SCANX

LIGHT SEAL INLET KIT, PN 74610
REPLACEMENT INSTRUCTIONS

(for all upright ScanX models)

Read this entire document before proceeding with any service.

SAFETY REQUIREMENTS

IMPORTANT INFORMATION

This product is manufactured in accordance with the requirements of 21 CFR 1040 and IEC60825-1. Any citations, such as the labels described herein, are based on requirements of both documents, and where an identifiable difference exists between the two, the appearance of (IEC) in the text indicates a particular requirement of **IEC60825-1**, that differs from CFR.

It is important that all personnel who will service the ScanX Digital Imaging System read and understand the Operator's Manual before operating, maintaining or servicing the device. All personnel should follow all warnings and precautions for their safety and the safety of others around them. See the warning labels at the end of the instructions.

WARNINGS AND CAUTION STATEMENTS

In these instructions, the following definitions Apply for all WARNINGS and CAUTION Statements:

Warnings: Any operation, procedure or practice, which, if not strictly observed, may result in injury or long-term health hazards to personnel or patients.

Cautions: Any operation, procedure or practice, which, if not strictly observed, may result in destruction of equipment or loss of treatment effectiveness.

WARNINGS

Only trained professionals should use or service this device. Federal law prohibits the sale of this device to individuals other than physicians, dentists, dental, medical and veterinary professionals. Use of this device in procedures other than those described in this manual or the Operator's Manual, or performing service other than that specified in this manual, may result in injury.

The ScanX scanner is a Class I Laser Product [Class 1 Laser Product (IEC)].

There is no access or exposure to laser radiation during operation or maintenance.

Removal of covers and other components makes this device a Class IIIb Laser Product [Class 3B Laser Product (IEC)] when special "test" cables are used to allow the ScanX to be energized during service.

Use of controls or adjustments or performance of procedures other than those specified in the Operator's Manual or herein may result in hazardous laser radiation exposure. The laser is on only during an active scan, or if deliberately activated while being serviced.

Only a trained technician from a qualified Air Techniques dealer should remove cover(s) or components from the scanner, or service the scanner in accordance with these instructions. Any service other than that specified herein or in other similar replacement instructions, must be done at the Air Techniques facility. Direct eye contact with the output beam from the laser may cause serious damage and possible blindness.

CAUTION

Never operate a ScanX without the covers on the unit.

GENERAL INFORMATION

Introduction

This document provides the instructions necessary to replace the Light Seal Inlet assembly of a ScanX Digital Imaging System using Light Seal Inlet Replacement Kit, PN 74610. The instructions cover upright ILE and non-ILE ScanX model families including the following:

ScanX I/O,	Part Numbers: B7100 and B3100
ScanX DVM,	Part Numbers: B7150 and B3810
ScanX Classic,	Part Numbers: B7200, B7250, 73400 and 73700
ScanX 12,	Part Numbers: B7300 and A8200
ScanX 12 DVM,	Part Numbers: B7350 and A8100

Kit PN 74610 Components Supplied

- ❑ 1 Light Seal Inlet Assembly, PN 73370S
- ❑ 1 4-40 X 1 1/4 Capture Head Socket Screw (used for alignment), PN 31358
- ❑ 4 10-32 X 3/8, Phillips Head screw with Square Cone SEM, PN 31767
- ❑ 2 3/8X1/8 Foam Tape Pad, PN 74167
- ❑ 1 Replacement Instructions, PN 74611

Tools Required (Not Supplied)

- ❑ #2 Phillips Head Screwdriver
- ❑ Flat Head Screwdriver
- ❑ 3/32 Hex Head Wrench (Allen Key)

Power Removal

Prior to performing the procedures contained in this document, turn off the power switch by placing the rocker switch on the Built-in Control/ Connector panel to the OFF (0) position. Also disconnect the line cord from the wall outlet and the communication cable from the ScanX.

