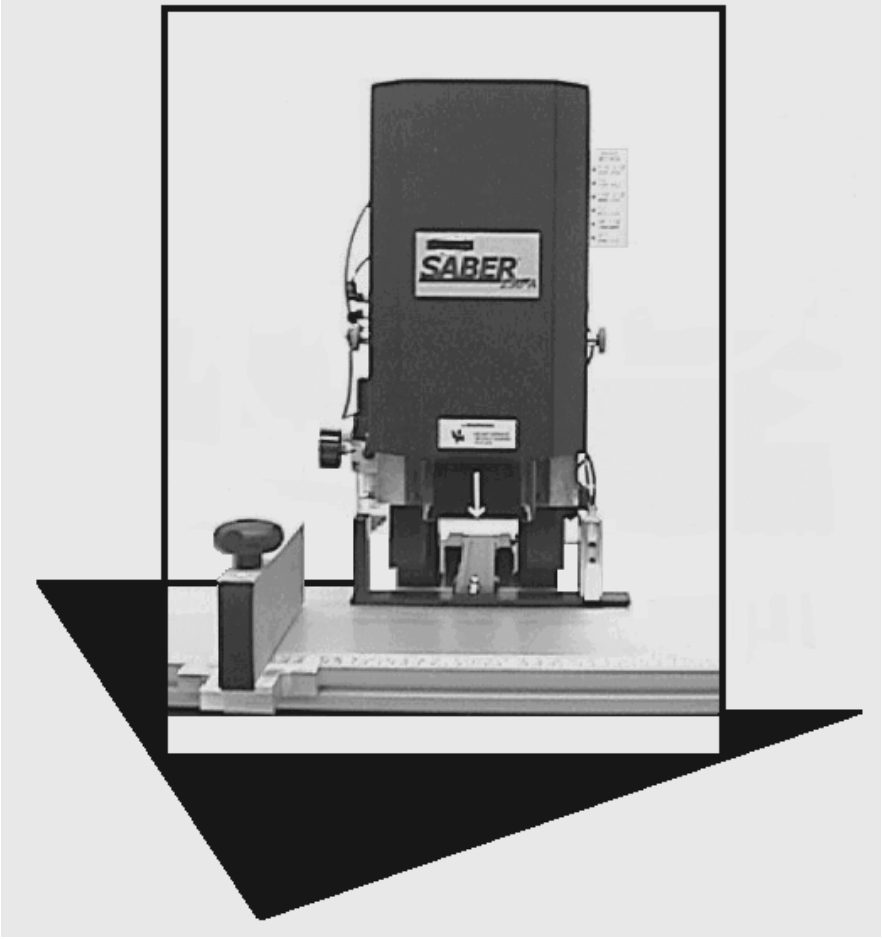
The Fletcher-Terry Company

Quality. Service. Dependability. Value.
Since 1888

Owner's Manual

Fletcher Saber™ 250-A

For Accurate and Efficient Saw Tooth Hanger Installation



The Fletcher-Terry Company

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Form 032404

***First**, we'd like to congratulate you for adding the Saber 250-A to your production line. From now on your operators will be able to insert saw tooth hangers with efficiency, accuracy, and reliability. It's easy to use and designed to require minimal maintenance. Regardless of the size of the frame or thickness of the moulding, the Saber 250-A will secure a 5-tooth hanger perfectly placed and instantly secure.*

***Next**, we ask you to inspect the two containers that were used to ship the Saber 250-A. If damaged, please contact your carrier and file a claim. Locate the warranty card that was shipped with this manual and return it to The Fletcher-Terry Company to activate the warranty.*

***Now**, you're ready to set up and operate the Saber 250-A.*

Product Warranty

The Fletcher-Terry Company warrants the machine purchased to be free from defects in parts and workmanship for (2) two 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 MERCHANTABILITY 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. 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 Saber™ 250-A. If after reviewing these pages you still have questions about using the machine, contact our Customer Service Department: (toll-free) 1.800.843.3826 in the U.S.; outside the U.S. call 860-677-7331; customerservice@fletcher-terry.com.

- It is the employer's responsibility to enforce compliance with these safety warnings and procedures by all who use the Saber 250-A. Keep this manual available so all employees have access to it and the opportunity to review procedures periodically.
- The intended purpose of the Saber 250-A is to insert saw tooth hangers in picture frames of various shapes, sizes, and materials. It must not be modified or used for any other application or purpose.
- Use safety glasses. The operator of this machine, and others in the work area, must wear safety glasses with rigid side shields. Wear ear protection. Ear protection is recommended in any work environment where repetitive, mechanical machinery is in operation.
- Only connect the Saber 250-A to an air supply with a coupling that removes all pressure when disconnected. Always disconnect the machine from the air supply before performing maintenance, removing a jam or cleaning the Saber 250-A. Even if a hanger strip is not visible on the guide, assume that there may be one or two hangers remaining in the machine.
- Use clean, dry, regulated compressed air at a minimum pressure of 100 PSI at 2 CFM. The system includes a filter and pressure regulator. Do not connect this machine to an air supply with maximum potential pressure greater than 150 PSI.
- Never use oxygen, carbon dioxide, combustible gases or any type of bottled gas as a source for this machine. Explosion and serious injury may result.
- Never use the machine if the air supply is compromised, the machine is missing parts, or repair of the Saber 250-A is required. Do not use the machine if the safety warning labels are missing or unreadable. Do not use the machine if the ram safety guard is missing or broken. Contact a Fletcher-Terry Customer Service Representative for replacement labels or parts.
- Only use the parts, supplies, and accessories that are recommended by Fletcher-Terry.
- Use care when loading the hanger strips onto the hanger guide, making sure that you do not inadvertently activate the T-bar switch.
- Do not over-reach or use the Saber 250-A 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.

