"

If the user will be operating the Ultra™ without the moveable beam option you may want to mark this height position so it is easy to raise the lift to this chosen height later – this is the height the operator must use when performing alignments. One way is to hang a chain from the lift so it hangs just off of the ground when the rack is at alignment height – this should be visible from the lift operation controls.

4. Determine the **Installation Baseline**. The Ultra™ camera supports must be installed a minimum of 80 inches (2032 mm), and no greater than 114 inches (2896 mm) from the center of the turntables to the front bolt hole of the support base. Measure the distance desired within above parameters from the turntable centerline forward at two locations and mark these points. Snap a chalk line on the floor through these two points. This is the **installation baseline** used to locate the front base anchor bolt. (See *Figure 5*). Record this distance in the ***INSTALLATION DIMENSIONS WORKSHEET*** shown on page 7.

INSTALLATION DIMENSIONS WORKSHEET

Use the following table to enter measurements determining fixed height (rigid support) camera beam.

- 1) Distance between the ground and the turntable top with the lift at preferred working height:

TURNTABLE HEIGHT = (A) _____

- 2) Distance from turntable centerline to the Installation Baseline: (Maximum = 114", Minimum = 80")

TABLE 1

<u>BASELINE DISTANCE*</u>	<u>CAMERA OFFSET HEIGHT (B)</u>
If at 80" (min)	29"
If at 90"	31"
If at 100"	33"
If at 114" (max)	35"

* Use the setting closest to actual

DESIRED CAMERA OFFSET = (B) _____

NOTE: RAISE LIFTS/RACK TO THE PREFERRED WORKING HEIGHT BEFORE MEASURING

- 4) Determine Camera Height (Add)
- | | |
|---------------------------|----------------|
| (A) Turntable Height | _____ inches |
| (B) Camera Offset | + _____ inches |
| (C) Overall Camera Height | = _____ inches |

NOTE: When installing a rigid support system, the process of final vertical adjustment of the camera beam will be at the completion of installation by using the live camera view utility.

NOTE: Baseline distance is measured from the front baseplate hole, which is on the same vertical plane as the camera face, to the center of the turnplate. Consider also the distance from the front hole (camera face) to the rear of the baseplate assembly to allow for mounting against a wall or other bay obstruction. See Figure 5 for detail. The Distance from the camera face to the rear of the baseplate is 10.5 inches if a rigid support is used. Add 13 inches minimum if a movable beam is to be installed.

