
Appendix C – Unpacking and Conveying

This section is covered fully in the Infinia Installation Manual, but because the manuals are still inside one of the crates when the consignment arrives, unpacking and conveying instructions have also been included in this manual

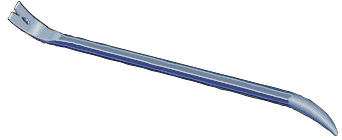





C.1 Overview

The equipment and tools required to unpack and convey the Infinia System are listed in the [Table C–1](#) and must be available on site **before** the components can be unpacked or moved.

C.2 Unpacking Tools


These tools should be on site when the delivery truck arrives

Table C–1: Unpacking Tools


Crowbar	
Carpenters Claw Hammer (large)	
Set of Allen keys (inch size)	
Set of Combination Wrenches (inch size)	
Socket Set - Inch Size(1/2 inch drive)	
Tin Snips (Metal band cutter)	

C.2.1 General Order of Operations

1. *Before* unpacking the camera units, the supervisor must be well acquainted with the safety measures for system unpacking and conveying, detailed in the Safety and Regulatory section of the System Service Manual.
2. *Before* releasing the carrier:
 - a. Inspect the containers/boxes for external damage. If any damage has been found, inform immediately the carrier and your office.
 - b. Check the containers/boxes against the delivery slip and verify that you have all the boxes. Inform immediately the carrier and your office about any missing packages.
3. Unpack the Gantry and Table in the unloading area as described in [Section C.3](#) and [Section C.6](#).
All other units should be unpacked as close as possible to the clinic.

	<p style="text-align: center;">CAUTION</p> <p>The Gantry is shipped with the Detectors installed. It is important to move the Gantry onto the site and into a temperature controlled environment as soon as it is unloaded. Do not remove the foam insulation until the Gantry has been inside the clinic and allowed to stabilize for a period of at least 24 hours.</p>
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4. Convey the Gantry into the clinic.
5. Fit the Transportation Wheels supplied in the transportation kit, and convey the Table onto the site.

	<p style="text-align: center;">CAUTION</p> <p>To avoid damage to the equipment, never wheel the Table onto the site using its integrated wheels.</p>
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6. Release each Collimator Cart from the bottom palette of the container and wheel it onto the site.
7. Convey all the other units onto the site by means of a service wagon while they are still packed.
8. After unpacking, clear all packing material except for the Lifting Jig (UGP001187) and the Transportation Wheels crates.
9. Transportation Dollies and accessories to be shipped back for recycling (See “*Cleaning Up the Site and Removing the Shipping Dolly*” in the *Infinia Installation manual Direction 2411011-100*).

C.3 Gantry

The procedure used for unpacking and conveying the Gantry into the clinic depends on the available unloading equipment and accessibility to the Gantry on the truck.

Basically, there are two procedures:

- With a crane, provided that access to the Gantry for on-truck unpacking is enabled. Using a crane requires three steps:
 - Unpacking the Gantry on the truck.
 - Assembling the Lifting Jig onto the Gantry Transportation Dollies.
 - Unloading the Gantry using a crane.

For more details, refer to [Section C.3.1 on page C–5](#).


- With a fork lift.
For more details, refer to [Section C.3.1.2 on page C–9](#).

According to the unique conditions at specific sites, any other procedure or any combination of the above two procedures can be applied to unload, unpack and convey the Gantry into the clinic.


C.3.1 Gantry Unpacking and Conveying

C.3.1.1 Unloading the Gantry Using a Crane

While the Gantry is still on the truck:

	<p style="text-align: center;">CAUTION</p> <p>Check the G-limit indicator attached to the front of the Gantry packing crate (on top of the Fragile label) and verify that its color is white.</p> <p>If the color is red, please notify the carrier that the Gantry was subjected to impact exceeding 10 g, and proceed with unpacking.</p>
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1. Cut the packaging bands.
2. Remove the securing screws and nails from the packing crate
3. Remove the wooden top and the four wooden sides of the packing crate.
4. Remove the protective plastic cover.

	<p style="text-align: center;">CAUTION</p> <p>Check the g-limit indicator attached to the right side of the Gantry Stator and verify that its color is white.</p> <p>If the color is red, please notify the carrier that the Gantry was subjected to impact exceeding 10 g and inform the field engineer responsible for installation.</p> <p>The field engineer must assess whether there is damage to the system and decide whether to proceed with installation.</p>
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5. Verify that the Lifting Jig is in good condition (welding is not cracked).

Note

The Lifting Jig (UGP001187) needs to be ordered from the local office.

6. Unscrew the pins from the D shackles. Put sling links inside shackles and refit the pins into the D shackles through the holes in the four corners of the Stator support (rear of Gantry) and frame support assembly (front of Gantry). See [Figure C-1](#) and [Figure C-2](#).
7. Connect the lifting jig to the links (see [Figure C-1](#)). Be sure to attach the jig in the correct orientation.

