Panoura 18S with Ceph
Installation Quick Guide

12/22/23

Summary

These instructions serve as supplemental assembly guidance of the Panoura. They are not meant to replace the installation manual, but rather serve to complement it.

The full installation manual can typically be found on the desktop of the acquisition PC or on the imageworkscorporation.com website

If there are any questions, please do not hesitate to contact us

914-592-6100

Agenda

1. **Division of Responsibility**
2. **Packaging Contents**
3. **Tooling Required**
4. **Install Handswitch**
5. **Install Column**
6. **Hang C-Arm**
7. **Attach Ceph Arm**
8. **Attach Chinrest**
9. **Insert Side Covers**
10. **Insert Center Panel and Mirrors**
11. **Final Leveling Check**
12. **Connecting PC and Handswitch**
13. **Attach Head Support**

1. Division of Responsibility

Operator Responsibilities before installer arrives
- Floor is level
- Desired location for equipment is identified and has adequate space*
- Location has adequate power and data sources*
- Scanner PC is connected to Internet and imaging software loaded
- Location for PC/monitor identified and any specialized PC/monitor mounting or shelving is complete
- Conduit and pull cables installed at any location where wiring is desired behind walls
- Location of handswitch identified within appropriate distance*

Installer Responsibilities
- Column is secured to the floor and to the wall
- Column is straight up and down (checked with level)
- C-arm is hung on column and unit is assembled
- Top of C-Arm frame is level
- Handswitch is hung in desired location with cabling run and connected to the unit
- Ethernet cable and serial cable are run and connected between unit and PC
- Double check of packaging for missed items**
- Disposal of packaging
- Wall and area are clean and aesthetics are pleasing to the office

ImageWorks Responsibilities
- Alignment and Calibration
- Assemble all covers
- Final Testing and Quality Assurance
- Staff training

refer to pre-install checklist for requirements
**some items are commonly missed in packaging so please inspect thoroughly*

4

1. Division of Responsibility

Work with office to assure PC is ready for alignment and integration:

- Install imaging software that office will plan to use (e.g. Dexis, Eaglesoft, Apteryx, Evasoft, etc)

- PC is connected to network and has internet access

NOTE: These items above will be needed to fully integrate the unit and train the staff. It's recommended to check these items BEFORE starting installation, so that if they are not done, office can work on completing this in parallel with installation.

2. Package Contents

Basic Pan arrives in three boxes containing:

1. Column

2. C-Arm Assembly, Sensor and Components

3. Accessories (including covers and cables)

4. Ceph Arm

3. Tooling Required

- No.2 Phillips screwdriver and short No 2 Phillips

- Allen wrenches (1.5 - 8 mm)

- Box wrench (5.5 mm)

- Open end wrenches (5.5 - 19 mm)

- Wire cutting tool such as wire nippers

- Tool for working with electrical terminals (precision screwdriver, etc.) (flat blade: 3.5 x 0.5 mm)

- Power drill

- Masonry drill bits (4 mm bit for pilot holes, 12.5 mm bit for anchor bolts)

All hardware is metric

7

4. Install the Handswitch

Remove the Phillips pan-head machine screw from the underside of the hand switch box and remove the cover.

Hand switch box cover

Phillips pan-head machine screw
(M4 x L8 with spring and flat washers)
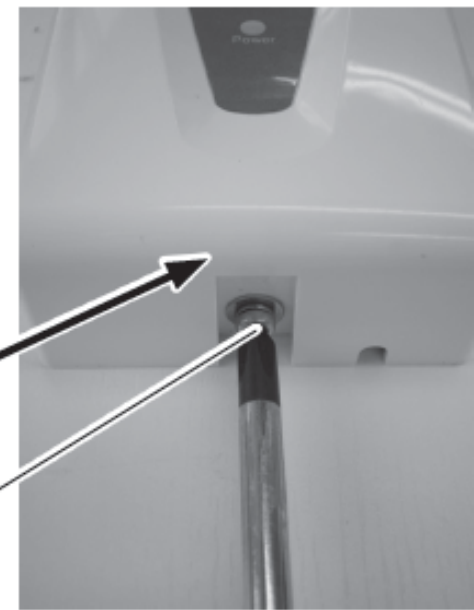
Attach the wall-mounting bracket to the wall so that the hole lines up the metal plate

Secure the cable that runs up the wall to the wall-mounting bracket using a nylon

Nylon clip

8

4. Install the Handswitch

Run the cable so that it stays below the dotted line in the figure on the right (if it runs above the dotted line, it will interfere with the hand switch box circuit board and the cover may not sit flush against the wall.

The distance from the nylon clip to the connector is roughly 85 mm.

Secure the hand switch cable to the wall-mounting bracket using a nylon clip. The cable should be secured roughly 150 mm from the connector.

9
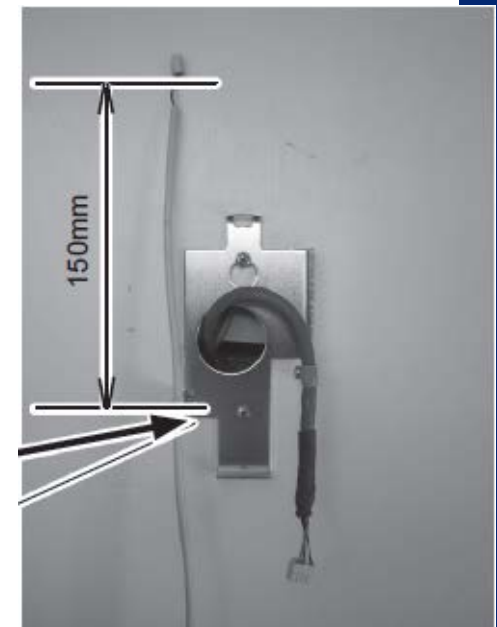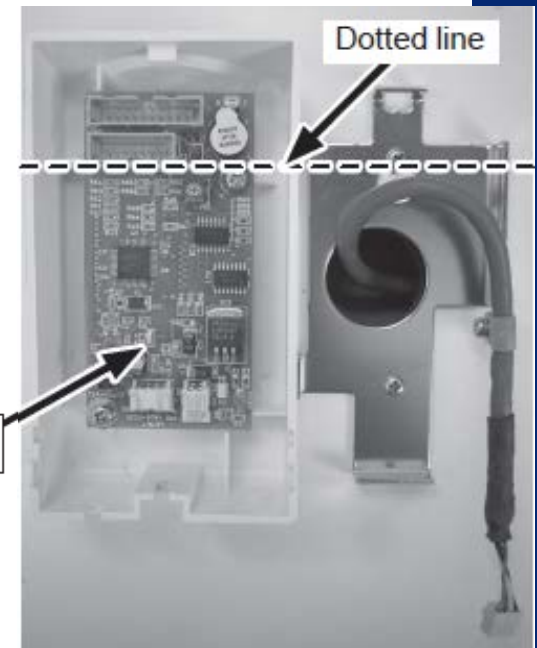
4. Install the Handswitch

Plug the cable connectors into the hand switch box circuit board (Use connectors No.M1 and No.M2.)

Run the hand switch box cables so that they do not overlap when the cover is attached.

Attach the hand switch box cover taking care not to pinch cables by placing screw in the bottom.

