



**The Fletcher-Terry Company**

# OWNER'S MANUAL

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## **FSC (Fletcher *Substrate Cutter*)**



### **The Fletcher-Terry Company**

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FORM ENG-093010

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**NOTE: Our Replacement Parts List and Schematics are in the final stages and will be posted on our website ([www.fletcher-terry.com](http://www.fletcher-terry.com)) when they become available. In the meantime, if you need technical support, please contact our customer service department at:**

**800.843.3828 (in the United States)  
++860.677.7331 (outside the United States)  
email - [customerservice@fletcher-terry.com](mailto:customerservice@fletcher-terry.com)**

# Introduction

Thank you for purchasing the Fletcher Substrate Cutter (FSC). Our history of quality, our reputation for innovation, and our superior customer service combined with this amazing product, is designed to make your business more profitable than you ever imagined.

We want your experience using the FSC to be exceptional, so for maximum safety and productivity, **please read and understand this manual thoroughly before you operate your new Fletcher Substrate Cutter.**



**The Fletcher-Terry Company**

## Product Warranty

The Fletcher-Terry Company warrants the machine purchased to be free from defects in parts and workmanship for Five (5) years from the date of purchase. The Fletcher-Terry Company warrants that it will repair or replace any such defective machine or replace parts, providing the machine has been under normal use and service and the defective part or machine is returned to the Fletcher-Terry Company at the purchaser's expense. The Fletcher-Terry Company must authorize the return in writing. Proof of purchase must be submitted to validate warranty coverage. The warranty is in lieu of all other agreements and warranties expressed or implied.

THE FLETCHER-TERRY COMPANY DOES HEREBY EXPRESSLY DISCLAIM ANY WARRANTIES OF MERCHANT ABILITY OR FITNESS FOR A PARTICULAR PURPOSE. The Fletcher-Terry Company does not authorize any company employee or representative to assume for it any other liability than that set forth in this Product Warranty. The Fletcher-Terry Company shall not be liable for any damages or losses, whether incidental or consequential or direct or indirect, arising out of the use or abuse of this machine. The Warranty is valid only when the machine is used with Fletcher consumables and replacement parts. In any event, THE PURCHASER'S SOLE AND EXCLUSIVE REMEDY UNDER THIS OR ANY OTHER WARRANTY IS LIMITED TO RETURN OF THE PURCHASE PRICE PAID FOR THIS MACHINE.

# SAFETY FIRST!

Please read through this manual before operating the Fletcher Substrate Cutter (FSC). If after reviewing these pages you still have questions about using the machine, contact our Customer Service Department toll-free at 1.800.843.3826 in the United States. Outside the United States, call ++860.677.7331 or email: [customerservice@fletcher-terry.com](mailto:customerservice@fletcher-terry.com).

- It is the employer's responsibility to enforce compliance with these safety warnings and procedures by all who use the FSC. Keep this manual available so all employees who have access to it and have the opportunity to review procedures periodically.
- The intended purpose of the FSC is to cut substrates as described in this manual. It must not be modified or used for any other application or purpose.
- The FSC is for use in cutting aluminum (up to .063" [1.5mm] maximum thickness), aluminum faced (1/4" [7mm] maximum thickness), PVC (1/2" [13mm] maximum thickness), corrugated plastic (1/2" [13mm] maximum thickness), polycarbonate (1/4" [7mm] maximum thickness), and acrylic substrates and glass. Do not attempt to cut wood with the Fletcher Substrate Cutter.
- Use safety glasses. The operator of this machine, and others in the work area, must wear safety glasses with rigid side shields.
- When lifting the Vertical Track Assembly into place, **DO NOT TRY TO LIFT IT ALONE**, as the weight of the assembly could cause injury. Make sure someone is available to help you lift it.
- Only use the parts, supplies, and accessories that are recommended by Fletcher-Terry.
- Do not over-reach or use the FSC from an awkward or insecure position. Make sure that the work area is well lit, free from clutter, and set up in a way that promotes proper ergonomics.
- IF YOU TURN ON THE LASER SIGHT MAKE SURE TO ALWAYS USE PROTECTIVE LASER GLASSES (*glasses are not included with machine purchase*). **DO NOT LOOK DIRECTLY AT THE LASER BEAM.**

# 1

# ASSEMBLY

## ◆ Important Notes:

- To assemble the FSC, you will need a clear workspace of approximately 10'x10'.
- All views mentioned for the assembly of the FSC are from the perspective of the customer facing the standing machine.
- All bolts are inserted from left-to-right, or from front-to-back.

### 1.1 Unpacking the FSC

Check the exterior of the shipment carton to make sure there is no visible damage. After unpacking the unit, check to make sure all the parts listed below are present and undamaged.

### 1.2 Terminology for Set-Up

The *Vertical Track Assembly* has been pre-assembled for you. Familiarize yourself with the main parts of the pre-assembled unit.

- **Vertical Track Assembly** – The main rail that the Cutting Head slides on, including the Clamp mechanism.
- **Cutting Head** – holds the various cutting tools and moves along the Vertical Track Assembly.

### 1.3 Contents Included:

- ✓ **Partially Pre-Assembled Vertical Track/Clamp Assembly**
- ✓ **Frame Parts** (see *Frame Parts list and photo below*)
- ✓ **Box #1\* - Tool Caddy**
  - Tool Caddy
  - 2 Screws and Washers
- ✓ **Box #2\* - Laser and Bracket Assembly**
  - M10 bolt and 17mm wrench
- ✓ **Box #3 - Blade/Wheel Holders and Stops**
  - 3 Blade/Wheel Holders
  - 2 Production Stops, Left and Right
  - 5 Hex Keys (2.5, 3, 4, 5, and 6mm)
- ✓ **Box #4 - Frame/Stand Hardware Box** (see *Chart and Figure on page 3*)



# 1

# ASSEMBLY

## 1.4 Tools Required for Assembly

- a. 2.5mm , 3mm, 4mm, 5mm, and 6mm Hex Keys (included with Box #3, shown at right)
- b. 8mm, 10mm, 13mm, and two (2), 17mm Wrenches
- c. Philips Head Screwdriver
- d. Drill (wall-mounted unit only)
- e. Carpenter's Level (wall-mounted unit only)



## 1.5 Frame Parts List

- |                          |                             |
|--------------------------|-----------------------------|
| 1. Large Face Plate      | 5. Horizontal Material Bar  |
| 2. Center Adjustable Leg | 6. Rear Horizontal Brace    |
| 3. Left Leg Bottom       | 7. Horizontal Brace Channel |
| 4. Right Leg Bottom      | 8. Small Face Plate         |



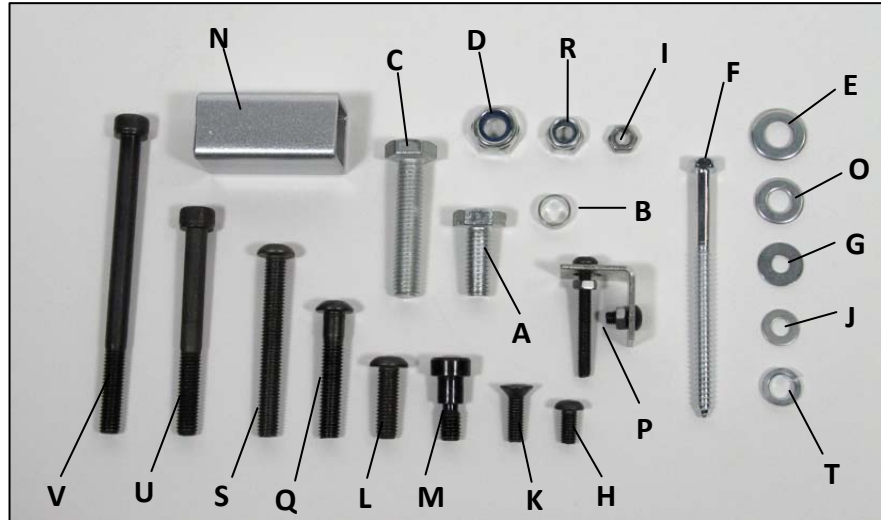
# 1

# ASSEMBLY

## 1.6 Hardware List

All items shown here are contained in Hardware Box #4

**Note:** Please keep all hardware items in their separate bags until ready for assembly. Each bag will be called for next to the caption photo of the corresponding step.

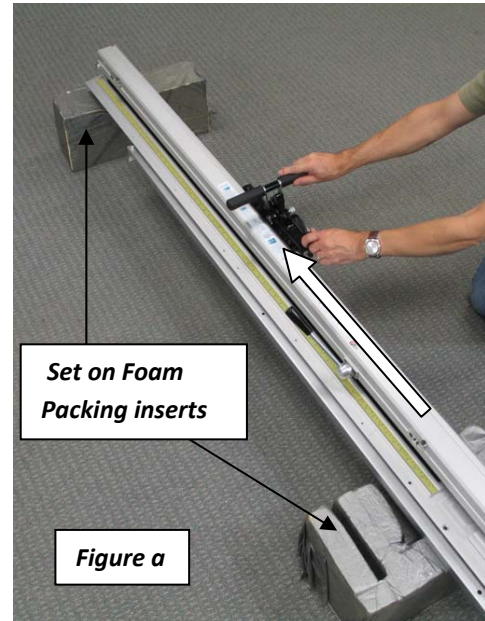
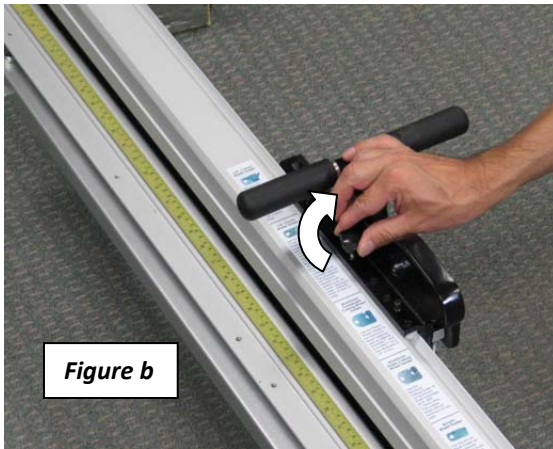


Item	Qty.	Hardware Size / Description	Assembly Section	Hardware Bag
<b>A</b>	2	M10 x 25mm Hex Head Bolt	Rear Leg to Rear Mounting Bracket	<b>g</b>
<b>B</b>	2	M10 Sleeve	Rear Leg to Rear Mounting Bracket	<b>g</b>
<b>C</b>	2	M10 x 50mm Hex Head Bolt	Center Adjustable Leg	<b>f</b>
<b>D</b>	2	M10 Hex Lock Nut	Center Adjustable Leg	<b>f</b>
<b>E</b>	4	M10 Flat Washer	Center Adjustable Leg	<b>f</b>
<b>F</b>	6	M6 x 100mm Lag Bolt	Wall Mount Rear Leg	<b>j</b>
<b>G</b>	6	M6 Flat Washer	Wall Mount Rear Leg	
<b>H</b>	2	M6 x 12mm Button Head Screw	Connect Face Plates	<b>h</b>
<b>I</b>	2	M6 Hex Nut	Connect Face Plates	<b>h</b>
<b>J</b>	2	M6 Flat Washer	Connect Face Plates	<b>h</b>
<b>K</b>	14	M6 x 20mm Flat Head Screw	Horizontal Brace Channel & Face Plates	<b>a</b>
<b>L</b>	3	M8 x 25mm Button Head Screw	Horizontal Material Bar	<b>b</b>
<b>M</b>	1	Pivot Shoulder Bolt	Horizontal Material Bar	<b>b</b>
<b>N</b>	1	Square Spacer	Horizontal Material Bar and Right Leg	<b>b</b>
<b>O</b>	17	M8 Flat Washer	As noted in details.	<b>b, c, d, e, g, j</b>
<b>P</b>	1	Large Face Plate Bracket assy. M5 x 10mm Button Head Screw M5 x 40mm Button Head Screw M5 Hex Nuts	Large Face Plate to Left Leg	<b>h</b>
<b>Q</b>	3	M8 x 50mm Button Head Screw	Left Leg to Horizontal Brace Channel, Right Leg Bottom	<b>c, d</b>
<b>R</b>	6	M8 Hex Lock Nut	As noted in details.	<b>b, d, e, g</b>
<b>S</b>	2	M8 x 70mm Button Head Screw	Rear Leg	<b>g</b>
<b>T</b>	3	M8 Lock Washer	As noted in details.	<b>c</b>
<b>U</b>	2	M8 x 80mm Socket Cap Screw	Rear Horizontal Brace to Right and Left Leg	<b>e</b>
<b>V</b>	1	M8 x 110mm Socket Cap Screw	Horizontal Material Bar to Right Leg	<b>b</b>



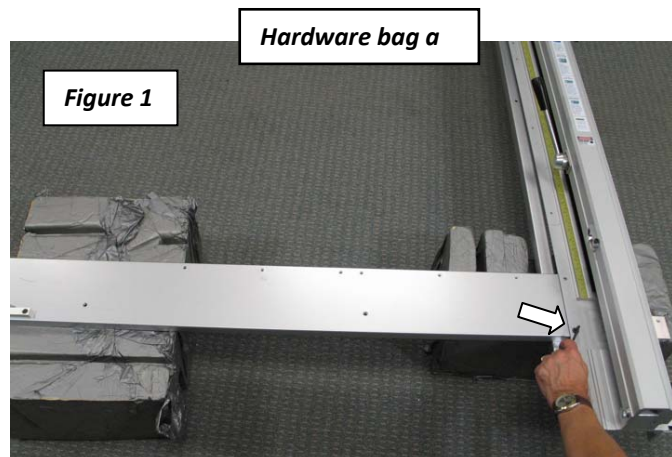
## Preparation

- Remove the Vertical Track assembly from the shipping carton with assistance from at least one other person. Set the assembly onto two of the foam packing inserts so that the cutting head is facing up (Figure a).
- Slide the cutting head upward to the approximate midpoint on the track, and lock it into position with the locking knob (Figures a and b).



