



# Transport Belt Drive Assembly Kit

Part Numbers: 74631, 74634, B7431 and B7434

## REPLACEMENT INSTRUCTIONS

### Introduction

This document provides the instructions necessary to replace the complete Transport Belt Drive assembly of a ScanX Digital Imaging System using Transport Belt Drive Assembly Replacement Kits, part numbers 74631, 74634, B7431 and B7434. The instructions cover all upright and portable ScanX ILE (In-Line-Eraser) and none-ILE models.

Kit PN 74634 Components Supplied (Set of 4)			Kit PN B7434 Components Supplied (Set of 4)		
Qty	Description	Part Number	Qty	Description	Part Number
4	Transport Belt Drive Assembly (Non-ILE Type)	73755	4	Transport Belt Drive Assembly (ILE Type)	B7755
8	Socket Cap Head Screw	31304	8	Socket Cap Head Screw	31304
8	Washer	30342	8	Washer	30342

Kit PN 74631 Components Supplied (Single)			Kit PN B7431 Components Supplied (Single)		
Qty	Description	Part Number	Qty	Description	Part Number
1	Transport Belt Drive Assembly (Non-ILE Type)	73755	1	Transport Belt Drive Assembly (ILE Type)	B7755
2	Socket Cap Head Screw	31304	2	Socket Cap Head Screw	31304
2	Washer	30342	2	Washer	30342

### Important Information

All personnel servicing the ScanX **must** read and understand the Operator's Manual before operating or performing any service of the device. Only a trained technician from a qualified Air Techniques dealer should perform any service.

### Power Removal

Prior to performing the replacement procedures, turn off power by disconnecting the line cord from the 120VAC wall outlet and both the computer communication cable and 24V DC power supply connector from the ScanX.

### Replacement Instruction Summary

These instructions include the removal of the Transport Covers, Arch and each Transport Belt Drive assembly, for the replacement of the complete drive assembly or assemblies. This process 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 a Transport Belt Drive assembly from the associated ScanX. The instructions are provided for both upright and portable ScanX units.
2. Replacement. Replacement procedures consist of the necessary steps to replace a complete Transport Belt Drive assembly or assemblies.
3. Re-assembly. Re-assembly procedures provide instructions to install each Transport Belt Drive assembly onto the Transport Arch and to install the complete arch onto the ScanX.
4. Operational Check. This procedure provides instructions to make sure the ScanX operates properly after completing the belt replacement and before installing the Transport Covers.

### Task Guidelines

Personnel performing the Transport Belt 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.
- ☐ Observe all warnings and precautions for safety as shown by the labels placed on the equipment.
- ☐ 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.

# DISASSEMBLY

## Transport Covers Removal - Upright Models

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

1. As shown by Detail A, use a phillips screwdriver (short enough to fit vertically below lower cover), 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. Loosen the two upper cover securing screws if necessary.

**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.

**Note:** Depending on the model, the PCB Connector on the underside of upper transport cover can be shielded or unshielded as shown by Detail B.

5. Note connector orientation (mark if necessary) and disconnect the ribbon cable from the PCB Connector. Remove the top cover from the ScanX unit.

