

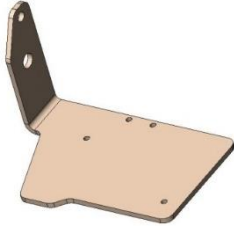




# **DIGI FENCE®**      **Installation Instructions for Biesemeyer Fence**

This DIGI FENCE kit is designed for installation only on **Biesemeyer and GENERAL brand Fences**. The following installation method provides a safe installation location for the electronic parts (dropped panels will not harm the electronics). If you frequently lift your fence off the table, we recommend using our optional Hinge Kit Accessory; this will allow for very rapid removal & re-installation of the fence WITHOUT position loss, or the need for recalibration.

*NOTE: This manual describes our recommended installation method. Different methods may be desirable; consult factory to determine if alternate installation methods will void warranty.*

## **The following components are included in this Kit**

<b>Electronic Scale</b>  <i>Note: Standard scale length is 56 inches long. Custom sizes are available up to 124 inches.</i>	
<b>Digital Readout (battery powered)</b> 	<b>Readout Bracket (white steel part)</b>  <i>Note: If Hinge Kit was ordered, your bracket will have 2 additional holes in it.</i>
<b>Encoder/sensor (color and label will vary)</b> 	<b>Guide Clip</b> 

## **Tools Required**

- ✓ Safety glasses
- ✓ Adjustable wrench
- ✓ Center punch (optional)
- ✓ Drill and tap for ¼-20 bolt (may not be necessary)
- ✓ Drill and tap for 8-32 screws (included in this kit)
- ✓ 3/16" drill bit
- ✓ Tap fluid (optional)
- ✓ Tap handle (optional)
- ✓ Drill (cordless recommended)
- ✓ Set of small clamps
- ✓ #2 Phillips screwdriver

Note: Some parts may have been preassembled at factory for your convenience.

# READ ALL INSTRUCTIONS **BEFORE** BEGINNING INSTALLATION

## Installing the Readout Bracket

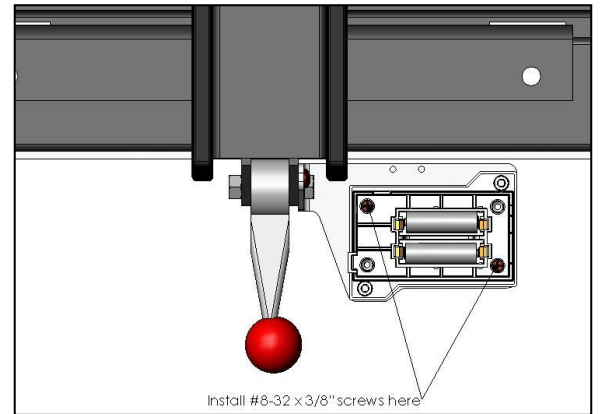
1. Remove the lock nuts that hold the locking lever to the fence. (Remove nuts only, not the bolts.)
2. Place the readout bracket flush with the right side of the fence. (The large hole in the readout bracket fits over the locking lever bolt.)
3. Reinstall the nuts. (Do not overtighten either nut, as operation of the handle will be affected.)



## Installing the Digital Readout

*Note: If you ordered the Hinge Kit, you may elect to skip this step.*

4. Remove the two screws on the front of the digital readout housing and set them aside.
5. Pull the cover off of the base.
6. Drill out (or punch out) the upper left and lower right hole locations (they are partially drilled already).
7. Attach the digital readout base to the readout bracket using the supplied #8-32 x 3/8" flathead screws.
8. Replace the digital readout cover and tighten screws.