## 1.7 FSC Frame Assembly

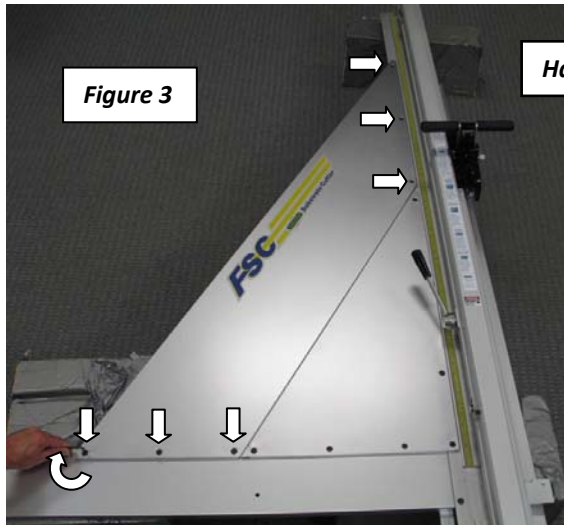
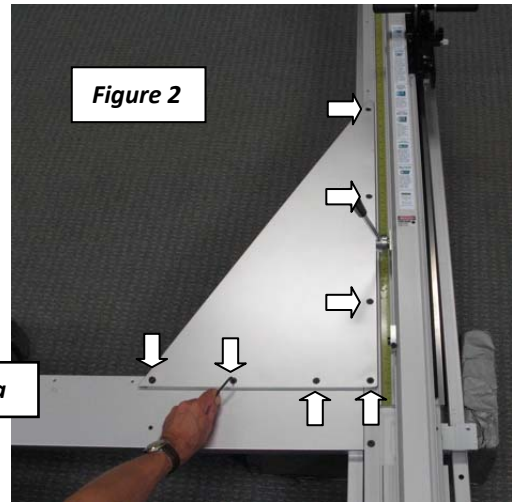
- Attach the Horizontal Brace Channel (item #7) by partially inserting one M6 x 20 flat head screw (K) into the lower hole on the left side of the Vertical Track Assembly (Figure 1). Support the left end of the horizontal channel brace with another of the foam packing inserts to stabilize the assembly.



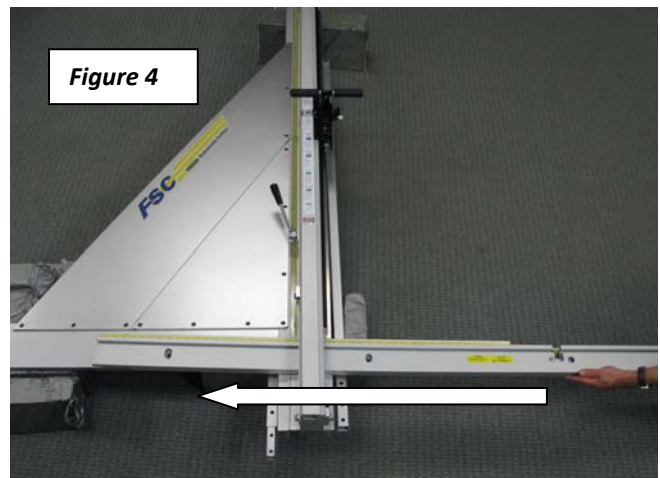
# 1

# ASSEMBLY

2. Attach the Small (triangular) Face Plate (item #8) with seven (7) more M6 x 20 flat head screws (K). (Figure 2)
3. Attach the Large Face Plate (item #1), with the remaining six (6) M6 x 20 flat head screws (K). Tighten *all* of the flat head screws now with a 5mm hex/Allen key (Figure 3).



Hardware bag a



4. Locate the Horizontal Material Bar (item #5), and slide it over and through the Vertical Track Assembly from right to left, as shown (Figure 4).
5. Align the screw mounting holes in the Horizontal Material Bar with the corresponding holes in the Vertical Track Assembly and Horizontal Brace Channel. Make sure that the notched section in the Material bar is correctly interlocked with the corresponding section of the Vertical channel (Figures 5a and 5b).

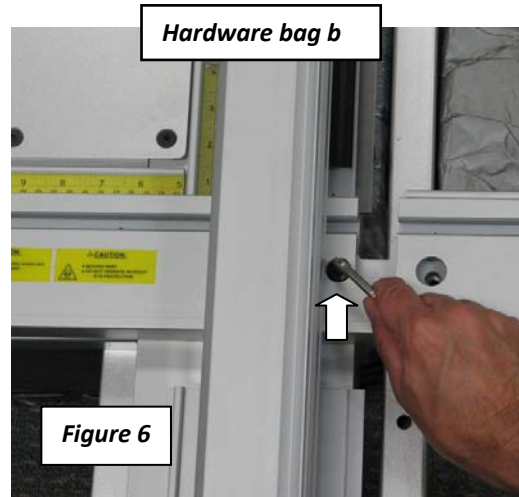


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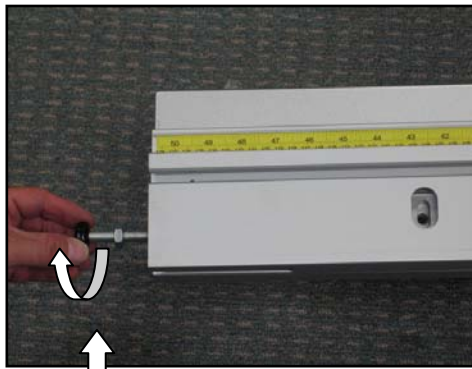
# ASSEMBLY

6. Insert the Pivot shoulder bolt (M) through the Horizontal Material Bar and into the hole in the Vertical Track assembly, just to the right of the main extrusion (Figure 6). Make certain that the shoulder of the bolt has been inserted correctly, and then tighten securely with a 6mm hex key.

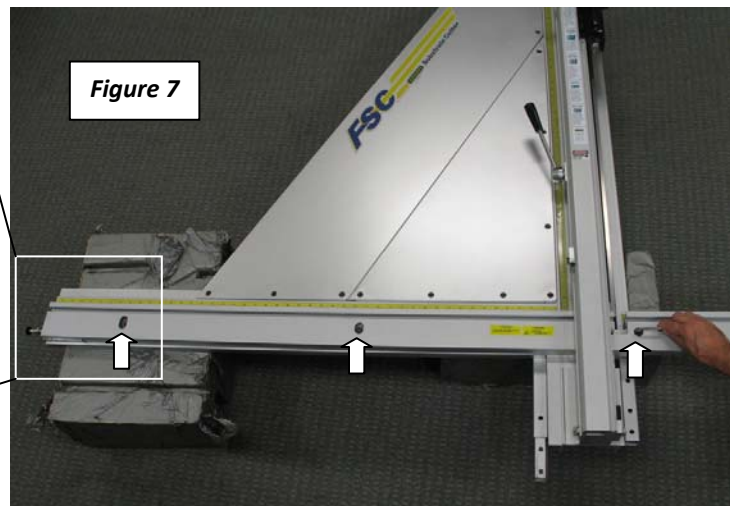
**Important! Insert this Pivot bolt FIRST.**



7. Insert three (3) M8 x 25 button head screws (L) with flat washers (O) into the remaining three holes in the Horizontal Material Bar, two on the left side, and one on the right (Figure 7). Do not completely tighten these screws yet, as they will need to be slightly loose during the squaring procedure later.

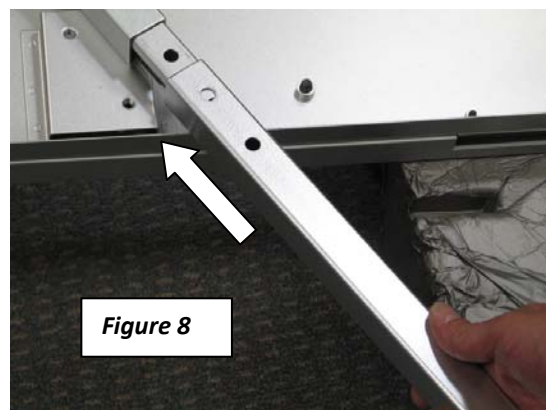


**Note: To make it easier to insert these screws, you may back out the squaring wedge block screw (turn knob CCW) at the left end of the Horizontal Material Bar beforehand.**



8. With assistance, flip the assembly over so that it is now face down on the foam packing blocks. Locate and unpack the three lower leg sections now.

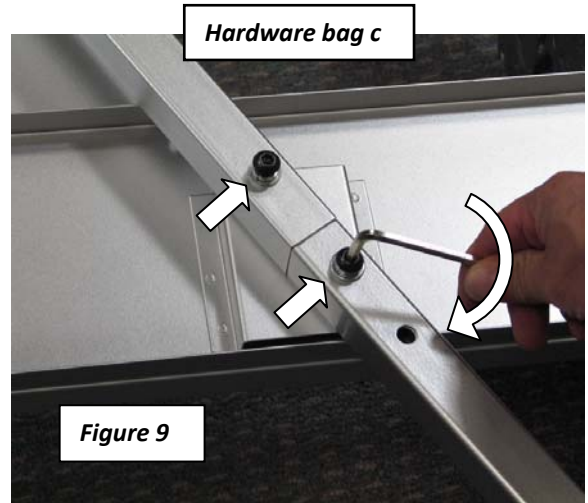
9. Pivot the left leg outward to the right (right side of machine, facing downward) and insert the lower left leg section (item #3), to the main left leg (Figure 8).



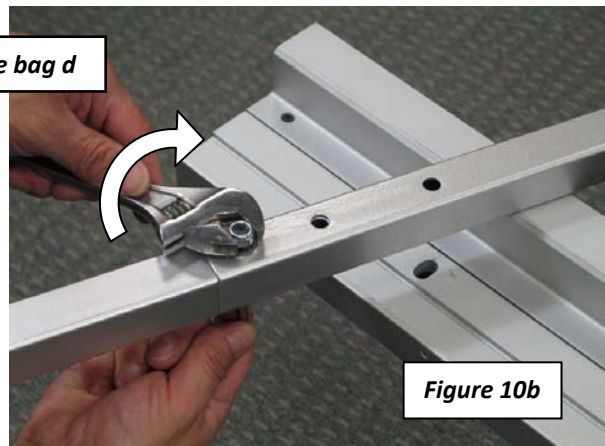
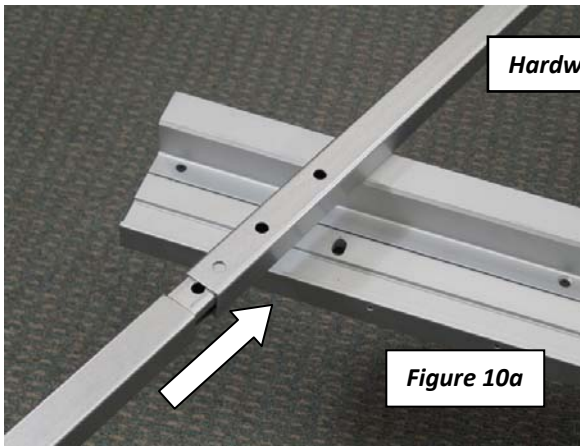
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# ASSEMBLY

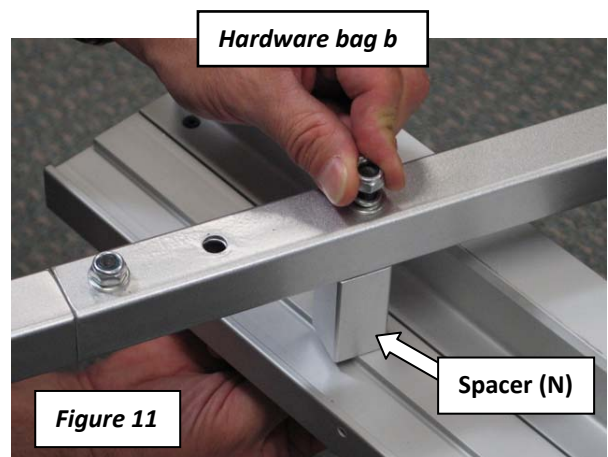
10. Attach the left leg to the Horizontal Brace Channel using two (2) M8 x 50 button head screws (Q), flat washers (O), and lock washers (T). Insert the screws into the threaded holes on the rear of the channel plate, and tighten securely with a 5mm hex key (Figure 9).