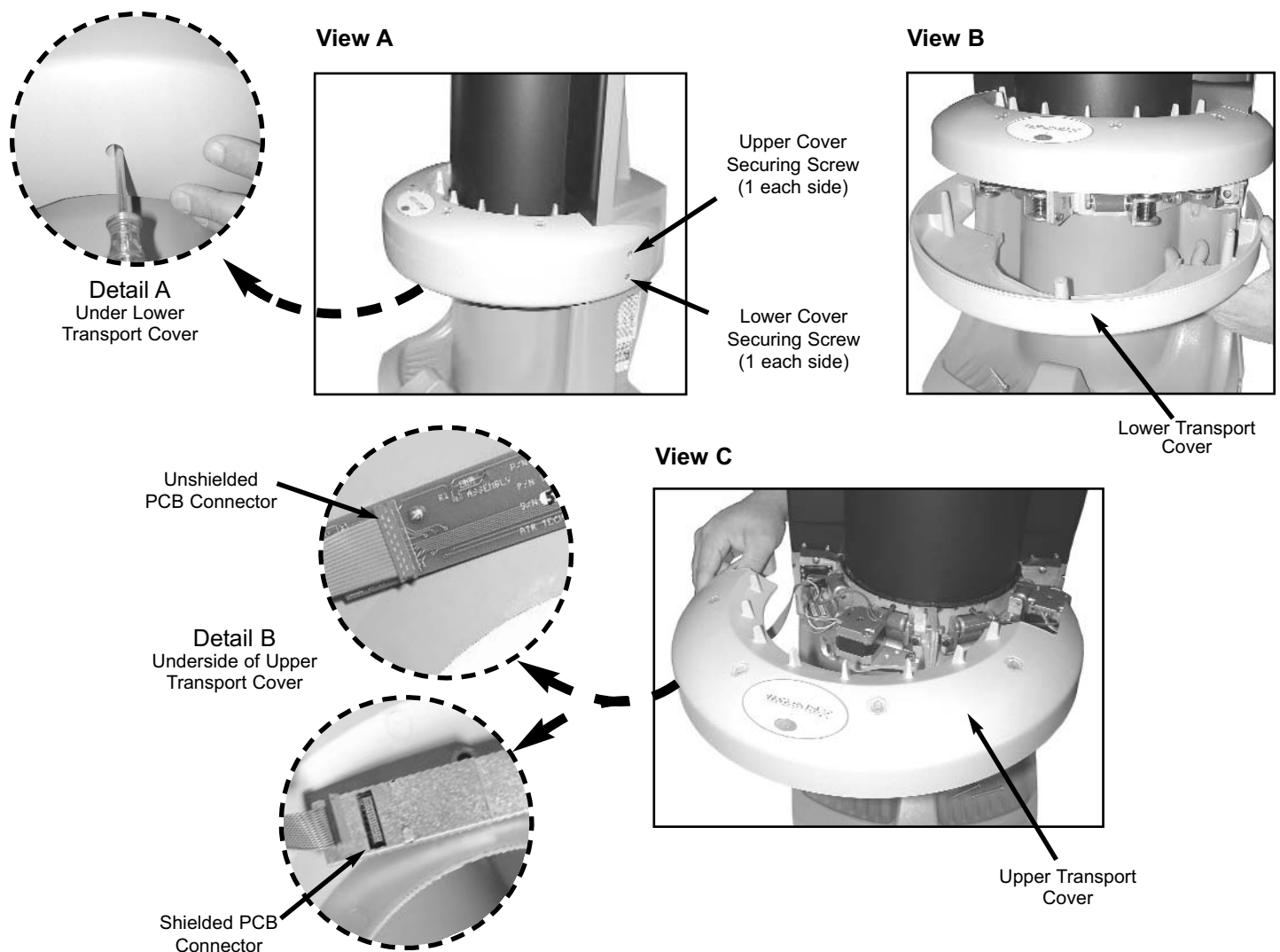


Figure 1. ScanX Transport Covers Removal

## Transport Covers Removal - Portable Models

**Removing the Transport Covers.** Refer to Figure 2 and remove the transport covers as follows:

1. As shown by View A, use a phillips screwdriver to remove the 3 screws securing the outlet side Transport Cover to the inlet side Transport Cover. The center screw requires many turns.

**Important:** A ribbon cable is connected to the interior of the inlet side Transport Cover. Hold the inlet side Transport Cover to prevent damage to the connected ribbon cable.

2. The two Transport Covers should separate easily once the 3 screws are removed (See View B). Remove the outlet side Transport Cover making sure to hold the inlet side Transport Cover.

**Note:** Depending on the model, the PCB Connector on the underside of upper transport cover can be shielded or unshielded as shown by Detail A.

3. Hold and tilt the inlet side Transport Cover to gain access to the connected ribbon cable.
4. Note connector orientation (mark if necessary) and disconnect the ribbon cable from the PCB Connector. Remove the inlet side cover from the ScanX unit.

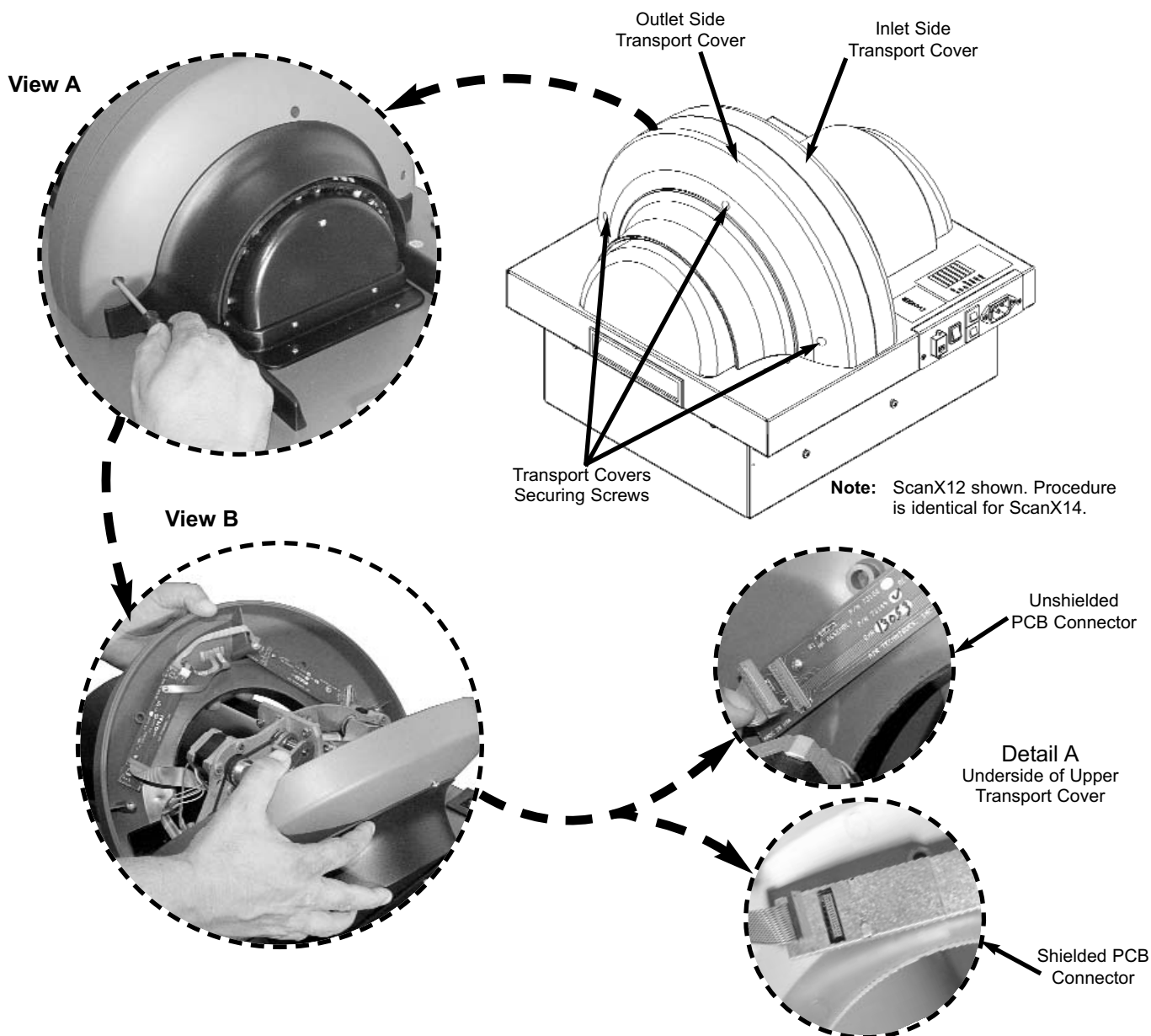


Figure 2. ScanX Transport Covers Removal

# DISASSEMBLY

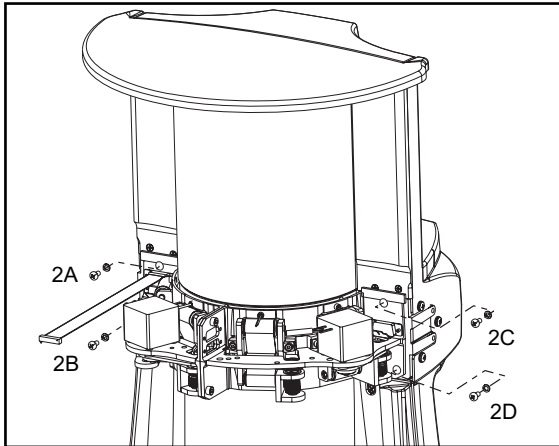
## Transport Arch Removal - Upright Models