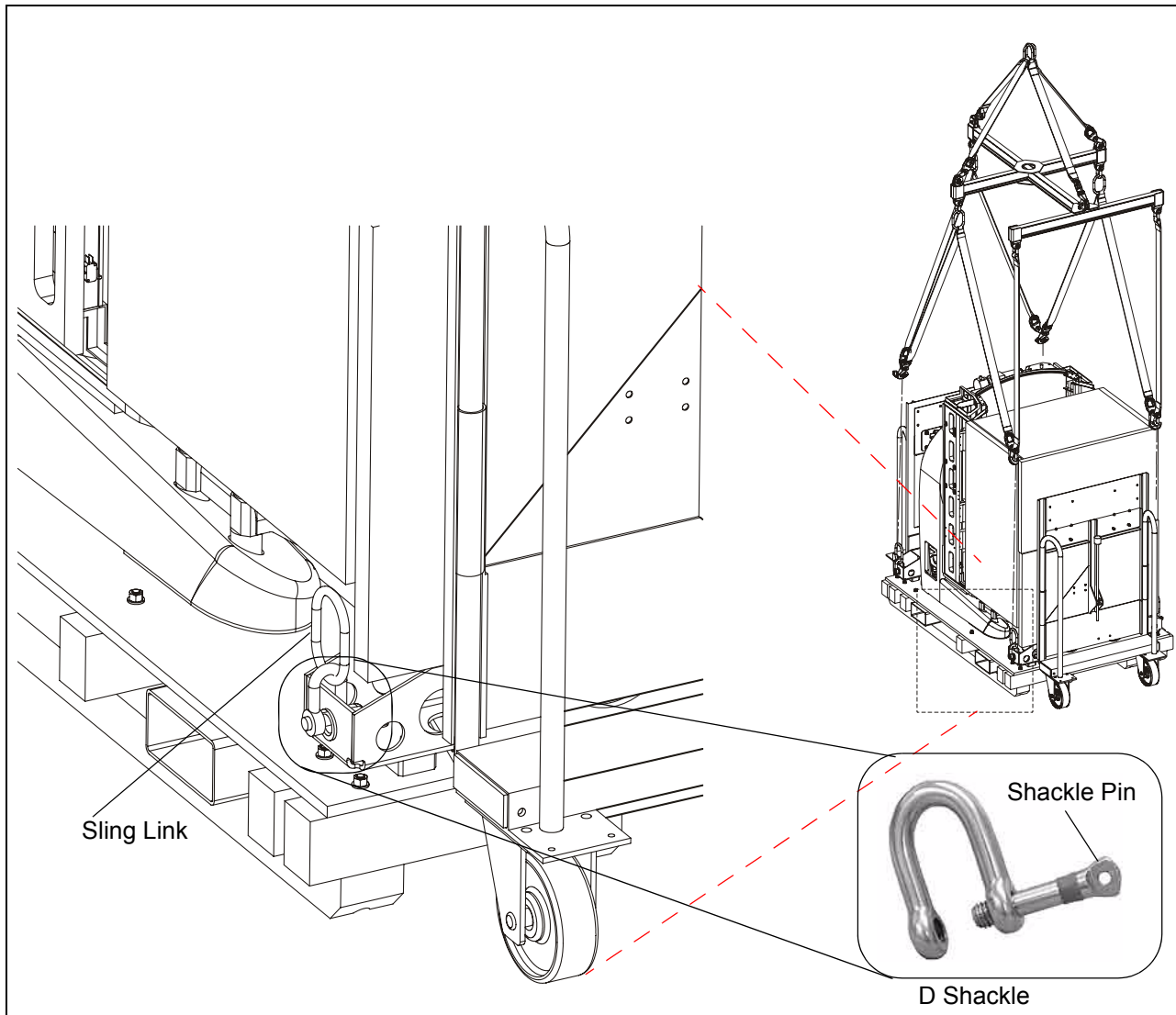


Figure C-1 Fitting the Lifting Assembly



CAUTION

Before lifting make sure that all hooks are properly connected to the links and all straps are free from obstacles.

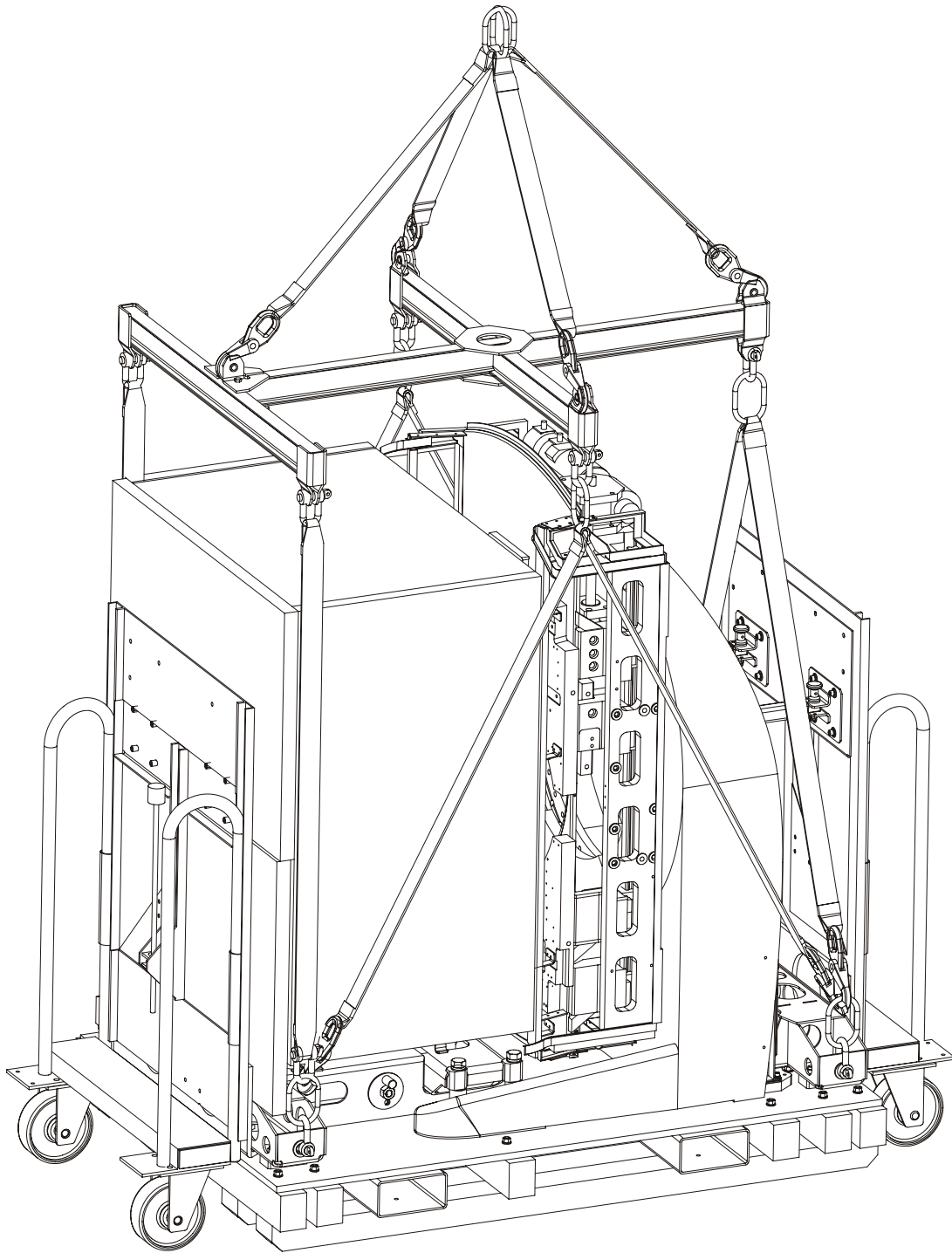


Figure C-2 Lifting Assembly Fitted in Place



WARNING

The Gantry is delivered with the Detectors already fitted.
Do not remove the foam insulation until the Gantry has been standing inside the clinic and allowed to stabilize for a period of at least 24 hours.