Setting Up Your Machine

Unpacking the Saber 250-A

Figure 1

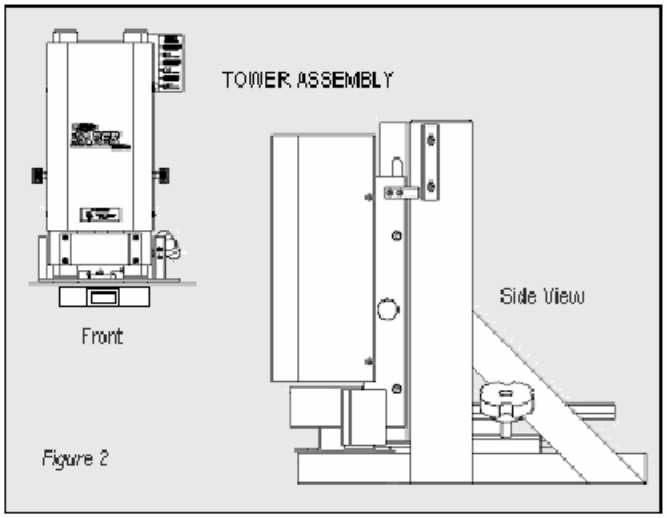


Figure 2

Figure 3 FENCE

All instructions in this manual assume that you are facing the front of the machine and that the machine has been placed on a flat and secure surface.

The Saber 250-A has been shipped to you in two containers. The longer, flatter carton contains the **Base** (Figure 1).

The other box contains the **Tower Assembly** (Figure 2), the **Fence** (Figure 3), and a **Parts Bag**.

You will have found that the Parts Bag contained:

a) This Owners' Manual

b) A Warranty Card

c) Flat Head Socket Cap Screws (2)

d) Hex Key (1)

e) Triangle Template [for squaring] (1)

If anything is missing, please contact a Fletcher-Terry Customer Service Representative at 800.843.3826, at 860.677.7331, or customerservice@fletcher-terry.com.