11. Locate the right leg (*left side of machine, now facing downward*). Slide the right lower leg section (item 4) into the main right leg section (Figure 10a). Assemble the right leg sections together using one (1) M8 x 50 button head screw (Q), two (2) flat washers (O) and an M8 locknut (R). Insert the screw from the underside (front) through the *bottom most hole* in the leg assembly, as shown in Figure 10b. Tighten the screw and locknut securely with a 5mm hex key and 13mm or adjustable wrench.



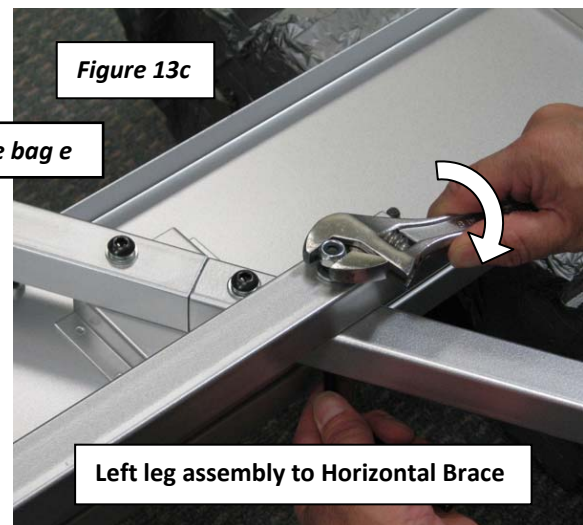
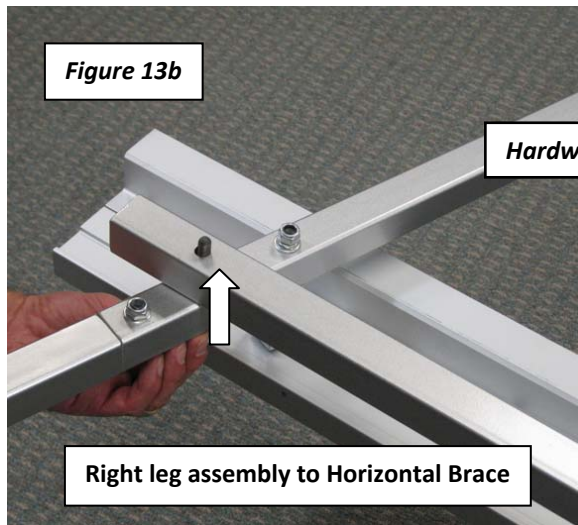
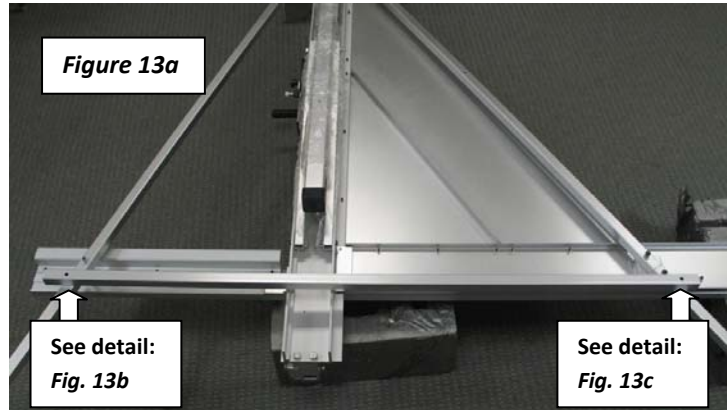
12. Align the assembled right leg with the corresponding elongated hole in the Horizontal Material Bar. Insert the long M8 x 110 socket head screw (V) from the underside and through the Horizontal material bar. Slide the square spacer (N) over the screw, and then insert the screw through *uppermost hole* in the main section of the right leg (Figure 11). Secure this screw with one (1) flat washer (O) at each end, and an M8 locknut (R). *Do not* fully tighten yet.



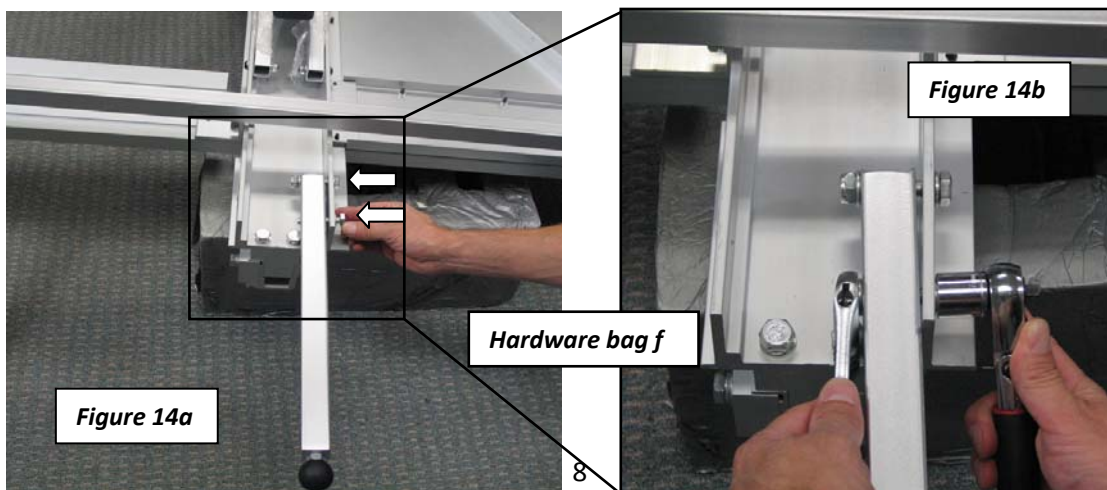
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# ASSEMBLY

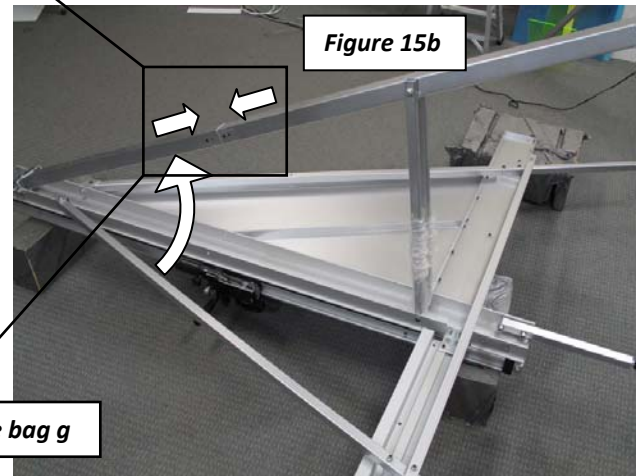
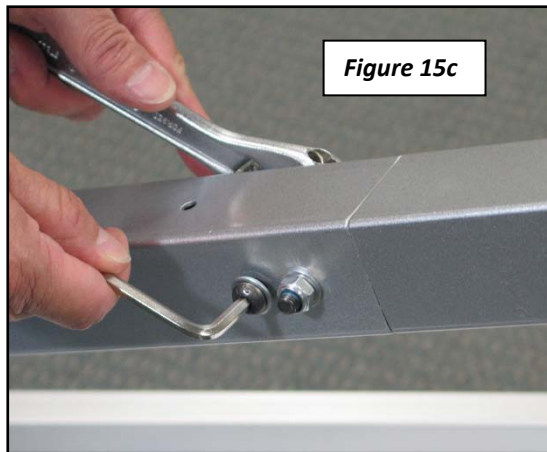
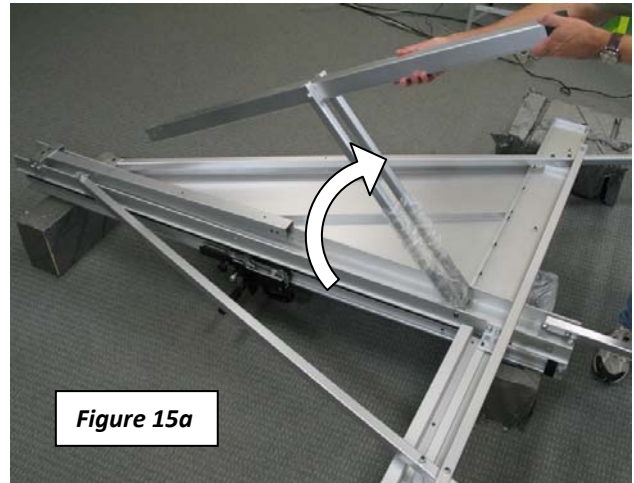
13. Place the Horizontal Brace (item 6) spanning across the left and right leg sections, aligned with the leg mounting holes at each end (Figure 13a). Insert an M8 x 80 socket head screw (U) with flat washer (O) from the underside and through each leg and the corresponding hole at the each end of the Horizontal Brace. Use a flat washer (O) and a locknut (R) with each screw. Tighten both fasteners securely now. (Figures 13b and c).



14. Assemble the Center Adjustable leg (item #2) to the bottom of the Vertical Channel Assembly. Insert two M10 x 50 hex bolts (C), two flat washers (E) each, and one M10 locknut (D) as shown in Figures 14a and b. Align the center leg and tighten the nuts and bolts securely with two 17mm wrenches.

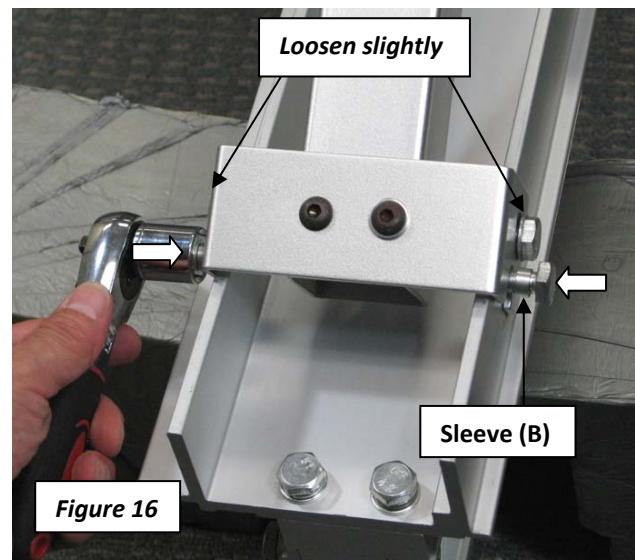


15. Fold the lower rear center leg and supports up and away from the Vertical Track Assembly (Fig. 15a). Pivot the upper center leg section rearward, align its bottom end with the upper end of the lower section, and insert the lower section into the upper one (Figure 15b). Insert two M8 x 70 button head screws (S), one flat washer (O) at each end, and one locknut (R). Tighten both securely with a 5mm hex key and 13mm wrench (Figure 15c).

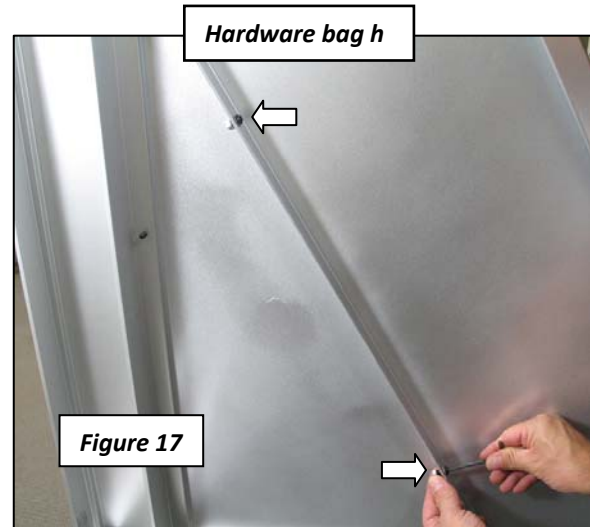


**Hardware bag g**

16. Insert the two (2) M10 x 25 hex head bolts (A) with M10 sleeves (B) through the U-shaped slots the top of the Rear leg bracket and into the Vertical track extrusion (Figure 16). It may be necessary to slightly loosen the existing M10 hex bolts that attach the center leg to the top of the Vertical Track Assembly in order to properly insert these M10 bolts and sleeves. Tighten these bolts securely with a 17mm wrench or socket.