Secure the hand switch mounting bracket somewhere close to the hand switch box
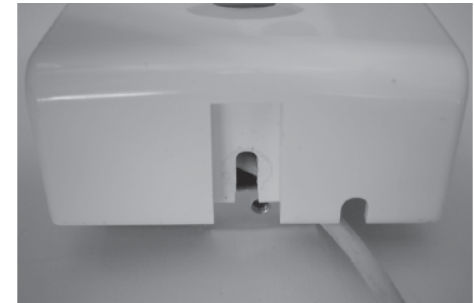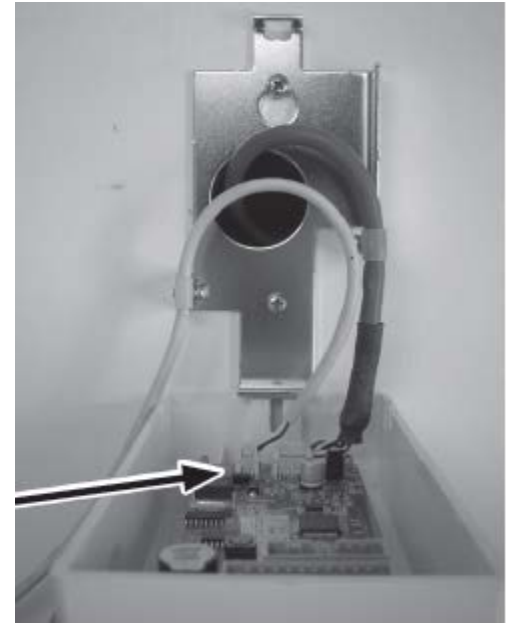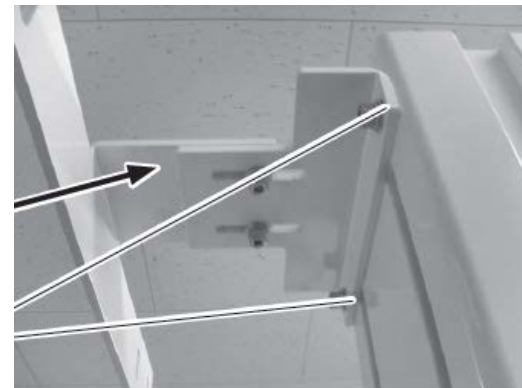
5. Install Column

Unbox the post

Assemble the wall-mounting bracket and secure it temporarily using two Allen bolts
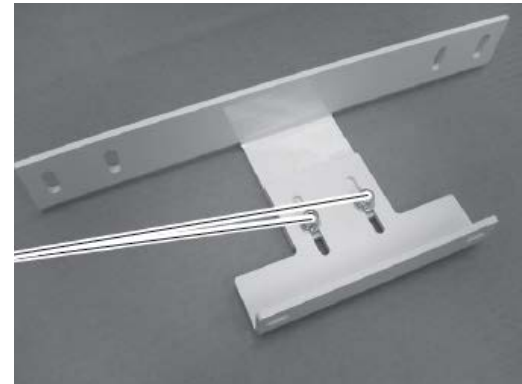
Secure the wall-mounting bracket to the column with two Allen bolts
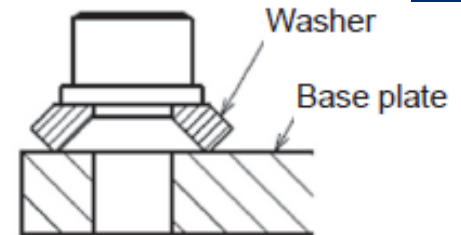
5. Install Column

Determine the location in which the X-era Smart will be installed and then embed the anchor bolts in the fixing locations. Fix the column to the floor using four Allen bolts

Align the anchors embedded in the floor with the locations of the holes in the column.

Washer

Allen bolt   Spring washer   Cap
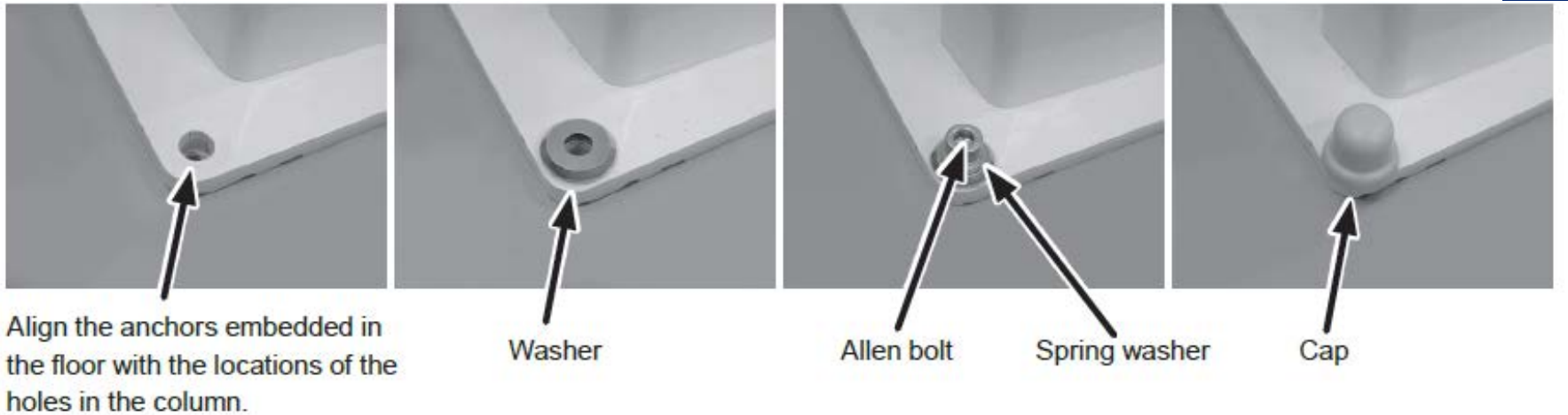
NOTE : Fix the washer making the flat surface upward.

Note: Tapcon Concrete Anchors (3/8" x 3") avail at hardware stores can be used as alternate to supplied floor anchors

Washer

Base plate
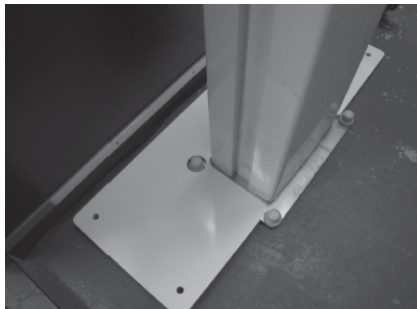
If assembling a Ceph Unit, place the floor positioning accessory plate. Use anchor bolts or coach screws to fix. ***This does not apply to pan-only units.***

12

5. Install Column

Secure the wall-mounting bracket to the wall using 4 anchor bolts or coach screws*.
Don't tighten until leveling has been checked.

* The following coach screws are supplied within the box. Choose the right screws according to the condition of the wall.
- 8 x 38 mm
- 8 x 65 mm

Wall-mounting bracket

5. Install Column

Use a level on the front and sides of the column to check whether the pillar is tilted in any direction.

If any tilt is found, adjust the column angle by loosening the fixing bolts in the wall-mounting bracket and then loosening the floor fixing bolts.

Then adjust the level by slipping the adjustment shims supplied under the column and retightening the bolts.

After confirming that the equipment is level, tighten the fixing bolts in the wall-mounting bracket.

14
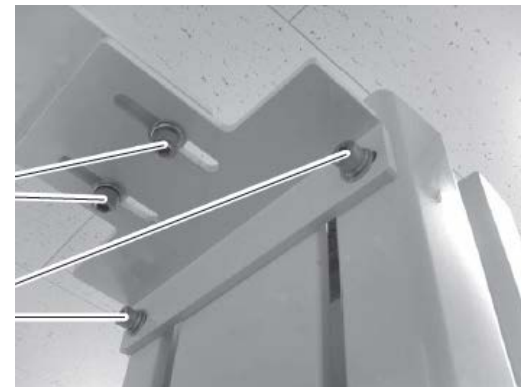
6. Hang C-Arm

Remove box from C-Arm package by removing 4 screws attaching box to skid

6. Hang C-Arm

Remove sensor package and place in a safe location

Sensor

cover of driving unit.