VIEW A: FROM RIGHT SIDE

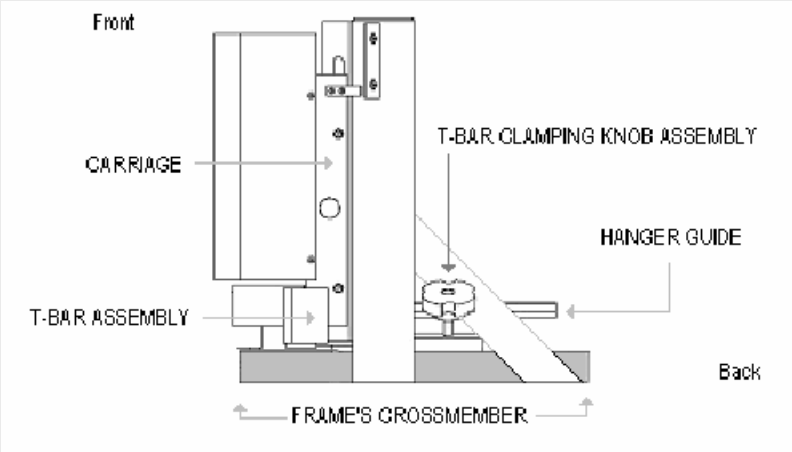


Figure 4

VIEW B: FROM THE FRONT

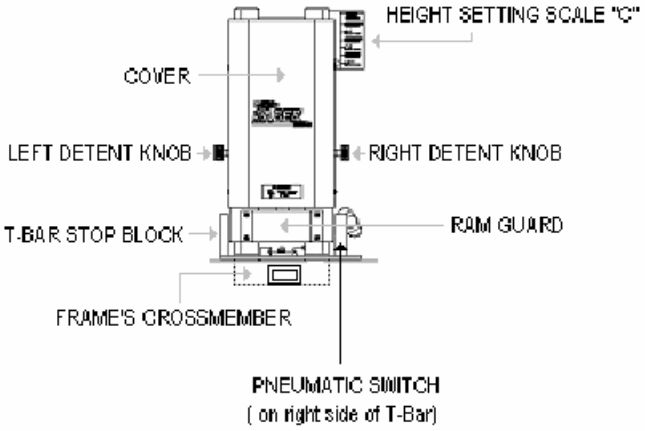


Figure 5

VIEW C: FROM ABOVE

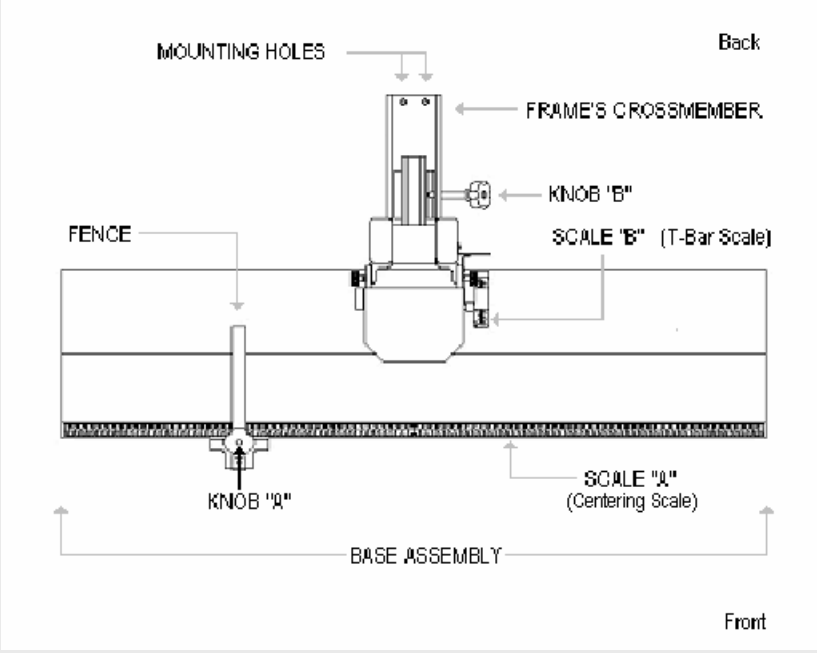


Figure 6

Assembling the Machine

Before assembling the machine, determine whether you will anchor the Saber 250-A to your work surface. Placing and securing the machine will be a matter of personal preference and it is left to the owner to decide how best to use the Saber.

If you decide to anchor the Saber 250-A to your work surface, locate the four, predrilled holes on the crossmember of the frame (*Figure 7).* These will allow you to secure the machine with four bolts (not included).

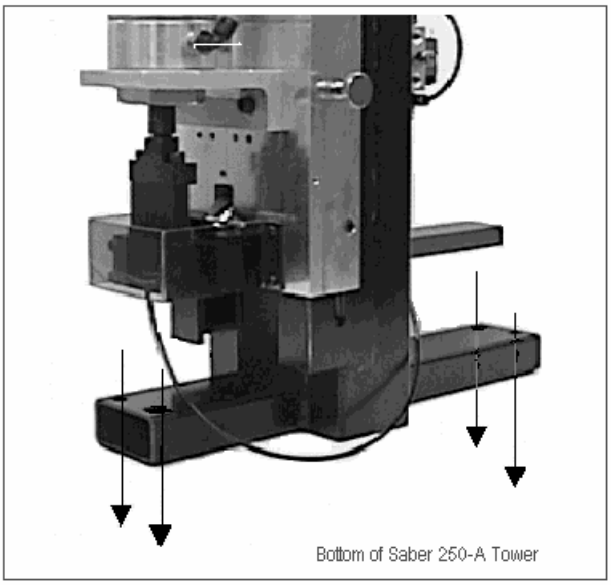


Figure 7 (Shown with machine's cover removed)

The Saber 250-A should be placed so that the front of the machine is facing the operator. Be sure to leave sufficient room for attaching the base assembly. The base assembly will run along the front edge of the workstation.

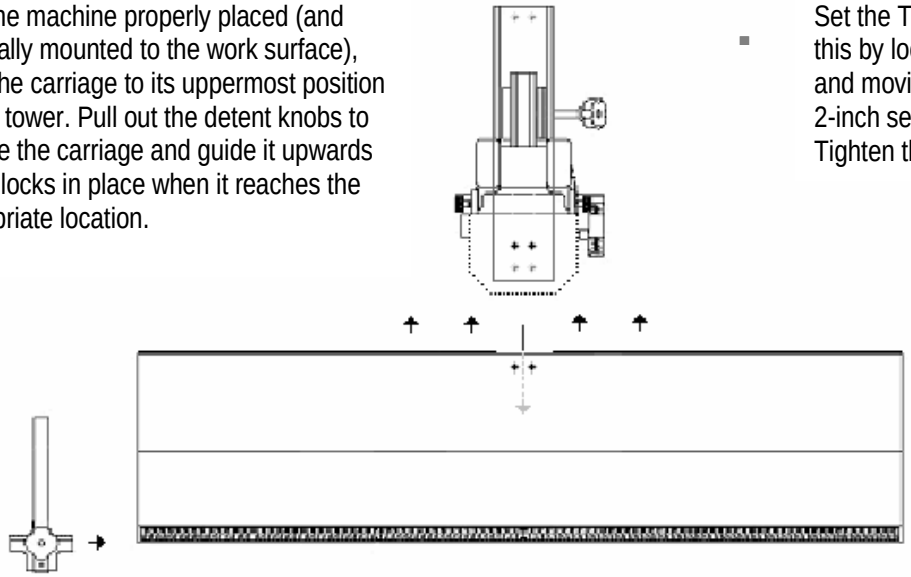
Please Note:

When the base is attached to the tower, a squaring procedure must be followed to ensure proper alignment. (See Figure 8.)