Procedure Summary

These instructions include the removal of the Transport Covers and the Transport Arch assembly and the replacement of the Light Seal Inlet assembly. This process should take approximately 30 minutes and should only be done by an authorized dealer service technician. The tasks included are summarized below:

1. **Disassembly.** Disassembly procedures consist of the necessary steps to remove the Transport Cover, Transport Arch and Light Seal Inlet assemblies of the ScanX .
2. **Re-assembly.** Re-assembly procedures consist of the necessary steps to return the ScanX to normal operating condition. These instructions include the installation of the replacement Light Seal Inlet assembly supplied in the replacement kit and the installation of the existing Transport Arch and Transport Cover assemblies.
3. **Operational Check.** This procedure provides instruction to make sure the ScanX operates properly after the performance of replacement procedures.

Task Guidelines

Personnel performing the Light Seal Inlet assembly replacement tasks should use standard industry guidelines for working on electronic equipment as necessary. These include the following:

- ❑ Always use a clean, well-lit work area with ample space required for the size of the job.
- ❑ Keep all attaching hardware and fastening screws together with the associated removed assembly. If necessary use separate storage containers or envelopes for each hardware group.
- ❑ Prior to removing any part or assembly, note location and orientation of assemblies being removed.
- ❑ Tag wires and associated mating connectors before disconnecting.
- ❑ Use care when disconnecting mating connectors so as not to damage the connector keys and connection to the associated printed circuit board, wire or cable.
- ❑ Be aware of the damage impact of electrostatic discharge (ESD) on electronic devices and use ESD precautions when handling printed circuit boards and wiring comprising the ScanX.

Removing the Transport Covers. Refer to Figure 1 and remove the transport covers as follows:

1. As shown by Detail A, use a Phillips screwdriver (short enough to fit vertically below lower cover) to remove the 3 screws securing the Lower Transport Cover to the Upper Transport Cover. The center screw requires many turns.
2. Remove the two lower cover securing screws on each side of the Lower Transport Cover and remove the cover from the ScanX unit.

   Important: A ribbon cable is connected to the interior of the Upper Transport Cover. Hold the Upper Transport Cover while removing the two upper cover securing screws to prevent damage to the connected ribbon cable.
3. Remove the two upper cover securing screws on each side of the Upper Transport Cover and slide cover away from the ScanX unit.
4. Hold and tilt the Upper Transport Cover to gain access to the connected ribbon cable.
5. Note connector orientation and disconnect the ribbon cable from the PCB Connector. Remove the cover from the ScanX unit.

