



The Fletcher-Terry Company

*Quality. Service. Dependability. Value.
Since 1868*

OWNER'S MANUAL

Alta⁹⁹

Fletcher Automated Substrate Cutter



The Fletcher-Terry Company

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FORM Alta ENG31009

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Introduction

Thank you for purchasing the Alta⁹⁹ Fletcher Automated Substrate Cutter. 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 Alta⁹⁹ to be exceptional, so for maximum safety and productivity, **please read and understand this manual thoroughly before you operate your new Alta⁹⁹ cutter.**

Product Warranty

The Fletcher-Terry Company warrants the machine purchased to be free from defects in parts and workmanship for one (1) year 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 Alta⁹⁹ Automated Substrate Cutter. 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.

- It is the employer's responsibility to enforce compliance with these safety warnings and procedures by all who use the Alta⁹⁹. 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 Alta⁹⁹ is to cut substrates for use in sign-making. It must not be modified or used for any other application or purpose.
- The Alta⁹⁹ is for use in cutting solid aluminum (up to .080" [2.03mm] maximum thickness), aluminum composite (1/4" [7mm] maximum thickness), corrugated plastic and foam boards (1/2" [13mm] maximum thickness), PVC (3/8 [10mm] max thickness), and mat board.
- 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 Alta⁹⁹ into place, **DO NOT TRY TO LIFT IT ALONE**, as the weight of the assembly could cause serious injury. Make sure at least three (3) other people are 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 Alta⁹⁹ from an awkward or insecure position. Make sure that the work area is well lit, free from clutter, and setup in a way that promotes proper ergonomics.
- **IF YOU TURN ON THE LASER SIGHT LINE, MAKE SURE TO ALWAYS USE PROTECTIVE LASER GLASSES** (*glasses are not included with machine purchase*). **DO NOT ATTEMPT TO OPERATE THE Alta⁹⁹ WITHOUT YOUR PROTECTIVE GLASSES.**

Assembly of the Alta⁹⁹

I. ASSEMBLY OF THE ALTA⁹⁹

1. Unpacking the Alta⁹⁹

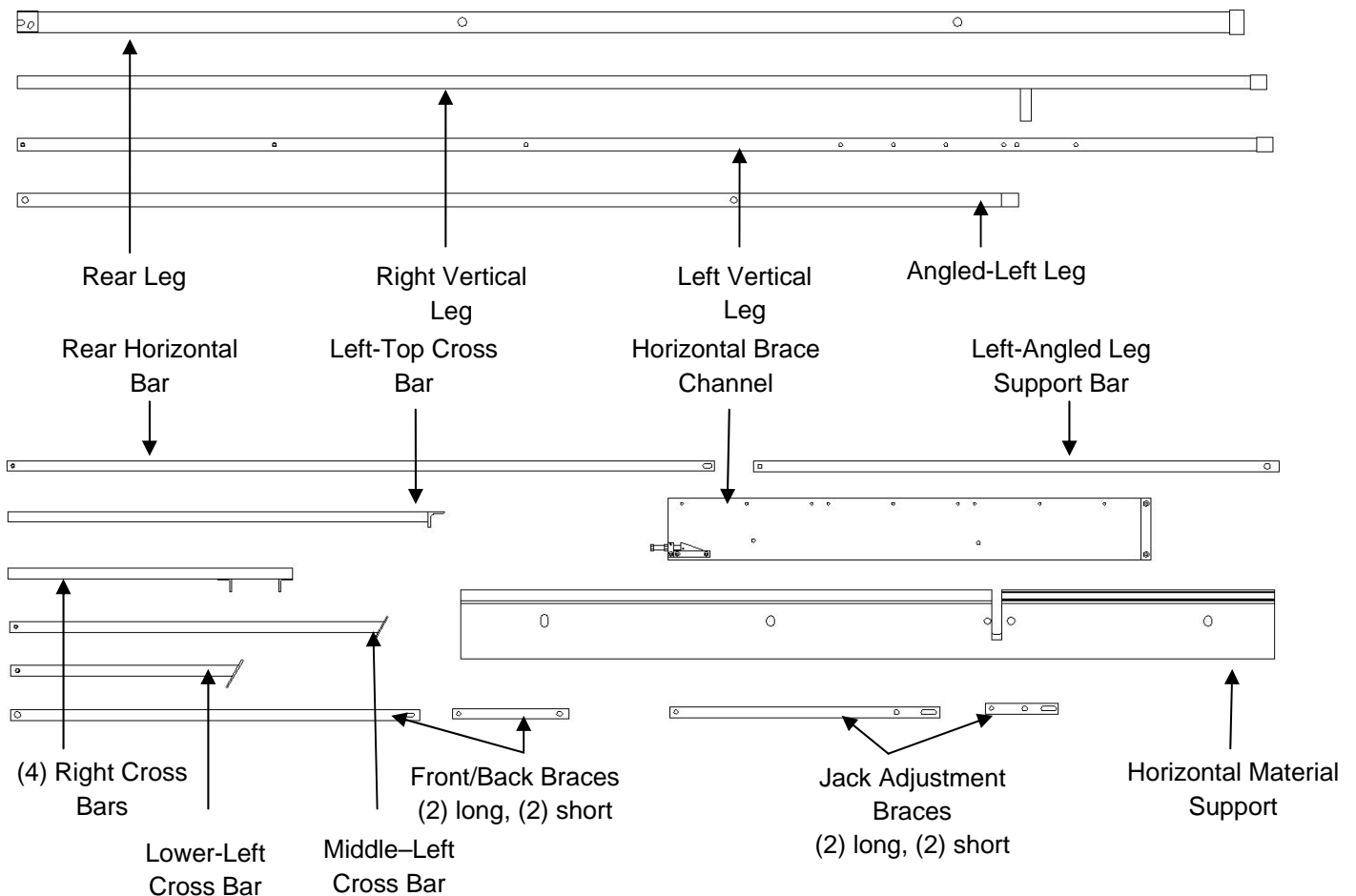
Check the exterior of the packing box to make sure there is no visible damage. After unpacking the unit, check to make sure all the parts are present and undamaged.

◆ **Note:** To assemble the Alta⁹⁹, you will need a cleared workspace approximately 15'x15'.

Contents Include:

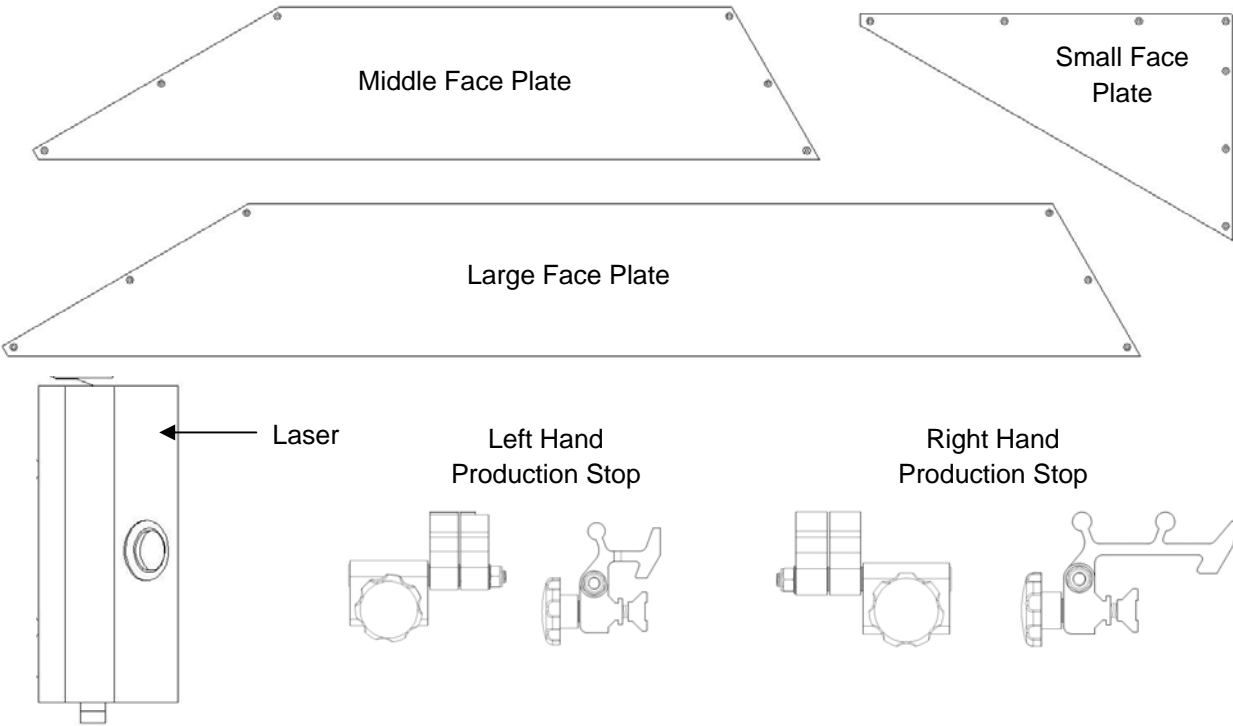
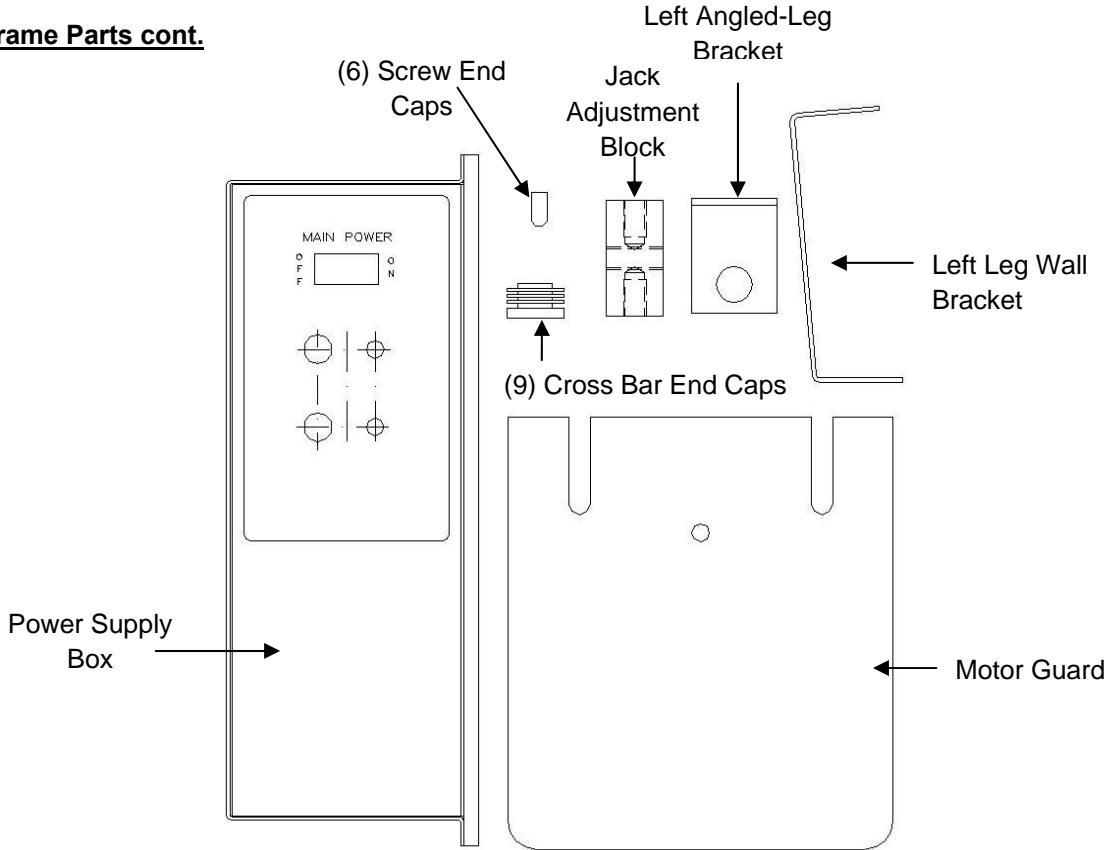
- Partially Pre-Assemble Frame (Vertical Track/Anvil Assembly)
- Frame Parts (*see Frame Parts below*)
- Box #1 - Power Supply Box
- Box #2 - Holders, Production Stops, and Tool Caddy, Laser, Blades, Wheels
- Box #3 - Hardware/Misc. Frame bars
-

Frame Parts



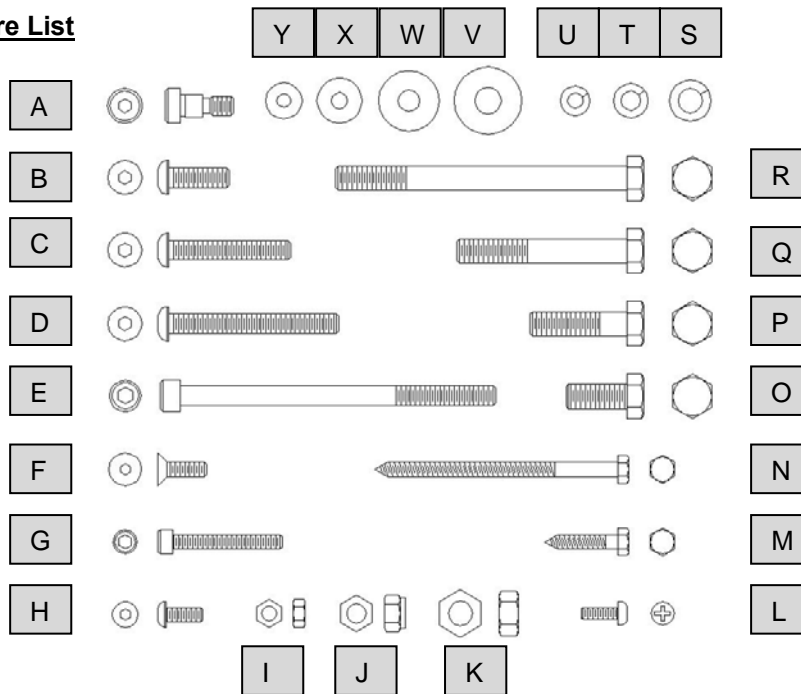
Assembly of the Alta⁹⁹

Frame Parts cont.