**Removing the Transport Arch.** Refer to Figure 3 and remove the Transport Arch assembly.

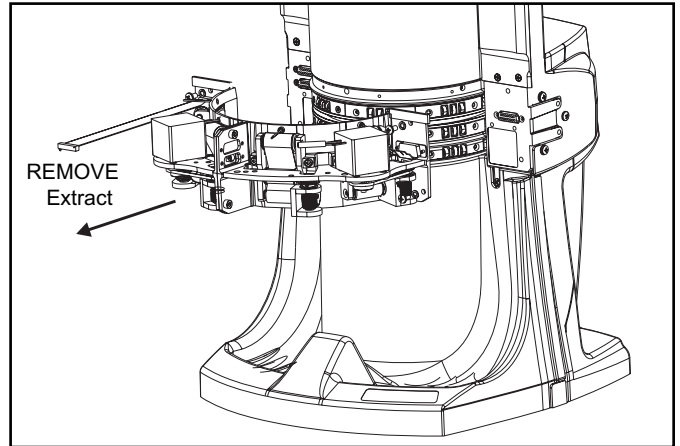
1. Use a #2 Phillips screwdriver to remove the 4 screws and lock washers (2 on each side) securing the Transport Arch assembly to the Scanner, as shown by View A.

**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 level surface and perform the Transport Belt Drive Assembly Removal procedure provided on page 5.



**View A - Securing Screws Location**



**View B - Transport Arch Removal/Installation**

**Figure 3. ScanX Transport Arch Removal**

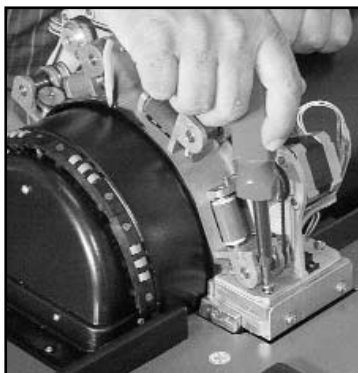
## Transport Arch Removal - Portable Models

**Removing the Transport Arch.** Refer to Figure 4 and remove the Transport Arch assembly.

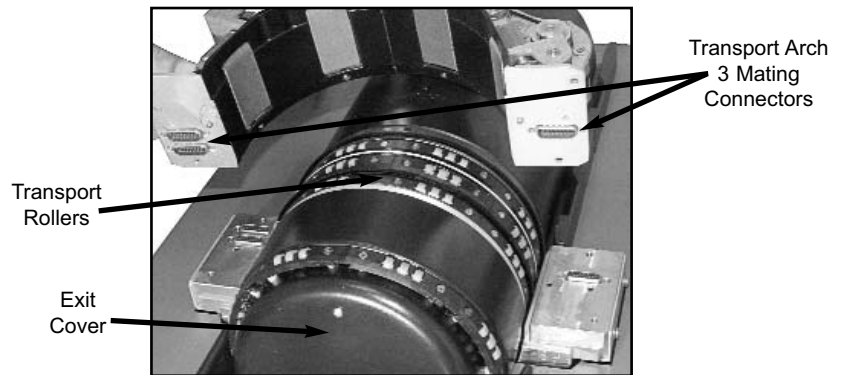
1. Use a #2 Phillips screwdriver to remove the 4 screws (2 screws on each side) securing the Transport Arch assembly to the Scanner, as shown by View A.

**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 top of the Transport Arch assembly and carefully pry it from the associated mating connectors on the top of the Scanner. Pull the Transport Arch assembly upwards and away from the Scanner exposing the Transport Rollers.
3. Set the removed Transport Arch assembly aside on a clean level surface and perform the Transport Belt Drive Assembly Removal procedure provided on page 5.



**View A**



**View B**

**Figure 4. ScanX Transport Arch Assembly Removal**

**Note:** The transport arch has a total of four Transport Belt Drive assemblies (one pair per arch side). Remove only one pair of belt drive assemblies at a time, replace the belts and re-install assemblies completely before proceeding with servicing the other side of the arch.

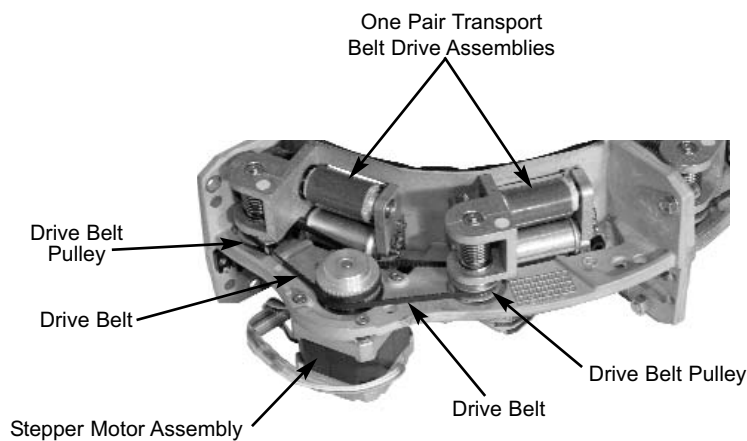
## Transport Belt Drive Assembly Removal

Figure 5 shows one side of a removed transport arch and the location of one pair of Transport Belt Drive assemblies on that half of the arch. Refer to 6 and remove the pair of transport belt drive assemblies from one side of the transport arch by performing the following steps:

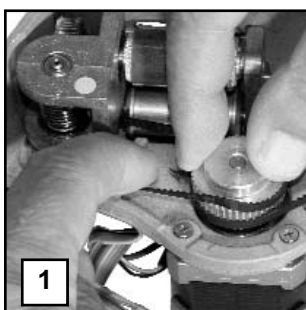
1. As shown by Figure 6, View A , remove the two drive belts from the stepper motor by sliding each belt from the motor drive pulley.