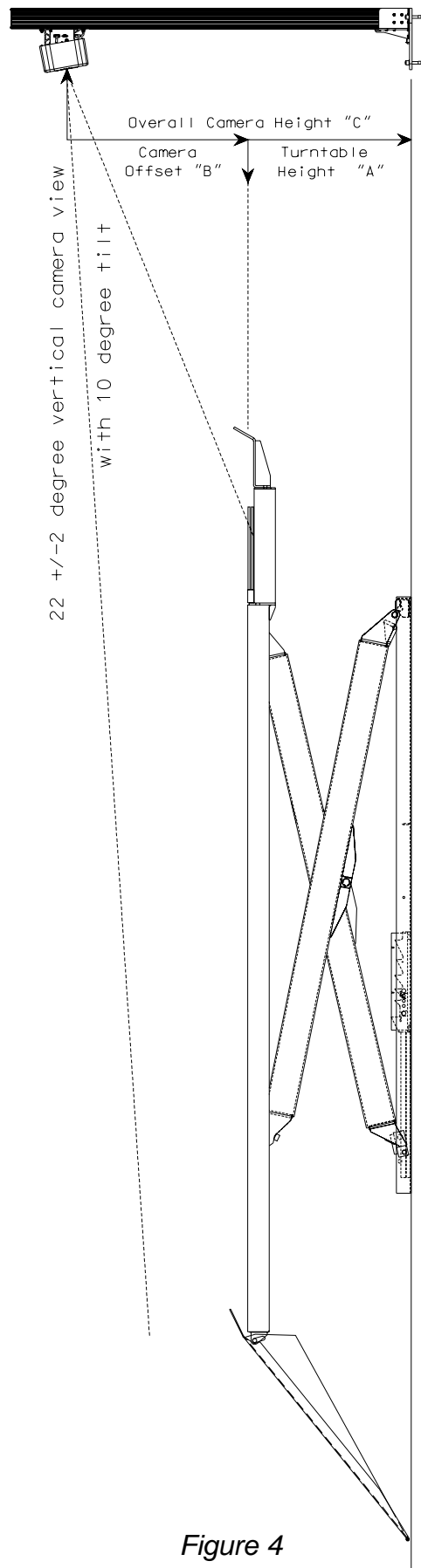


Figure 4

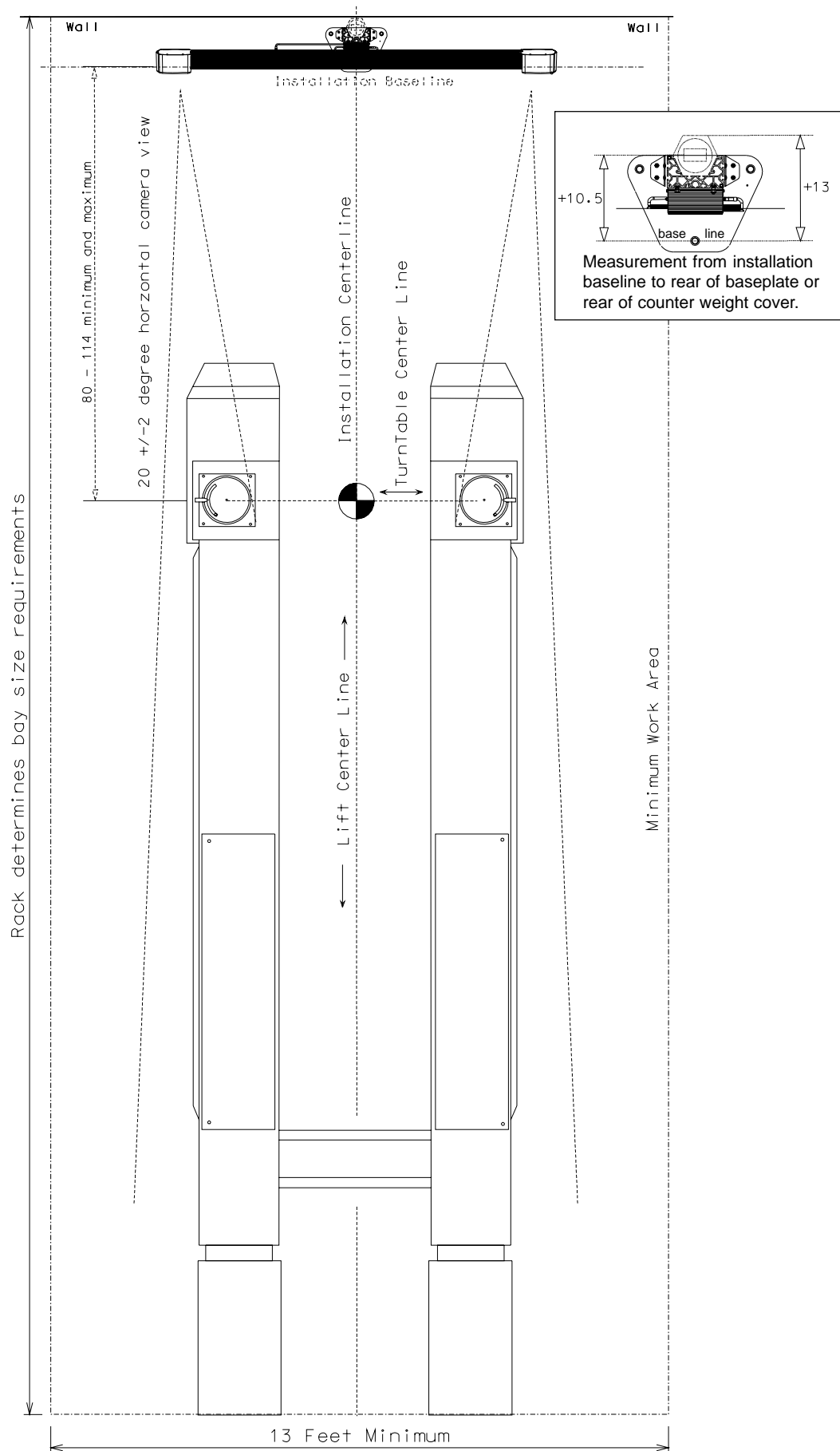


Figure 5

SUPPORT BASE ASSEMBLY

The support base assembly is shipped pre-assembled, however in the event component assembly is required follow these instructions for proper procedures.

1. Loosely assemble eight (8) T-nuts onto the support bracket. Note the location of nut extrusions, they should face away from the support. Refer to Figure 6 for orientation. Do not tighten screws at this time.
2. Mount Support Bracket/T-nut assembly onto base plate as shown in Figure 6 and secure using seven (7) 5/16-18 cap screws. Snug but do not tighten, hardware will be tightened when support column is placed onto the base.
3. Position column/base assembly onto floor and square up with the installation baseline and lift center line using measurements made earlier. Refer to Figure 5 on Page 9 for layout detail. Using a marker, mark the front anchor hole location.