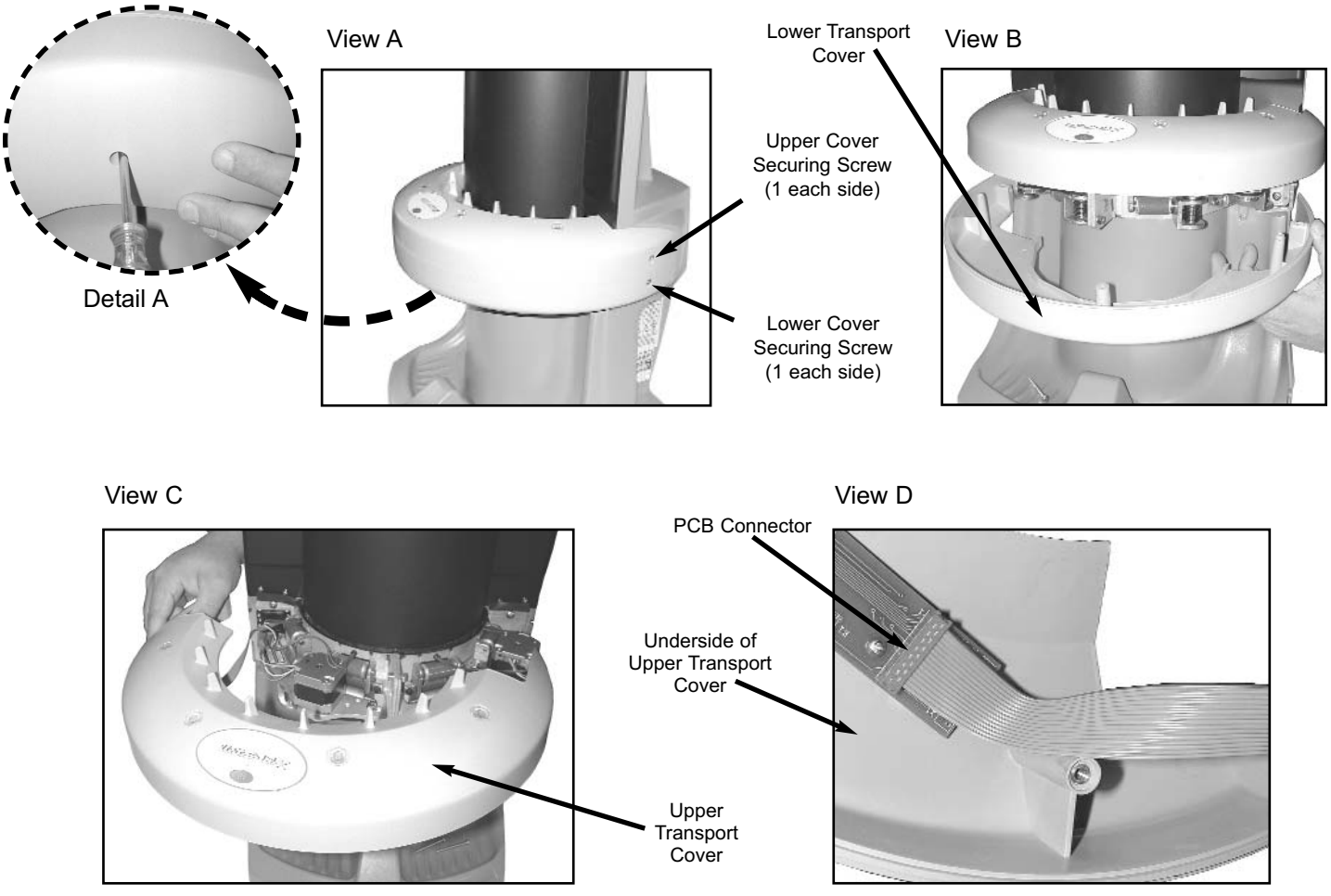


Figure 1. ScanX Transport Covers Removal

DISASSEMBLY

Removing the Transport Arch. Refer to Figure 2 and remove the Transport Arch assembly.

1. Use a #2 Phillips screwdriver to remove the 4 SEM screws (2 on each side) securing the Transport Arch assembly to the Scanner, as shown by View A.

   Important: The Transport Arch assembly is plugged into the Scanner via two guide pins and three D-Type mating connectors. Use care when disconnecting and removing the arch to prevent damage to the connectors.

2. As shown by View B, grab the Transport Arch assembly and carefully pry it from the associated mating connectors on the the Scanner. Pull the Transport Arch assembly away from the Scanner, exposing the Transport Rollers.

