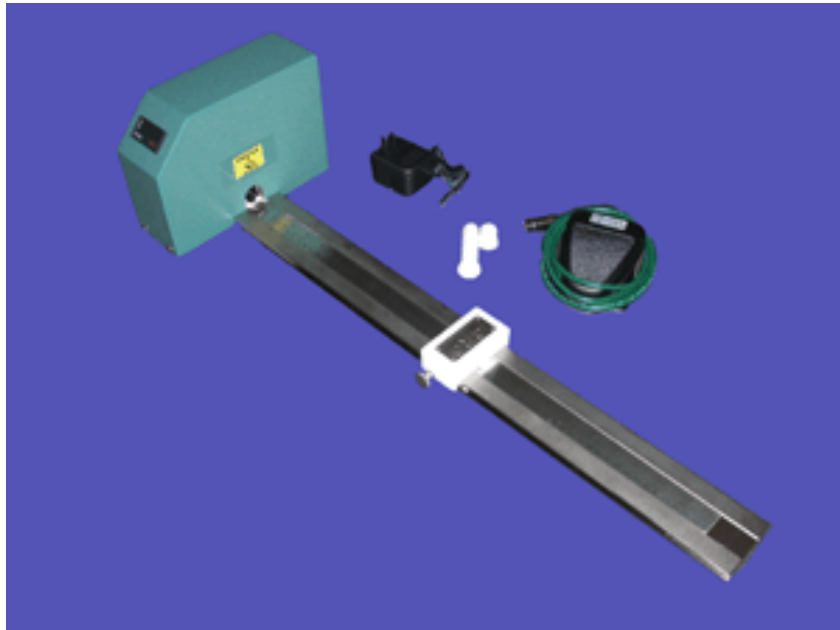




CLEAN ROOM DEVICES, LLC
"WHERE TUBING AND FITTINGS COME TOGETHER"

CRD110 TUBING CUTTER

OPERATIONS MANUAL



VERSION 2.1
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1.0 General Product & Safety Information

1.1 Product Information

- The CRD110 Tubing Cutter is designed to cut flexible tubing (including heatshrink) up to a Shore A 85 durometer, including any non-metallic braided materials.
- Easily interchangeable bushing sets are available. The standard bushing set includes ten (10) bushings for the following tube outside diameters: 1/16", 3/32", 1/8", 5/32", 3/16", 1/4", 5/16", 3/8", 1/2", 9/16") of tubing. Custom sizes are also available.
- The minimum/maximum cut lengths range from 7/8" to 24" long. All lengths within that range can be achieved within plus/minus .030" tolerance utilizing the slide block and scale. Minimum cut lengths of 7/8" can be achieved by visually locating the tube at the end of the bushing and depressing the activation button on the slide block with your free hand.
- The unit is designed for both left-hand or right-hand operation.
- Power supplies are available for both North America (120VAC) or Europe (230VAC).

1.2 Safety Information

- This product uses an air cylinder to pneumatically actuate a cutting blade internal to the unit. A safety interlock beneath the cover will disengage all electrical power once the electronics cover is removed, but will not relieve any existing air pressure. Therefore, do not attempt to replace the cutting blade without first unplugging the AC power **and** disconnecting the air supply.

WARNING

Do not, for any reason, disconnect or override the safety interlock switch found beneath the electronics cover.

- The desired air supply should be free of moisture/contaminates, and fall within 80-100psi. It is recommended that a suitable filter/regulator be installed onto the supply line prior to the unit to preserve the life expectancy of the air valve.
- This unit can be purchased for use with either 120VAC or 230VAC, do not attempt to use any power supply other than that of the intended outlet or receptacle.

2.0 Installation

Ensure all four (4) rubber feet are completely stabilized on your work surface prior to applying power and air to the unit.

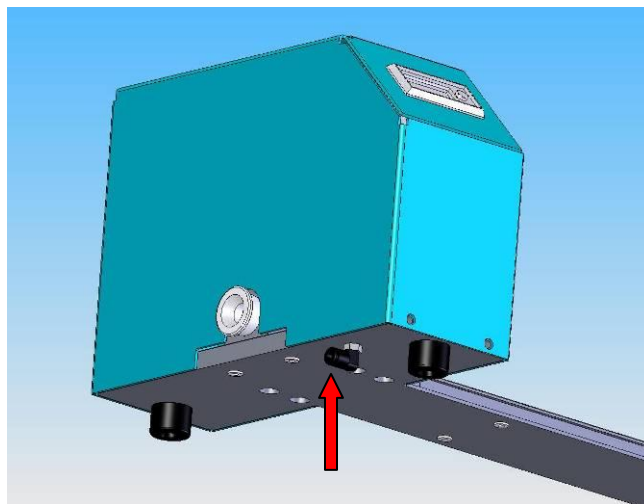
2.1 AC Power

- This product uses standard alternating current power provided by your local utility. Ensure that you use the correct power supply (120VAC or 230VAC) for the type of power in your region.

2.2 Air Supply

- Connect a 5/32" (or 4mm) air supply hose to the 90° elbow found beneath the unit. The air supply should be free of moisture and contaminants. It is recommended that a suitable filter/regulator be installed onto the supply line to preserve the life expectancy of the air valve and associated parts.