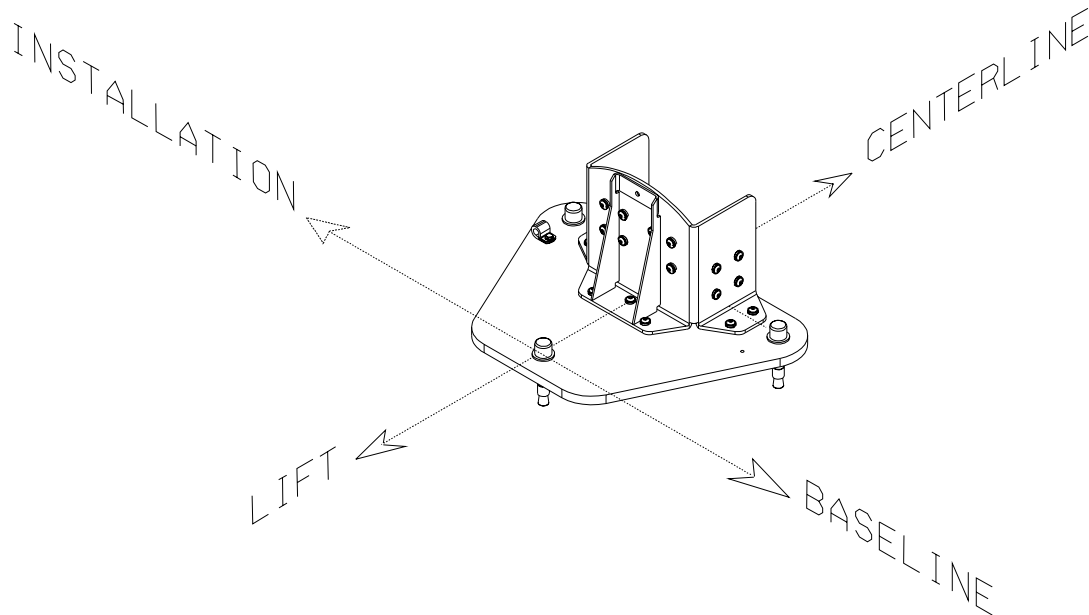


Figure 6

4. Using a rotary hammer drill equipped with a good 1/2 x 12 inch bit, bore the front hole carefully. It is generally a good idea to drill all the way through the slab so that if the anchor must be removed later, it can be driven through the concrete and into the ground below. Clear debris before proceeding.

HINT: Bore only the front anchor hole, tap in an anchor bolt, then bore remaining holes

NOTE: Do not pound anchors into holes. Excessive pounding will deform the anchor bolts and make future service difficult.

HINT: Pour a small amount of water into the hole as it is being bored to significantly reduce concrete dust. Use a shop vacuum to clean area before proceeding.

!! DO NOT BOLT DOWN BASE PLATE AT THIS TIME !!

5. Slide vertical support column downward onto the support/base assembly. Tighten support to column screws firmly followed by tightening the support to base screws.

ATTACHING THE CAMERA BEAM - SINGLE COLUMN RIGID SUPPORT

1. Loosen the anchor bolt nuts and lay the single support column and base assembly on its front supported near the top by 7a box or chair.

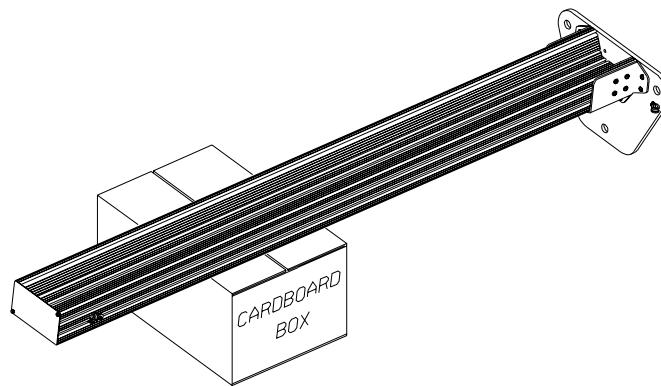


Figure 7

2. Pre-assemble hardware to the beam mounting block as shown in Figure 8. Use one (1) 5/16-18x1.0 inch carriage bolt, one (1) flat washer, two (2) flexible washers, one (1) spacer washer and one (1) ESNA nut in each of the four mounting holes.