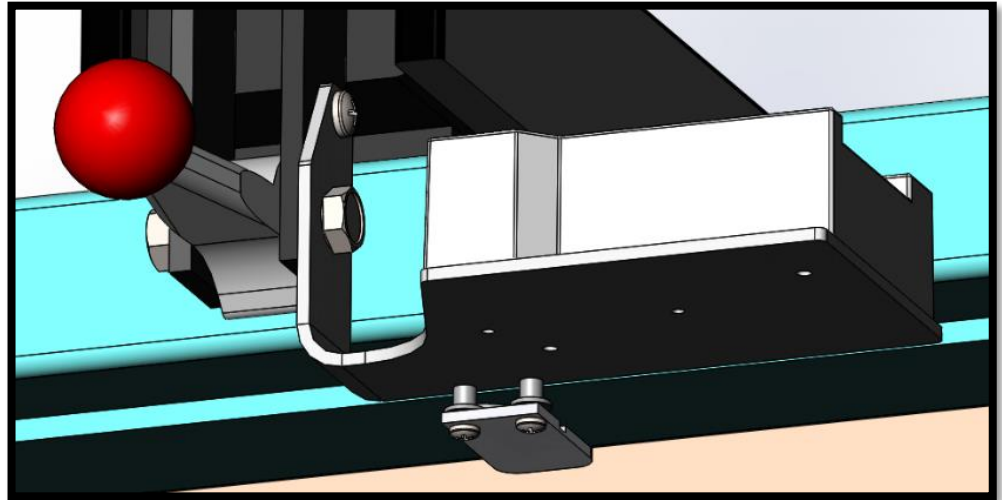


## Guide Clip Installation

Use Figure at right as a reference. This assembly may have been started at factory.

Note: If you ordered the Hinge Kit, you may elect to skip this step.

- Slide two of the supplied 8-32 x 3/8" screws into the Guide Clip. (The heads of the screws are on face opposite groove and notch.)
- Add a washer or two onto each of the screws.
- Install onto white readout bracket as shown.

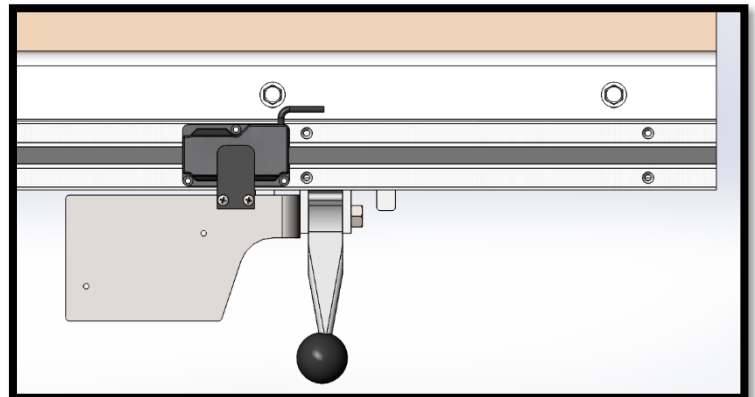


**THE SPACERS/WASHERS USED HERE WILL BE CHANGED IN A LATER STEP; THEY DO NOT NEED TO BE PERFECTLY SET AT THIS TIME.**

## Install the Electronic Scale

- If the angle steel that supports the fence tube has slotted holes, loosen the existing hex head bolts and move the fence tube as far forward as possible (toward the operator) before continuing.

- Place the electronic scale onto the fence tube. In most cases (for this fence type), the electronic scale will also rest against the angle steel. See image at right.



- Align the right edge of electronic scale assembly close to the right edge of fence tube. Note: This positioning is not critical; the digital readout can be calibrated to start anywhere on the scale.

- Slide the encoder back onto the scale if it has been removed. The cable should exit towards the rear of the saw, if possible.

If cable cannot exit towards rear of the saw, the digital readout will count backwards; this can be fixed using Reverse Scaling – see Operation Manual for details.