3. Set the removed Transport Arch assembly aside on a clean and level surface.

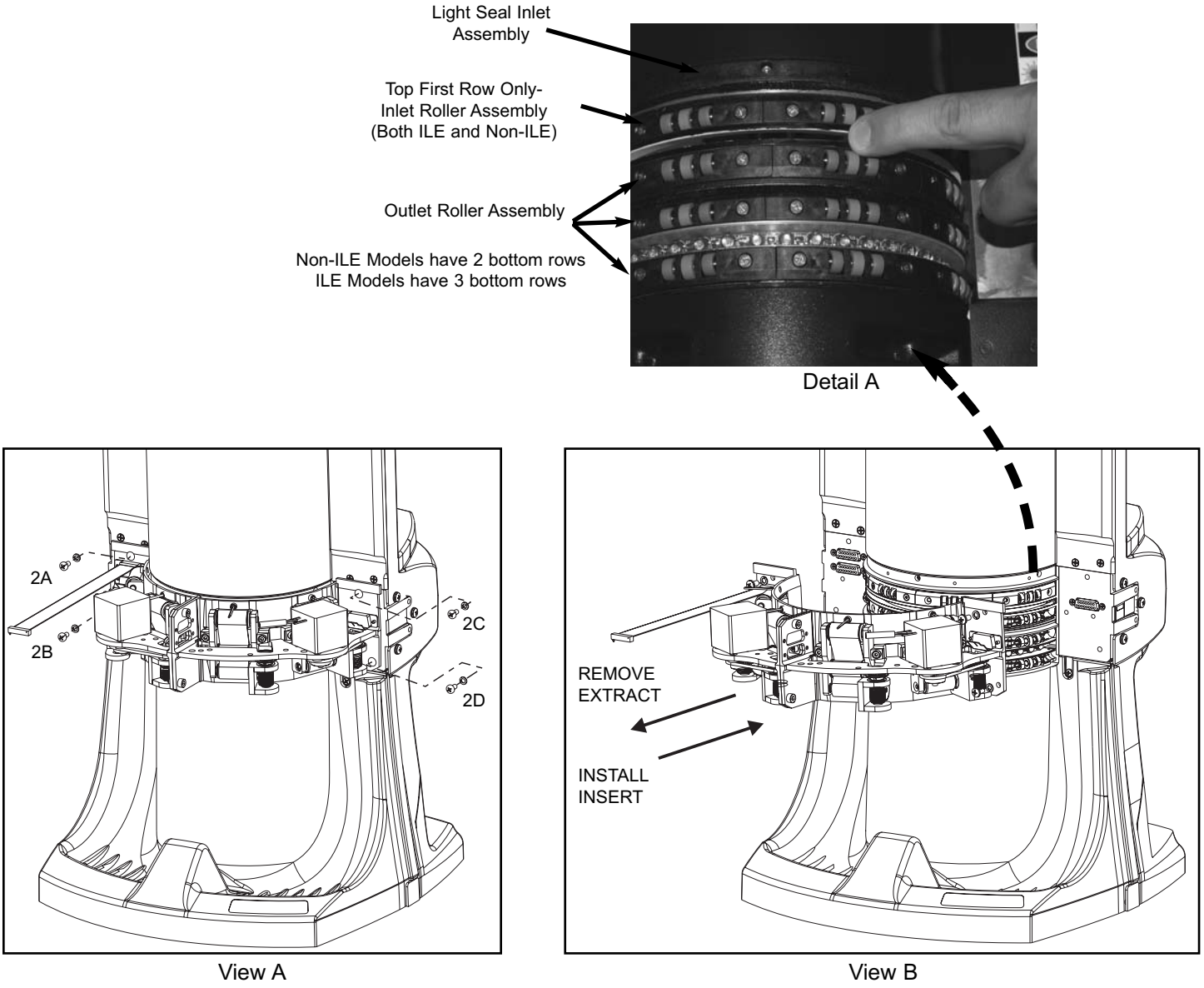


Figure 2. ScanX Transport Arch Replacement

Removing the Light Seal Inlet Assembly. Refer to Figure 3 and remove the Light Seal Inlet assembly as follows:

1. Refer to View A and remove the 3 capture head socket screws securing the Light Seal Inlet assembly using a 3/32 Hex Head Wrench.
2. Using a flat head screwdriver, carefully pry the Light Seal Inlet assembly away from each corner of the block surfaces as shown by Views B and C.
3. Firmly holding the Light Seal Inlet assembly, steadily pull the Light Seal out of the roller assembly channel as shown by Views D and E.

Installing the Light Seal Inlet Assembly. Remove the replacement Light Seal Inlet assembly from its packaging, and inspect it for any damage or foreign particles. If damaged, contact Air Techniques immediately for instructions on how to proceed. Refer to Figure 3 and install the new Light Seal Inlet assembly as follows:

1. Orient the Light Seal Inlet assembly with the brush side down and install the light seal by carefully pressing the assembly into the roller assembly channel as shown by Views D and E.
2. Align the center screw-hole of the Light Seal Inlet assembly with the center threaded hole of the roller assembly channel and install the supplied alignment screw into the front center hole as shown by View E.
3. Firmly push each side of the Light Seal Inlet assembly from the center into the channel of the roller assembly until both sides are flush with the channel as shown by View B.
4. Align each side screw-hole of the Light Seal Inlet assembly with the corresponding threaded hole of the roller assembly channel and install the associated capture head socket screw without tightening.
5. Remove the alignment screw (installed in step 2) from the front center hole and install the associated capture head socket screw without tightening.
6. Using a 3/32 Hex Head Wrench, tighten the 3 capture head socket screws securing the Light Seal Inlet assembly as shown by View A.
7. Re-assemble the ScanX unit by performing the installation procedures for the Transport Arch and Transport Covers provided on the following pages.