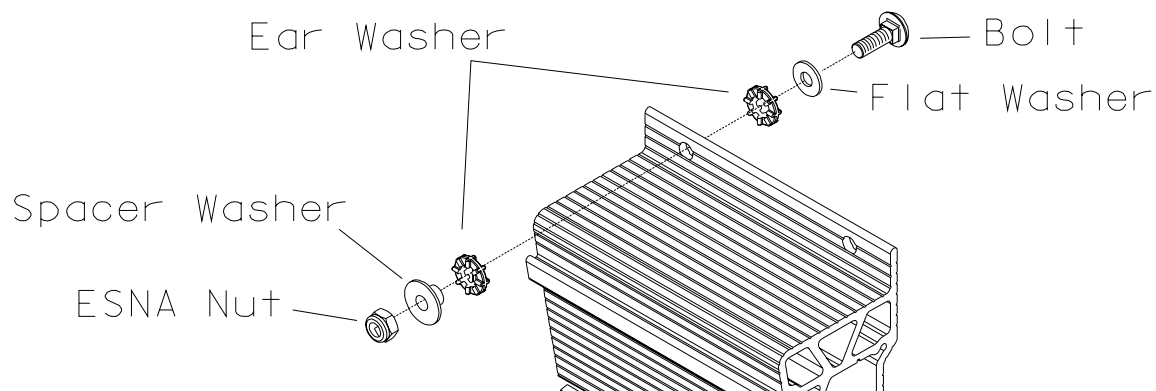


Figure 8 - Block shown without camera beam attached for clarity

2. Slide the camera beam mount into the mating slots of the support column. Slide about three fourths the way down the column for now. Snug the two top ESNA nuts temporarily. This will make it easier to tilt the the column/beam assembly into place and onto the anchors in the next step.

-
3. Install the top cover plate onto the support column using two (2) 10-24x3/8 self tap screws. Requires a 5/16 socket or nut driver. See Figure 9.

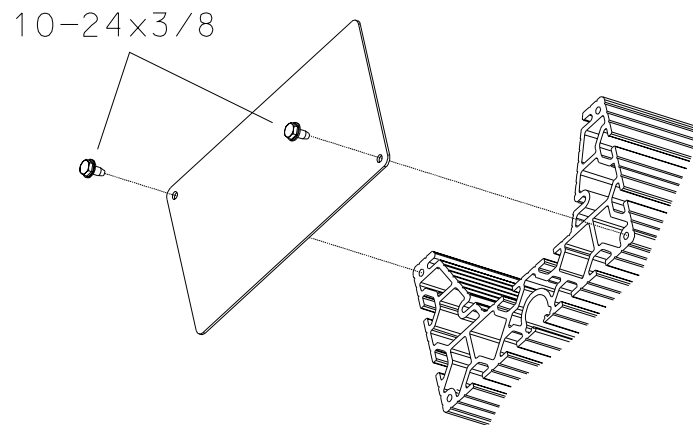


Figure 9

4. Raise the support column and beam assembly onto the anchor bolts, snug nuts firmly.

NOTE: Support and beam assembly may require final aim (squaring) once camera view is available. Final Leveling of the support and squaring of the camera beam will be performed once camera view is possible.

5. Raise the camera beam to the desired height as recorded earlier in the *Installation Dimensions Worksheet*. Use a torque wrench with a 1/2 inch socket to tighten all four ESNA nuts to 40-50 in-lbs torque. Figure 10.

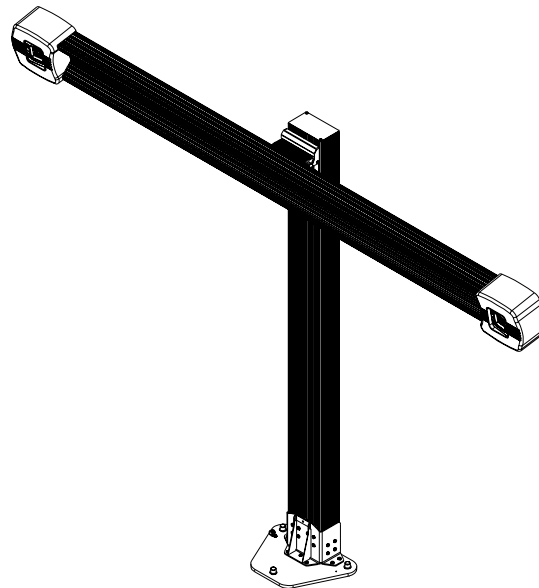


Figure 10

NOTE: The ESNA nuts must not be overtightened. The purpose of the ear washer is to attenuate vibration of the beam. The spacer washers are used to prevent excessive crushing of the “ear washers”.

6. Install the upper and lower bracket covers onto the beam mount as shown in Figure 11. Loosen the hardware securing the communications board end plate, slide the covers under the 10-24x3/8 self tap screws. Requires a 5/16 socket or nut driver. Make sure the covers do not contact the vertical support beam. The beam will “float” on the ear washers.