Standard facility compressed air within the range of 80-100 psi is recommended. Lower than 80 psi may effect the “cut” quality. Higher than 100 psi may reduce the life expectancy of internal parts.

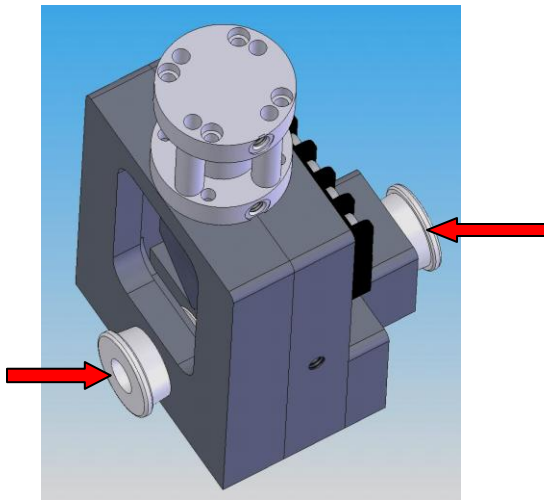


Air supply inlet elbow location

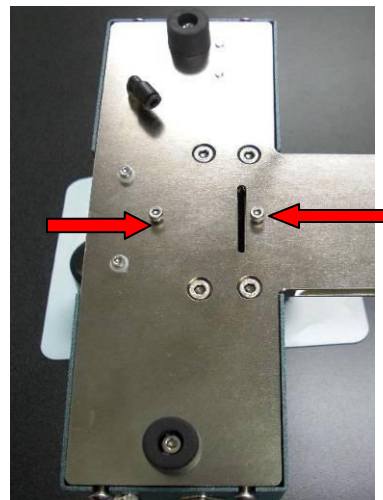
3.0 Operation

3.1 Bushing Installation

- Install both front and rear bushings appropriate to the outside tube diameter you intend to cut. Use the nearest equivalent if the exact size bushing set is not available (*note: custom bushing sizes can be made to order by the manufacturer*).
- To swap out or install new bushings, follow the steps shown below:

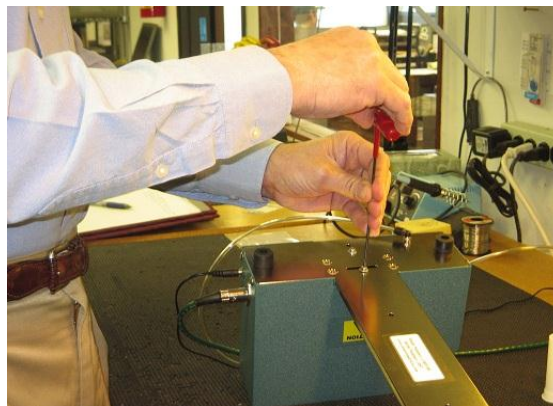


Front and Rear bushings



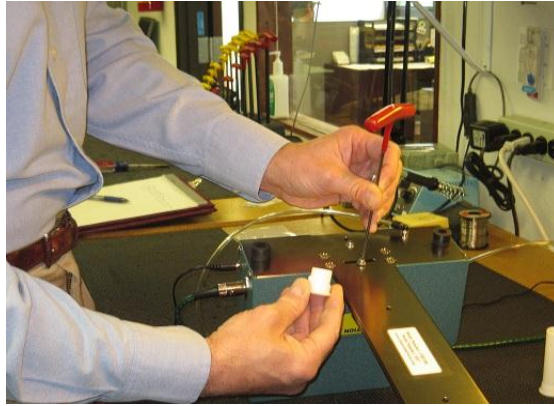
Bushing lock screws

- With air supply connected to the tube cutter, depress the foot pedal and hold to make the blade come down, once the blade is down disconnect the air supply.
- Flip the cutter upside down, using a 2.5mm allen hex key loosen the rear bushing lock screw and remove bushing (short) from cutter.



Bushing (short) locking screws

- Replace with new/different size bushing into the cutter, the bushing should **lightly** touch the cutting blade and then tighten the locking screw.



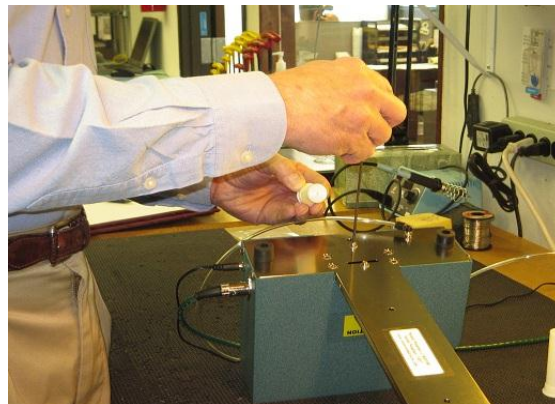
Rear (short) Bushing

- Using a 2.5mm allen hex key loosen the front bushing lock screw and remove the bushing (long) from cutter.



Bushing (long) locking screws

- Replace with new/different size bushing into the cutter, the bushing should **lightly** touch the cutting blade and then tighten the locking screw. Reconnect air supply to cutter.