8. Remove the Adjustable Detector Pallet used to support the Detectors, by releasing the adjustment nut that holds the two angular pieces together and tapping gently with a soft faced hammer.

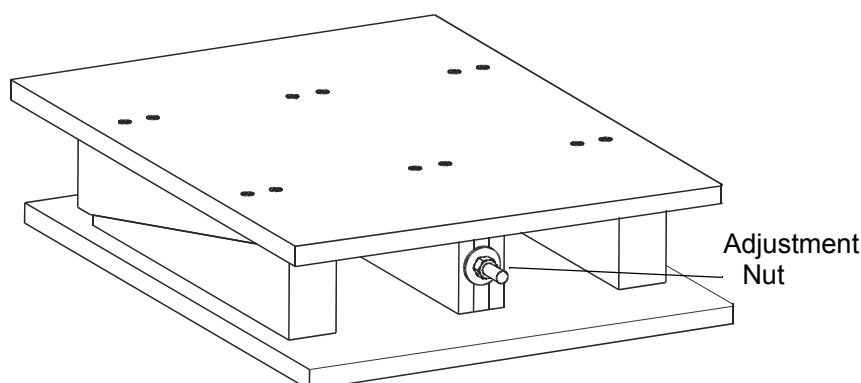


Figure C-3 Adjustable Detector Pallet



CAUTION

Do NOT stand close to the Gantry during hoisting, and make sure that there are no obstacles in the hoisting path.

9. Using the crane, unload the Gantry from the truck onto the ground.
10. Using lead screws on both Dollies, raise Gantry so that the wheels of the Dolly take up the load.
11. Detach wooden pallet from Gantry by unscrewing eight screws, two in each corner of the Stator support welding and frame support assembly.
12. Do not remove the foam insulation from the detectors.

Important


The Detector insulation is designed to increase thermal insulation during transportation of the system and should remain in place until system initialization.

C.3.1.2 Unloading the Gantry with a Fork Lift


When the Gantry is unloaded from the truck by a fork lift, it is unpacked on the ground.

1. Adjust the forks of the Fork Lift to fit the openings of the metal bars of the Base Pallet of the gantry crate.
2. Guide the fork driver to insert the forks under the Gantry.

Then guide the driver in lifting the Gantry slowly and carefully, and moving it to the location from where it will be wheeled into the clinic.

	<p style="text-align: center;">CAUTION</p> <p>The gravity center of the Gantry is located at 45 cm from its rear side. Make sure that the Gantry does not tip over during hoisting.</p> <p>The Detectors are sensitive to vibrations and shock. Use extreme caution and prevent excessive shocks while handling the Gantry with the Fork Lift.</p>
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3. Use a 5/8 socket and ratchet handle to turn the lead screw and raise the Gantry crate so that it's full weight is supported on the dolly wheels. (see [Figure C-4](#)).
4. Remove the side walls of the Gantry crate.

	<p style="text-align: center;">CAUTION</p> <p>The Gantry is delivered with the Detectors installed. Do not remove the foam insulation until the Gantry is placed inside the clinic for a period of 24 hours at least, ensuring temperature stabilization.</p>
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5. Referring to [Figure C-1](#):
 - a. Remove the Base Adjustable Pallet used to support the Detectors, by releasing the screw that holds the two pieces together.
 - b. Release the Top Pallet by tapping it with a hammer.
6. Unfasten the eight screws holding the Base Pallet to the Dolly Front and Rear Adapters (there are two in each corner).

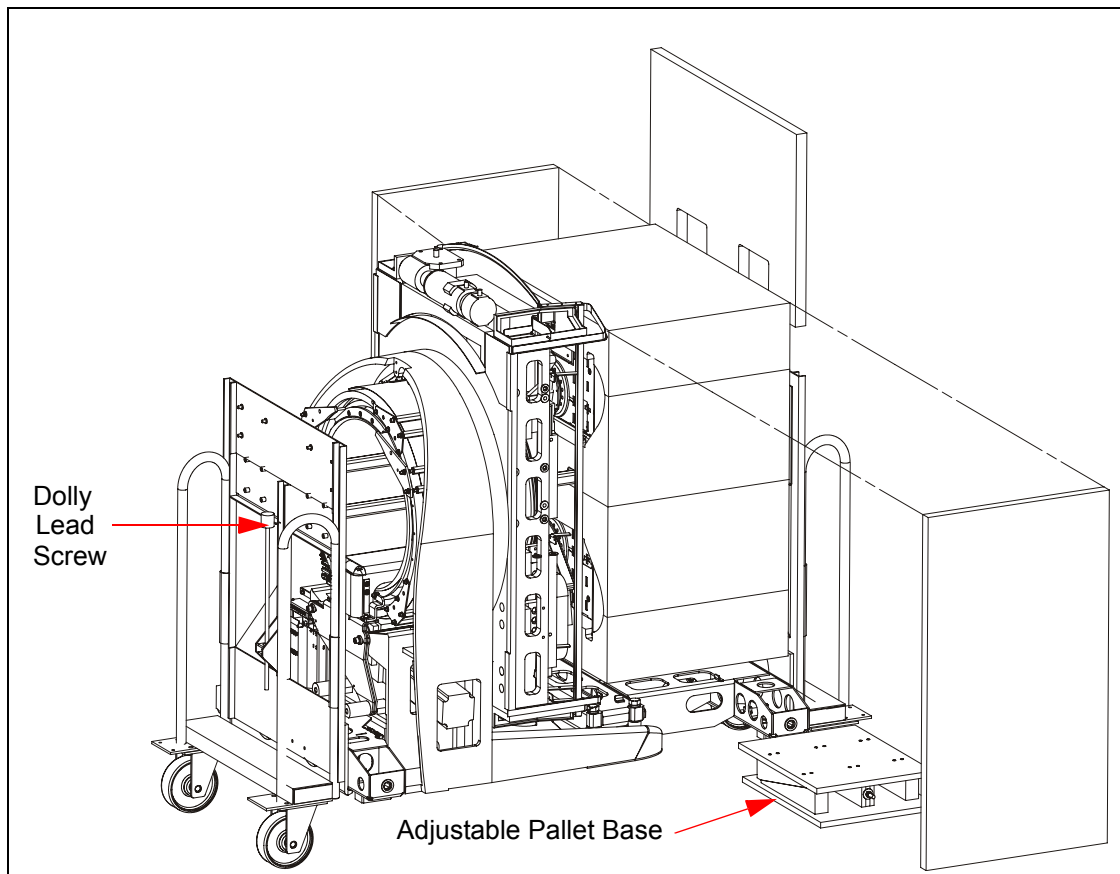


Figure C-4 Removal of Cranes and Base Pallet

C.3.2 Wheeling the Gantry to the Clinic

1. Before moving the Gantry to the clinic make sure that the conveyance path is free of obstacles and that the Gantry can negotiate all entrances, exits and corridors.

