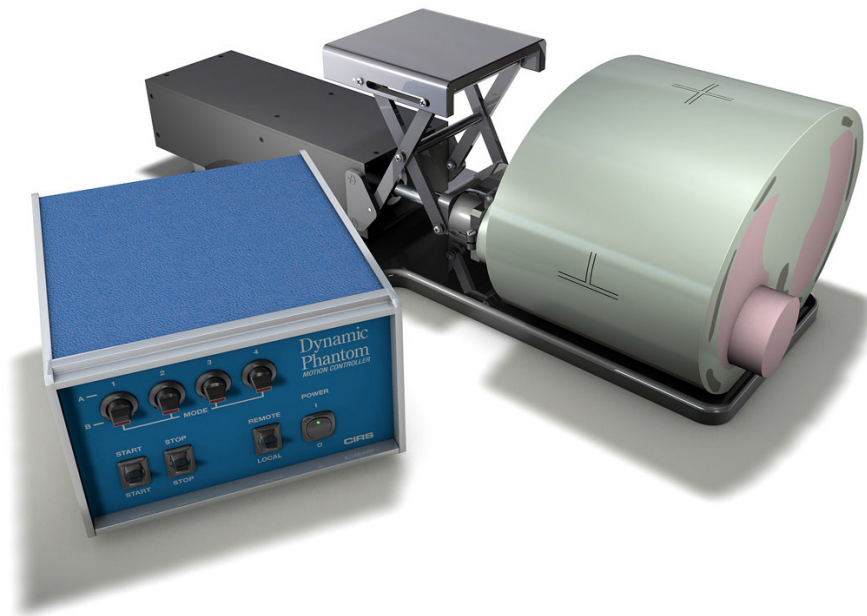


# Xsight® Lung Tracking Phantom Kit

Model 18023

**QUALITY ASSURANCE AND E2E TESTING  
ON CYBERKNIFE® SYSTEMS**



## UNPACKING & SETUP INSTRUCTIONS



The CIRS Model 18023 Xsight Lung Tracking "XLT" Phantom Kit and Model 18043 4D Planning "4DP" Phantom are manufactured under license agreement with Accuray Incorporated.

# CIRS

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# Xsight® Lung Tracking Phantom Kit - Model 18023

## Packing Checklist

Please call immediately if any item is missing.

Phantom ID# \_\_\_\_\_

Customer \_\_\_\_\_ PO # \_\_\_\_\_ Order ID \_\_\_\_\_

Ordered	Shipped	Part No.	Component Description
1	_____	18023-003	XLT Torso

### Base Plate, Spacers and Actuator assembled together

1	_____	18023-018	Base Plate
1	_____		Spacers for Phantom (3 per base)
1	_____	15008-150	Actuator Assembly
1	_____	15008-124	Gating Device Assembly

### Motion Controller

1	_____	15008-151 Motion Controller includes: _____ power cord _____ 15008-152 DB15 male to female cable
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### Moving Rod and Film Cube

1	_____	18023-012	XLT - Target Moving Rod
1	_____	18023-017	XLT - Film Cube #3, Caution Label on front of film cube container
4	_____		Replacement Assembly Pins for Cube #3

### Accessories

1	_____		Screwdriver, 4 in 1
1	_____	15008-153	Push Rod for ball cube
1	_____		Wrench, Hex, 3/32"
1	_____		Wrench, Hex, 5/64"
2	_____		2 amp fuses
1	_____		Extra fasteners pack (minimum quantity)
		3	Nylon 8-32 x 1/2" PH
		2	Nylon 1/4-20 x 1" PH
		2	6-32 x 1" CS
		2	6-32 x 1" PH
		3	8-32 x 1/2" Socket Head
1	Retained		Preset Motion Profiles Backup CD – Store in CIRS Order File
1	_____		Motion Controller Labeled with Accuray Dipswitch Settings
1	_____	18023-CS	XLT Kit Case

Packed By: \_\_\_\_\_ Date \_\_\_\_\_

Verified By: \_\_\_\_\_ Date: \_\_\_\_\_

# Unpacking Instructions



1. Before you open the case check the three **Drop 'N' Tell** indicators on the right side of the case.

**Drop 'N' Tell** shipping damage indicator shows when a case has been dropped in transit and contains potential damaged goods. The sensor displays a red arrow when applied before shipping. If the container receives a shock exceeding 25 G force, the sensor display arrows will change to blue. If the sensor has been activated and is blue, a claim may need to be filed with the carrier. If activated, take extra care in inspecting the components as they are unpacked, assembled and tested.