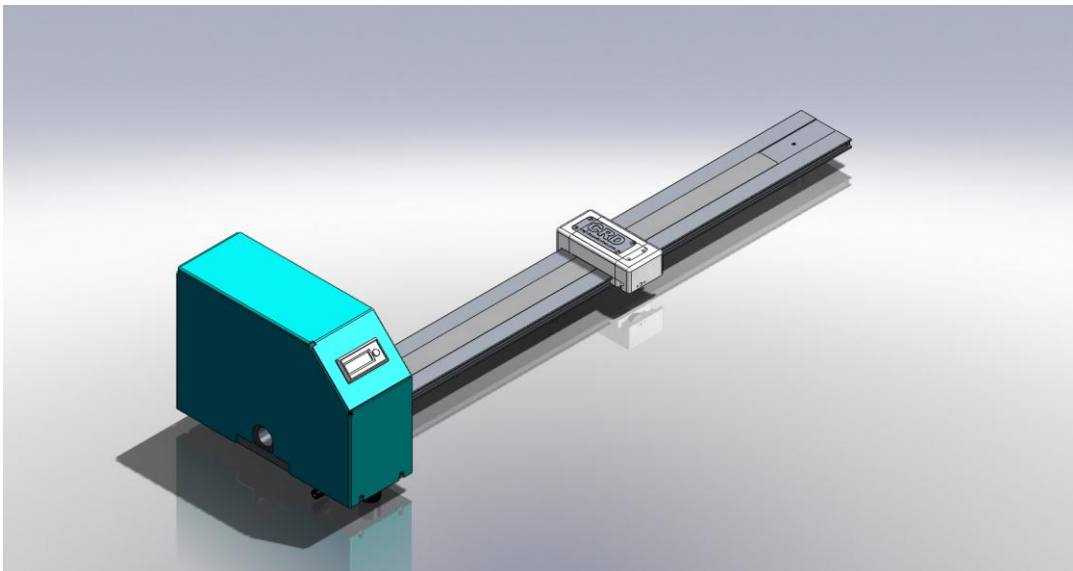
Front (long) Bushing

DO NOT REMOVE BOTH BUSHINGS AT ONCE OR YOU WILL LOOSE THE CENTER POSITION OF THE BLADE BETWEEN THE FRONT & REAR BUSHINGS

3.2 *Cutting*

- Locate the slide block to the desired cut length using the scale. Secure the slide block in position by rotating the thumb-screw clockwise, take care not to overtighten.

Insert the tubing end into the bushing towards the direction of the slide block. Once the tubing has cleared the electronics cover continue to pull the tubing through to where it makes contact with the slide block. Then activate the foot switch to cut the tubing. Once cut, remove the tubing front the unit and repeat as needed.



Slide Block locking thumb-screw

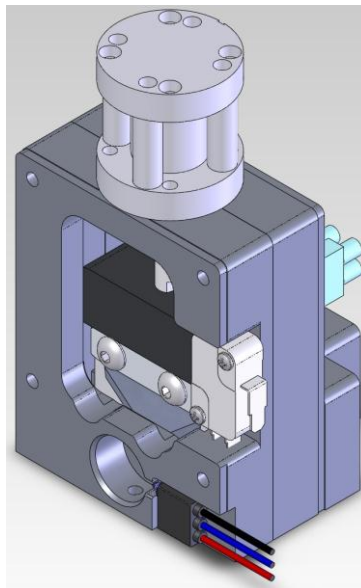
4.0 Troubleshooting

Operating Error	Action
Unit does not have power.	<ol style="list-style-type: none"> 1. Check the electrical outlet or receptacle connection. 2. Check the electronics cover to see if it is properly installed.
Cutting blade does not actuate.	<ol style="list-style-type: none"> 1. Check the facility air supply (must have a minimum of 80 psi). 2. Check the power supply electrical connections. 3. Ensure front bushing is seated corrected (and flush) against the housing and that the locking screw is tight.
Cutting blade makes bad cuts or leaves burrs.	<ol style="list-style-type: none"> 1. Ensure the tubing being cut does not exceed the recommended durometer. 2. Ensure the proper bushing sizes on both sides have been installed correctly. 3. Verify facility air supply psi 4. Check the cutting blade for wear or damage and possible replacement.
Counter is not functioning properly.	<ol style="list-style-type: none"> 1. Verify the counter has been reset between batch cuts or production runs. 2. Check plug on the counter is secure
Slide block does not move in either direction.	<ol style="list-style-type: none"> 1. Fully loosen the thumb screw to slide. 2. Visually inspect the slide path for dirt or debris.

5.0 Maintenance

5.1 Blade Replacement

- Ensure that both the AC power and air supply has been disconnected from the unit prior to removing the electronics cover. Remove the four (4) button head cap screws securing the cover to the base plate. Lift the cover with care as wires to the counter will still be connected.
- You now have access to the cutting blade via the replacement window in the front housing. Loosen the (2) screws that sandwich the blade between the spacer bar and the mounting block and then using a magnet tipped screwdriver lift the blade from within the housing. Take this opportunity to blow out any debris found within the cutter housing.



WARNING

Although the blade may require replacement it remains extremely sharp, handle with care. To avoid injury, proper disposal is highly recommended.