Figure 8

Squaring the Machine

- With the machine properly placed (and optionally mounted to the work surface), raise the carriage to its uppermost position on the tower. Pull out the detent knobs to release the carriage and guide it upwards until it locks in place when it reaches the appropriate location.



- Set the T-bar to a 2-inch depth setting. Do this by loosening the T-bar clamping knob and moving the entire T-bar assembly until a 2-inch setting is reflected on the T-bar scale. Tighten the knob.

- Place the enclosed triangle template squarely against the fence and across the T-bar assembly. Use a piece of material or matting (approximately 1/8" thick) as a platform under the template to ensure that the triangle will bump up against the fence and the T-bar assembly.

- Attach the base to the tower assembly by placing it atop the machine's crossmember. Align the screw holes and insert screws. Loosely tighten the left, but do not tighten the right screw. The right screw will not be tightened until the squaring procedure is complete. Attach the fence assembly and position it at the 10" mark on Scale A.

- Gently move the base assembly until the triangle is perfectly squared to the fence and T-bar. When you have done so, tighten the right screw and then the left.

THE MACHINE IS NOW PROPERLY SQUARED AND YOU MAY ATTACH YOUR SOURCE OF COMPRESSED AIR TO THE FILTER / REGULATOR AT THE LEFT REAR OF THE SABER 250-A

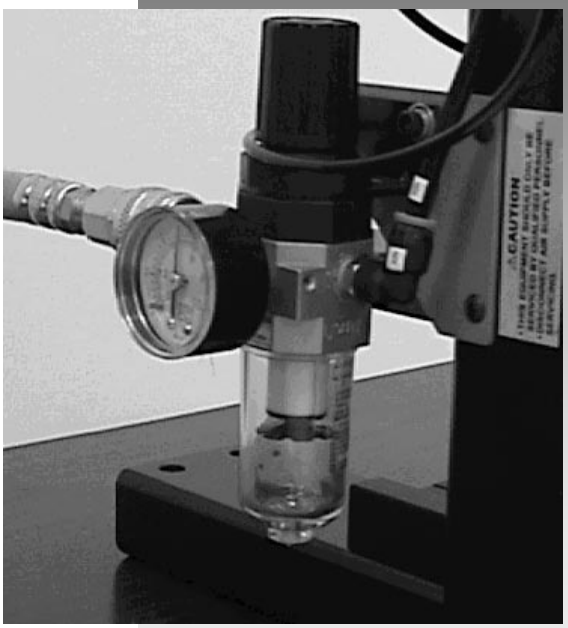


Figure 9

Establishing a Proper Air Supply:

Attach your compressed air hose to the machine using clean, dry air (minimum 100 PSI with the regulator set at 75 PSI).

You may choose to adjust pressure depending on the size and material of the frame. This may be especially important if using the small frame adapter. (See "Optional Equipment")

Certain safety precautions are required when using pneumatic tools in order to prevent injury to the user and others in the area. Read and follow all instructions and safety warnings in this manual.

Operating the Saber 250-A

A. **Load** the Hanger Strip

B. **Measure** the Frame and **Adjust** the Machine

C. **Activate** the Saber 250-A

A. Load the Hanger Strip

Saw tooth hanger strips contain 25 collated hangers. Individual hangers are barbed to ensure maximum hold when inserted into a frame.

The hanger strip is loaded onto the guide, barbs pointing downwards and teeth facing the machine's operator, i.e., the front of the Saber 250-A.

Once the strip is loaded onto the guide, the operator pushes the strip forward toward the front of the machine until the hanger strip stops.

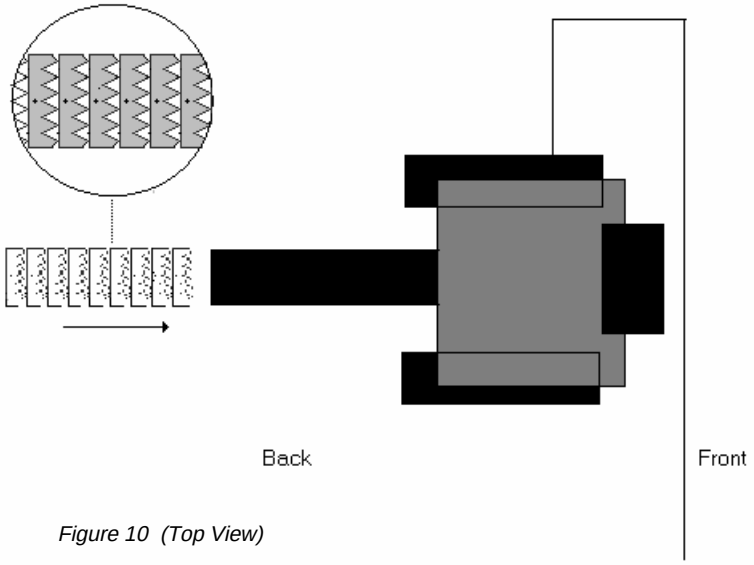


Figure 10 (Top View)