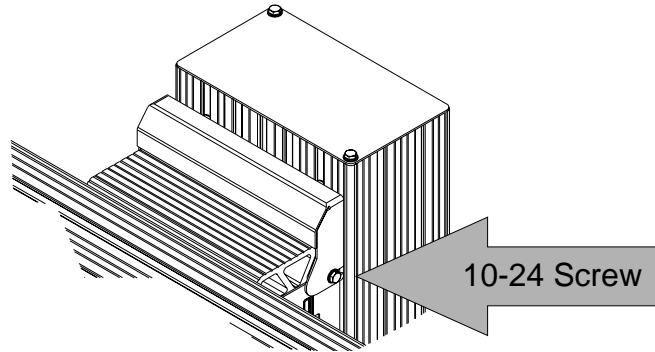


Figure 11

DUAL COLUMN SUPPORT ASSEMBLY

1. Install the two dual posts up to a distance of 85 inches of separation (measure from the outside of one post to the outside on the other post). Ensure that both posts are aligned one to another in all planes.
2. This is the time to change the height of the pre-installed post's brackets if there is a need. Loosen the retaining nuts and slide the brackets down to the new height making sure that both brackets are equal in height to one another.
3. Remove the camera covers and slide one of the dual tab 5/16 threaded plates into the rear most channel of the bottom of the camera beam assembly for both ends.
4. Measure the inside distance between the left post's mounting bracket, and the right post's mounting bracket. Subtract this distance from 105 inches (length of the camera beam) and then divide the answer by 2. Take the resulting answer, and for the left hand side subtract 2.875 inches. Do the same thing for the right hand side but only subtract 1.875 inches. (EXAMPLE: For a setup, where the left post's outside surface is 85 inches from the right post's outside surface, would make the inside distance from the left post's bracket to the right post's bracket at 73.25 inches. Now subtract 73.25 inches from 105 inches and divide this number by 2 equals 15.875 inches. For the left end of the camera beam subtract 2.875 inches from 15.875 inches to obtain a distance of 13 inches. For the right end of the camera beam subtract 1.875 inches from 15.875 inches to obtain a distance of 14 inches.)

-
5. Set the far most left hole of the dual tab plate for the left end of the camera beam at this distance (13 inches simulated), and lock the plate down with the 5/16 X 3/8 FBCH screw provided. Set the far most left hole of the dual tab plate for the right end of the camera beam at this distance (14 inches simulated), and lock the plate down with the 5/16 X 3/8 FBHC screw provided. See picture below
 6. Install the 5/16 x 5/8 FBHC screw plus flat washer and lock washer in the remaining unoccupied hole in the dual tab plate for both plates. Leave these screws barely screwed into to the plates.
 7. Lift the camera beam assembly up onto the 10 angle ledge of the post's brackets sliding the afore mentioned screw assembly into the keyhole slots in the brackets. Slide the camera beam assembly to the right as far as possible and tighten the afore mentioned screws to secure the camera beam to the post's brackets.
 8. Either let the power cable hang from it's strain relief on the back of the camera beam or route the cable through the lower left channel of the camera beam to the left post.
 9. Remove one screw from the post's top cover plate and loosen the other one to slightly rotate the top cover plate out of the way. Slide in a cable retaining plate and tighten in the best position for the power cable to route through the cable-retaining clip.
 10. Route the cable down through the rear channel in the left post and retain at the base assembly with the available retaining clip (you may want to move the retaining clip installed to the other side if needed).

MOVABLE BEAM INSTALLATION

1. Determine installation baseline and lift centerline as discussed earlier.
2. Place baseplate on floor in the desired position. Mark floor accordingly.
3. Drill holes and tap-in anchors. Do not mount the base plate at this time.
4. Place the lift near the intended installation location such that the bottom will be near its final anchor point.
5. Remove the carriage back cover and tower back cover. See Figure 12.

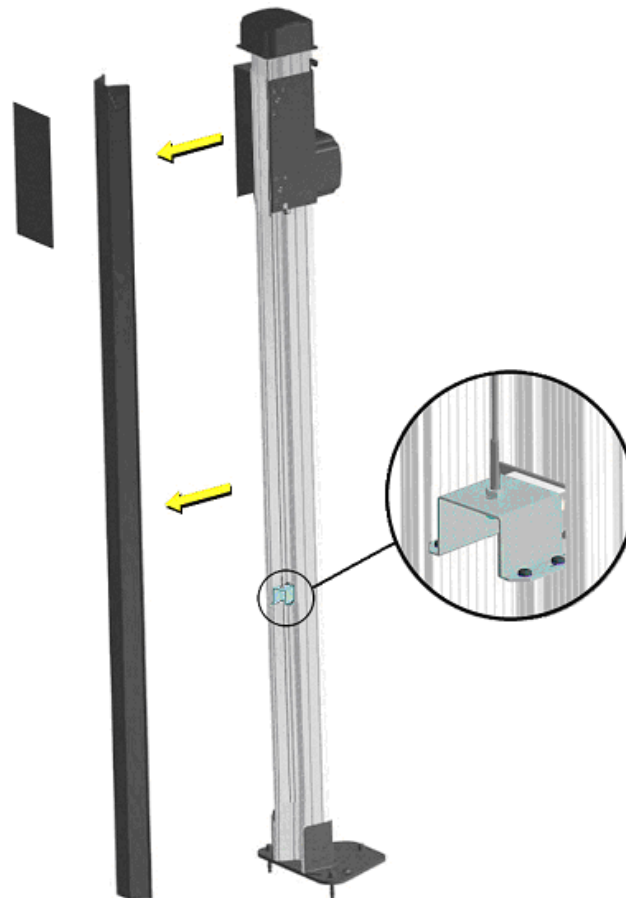


Figure 12

6. Loosen and slide the upper plastic limit stop to the top of the post. Tighten the stop in the upper position.
7. With the tower lying on the floor face up, attach the base plate to the bottom of the support tower.
8. Position the black motor carriage at its lowest position on the tower.
9. Unpack the camera beam and position it on the black carriage. Secure to the carriage with 4 bolts and lock washers. Take care to not pinch the interface cable beneath the camera mount.