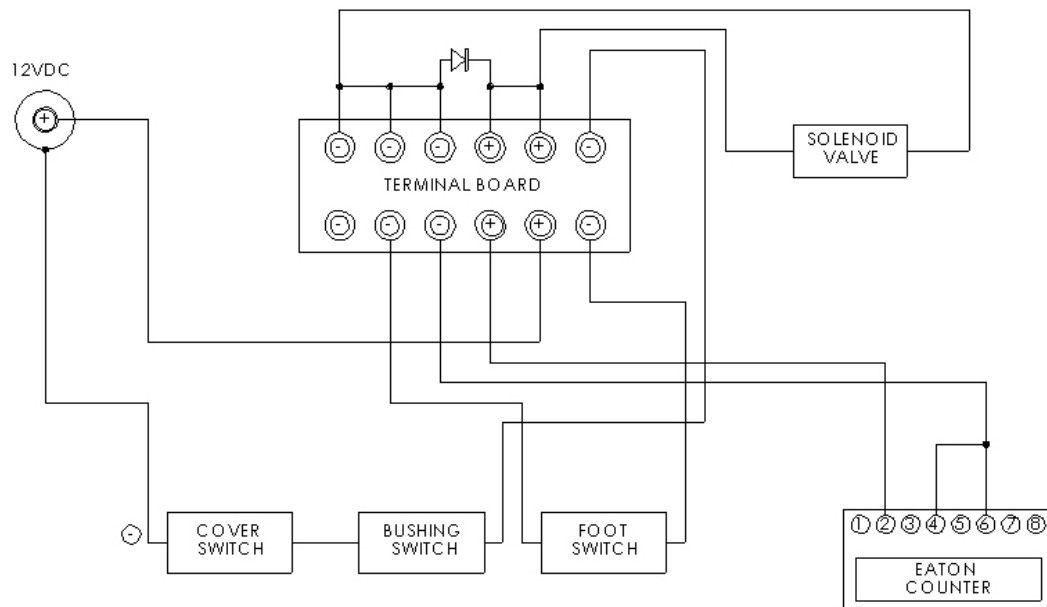
- Install the new knife blade using a magnetic tipped screwdriver and reusing the same screws. Ensure the blade is centered and positioned on the mounting block properly.
- Re-install the electronics cover and reconnect both power and air supplies. Make a few test cuts to verify quality, and that the unit is working properly, prior to production runs.
- The knife blade screws should be checked periodically for tightness.

5.2 Periodic Cleaning (annually)

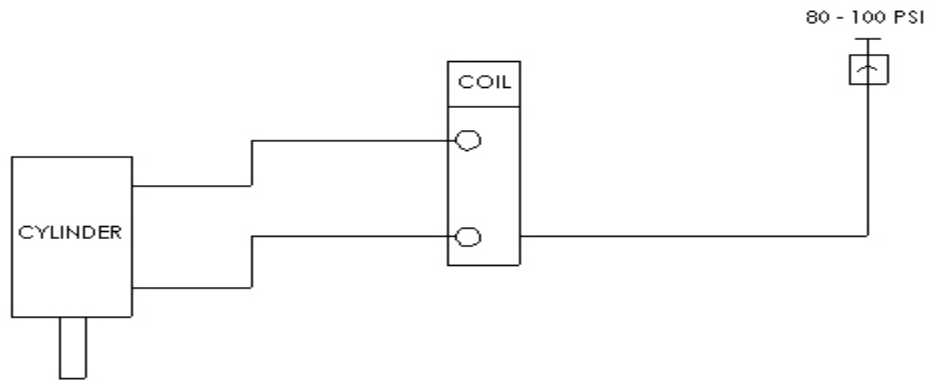
- Wipe down outer surfaces with alcohol, septihol or mild detergents, specifically those surfaces/grooves that come in contact with the sliding block.
- Inspect the blade housing cavity (by removing the cover), blow-out any/all debris.

6.0 Product Specifications and Electrical/Pneumatic Diagrams

Unit Weight	8.2 LBS / 3.724 KG
Overall Dimensions	28 1/8" lg. x 8 7/8" w x 6 5/8" ht.
Minimum/Maximum PSI	80 PSI / 100 PSI
Power	120VAC / 230VAC (Europe)