Assembly of the Alta⁹⁹

Hardware List



Item	Qty	Hardware Description
A	1	Pivot Shoulder Bolt
B	3	M8 x 25mm Button-Head Socket Cap Screw
C	11	M8 x 50mm Button-Head Socket Cap Screw
D	4	M8 x 70mm Button-Head Socket Cap Screw
E	1	M8 x 130 Socket Head Cap Screw
F	21	M6 x 20mm Flat-Head Socket Cap Screw
G	7	M6 x 45mm Socket-Head Cap Screw
H	17	M6 x 15mm Button-Head Socket Cap Screw
I	16	M6 Hex Nut
J	14	M8 Hex Lock Nut
K	3	M10 Hex Nut
L	2	M5 Phillips Pan-Head Screw
M	1	M6 x 30mm Lag Bolt
N	9	M6 x 100mm Lag Bolt
O	2	M10 x 25mm Hex Bolt
P	2	M10 x 40mm Hex Bolt
Q	1	M10 x 70mm Hex Bolt
R	2	M10 x 120mm Hex Bolt
S	6	M10 lock washer
T	2	M8 lock washer
U	24	M6 lock washer
V	8	M10 flat washer
W	28	M8 flat washer
X	49	M6 flat washer
Y	2	M5 flat washer
*NP	2	10-32 x 2 Socket Head Cap Screws and washers
*NP	2	Standoffs – (1) 1/2" dia. x 1 3/8", (1) 1/4" dia. x 1 3/8"

*NP = Not Pictured

Assembly of the Alta⁹⁹

2. Pre-Assembly

In order to make your assembly of the Alta⁹⁹ as easy as possible, organize your workspace so you have all the necessary tools and parts at hand.

1. Match up the screws and bolts with the correct number of washers and their nuts (**see Hardware List on page 4**).
2. Arrange the tools needed to complete the assembly.
 - a) Hex key wrenches – 4mm, 5mm, 6mm
 - b) Box or Socket wrenches – 10mm, 13mm, 11mm or 7/16, (2) 17mm
 - c) #2 Phillips screw driver and a hammer

At the beginning of each section there is a “Parts Needed” list. Check the list, and have these items close at hand, as they will be needed in the assembly of that section.

3. Positioning the Vertical Track Assembly

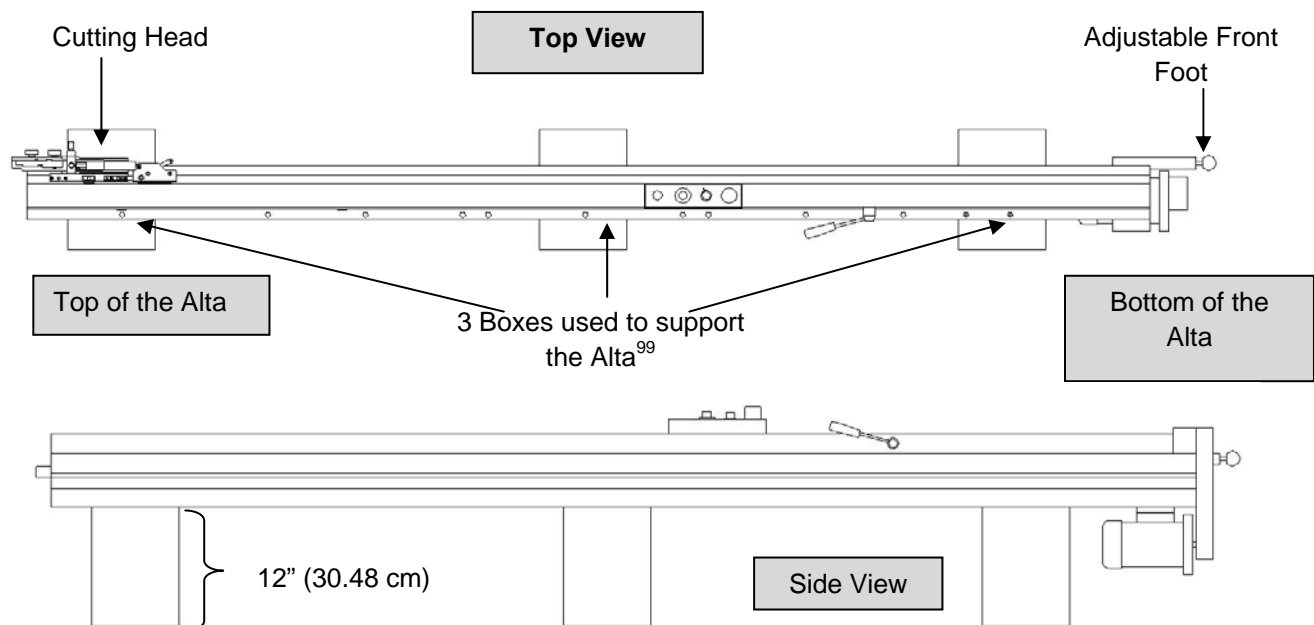
Parts Needed:

Tools
Three, 12” (30.48cm) sturdy boxes
2 - 3 people



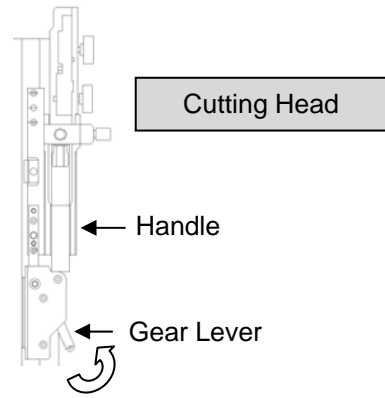
CAUTION: To protect against personal injury, use two to three people to lift the pre-assembled unit.

It is **extremely important** not to put any weight on the Motor. Damage will occur.



Assembly of the Alta⁹⁹

1. Position the boxes next to the top, middle, and bottom of the Vertical Track Assembly while it is in the carton.
2. Lift the Vertical Track Assembly out of the box, and place it directly on top of the boxes.
3. Disengage the Gear Lever located at the right side of the Cutting Head by pulling it up.
4. Grasp the black handle of the Cutting Head.
5. Slide the Cutting Head to the top of the Vertical Track Assembly, and re-engage the Gear Lever.



4. Assembling the Right-Side Cross Bars

Parts Needed:

Frame Parts	Hardware	Tools
(4) Right-side Cross Bars	(8) M6 x 15mm button-head socket cap screws (BHSCS) (8) M6 flat washers (8) M6 lock washers	4mm hex key wrench

1. Locate the four (4) right-side Cross Bars.
2. Starting underneath the top of the Vertical Track Assembly, align the bracketed end of the Cross Bars with the outer holes on the Vertical Track Assembly.
3. Insert a M6 x 15mm BHSCS with a lock washer, then a flat washer to each side of the Vertical Track Assembly.
4. Tighten with a 4mm hex key wrench.
5. Follow the same procedures for installation of the next three Cross Bars.

5. Assembling the Right Vertical Leg

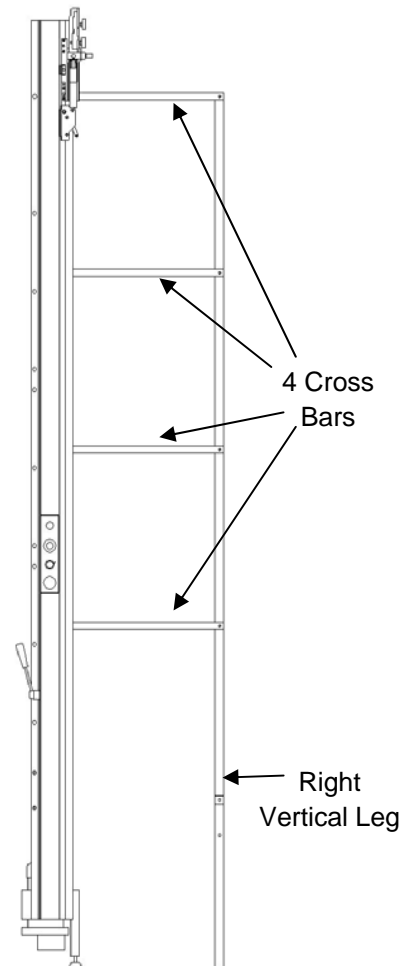
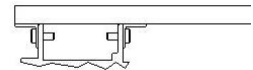
Parts Needed:

Frame Parts	Hardware	Tools
Right Vertical Leg	(4) M6 x 45mm socket-head cap screw (SHCS) (4) M6 flat washers (4) M6 lock washers (4) M6 hex nuts	5mm hex key wrench 10mm box wrench (2) support boxes

◆ **Note:** You will need to support the top and bottom of the Right Vertical Leg.

1. Locate the Right Vertical Leg.
2. Position it under the four Cross Bars, aligning the drill holes.

View of Cross Bar connection



Assembly of the Alta⁹⁹

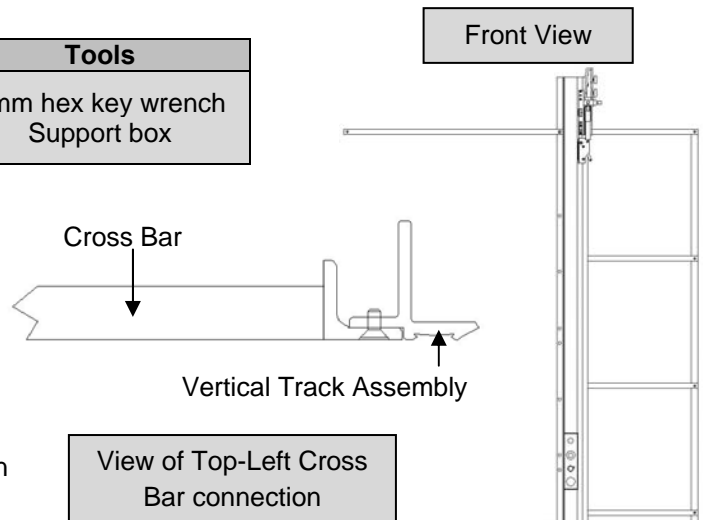
3. Insert the M6 x 45mm SHCS through the Cross Bar and the Vertical Right Leg.
4. Attach the flat washer, lock washer, and nuts
5. Tighten using a 5mm hex key wrench and a 10mm box wrench.

6. Assembling the Left-Top Cross Bar

Parts Needed:

Frame Parts	Hardware	Tools
Left-Top Cross Bar	M6 x 20mm flat-head socket cap screw (FHSCS)	4mm hex key wrench Support box

1. Locate the Left-Top Cross Bar.
2. Position the bracket over the hole at the top, left-hand side of the Vertical Track Assembly.
3. Support the end of the Cross Bar.
4. Insert the M6 x 20mm FHSCS, and tighten using 4mm hex key wrench.