Upper Cover
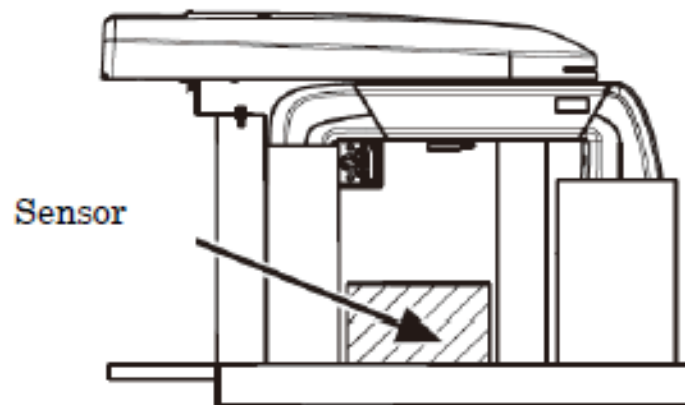
Screws (M

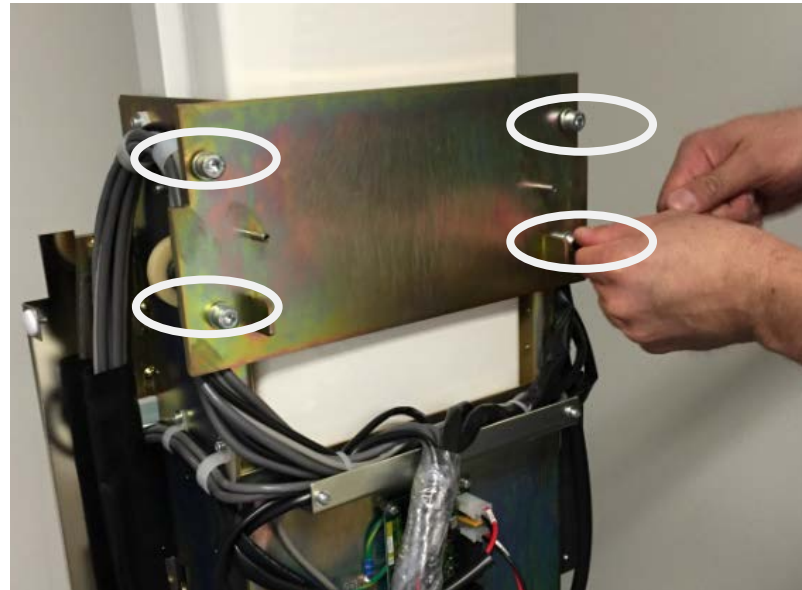Remove top cover from c-arm by removing 4 phillips screws.
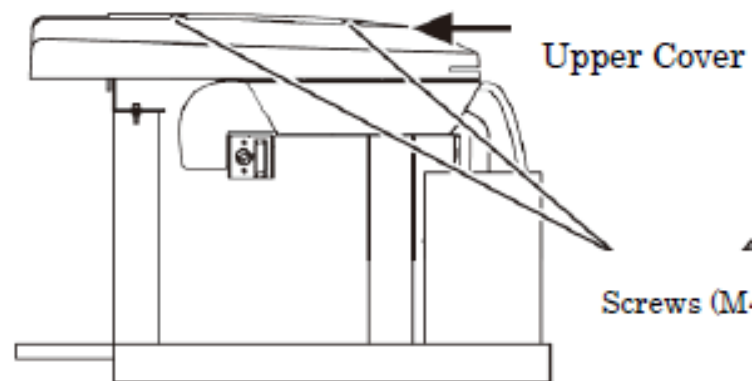
6. Hang C-Arm

Move C-Arm assembly into position in front of post
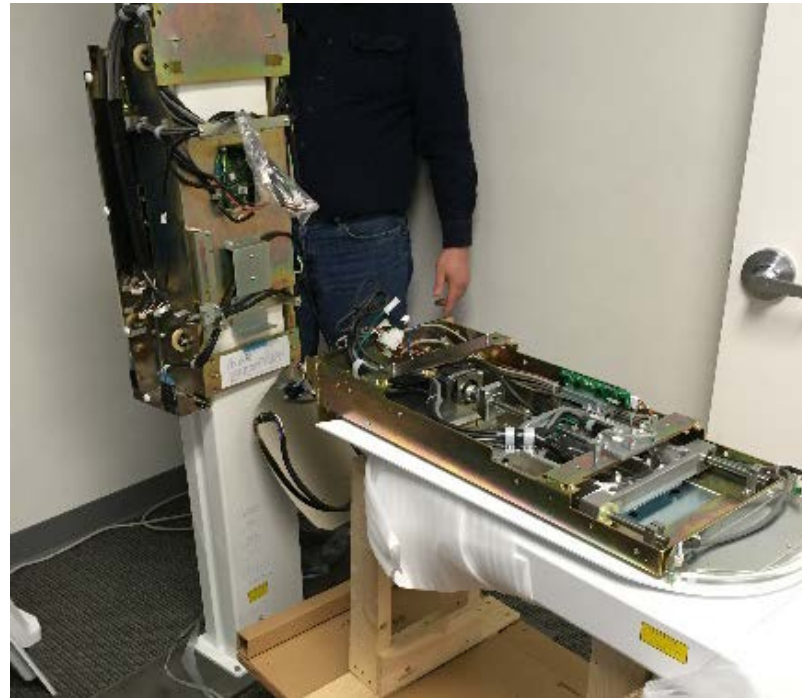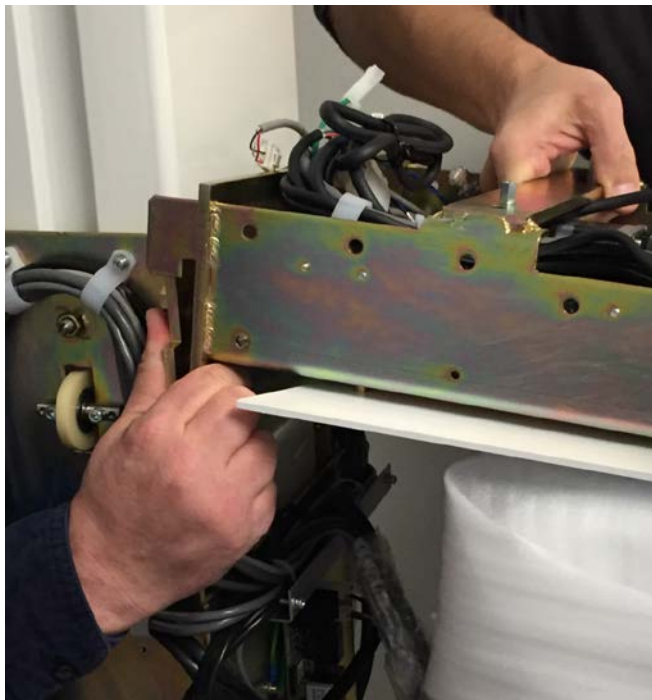
Remove bolts from c-arm chassis bracket

6. Hang C-Arm

Remove bolts that fix C-Arm assembly to wooden frame

**_WARNING: Bolts must be fully removed from chassis to prevent damage upon installation_**

6. Hang C-Arm

Lift up C-arm assembly and place large hook over mating bracket. Two pins and two tabs fit through mating holes (see next slide)

<u>WARNING:</u> Make sure no cables get caught between post bracket and C-arm assembly

6. Hang C-Arm

There are two alignment pins and two tabs on the bracket that fit through mating holes in the C-arm assembly.
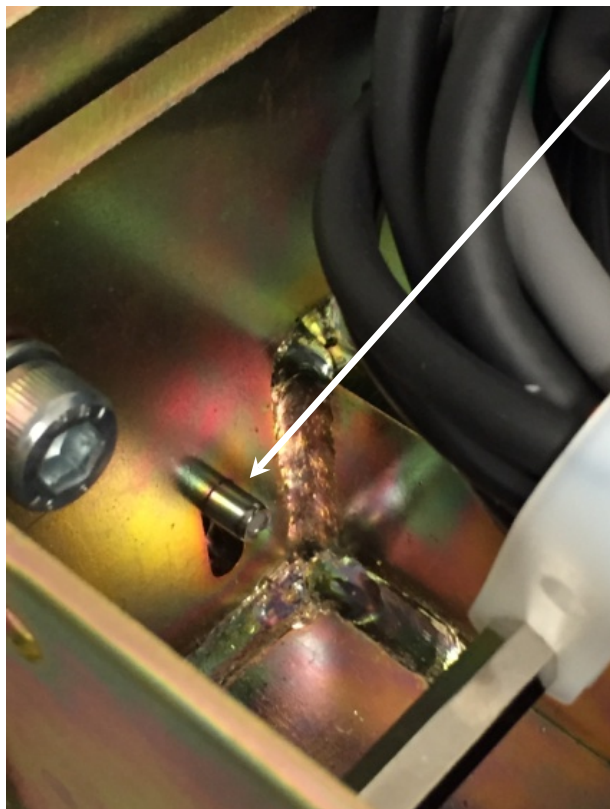
Pin into slot (x2)

Tab into slot (x2)