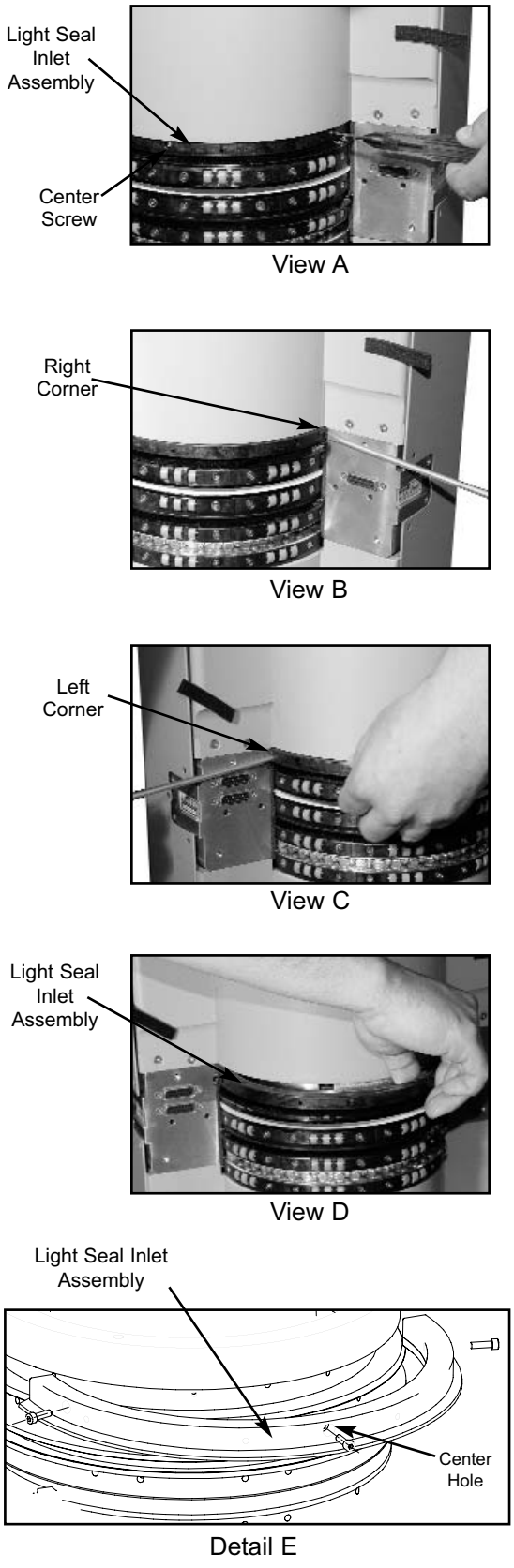


Figure 3. Light Seal Inlet Assembly Replacement

Important: The Transport Arch assembly installs only one way into the ScanX mating via three D-Type connectors. Use care when installing the arch to prevent damage to the connectors.

Installing the Transport Arch. Refer to Figures 2 and 4 and install the new Transport Arch assembly as follows:

1. As shown by Figure 4, align the two (2) locating pins A and B (one on each side) and the three (3) male D-Type connectors of the Transport Arch assembly with the 3 mating D-Type female connectors.
2. Refer to Figure 2, View B and carefully push the arch horizontally, straight back into the associated mating connectors of the ScanX until the arch is seated flush against the mounting block surfaces.
3. Holding the Transport Arch assembly in place, align the 4 screwholes (2 on each side) of the arch with the threaded holes of the ScanX.
4. Refer to Figure 2, View A, and install the 4 SEM screws supplied in the replacement kit hand tight.
5. Using a Phillips screwdriver, tighten the 4 screws securing the Transport Arch assembly to the ScanX.