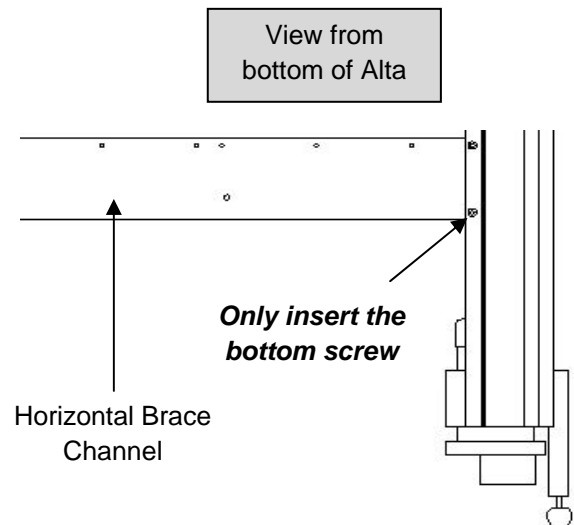


7. Assembling Horizontal Brace Channel

Parts Needed:

Frame Parts	Hardware	Tools
Horizontal Brace Channel	M6 x 20mm FHSCS	4mm hex wrench Support box

1. Locate the two (2) holes at the bottom, left-hand side of the Vertical Track Assembly.
2. Align the right end of the Horizontal Brace Channel under the holes on the Vertical Track Assembly.
3. Position a box under the left side of the Horizontal Brace Channel for support.
4. Insert only the bottom M6 x 20mm screw through the hole.
5. Tighten the bottom screw using a 4mm hex key wrench.



Assembly of the Alta⁹⁹

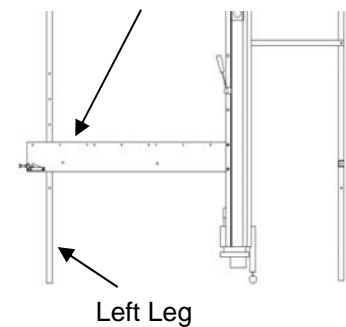
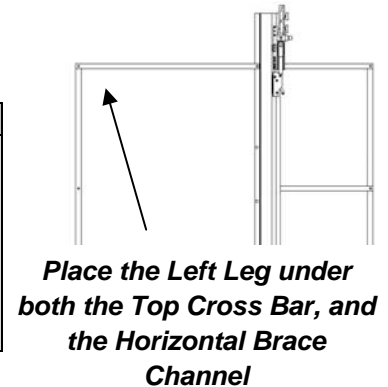
8. Assembling the Left Vertical Leg

Parts Needed:

Frame Parts	Hardware	Tools
Left Vertical Leg	(2) M8 x 50mm BHSCS (2) M8 flat washers (2) M8 lock washers M6 x 45mm SHCS M6 flat washer M6 lock washer M6 hex nut	5mm hex key wrench 10mm box wrench 2 support boxes

◆ **Note:** You will need to support the top and bottom of the Left Vertical Leg.

1. From underneath, align the 2 holes connecting the Horizontal Brace Channel and the Left Vertical Leg.
2. Insert the M8 x 50mm BHSCS with a lock washer, then a flat washer into the holes, tighten using the 5mm hex key wrench.
3. Insert the M6 x 45mm SHCS through the Top Cross Bar and Left Vertical Leg. Attach a flat washer, lock washer and hex nut, tighten using a 5mm hex key wrench and 10mm box wrench.



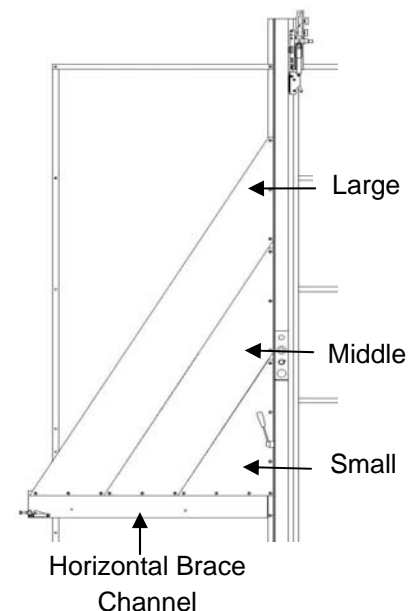
9. Assembling the Face Plates

Parts Needed:

Frame Parts	Hardware	Tools
Small, Middle, and Large Face Plates	(19) M6 x 20mm FHSCS	4mm hex key wrench

1. Locate the small, triangular-shaped Face Plate.
2. Nest it into the area on top of and between the Vertical Track Assembly and the Horizontal Brace Channel.
3. Insert and loosely tighten seven (7) M6 x 20mm FHSCS.
4. Locate the medium Face Plate (it has cutting information listed on it).
5. Nest the middle Face Plate up next to the small Face Plate, aligning the holes.
6. Insert and loosely tighten six (6) M6 x 20mm FHSCS.
7. Tighten the 13 screws using 4mm hex key wrench.
8. Locate and position the largest Face Plate above the Middle.
9. Insert and tighten six (6) M6 x 20mm FHSCS.

◆ **Note:** Gently push the Face Plate into place, if needed.



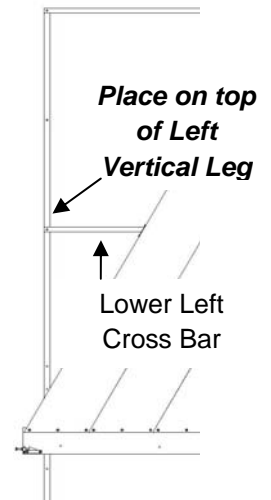
Assembly of the Alta⁹⁹

10. Assembling the Lower-Left Cross Bar

Parts Needed:

Frame Parts	Hardware	Tools
Lower-Left Cross Bar	(2) M6 x 15mm BHSCS M6 x 45mm SHCS (5) M6 flat washers (3) M6 lock washers (3) M6 hex nuts	4mm hex key wrench 5mm hex key wrench 10mm box wrench

1. Locate the lower-left Cross Bar.
 2. Place the bracketed end up against the lowest two (2) holes on the large Face Plate.
- **Tip: Rest the opposite end on the top of the Left Vertical Leg.**
3. Insert the two (2) M6 x 15mm BHSCS and a washer into the face plate bracket, attach the flat washers, lock washers, nut, and tighten using the 4mm hex key wrench and 10mm box wrench.
 4. Insert the M6 x 45mm SHCS through the lower-left Cross Bar and the Left Vertical Leg.
 5. Attach the flat washer, lock washer, nut, and tighten using the 5mm hex key wrench and 10mm box wrench.

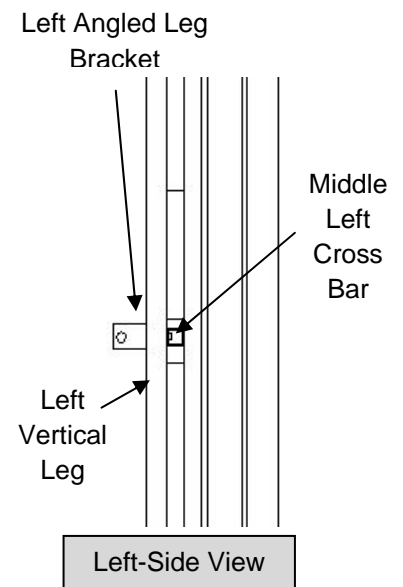


11. Assembling the Middle Cross Bar and Left Angled Leg Bracket (Standing Unit Only)

Parts Needed:

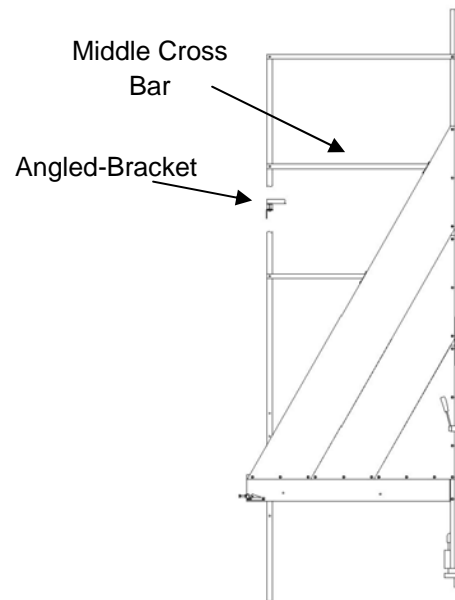
Frame Parts	Hardware	Tools
Middle Cross Bar Left Angled-Leg Bracket	(2) M6 x 15mm BHSCS M6 x 45mm SHCS (5) M6 flat washers (3) M6 lock washers (3) M6 hex nuts	4mm hex key wrench 5mm hex key wrench 10mm box wrench

1. Locate the Middle-Left Cross Bar.
 2. Align the drill holes with the holes on the side of the large Face Plate and the Left Vertical Leg.
- **Tip: Rest the opposite end on top of the Left Vertical Leg.**
3. Insert the two (2) M6 x 15mm BHSCS and a washer into the face plate bracket, attach the flat washers, lock washers, nuts, and tighten using the 4mm hex key wrench and 10mm box wrench.



Assembly of the Alta⁹⁹

4. Locate the Left Angled-Leg Bracket.
5. Position the Bracket behind the Left Vertical Leg so it aligns with the drill holes on the Middle Cross Bar and the Left Leg. The longest portion should be pointed down.
6. Insert the M6 x 45mm SHCS through the Middle Cross Bar, Left Vertical, and the Left Angled-Leg Bracket.
7. Attach the flat washer, lock washer, nut, and tighten using the 5mm hex key wrench and 10mm box wrench.

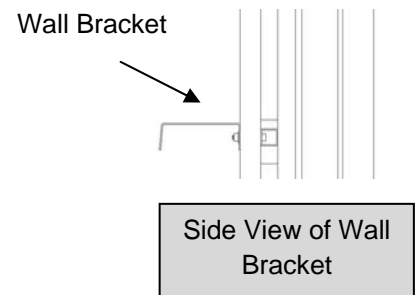


12. Assembling the Middle Cross Bar and Wall Bracket (Wall-Mounted Unit Only)

Parts Needed:

Frame Parts	Hardware	Tools
Middle Cross Bar Wall Bracket	(2) M6 x 15mm BHSCS M6 x 45mm SHCS (5) M6 flat washers (3) M6 lock washers (3) M6 hex nuts	4mm hex key wrench 5mm hex key wrench 10mm box wrench

1. Locate the middle-left Cross Bar.
2. Align the drill holes with the holes on the side of the large Face Plate and the Left Vertical Leg.
 - **Tip: Rest the opposite end on top of the Left Vertical Leg.**
3. Insert the two (2) M6 x 15mm BHSCS and a washer into the face plate bracket, attach the flat washers, lock washers, nuts, and using the 4mm hex key wrench and 10mm box wrench.
4. Locate Wall Bracket.
5. Position the Bracket behind the Vertical Leg so it aligns with the drill holes for the Middle Cross Bar and Left Vertical Leg.
6. Insert the M6 x 45mm SHCS through the Middle Cross Bar, Left Vertical Leg, and the Wall Bracket.
7. Attach the flat washer, lock washer, nut, and tighten using the 5mm hex key wrench and 10mm box wrench.



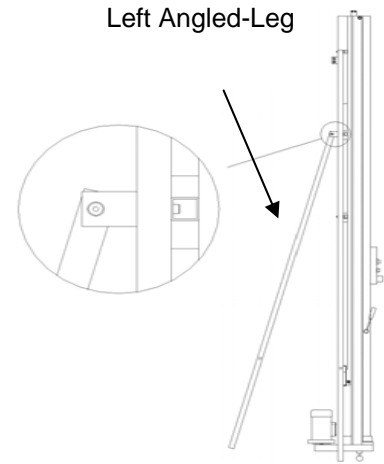
Assembly of the Alta⁹⁹

13. Assembling the Left Angled-Leg to Bracket (Standing Unit Only)

Parts Needed:

Frame Parts	Hardware	Tools
Left Angled-Leg	M8 x 50mm BHSCS (2) M8 flat washers M8 lock nut	5mm hex key wrench 13mm box wrench

1. Locate the Left Angled Leg.
2. Position the Leg to the inside of the Leg Bracket.
3. Align the holes, and insert the M8 x 50mm BHSCS and a flat washer.
4. Attach a flat washer and lock nut, and tighten using the 5mm hex key and 13mm box wrench.