20

6. Hang C-Arm

- Place and tighten four bolts to fasten C-Arm to Post

- Pull cable assembly up through hole in C-Arm Chassis, and make 7 wiring connections including ethernet cable to hub
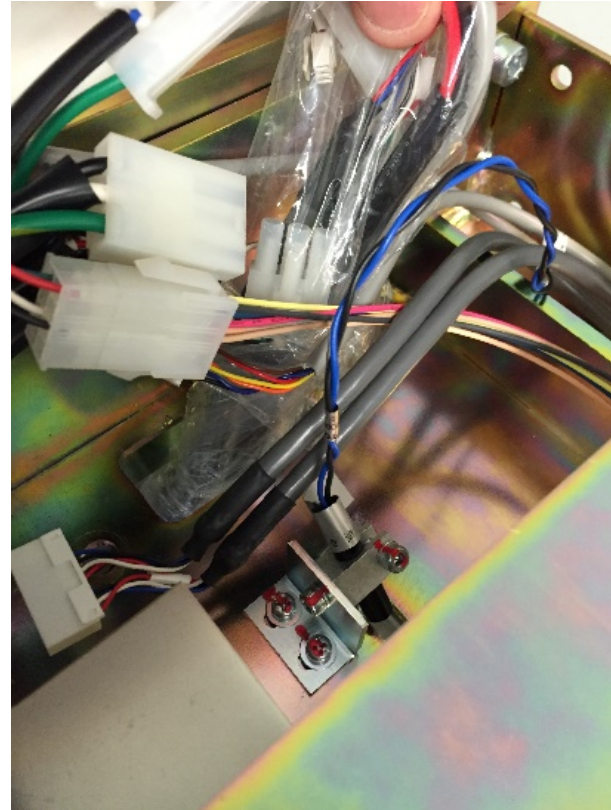
6. Hang C-Arm

Run Ethernet cable down through same hole. Make sure cable is above the support tray (otherwise front panel will not fit).

Route to the operator panel side and connect to the hub (refer to "Attach ceph arm" section)
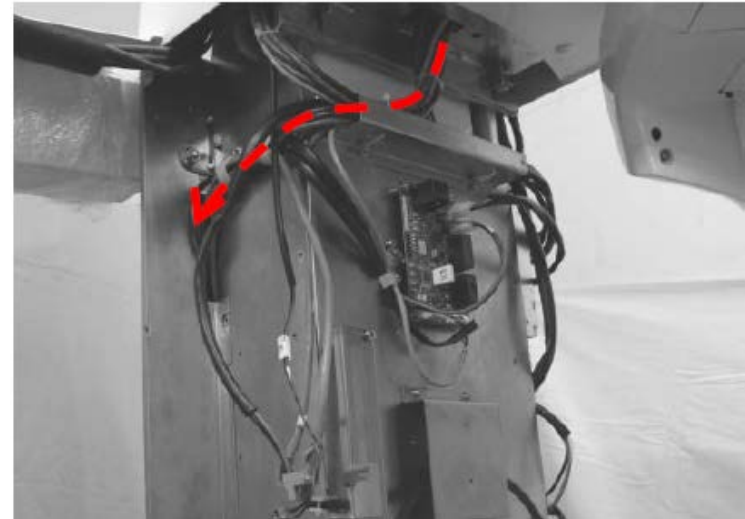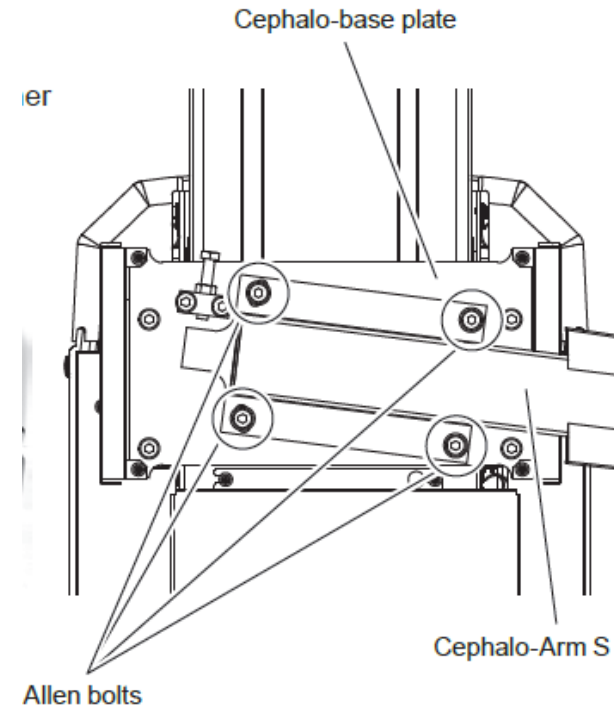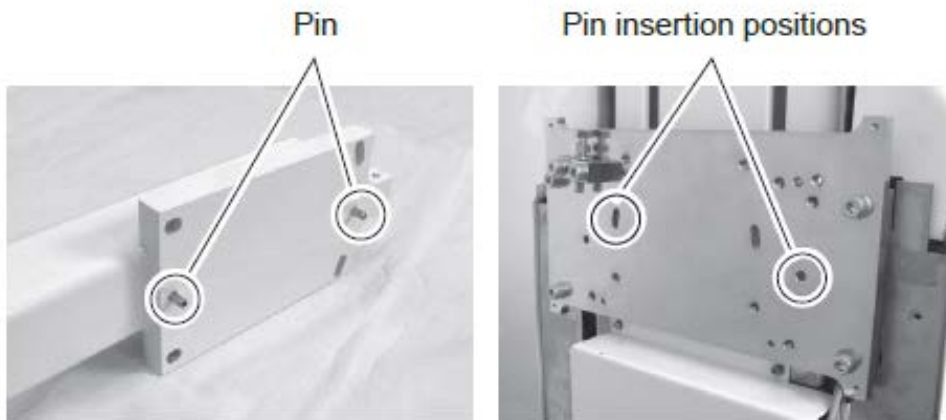
7. Attach Ceph Arm

Please note that to perform ceph alignment, nose piece, secondary collimator, ear rods and covers over ceph attachment bracket will need to be removed - so there is no need to attach these until after alignment.

Attach the Ceph base plate using 4 bolts on the backside of the main column

Allen bolts
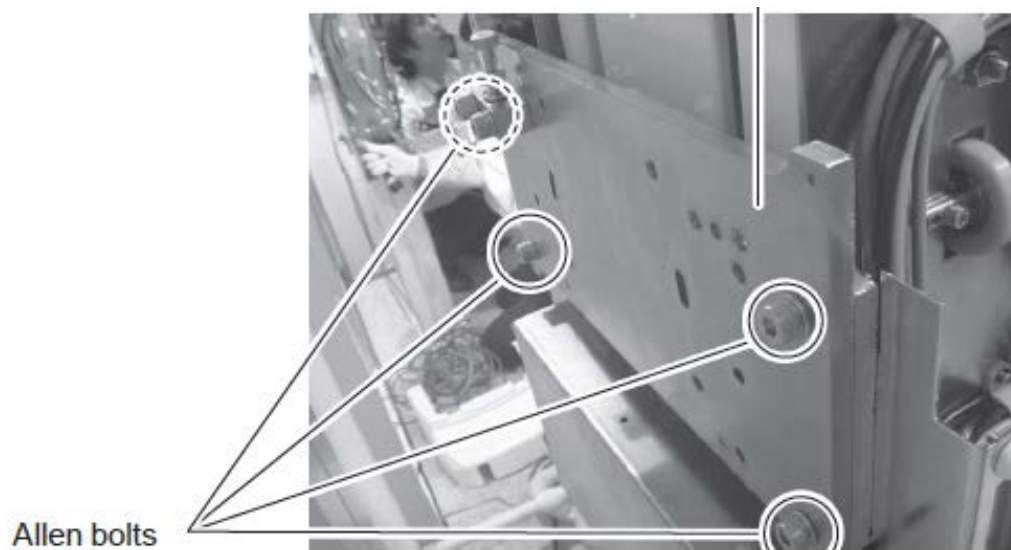
7. Attach Ceph Arm

Put pins in ceph arm base into holes on base plate. Fasten 4 bolts.