	CAUTION
Dolly wheels do not have braking mechanisms. Do NOT transport over sloping surfaces. The maximum slope permitted to maintain adequate safety is TBD.	

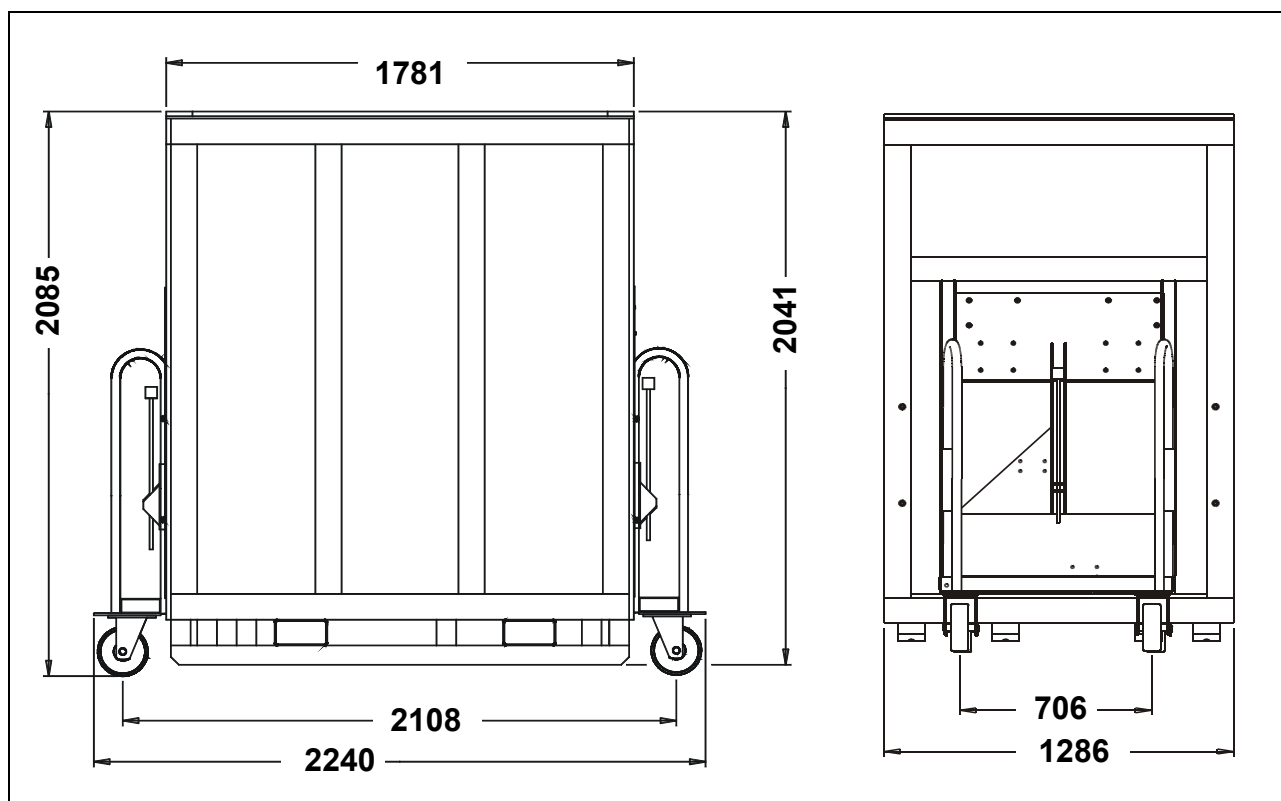


Figure C-5 Wheeling the Gantry

2. The Gantry is extremely heavy. At least four people are required to wheel the Gantry into the clinic with one supervising and one guiding.

	CAUTION
While pushing the Gantry beware not to touch any sensitive areas, such as slip rings, power supplies, etc.	

The transportation wheels should remain attached until the Gantry is properly positioned for anchoring. See [Section C.3.1](#).

C.4 Hawkeye System Integrated Option

The electrical assembly components remain on the Gantry, while the other assemblies are removed after system integration to enable transportation of the Gantry from the unloading area into the site.

These components are shipped in three packages:

- X-ray Source assembly
- X-ray Detector assembly
- Mechanical Assembly, Documentation and Software CD.

Table C–2: Hawkeye System Integrated Options (incl packaging)

Package	Dimensions (L, W, H)		Weight	
	cm	inch	kg	lb.
X-ray Source Assy.	L:100 W:60 H: 60	L:39.37 W:23.6 H:23.6	110	243
X-ray Detectors Assy.	L:100 W:60 H: 60	L:39.37 W:23.6 H:23.6	110	243
Mech. Assy., Documentation + SW	L: 60 W:70 H: 80	L:23.6 W:27.6 H:31.5	30	66

C.5 System Shipped without Hawkeye Option

Systems that are shipped without the Hawkeye options have smaller covers than those used with systems that have the option. All the covers are shipped in one crate and should be unpacked as follows:

1. Remove the front panel of the wooden crate (labeled “OPEN THIS SIDE FIRST”) then remove the upper panel (see drawing. PKG000142).

Important

Do not remove the left panel of the packing crate

The left panel of the crate has been removed in the figures below to allow a better view of the contents.