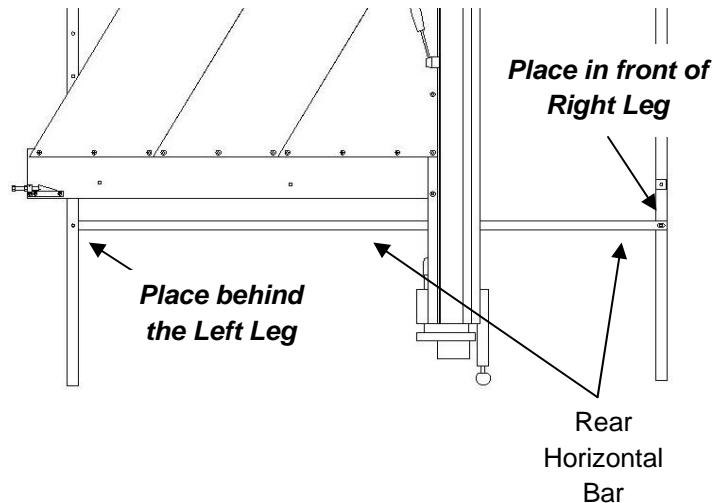


14. Assembling the Rear Horizontal Bar

Parts Needed:

Frame Parts	Hardware	Tools
Rear Horizontal Bar	(2) M8 x 70mm BHSCS (4) M8 flat washers (2)M8 lock nut	5mm hex key wrench 13mm box wrench

1. Locate the Rear Horizontal Bar. Orient the bar so it is under the machine with the slotted end resting on the right leg.
2. Position of the Rear Horizontal Bar behind the lowest hole on the Left Vertical Leg.
3. Insert the M8 x 70mm BHSCS and flat washer through the Left Leg and Rear Horizontal Bar.
4. Attach a flat washer and lock nut, and tighten with a 5mm hex key wrench and 13mm box wrench.
5. Position the Rear Horizontal Bar in front of the lowest hole on the Right Vertical Leg.
6. Insert the other M8 x 70mm BHSCS and flat washer through the Rear Horizontal Bar and Right Vertical Leg.
7. Attach a flat washer and lock nut, and tighten using a 5mm hex key wrench and 13mm box wrench.



CAUTION: It is extremely important to position the Rear Horizontal Bar correctly. Damage to the machine may occur, if you don't follow the proper procedures.

Assembly of the Alta⁹⁹

15. Assembling the Horizontal Material Bar

Parts Needed:

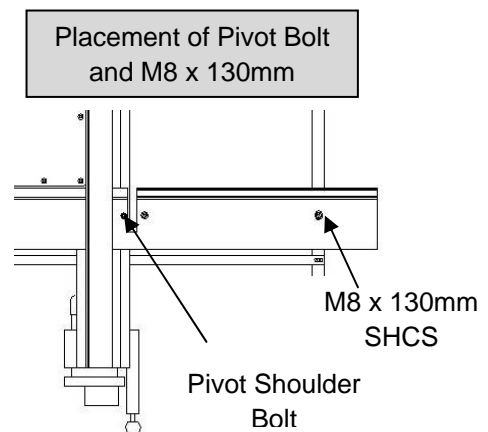
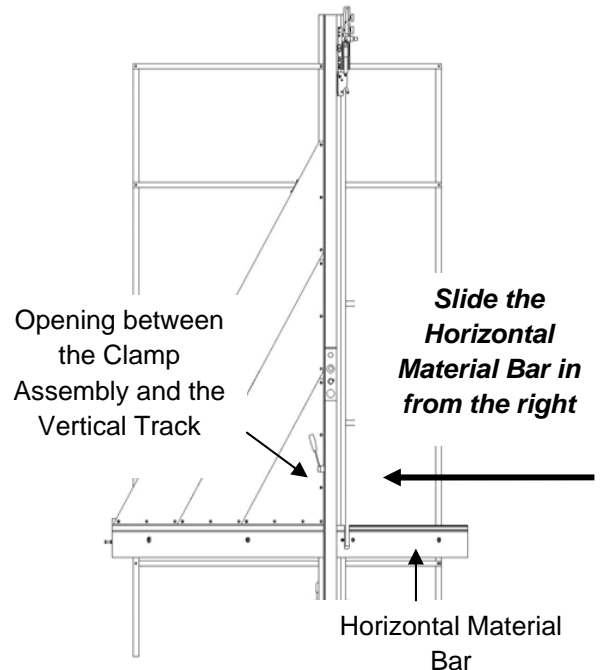
Frame Parts	Hardware	Tools
Horizontal Material Bar	(3) M8 x 25mm BHSCS (5) M8 flat washers M8 pivot shoulder bolt M8 x 130mm SHCS M8 lock nut	5mm hex key wrench 6mm hex key wrench 13mm box wrench

1. Unlock the Clamp by pulling up on the Clamp Lever. **See “Securing the Clamp” on page 31.**
2. Locate the opening between the Clamp Assembly and the Vertical Track Assembly. This is where the Horizontal Material Bar will be positioned.
3. Slide the Horizontal Material Bar in the opening from the **right side** of the machine below the Clamp mechanism.
4. Pull the Horizontal Material Bar all the way over to the left until it is resting on the Squaring Ramp.

◆ **Note:** The notch of the Horizontal Material Bar will be positioned in the notch of the Vertical Track Assembly.

5. Lift at the center of the Horizontal Material Bar to align the holes between the Horizontal Material Bar and the Horizontal Brace Channel.
6. Insert the Pivot Shoulder Bolt into the hole directly to the right of the Vertical Track Assembly.
7. Tighten using a 5mm hex key wrench.
8. Insert the three (3) M8 x 25mm BHSCS with three (3) flat washers starting from the far left of the Horizontal Material Bar, and loosely tighten.
9. Insert the M8 x 130mm SHCS and a flat washer through the Horizontal Material Bar and the Right Vertical Leg. Attach a flat washer and lock nut, and tighten all screws.

➤ **Tip:** Make sure the Horizontal Material Bar is positioned on the Squaring Ramp and flush to the Horizontal Brace Channel.



Assembly of the Alta⁹⁹

16. Installing Cross Bar End Caps and Screw End Caps

Frame Parts
(9) square Cross Bar End Caps
(6) black rubber Screw End Caps

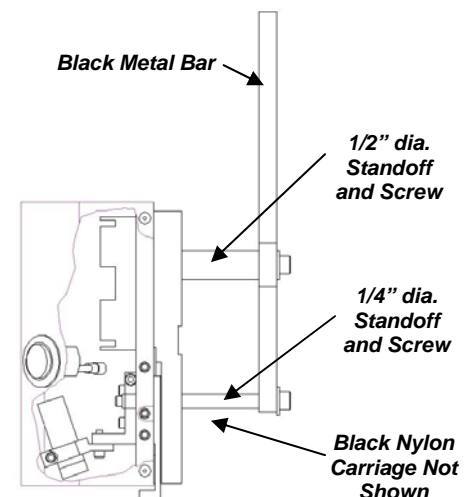
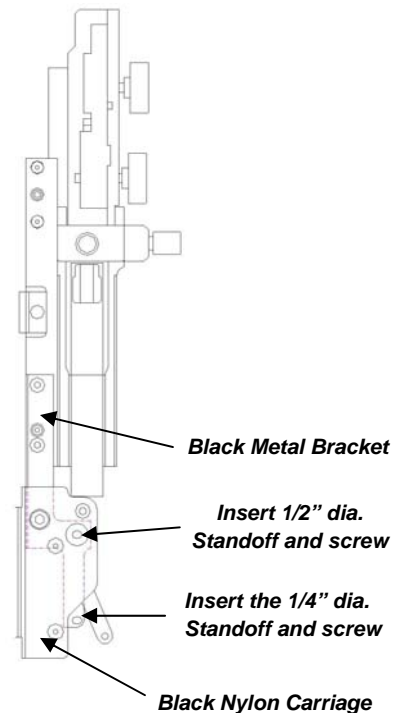
1. Install the Cross Bar End Caps on all the Cross Bars and the Rear Horizontal Bar.
2. Install the black Screw End Caps on all the Right Leg/Right Cross Bar screw tips, as well as the top and bottom Left Leg/Left Cross Bar screw tips.

17. Mounting the Laser

Parts Needed:

Frame Parts	Hardware	Tools
Laser	1/2" dia. x 1 3/8" dia. standoff 1/4" dia. x 1 3/8" dia. standoff (2) 10-32 x 2" SHCS and washers	5/32 hex key wrench

1. Locate the Laser and hardware.
2. Insert the 1/2" round standoff into the hole in the black nylon Carriage.
3. Orient the Laser Assembly so the opening in the cover is pointed downward.
4. Insert the 10-32 x 2" SHCS and washer thru the upper slot in the Black Metal Bracket, 1/2" dia. Standoff, and into the top mounting hole of the Laser Mounting Bar.
5. Tighten using a 5/32 hex key wrench.
6. Locate the bottom slot on the Black Metal Bracket behind the Gear Lever.
7. Insert the 1/4" Standoff between the Black Metal Bracket and the Laser Mounting Bar.
8. Insert the 10 -32 x 2 SHCS and washer through the bottom slot of the Black Metal Bracket, then through the Standoff into the bottom hole of the Laser Mounting Bar.
9. Tighten using a 5/32 hex key wrench.



Assembly of the Alta⁹⁹

18. Installing the Rear Leg (Wall-Mounted Unit Only)

Parts Needed:

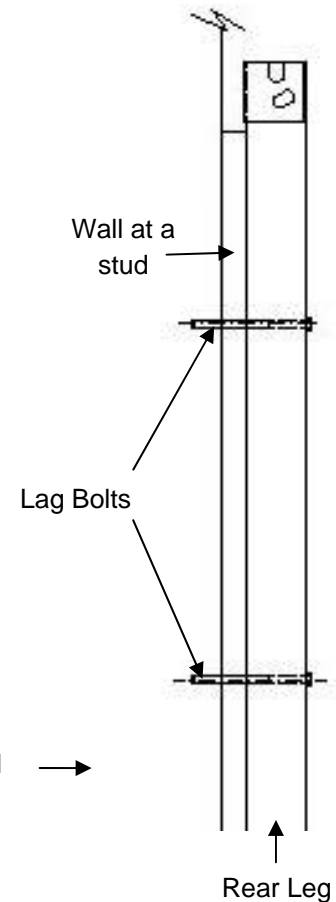
Frame Parts	Hardware	Tools
Rear Leg	(9) M6 x 100mm Lag bolts (9) M6 flat washers	10ft ladder Carpenter Level 11mm or 7/16 box wrench

Prior to installation, you should have secured a 1 x 4 x 10ft piece of plywood to the wall at a stud location. The Rear Leg will be anchored to the plywood.

- Using a 10ft ladder, locate and mark the center of the stud at the height of the Rear Leg.
- Mark a location in the center of the stud by the floor as well.
- Place the Rear Leg against the wall, centering the Leg on the marks you just created.
- Using a Carpenter's Level, check the straightness, and adjust the Rear Leg until it is straight.
- Holding the Rear Leg in position, mark the wall through the nine (9) mounting holes using a pencil or other pointed tool.
- Set the Rear Leg aside.
- Drill a pilot hole in each of the nine (9) marked locations.
- Reposition the Rear Leg over the holes.

◆ **Note:** The Rear Leg Mounting Bracket should be up against the wall.

- Secure the Leg to the wall using the nine (9) M6 x 100 Lag bolts and flat washers.
- Tighten with an 11mm or 7/16 box wrench.



CAUTION: The Rear Leg must be firmly secured to the wall to prevent injury.

19. Standing the Unit Up

Parts Needed:

Tools
3 - 4 people



CAUTION: To avoid personal injury, make sure you have at least 3 -4 people to help move the machine.

Serious damage will occur to the Alta⁹⁹ if any weight is placed on the Motor located at the bottom of the machine.

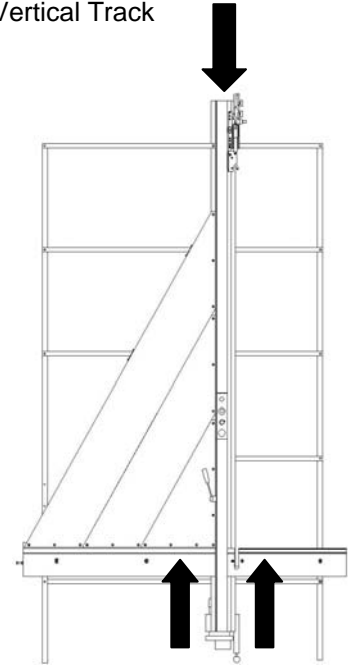
Assembly of the Alta⁹⁹

1. Move the Cutting Head to the middle of the Vertical Track, and engage the Gear Lever. **If the Gear Lever is not engaged the Cutting Head will fall to the bottom, and may cause damage.**
2. Position 2 people at the bottom of the Alta on either side of the Vertical Track Assembly.
3. Position 1 – 2 people at the top of the Alta on either side of the Vertical Track Assembly.
4. Slowly lift off the boxes together. The people at the top should start lifting the top up, while walking their hands down the machine.
5. The people at the bottom should place the feet of the machine on the ground, while being **very careful not to let any weight be placed on the motor.**
6. When it is standing, swing out the Left Angled Leg (Standing unit only). You will still need people to support the machine until the Rear Leg has been installed.