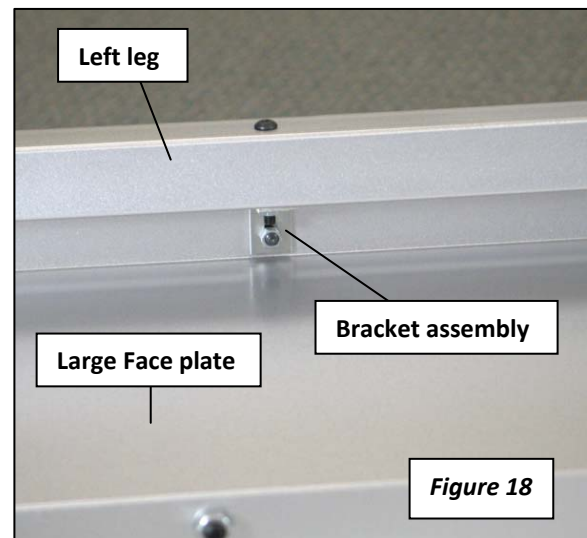


17. Join the rear sides of the Large and Small face Plates (items #1 and #8) together using two (2) M6 x 12 button head screws (H), two (2) M6 Flat washers each (J), and M6 hex nuts (I). Use a 4mm hex key and 10mm wrench to tighten (Figure 17).



18. Attach the Large Face Plate (item 1) to the Left leg using the Large Face Plate Bracket assembly (P). Follow the steps below: (See Figure 18)

- Remove both of the M5 nuts and screws from the angle bracket.
- Insert the M5 x 40 (longer) screw through the hole in the Left leg, and slide the bracket onto it from the inside surface. Thread the M5 nut back on, and *partially* tighten.
- Insert the M5 x 10 (shorter) screw through the corresponding hole on the edge of the Large Face Plate and the hole in the angle bracket. Attach the M5 nut, and then tighten both screws and nuts with a 3mm hex key and 8mm wrench.

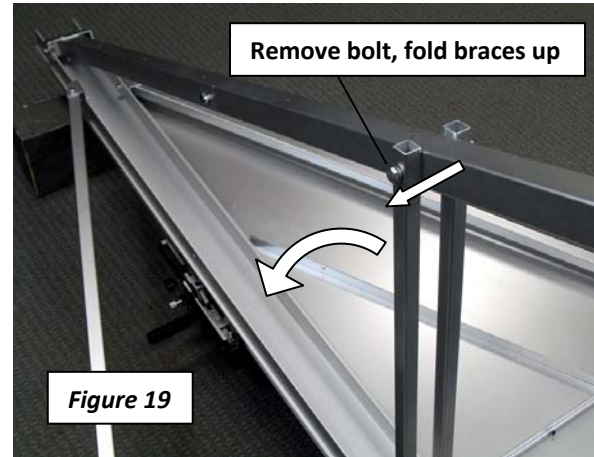


***Note: Continue with the steps on the next page below if the FSC machine will be wall-mounted. If you plan to use the machine as a free-standing unit, please proceed to step 24 now.***

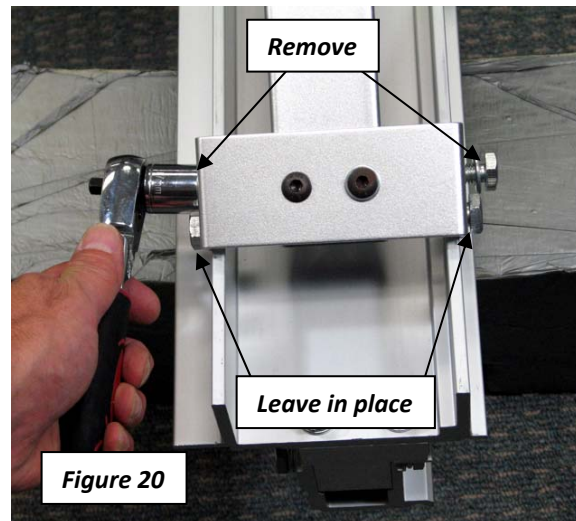
## 1.8 Wall-Mounting Option

### Removing the Rear Leg Assembly for Wall-Mounting

19. Using two 17mm wrenches, remove the M10 bolt, washers, and locknut joining the rear braces to the center rear leg (Figure 19). Pivot the two braces upward against the rear of the Vertical Track, and set the bolt, washers, and nut aside for now.



20. Remove the two (2) M10 bolts from the top end of the Rear leg with a 17mm wrench. *Leave the two M10 bolts with sleeves in the U-shaped slots in place* (Figure 20), and carefully remove the rear leg assembly from the machine.



21. Attach the rear braces (now folded upward) to the rear of the Vertical Track by re-inserting the long M10 bolt (removed in Step 19) through the braces and the pre-drilled holes (Figure 21). Fasten securely with two M10 washers and an M10 locknut, using two 17mm wrenches.



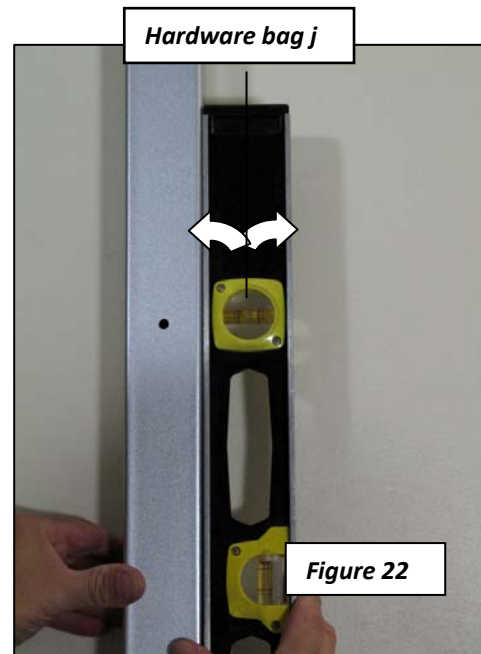


## 22. Wall Mounting the Rear Center Leg

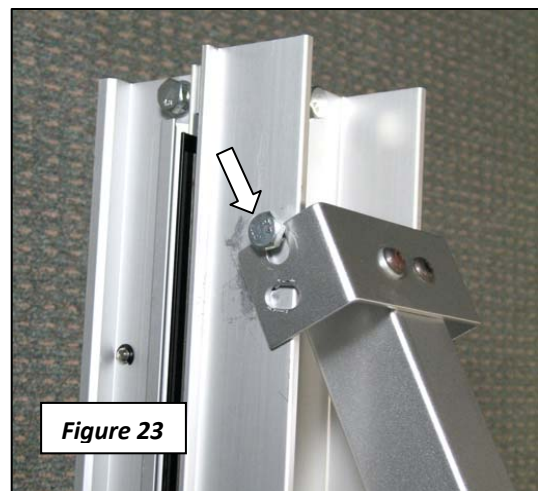
Follow these steps to correctly mount the rear center leg to the wall:

- a. After removing the rear leg assembly from the machine, locate a suitable area on your wall for mounting the leg, in line with a vertical stud or other structural member.
- b. Mark the center line of the wall stud in at least two locations. Align the leg with the marks, and using a carpenter's level, position the leg so that it is perfectly vertical, "plumb" (Figure 22).
- c. While holding the leg firmly in place, have an assistant mark the location of all six (6) of the leg screw holes onto the wall. You may use a pointed tool or one of the supplied lag screws by inserting through each hole and tapping gently.
- d. Place the leg assembly aside, and drill pilot holes into the wall at each of the marked locations. Select a proper drill size based on the wall and stud material.
- e. Reposition the leg against the wall, and insert a lag screw and washer through each leg hole and into the pilot holes. Tighten all lag screws securely.

**Note:** Find a wall location where there will be plenty of room on either side of the wall stud to feed in and remove the sheet material. If you cannot find a vertical structural stud, or your wall construction is of a solid material (i.e. masonry, concrete, etc.), you will need to install the appropriate wall anchors for the Lag Bolts.



23. With assistance, lift the assembled machine upright onto the legs, and realign the M10 bolts (with sleeves) at the top of the Vertical Track with the U-shaped slots at the top of the rear leg mounting bracket (Figure 23). Reinsert the M10 bolts (removed in step 20, previous page) and washers back into the leg bracket and into the threaded holes in the Vertical Track.



**Free-Standing Option (continued from Step 18):**

24. With assistance, lift the assembled machine upright onto the legs, and move it to the approximate location where it will be used.

**Final Assembly, Both Mounting Options**

25. Adjust the Center Adjustable Leg by unscrewing the round foot until it makes *firm contact* with the floor surface. Tighten the locking nut after proper floor contact is achieved (Figure 25).

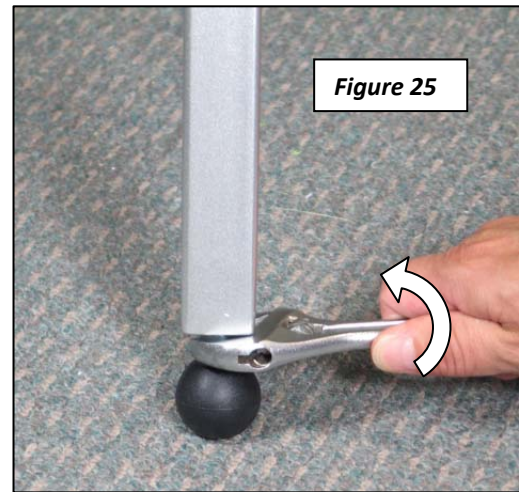


Figure 25

**1.9 Tool Caddy Attachment**

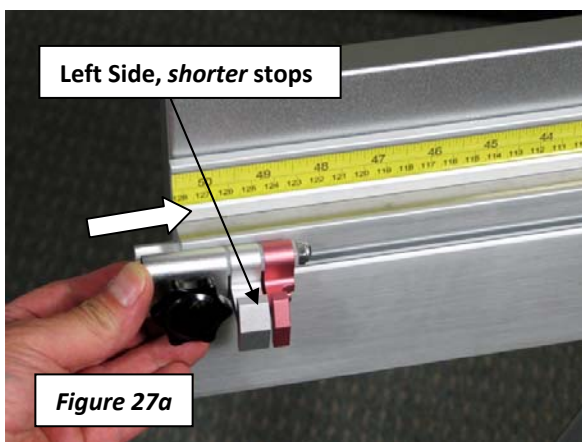
26. Mount the Tool Caddy to the underside of the right end of the Horizontal Material Bar. Attach with two (2) Philips head screws and washers provided (Figure 26).



Figure 26

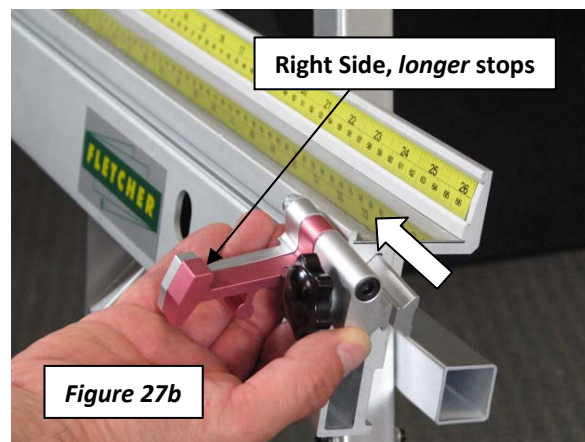
**1.10 Attach Production Stops**

27. Slide each of the production stops (Box #3) onto the respective ends of the Horizontal Material Bar (Figures 27a and 27b). You may need to loosen the black locking knob slightly to aid in inserting the wedge into the matching channel.



