

Elcon Vertical Panel Saw Kit Installation Instructions: **For Vertical Scale, Horizontal Cuts**

Please note this installation kit is designed solely for installation on Elcon DSX 155 Vertical Panel Saws. Accurate Technology manufactures kits for other vertical panel saws in which some or all of the components may be different. For more information about ProKits™ feel free to contact Accurate Technology.

SAFETY WARNING

To avoid injury: Before installing ProScale on a machine, turn off the machine and disconnect it from its power source.

Warranty

Accurate Technology, Inc., warrants ProKit™ systems against defective parts and workmanship for 1 year, commencing from the date of original purchase. Upon notification of a defect, Accurate Technology, Inc. shall have the option to repair or replace any defective part. Such services shall be the customer's sole and exclusive remedy. Expenses incidental to repair, maintenance, or replacement under warranty, including those for labor and material, shall be borne by Accurate Technology, Inc.

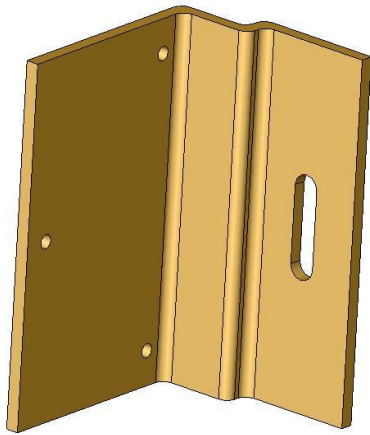
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Accurate Technology, Inc., shall not be liable for any special, incidental, or consequential damages or for loss, damage or expense directly or indirectly arising from the customer's use of or inability to use the equipment either separately or in combination with other equipment, or for personal injury or loss or destruction of other property, or from any other cause.

Tools Required

- Electric Drill
 - Center punch
 - Drill and tap for 10-32 machine screw
 - Phillips screwdriver
 - Crescent wrench
 - Hex wrench set
 - Tap handle
 - Small grinder/file*
 - Hacksaw*
 - Drill and tap for 8-32 machine screw*
- * May not be necessary, depends on installation

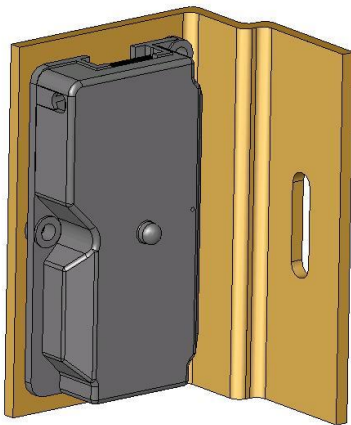
READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION!



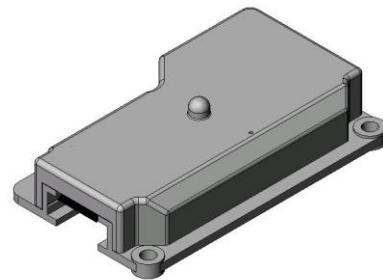
Vertical Bracket
(Part of Vertical Assembly)



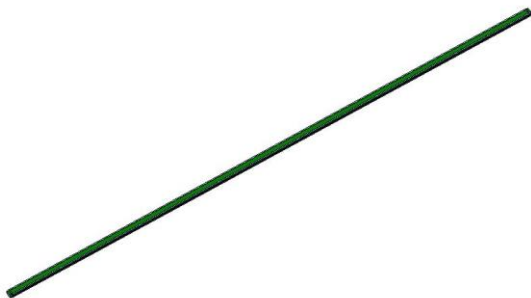
Readout Hinge



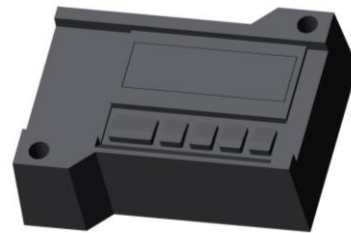
Vertical
Assembly



Encoder (also called readhead)