For Wall-Mounted Unit, continue with Section 20.

For Standing Unit, continue to Section 21.

♦ **Note: Lift close to the Vertical Track Assembly so the Horizontal Material bar does not bend.**



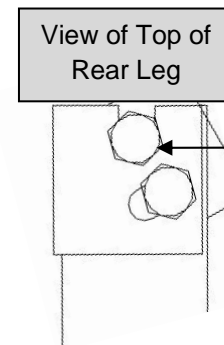
Position people at the arrows for lifting

20. Nesting the Alta⁹⁹ on the Rear Leg (Wall Mounted Only)

Parts Needed:

Hardware	Tools
(2) M10 x 25 hex bolt (2) M10 flat washer (2) M10 lock washer	17mm box wrench

1. On the back of the Vertical Track Assembly, locate two (2) protruding bolts below the Top Cross Bars. This is where the Rear Leg will be installed.
2. Slide the bolts into the U-shaped notch on the Rear Leg.
3. Using a 10 ft ladder, insert the M10 x 25 hex bolts and lock washers, then flat washers into the aligned holes on either side of the Rear Leg Bracket, and tighten using a 17mm box wrench.



M10 resting in U-shaped notch

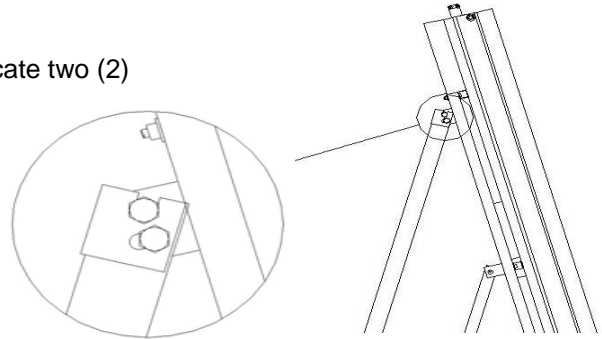
Assembly of the Alta⁹⁹

21. Assembling the Rear Leg (Standing Unit Only)

Parts Needed:

Frame Parts	Hardware	Tools
Rear Leg	(2) M10 x 25 hex bolt (2) M10 flat washer (2) M10 lock washer	17mm box wrench

1. Locate the Rear Leg.
2. On the back of the Vertical Track Assembly, locate two (2) protruding bolts below the Top Cross Bars. This is where the Rear Leg will be installed.
3. Slide the bolts into the U-shaped cut outs on the Rear Leg.
4. Using a 10 ft ladder, insert the M10 x 25 hex bolts with a lock washer, then a flat washers into the aligned holes on either side of the Rear Leg Bracket, and tighten using a 17mm box wrench.

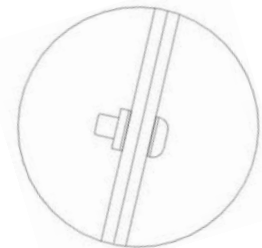


22. Assembling Face Plate Rear Screws

Parts Needed:

Hardware	Tools
(5) M6 x 15mm BHSCS (10) M6 flat washers (5) M6 lock washers (5) M6 hex nuts	4mm hex key wrench 10mm box wrench

1. From behind the machine, locate the five (5) holes on the Face Plates flanges: 3 between the large and middle Face Plates, and 2 between the small and middle Face Plates.
2. Insert the five (5), M6 x 15mm BHSCS and a flat washer.
3. Attach the other flat washers, lock washers and nut, and tighten using a 4mm hex key wrench and 10mm box wrench.

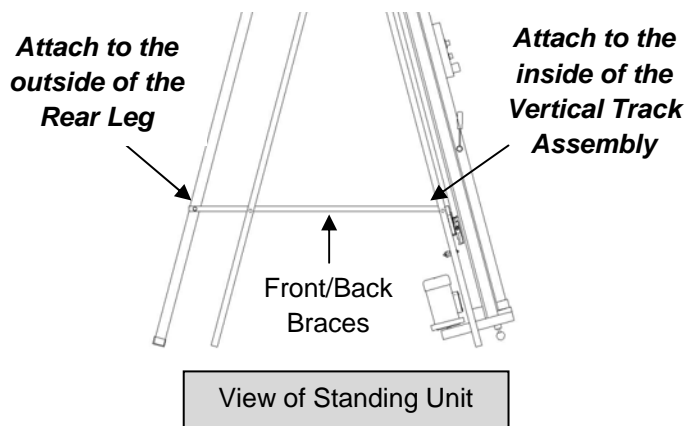


Assembly of the Alta⁹⁹

23. Assembling the Front/Back Braces

Parts Needed:

Frame Parts	Hardware	Tools
(2) Front/Back Braces (longer for Standing Unit, shorter for Wall-Mounted Unit)	(2) M8 x 50 BHSCS (4) M8 flat washer (2) M8 lock nut M10 x 120mm hex bolt (2) M10 flat washers M10 lock washer M10 hex nut	5mm hex key wrench 13mm box wrench (2) 17mm box wrench



1. Locate the two (2) Front/Back Braces appropriate for your application (long for Standing Unit, short for Wall-Mounted Unit).
2. Orient the Braces so the slotted end will attach to the Rear Leg.
3. Locate the holes on either side of the Vertical Track Assembly just above the Horizontal Material Bar.
4. Align the Front/Back Braces to the inside of the Vertical Track Assemble.
5. Insert the two (2) M8 x 50 BHSCS with a washer from the outside of the Vertical Track Assembly.
6. Attach flat washers and lock nuts, and tighten using 5mm hex key wrench and a 13mm box wrench.
7. Align Front/Back Braces to the outside of the Rear Leg.
8. Locate the M10 x 120mm hex head bolt and one (1) flat washer, and slide it through the aligned holes.
9. Attach the lock washer and hex nut, and tighten using two (2) 17mm box wrench.

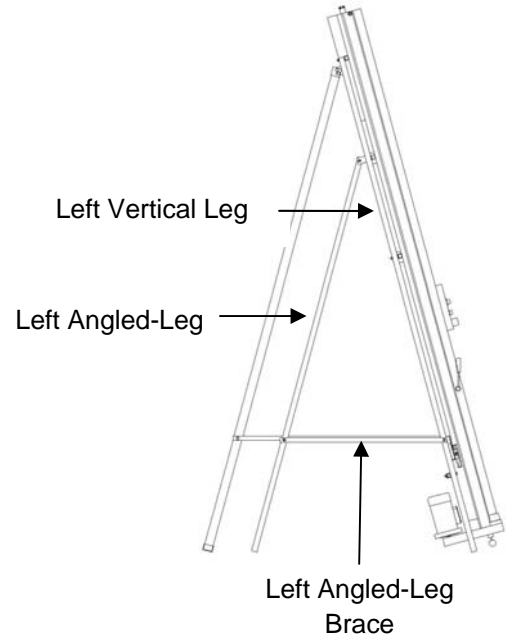
Assembly of the Alta⁹⁹

24. Installing the Left Angled-Leg Support Bar (Standing Unit Only)

Parts Needed:

Frame Parts	Hardware	Tools
Left Angled-Leg Support Bar	(2) M8 x 70 BHSCS (4) M8 flat washer (2) M8 lock nuts	5mm hex key wrench 13mm box wrench

1. Locate the Left Angled-Leg Support Bar.
2. Orient the Left Angled-Leg Support Bar so the slotted end will attach to the Left Angled-Leg.
3. Position the Bar to the outside of the bottom-most open hole on the Left Vertical Leg and the Left-Angled Leg.
4. Insert a M8 x 70mm BHSCS and a flat washer through the Brace and Left Vertical Leg.
5. Attach a flat washer and lock nut.
6. Tighten using the 5mm hex key wrench and 13mm box wrench.
7. Repeat Steps 4 and 5, attaching the Brace to the Left Angled Leg.



25. Assembling the Jack Adjustment Braces and the Jack Adjustment Block

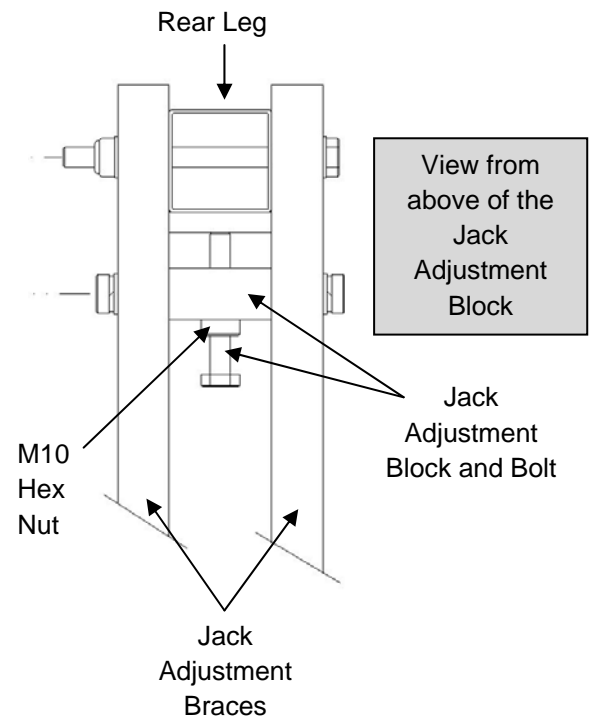
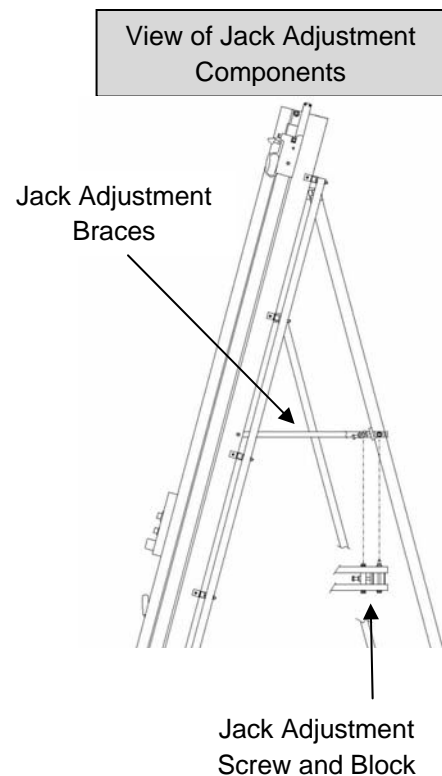
Parts Needed:

Frame Parts	Hardware	Tools
(2) Jack Adjustment Braces (longer for Standing Unit, shorter for Wall-Mounted Unit) Jack Adjustment Block	(2) M8 x 50 BHSCS (4) M8 flat washer (2) M8 lock nut M10 x 120mm hex bolt (2) M10 x 40mm hex bolt M10 x 70 hex bolt (4) M10 flat washers (3) M10 lock washer (2) M10 hex nut	5mm hex key wrench 13mm box wrench 17mm box wrench

Assembly of the Alta⁹⁹

1. Locate the Jack Adjustment Braces appropriate for your application (long for Standing Unit, short for Wall-Mounted Unit).
2. Position them to the inside of the Vertical Anvil above the third Right Cross Bar with the slotted end is oriented toward the Rear Leg.
3. Insert the two (2) M8 x 50 BHSCS and a flat washer.
4. Attach the other flat washers and lock nuts, and tighten using a 5mm hex key wrench.
5. Swing the Braces up, and align them over the holes on the Rear Leg.
6. Insert the M10 x 120mm hex head bolt with one (1) flat washer.
7. Attach the flat washer, lock washer and hex nut, but do not tighten.
8. Attach the M10 hex nut on to the M10 x 70mm hex head bolt.
9. Locate the Jack Adjustment Block and M10 x 70mm hex head bolt, and loosely assemble by threading the bolt through the drill hole.
10. Position the Jack Adjustment Block between the Jack Adjustment Braces.
11. Insert the M10 x 40 hex head bolts with a lock washer, then a flat washer on either side of the Jack Adjustment Braces and into the Jack Adjustment Block.
12. Angle the Jack Adjustment Block so the M10 x 70mm hex bolt is perpendicular to the Rear Leg.
13. Tighten the M10 x 40mm hex head bolts for the Jack Adjustment Block, and the M10 x 120mm bolt on the Rear Leg.
14. After the M10 x 40mm hex head bolts are tight, and the Jack Adjustment Block is in place, tighten the Jack Adjustment Bolt until it comes in contact with the Rear Leg using a 17mm box wrench.
15. Tighten the M10 hex nut until it is tight against the Jack Adjustment Block using a 17mm box wrench.

◆**Note:** You will be making finer adjustments to the Jack Adjustment Screw later in the manual.