The required hanger strips (part number 08-810) may be ordered by contacting the Fletcher-Terry Customer Service Department at 800.843-3826; outside the U.S., call 860.677.7331; or *customerservice@fletcher-terry.com*

B. Measure the Frame and Adjust the Machine

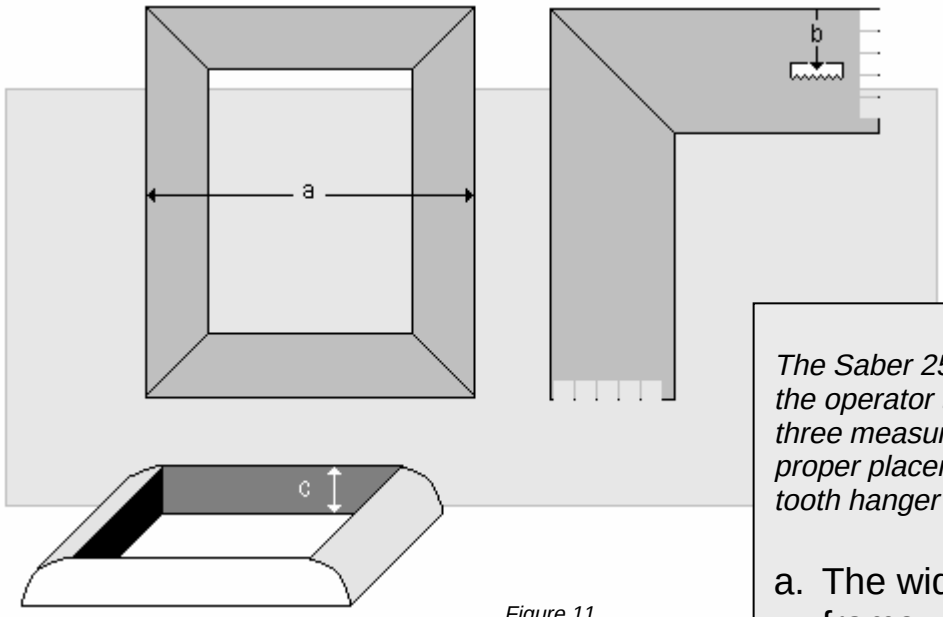


Figure 11

The Saber 250-A requires the operator to determine three measurements before proper placement of a saw tooth hanger can be made:

a. The width of the frame;

b. The hanger's placement from the top of the frame to the centerline of the hanger;

c. The height or thickness of the frame.

Coming Up:

Taking measurements and adjusting the Saber 250-A:

- ***A. How wide are the frames you will be processing?***

  i. Measure the width from outside the left edge to outside the right edge of the frame. (measurement "a" in Figure 11)

  ii. Locate the Fence assembly and loosen it by twisting Knob A, counterclockwise.

  iii. Slide the Fence until its edge is aligned with the mark on the Centering Scale, Scale A, that corresponds to the frame's width.

  iv. Tighten Knob A.

- ***B. Where do you want the hanger to be inserted, relative to the top edge of the frame?***

  i. Measure or approximate the distance between the top edge of the frame and the point at which you wish to insert the hanger. (measurement "b" in Figure 11)

  ii. Loosen the T-Bar Clamping Knob, Knob B, by turning it counterclockwise.

  iii. Move the T-Bar Assembly by gently pushing or pulling the unit along its track.

  iv. Align the T-Bar so that measurement "b" is reflected on the T-Bar scale, Scale B, located on the Base Assembly.

  v. Tighten Knob B.

- ***C. How high is the frame at its greatest thickness?***

  i. With the frame laying flat on a surface, determine its height at its thickest cross-section. (measurement "c" in Figure 11)

  ii. The Carriage of the Saber 250-A is spring-loaded and slides up and down the tower of the machine.

  iii. Firmly pull out the left and right Detent Knobs at the same time.

  iv. You will notice that doing so will free the Carriage to glide up or down as you wish.

  v. This movement of the Carriage will cause the Height Setting Pointer to move along the Height Scale, Scale C, at the upper right hand corner of the machine.

  vi. The Carriage will lock into any one of six (6) pre-set positions that correspond to a range of heights.

  vii. Find the range that includes measurement "c."

  viii. Feel for the locking location at that range by gently releasing the Detent Knobs at or near the correct setting.

  ix. Fully release any pressure on the Detent Knobs to lock the Carriage in place at the appropriate height setting.

Example "a"

A frame measures 10 inches across. After loosening the fence with Knob A, move the fence so that the Centering Scale (Scale A) reads 10 inches. Tighten the knob to lock the fence in place.