Vertical Digital Scale



Digital Readout

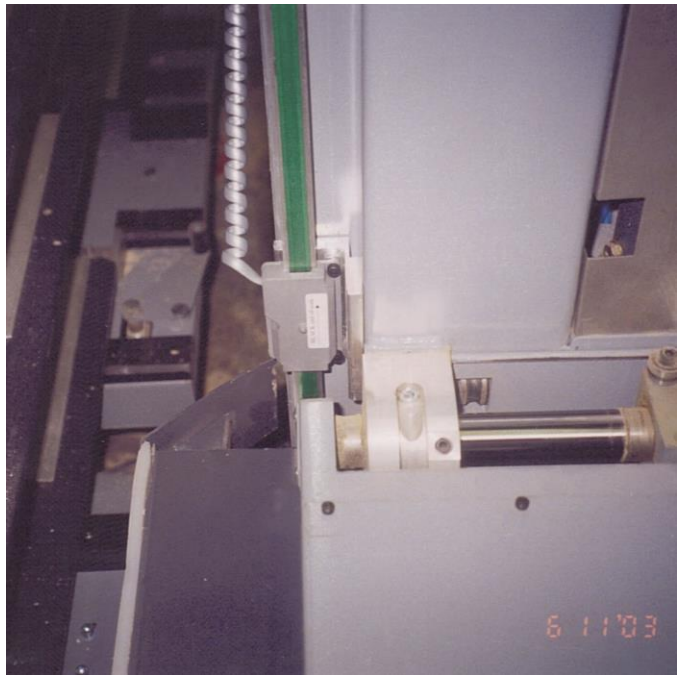
Getting Started:

Be sure to keep the parts for the horizontal and vertical kits separate if you have purchased both.

Note that the vertical scale kit measures vertically (up and down) while the saw cuts horizontally).

Vertical Bracket Assembly:

1. Connect the Vertical Bracket to the encoder using the supplied 6-32 machine screws.
2. Remove the Repeat Cutting Attachment from the left side of the vertical beam.
3. Install the Vertical Bracket Assembly onto the vertical beam using the supplied Socket Head Screws. Use the same holes that previously held the Repeat Cutting Attachment. Refer to the photos for details.



Attaching the Vertical Scale:

4. Adjust the digital scale so the bottom hole is located approximately 1 inch from the bottom of the saw.
5. Using the hole in the scale as a guide, mark the drilling location.
6. Drill and tap the vertical beam for a 10-32 machine screw.
7. Secure the scale with a #10 bolt. Do not tighten this bolt yet.
8. Repeat steps 5-7 for mounting the upper end part of the digital scale.
9. Some washers or spacers may be needed between the scale and the machine - to prevent binding of the scale over the full range of the carriage's travel. HINT: To determine the correct spacer/washers to use, position the saw carriage close to each bolt hole.

Mounting the Digital Readout:

10. Determine a mounting location for the readout. It should allow for easy viewing and for safe placement of the cable. Using the hinge, the 4-40 screws, or the Velcro, mount the readout in a location that will protect the cable from damage.
11. Connect the cable from the encoder to the readout.

Final Installation Checklist:

1. Verify no part of the carriage or saw guard can touch or rub the vertical scale. Be sure to check all possible positions of the carriage.
2. Verify the scale does not bind at any point along carriage's travel. Adjust as needed.
3. Verify electrical connections and cables are secured and dressed to minimize the chance of interference or snagging.

Reading Direction:

1. Plug the encoder into the readout.
2. Move the carriage up and down. The display should read small numbers near the floor and large numbers toward the ceiling. If the readings are backwards, change the Direction of Travel (see the ProScale Operation Manual, Section 4, for more information).



Calibration of the Digital Readout:

1. Lock the carriage in place near the bottom fence. Verify the ABS indicator is displayed in the upper right corner of the LCD. (If the INC indicator appears instead, press and hold the ABS/INC key for 3-4 seconds.
2. Cut a small panel. Measure the cut dimension with the best measuring tool available (i.e. digital calipers). Record the measurement.
3. Press the DATUM key. This will set the displayed reading to zero.
4. Enter the recorded measurement into the readout, using the PLUS and MINUS keys. When pressing the PLUS and MINUS keys, the display will count slowly at first, and then speed up.
5. Lock the keypad. (This is done to prevent accidental changes to the calibration.)
 - a. Press and hold the ON/OFF key.
 - b. Tap the UNITS key (press and release in less than a second).
 - c. Release the ON/OFF key.
 - d. The keyboard is now locked. (**LOCK** will appear in the upper left corner of the display.)
The keyboard can be unlocked by repeating steps a-c.
6. The above calibration procedure should be done each time a blade is changed (to account for any kerf change), and when the batteries in the readout are changed.

Programming the Digital Readout for different fences:

The digital readout can be programmed to add “offsets” to the displayed value. This allows the digital readout to track the correct distance from each fence to the blade.

Programming:

1. Determine the number of fence positions that will be tracked (as many as 5 can be tracked). Subtract one from this total to determine the **number of offsets** that will be used. For instance, if the machine has three fences (bottom, mid-fence, upper fence), you will use two offsets.)
Access the programming menu in the digital readout (see Operation Manual, Section 4 for details).
Change the value for programming parameter **Pr30** to equal the **number of offsets** required.
2. The distance from the bottom fence to the mid-fence should be programmed into parameter Pr31.
3. The distance from the bottom fence to the upper-fence should be programmed into parameter Pr32.