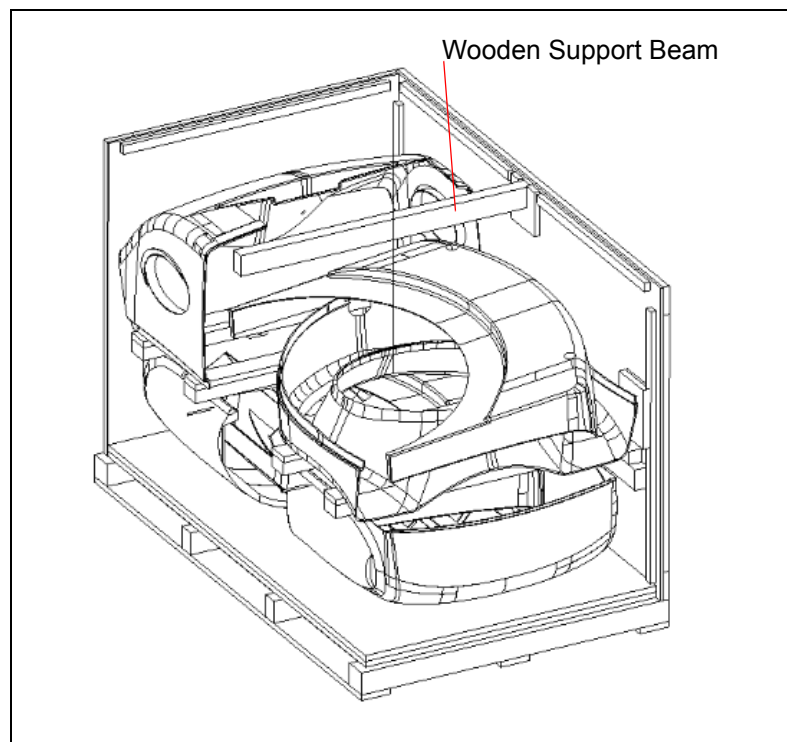


Figure C-6 Location of Components in Crate

2. Remove the Upper Wooden Support Beam and take out the Covers located between the support beam and the 4 Central Beams. Store the covers in a safe place to prevent accidental damage.