**Important:** Do not let the motor hang by cable. Place motor on work table and make sure not to break the connecting wires.

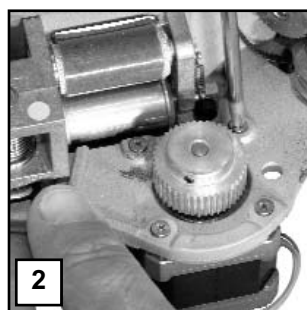
2. Using a #1 Phillips Head screwdriver, remove the 4 screws and washers securing the stepper motor to the transport arch as shown by View C. Remove the stepper motor from the transport arch. Set motor aside making sure not to break or disconnect the wires.
3. Using a 3 mm Hex Head wrench, remove the 2 hex socket screws and washers that secure each transport belt drive assembly to the transport arch as shown by View C .
4. Remove each transport belt drive assembly with the associated drive belt by sliding it from the arch. See View D .
5. Perform Replacement procedures provided on page 6



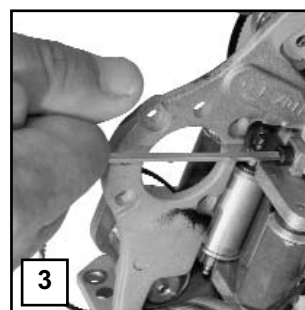
**Figure 5. One Side of Removed Transport Arch Assembly**



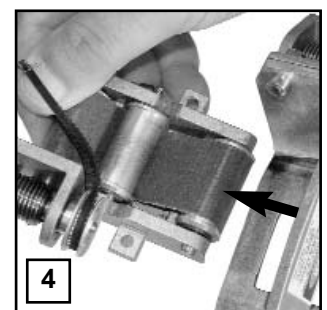
**View A**



**View B**



**View C**



**View D**

**Figure 6. Belt Drive Assembly Removal**

## REPLACEMENT - ALL MODELS

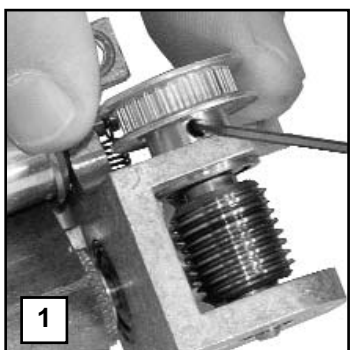
### Drive Pulley Transfer

Replacement drive belt assemblies are not shipped with a drive pulley. Transfer the drive pulley to the replacement drive from the drive assembly to be replaced before installing the replacement drive belt assembly. Refer to Figure 7 and transfer the drive pulley by performing the following steps.

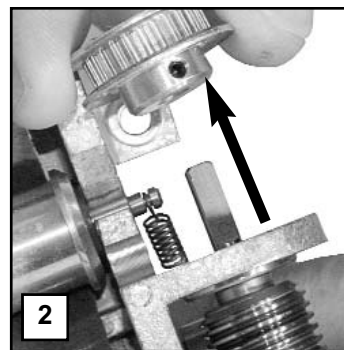
1. Using a 1.5 mm Hex Head wrench, loosen the set screw securing the drive pulley as shown by View A .
2. Refer to View B . Note pulley orientation (Top Aligned or Bottom Aligned as shown by View C ) and then remove the drive pulley from the drive assembly to be replaced.

**Important:** Keep the exact same orientation when transferring the drive pulley to the replacement drive belt assembly.

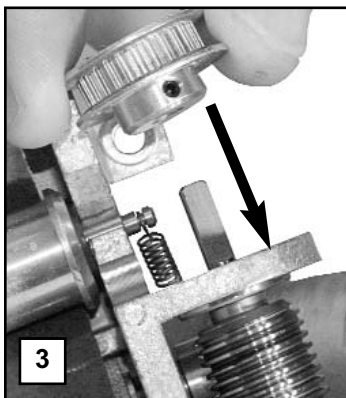
3. Keep the same orientation of the pulley and transfer the drive pulley to the replacement drive belt assembly by aligning the set screw with the flat side of the shaft and carefully sliding the pulley down as shown by View C .
4. Secure the drive pulley by tightening the set screw with a 1.5 mm Hex Head wrench.
5. Once installed, make sure the drive pulley turns freely and does not rub against the drive assembly surface.



View A

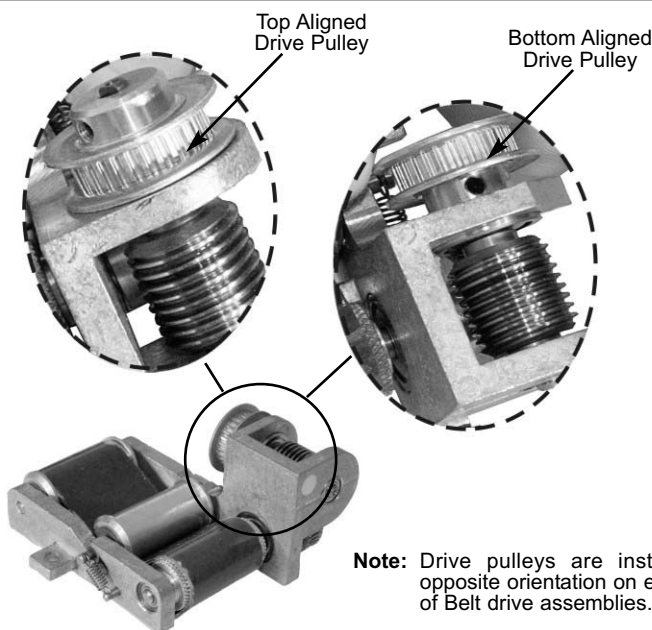


View B



**Important:**

Once installed, make sure the drive pulley turns freely and does not rub against the drive assembly surface.