Pin

Pin insertion positions

Cephalo-base plate
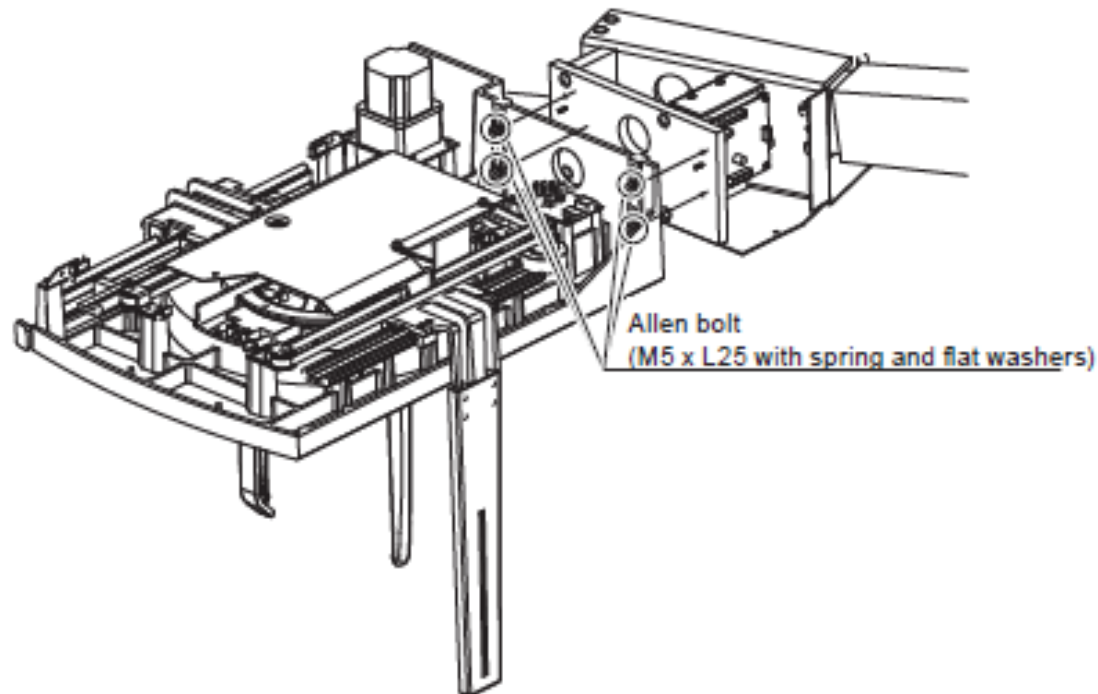
Allen bolts

Cephalo-Arm S

DO NOT install steel cover box over this until after calibration (as adjustments here may be required)

7. Attach Ceph Arm

Place Ceph assembly on pins at end of arm. Fasten bolts and connect cables.

Allen bolt
(M5 x L25 with spring and flat washers)

7. Attach Ceph Arm

Route connectors 24, 25, 26 (see images) through cut-out on the slide main unit. Bundle them with connector 23 and route together to upper side of connector box.
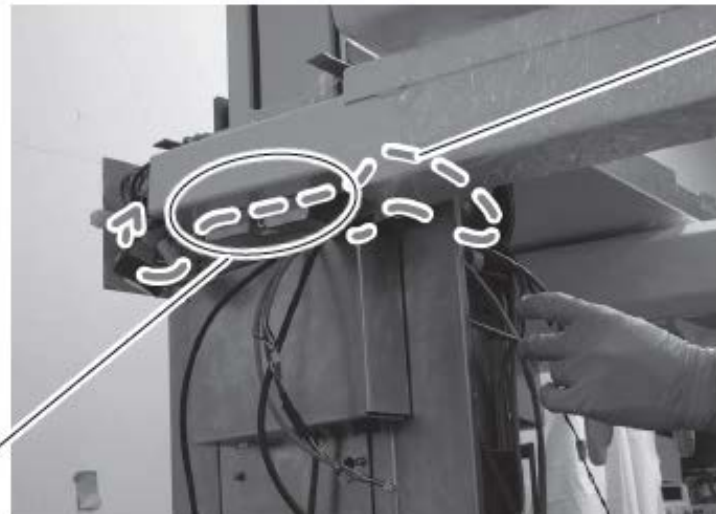

Connector No. (24)

Connector No. (25)
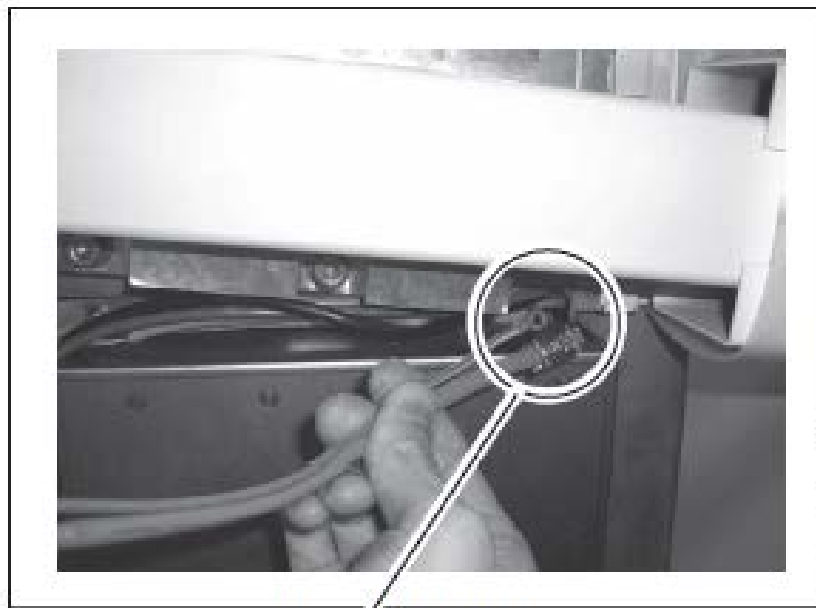

Connector No. (26)

Connector No. (23)

Route the connectors though the upper cut-out to the back and to the upper side of the connector box.

Upper side of the connector box

7. Attach Ceph Arm

Route grounding wire and ethernet cable stored in ceph arm through cut-out to the front side behind operator panel. Connect connectors 23-26 (from above).
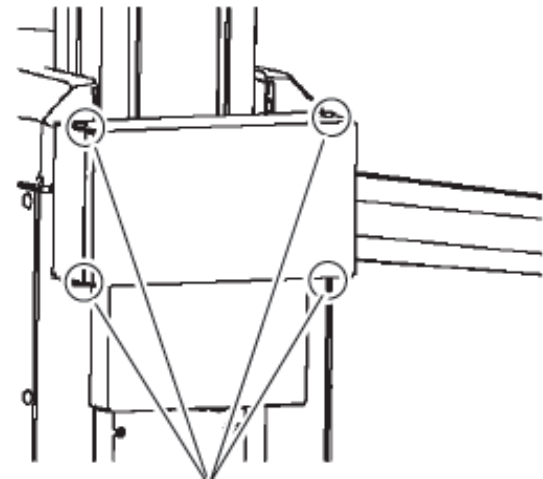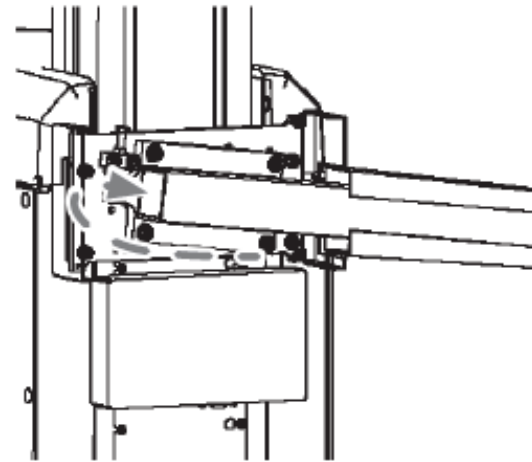

Grounding Wire (21)
LAN Cable (22)

7. Attach Ceph Arm

Place cable harness in the ceph arm and reattach covers.