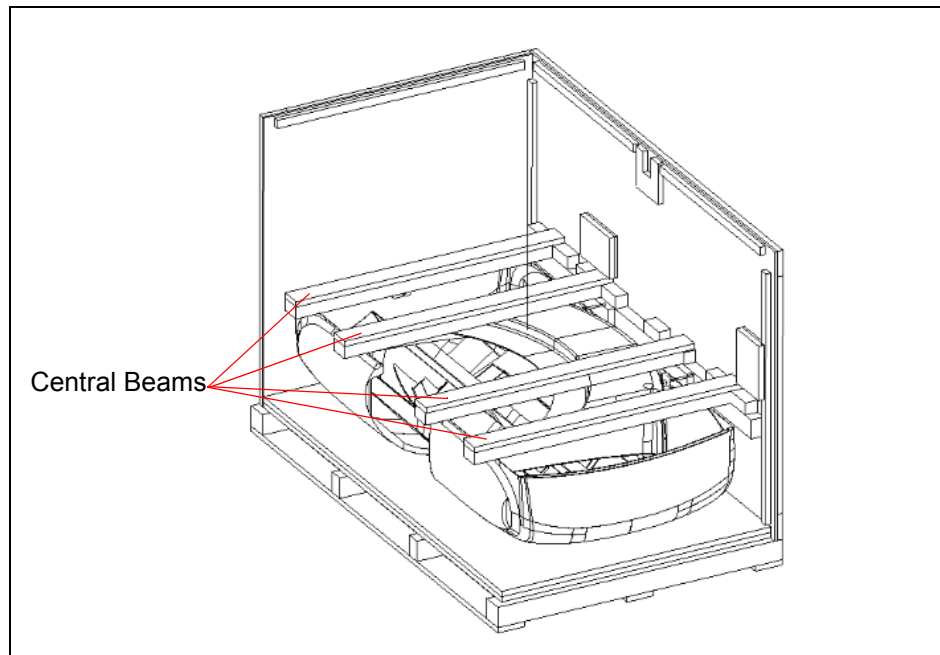


Figure C-7 Location of Central Beams

3. Remove the 4 central beams.

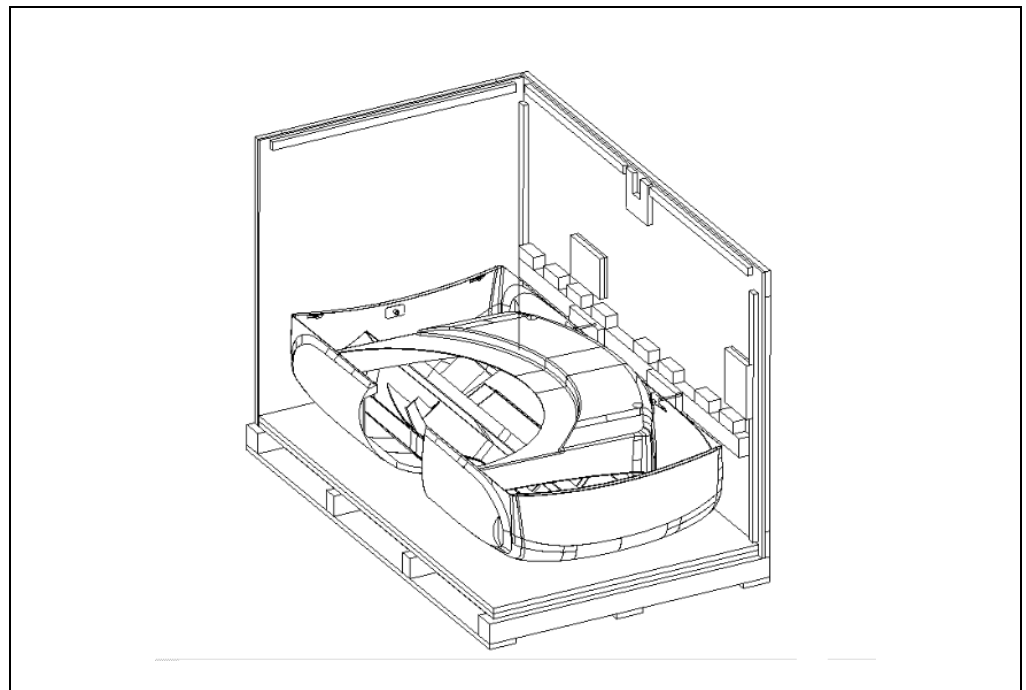


Figure C-8 Rotor Covers Packed Inside the Up-turned Head Covers

4. Carefully remove the Rotor covers located inside the two up-turned head covers and move to a safe place

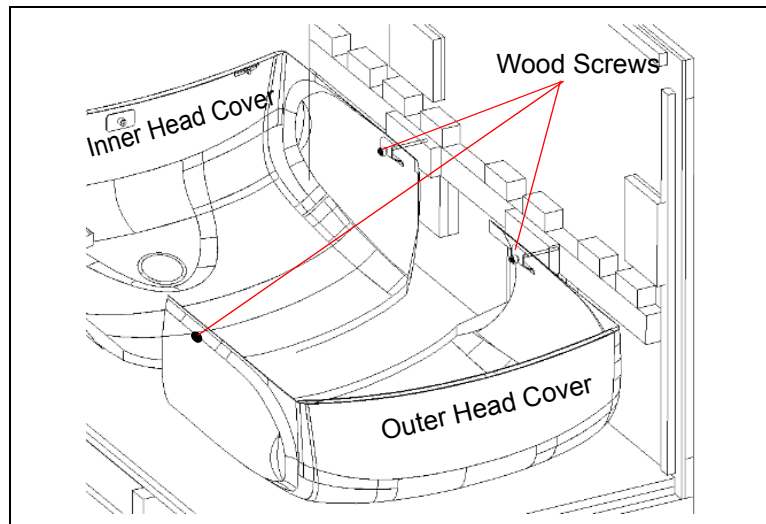


Figure C-9 Inner and Outer Head Covers

5. Unfasten the Outer Head Cover (MEC008055) from the left and the right walls of the packing box, loosening 2 wood screws as shown.
6. Carefully remove the Outer Head Cover and move to a safe place.

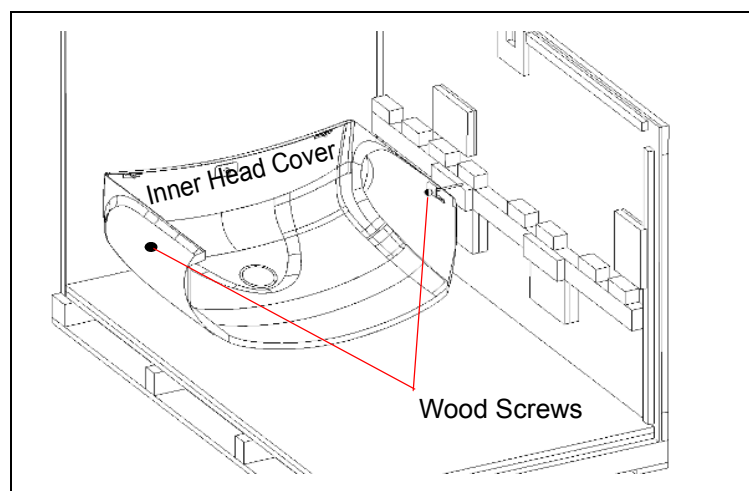


Figure C-10 Inner Head Cover

7. Unfasten the Inner Head Cover (MEC008055) from the left and the right panels of the packing case, loosening the 2 securing wood screws as shown. Carefully remove the Inner Head Cover and move to a safe place.

C.5.1 Checking Crate Contents

After unpacking, make sure that the following items are present:

1. Infinia Cover Set(for systems without Hawkeye Option) DTP000230

- Rear cover #1
- Rear cover #2
- Service cover #1
- Service cover #2
- Retractor cover
- Encoder cover

2. Infinia Head cover MEC008055 (x2)

3. Stator Back Cover MEC007111

- Upper unit
- Bottom unit

4. Nut NC-5/16 HEX. AF=.500 HN00340508C (x2)

5. Screw NC-5/16 L=32mm Hex-Head HS00340520C (x2)

6. Screw NC-8 L=13mm Flat-Head HS03109408C (x22)

7. Screw NC-1/4" L=25.4mm Flat-Head HS03120416C (x6)

8. Screw NC-12 L=16mm Pan-L Decorative HS111196100 (x4)

9. Head cover screw MEC008052 (x4)

10. Back cover ¼ inch adapter MEC007073 (x6)

11. GE Logo Dome 120mm LBL000761 (x2)

12. Label electrical hazard XB830060105 (x3)

13. Label electrical hazard XB83006010K (x3)

Items 4 to 10 are located in a plastic bag fastened to the top unit of the Stator Back Cover.

C.6 Patient Table

The table is unloaded from the truck either by a crane or by a fork lift truck. In both cases unload the Table while it is still in its original packing, and anchored to the crate.

Hoisting by crane must only be done with proper hoisting straps, provided by the crane company.

C.6.1 Table Unpacking and Conveying

While the Table Crate is placed on a flat ground:

1. Cut the bands.
2. Unfasten and remove the top cover of the crate.
3. Remove the Pallet Ramp.
4. Dislodge and remove the four side covers of the crate.
5. Remove the nylon cover.
6. Place the Head Rest support packing in a safe place) it can be placed on the table).
7. Disassemble the Table Strip Covers.
8. Disassemble the Table Lower Long Covers.
9. Remove the four tightening brackets that secure the Table to the bottom Pallet of the crate (four screws for each).
10. Rotate the rear transportation wheel down as far as possible and tighten the lock nut.
11. Remove the two Pallet Planks.
12. Place the Pallet Ramp in front of the Pallet.
13. Place the electrical cable and all covers on the Table.
14. Carefully move the table down the ramp until it completely clears the Pallet and Ramp.
15. Clear the unpacking area from all packing materials.
16. Convey the Table into the site.