**Note:** Drive pulleys are installed in opposite orientation on each pair of Belt drive assemblies.

View C -

Figure 7. Drive Pulley Transfer/Installation

### Replacement Transport Belt Drive Assembly Installation

Refer to Figure 8 and install the pair of transport belt drive assemblies to one side of the transport arch by performing the following steps:

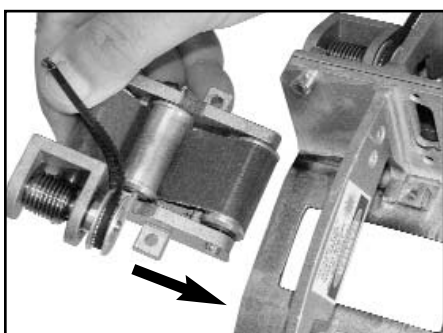
1. Place the drive belt onto the associated pulley of the transport belt drive assembly to be installed.
2. Install the transport belt drive assembly and the drive belt by sliding them into the transport arch as shown by View A . Make sure each drive belt moves unrestricted around the pulley of the associated transport belt drive assembly as shown by View B .
3. Secure the transport belt drive assembly with 2 hex socket screws and washers using a 3 mm Hex Head wrench as shown by View C .

**Note:** Proceed to step 5 if the stepper motor was not removed because the motor was not blocking access to the one belt drive assembly replaced.

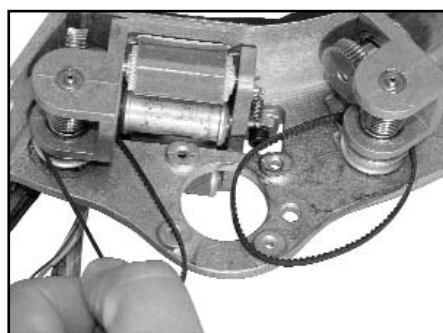
4. Refer to View D and install the stepper motor onto the transport arch. Make sure not to disconnect or break the associated connecting wires. Press the stepper motor firmly into the screwholes of the arch and install the 4 screws and washers. Tighten using a #1 Phillips Head screwdriver.

**Important:** Make sure that the drive belts do not cross when installed on the stepper motor drive pulley. Install drive belt from the bottom aligned drive pulley first.

5. Install the two drive belts onto the stepper motor drive pulley by carefully sliding each belt onto the drive pulley and slowly rotating the stepper motor drive pulley as shown by Detail F.
6. With both drive belts installed, adjust so the space between belts on the stepper motor pulley is approximately 1/16 of an inch. Make sure each belt forms a straight line between associated pulleys. Adjust if necessary.
7. Repeat the entire Transport Belt Replacement procedure above for the second pair of transport belt drive assemblies on the other side of the transport arch.
8. When all transport belt drive assemblies and associated drive belts are installed, perform the Transport Arch Installation procedure provided on page 8.



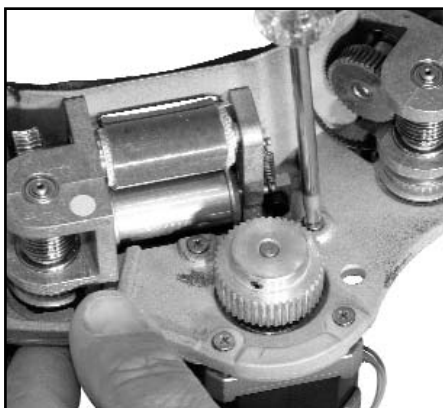
**View A** Transport Belt Drive Assembly Placement



**View B** Drive Belt Placement



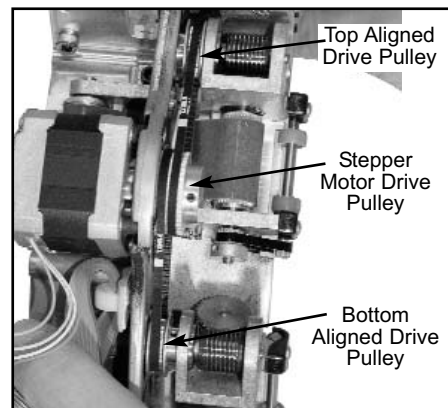
**View C** Securing Belt Drive Assembly



**View D** Securing Stepper Motor



**View E** Installation of Drive Belts



**View F** Alignment of Drive Belts

**Important:** Do not cross drive belts on the stepper motor drive pulley. Belts should be separated by approximately 1/16 of an inch and in line with associated drive pulleys.

**Figure 8. Transport Belt Drive Assembly Installation**



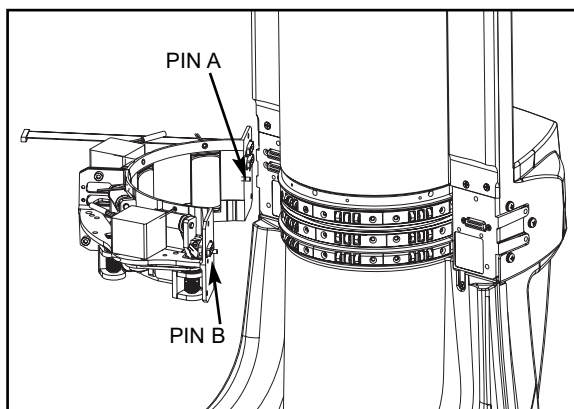
## RE-ASSEMBLY

**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.

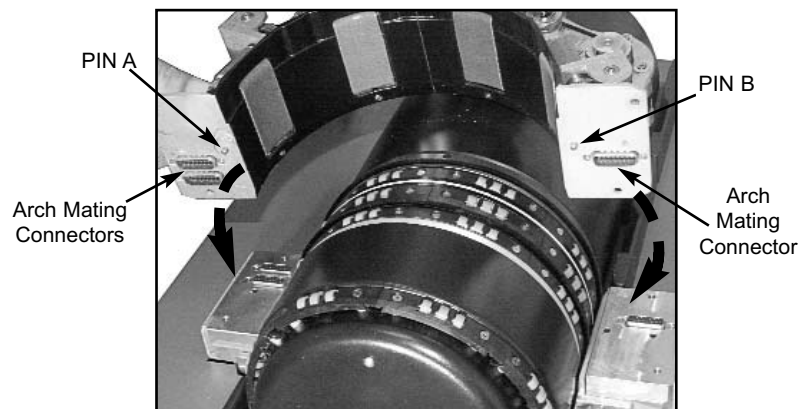
### Transport Arch Installation - All Models