Operation:

For this example, three fences are used.

Programming parameter Pr30 is programmed to 2 offsets.

Programming parameters Pr31, and Pr32 are programmed to 24 and 48 inches.

1. The operator is making a horizontal cut using the bottom fence. The display shows a dimension of 10.000 inches.
2. His next cut needs to be at the mid-fence. He presses the F1 key on the readout. The readout shows a number 1 (indicating the first offset has been added), and the reading changes to 34.000 inches.
3. His next cut is at the upper fence. He presses the F1 key again. The readout shows a number 2 (indicating the second offset has been added), and the reading changes to 58.000 inches.
4. His last cut is back at the bottom fence. He presses the F1 key again. The offset numbers disappear and the reading changes back to 10.000 inches.

Kerf compensation for repetitive cuts:

The digital readout can also be programmed to automatically compensate for the kerf when making repetitive cuts. This is done by programming the blade kerf into the ABS/INC key.

This feature is useful when one or more strips are to be cut to a desired dimension.

Programming:

1. Determine the blade kerf.
2. Lock the carriage in position.
3. Press and hold the ABS/INC key until the ABS indicator turns off, and the INC indicator turns on.
4. Enter the blade kerf using the PLUS key.
5. Press the ABS/INC key again (for one second or less). The blade kerf is now programmed.
6. Press and hold the ABS/INC key for 3-4 seconds to return to the absolute distance (from stop to blade).

Operation:

1. Load a panel into the machine.
2. Make a clean-up (squaring) cut if necessary.
3. Press and hold the ABS/INC key until the ABS indicator turns off, and the INC indicator turns on.
4. The readout will display the kerf value.
5. Unlock the carriage stop and adjust to the desired cutoff dimension. Notice that the digital readout first counts off the kerf amount, then counts up to the cutoff dimension. Lock the carriage in the desired position, and cut the panel.
6. Press the ABS/INC key (for one second or less) to reset the kerf value.
7. Repeat steps 5-6 as many times as needed.
8. Press and hold the ABS/INC key for 3-4 seconds to return to the absolute distance (from stop to blade).

For more information about the functions of the digital readout, see the ProScale Operation Manual.

Troubleshooting:

The display does not change when the carriage is moved:

- ❑ The encoder is not properly engaged by the guide clip, and is not moving. Check to be sure the encoder remains properly engaged.
- ❑ The digital readout has been programmed with a very small linear scaling factor. Reset the scaling factor to 1.00000.

The displayed measurement is off by 0.080 inches (2.03mm):

- ❑ There has been a very large static electricity discharge into the measuring system. Ensure the machine and its dust collection tubing is properly grounded. Recalibration is necessary.

The displayed measurement is off by a value other than 0.080 inches (2.03mm):

- ❑ Check that all bolts and fasteners are tight.
- ❑ Check that the saw blade has not been changed. If it has been changed (kerf changed), recalibration may be necessary.
- ❑ The plus, minus, or DATUM keys have been accidentally pressed. Recalibration is needed.
- ❑ The encoder is not properly engaged by the guide clip and is not moving. Check to be sure the encoder remains properly engaged.
- ❑ The digital readout has been programmed with an obscure linear scaling factor. Reset the scaling factor to 1.00000.
- ❑ There have been several very large static electricity discharges into the measuring system. Ensure the machine and its dust collection tubing are properly grounded. Recalibration may be necessary.

ProScale resets itself while saw is running and the carriage is locked:

- ❑ The readout has been accidentally reset. Large voltage spikes from nearby motors, inverters, or dust collection systems can cause this. Be sure that all devices are properly grounded.
- ❑ Be sure the DATUM key and ABS/INC key have not been pressed. Recalibration may be necessary.

ProScale resets itself while the saw is *not* running and the carriage is locked:

- ❑ Be sure the DATUM key and ABS/INC key have not been pressed. Recalibration may be necessary.

ProScale readout reads “**No Enc**”:

- ❑ The encoder has been removed from the scale, or its cable is damaged.
- ❑ The encoder is not connected to the readout.

The readout **displays a battery symbol**:

- ❑ The battery needs to be changed. ProScale uses one size 123 lithium cells (available at most hardware, grocery, and drug stores). To change the battery, unscrew the top cover (two screws) and remove old battery. Recalibrate the readout after replacing the batteries.