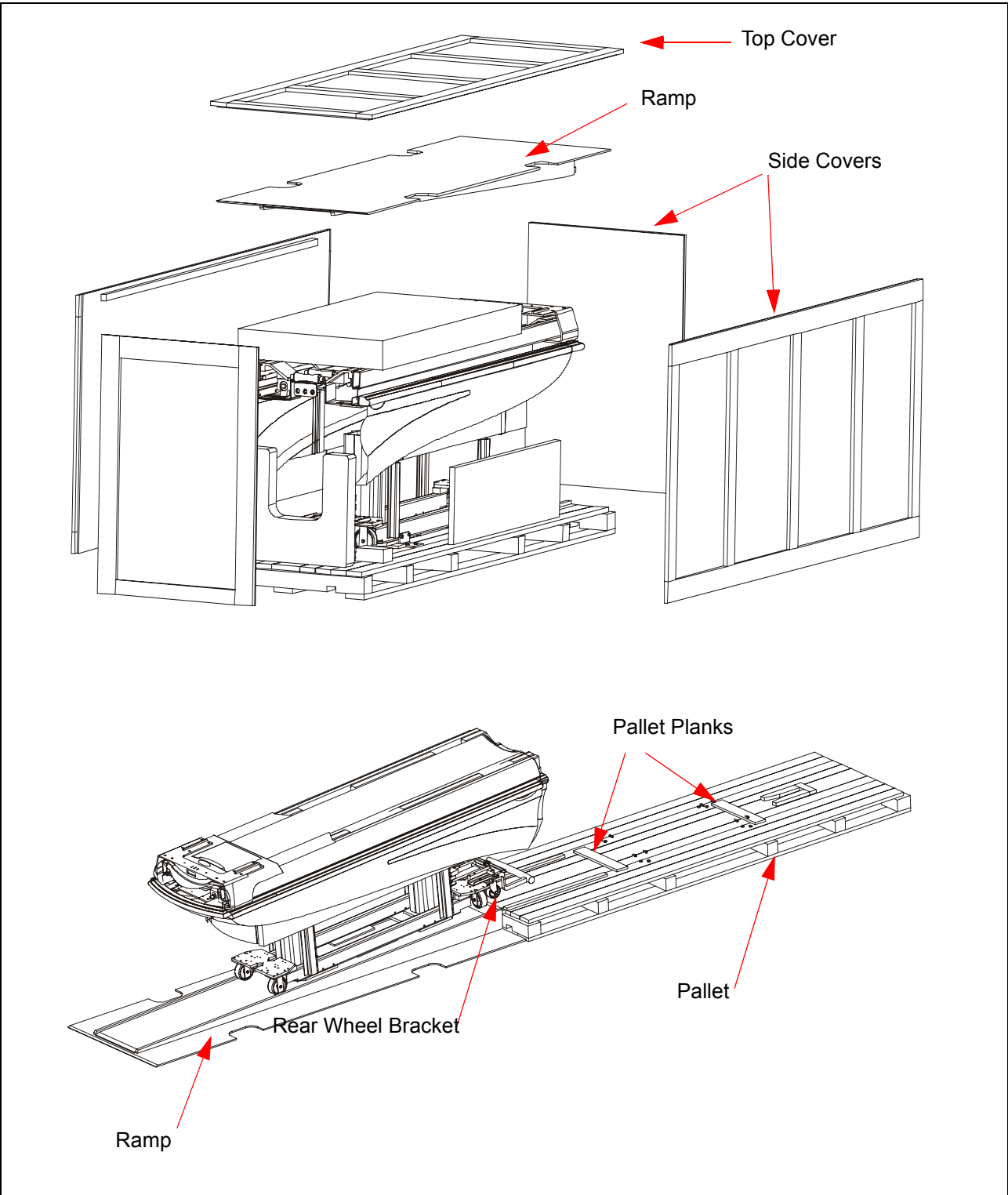


Figure C-11 Table Unpacking and Conveying

C.7 Collimator Cart Unpacking

Figure C-12 refers:

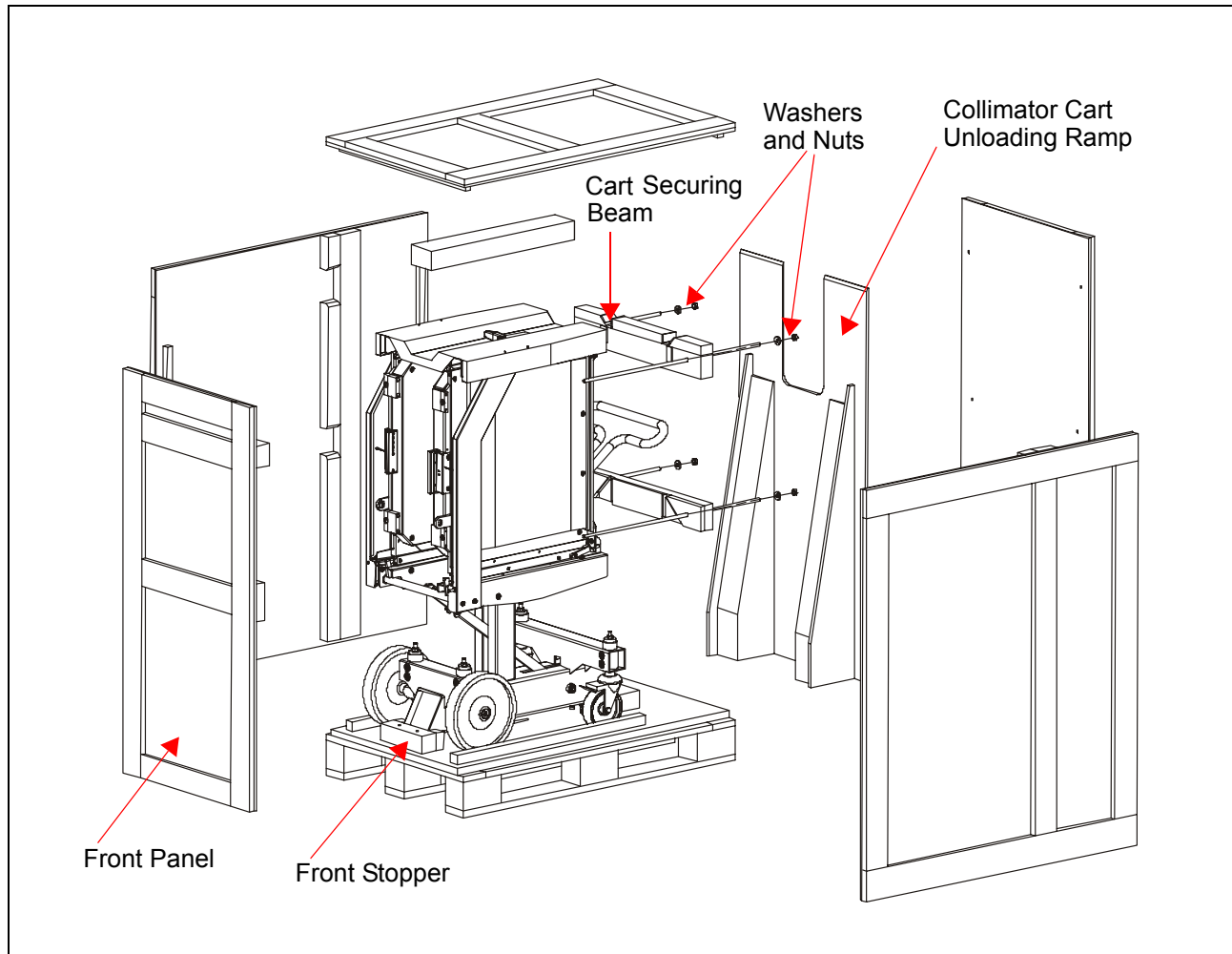


Figure C-12 Collimator Cart Unpacking

1. Remove the metal bands and panel fastening clips from the crate.
2. Remove all the panels of the crate except the front wall which should remain attached to the cart.
3. Unfasten the retaining nuts and washers that hold the cart fastening beams and detach the beams, allowing removal of the Front Panel.
4. Place the Collimator Cart Unloading Ramp in front of the crate base.
5. Detach the Front Stopper from the pallet.

6. Release the brakes on the cart rear wheels.
7. Slowly wheel the cart off the pallet and down the ramp.

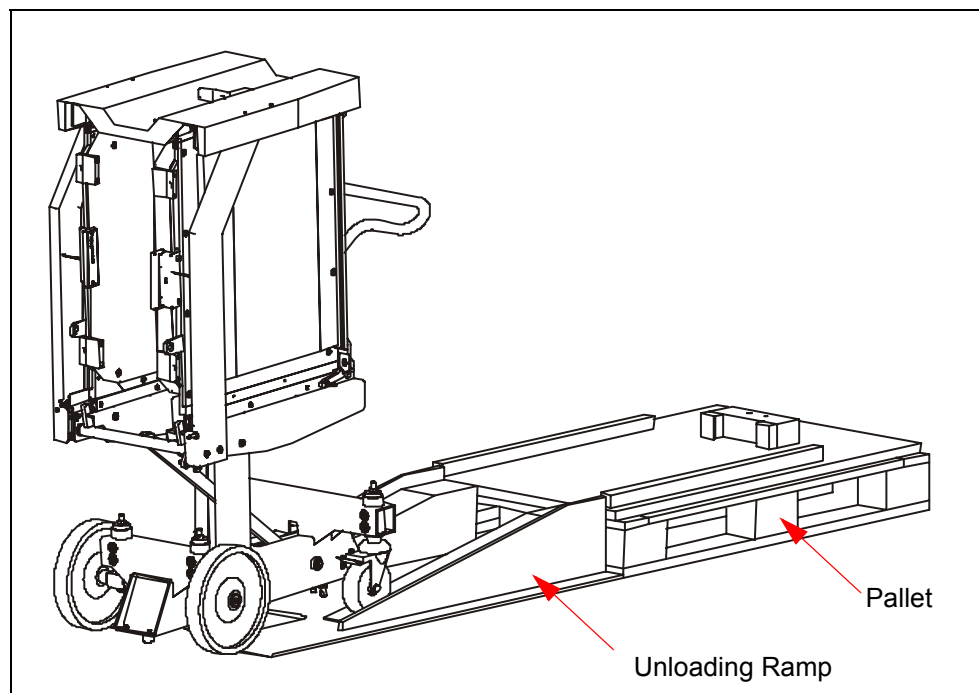


Figure C-13 Wheeling the Collimator Cart Off the Pallet



CAUTION

1. The collimator cart is heavy and must be moved with care to avoid damage or injury. Two persons are required to remove the cart from the crate.
2. Use caution when wheeling the cart and avoid uneven and/or inclined surfaces.

C.1 Unpacking the IPS

1. Open the packing crate containing the IPS.
2. Using a ratchet handle and extension piece fitted to a 5/8" socket, unfasten the shipping bracket bolts and remove the bracket.
3. Remove the front wall of the crate.
4. Lift and remove the IPS from the crate.

C.2 Unpacking the Detectors

Due to their extreme sensitivity to temperature gradients, the Detectors are shipped covered in specifically designed insulation material.

1. Verify that the room temperature is steady in the range of $24^{\circ}\text{C} \pm 2^{\circ}\text{C}$, and that the packed Detectors have been stabilized for at least 24 hours at between 20° and 28°C .
2. Remove the red protective foam covering the thermometer located on the front insulation wall. Verify that the temperature is not more than 4°C above or below the ambient temperature.
 - If the temperature is within the above range, proceed to Step 3.
 - If not, leave the Detector insulation in place for an additional four hours, then return to Step 1 above.
3. Cut the bands securing the insulation and remove the Top and Bottom Insulation pieces.

C.3 Conveyance Access and Clearance

From the unloading site, there must be a free path to wheel the components to the installation area, or into a lift which will carry them to the correct level. The size and weight specifications of the system components are given in [Table C–3](#), and [Table C–4](#).

It is important to verify that the route selected has sufficient clearance and load carrying capacity. Special facilities must be provided if the units are to be transferred from an unloading site outside the building

C.3.1 Access Specifications

The Weights and Dimensions listed below **include** the moving wheels

Table C–3: Gantry - Weights, Measurements and Clearance

Height of Gantry mounted on dolly - (with 45 mm clearance to floor)	1,800 mm (71")
Weight of Gantry mounted on dolly	2,550 kg (5610 lb.)
Minimum hall width allowing the Gantry to be wheeled around 90° corners	1,800 mm (70.9")
Minimum width to allow gantry to move through 48" (1219 mm) doorway	2600 mm
Minimum Door Width	1140 (45")

Note

The Dolly wheels have no braking mechanism. Do NOT move or leave the Gantry on inclined surfaces.

Table C–4: Patient Table - Weights and Dimensions

Minimum hall width allowing the Table to be wheeled around 90° corners	2,000 mm (78.74")
Path slope	< 4% (4 cm / 100 cm; 1.57" / 39.37")
Table length	2,505 mm (98.62")
Weight of Table mounted on moving wheels	410 kg (902 lb.)