Example "b"

After assessing where a hanger should be placed on a certain frame, the operator measures the distance from the top edge of the frame to that spot and finds it to be two inches (2"). The operator then moves the T-bar assembly to 2" on Scale B and then locks the T-bar assembly in place by turning knob B.

Example "c"

A frame measures 2.3" high at its greatest thickness. Using the Detent Knobs, the operator locks the carriage into place at the 1.5" to 2.5" setting as marked on the Height Settings Scale (Scale C).

Please Note:

The Height Scale (Scale C) shows six (6) different height ranges. Choose the one that will accommodate measurement "c."

2.5" to 3.5"

2.0" to 3.0"

1.5" to 2.5"

1.0" to 2.0"

0.5" to 1.5"

0.5" to 1.0"

Let's Review:

- ✓ You have read and understand the safety instructions listed inside the front cover of this manual.
- ✓ You are familiar with the operating procedures and safety guidelines of your employer.
- ✓ You are wearing safety glasses prior to working with this equipment.
- ✓ You have assembled the Saber 250-A and have created an uncluttered work area for the machine.
- ✓ It is securely positioned (possibly mounted) on your work surface.
- ✓ You are familiar with the major components of the Saber 250-A and know that three measurements must be taken before adjusting the machine to your run specifications.
- ✓ The machine has been connected to your source of clean, dry, compressed air, according to the specifications listed on the bottom of page 6, and in compliance with your company's operating procedures.

Please Note:

While this manual uses non-metric measurements in all of its examples, the Saber 250-A has both imperial and metric scales.

The Saber 250-A has been designed to deliver precise installation of saw tooth hangers with great reliability. If, for any reason, a hanger jams, the machine will not fire.

Safety Tips:

It is recommended that the hanger be driven at the thickest portion of the frame. The further it is driven from a thick portion, the more likely it becomes that the frame will kick upward when the hanger is inserted.

Set the carriage so that there is a minimum clearance of 0.25" from frame to the bottom of the ram guard. Keep in mind that the machine will operate properly with greater clearances, but there is less room for errors or injury when this space is kept to a minimum.

Uneven pressure on the T-Bar will automatically interrupt the operation of the ram. The slightest release of pressure will do the same. This design feature prevents injury and unintended firing.

Once all three measurements (a, b, and c) have been taken and the machine has been readied with these measures being reflected on Scales A, B, and C, the operator is now ready to insert the saw tooth hanger.

1.

The frame is inserted backside-up with its left edge pressed against the left fence.

e

The top edge of the frame is leveled against the T-Bar assembly.

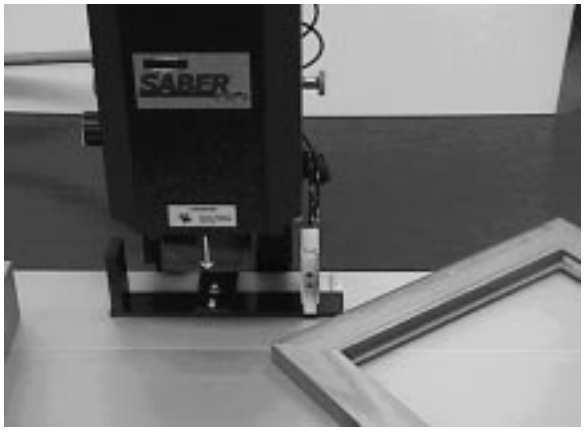
e

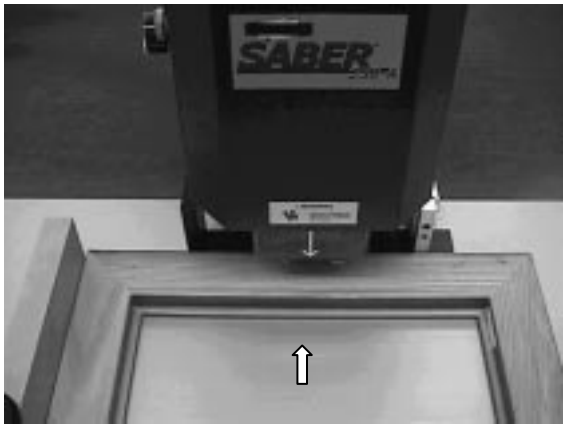
The operator then pushes the frame squarely into the machine (against the T-Bar), thereby triggering the pneumatic switch.

e

When the pneumatic cylinder is activated, the machine's ram will insert the hanger into the frame at the proper location.

This process can be repeated 25 times per hanger strip.





Optional Equipment

The Saber 250-A can be outfitted with one or more of the following optional devices:

A. Small Frame Adapter *(Part # 04-553)***:** For frames that are too small to be processed using the standard T-Bar assembly and pneumatic switch.

B. Foot Pedal *(Part # 04-552)***:** To give the machine operator an alternative method for activating the Saber 250-A.

C. Additional Fence Assembly *(Part # 04-551)***:** The Saber 250-A comes equipped with a universal fence assembly that is used for squaring the left edge of a picture frame. It may also be used to square the right edge of a picture frame that requires two side-by-side saw tooth hangers. When two hangers must be inserted into the top piece of a picture frame, a second fence assembly may be ordered (to attach on the right side of the base) in order to provide the operator with a step-saving method of installing the hangers.