**Note:** If there is any damage to the packaging case, containers, foam, and components, or operation, immediately contact the carrier and the phantom supplier, and keep all packaging for carrier inspection.



2. Remove the controller unit from case.



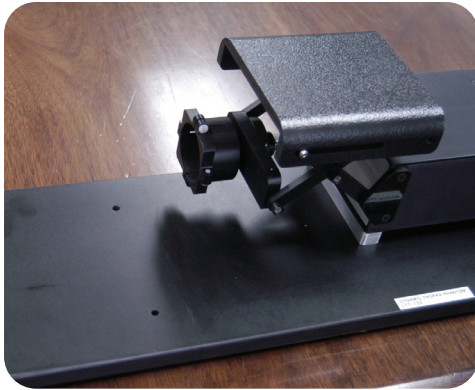
3. Pull phantom body from the case.



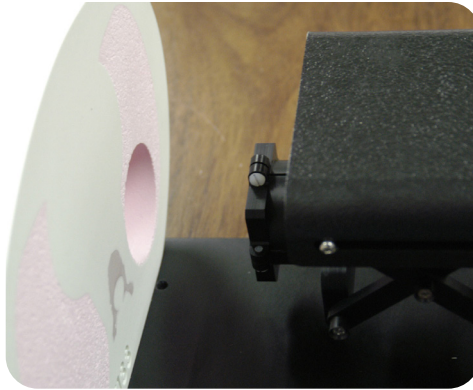
4. Pull base and the actuator assembly from the case. Inspect the list of parts before assembly. Refer to pack list on page 1. Verify all parts received.



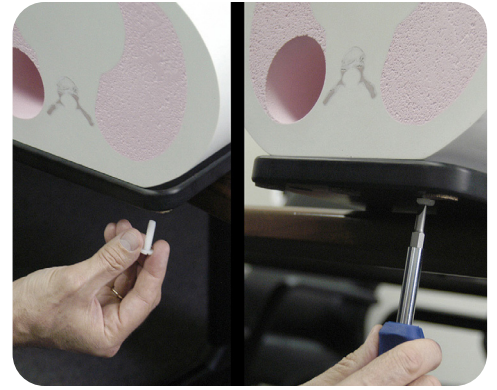
# Assembly Procedure



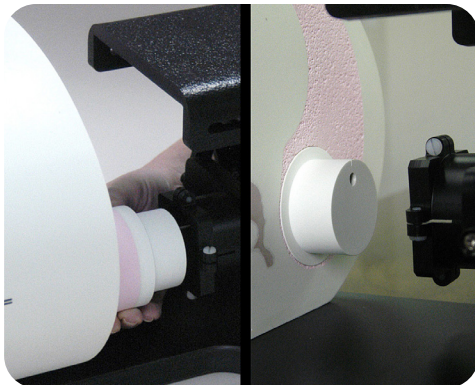
**1.** Place base plate with actuator assembly on a table.



**2.** Position phantom body on base plate as shown. The rod hole must be on same side and aligned with the rod holder.



**3.** Carefully move base plate with phantom to edge of table. Place one screw through bottom of base plate and screw into phantom. Continue until all screws are in place. Snug but do not tighten screws to allow minor alignment adjustments in step 6 and 7.



**4.** Insert the lung rod thru the hole of the phantom body. If the body is properly aligned the rod will slip into the cup. Ensure that the pin hole on the rod is aligned with the pin inside the cup.



**5.** Use a screw driver to tighten the 4 nylon screws on the cup.



**6.** Push lung rod towards the motor box. Visually check gap around the rod. It should appear consistent. If not, adjust body left and right until gap is consistent around rod.