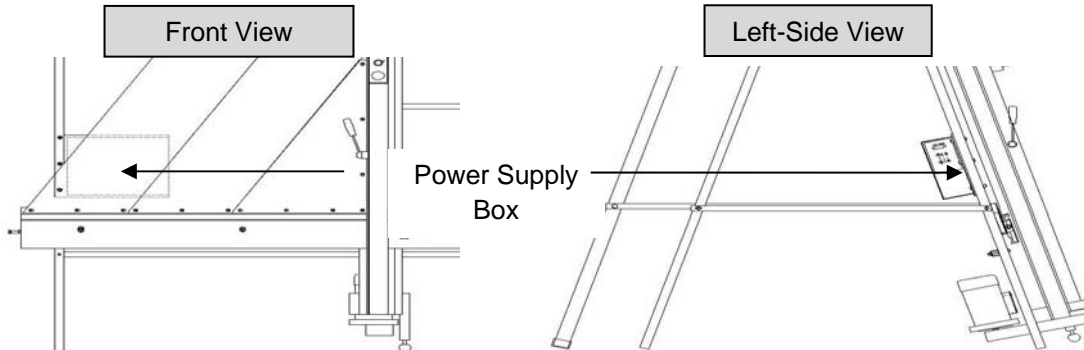


Assembly of the Alta⁹⁹

26. Mounting Power Supply Box

Parts Needed:

Frame Parts	Hardware	Tools
Power Supply Box	(3) M8 x 50mm BHSCS (6) M8 flat washers (3) M8 lock nuts	5mm hex key wrench 13mm box wrench



◆ **Note:** The view above is of a **Standing Unit**, however placement is the same for a **Wall-Mounted Unit**.

1. Locate the Power Supply Box.
2. Align the holes on the Power Supply Box metal plate and the three (3) holes on the Left Leg above the Horizontal Material Support.
3. Insert the M8 x 50mm BHSCS with a flat washer from the front of the machine in the topmost hole.
4. Attach a flat washer and lock nut, and tighten using a 5mm hex key wrench and 13mm box wrench.
5. Repeat Step 3 and 4 for the second hole.
6. Insert the last M8 x 50mm BHSCS and a flat washer into the bottom hole from the back of the machine.
7. Attach the washer and lock nut, and tighten using a 5mm hex key wrench and a 13mm box wrench.

27. Installing the Motor Guard

Parts Needed:

Frame Parts	Hardware	Tools
Motor Guard	M8 x 50mm BHSCS (2) M8 flat washer M8 lock nut	5mm hex key wrench 13mm box wrench

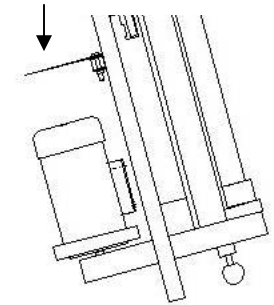
The Motor Guard will sit on top of the Rear Horizontal Bar directly over the Motor.

1. Locate the Motor Guard.

Assembly of the Alta⁹⁹

- Slide the notches into the Vertical Track Assembly, directly above the Rear Horizontal Bar.
- Align the drill holes on top of the Motor Guard and the Rear Horizontal Bar.
- Insert the M8 x 50mm BHSCS and a flat washer into the holes.
- Attach the other flat washer and the lock nut, and tighten using a 5mm hex key wrench and a 13mm box wrench.

Motor Guard



28. Attaching the Left Wall Bracket to the Wall (Wall-Mounting Only)

Parts Needed:

Hardware	Tools
M6 x 30mm Lag Bolt M6 flat washer	Step Ladder Drill 11mm or 7/16 box wrench

- Using a step ladder, drill a pilot hole using the Bracket hole as your guide.
- Insert the M6 x 30mm lag bolt and flat washer, and tighten using a 11mm or 7/16 box wrench.

29. Attaching the Tool Caddy

Parts Needed:

Frame Parts	Hardware	Tools
Tool Caddy	(2) M5 Phillip pan-head screws (2) M5 flat washers	Phillips head screwdriver

- Locate the two (2) holes under the right side of the Horizontal Material Bar.
- Align the holes on the top of the Tool Caddy with the holes under the right side of the Horizontal Material Bar.
- Attach the Tool Caddy to the Horizontal Material Bar using the (2) M5 screws and (2) flat washers.

30. Installing the Production Stops

- Locate the Left Production Stop Assembly (it has the smaller Red and Silver Fingers).
- Loosen the black Knob.
- Ensure the Fingers are to the right of the Knob, and slide the Production Stop into the groove to the left side of the Horizontal Material Bar.
 - **Tip: If the Production Stop does not slide on easily, loosen the black Knob slightly.**
- Repeat Steps 2 and 3 for the right Production Stop, sliding it onto the right side of the Horizontal Material Bar, but with the fingers to the left of the knob.

Assembly of the Alta⁹⁹

31. Adjusting the Front Leg Adjustable Foot

The Front Leg Adjustable Foot can be raised or lowered by turning the bottom of the foot. Lock it in place by tightening the hex nut up against the square leg tubing.

32. Attaching the Power Cables

There are three (3) power cords that need to be plugged into the Power Supply Box: the black Motor cord, the gray Pendant Control Box cord, and the black Power cord.

1. Locate the black Motor cord connected to the Motor.
Plug it into the middle outlet on the right side of the Power Supply Box.
2. Locate the gray Pendant cord that runs up the back of the Vertical Track Assembly.
Plug it into the bottom outlet on the right side of the Power Supply Box.
3. Locate the black Power cord.
Plug it into the top outlet on the right side of the Power Supply Box, then plug the other into the wall outlet.

33. Squaring the Alta⁹⁹

♦ **Note:** Refer to **Operating the Alta⁹⁹** for specifics on cutting.

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.
2. Measure it with a tape measure and mark it top and bottom at the halfway point (approximately 20").
3. Insert the Double Blade Holder into the Cutting Head (review Operating the Alta⁹⁹ on page 29 for more information).
4. Manually move the Cutting Head above your substrate, and position so the mark on the board aligns with the Cutting Blades.
5. Clamp the board in place, and make two cuts. Make the first cut through the top of the board about 1" long. Depress the Thumb Lever and then make the second cut through the bottom of the board about 1" long.
6. Rotate the board 180° so the back is facing you and the board is resting on the same bottom edge as before.
7. Slide it into the machine again.
8. Align the blade with the bottom cut you made, which will now be visible from the reverse side of the board.
9. Clamp the board into place.
10. Depress the Thumb Lever, raise the Cutting Head and make a third cut about 1" long at the top edge of the board.

Assembly of the Alta⁹⁹

11. 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.
12. Tighten the Hex Nut on the Ramp Adjusting Bolt at the left side of the machine.
13. Then tighten the four (4) mounting screws on the Horizontal Material Bar.
14. **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. **Loosen the four (4) mounting screws before making adjustments with the Ramp Adjusting Bolt.**
15. 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 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 (on the top of the front), 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**. Retighten the four mounting screws after making the adjustments.

34. Setting the Scales

Left Horizontal Scale

1. Take a piece of foamboard or PVC exactly 6" x12 (measure with ruler or tape measure, and cut.)
 2. Slide it into the machine until the 6" marking lines up with the blade.
 2. Clamp the board so it doesn't move, and adjust the scale to the left until it matches.
- ◆ **Note:** Use the **SILVER Production Stop Lever** if you are using one of the **small Silver Blade Holders** and the **RED Production Stop Lever** if you are using one of the **large Wheel Holders**.
3. Make sure the corresponding Blade Holder or Wheel Holder lines up with the correct measurement.
 4. Apply double-sided tape behind the left Horizontal Scale to make sure it doesn't move.

Right Horizontal Scale

1. Slide the foamboard into the machine and adjust the 6" line so the blade lines up over it.
 2. Clamp the board so it doesn't move, and adjust the scale to the left until it matches.
- ◆ **Note:** Use the **SILVER Production Stop Lever** if you are using one of the **small Silver Blade Holders** and the **RED Production Stop Lever** if you are using one of the **large Wheel Holders**.
3. Make sure the corresponding Blade Holder or Wheel Holder lines up with the correct measurement. Apply double-sided tape behind the right Horizontal Scale to make sure it doesn't move.
 4. Cut the foamboard at the 6" mark and both pieces should be the same.

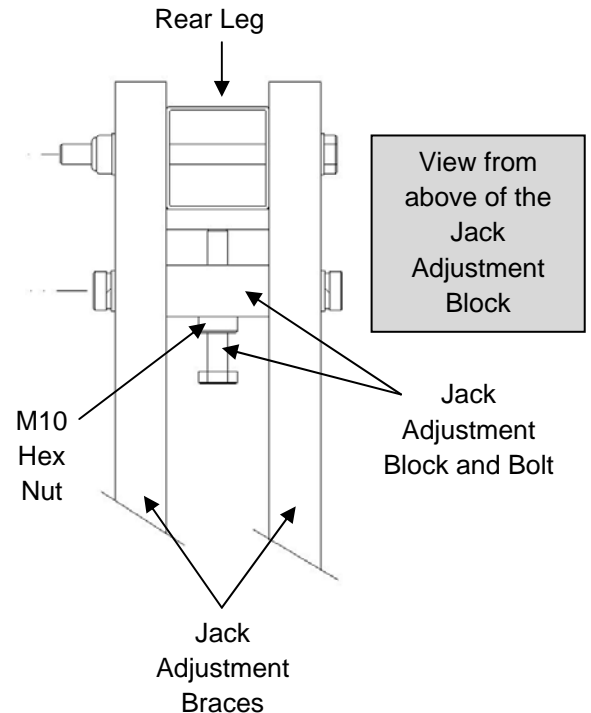
Assembly of the Alta⁹⁹

35. Adjusting Vertical Track/Clamp Assembly

The Vertical Track Assembly consists of two parts – a stationary part 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. It is important to test the clamping mechanism before you begin using the machine. Follow the directions below to test the top, middle, and bottom of the clamp.

Adjusting the Center of the Clamp

1. Open the Clamp.
2. Slide a folded 8 ½ x 11 sheet of paper between the center stationary part and the moveable clamp.
3. Lower the Clamp Lever fully so that the stationary part and the moveable clamp are firmly together.
4. To verify clamping, attempt to remove the folded paper. If the paper cannot be removed, the center of the clamp is properly secure. Continue to Adjusting the Bottom of the Clamp. If the paper can be pulled out or shifted easily, follow the directions below.
5. Loosen slightly the M10 x 120mm hex bolt between the Jack Adjustment Braces and the Rear Leg using 2, 17mm box wrenches.
6. Back out the M10 hex nut on the Jack Adjustment Bolt using a 17mm box wrench.
7. Using a 17mm box wrench, tighten the Jack Adjustment Bolt located at the back of the machine between the Jack Adjustment Braces
8. Check to ensure the paper is properly clamped.
9. Open the clamp, and remove the paper.
10. Tighten the M10 hex nut on the Jack Adjustment Bolt so it is tight to the Block using a 17mm box wrench.
11. Tighten the M10 x 120mm holding the Jack Adjustment Braces and Rear Leg using a 17mm box wrench.



Adjusting the Bottom of the Clamp

1. Slide the folded paper between the bottom stationary part and the moveable clamp.
2. Lower the Clamp Lever fully so that the stationary part and the moveable clamp are firmly together.

Assembly of the Alta⁹⁹

3. If the paper is secure, continue to Adjusting the Top of the Clamp. If the paper is not secure, loosen the M6 Screw so that the 15mm Hex Head eccentric can be turned.
4. Turn the eccentric left or right while attempting to remove the paper from between the stationary part and the moveable clamp.
5. When the paper cannot be removed, the eccentric is providing proper clamping. Tighten the M6 Screw so that the eccentric will not turn.
6. Raise the Clamp Lever fully and remove the paper.
7. The adjustment for the bottom eccentric is complete.

Adjusting the Top of the Clamp

Repeat the steps for Adjusting the Bottom of the Clamp. You will need a 10 ft (3.05M) ladder to complete this task.

36. Calibrating the Laser

For general use guidelines, please refer to “Operating the Alta⁹⁹”.