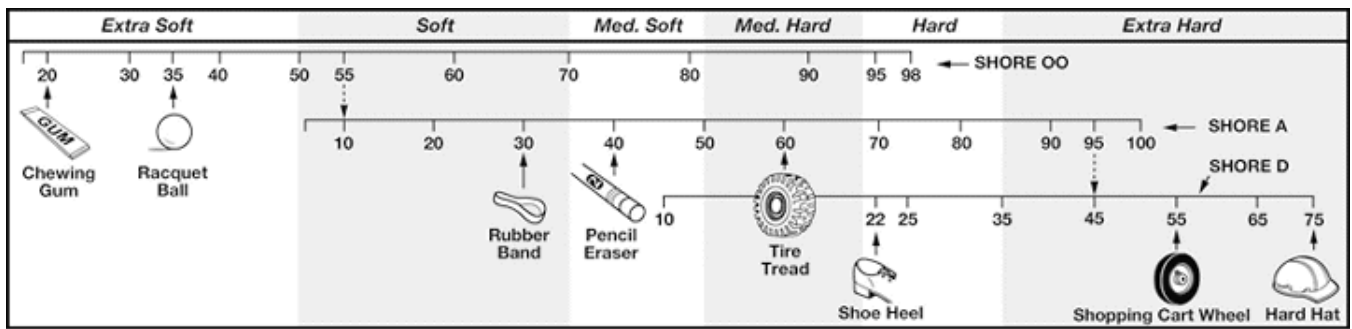


WIRING DIAGRAM
CRD110 TUBE CUTTER

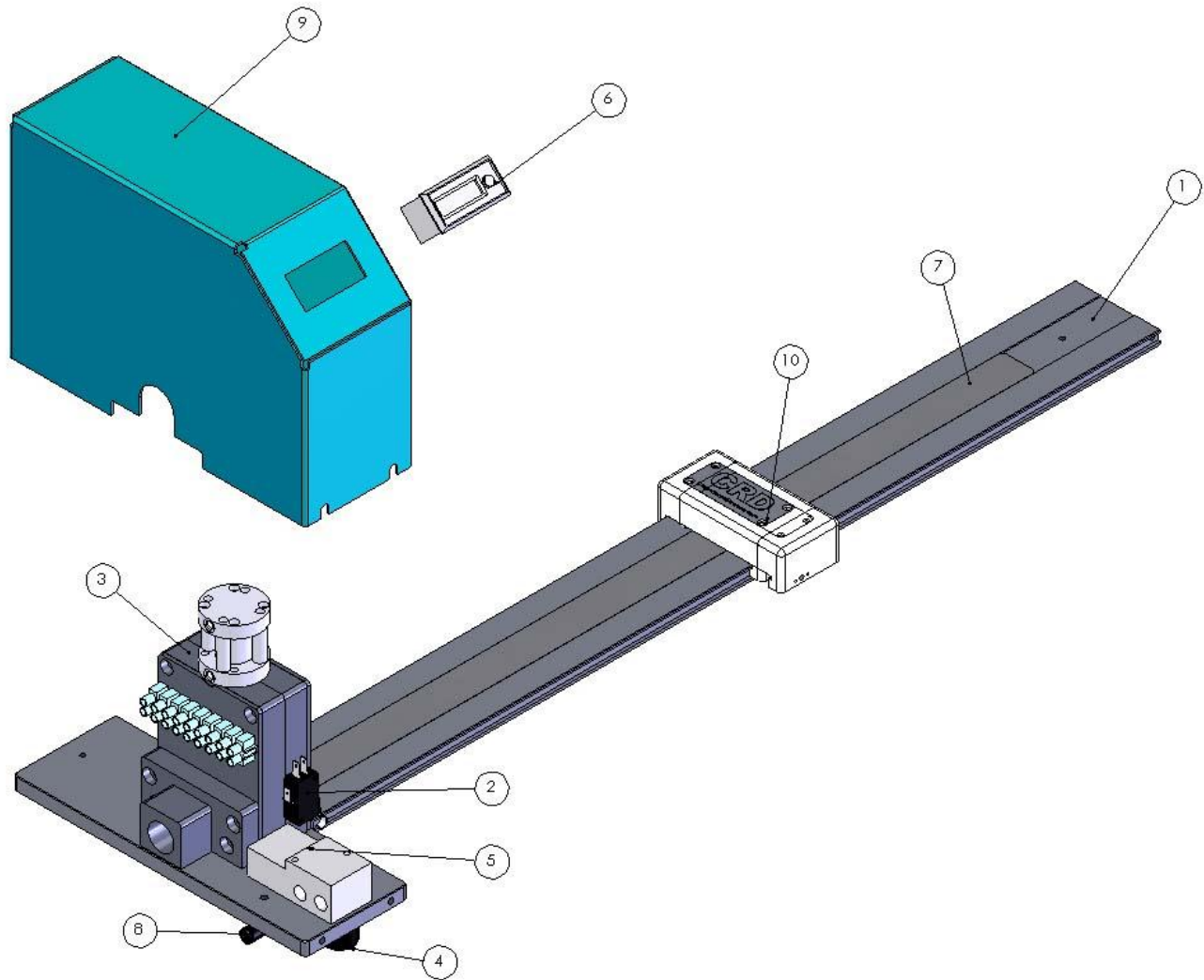


PNEUMATIC DIAGRAM
CRD-110 TUBE CUTTER

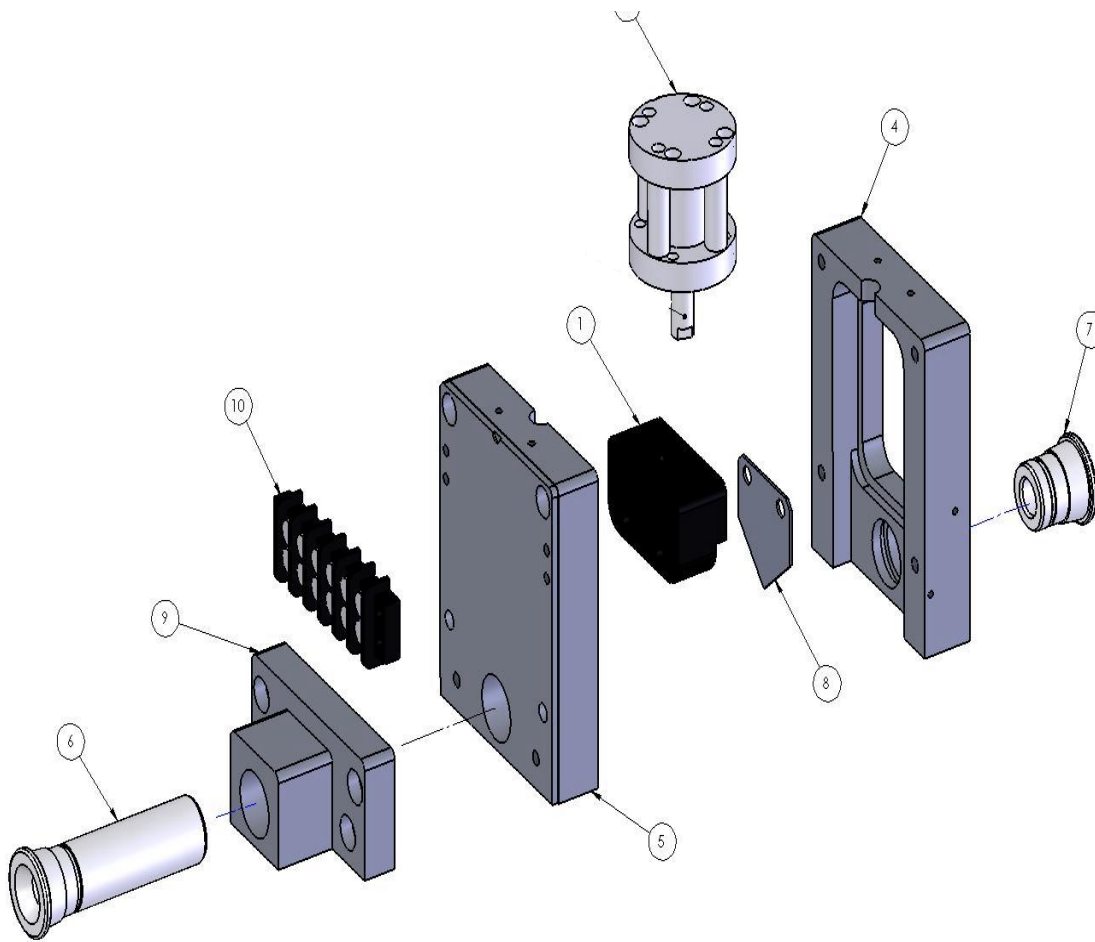
7.0 Durometer Scale



8.0 Parts List



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CD001-002A	BASE PLATE, TUBE CUTTER	1
2	CD001-P19	SWITCH, SAFETY, INTERLOCK	1
3	CD001-025A	ASSEMBLY, KNIFE HOUSING	1
4	CD001-022A	ASSEMBLY, SLIDE BLOCK	1
5	P00026	FOOT, RUBBER	4
6	CD001-024B	ELECTRONICS COVER	1
7	P00008	AIR VALVE	1
8	P00001	COUNTER	1
9	P00045	THUMBSCREW	1
10	P00217	TERMINAL STRIP	1
11	P00096	SCALE, STAINLESS STEEL	1
12	P00010	FITTING, AIR, 90 DEG ELBOW	2



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CD001-003A	BLOCK, KNIFE MOUNTING	1
2	P00012	AIR CYLINDER	1
4	CD001-005A	HOUSING, KNIFE, FRONT	1
5	CD001-004A	HOUSING, KNIFE, REAR	1
6	CD001-007A	BUSHING, REAR	1
7	CD001-009A	BUSHING, FRONT	1
8	P00013	KNIFE, CUTTING	1
9	CD001-020A	BLOCK, INLET TUBE	1
10	P00217	TERMINAL STRIP	1

9.0 CRD 115 Tubing Cutter Extension- General Product Information