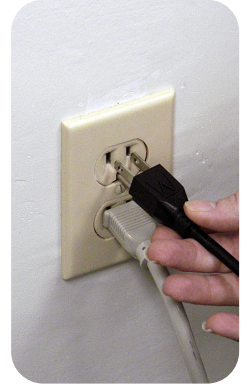
# Assembly Procedure (continued)



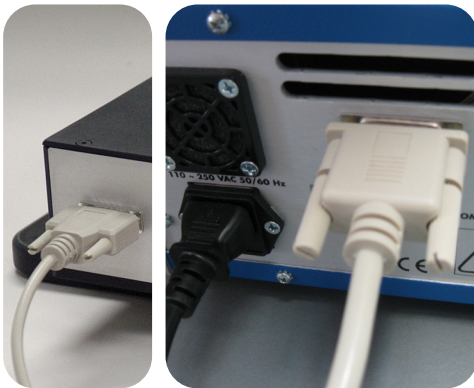
7. Extend rod out, visually check gap around the rod. It should appear consistent. Check gap on the motor box side of the body as well. Adjust phantom body to achieve best fit. Finish tightening the four screws on the under side of the phantom.



8. Plug the Cable DB15 m/f to back of controller and to the back of actuator.



9. Plug the power cord into the back of the controller. Plug the other end of the power cord into the wall outlet.



10. The controller and actuator are connected, powered, and ready for use.



11. Power up the controller. Proceed to page 6.

# Motion Operation

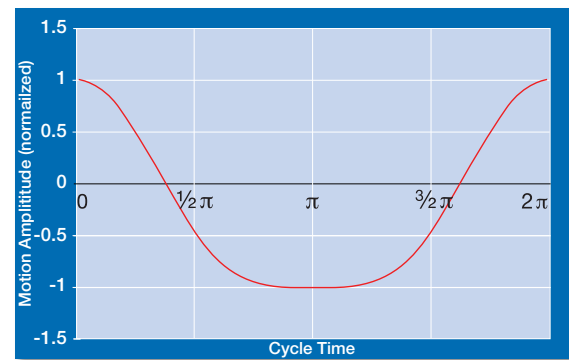
## CyberKnife® System Switch Positions:

- 1) Ensure **REMOTE** switch setting is in the **LOCAL** position.
- 2) Set dipswitches to MODE Switch Combination as stated below

Motion Profile #	Mode Switches				Target Center Displacement, mm			Cycle Time
					AP	LR	IS	
4DP	B	A	B	B	0	0	30	5.0
XLT	A	B	B	B	0	0	30	5.0

All Switches must be properly set for proper operation.

1. Check switch configuration to ensure proper operation. The controller is supplied with two motion profiles as noted in the table above. They can only be selected using the proper mode switch combinations. **In any other combination of mode switch causes the phantom to perform only the homing function. See reference card located on the top of the phantom for more information.** Once you have selected proper mode switch combination and ensured the remote / local switch is in the LOCAL position you are ready to start the phantom.
2. Push the START button (keep depressed about 3-5 seconds) and homing cycle begins. The actuator rod will move to a limit switch and subsequently to a mid position for rotation and then for linear motion through two cycles. Wait until the motion stops at the programmed mid position. This homing cycle will take about 15-20 sec.
3. Push the START button a second time (keep depressed about 3-5 seconds), to move the rod to start position.
4. When you are ready to start the oscillation motion press the START button a third time (keep depressed about 3-5 sec until movement begins).
5. To stop oscillation motion press STOP button. This is not instantaneous. The motion will stop ONLY after a completed cycle. (This can take up to 10 seconds.) If you do not press STOP the actuator will stop automatically after completing 2,500 cycles.
6. When testing is complete and after oscillation motion has stopped, turn the POWER switch to the OFF position "O" and disconnect power cord.