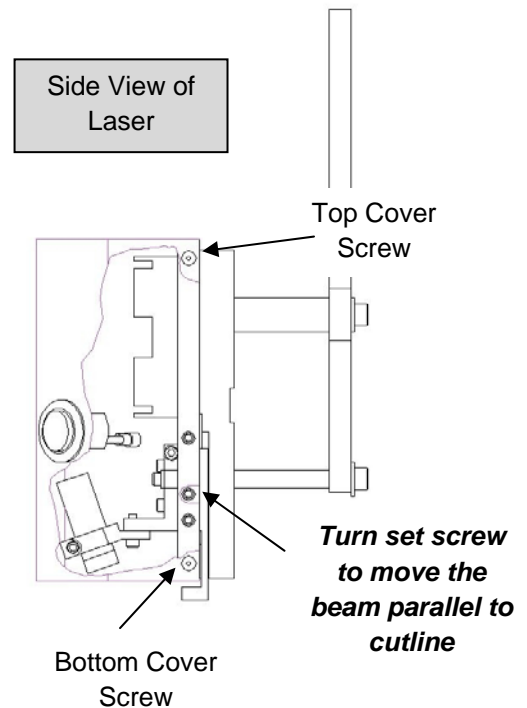
◆ **Note:** You may need a step ladder for the following procedure.

Creating Reference Cut-lines

1. Load a 4ft (1.22M) sheet of foamboard into the Alta.
2. Secure the clamp.
3. Load the Double Blade Holder into the Cutting Head.
4. Press the Thumb Lever, and raise the Cutting Head above the substrate.

◆ **Note:** If the Cutting Head does not move, disengage the Gear Lever.

5. Bring the Blade in contact with the substrate.
6. Keep pressure on the Thumb Lever so the Blade does not cut all the way through the foamboard, and create a score line.
7. Make a cut from the top to the bottom of the substrate.
8. Remove the Blade Holder, and move the Cutting Head above the substrate.
9. Engage the Gear Lever to secure the Cutting Head.
10. Load the Composite Wheel Holder into the Cutting Head.
11. Slowly lower the Cutting Head until it comes in contact with the material.
12. Cut approximately a 1” (25.4mm) notch in the material. The Wheel cutline will be to the right of the Blade cutline.
13. Slide the Cutting Head above the substrate, and engage the Gear Lever to secure.



Assembly of the Alta⁹⁹

Calibrating the Laser to the Cutlines



CAUTION: Use safety goggles when the Laser is on.

1. Turn on the Laser by pressing the toggle switch on the front, right side of the Laser.
2. Ensure the Laser is in its left-most position by pushing the silver, metal lever at the bottom of the Laser to the left.
3. Note how the red beam falls across your reference line. Most likely, corrections will need to be made. If your beam is perfectly aligned, skip to "C. Check the Wheel Cutline".

A. If the Beam is Parallel but not over the Cutline

Locate the Set Screw on the left side of the Laser, above the Bottom Cover Screw. Using a 3/32 hex key wrench adjust the Set Screw (Left Stop) in/out until the Laser beam is positioned directly on the reference cutline. When the correction is made, skip to "C. Check the Wheel Cutline".

B. If the Beam is Angled Across the Cutline

- a. Remove the bottom right and left side screws on the Laser cover using a 1/16 hex key wrench, and set the screws aside.
- b. Loosen the two (2) top screws, and swing the cover up.
- c. Retighten the top screws.
- d. Loosen the two (2) Adjusting Bracket Mounting Screws located directly behind the exposed Laser. Then finger tighten so the Bracket is able to move slightly, but is flush with the mount. **(See the illustration below.)**
- e. Using a 3/32 hex key slightly turn the Adjusting Screw at the top, right side of the Bracket. Turning it clockwise will move the beam clockwise. Turning the screw counterclockwise will turn the beam counterclockwise.

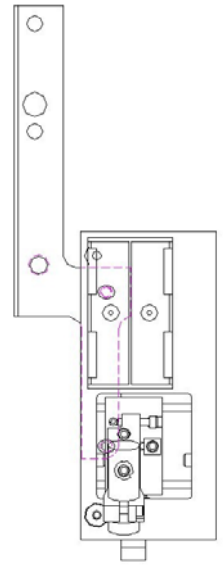
◆ **Note: Do not overturn the Adjusting Screw, these should be small adjustments.**

- f. Tighten the top and then the bottom Adjusting Bracket Mounting Screw when the beam is perfectly aligned with your cutline.
- g. Loosen the two (2) top cover screws, and swing the cover back into position.
- h. Insert and tighten the bottom two (2) cover screws.

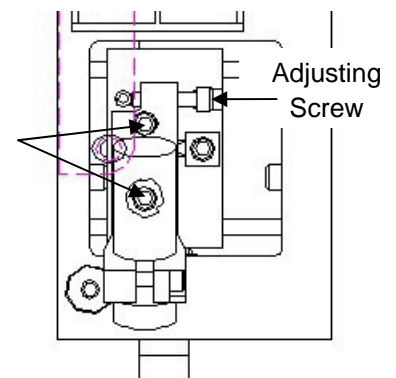
C. Check the Wheel Cutline

Move the silver, metal lever at the bottom of the Laser to its right-most position. The beam should fall directly over the notch cut by the Composite Wheel Holder. If it doesn't line up to the notch, adjust the Right Set Screw (Right Stop) (see "A. If the Beam is Parallel but not over the Cutline")

View of Laser without the cover



2 Adjusting Bracket Mounting Screws



Bottom of Laser with no cover

Cutting Tools and Substrates

II. CUTTING TOOLS AND SUBSTRATES

1. Installing New Cutting Blades/Wheels

When you receive your Alta⁹⁹, the blades will not be installed in the Blade Holders. Follow the directions below to install your new blades, and wheels.



CAUTION: Blades are extremely sharp. Handle with care.

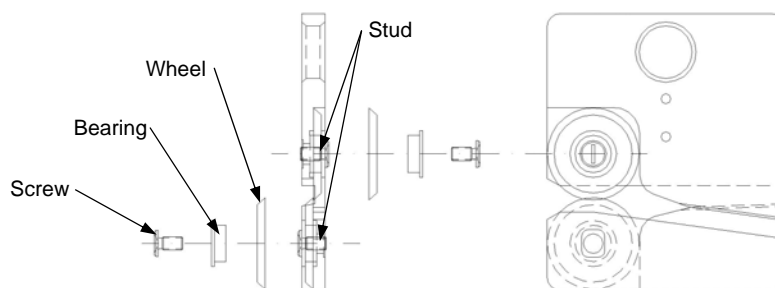
Single Blade and Double Blades

1. Using your thumb, compress the spring on the Guard Lever to release the Blade Guard.
2. Carefully swing the Guard forward, exposing the Blade Clamp Screws.
3. Loosen the Blade Clamp Screw on the Blade Holder using a Phillips-head screwdriver.
4. Slide the notched end of the Cutting Blade into the holder so it nests on the Blade Stop Pin.

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

5. Retighten the Blade Clamp screw.
6. Compress the spring on the Guard Lever, and swing the Blade Guard back into place.

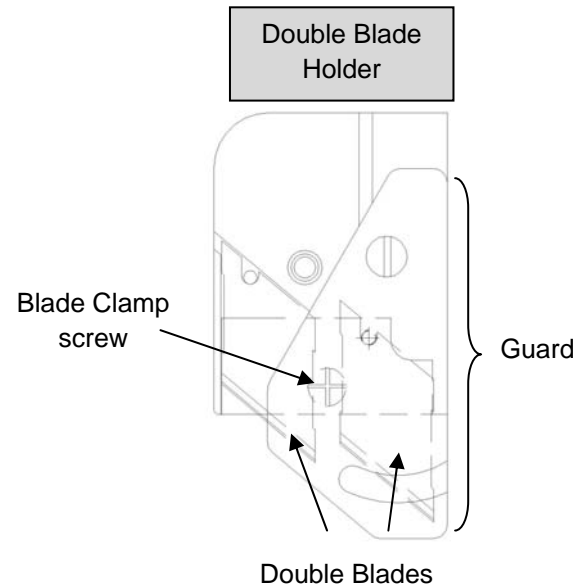
Cutting Wheels



1. Position the Cutting Wheels so the beveled sides face out.

◆ **Note:** One (1) wheel is placed on one side of the Holder, and one (1) wheel on the other.

2. Place the Bearings into the Wheels, then onto the studs, and then insert the screws.
3. Tighten the screws using a flat-head screwdriver.



Cutting Tools and Substrates

2. 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 speed to get the best results.

◆ **Note:** To learn how to load the Blade/Wheel Holders, and all other general use information, please refer to “Operating the Alta⁹⁹” on the next page.

Substrate	Thickness	Cutting Tool	Recommended Cut Speed
PVC	2mm	Double Blade Holder	2
PVC	6mm	Double Blade Holder	3
PVC	10mm	Double Blade Holder	2
Corrugated Plastic	All Thickness	Double Blade Holder	10
Aluminum	.04	Alum Wheel Holder	7
Aluminum	.063	Alum Wheel Holder	5
Aluminum	.08	Alum Wheel Holder	5
Alum. Composite	2mm	Alum Comp Wheel Holder	7
Alum. Composite	3mm	Alum Comp Wheel Holder	7
Alum. Composite	4mm	Alum Comp Wheel Holder	7
Foamboard	All thickness	Single Blade Holder	10
Matboard	All thickness	Single Blade Holder	10

◆ **Note:** The Single Blade Holder is optional, and can be order by contacting Customer Service at 800.843.3826, or visit the website at fletcher-terry.com, and reference part #04-802.

➤ **Tip:** For quick reference, see the Blade/Wheel Holder Reference Guide located on the Alta⁹⁹ Face Plate.

Operating the Alta⁹⁹

III. OPERATING THE ALTA⁹⁹

1. Powering On and Off the Alta⁹⁹

The Alta's power box is located to the left of the machine behind the face plates. Press the power toggle switch to the right to turn on the machine. A blue and green light will be illuminated. Press the power toggle switch to the left to turn off the machine.

◆ **Note:** If the blue and green lights are not illuminated, check to ensure the Alta is plugged in.

2. Manually Moving and Positioning the Cutting Head

1. Grasp the Black Handle.
2. Disengage the Gear Lever by pulling up on the Gear Lever handle located on the right side of the Cutting Head.



CAUTION: If the Cutting Head is not in its bottom-most position, it is extremely important to hold the handle before releasing the Gear Lever. Damage may occur to the Cutting Head if it is allowed to fall.

3. The Cutting Head can be moved to any position along the Lead Screw.
4. Secure the Cutting Head position by re-engaging the Gear Lever.

3. Inserting the Cutting Tool

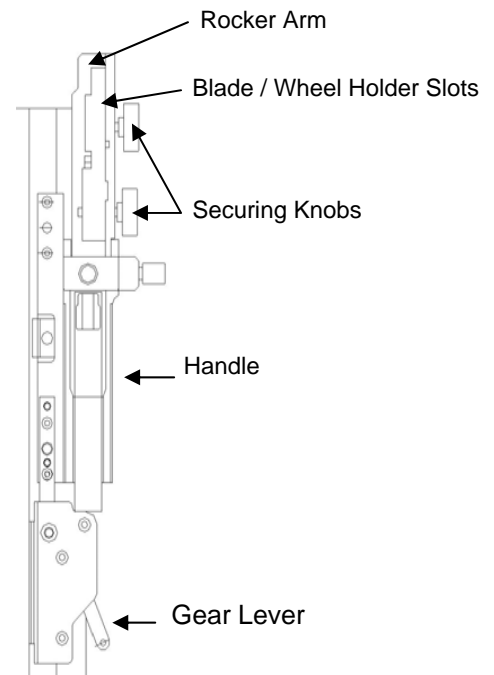
Blade Holders

1. Raise the Cutting Head to a comfortable level and engage the Gear Lever. (see Manually Moving the Cutting Head)
2. Grasp the Blade Holder so the Knife Blade is pointing away from you.



CAUTION: Blades are extremely sharp! Handle with care.

3. Slide the Blade Holder into the bottom portion of the Cutting Head Rocker Arm.
4. Push the Blade Holder forward to draw back the Blade Guard, and hold it forward.
5. Tighten the Securing Knob on the right of the Rocker Arm to secure the Blade Holder in place.



Operating the Alta⁹⁹

Wheel Holders

1. Raise the Cutting Head to a comfortable level and engage the Gear Lever. (see Manually Moving the Cutting Head)
2. Grasp the Wheel Holder so the cutting wheels are toward the Alta⁹⁹ and at the bottom of the Wheel Holder.
3. Slide the Wheel Holder into the Rocker Arm.
4. Tighten the Securing Knob to secure the Wheel Holder in place.

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

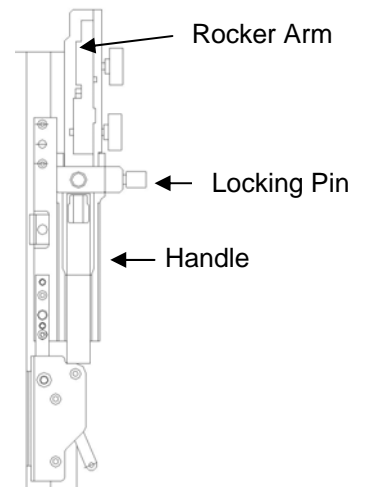
4. Locking the Rocker Arm

The Rocker Arm Locking Pin secures the Rocker Arm in the forward cutting position for Blade Cutting. This ensures a consistent, clean cut.