-
- 10 Connect the motor interface cable to the hub board beneath the center of the camera beam mount. Verify the connector locks in place.
 - 11 Lifting from the top of the tower, raise the assembly to its upright position.
 - 12 Slide the assembly into its final position in front of the vehicle lift. Secure anchor bolts. Anchor bolts may be loosened for final aim and support leveling later.
 - 13 Raise the camera beam by lifting on the camera beam at the center. Do not lift by the motor cover.
 - 14 Insert the provided rubber T-bolt stop as you get the beam to chest height to hold it in position. Continue to press the camera beam upward, stopping as close to the tower top as possible. Secure the beam in this raised position with the rubber T-bolt.
 - 15 Remove the 100-lb counter weight from the carton. Also remove the wooden counter weight pallet from the carton for use in weight assembly placement.
 - 16 Attach the lower bracket to the bottom of the counter weight with (4) screws and lock washers. See Figure 13.



Figure 13

- 17 Position the weight near the back of the post.
- 18 Position the wooden weight pallet on its side and insert one end into the cavity at the rear of the tower such that the 2x4 block is inside the cavity and resting on the base plate.

- 19 Straddle the wooden weight pallet and lift the counter weight to a position resting on the 2x4 block. See Figure 14.

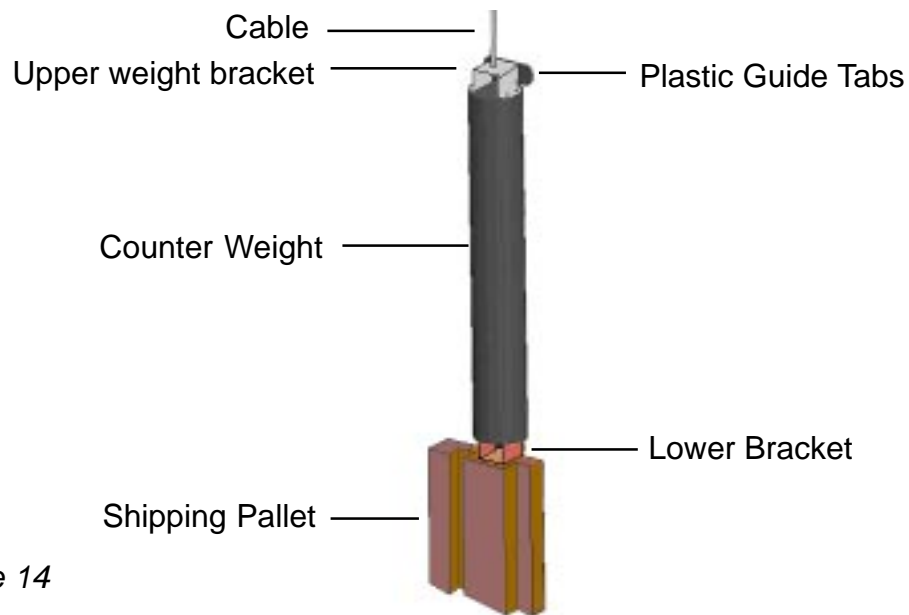


Figure 14

- 20 Rotate the plastic guide tabs of the bottom weight bracket into the slots within the tower rear cavity. See Figure 14.
- 21 Remove the upper weight bracket from the tower slots and attach the counter weight to the bracket with (4) #10-32 x ½ screws and lockwashers (use Loctite 222 or equiv.) See Figure 14.
- 22 Press the plastic tabs of the upper weight bracket into the slots within the tower rear cavity. The weight should now be secured by all (4) plastic tabs.
- 23 Move around to the front of the tower and push up on the camera beam and remove the rubber T-bolt. Slowly let the camera beam move downward until the slack is removed from the counter weight cable.
- 24 Ensure the lower plastic stop is secured in its proper position at the end of the gear rack on the front face of the tower. See Figure 15.