Left Side, shorter stops

Figure 27a



Right Side, longer stops

Figure 27b

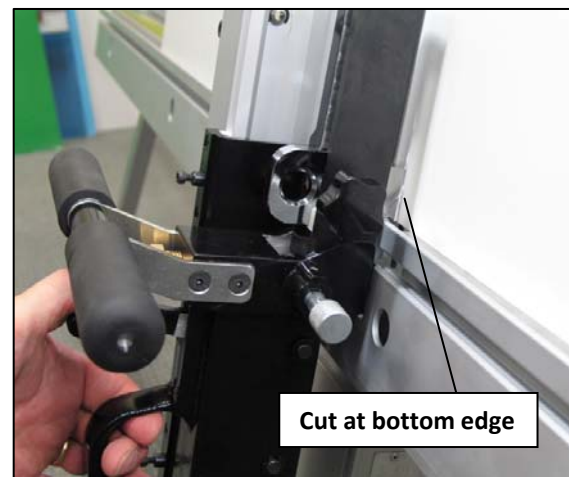
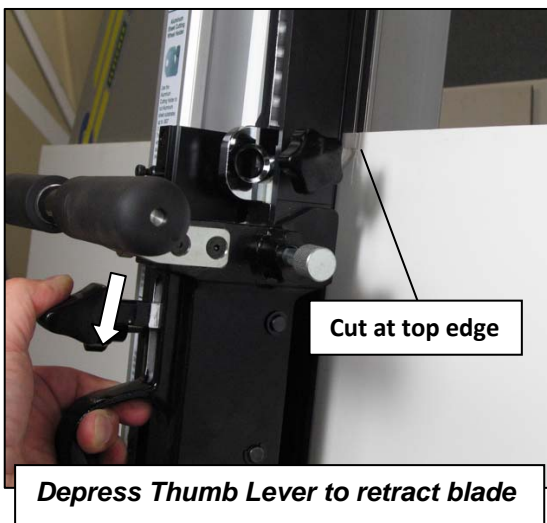
# 2

# Set Up & Calibration

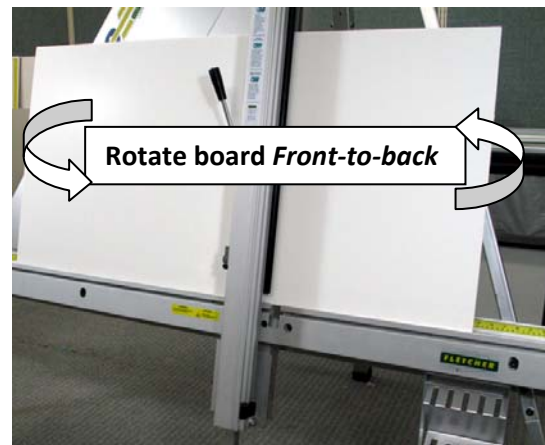
## 2.1 Squaring the FSC

Follow these steps to assure that the Vertical Track / cutting head is square (perpendicular) to the Horizontal Material Bar's top surface.

1. Take a 1/4" thick piece of PVC or foamboard (approx. 32"H x 40"W) and place the straight edge on the Horizontal Material Bar so that roughly half the board is on either side of the cutting head/Vertical Track.
2. Insert the 1/2" Blade Holder (with blade, see sections 3.2 and 4.1) into the Cutting Head. Clamp the board in place, depress the Thumb Lever, raise the Cutting Head and make two (2) cuts: make the first cut through the top edge of the board 1"(25mm) long, and a second cut through the bottom edge of the board 1" (25mm) long (see photos below).



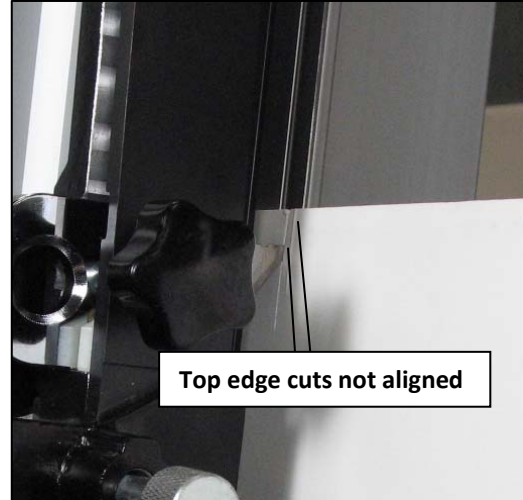
3. Rotate the board 180° so the back is now facing you and the board is resting on the same bottom edge as before. Slide it into the machine again. Align the blade with the bottom cut you made, which will now be visible from the reverse side of the board. **Clamp the board into place.** Depress the Thumb Lever, raise the Cutting Head and make a third cut 1" long at the top edge of the board.



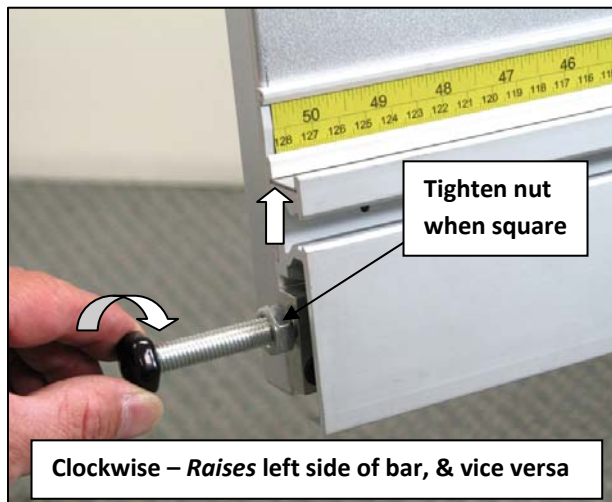
# 2

# Set Up & Calibration

4. If the cuts you made on the front and back of the board do not align, the machine is not square yet. The Horizontal Material Bar must be repositioned. If the third cut you made (the one made at the top on the back of the board) is to the left of the first cut you made (at the top of the board from the front), the Horizontal Material Bar must be lowered by making a Squaring ramp adjustment on the left side of the machine. Conversely, if the third cut you made (on the top of the back of the board) is to the right of the first cut, the Horizontal Material Bar must be raised. In either case, the amount of squaring adjustment required is half the distance between the two top cuts.



5. If the machine is square, the two cuts at the top of the board (the first cut, made from the front and the third cut, made from the back) will be in alignment. Tighten the locking Hex Nut on the Ramp Adjusting Bolt at the left side of the machine. Then tighten the four (4) mounting screws on the Horizontal Material Bar.



## 2.2 Setting the Scales

1. Install the 1/2" (13mm) Blade Holder into the FSC.
2. Install the Production Stops. Loosen the right (larger) Production Stop Knob, slide onto the front of the Horizontal Material Bar from the right and tighten the Knob. Repeat with the other Production Stop, sliding it onto the left side.
3. Start with the Vertical Scale. Take a piece of foamboard or matboard exactly 6" x12" (measure with ruler or tape measure, and cut). Using a ruler or tape measure, mark 6" from the left side of the foamboard. Put the board on the machine and make sure the mark lines up with the 6" line on the Vertical Scale. Slide the scale to match if it does not line up. Friction should keep it in place, but if it moves too easily, apply double-sided tape behind it and firmly press it down to make it adhere.

## 2

# Set Up & Calibration

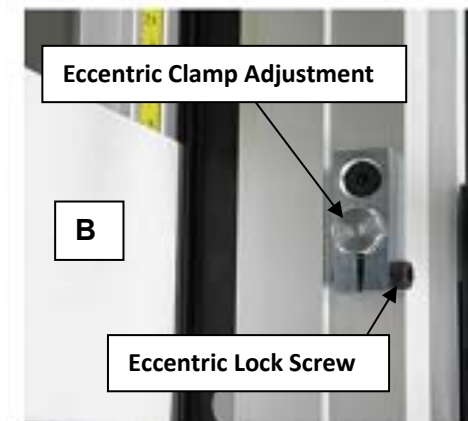
4. When setting the Horizontal Scales, start with the left one. Take your board and slide it into the machine until the 6" marking lines up with the blade, **and clamp into place**. Slide the measuring scale so that it aligns precisely with the left edge of the material. Apply double-sided tape behind the left Horizontal Scale to make sure it doesn't move.
5. To set the right side Horizontal Scale, slide the foamboard into the machine and adjust the 6" line so the blade lines up over it, **and clamp into place**. Adjust the right scale to the right edge of the material until it is aligned precisely. Apply double-sided tape behind the right Horizontal Scale to make sure it doesn't move.

### 2.3 Adjust the Vertical Track / Clamping Assembly

The Vertical Track Assembly consists of two parts – a stationary “anvil” and a moveable clamp. The clamp holds the material firmly against the stationary part so that the material does not move during the cutting stroke. If the material moves, or is not firmly held at the bottom, adjust the bottom eccentric assembly on the lower left side of the Vertical Track Assembly to apply proper clamping. If it moves or is not firmly held at the top, adjust the top eccentric assembly on the upper right side of the Vertical Track Assembly to apply proper clamping. This section describes the adjustment and verification procedures for both areas.

♦ **Note:** In most cases, if material moves at either the bottom or top, adjust both identical eccentric assemblies (eccentrics). This ensures that there is no material slippage, the cutting stroke is even, and the need for repeating the procedure later for the other eccentric is eliminated.

1. Remove material from the FSC.
2. Fold an 8½" x 11" sheet of paper so it creates a thickness of four (4) sheets (0.012").
3. Slide the folded paper between the center stationary part and the moveable clamp as shown at the right (*Figure A*).
4. Lower the Clamp Lever fully so that the stationary part and the moveable clamp are firmly together.
5. To verify clamping, attempt to remove the folded paper. If the paper cannot be removed, the center stationary part and moveable clamp have proper clamping. If the paper can be pulled out, adjust both the bottom and top eccentrics to provide proper clamping for this area.
6. Raise the Clamp Lever fully and remove the paper.



7. The bottom eccentric is shown at the right, *Figure B*. (the top is identical in purpose and procedure). Loosen the M6 Locking Screw (5mm hex key) so that the 15mm Hex Head eccentric adjustment can be turned.
8. Slide the folded paper between the bottom stationary part and the moveable clamp.

## 2

# Set Up & Calibration

9. Lower the Clamp Lever fully so that the stationary part and the moveable clamp are firmly together.
10. Turn the eccentric left or right while attempting to remove the paper from between the stationary part and the moveable clamp.
11. To verify clamping, attempt to remove the folded paper. When the paper cannot be removed, the eccentric is providing proper clamping. Tighten the M6 Screw so that the eccentric will not turn.
12. Raise the Clamp Lever fully and remove the paper.
13. The adjustment for the bottom eccentric is complete.
14. Repeat Steps 7 – 13 for the upper eccentric.
15. The clamp eccentric adjustments are completed. All three clamping areas now provide proper material clamping.

# 3 Cutting Tools and Substrates

## 3.1 Cutting Tool Holder Types

♦ **Note:** Always use the Blade Holder that is appropriate for the thickness of your material to help minimize the possibility of blade deflection.

### Standard Blade Holders - Included

#### A. ½" (13mm) Blade Holder

This blade holder is used for foamboard, gatorboard, PVC and corrugated plastic. Use this one for materials up to ½" (13mm) thick.

#### B. Acrylic Blade Holder

This blade holder cuts acrylic and other fracture-sensitive plastics, and polycarbonate up to ¼" (7mm) thick.

#### C. Aluminum Composite Wheel Holder

This wheel holder is for cutting aluminum-faced sheet material up to ¼" (7mm) thick. *(This Wheel Holder has RED marking on the rear edge that says 'Alum. Composite'.)*

### Optional Blade/Wheel Holders:

#### D. ¼" (7mm) Blade Holder

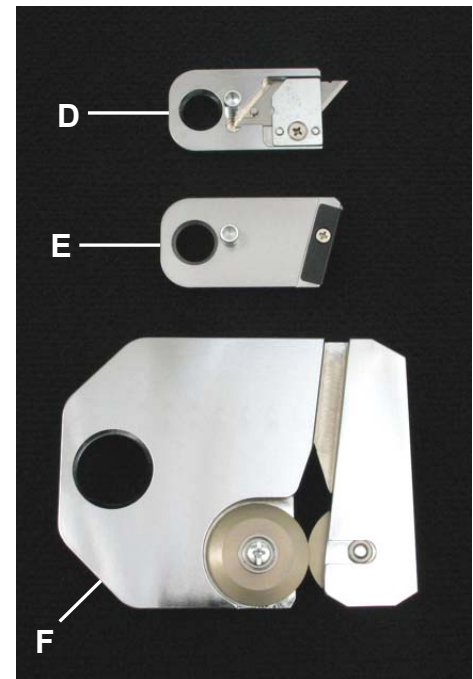
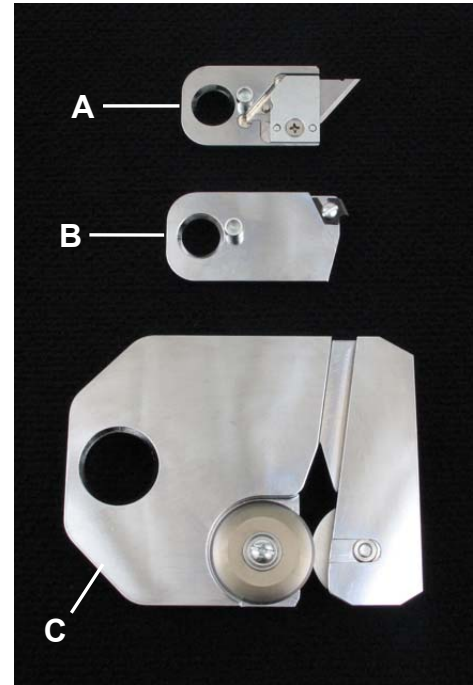
This blade holder is used for foamboard, Gatorboard, PVC, corrugated plastic and polycarbonate. Use this one for materials up to ¼" (7mm) thick.