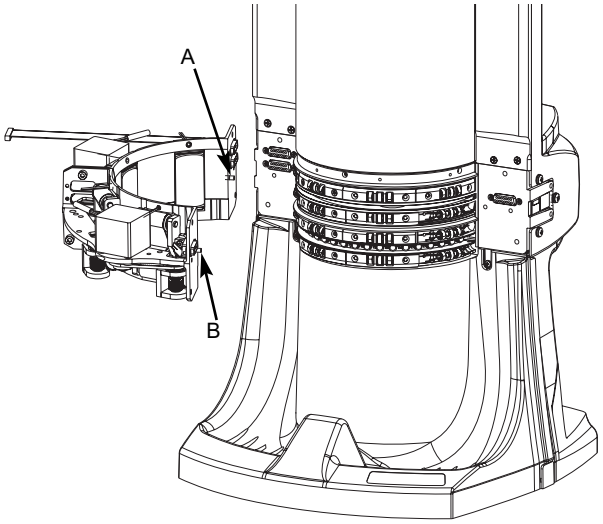


Figure 4. Transport Arch Locating Pins

Important: Refer ti Figure 5 and make sure that the orientation clip on the cable connector and the red stripe on the ribbon cable are on the same side as the board connector pin position 1.

If this cable is connected backwards the unit will not power on.

Installing the Transport Covers.

1. Install the two foam pad strips supplied in the replacement kit to the top of the installed transport mounting flange as shown by Figure 5. This is accomplished by removing the protective film from the adhesive side of foam pad strips and pressing each to the top of the corresponding flange.