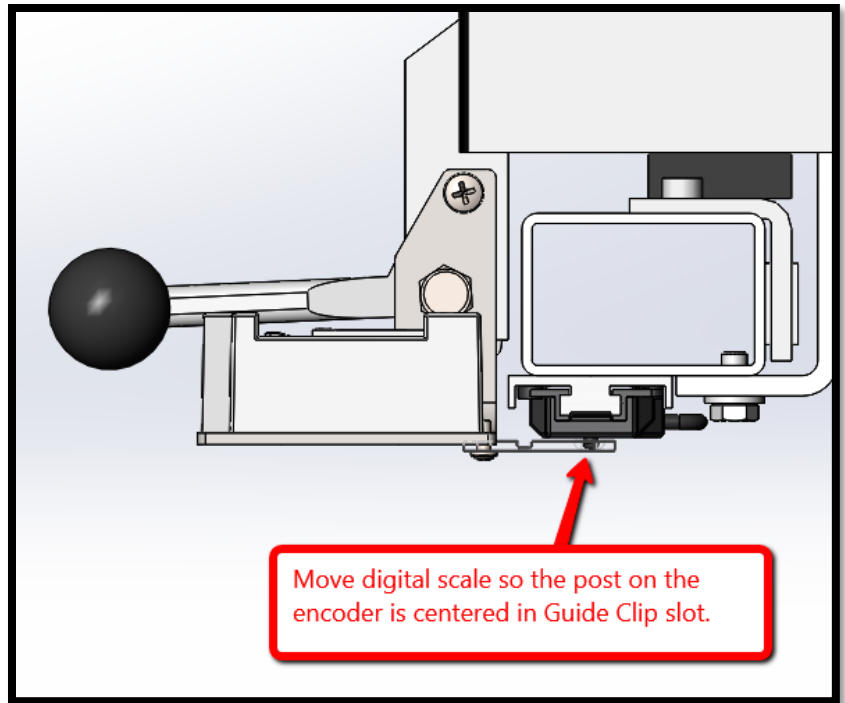
- Lightly clamp the scale assembly in position.

17. Slide the encoder along the electronic scale so it is positioned under (or next to) the Guide Clip. Adjust the electronic scale's front-to-back position to ensure the Guide Clip will properly engage the encoder.

**SEE DIAGRAM ON RIGHT.**

Notes:

- It's OK if the electronic scale sits just proud of the fence tube.
- The electronic scale should not touch the hex bolts.
- You may need to add spacers for the Guide Clip, to adjust vertical spacing; this will be addressed in a later step too.
- Be sure the electronic scale is parallel to the fence tube.



18. Fully tighten clamps holding the scale assembly in place.
19. Using the holes in the electronic scale as a guide, drill into the fence tube using the supplied #29 drill bit.
20. Unclamp and remove the electronic scale.
21. Using the supplied 8-32 thread tap, tap the holes. Remove any burrs using a countersink or small file.
22. Attach the electronic scale to the fence tube using the supplied 8-32 x 3/8" Phillips pan head screws.

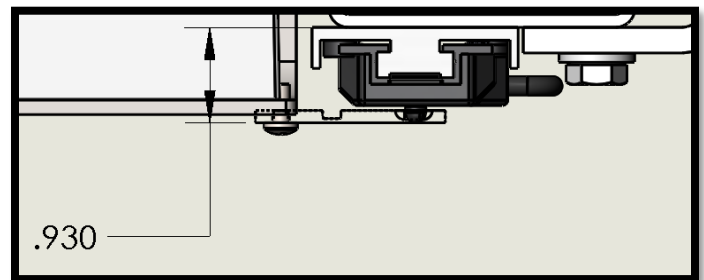
### **Finalizing the Guide Clip Setup**

*Note: If you ordered the Hinge Kit, you may elect to skip this step.*

23. Add/remove washers or spacers to achieve the proper vertical position for the Guide Clip. The ideal spacing from the electronic scale to the Guide Clip is 0.930 inches (23.6mm). This can be difficult to measure in place, so some other techniques and tips are helpful:

- The Guide Clip should flex (bend-down) a bit when the correct pressure is achieved. Deflection of about .050 inches (thickness of a washer) is perfect.
- The Guide Clip should not touch the encoder anywhere other than the post/nipple.
- If you use a finger to push up on the Guide Clip (just under the post/nipple), the Guide Clip should not have vertical movement.

If in doubt, contact factory for assistance.