#### E. Glass Scoring Wheel Holder

This wheel holder is for scoring glass up to ¼" (7mm) thick.

#### F. Aluminum Sheet Wheel Holder

This wheel holder is for cutting solid aluminum sheet material up to .063" (1.5mm) thick. *(This Wheel Holder has RED marking on the rear edge that says 'Alum. Sheet'.)*



# 3 Cutting Tools and Substrates

## 3.2 Installing New Cutting Blades/Wheels/Scoring Tips into Holders

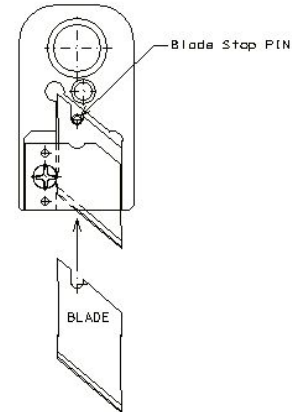


**CAUTION: Blades are extremely sharp. Handle with care.**

### A. 1/2" (13mm) or 1/4" (7mm) Blade Holders

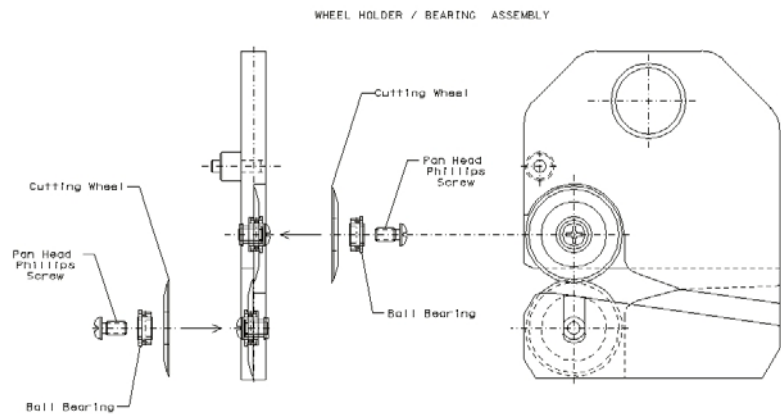
1. Loosen the Blade Clamp Screw on the Blade Holder using a Phillips-head Screwdriver.
2. Slide the notched end of the Cutting Blade into the holder so it nests on the Blade Stop Pin.
3. Tighten the screw securely.

◆ **Note: Make sure the Blade is fully inserted into the Blade Holder.**



### B. Cutting Wheel Holders (Aluminum Sheet and Composites)

1. Position the Cutting Wheels so the beveled sides face outward (see figure).
2. Place the Ball Bearings into the Cutting Wheel, and then insert onto the Holder studs.
3. Insert and tighten the Screws.

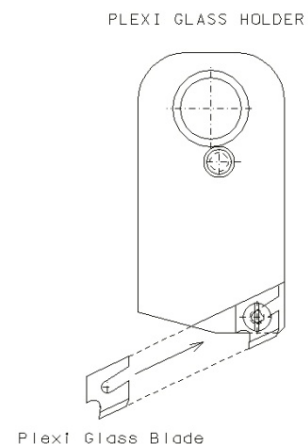


### C. Acrylic Blade

1. Loosen the Blade Clamp Screw on the Blade Holder.
2. Slide the open notched end of the Cutting Blade into the holder from the left side of the Screw Head.

◆ **Note: Make sure the Blade is fully inserted under the holding screw.**

3. Tighten the screw securely.

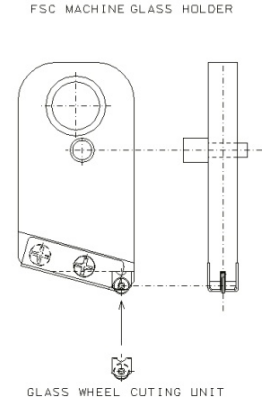




# 3 Cutting Tools and Substrates

## D. Glass Scoring Wheel

1. Position the new Glass Scoring Wheel in the gap so the notch is positioned inward.
2. Gently rock it back-and-forth until it is firmly seated into place.



## 3.3 Cutting Techniques for Various Substrates

Each material you will use has its own unique characteristics. Whether it is brittle, soft, thick, or ridged in nature, you will need to choose the proper Cutting Blade/Wheel and technique to get the best results. **Refer to “Cutting Holder Types” Section 3.1 on page 18 for more information on each Blade and Wheel Holder type.**

◆ **Note:** To learn how to load the Blade/Wheel Holders, and all other general use information, please refer to “Operating the FSC” beginning on page 23.

### A. Cutting Foamboard/Gatorboard

1. Insert the ¼" (7mm) or the ½" (13mm) Blade Holder (**refer to “Cutting Holder Types” Section 3.1 on page 18 for proper blade selection**) into the Cutting Head.
2. Lock the Holder Securing Knob.
3. Clamp the substrate in place.
4. Depress Thumb Lever and raise the Cutting Head above the material.
5. Release Thumb Lever and engage Rocker Arm Locking Pin to secure the Blade in the forward position. . (**See “Locking the Rocker Arm,” Section 4.6 on Page 25 for more information.**)
6. Pull the Cutting Head down in one continuous movement.

#### ◆ Notes:

- A fresh Blade should cut the material in one pass.
- Production Stop should be used if making more than one piece of the same size.

### B. Cutting PVC and Corrugated Plastic

1. Insert the ¼" (7mm) or ½" (13mm) Blade Holder (**refer to “Cutting Holder Types” Section 3.1 on page 18 for proper blade selection**) into the Cutting Head.
2. Lock the Holder Securing Knob.
3. Clamp the substrate in place.
4. Depress Thumb Lever and raise the Cutting Head above the material.
5. Release the Thumb Lever and engage the Rocker Arm Locking Pin to secure the Blade in the forward position. (**See “Locking the Rocker Arm,” Section 4.6 on Page 25 for more information.**)
6. Pull the Cutting Head down in one smooth, continuous movement.
  - **Tip:** For thinner material, such as polycarbonate, place a piece of sacrificial material behind it to avoid slippage.

# 3 Cutting Tools and Substrates

◆ **Notes:**

- **Production Stop(s)** should be used if making multiple pieces of the same size.
- **Thinner materials** can be cut with one pass, but thicker materials may take more than one pass to cut completely through the material.

## **C. Scoring and Breaking Techniques for Fracture-Sensitive Material**

- ◆ **Note:** It is not necessary to remove the acrylic's protective film prior to cutting.

### **Scoring Fracture-Sensitive Material and Polycarbonate**

1. Insert the Acrylic Blade Holder into the Cutting Head.
2. Lock the Holder Securing Knob.
3. Clamp the substrate in place.
4. Depress Thumb Lever and raise the Cutting Head so the Blade is positioned approximately 1/32" (1mm) below the top edge of the material.
5. Using the Dual Handle, pull down **slowly** to its resting position.

- ◆ **Note:** Moving slowly will create a smoother, more polished edge.

<b>Material</b>	<b>Cutting Technique</b>
1/8" (3mm) thick	One pass with a fresh blade
1/4" (7mm) thick	Make three or four passes

### **Breaking Fracture-Sensitive Material**

1. Apply pressure on the right side of the material to run the score and separate the pieces.

- ◆ **Note:** When cutting thicker Polycarbonate material, you will usually need to make multiple passes.

## **D. Cutting Solid Aluminum / Aluminum-Faced Sheet Material**

1. Insert the appropriate Wheel Holder into the Cutting Head. (*See "Cutting Holder Types," Section 3.1 on page 18, for more information.*)
2. Raise the Cutting Head above the material, and then lock the Cutting Head in that position.
3. Set the Production Stops to the appropriate dimension.
4. Position the material up against the Production Stop and apply the Clamp.
5. Unlock and lower the Cutting Head until the Cutting Wheels contact the edge of the material.
6. Using the Dual Handle, firmly pull the Cutting Head down to its bottom, resting position.
7. Release the clamp.

- ◆ **Note:** Do NOT rapidly pull the head down and forcefully strike the top edge of the material in order to generate more force. Damage to the cutting wheels or bearings may result.

# 3 Cutting Tools and Substrates

## E. Proper Glass Scoring and Breaking Techniques



### CAUTION:

- ☑ Always wear eye protection, gloves, and protective clothing when handling glass.
- ☑ Always load glass from the left side of the machine.
- ☑ Glass should not extend beyond the edges of the Horizontal Material Bar.
- ☑ Always score in a downward stroke.

### Scoring Glass

#### ◆ Notes:

- Never score glass more than once on the same line.
- A light, continuous score line is best.
- If there is too much pressure, the score line will be flaky

1. Insert the Glass Scoring Wheel Holder into the Cutting Head.
2. Position the glass sheet on the left side of the Horizontal Material Bar.
3. Align the left edge of the glass with the desired measurement on the scale.
4. Gently apply the Clamp.
5. Grasp the handle, depress the Thumb Lever to retract the tool, and raise the Cutting Head well above the upper edge of the glass.
6. Release the Thumb Lever, and bring the Cutting Head down slowly until you feel the Wheel Ramp contact the glass.
7. Bring the Cutting Head down to the bottom resting position using one continuous motion.

- **Tip:** *If the glass is flaky there is too much pressure on the Rocker Arm. Refer to “Adjusting the Rocker Arm Pressure,” Section 6.2 on page 31 for more information.*

### Breaking Glass Along a Score Line

- ◆ **Note:** For proper breakout of glass, there must be at least 2<sup>3</sup>/<sub>4</sub>" (~70mm) of material to the right of the score line. Smaller sections must be removed from the machine and broken out on your workbench.



### CAUTION: Do not apply pressure at the center of the glass score line.

1. Place your thumb just to the right of the score at the top of the glass sheet.
2. Apply just enough pressure until the score “runs” downward and the glass breaks cleanly along the score line.
3. Release the clamp.

## Operating the FSC

### 4.1 Inserting Cutting Tool Holders in the Cutting Head

1. Raise the Cutting Head to a comfortable level by grabbing either the Dual Handle Bar, or the black Handle. Hold the Cutting Tool so the Blade Screw is to your right.
2. Insert the Blade Holder so the small tab on the left side of the Blade Holder is positioned in the notch of the Cutting Head above the Dual Handle Bar.
3. Secure the Holder by tightening the Holder Securing Knob.
4. Lower the Cutting Head to its resting position at the base of the Vertical Track Assembly.

◆ **Note:** The Holder Securing Knob must be tight enough to hold each Blade/Wheel Holder firmly in place.



### 4.2 Clamping the Material

The Clamp will hold the substrate securely in place during the cutting process. This will allow the proper dimensions to be maintained.

#### A. To Close

1. Grasp the black Handle on the Vertical Track Assembly.
2. Pivot the Handle downward to its closed position.

#### B. To Open

1. Grasp the black Handle on the Vertical Track Assembly.
2. Pivot the Handle back up to its opened position.

➤ **Tip:** If the material does not slide easily between the Vertical Track Assembly and the Clamp Assembly, check to make sure the Clamp is fully open.



# 4

# Operating the FSC

## 4.3 Positioning the Substrate

1. Place the material on the Horizontal Material Bar and slide it under the Vertical Track Assembly.

◆ **Note:** It is preferable to load the material from the left to right direction.