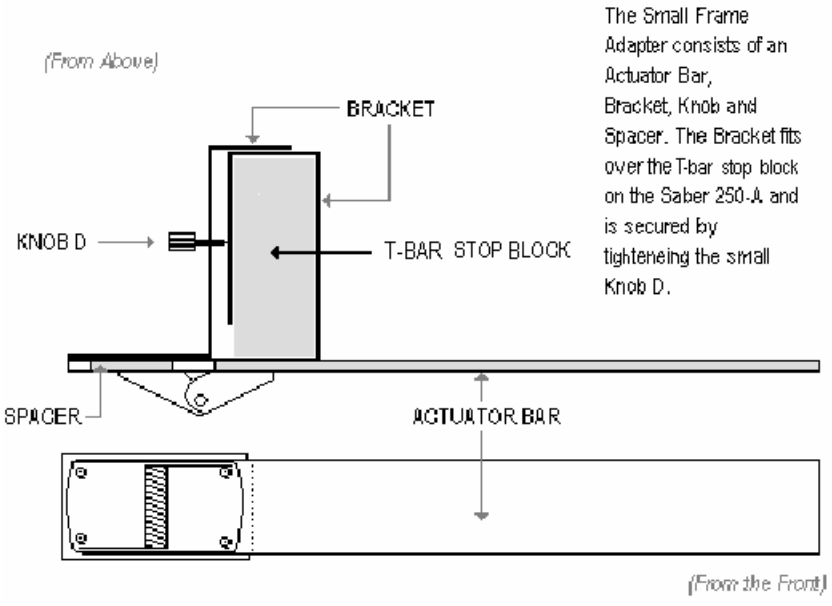
Using a Small Frame Adapter to Insert Hangers

The sizes of some frames are such that they will be too small to be effectively handled by the standard T-Bar assembly of the Saber 250-A. Therefore, The Fletcher-Terry Company has designed an optional adapter that will accommodate such frames.

The adapter is fitted on the T-Bar stop block on the T-Bar assembly. The adapter's bracket is securely tightened to the Saber by turning Knob D. Do not over-tighten. The procedure for inserting the hanger is unchanged.

Note: Add ¼" to measurement "b" to compensate for the thickness of the Actuator Bar when setting the T-bar Scale. That is, if you wish to place the hanger ¼" from the top edge of the frame, add ¼" and set Scale B to ½".

A. Small Frame Adapter



The Small Frame Adapter consists of an Actuator Bar, Bracket, Knob and Spacer. The Bracket fits over the T-bar stop block on the Saber 250-A and is secured by tightening the small Knob D.

The top edge of a small frame is pressed against the Actuator Bar of the Small Framer Adapter to install a saw tooth hanger.

Figure 12
(TWO VIEWS OF THE SMALL FRAME ADAPTER)

B. Foot Pedal

Using an Optional Foot Pedal.

Use of the foot pedal is a matter of the personal preference of the machine operator. It is assembled according to the instructions enclosed with the item.

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3 ddt63al Fe3 6B

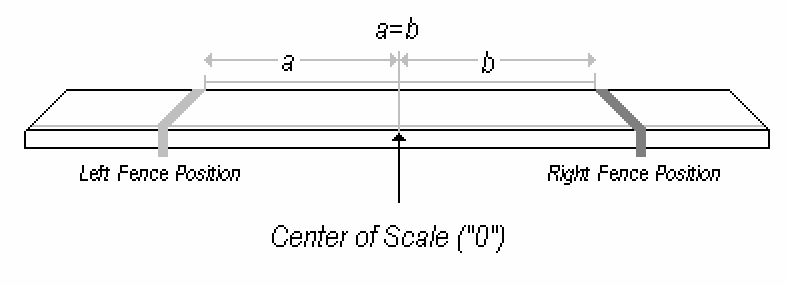

Figure 13

Inserting Two Hangers Per Frame Using a Second Fence.

- The fence designed for the Saber-250-A may be attached to the base on either the left or the right side of the machine. When inserting a single hanger, the fence is positioned to the left. If a frame's size necessitates a two-hanger configuration, a second fence assembly may be used to streamline the process.

- The second fence is the identical twin to the standard fence. They can be used interchangeably. They are attached to the base the same way and are positioned so that there is a fence to the left of "zero" on the centering scale, and there is one to the right of this mark.

The procedure for inserting two hangers using the second fence is similar to the procedure for inserting one:

- Measurements are taken and the machine is adjusted to reflect them. Whereas a single hanger is centered on a frame, two hangers must be lined up horizontally at an equal distance from the center (or at an equal distance from the frame's edge).

- The operator manually determines the placement of the first hanger and takes that measurement. The essential thing to remember is that the placement and measurement of the second hanger must mirror that of the first. Both fences must be positioned so that their corresponding edges are set to the same mark on either side of "zero." (See Figure 13 above.)