*Why is this step needed? There are dozens of different variables that affect the spacing here, such as: Thickness of the angle steel, thickness of the steel tube, how high nylon guides are adjusted on your fence, how the sliding fence was welded (small differences exist from lot to lot), variability in how the readout bracket is installed, etc.*

## **Final Setup:**

24. Connect the encoder cable to the digital readout.
25. Move the fence in both directions, checking for binding. Adjust the guide clip spacing, or the fence alignment, as needed.
26. Verify the digital readout reads larger numbers when moved from left to right. If it does not, the readout will need to be configured to reverse the reading direction – see “Reverse Scaling” in the Operation Manual.

## **Calibration (Best method):**

(Refer to the Operation Manual for information regarding the Key functions of the digital readout.)

Note: This calibration method is most accurate when the digital readout's units are set to decimal inches or to decimal millimeters. Press the UNITS key to change the displayed position to a decimal reading.

1. With the fence locked in position near the saw blade, cut a small board.
2. Measure this cut board with the most precise measuring tool you have available and write down the measurement.
3. Without moving the fence, press the DATUM key.
4. Use the PLUS key to increase the reading on the display. Set the displayed value to equal the value you measured in step 3.  
Note: You can press and hold the PLUS key to count up very quickly. (The rate of change increases each 3 seconds the key is held down.)
5. If desired, the PLUS, MINUS, and DATUM keys can be disabled (locked). See Operation Manual.
6. The readout should be re-calibrated when the blade kerf changes, or when the battery is replaced.

## **Alternative Quick Calibration (not as accurate):**

1. Position the fence until it is just touching saw blade.
2. Without moving the fence, press the DATUM key on the Readout.

## **Removing the Fence from the Saw:**

*Note: If you ordered the Hinge Kit, this does not apply.*

1. Unplug the encoder cable from the digital readout.
  2. Disengage the encoder from the guide clip.
  3. Slide fence off right side of the machine.
- When reinstalling fence, reverse above steps, then recalibrate.

## **Troubleshooting:**

### ***The reading is accurate close to the saw blade, but not accurate at longer distances:***

1. Check the alignment of the saw fence. The alignment of the fence will affect the measurements at longer distances.
2. Be sure to check the mounting of all components. Any loose bolts can allow for “slop” measurements.
3. Ensure the Encoder is properly engaged by the Guide Clip.

### ***The readout resets itself while saw is running and the fence is locked:***

1. Large voltage spikes from nearby motors, inverters, or dust collection systems can cause this. Be sure all devices are properly grounded.
2. Be sure the readout has not been accidentally set to INC mode. Refer to Operation Manual for ABS vs INC measurement modes.

### ***The display resets itself while the saw is not running and the fence is locked:***

1. Be sure the readout has not been accidentally set to INC mode. If so, return to the ABS mode. Refer to the Operation Manual for ABS vs INC measurement modes.
2. Be sure the DATUM key has not been accidentally pushed. If so, you will need to recalibrate. HINT: Refer to the Operation Manual for information on LOCKING the readout keys.

### ***No Enc is displayed on the readout***

1. Be sure the encoder cable is plugged into the readout. Also, be sure the encoder is on the scale. To clear the error, unplug the encoder for 5 seconds, then reconnect the encoder to the readout. Recalibrate.
2. The fence has been moved too quickly (faster than 80 inches/sec). To clear the error, unplug the encoder for 5 seconds, then reconnect the encoder to the readout. Recalibrate.

### ***Battery Symbol is Displayed on the Readout***

1. The battery in the digital readout needs to be replaced. It is a CR123 lithium battery. Open readout case, remove older battery. Install new battery. Recalibrate.

TIP: Write down the displayed measurement before removing old battery. When new battery is installed, use PLUS or MINUS key to quickly set system back to the same measurement.

### ***My problem is not listed-where do I get help?***

1. The Operation Manual supplied with your system and [www.proscale.com](http://www.proscale.com)
2. Accurate Technology at 1-828-654-7920. Have your kit information ready when calling (machine model, part number, date of purchase, and point of purchase).
3. E-mail [customerservice@accurate-technology.com](mailto:customerservice@accurate-technology.com)