2. Position the material so that the left edge of the board aligns with the desired cutting dimension.
3. Lower the Clamp Lever to secure the material in place

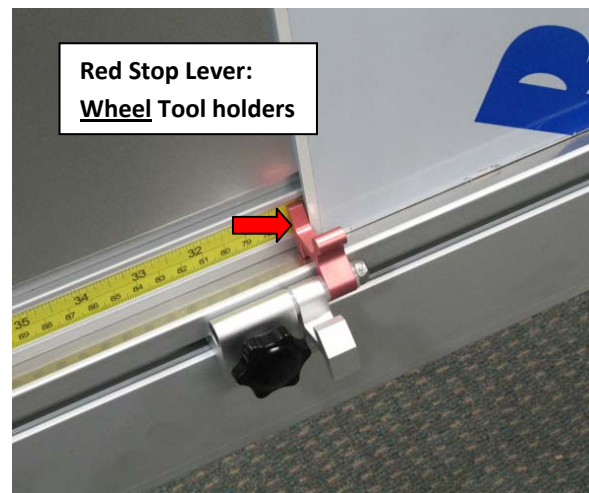
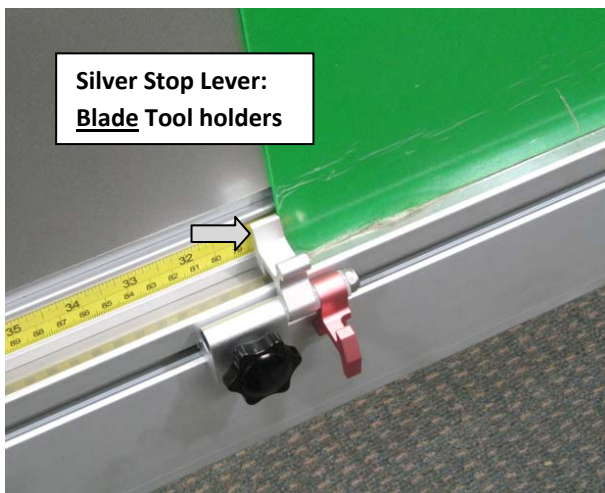
➤ **Tip:** If you are using a very thin substrate, you may place a piece of sacrificial material behind it to increase the clamping tension.

## 4.4 Using the Production Stops

◆ **Note:** Always use the Silver Stop Levers with the Blade Holders and the Red Stop Levers with the Wheel Holders (Aluminum sheet and composites).

1. Unscrew the black Locking Knob.
2. Slide the Production Stops to the desired location.
3. Tighten the Locking Knob to secure the position.
4. Set the Silver stop lever to the desired position. Flip up the Silver lever after setting to position the material for use with the Wheel Holders.

➤ **Tip:** If the Production Stop does not slide easily, loosen the black Knob slightly.



## 4.5 Making a Cut or Score Line with the FSC

Please refer to “Cutting Tools and Substrates,” beginning on page 18 for specific information on the substrate you are cutting.

◆ **Note:** All cutting and scoring is done with a smooth downward stroke.

### A. Creating a Cut Line

1. Grasp the handle of the Cutting Head.
2. Depress the Thumb Lever to raise the “Knife” Blade.
3. Pull the Cutting Head up above your material.
4. Position the Blade on top of the substrate, release the Thumb Lever, and pull down in a continuous movement until the Cutting Head is returned to its resting position.

◆ **Note:** Some materials may require a slower downward motion. Please consult “Cutting Techniques for Various Substrates” on pages 20-22.

### B. Using a Blade to Create a Score Line

◆ **Note:** For harder substrates, follow the instructions for “Scoring Fracture-Sensitive Material,” Section 3.3 on page 21 or “Proper Glass Scoring and Breaking Techniques” on page 22.

1. Grasp the handle of the Cutting Head.
2. Depress the Thumb Lever to raise the Blade.
3. Position the Blade so it is resting on top of the material.
4. Ease up on the Thumb Lever, but do not release it all the way. This allows the Blade to be in contact with the material, but not to completely cut through.
5. Pull down in a continuous movement until the Cutting Head is returned to its resting position.

## 4.6 Locking the Rocker Arm

The Rocker Arm Locking Pin secures the Blade in the cutting position. To ensure a consistent cut, it is recommended that the Rocker Arm Locking Pin be enabled on all final cutting passes.

### A. To Lock

1. Move the Cutting Head above the top of the substrate.
2. Locate the silver Rocker Arm Locking Pin on the right side of the Cutting Head.
3. Push it in to the left to lock the blade in the forward position; pull out to unlock.



# 5

# Laser Installation

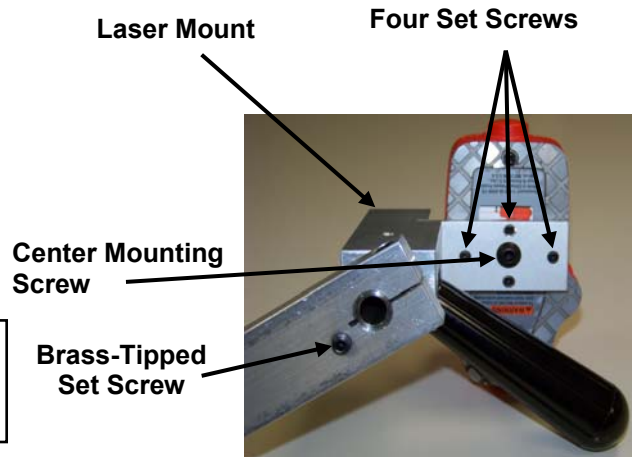
## Installing the Laser

Tools Needed
10mm, 16mm, 17mm Wrenches 2mm, 2.5mm, 4mm, & 1/8" Hex Keys

### 5.1 Setting up the Laser

1. Loosen the black Handle by turning it counterclockwise.
2. Slide the Laser all the way to the left along the Laser Shaft.
3. Ensure the brass-tipped Set Screw on the Laser Assembly is tight against the Laser Mount, and retighten the Handle.
4. Hold the Laser in the palm of your hand so the four (4) black Set Screws on the left side of the Laser are facing you.
5. Loosen the four (4) Set Screws using a 2mm Hex Key.
6. Tighten the center mounting screw using a 1/8" Hex Key.
7. Retighten the four (4) Set Screws **just** until they come in contact with the Laser.

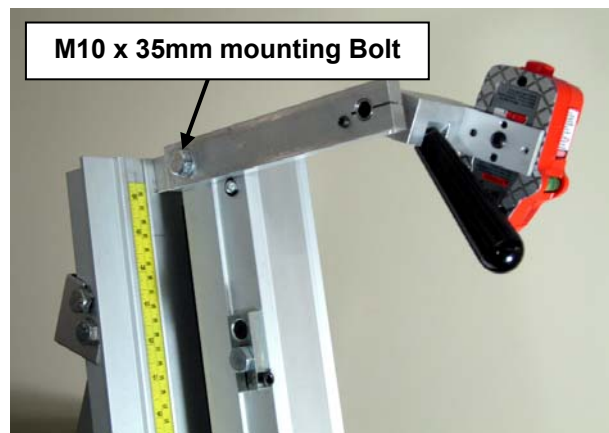
◆ **Note: Do not over tighten the Set Screws, as you will be making some fine adjustments to the Set Screws during calibration.**



### 5.2 Mounting the Laser to the FSC

◆ **Note: You may need a stepladder to complete this task.**

1. If present, remove the existing M10 bolt from the mounting hole.
2. Align and attach the Laser Assembly to the top, left-hand side of the Vertical Track Assembly (*see Figure to the right*).
3. Insert and tighten the M10 x 35mm bolt supplied with the Laser using a 17mm Wrench.



# 5

# Laser Installation

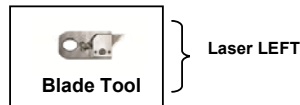
## 5.3 Dual-Position Laser

◆**Note:** The FSC cutting tool holders are sized for cutting performance. The “wheeled” tools are larger and provide an off-set cut line compared to the blade tool. The Laser Assembly is designed with a Dual Position feature giving you the ease of positioning the Laser Sight-Line to correspond to the cutting tool in use.



### A. Positioning the Laser for use with the Blade (SILVER Tools) (PVC, Foamboard, Coroplast, Acrylic)

1. Loosen the black handle by turning it counterclockwise.
2. Slide the Laser all the way to the **LEFT** along the shaft.
3. Tighten the black handle by turning it clockwise.



RED Laser Line enlarged for illustration only



### B. Positioning the Laser for use with the Wheel

(Color-coded **RED**) (Aluminum and Aluminum Composite Material)

1. Loosen the black handle by turning it counterclockwise.
2. Slide the Laser all the way to the **RIGHT** along the shaft.
3. Tighten the black handle by turning it clockwise.



RED Laser Line enlarged for illustration only



## 5.4 Creating the Score Lines for Calibrating the Laser

1. Load a piece of sacrificial foamboard onto the Horizontal Material Bar. You can use another material if foamboard is not available. **Choose a softer material that will more clearly show the score lines.**
2. Place the ½" (13mm) Blade Holder in the FSC.
3. Create a score line the entire length of the foamboard – Do Not cut through completely.
4. Remove the ½" (13mm) Blade Holder and insert the Aluminum Composite Wheel Holder.
5. Place the Cutting Head at the top of the substrate and make a cut approximately 1" (25 mm) in length.
6. Remove the Aluminum Composite Wheel Holder and return the Cutting Head to its resting position at the bottom Vertical Track Assembly.



# 5

# Laser Installation

## 5.5 Calibrating the Alignment of Laser to Cut Lines

**CAUTION: Use Laser Safety Glasses before turning on the Laser.**



### A. Creating a Continuous Laser Beam

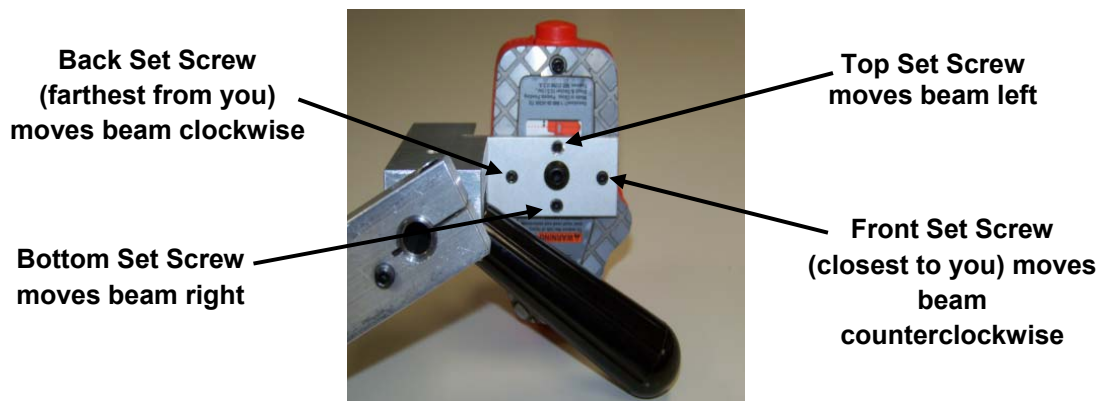
1. Turn on the Laser. The switch is located on the right side of the Laser. Slide the On/Off switch down to the On position.
2. If Laser Beam is visible from the top of the substrate to the bottom, skip to the next section: "Setting the Angle of the Laser Beam,".
3. If the Laser Beam is not entirely visible from the top of the substrate to the bottom:
  - a. Use a 4mm Hex Key, to loosen the Laser Shaft Clamping Screw located on the top of the Laser Shaft (*see Figure on the right*).
  - b. Rotate the Laser using the Handle until the beam becomes continuous from the top to the bottom of the substrate.
  - c. Retighten the Laser Shaft Clamping Screw.

Laser Shaft Clamping Screw



### B. Setting the Angle of the Laser Beam

Follow the steps below to create a beam that fall directly on top of your score line. Once your score line is perfectly matched up with the Laser Beam, you are finished.



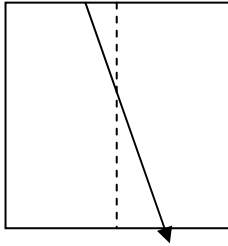
If the beam falls across your substrate from top left to bottom right, use a 2mm Hex Key to:

1. Tighten the bottom Set Screw and the beam will move to the right. When it is positioned over the top of the score line, stop tightening.
2. Tighten the back Set Screw and the beam will turn clockwise. Stop turning when it is positioned over the score line.

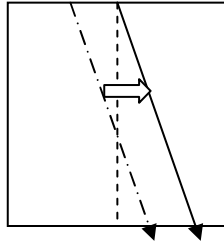
# 5

# Laser Installation

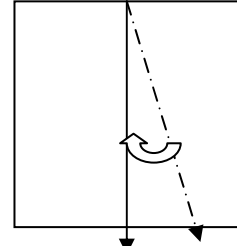
◆ **Note:** Slight adjustments may be required for correct alignment.



**Beam is diagonal  
to score line**



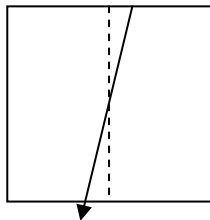
**Tightening bottom  
Set Screw moves  
beam right**



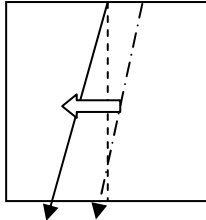
**Tightening back  
Set Screw moves  
beam clockwise**

If the beam falls across your substrate from top right to bottom left, use a 2mm Hex Key to:

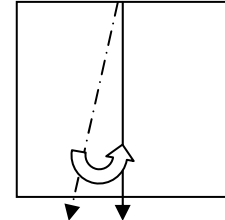
1. Tighten the top Set Screw and the beam will move to the left. When it is positioned over the top of the score line, stop tightening.
2. Tighten the bottom Set Screw and the beam will turn counterclockwise. When it is positioned over the score line, stop tightening.