**1-2 cos<sup>4</sup> Model** Provides highest correlation to large data sets of patient respiratory motion.



# Removal of Ball Cube Insert



1. CIRS has provided a Ball Cube Removal Tool. Please note precautions on Ball Cube insert packaging.



2. Insert Ball Cube Removal Tool into back of Target Moving Rod at insertion point as shown above.

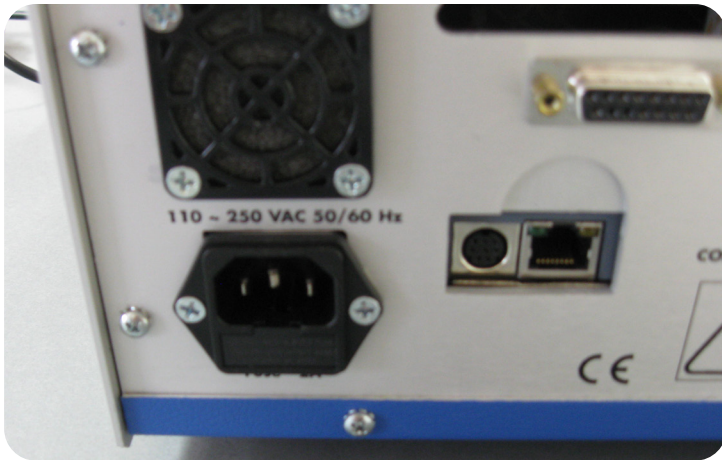


3. Gently push forward until Ball Cube is removed. Do not use other tools for this purpose as they may damage the surface of the Ball Cube which is fragile.



# How to replace fuses

If the unit does not power up (green light on the switch will illuminate) check the power cord and source. If connections are good, check the fuses on the back of the controller.



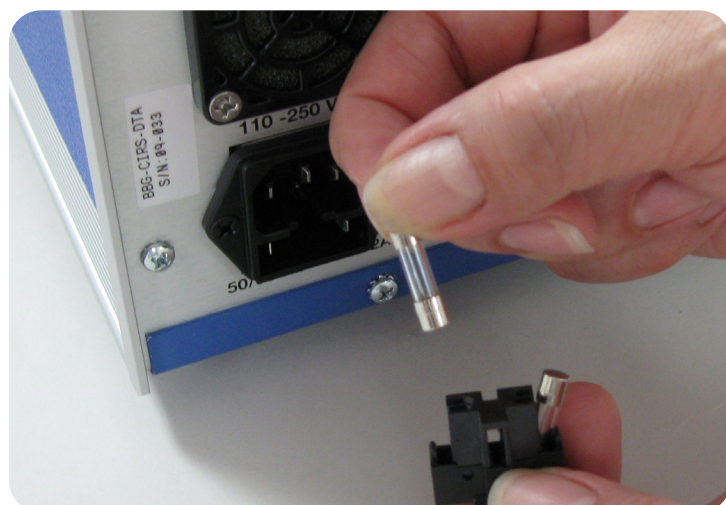
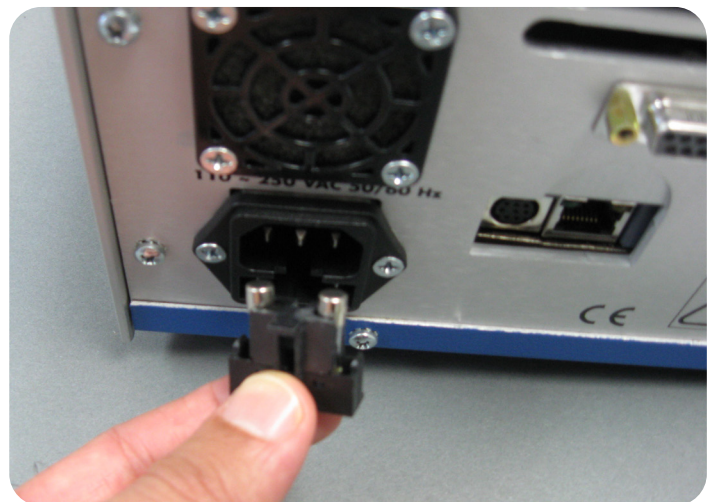
1. The controller has two fuses on the back panel, located in the bottom of 120 ACV female plug.



2. Unplug the unit from the power source. Using a flat head screwdriver pry open the fuse tray.



3. Pull the side tray out and fold down the fuse drawer.



4. Remove and replace fuses with 2 AMP, F fast acting fuses 5x20 mm ONLY!



5. Close fuse tray and proceed to power up the controller.

# Safety

## General Safety Notices

The following general safety notices supplement the specific warnings and cautions appearing elsewhere in this manual. They are recommended precautions that must be understood and applied during operation and maintenance of the equipment covered herein.