- The CRD115 Tubing Cutter Extension gives the CRD110 Tubing Cutter the ability to cut an additional 24-48” quickly and accurately. The system is designed to cut flexible tubing (including heatshrink) up to a Shore A 85 durometer, including any non-metallic braided materials. Easily interchangeable bushings are available from 1/16” to 9/16”.
- The minimum/maximum cut lengths range from 7/8” to 48” long. All lengths within that range can be achieved within plus/minus .030” tolerance utilizing the slide block and scale. Minimum cuts lengths of 7/8” can be achieved by visually locating the tube at the end of the bushing and depressing the activation button on the slide block with your free hand.
- The unit is designed for both left-hand and right-hand operation.

10.0 CRD 115 Tubing Cutter Extension - Installation

Ensure all four (4) rubber feet are completely stabilized on your work surface prior to installing the extension.

- Begin by removing the 4 M5 screws and detaching the stainless steel link plate from the bottom of the extension.

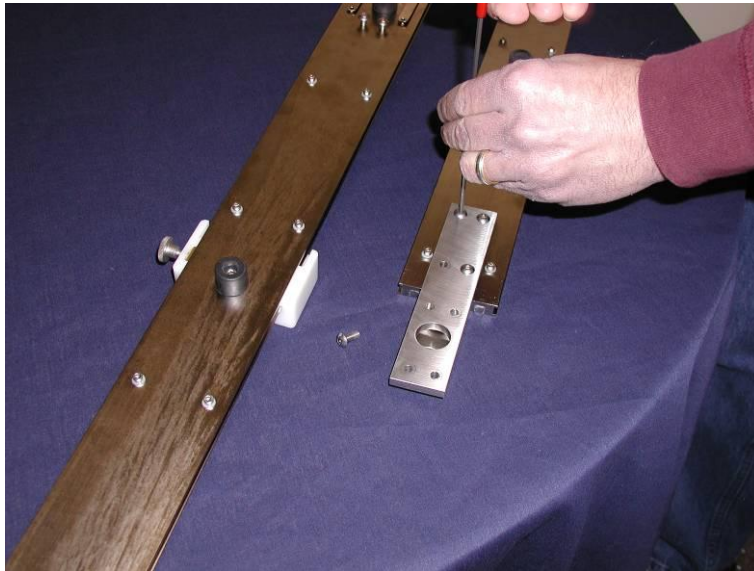


Figure 1: Removing the link plate

- Attach the link plate to the CRD110 base using the provided M5 screws, allowing the rubber foot to pass through the clearance hole on the link plate.