To Lock

1. Locate the silver Rocker Arm Locking Pin on the right side of the Rocker Arm.
2. Push it in to lock the Rocker Arm in the forward position.

◆ **Note:** The Cutting Head cannot be moved upward across your substrate when the Rocker Arm Locking Pin is engaged. Therefore, engage the Rocker Arm Locking Pin prior to loading the substrate and move the Cutting Head above the material's top edge.



To Unlock

Pull the Rocker Arm Locking Pin out to be able to retract the Rocker Arm using the Thumb Lever on the handle.

5. Positioning the Substrate.

◆ **Note:** The Wheel/Blade Tool Holders must be positioned above the top of the material before loading the material.

1. Place the material on the Horizontal Material Bar and slide it under the Vertical Track Assembly. It is best to load the material from left to right. Position the material so that the left edge of the board aligns with the desired cutting dimension.
2. Lower the Clamp Lever to secure the material in place. (See “Securing the Clamp” in the next section.)

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

Operating the Alta⁹⁹

6. Securing the Clamp

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

To Close

1. Grasp the black Handle on the Vertical Track Assembly.
2. Pull the Handle down to its closed position.

To Open

1. Grasp the black Handle on the Vertical Track Assembly.
2. Pull the Handle 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.**

7. Using the Production Stops

The Production Stops will allow you to set your material parameters, and cut multiples of the same job quickly.

◆ **Note: Always use the Silver Stop Levers Fingers with the Blade Holders, and the Red Stop Levers Fingers with the Wheel Holders.**

1. Unscrew the black Locking Knob.
2. Slide the Production Stops to the desired location.
Always set the stops to the Silver Fingers.
3. Tighten the Locking Knob to secure the position.

Blades

1. Set the Silver Lever Fingers to the desired position.

Wheels

1. Set the Silver Lever Fingers to the desired position.
2. Flip up the Silver Fingers and use the Red Fingers.
 - **Tip: If the Production Stop does not slide easily, loosen the black Knob slightly.**

8. Setting the Speed

To set the cutting speed, turn the Cut Speed knob to the speed appropriate for the material that you are cutting. Please refer to “Cutting Techniques for Various Substrates” on page 28, or “Blade/Wheel Holder Reference Guide” located on the Alta⁹⁹ Face Plate. The lower the number, the slower the cut speed.

- Speed setting 1 = .75” (1.9cm) per second (slow speed)
- Speed setting 5 = 4.7” (11.9cm) per second (medium speed)
- Speed setting 10 = 5.7” (14.5cm) per second (fast speed)

Operating the Alta⁹⁹

9. Setting the Cutting Height

To set the cutting height, turn the Cutting Limit knob to the closest cutting height **above** the height of the substrate. *Example: If your substrate is 18" (45.72cm), set Cutting Limit to 24" (60.96cm).*

10. Making an Automated Cut

Using a Blade

1. Position the Blade Holder in the Cutting Head, and secure it. **See "Inserting the Cutting Tool" on page 29.**
 2. Set the Rocker Arm Locking Pin. **See "Locking the Rocker Arm" page 30.**
 3. Set the Cutting Limit Knob to the closest height above the height of your substrate.
 4. Set the Cut Speed.
- ♦ **Note: Some materials may require a slower downward motion. Please consult the Blade/Wheel Holder Reference Guide for more information.**
5. Press the Start (green) button to raise the Cutting Head. This will raise the Cutting Head above the height of the substrate.
 6. When the Cutting Head has stopped at the cutting height, position the substrate, and lock the clamp.
 7. Press the Start button to make the cut.

Using a Cutting Wheel

The following procedures are optimal cutting directions for a substrate that is low enough to comfortable reach over. For a larger substrate, see the note at the bottom.

1. Insert the Cutting Wheels into the Cutting Head Wheel Holder. Do not tighten the Holder Securing Knob.
 2. Manually raise the Cutting Head above the height of the material, and engage the Gear Lever so the Cutting Head remains stationary.
- ♦ **Note: If the Cutting Head won't move, disengage the Gear Lever.**
3. Position the material, and set the clamp.
 4. Disengage the Gear Lever, and slowly lower the Cutting Head.
 5. Position the Cutting Wheels so it is resting on the material. The Cutting Wheel should shift slight so the material is resting directly between the two (2) cutting wheels.
 6. Engage the Gear Lever.
 7. Lock the top Holder Securing Knob.
 8. Set the speed, and the cutting height.
 9. Press the Start button.

Operating the Alta⁹⁹

◆ **Note:** If the height of your substrate is too high to manual insert the wheels above the substrate, lock the Wheel Holder in place, set the height, and lower the speed, and press the Start button.

11. Using the Emergency Stop

An Emergency Stop has been installed to prevent damage to your jobs. If something goes wrong, simply hit the Emergency Stop button. The Cutting Head will immediately stop. When you are ready to continue, turn and pull out the Emergency Stop Button. The Cutting Head will not continue until you press the Start Button.

12. Making a Manual Cut

1. Position the Blade or Cutting Wheel in the Cutting Head, and secure it. **See page “Inserting a Cutting Tool” on page 29.**
2. Disengage the Gear Lever. **See “Manual Moving and Positioning the Cutting Head” on page 29.**
3. Grasp the black handle and position the Cutting Head above the height of the substrate. Engage the Gear Lever.
4. Position the substrate on the Horizontal Material Bar and set the clamp.
5. If you are using a Blade Holder, set the Rocker Arm Pin. **See “Locking the Rocker Arm” on page 30.**
6. Disengage the Gear Lever and pull down firmly to create the cut.

◆ **Note:** Certain materials may require a slower cut speed. Please refer to the Blade/Wheel Holder Reference Guide on your machine for more information.

13. Setting the Laser Position

The Alta 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.

Cutting with a Blade

Ensure the Laser is in the leftmost position by moving the silver, metal lever at the bottom of the Laser to the left.

Cutting with a Wheel

Ensure the Laser is in the rightmost position by moving the silver, metal lever at the bottom of the Laser to the right.

Maintenance, Adjustments, Troubleshooting, and FAQ

IV. MAINTENANCE, ADJUSTMENTS, TROUBLESHOOTING, AND FAQ

1. General Maintenance Tips

Cleaning

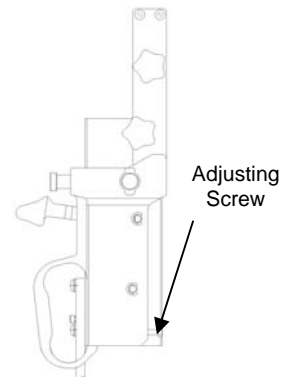
With care and frequent cleaning, the Alta⁹⁹ will remain in proper working order, and will perform indefinitely, as expected.

1. Clean the Horizontal Material Bar. If debris collects on the Bar, the substrate will not sit squarely, and will not cut straight.
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.

Adjusting the Rocker Arm

After considerable use, it may become necessary to adjust the Rocker Arm. The Rocker Arm determines how much pressure each Cutting Tool applies to the material.

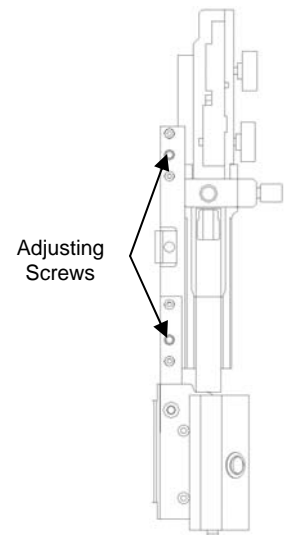
1. Insert the Blade Holder into the Cutting Head.
 2. Locate the Rocker Arm Adjusting Screw under and at the bottom of the Rocker Arm.
 3. Depress the Thumb Lever on the Cutting Head.
- ◆ **Note:** If the Thumb Lever won't depress, unlock the Locking Pin.
4. Turn the Rocker Arm Adjusting Screw so the tip of the Blade is past the Vertical Track Wear Strip by 1/8"-3/16" (3mm – 5mm).



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.
 2. Using the 3mm hex key wrench, turn both Screws clockwise in increments of about one-eighth (1/8) of a revolution.
 3. Check to see if the bearings are no longer loose by sliding the Cutting Head Assembly up and down the Vertical Track Assembly.
 4. Repeat Step 2 and 3 above until both the lateral movement is minimized and the vertical movement of the Cutting Head is smooth.



Maintenance, Adjustments, Troubleshooting, and FAQ

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 slim, so try the above adjustment before you replace the bearings.

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

a. Removing the Cutting Head

1. Using a 10ft ladder, remove the two (2) M10 bolts at the top of the Vertical Track on the Cutting Head side using a 17mm wrench.
2. Disengage the Gear Lever and move the Cutting Head up the Vertical Track.
3. Slowly remove the Cutting Head from the Track.
4. Remove the two (2) flat, black guards attached to the Black Nylon Carriage that cover the Lead Screw, and set them aside.

b. Removing the Bearings

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

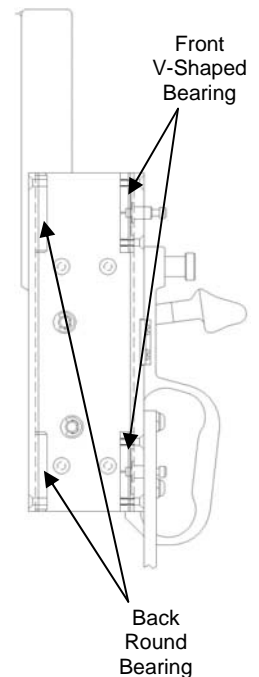
1. Two (2) round-shaped type (white) plastic bearings on the back.
2. Two (2) v-shaped type (white) plastic bearings on the front.

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

Remove the Screws using a 2.5mm hex key wrench.

3. Remove each Bearing and replace it with new Bearings.
4. Replace the Flat Head Screws.
5. Replace the flat, black guards on the Black Nylon Carriage, placing the long one on top and the small one underneath.
6. Mount the Cutting Head Assembly onto the Vertical Track Assembly.
7. Engage the Gear Lever and re-install the two (2) M10 bolts removed earlier.
8. Adjust the Bearings as described in "Adjusting the Cutting Head Bearings".

CAUTION: Do not let the Cutting Head fall, or damage will occur.



Maintenance, Adjustments, Troubleshooting, and FAQ

2. Troubleshooting Your Alta⁹⁹

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) or send an email to customerservice@fletcher-terry.com.

Symptom	Probable Cause	Correction
Ragged Cut Edge When Cutting Thin Material	No Sacrificial Sheet	Use New Sacrificial Sheet
Ragged Edges	Cutting Blade is Dull	Change the Blade
Not Cutting Squarely	Foreign Material on Horizontal Support Horizontal Material Support Bar is Not Installed Properly	Clean Adjust Bar
Can't Depress the Thumb Lever	Rocker Arm Locking Pin is engaged	Disengage the Locking Pin
Cutting Head is Moving Side-to-Side	Cutting Head Bearings have loosened	"Adjusting the Cutting Head Bearings"

Maintenance, Adjustments, Troubleshooting, and FAQ

3. Frequently Asked Questions

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.

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, use the single blade holder when cutting through the foamboard.

Q: *Why does my Aluminum Cutting Wheel cut .080" (2.03mm), but not .040" (1.01mm) aluminum? Am I doing something wrong?*

A: The Alta is designed to cut aluminum up to .080" (2.03mm). 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: *Can I cut MDO and MDF on the Alta⁹⁹?*

A: No. The Alta is designed to cut corrugated plastics, paper, and aluminum (sheet and composite).

Cutting

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

A: The Alta has a vertical height cut capacity of 99" (2.51M) and can cut up to ½" (13mm) thick materials.

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

A: The red stop is for sheet aluminum and the aluminum composite material and the silver stop is for all other material.

Maintenance, Adjustments, Troubleshooting, and FAQ

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 Alta⁹⁹?*

A: No. The Alta⁹⁹ is a vertical substrate cutter with a vertical capacity of 99” (2.51M).

Replacement Parts List and Schematics

V. 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) 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

<u>Part No.</u>	<u>Description</u>
05-222	FSC Blades (10/tube)
05-230	Alum Composite Wheels (2/envelope)
05-231	Alum Sheet Wheels (2/envelope)
19-100	Aluminum Composite Wheel Holder
19-101	Aluminum Sheet Wheel Holder
19-102	Double Blade Holder
04-802	Single Thin Blade Holder
05-004	FTCO Thin Replacement Blades