## Safety Precautions

Operating and maintenance personnel must observe all safety regulations. High voltages of 110-250 volts at 50/60 Hertz are used in this equipment. Failure of the operator and maintenance personnel to observe all safety precautions could result in personal injury, damage to the equipment, and loss of product effectiveness. The general safety precautions that must be observed are as follows:



**WARNING:**  
**HIGH VOLTAGES CAPABLE OF CAUSING DEATH ARE USED IN THIS EQUIPMENT. USE EXTREME CAUTION WHEN OPERATING AND SERVICING THE CONTROLLER. DEENERGIZING THE CONTROLLER BY USING THE POWER SWITCH DOES NOT REMOVE THE 110-250VAC POWER EXCITATION FROM THE CONTROLLER. THESE VOLTAGES REMAIN PRESENT ON THE CONTROLLER POWER SWITCH AND POWER CONNECTOR UNLESS IT IS DISCONNECTED.**

## Cleaning:

You can clean the phantom with a soft cloth dampened with water and mild detergent. Do not use disinfectants or solvent-based cleaners or sprays.



**WARNING:**  
**TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY WHEN USING THE MOTION CONTROLLER, FOLLOW THESE BASIC PRECAUTIONS:**

- There are no user-serviceable parts inside. Refer servicing to qualified service personnel.
- Use only a grounded 3 prong electrical outlet when connecting this product to a power source. If you do not know whether the outlet is grounded, check with a qualified electrician.
- Do not remove ground prong.
- Do not install or use this product near water, or when you are wet.
- Operate the product securely on a stable surface.
- Set up the product in a protected location where no one can step on or trip over the power cord and the power cord cannot be damaged.
- It is recommended that the customer install an AC surge arrester in the AC outlet to which the Controller is connected. This is to avoid damaging the equipment by local lightning strikes and other electrical surges.
- To prevent overheating, do not block the fan on the rear panel or the ventilation holes located on the rear panel and bottom of the Controller.

# Limited Warranty

All standard CIRS products and accessories are warranted by CIRS against defects in material and workmanship for a period as specified below. During the warranty period, the manufacturer will repair or, at its option, replace, at no charge, a product containing such defect provided it is returned, transportation prepaid, to the manufacturer. Products repaired in warranty will be returned transportation prepaid.

There are no warranties, expressed or implied, including without limitation any implied warranty of merchantability or fitness, which extend beyond the description on the face hereof. This expressed warranty excludes coverage of, and does not provide relief for, incidental or consequential damages of any kind or nature, including but not limited to loss of use, loss of sales or inconvenience. The exclusive remedy of the purchaser is limited to repair, recalibration, or replacement of the product at manufacturer's option.

This warranty does not apply if the product, as determined by the manufacturer, is defective because of normal wear, accident, misuse, or modification.

## Non-Warranty Service

If repairs or replacement not covered by this warranty are required, a repair estimate will be submitted for approval before proceeding with said repair or replacement.

PRODUCT	WARRANTY PERIOD
Models 18023-A - Dynamic Phantom	24 Months

## Returns

If you are not satisfied with your purchase for any reason, please contact Customer Service or your local distributor prior to returning the product. Visit <https://www.cirsinc.com/distributors/> to find your local distributor. Call 800-617-1177, email [rma@cirsinc.com](mailto:rma@cirsinc.com), or fax an RMA request form to 757-857-0523. CIRS staff will attempt to remedy the issue via phone or email as soon as possible. If unable to correct the problem, a return material authorization (RMA) number will be issued. Non-standard or "customized" products may not be returned for refund or exchange unless such product is deemed by CIRS not to comply with documented order specifications. You must return the product to CIRS within 30 calendar days of the issuance of the RMA. All returns should be packed in the original cases and or packaging and must include any accessories, manuals and documentation that shipped with the product. The RMA number must be clearly indicated on the outside of each returned package. CIRS recommends that you use a carrier that offers shipment tracking for all returns and insure the full value of your package so that you are completely protected if the shipment is lost or damaged in transit. If you choose not to use a carrier that offers tracking or insure the product, you will be responsible for any loss or damage to the product during shipping. CIRS will not be responsible for lost or damaged return shipments. Return freight and insurance is to be pre-paid.

With RMA number, items may be returned to:

CIRS  
Receiving  
900 Asbury Ave,  
Norfolk, Virginia, 23513 USA

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