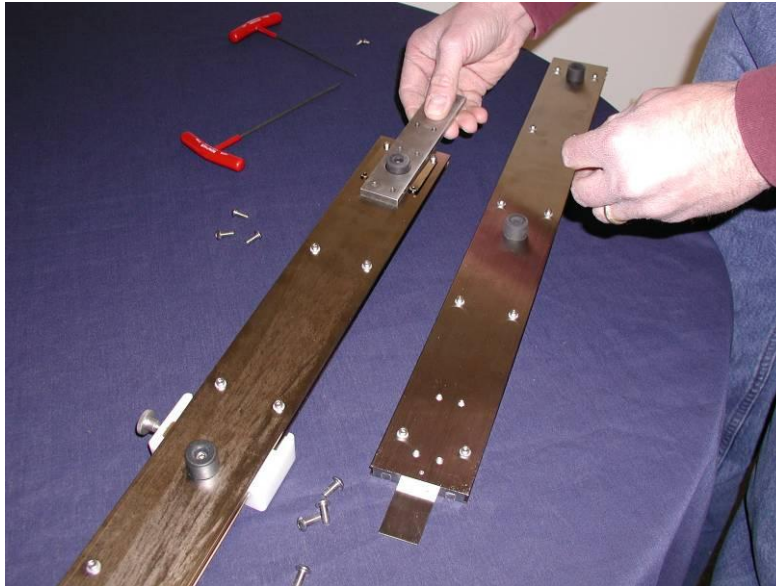


Figure 2: Attaching the link plate to the CRD110 base

- Remove the 2 M3 stop screws from either side of the CRD110 base. These are located in the cutting block grooves at the end of the base.
- Stand the CRD110 unit vertically on its side, and slide the extension onto the base, ensuring the extension scale lines up with the mating notch in the base.



Figure 3: Placing the extension on the base

- Loosen the slide block and slide it up to the joint between the mated parts. Tighten the brass brake directly over the joint and verify that the two rulers are precisely aligned.