**Installing the Transport Arch.** Except for the orientation of the arch, the procedure for installing a Transport Arch onto a ScanX is the same for both upright and portable ScanX models. Refer to Figure 9 and install the Transport Arch assembly onto the associated ScanX as follows:

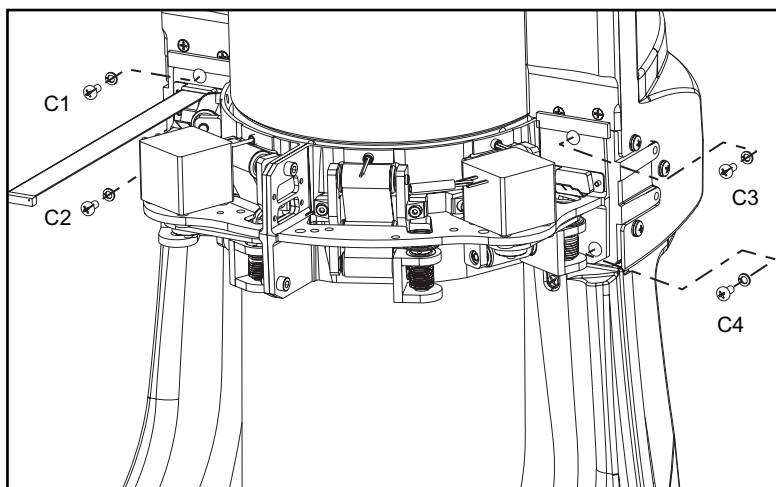
1. As shown by Views A and B, align the two (2) locating pins PIN A and PIN B (one on each side) and the three (3) male D-Type connectors of the Transport Arch assembly with the 3 mating D-Type female connectors.
2. Carefully push the arch straight into the associated mating connectors of the ScanX until the arch is seated flush against the mounting block surfaces of either the upright or portable model.
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 View C, and install the 4 screws and lock washers (C1 through C4) hand tight.
5. Using a #2 Phillips screwdriver, tighten the 4 screws securing the Transport Arch assembly to the ScanX.
6. When the Transport Arch assembly is secured on the associated ScanX, perform the Operational Check procedures provided on page 9.



**View A**  
Upright ScanX Arch Installation



**View B**  
Portable ScanX Arch Installation



**View C**  
Securing Screws Location

**Figure 9. Transport Arch Installation**



## Check Scanner Operation Procedure

This procedure makes sure that the ScanX operates properly after completing the belt drive assembly replacement procedures and before installing all of the transport covers. It consists of partially installing the Upper or Inlet Side Transport Cover (depends on the ScanX type) and operating the unit via the ScanX Diagnostics Software. This allows the user to observe the actual operation of the Transport Belt Drive assemblies to ensure .

### Transport Cover Installation:

1. Refer to Figure 10 and connect PCB Cable to the Upper or Inlet Side Transport Cover PCB Connector.
2. Mount either the Upper or Inlet Side Transport Cover (depends on the ScanX type) to the ScanX by aligning the two counter-bored holes at the rear sides of the cover with the corresponding threaded holes in the Mounting Blocks.
3. Install without tightening two side screws (one on each side). Do not tighten.