DO NOT install steel cover box over this until after calibration as adjustments here may be required (but don't forget this step after everything is complete)
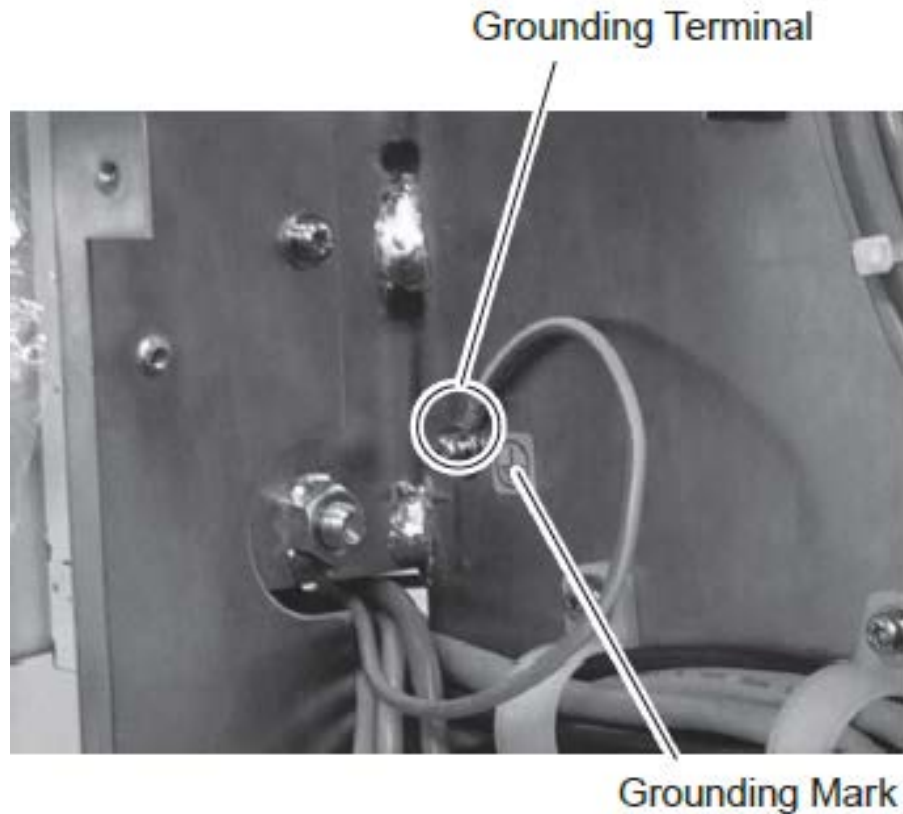
7. Attach Ceph Arm

Remove plastic dustcovers from ports, and connect cables to switching hub (3 cables for 2D pan ceph)

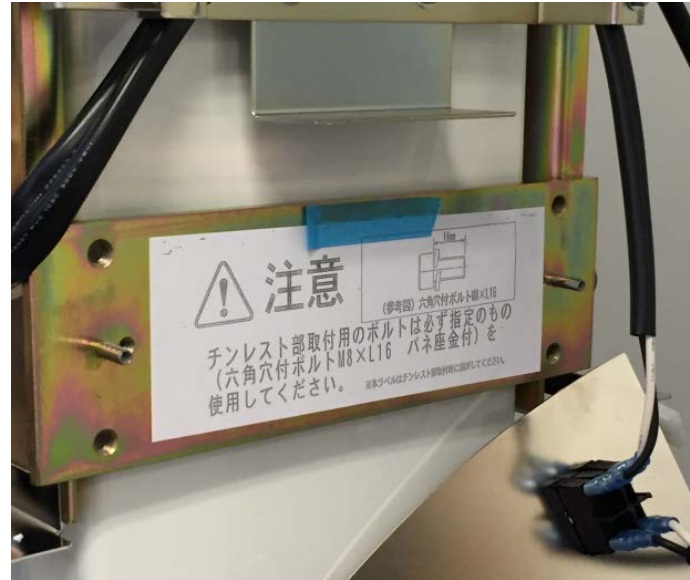Note: it does not matter which connections go in which ethernet ports

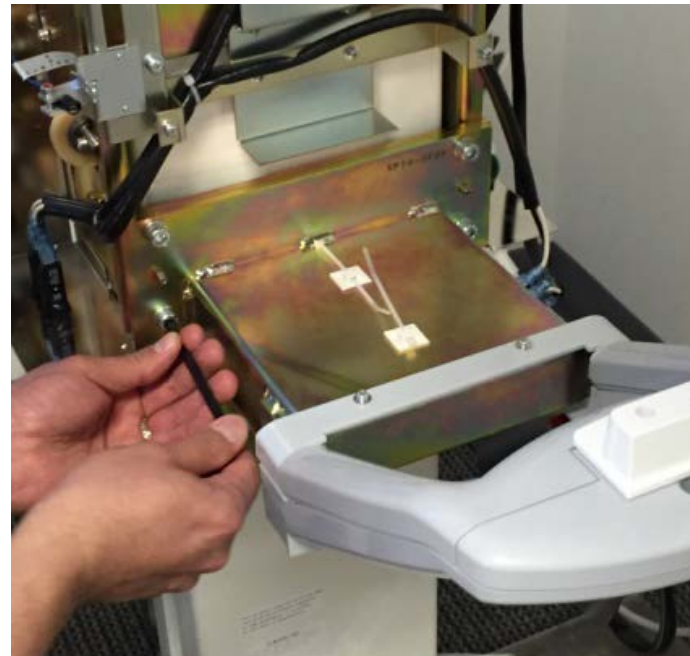# 7. Attach Ceph Arm

Fix grounding wire

8. Attach Chinrest

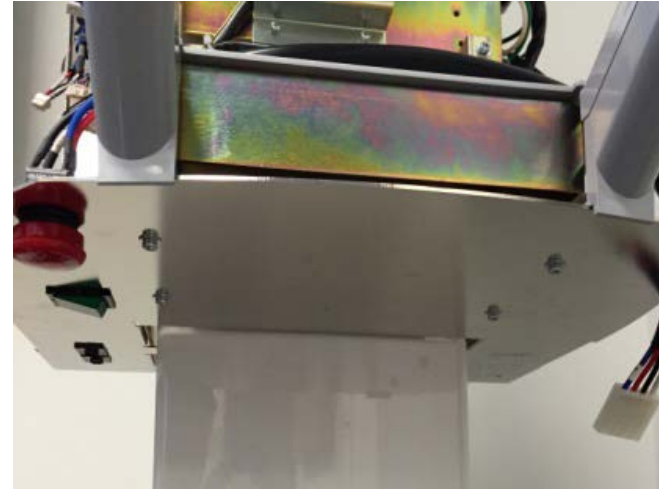To attach chinrest assembly, remove 4 bolts from chinrest bracket.

Attach chinrest assembly over 2 pins and screw to chinrest bracket on post (4 screws).
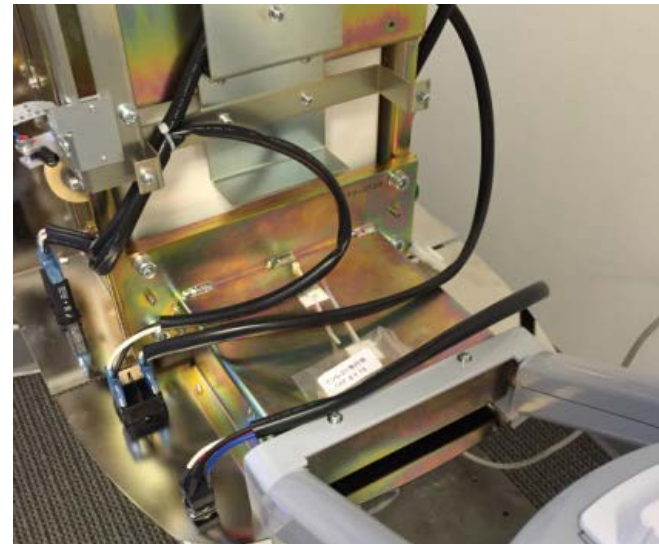
8. Attach Chinrest