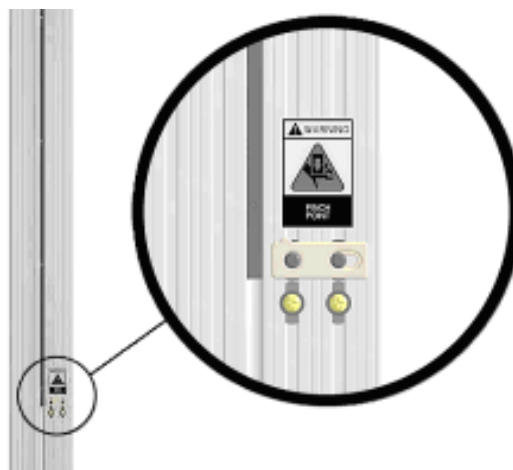


Figure 15

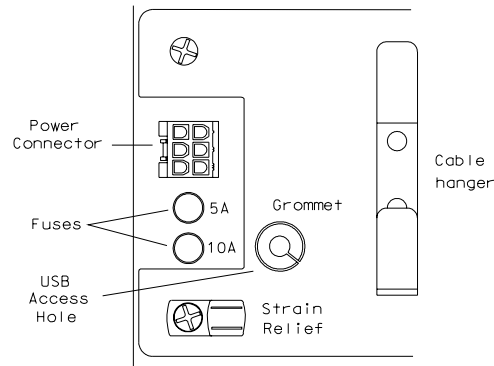
25 Move the camera beam to its lowest position to install the post plastic back cover.

25 Attach the carriage cover with (4) screws.

CABLE CONNECTION

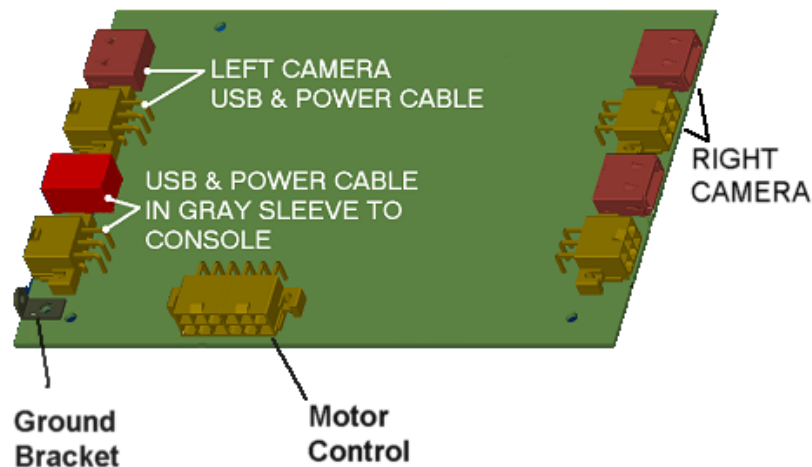
1. Locate the gray sheathed power and interface cable assembly. Attach the power connector to the receptacle on the rear of the console. Route the USB cable through the grommet then to the rear of the PC. *NOTE: Grommet may require cutting.* Secure cable to rear of console with the strain relief. See Figure 16 below.

Figure 16



2. Secure the beam end of the power/USB cable to the camera beam strain relief. Connect the power connector to the communications board. Connect the USB connector to the USB input port. See Figure 17 below.

Figure 17



NOTE: Recheck all connections for mechanical and electrical integrity

3. Route main power/USB cable down left side of the vertical support by inserting cable into one of the support channel for stationary models. Secure the cable to the left side of the lift carriage housing for movable units.
4. For Movable units, remove the black plastic motor housing. Locate the motor power cable and connect to the Motor Control connector shown in Figure 17.

SYSTEM START-UP AND CAMERA AIM

1. Power up the console and monitor and follow directions for initial software setup if not already completed during console assembly. Software loading and initialization instructions are part of the console assembly.

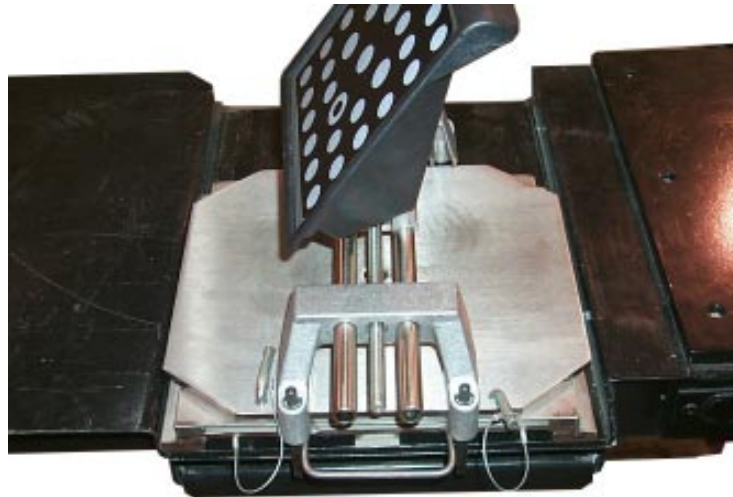


Figure 18

2. Clamp the front targets to the turntables making sure they are centered on the turntable. Move the left turntable-target assembly out until a portion of the front target can be seen in the left camera view screen (Figure 20). Mount the right front target on the turntable and move the assembly out to the same distance from the rack centerline as the left turntable-target assembly.