**Beam is diagonal  
right to left**



**Tightening top  
Set Screw moves  
beam left**



**Tightening front  
Set Screw moves  
beam counterclockwise**

## Securing the Laser in the *Blade Cutting Position*

1. Place a 2.5mm Hex Key in the brass-tipped Set Screw located on the top, left-hand side of the Laser Assembly, and a 10mm Wrench on the Hex Nut opposite the Screw.
2. Tighten the Screw to create the Blade Cutting Laser Position.

## Securing the Laser in the *Cutting Wheel Position*

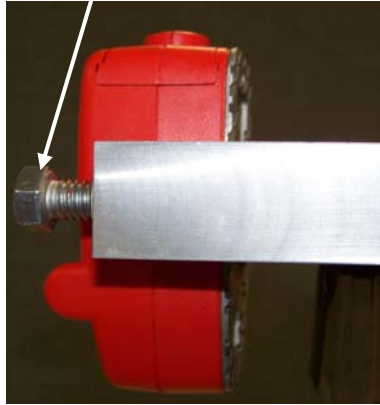
1. Loosen the Handle and move the Laser to the far right on the Laser Shaft.
2. If the beam is to the right of the Aluminum Composite Wheel cut line:
  - a. Slowly tighten the Nylock Bolt, located to the far right end of the Laser Shaft, using a 16mm Wrench.
  - b. When the beam is aligned with the wheel cut line, you are finished.

# 5

# Laser Installation

3. If the beam is to the *left* of the Aluminum Composite Wheel Cut line, perform steps a and b above, but loosen (turn counter-clockwise) the Nylock bolt instead.

**Nylock Bolt at  
end of the  
Laser Shaft**



# 6 Maintenance, Adjustments, Troubleshooting & FAQs

## Maintenance, Adjustments, Troubleshooting & FAQ

### 6.1 General Maintenance Tips

#### Cleaning

With care and frequent cleaning, the FSC will remain in proper working order and will perform well indefinitely, as designed.

1. Clean the Horizontal Material Support's top surface. If debris collects on the Bar, the substrate will not sit properly, and the machine will not cut squarely.
2. Always use sharp cutting tools. Keep a supply of each of the cutting blades in a convenient place near the machine.
3. Keep the Vertical Track clean so the Cutting Head can move freely up and down.

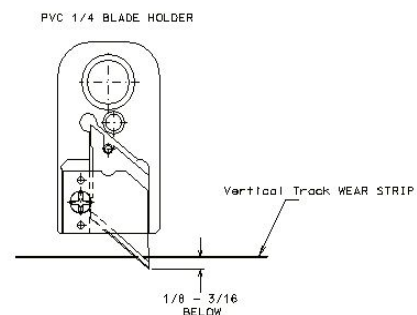
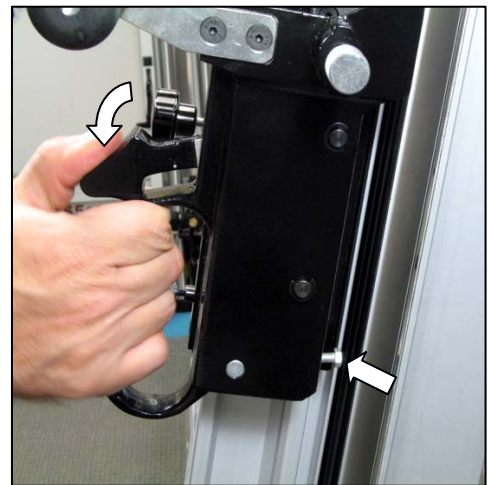
### 6.2 Adjustments

#### A. Adjusting the Travel of the Rocker Arm

After considerable use, it may become necessary to adjust the Rocker Arm. The Rocker Arm determines how *deeply each Cutting Tool penetrates* through the material.

1. Insert the PVC Blade Holder into the Cutting Head.
2. Locate the Rocker Arm Adjusting screw on the rear of the Cutting Head. Depress the Thumb Lever as you view from the right side to find the screw more easily (see photo at right).
3. Turn the Rocker Arm Adjusting knob so the tip of the Blade penetrates past the Vertical Track Wear Strip by approximately 1/8"-3/16" (3mm - 5mm). Turn the screw clockwise to reduce blade depth; counterclockwise to increase depth.

- ◆ **Note:** If you need to make adjustments to the Glass Scoring Wheel Holder, turn the Adjusting Screw so the Glass Scoring Wheel is almost even with the top of the Vertical Track Wear Strip.



# 6 Maintenance, Adjustments, Troubleshooting & FAQs

## B. Adjusting the Rocker Arm Pressure

The Rocker Arm pressure adjustment knob increases or decreases the amount of pressure applied to the material surface. This is especially important when scoring glass, as too much or too little pressure will create an ineffective score, making the break out difficult.



1. Locate the knurled Rocker Arm Adjusting knob (gold color) under the dual handle bar.
2. Insert the Glass Wheel Scoring tool holder into the cutting head.
3. Make a test score on a scrap piece of glass. If the score line is too faint, turn the pressure adjusting knob *clockwise to increase* the pressure.
4. If the score is rough and causes the glass to flake, there is excessive pressure. Turn the adjusting knob *counterclockwise to reduce* the pressure.

## C. Adjusting the Cutting Head Bearings

If the Cutting Head moves side-to-side too much, the plastic bearings are worn or loose. You will need to make adjustments using the small (3mm) Hex Key Wrench to tighten the two (2) adjustment Screws on the front of the Cutting Head.

◆ **Note: Remove any Blade/Wheel Holders before beginning the bearing adjustment.**

1. Raise the Cutting Head to eye level to locate the Bearing Adjustment Screws (*see Figure on the right*). Using the 3mm Hex Key Wrench, turn both Screws clockwise in increments of about one-eighth (1/8) of a revolution (*see Figure on the right*).
2. Check to see if the bearings are no longer loose by sliding the Cutting Head Assembly up and down the Vertical Track Assembly.
3. Repeat Step 2 and 3 above until both the lateral movement is minimized and the vertical movement of the Cutting Head is smooth.



# 6 Maintenance, Adjustments, Troubleshooting & FAQs

## D. Replacing the Cutting Head Bearings

If adjusting the bearings doesn't work, you will need to replace two (2) round-shaped bearings at the back, and two (2) V-shaped bearings at the front of the Cutting Head Assembly. The chances of this are low, so try the above adjustment (C) before you replace the bearings.

◆ **Note: Remove any Blade/Wheel Holders before you remove the Cutting Head.**

## E. Removing the Cutting Head

1. Loosen the Locking Knob on the Cutting Head.
2. Depress the Thumb Lever and raise the Cutting Head about 10" (~250mm) above the Horizontal Material Bar.
3. Locate the 10mm Hex Head Bolt on the bottom right side of the Vertical Track Assembly.
4. Remove the bolt with a 17mm Wrench.
5. Remove the black Bumper and the Stop Block. Loosen the Locking Knob.

◆ **Note: If the bumper is worn or damaged, it can be replaced.**

6. Grasp the Handle and slide the Cutting Head off the bottom of the Vertical Track Assembly.

## F. Removing the Bearings

There are (3) three types of bearings and seven (7) black Flat Head Screws on the Cutting Head Assembly:

1. Two (2) round-shaped type (white) plastic bearings on the back.
2. Two (2) v-shaped type (white) plastic bearings on the front.
3. One (1) brake-type v-shaped bearing in the middle on the front.

◆ **Note: There are metal wear pads that are placed inside the v-shaped type bearings and brake-type v-shaped bearing. These metal wear pads must be assembled the same way in the new bearings and are necessary for proper adjustment and braking of the Cutting Head Assembly.**

1. Remove the Screws using a 2.5mm Hex Key.
2. Remove each Bearing and replace it with new Bearings.
3. Replace the Flat Head Screws.
4. Remount the Cutting Head Assembly onto the Vertical Track Assembly.
5. Reinstall the black Bumper, Stop Block, and 10mm Bolt. Repeat the adjustments as describe in "Adjusting the Cutting Head Bearings," Section 6.2 on page 32.

# 6 Maintenance, Adjustments, Troubleshooting & FAQs

## 6.3 Troubleshooting Your FSC

If this **Troubleshooting Guide** or the **Frequently Asked Questions** listed below does not answer your questions, call our Customer Service Department at 1.800.843.3826 (within the United States) or outside the United States, call ++800.843.3826, visit our website ([www.fletcher-terry.com](http://www.fletcher-terry.com)) or send an email to [customerservice@fletcher-terry.com](mailto:customerservice@fletcher-terry.com).

Symptom	Probable Cause	Correction
Plastic Scoring "Chatters"	Too Much Pressure Scoring Too Fast	Loosen the Pressure Knob Slow the Scoring Stroke
Ragged Cut Edge When Cutting Thin Material	No Sacrificial Sheet	Use New Sacrificial Sheet
Ragged Edges	Cutting Blade is Dull	Use New Sacrificial Sheet
Not Cutting Squarely	Foreign Material on Horizontal Support Horizontal Material Support Bar is Not Installed Properly	Clean Adjust/Square Horizontal Material Bar (see page 14)
Cannot Depress the Thumb Lever	Rocker Arm Locking Pin is engaged	Disengage the Locking Pin
Glass is flaking	Too Much Pressure	Loosen the Pressure Knob
Cutting Head is Moving Side-to-Side	Cutting Head Bearings have loosened	"Adjusting the Cutting Head Bearings", (see Section 6.2 on page 32)

# 6 Maintenance, Adjustments, Troubleshooting & FAQs

## 6.4 Frequently Asked Questions

### A. Materials

**Q: *What is the best way to cut corrugated plastic?***

A: When cutting across corrugated plastic flutes, cut in a single pass. When cutting in the direction of the flutes, position the blade between the flutes to avoid blade deflection. Use the Rocker Arm Locking Pin to help avoid deflection.

**Note: Thicker material may require multiple passes.**

**Q: *Why do I get a jagged edge when I cut foamboard?***

A: There are two critical elements of cutting foamboard materials. First, always use a sharp blade. Second, maintain a minimum blade exposure when cutting through the foamboard.

For example: If you are frequently cutting thinner material, such as 3/16" or 1/4", we recommend the 1/4" Blade Holder.

**Q: *Why does my Aluminum Cutting Wheel cut .063", but not .04" aluminum? Am I doing something wrong?***

A: The FSC is designed to cut aluminum up to .063. Check that you are using the proper tool. The wheel holder is clearly marked "Alum Sheet" in red. If you are still experiencing problems, please contact Customer Service at 1.800.843.3826.

**Q: *I frequently get a jagged edge when cutting PVC material. What is the best way to cut?***

A: When cutting PVC it is important that you cut through the material slowly. What creates the jagged edge is excessive speed when passing the "knife" blade through the material. If you hear a zipper-type sound, you're going too fast. We recommend that you go slowly, and cut in multiple-passes exerting a little more pressure with each pass.

**Q: *Can I cut MDO and MDF on the FSC?***

A: No. The FSC is designed to cut plastic-based materials, paper, aluminum (sheet and composites), acrylics, and glass.



# 6 Maintenance, Adjustments, Troubleshooting & FAQs

## B. Cutting

**Q: *What is the FSC's cut capacity?***

A: The FSC has a vertical height cut capacity of 65" and can cut up to ½" thick materials.

**Q: *Why are the Production Stops color-coded?***

A: The red stops are for sheet aluminum and aluminum composite material, and the silver stops are for all other material (see page 24).

**Q: *How long do the blades and wheels last?***

A: All Fletcher cutting blades and wheels are "Extended Life" blades/wheels. The life of the cutting edge is directly correlated to the type of material being cut. For instance, cutting plastic type materials (PVC, corrugated plastics, etc.) tend to self-hone the edge, and will last hundreds of passes. Conversely, paper-based materials are inherently abrasive, and will dull a cutting edge faster.

**Q: *Can I cut horizontally on the FSC?***

A: No. The FSC is a vertical stroke cutter only with a capacity of 65".

# Replacement Parts List And Schematics

## VI. Replacement Parts List & Schematics

**NOTE: Our Replacement Parts List and Schematics are in the final stages and will be posted on our website ([www.fletcher-terry.com](http://www.fletcher-terry.com)) when they become available. In the meantime, if you need technical support, contact our customer service department at:**

**800.843.3828 (in the United States)  
++860.677.7331 (outside the United States)  
email - [customerservice@fletcher-terry.com](mailto:customerservice@fletcher-terry.com)**