- The installation process is completed by first inserting the right hanger. (Square the frame to the left fence before pressing it against the pneumatic switch to activate the hanger.) Repeat this process for the left hanger by squaring the frame against the right fence.

Troubleshooting the Saber 250-A

Problem or Issue	Possible Reason	Action
The machine fires prematurely.	The top edge of the frame is pressing against the activation switch before the side edge is squared on the fence.	Always position the side edge of the frame before pushing the top edge against the T-Bar (i.e., the pneumatic switch).
A hanger is jammed in the machine.	In the unlikely event of a jam, one of two things may have happened. The hanger strip has been placed on the magazine incorrectly, or the hanger strip was bent or damaged during shipping or handling.	The operator must manually remove the jam by first disconnecting the air supply, then freeing the remaining hanger strip from the rear of the machine, and finally ejecting the jammed hanger. Only one hanger can ever be jammed because of the machine's design. To remove the hanger strip, locate the ram guard above the T-bar assembly and push up on the orange release lever. Remove the hanger and then make sure the hanger strip is reloaded properly before reconnecting the air supply. (See page 6.)
There is no air pressure.	The source of compressed air is disconnected or improperly connected to the Saber 250-A.	Re-check your air source and hose connections to make sure that you have correctly attached the Saber 250-A to your existing air supply system. If the pneumatic drive still does not work properly, contact your Fletcher-Terry Customer Service Representative for further advice.
There is insufficient air pressure.	Pressure settings are not properly set. The machine is being used on material, or in a way for which it is not designed.	Check your company's compressed air source to make sure that it is in proper working order. Verify that all settings are consistent with the recommendations listed on page 6 of this manual.

Hanger is not fully installed.	(a) There is too much clearance between the picture frame and the ram tip at its extended position. (b) There is not enough air pressure.	(a) Using the detent knobs on either side of the drive carriage, lower the height setting to an appropriate range. A ¼" clearance is sufficient. (b) Increase air pressure until the hanger is fully installed.
Hanger is not centered (left-right).	The fence is not positioned properly.	Refer to page 9 in order to review measurement settings.
Hanger is not centered (up-down).	The hanger need not be centered vertically on the top edge of the frame. However, if the hanger is not placed where the operator wants it, there is likely a problem with the measurements reflected on the scale on Scale B.	Refer to page 9 in order to review measurement settings.
Hanger strip does not feed properly.	(a) The hanger strip may be slightly bent or twisted. (b) The flow control valve is closed or clogged.	(a) The hanger strip can be fed with minimal misshape, however, it should be manually corrected if possible. If the strip is badly bent, the strip needs to be replaced. (b) Adjust the flow control valve to let more air into the indexing cylinder.
Frame will not release.	There may have been less than ¼" clearance between the ram tip and the picture frame.	Using the detent knobs on both sides of the carriage, raise the ram to an appropriate height setting range. A ¼" clearance is necessary to avoid trapping the frame.

Maintenance and Replacement Parts

Description	Part Number
Air Regulator	18-000
Air Valve	18-001
Air Limit Valve	18-002
Indexing Cylinder Assembly	18-003
Main Air Cylinder	18-004
Carriage Spring – 5/8" Dia. x 5" LG	18-005
Carriage Spring – 1/2" Dia. x 5" LG	18-006
Height Adjustment Knob	18-007
T-Bar Shoe	12-349
T-Bar Clamping Knob Assembly	18-008
Hanger Ram Tip Assembly	18-009
Hanger Shear Nose Assembly	18-010
Ram Guard (With Arrow Labels)	18-011
Button Head Socket Cap Screw, #8-32 x 1/2" LG (4)	12-848
Detent Height Settings Bracket & Scale	18-012
Detent Height Settings Pointer	18-013
Base Assembly (With Scales)	18-014
Flat Head Socket Cap Screw, #10-32 x 5/8" LG (2)	18-015
Hex Key (Base-To-Frame Assembly Screws)	18-016
Front Cover Assembly (With Labels)	18-017
Button Head Socket Cap Screw, #8-32 x 1/2" LG (4)	12-848
Warning Label (Guards in Place)	18-018
Caution Label (Servicing)	18-019
Air Volume Chamber	18-020
Triangle Template (Square)	12-625

- The Saber 250-A is an efficient and reliable machine, designed to be operated safely and maintained with minimal effort.
- Keeping the work area clean and clutter-free will allow the operator to work quickly and will prevent accidental damage to the machine and production materials.
- A clean dry cloth should be used to wipe down the machine; the surface of the base assembly should be protected from dents and abrasions. While the machine will operate properly despite such marks, it is up to the operator to safeguard the condition of your company's product by taking care of the base and fence(s).
- There are no parts to service or replace as part of a regularly scheduled plan. In fact, there is very little likelihood that a part will need replacement.
- Plastic safety guards, safety labels, replacement knobs, scales and the ram tip can be ordered from The Fletcher-Terry Company.
- The machine's parts and order numbers are listed to the left. Please refer to the drawings on page 4 to make sure you are ordering the correct item.