3. Set the rear targets as far back on the lift as is reasonable (Figure 19). Make sure they are equal distance from the lift centerline and the target clamps are square to the lift. The clamps should be spread equal distances and the rear targets should be equal distances from the front targets. Raise the lift to the user preferred alignment height. (Same value as used for calculating camera offset in the installation worksheet)

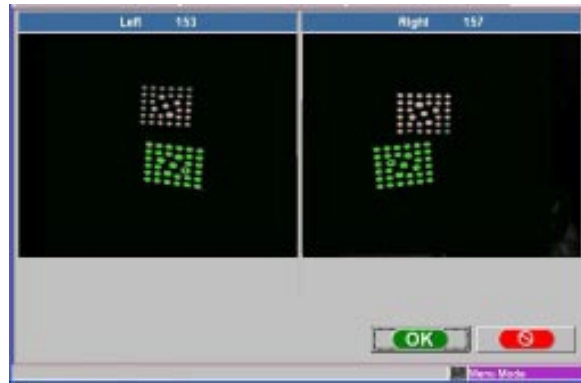


Figure 19

4. Navigate to the “Camera View” screen under the Maintenance Tab, see Figure 19.
5. Adjust the camera beam up or down so that the camera view distance from the top of the rear target to the top of the view window is the same as the distance from the bottom of the front target to the bottom of the view screen (Figure 19).
6. Pivot the beam base position as required to center the images side to side. Make sure the vertical support and camera beam are level and square. Tighten base anchors to approximately 50 ft lbs.

NOTE: DO NOT MOVE OR ADJUST INDIVIDUAL CAMERA MOUNTING BRACKETS. IF A CAMERA VIEW REQUIRES ADJUSTMENT, THE VERTICAL SUPPORT SHOULD BE PIVOTED.

RELATIVE CAMERA POSITION (RCP) IS FACTORY PERFORMED, IF CAMERAS ARE DISTURBED RELATIVE TO EACH OTHER, FIELD RCP MUST BE COMPLETED PRIOR TO TURNING THE UNIT OVER TO THE CUSTOMER.

7. Position a vehicle on the rack and perform a Target ID on all four targets.

NOTE: Target ID is required upon installation. If a target is replaced or serviced for some reason, ID should be performed again on that assembly.

SYSTEM TRAINING

Spend time with our new customer going over the software flow and operation of his new system. A few minutes here will save hours later for both you and the technician. Things to cover are outlined but not limited to the items below:

- ⇒ System features and specifications
- ⇒ Proper system start-up and shut down
- ⇒ Windows operation (if he has a desktop mode activated)
- ⇒ Software navigation
- ⇒ Setup, system interaction, preferences, features
- ⇒ Using Wizards
- ⇒ Perform an alignment
- ⇒ Navigation of the Ultra™ Pro32 software features

ULTRA MOVABLE OPERATION INSTRUCTIONS

The movement of the camera beam is controlled from the aligner console keyboard. The lift drive mechanism is electronic and gets its power from the camera system; therefore no separate AC power connection is required. The Ultra camera lift interfaces directly to the Ultra camera system central hub board, so the interface between the aligner console and the camera system is the same as that on a fixed height Ultra camera system.

The lift controls are accessed by first pressing and holding the <CTRL> and <ALT> keys.

Then pressing and holding the up <↑> or down arrow <↓> on the keyboard will move the camera lift up or down respectively as long as the keys are pressed or until the camera beam reaches the upper or lower stops.

Releasing the keys will stop the camera beam motion.

When the keys <CTRL><ALT><↑> or <CTRL><ALT><↓> are pressed, the system will automatically display the camera view screen to aid the operator with proper positioning of the cameras.

If “Automatic Screen Advance” is enabled in Preferences/User Interaction/Features, the camera view screen will close after the “Timeout” period set for automatic screen advance. Otherwise pressing the “OK” or “Cancel” buttons will close the camera view screen.

While in camera view, pressing the up arrow <↑> or down arrow <↓> alone will move the camera beam in the corresponding direction.

Camera beam movement is available from anywhere in the aligner software. In addition, a new shortcut key has been added to access camera view. Simply pressing the <→> key on the upper right of the number keypad will access the camera view screen. See *Figure 19*.

Note: Some computer systems may use the <CTRL><ALT><↑/↓> sequence to rotate the video display. In this case, the screen rotation must be disabled within the display properties of the graphic driver in Windows before using the Ultra Camera Lift.

The camera lift may also be controlled from the wireless remote control. Pressing the <*> key on the remote control will activate the camera view screen. While the camera view screen is displayed, pressing the <↑> or <↓> on the remote control will move the camera up or down respectively while the key is held. The same operation with regards to automatic screen advance applies for the remote control operation.

The electronic drive system is designed to automatically stop when the upper and lower limits of its travel are reached. It will also stop if travel is interrupted in either direction, such as lowering it on top of the console or other object.

NOTES:

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