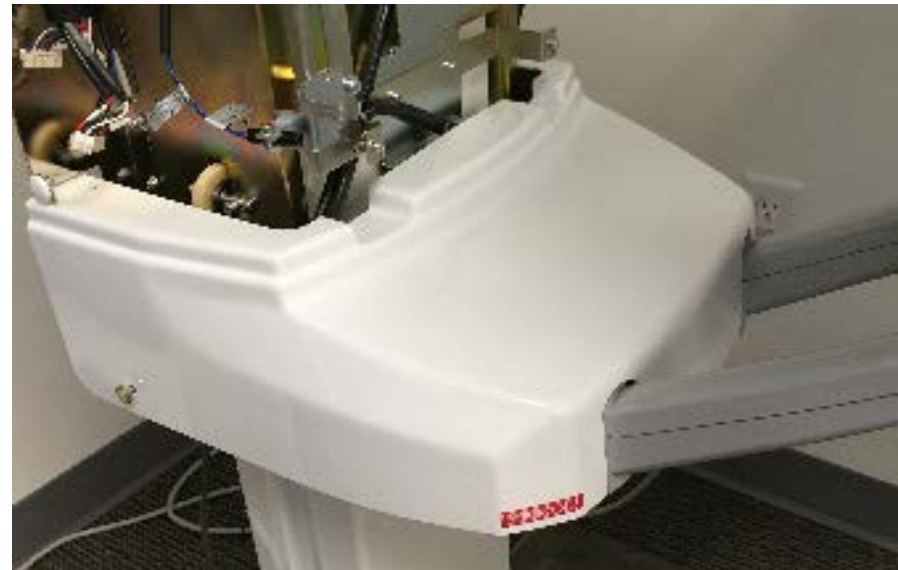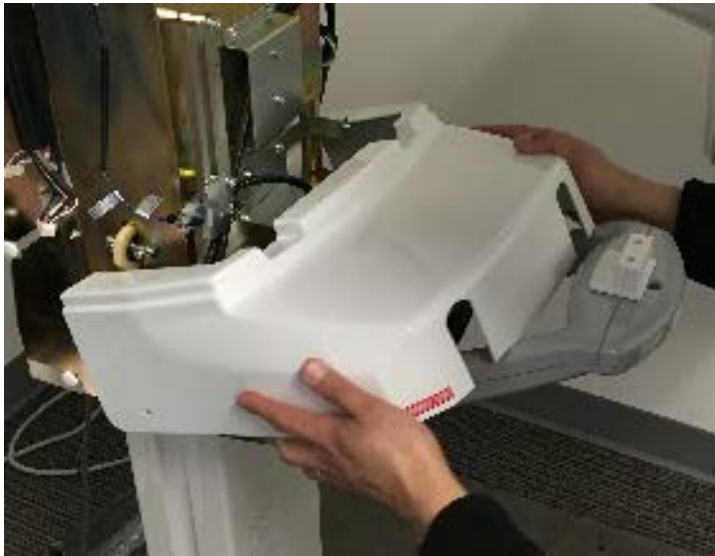Fasten the under panel of the chinrest with the four screws.

Run cables over the chinrest assembly as shown and make connection of cable on the right side. Fix wiring using banding connectors on chinrest assembly.

8. Attach Chinrest

Remove screws on rear left and right of chinrest assembly cover. Place cover and insert screws. Snap on white screw covers.
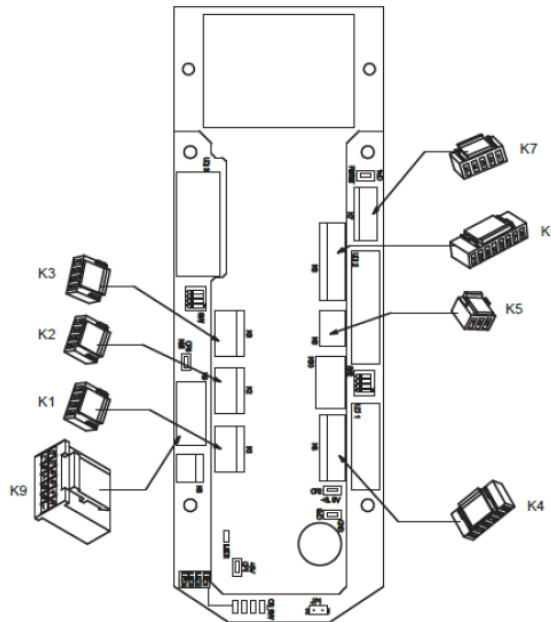
9. Insert Side Covers

Remove left side cover from packaging

Make cabling connection to inside of keypad. K1, K3-K7 is in one wire bundle. K2 is separate wire bundle (7 total connections).

Note: For ceph unit, K2 wire bundle is frequently missed because it is unique cable. Make sure to connect the K2 cable or unit will not function.

9. Insert Side Covers

Fasten left side and right side panels

10. Insert Center Panel and Mirror

Insert center panel and mirror

mirror swings toward operator

Mount eye-ear beam lever

11. Final Leveling Check

After mounting the drive unit, confirm the unit's horizontal levelness in all directions.

When checking horizontal levelness, turn the arm around (three positions in figure below) and make sure that the head is at the same horizontal levelness at any position.

If the unit is slanted by more than ± 0.1 degree (i.e. bubble level is not near center), refer to manual to make adjustments
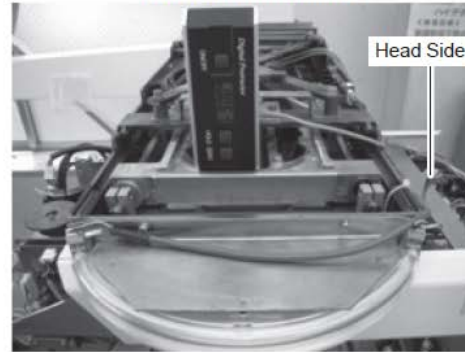
[Checking Levelness in Horizontal (Left-Right) Direction]

Head Side

Fig. ③ -34: Checking Levelness in Horizontal (Left-Right) Direction 1

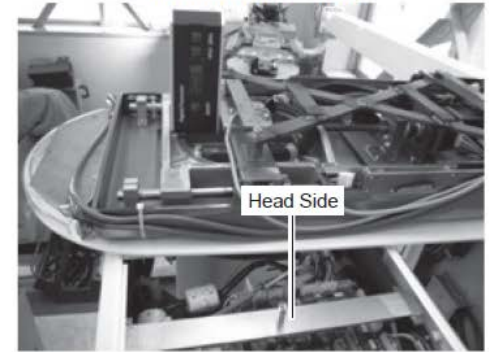[Checking Levelness in Longitudinal (Front-Back) Direction]

Head Side

Fig. ③ -37: Checking Levelness in Longitudinal (Front-Back) Direction 1
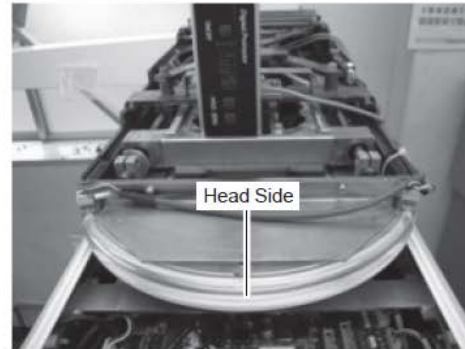
Head Side

Fig. ③ -35: Checking Levelness in Horizontal (Left-Right) Direction 2
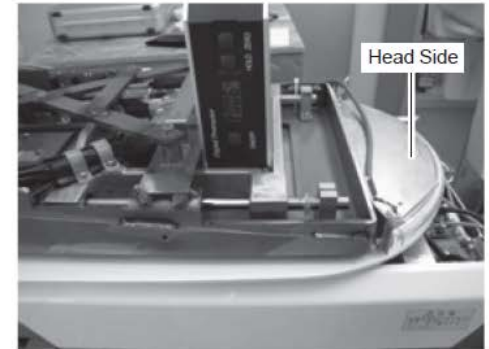
Head Side