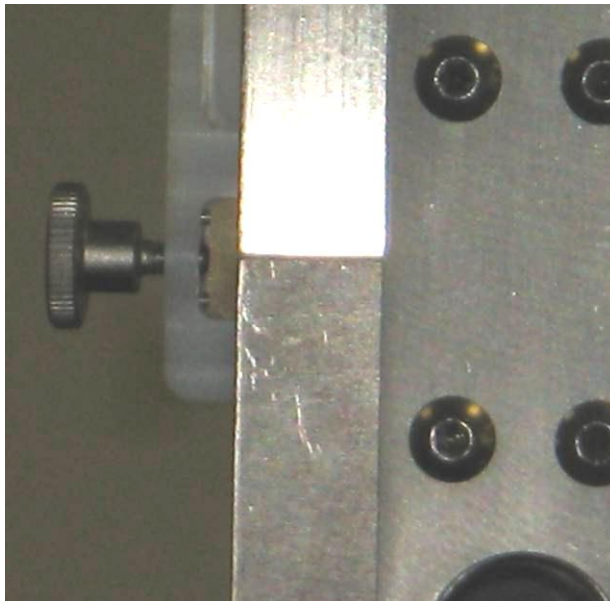


Figure 4: Tightening the brake on the mating joint



Figure 5: Alignment of the scales and slide block

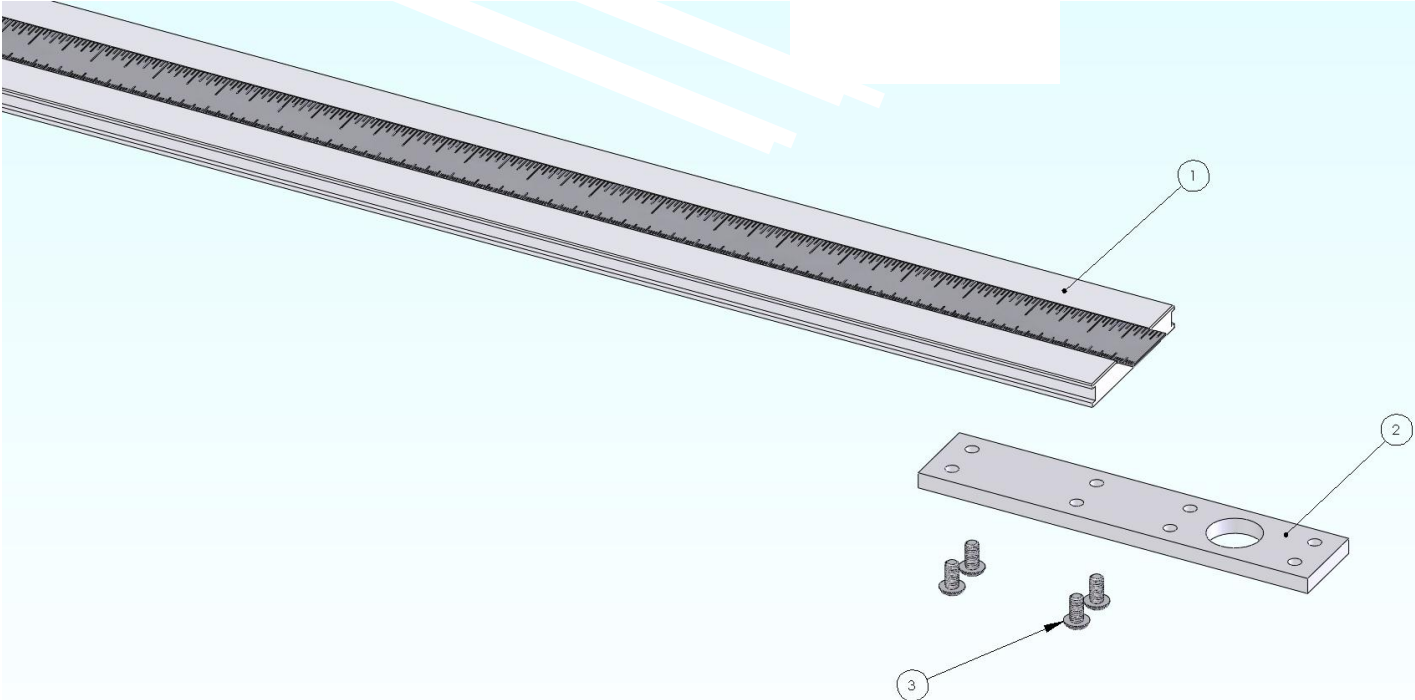
- Reattach the link plate to the extension using the 4 M5 screws provided, and ensuring all holes are precisely lined up.

After completing these steps, the extension will be fully functional. For any additional operational questions, please consult the CRD110 Tubing Cutter Operations Manual.

11.0 CRD 115 Tubing Cutter Extension - Product Specifications

Unit Weight	5LBS / 3.724 KG
Overall Dimensions	31" lg. x 2.5"w x 1" ht.

12.0 CRD 115 Tubing Cutter Extension - Parts List



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	CD001-030	EXTENSION, BASE PLATE	1
2	CD001-033	LINK PLATE	1
3	P00014	M5x10mm	4
4	P00096	RULER, STAINLESS STEEL	1

13.0 Warranty

13.1 Warranty

The manufacturer warrants the product manufactured by it, when properly installed, operated, applied and maintained in accordance with the procedures and recommendations outlined in the manufacturer's operation manual, to be free from defects in material or workmanship for a period as specified below, provided such defect is discovered and brought to the manufacturer's attention within the aforesaid warranty period.

The manufacturer will repair or replace any product or part determined to be defective by the manufacturer within the warranty period, provided such defect occurred in the normal service and not as a result of misuse, abuse, neglect or accident. Normal maintenance items requiring routine replacement are not warranted. The warranty covers parts and labor for the warranty period unless otherwise specified. Repair or replacement shall be made at the factory or the installation site, at the sole discretion of the manufacturer. Any service performed on the product by anyone other than the manufacturer must first be authorized by the manufacturer.

Unauthorized service voids the warranty and any resulting charge or subsequent claim will not be paid. Products repaired or replaced under warranty shall be warranted for the unexpired portion of the warranty applying to the original product.

The foregoing is the exclusive remedy of any buyer of the manufacturer's product. The maximum damages liability of the manufacturer is the original purchase price of the product or part.

THE FORGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, WHETHER WRITTEN, ORAL, OR STATUTORY, AND IS EXPRESSLY IN LIEU OF THE IMPLIED WARRANTY OF MERCHANTABILITY AND THE IMPLIED WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE. THE MANUFACTURER SHALL NOT BE LIABLE FOR LOSS OR DAMAGE BY REASON OF STRICT LIABILITY IN TORT OR ITS NEGLIGENCE IN WHATEVER MANNER INCLUDING DESIGN, MANUFACTURE OR INSPECTION OR THE EQUIPMENT OR ITS FAILURE TO DISCOVER, REPORT, REPAIR, OR MODIFY LATENT DEFECTS INHERENT THEREIN.

THE MANUFACTURER, HIS REPRESENTATIVE OR DISTRIBUTOR SHALL NOT BE LIABLE FOR LOSS OF USE OF THE PRODUCT OR OTHER INCIDENTAL OR CONSEQUENTIAL COSTS, EXPENSES, OR DAMAGES INCURRED BY THE BUYER, WHETHER ARISING FROM BREACH OF WARRANTY, NEGLIGENCE OR STRICT LIABILITY IN TORT.

The manufacturer does not warrant any product, part, material, component, or accessory manufactured by others and sold or supplied in connection with the sale or manufacturer's products.

13.2 Warranty Period

Parts and labor are for ninety (90) days from the date of shipment from the factory. Freight to the factory on units that the manufacturer requests to be returned shall be paid by the purchaser, all return freight to be paid by the manufacturer; means of transportation to be specified by the manufacturer.

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