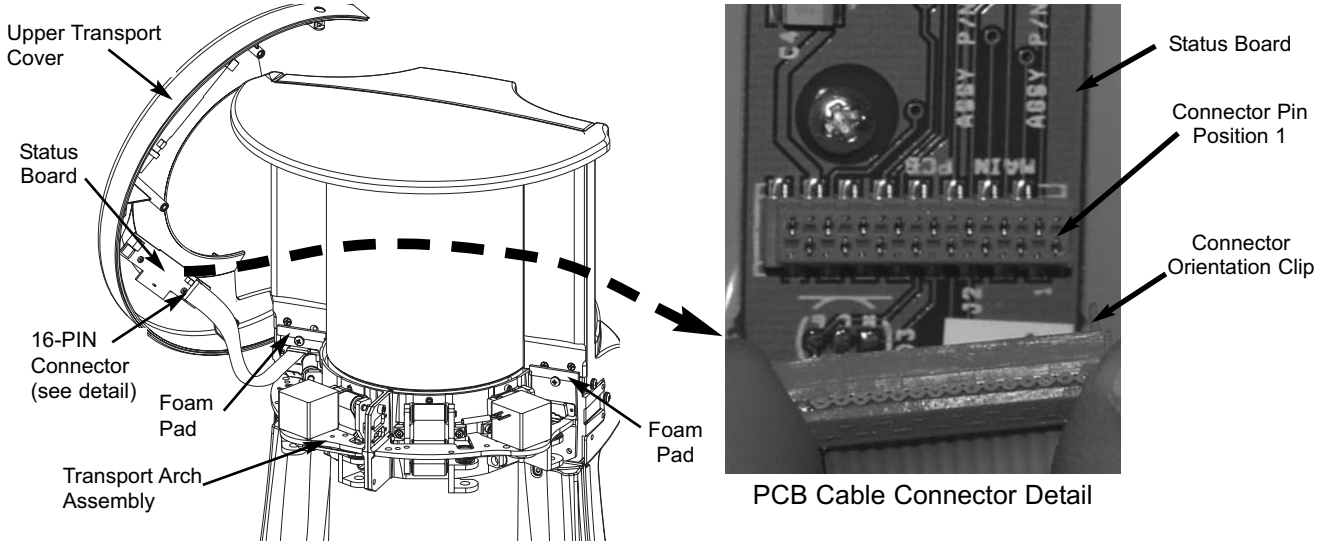


Figure 5. Top Transport Cover PCB Cable Connector

2. Refer to Figure 5 and connect PCB Cable to the Upper Transport Cover PCB Connector. Observe the correct orientation of the 16-pin connector.
3. Refer to Figure 1 and mount the Upper Transport Cover to the ScanX by aligning the two counter-bored holes at the rear sides of the cover with the corresponding threaded holes (upper) in the sides of the Mounting Blocks. Install without tightening two side screws (one on each side).
4. Place the Lower Transport Cover below the Upper Transport Cover and engaged into the labyrinth dovetail groove being sure to tuck the loop of Ribbon Cable out of the way of the mating screw-holes to avoid piercing this cable with the left fastening screw of the Lower Transport Cover .
5. Align the two counter-bored holes at the rear sides of the Lower Transport Cover with the corresponding threaded holes (lower) in the sides of the Mounting Blocks and install without tightening two side screws (one on each side).
6. Holding the the two covers together, install, without tightening, the central front (longest) screw as shown Figure 1, Detail A.
7. Install the two remaining Phillips screws through the two symmetrically laterally located counter-bored holes of the Lower Transport Cover into the corresponding holes of the Upper Transport Cover, and using a Phillips screwdriver tighten securely. Do not over-tighten screws into plastic to avoid stripping them.
8. Use a Phillips screwdriver to tighten the bottom central screw securing the two transport covers together and then tighten the four side screws of upper and lower covers.
9. Installation complete. Perform the Check Scanner Operation procedures below.

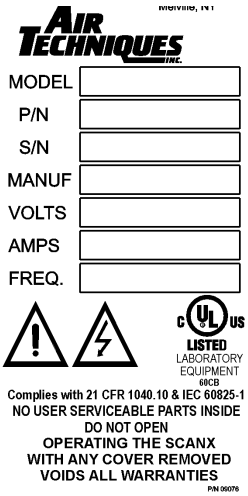
OPERATIONAL CHECK - ALL MODELS

Check Scanner Operation:

1. Reconnect communication cable and electrical connections in opposite sequence from removal.
2. Turn ScanX power ON.
3. Using the ScanX Diagnostics Software check all functions as per this software.
4. If unit passes this process, exit the ScanX Diagnostics Software.
5. Initialize the ScanX System for scanning normal images using the user's imaging software.
6. Refer to the Operator's Manual, and using any reasonable image, scan one sample image.
7. If scanned image appears nominal, return ScanX into user operation.

Following are descriptions, locations and replicas of warning labels that conform to the requirements of 21 CFR 1040.10 and IEC60825-1, and are attached to the ScanX. The requirements of IEC60825-1 are indicated by (IEC) in the descriptions:
The following labels are on the **outside** of the ScanX unit.

Typical Serial Number Plate
Right, rear, or top near the Power connector location.



Class 1 Laser (IEC) and Danger if Cover removed
Right, rear, or top near the Power connector location.

P/N 73452

The following labels are on the **inside** of the ScanX:

Danger if Component removed
Right front of Transport Assembly

P/N 73453

Class 1 Laser (IEC) and 3B when open (IEC)
Left front of Transport Assembly

P/N 73090

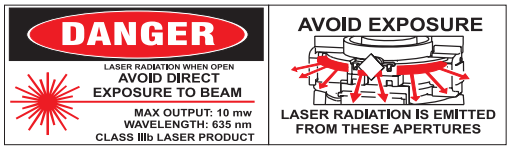
Danger and Aperture
Right side of right mounting Block.

P/N 74042

Class 3B Laser (IEC) and Aperture (IEC)
Left side of left mounting Block

P/N 74039

Danger and Aperture
Right rear PMT reflector



P/N 74043

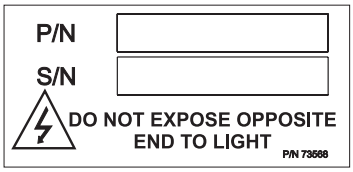
Class 3B Laser (IEC) and Aperture (IEC)
Left rear PMT reflector

P/N 74039

Danger and Apertures / Class 3B and Apertures (IEC)
Laser Assembly

P/N 73569

Serial Number PMT
PMT Assembly



P/N 73568