Fig. ③ -38: Checking Levelness in Longitudinal (Front-Back) Direction 2

Head Side

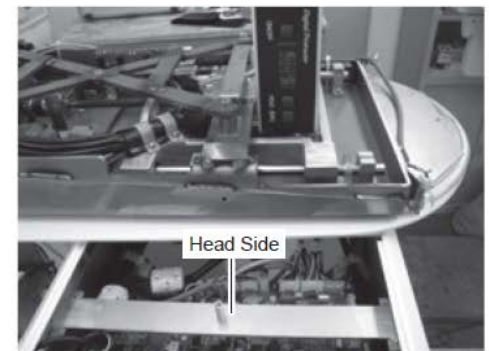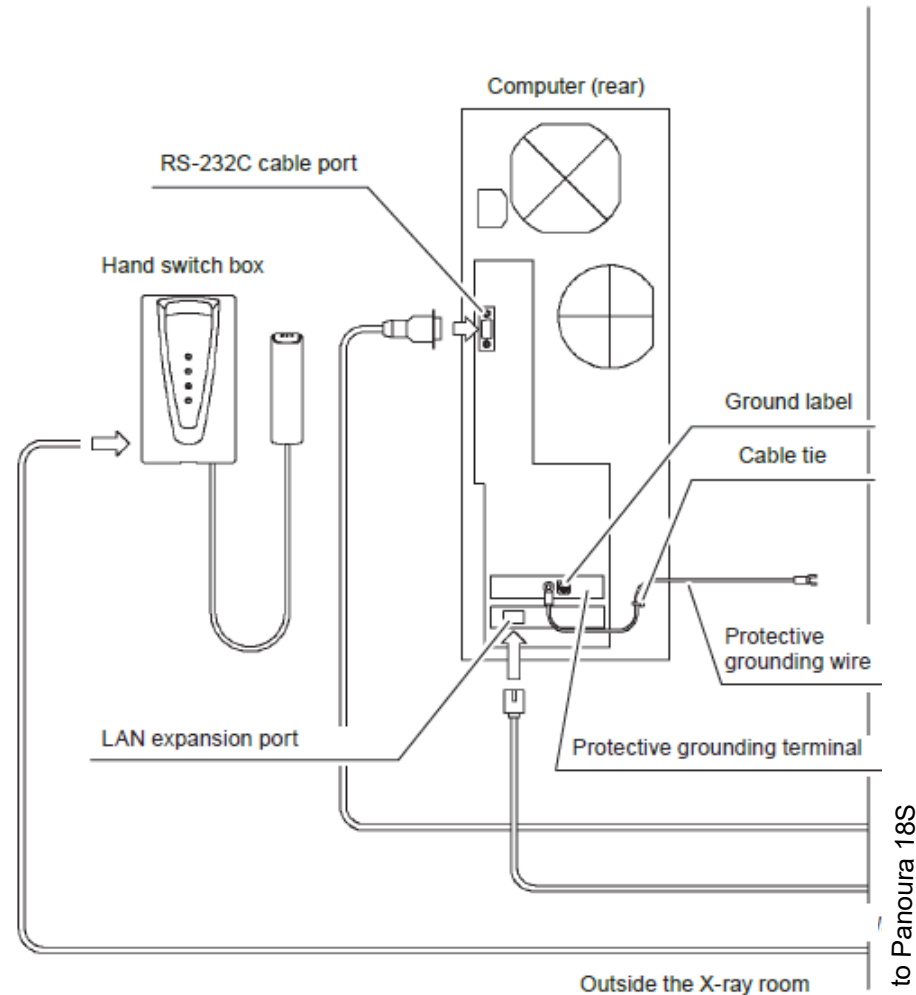Fig. ③ -36: Checking Levelness in Horizontal (Left-Right) Direction 3

Head Side

Fig. ③ -39: Checking Levelness in Longitudinal (Front-Back) Direction 3

12. Connecting the PC and Handswitch

Run the serial cable and ethernet connection cables from inside the X-ray room out into the room housing the computer.

Plug the data and PC connection cables into their respective connectors on the back of the Panoura 18S.

Computer (rear)

RS-232C cable port

Hand switch box

Ground label

Cable tie

Protective grounding wire

LAN expansion port

Protective grounding terminal

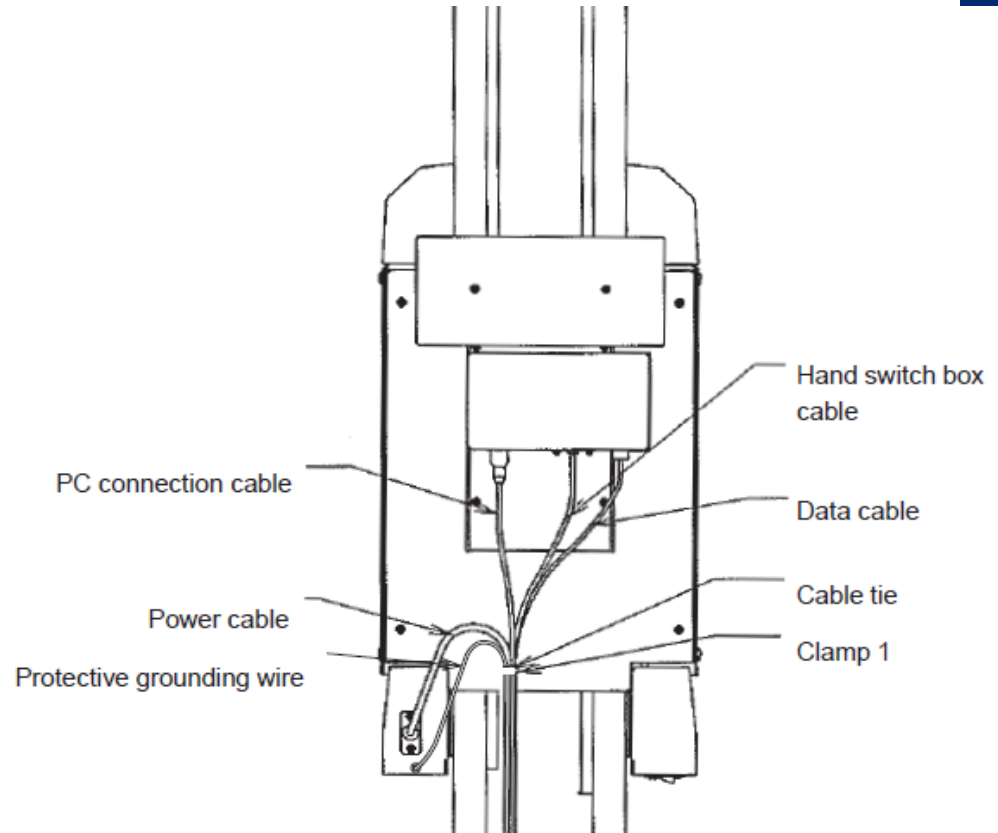Outside the X-ray room

to Panoura 18S

PC typically will also connect to office network (not shown)

38

12. Connecting the PC and Handswitch

Confirm all connections on the rear of the Panoura 18S

Bundle the power, data, PC connection and hand switch box cables together with a provided cable tie as shown in the figure and secure it with the clamp 1.

Warning: confirm cables have enough slack for complete vertical travel (31")

13. Attach Head Support

Turn on unit and press "Reset" on the operator panel (unit should rotate)

Raise unit so underside is accessible. Then turn unit off

Insert and attach underside cover with 5 screws and connect connector

Remove cap4 screws on the head support fastening bracket
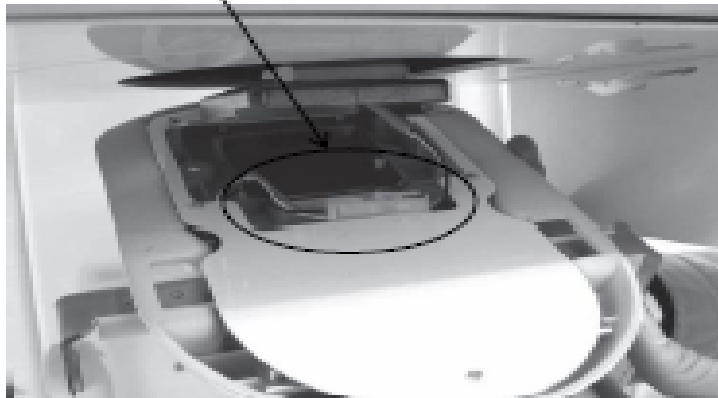
13. Attach Head Support

Connect the connector on the head support unit to the connector on the driving part

13. Attach Head Support

Refer to the figure. Put the connector in the connector holder on the head support disc and fasten the head support unit using the 4 screws

Connector Holder

Phillips pan-head machine screw
(M4 x L8 with spring and flat washers)

NOTE: When mounting the head support unit, make sure that the connector is placed in the connector holder on the head support disc. Beware that the harness is not caught between when the screws are fastened

Work with Office to Assure PC is ready for alignment and integration:
- Install imaging software that office will plan to use (e.g. Dexis, Eaglesoft, Apteryx, Evasoft, etc)
- PC is connected to network and has internet access

Continue with standard installation procedure from installation manual