**Important:** 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.

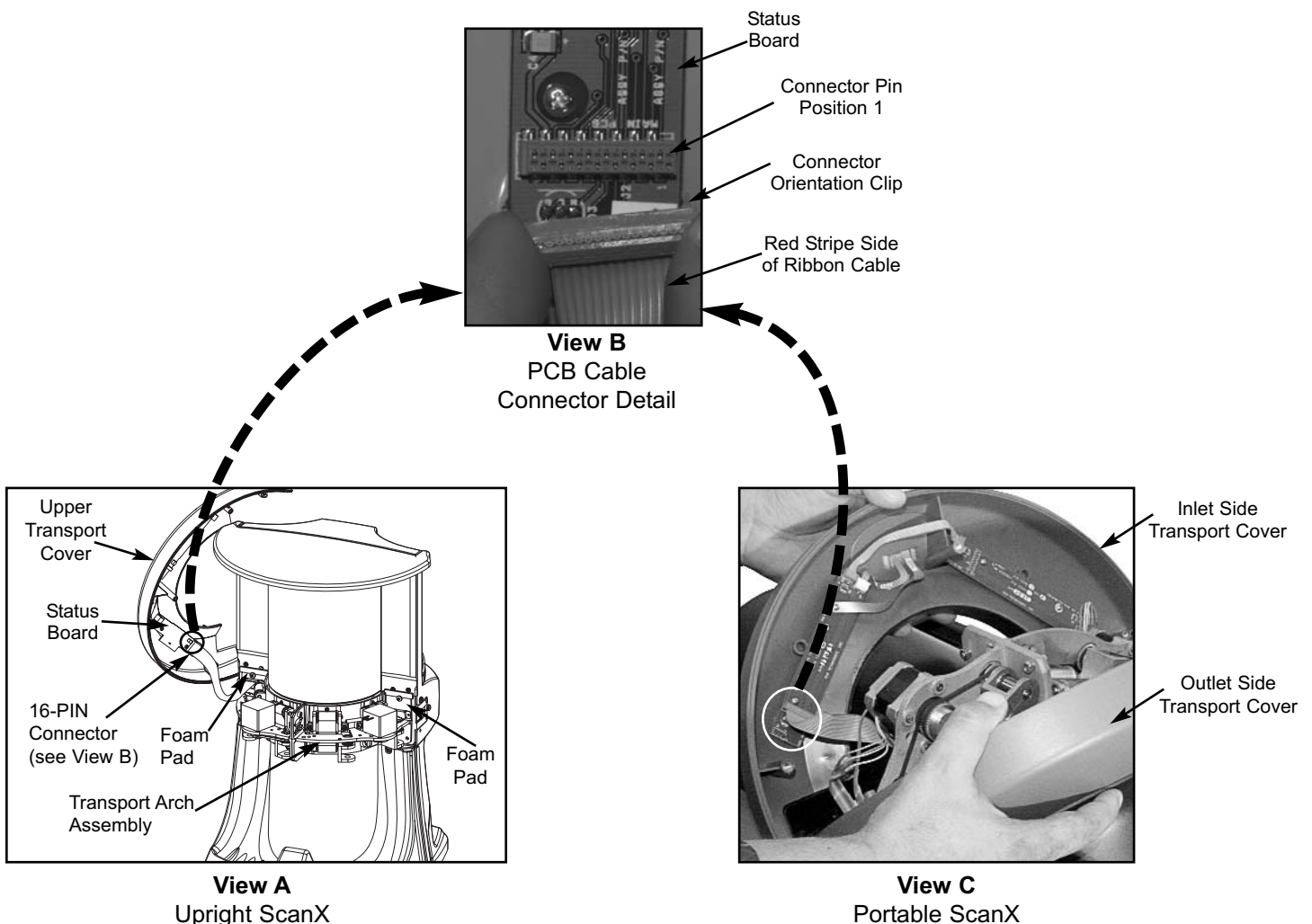


Figure 10. Transport Cover PCB Cable Connector

# OPERATIONAL CHECK

## ScanX Diagnostics Software Operation

**Note:** Refer as necessary to the ScanX Operator's Manual for proper connections and operation.

1. Reconnect the USB communication cable and electrical connections of the ScanX.
2. Turn the ScanX power ON.
3. Open the ScanX Diagnostics Software by selecting **C:\Programs Files\Scanx Utilities\diagnostics.exe** or using the **Start** button as follows.
  - a. Go to the **Start** button and select **Programs**.
  - b. Select the **ScanX Utilities** program option and click on **Diagnostics** option.
  - c. Observe that the **VistaScan configuration** window opens as shown Figure 11, View A.
4. Select the **System check** Tab to open the **System check** window (View B).
5. Select the **Manipulate** Tab to open the **System check** window (View C) to allow manipulation of control and status for the ScanX.

**Important:** Make sure that the **Steptomotors** control is set to **Forward** as shown by View C. Never operate when set to Backward setting.
6. From the **Steptomotors** control of the **System check** window (View C), select button 1 to operate the right side stepper motor (tracks 1 and 2) and button 2 to operate the left side motor (tracks 3 and 4).
7. Observe that the window indicator (View C) for the associated button illuminates green when selected and the associated two Transport Belt Drive assemblies simultaneously operate on the ScanX.
8. Stop the operation of both stepper motors and check the alignment of the driver belts on both sides of the arch
9. Refer to Figure 8, Details E and F, and adjust the belt alignment as necessary.
10. If both button indicators illuminate green in the window (View C) and all 4 Transport Belt Drives operate with proper belt alignment, then the Transport Belt replacement was successful. Exit the ScanX Diagnostics Software and turn the ScanX OFF.
11. Perform the Installing and Securing the Transport Covers procedures provided on page 11.

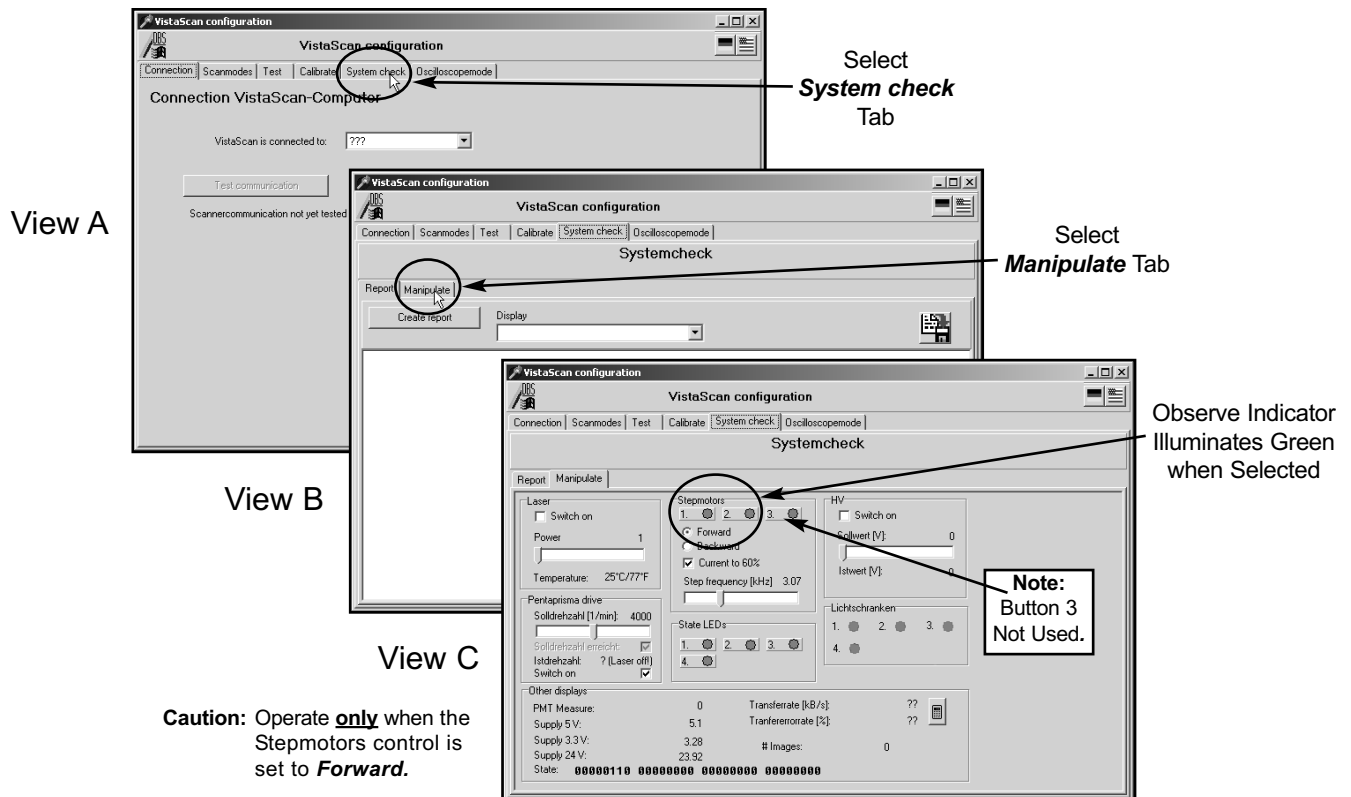
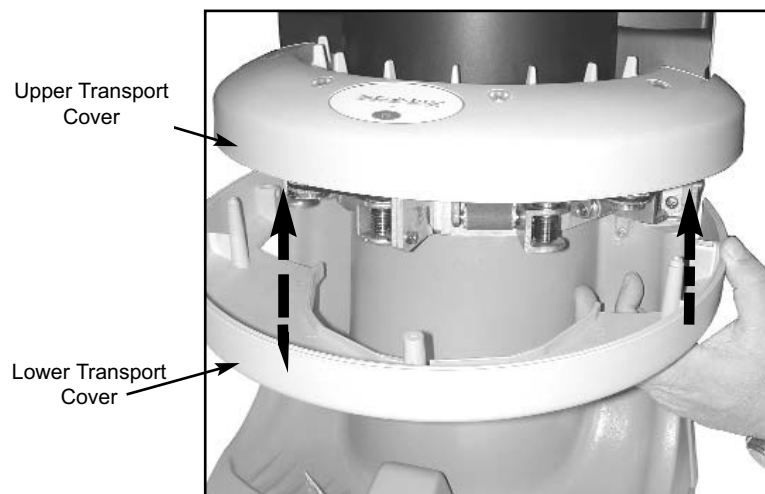


Figure 11. ScanX Diagnostics Software User Windows

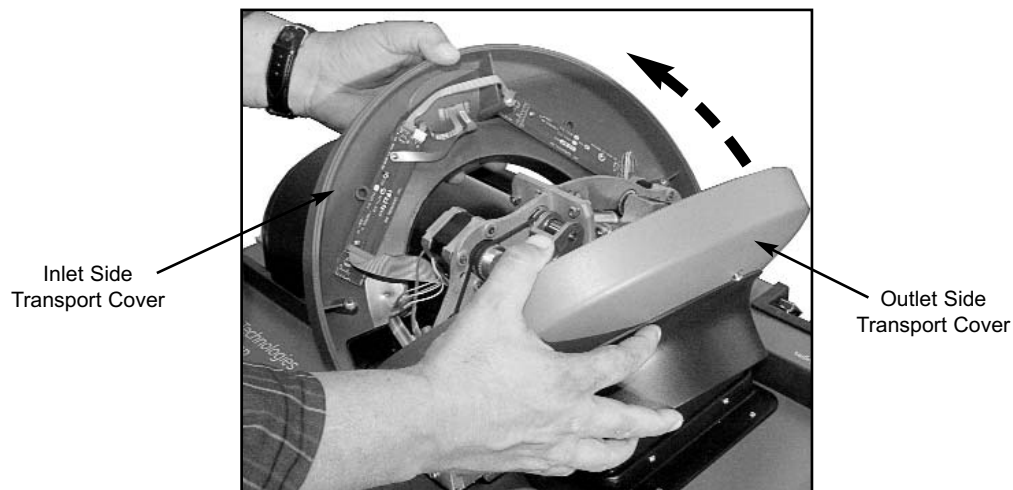
### Installing and Securing the Transport Covers

Except for orientation and name, the procedure for installing arch covers onto a ScanX is the same for both upright and portable models. Refer to Figure 12 and install the covers onto the associated ScanX as follows:

1. Check that the two foam pad strips (if used) are installed to the top of the transport mounting flange as shown by Figure 10.
2. Engaged into the labyrinth dovetail groove of the Cover to be installed and the Cover already installed being sure to tuck the loop of Ribbon Cable out of the way of the mating screwholes to avoid piercing this cable with the fastening screw of the Cover .
3. Align the two counter-bored holes at the rear sides of the Cover to be installed with the corresponding threaded holes in the sides of the Mounting Blocks and install without tightening the two side screws (one on each side).
4. Holding the the two covers together, install, without tightening, the central (longest) screw. See Figures 1 and 2.
5. Install the two remaining screws through the two counter-bored holes of the Cover to be installed and into the corresponding holes of the the Cover already installed.
6. Using a #2 Phillips screwdriver tighten securely. Do not over-tighten screws into plastic to avoid stripping thread.
7. Use a Phillips screwdriver to tighten the central screw securing the two transport covers together and then tighten the four side screws of the covers.



**View A - Upright ScanX**



**View B - Portable ScanX**

**Figure 12. ScanX Arch Covers**

Air Techniques and ALLPRO Imaging are leading manufacturers of fine dental, medical and veterinary equipment from air and vacuum systems and X-ray film processors, to an impressive line of new products incorporating the most recent technological advances. These new products, vital components of the innovative professional practice, include intraoral cameras, digital imaging systems, which utilizes phosphor plate technology and, most recently, an intraoral digital X-ray system using sensor technology.

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- ☐ AirStar®
- ☐ A/T 2000® XR
- ☐ Guardian™ Amalgam Collector
- ☐ Peri-Pro®
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- ☐ Rinsendo Root Canal Disinfection System
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- ☐ ScanX® 12 EV
- ☐ ScanX® 14 Portable
- ☐ ScanX® NDT Portable
- ☐ ScanX® 14 In-Counter



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