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

Please note this installation kit is designed solely for installation on Elcon DSX 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™ please contact Accurate Technology.

Warranty

Accurate Technology, Inc., warrants this product 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. (including freight or transportation charges during the first 30 days).

Except as expressly provided in this warranty, Accurate Technology, Inc., does not make any warranties with respect to the product, either expressed or implied, including implied warranties of merchantability or fitness for a particular purpose, except as expressly provided in this agreement.

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.

To request repair work (either warranty qualified parts or not), contact Accurate Technology, Inc. directly by phone, fax, or e-mail. A Returned Merchandise Authorization (RMA) number is required before returning a product for repair.

Tools Required

- ❑ Phillips screwdriver
- ❑ Adjustable wrench
- ❑ Marking pen
- ❑ Center punch
- ❑ Electric drill
- ❑ 3/16" drill bit
- ❑ SAE Hex wrench set
- ❑ 8-32 Drill & Tap Set (optional)

READ ALL INSTRUCTIONS BEFORE BEGINNING INSTALLATION!
Some of the parts for this installation kit may have been pre-assembled for your convenience by Accurate Technology.

Encoder (also called readhead)

Digital Readout

Readout Hinge

Digital Scale

Cable exit
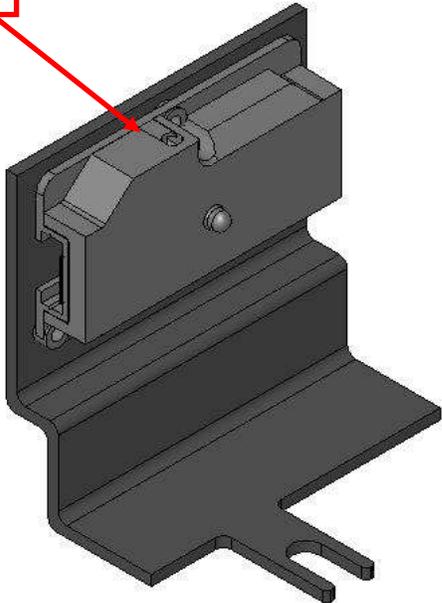
Bracket Assembly

Getting Started:

Be sure to keep the parts for the horizontal and vertical kits separate if you have purchased both. **Note that the horizontal kit measures horizontally (left to right) for vertical cuts.**

Installation:

1. Using the 6-32 x ½" screws and nuts, bolt the encoder to the adapter bracket as shown on the previous page. The cable should exit to the top as indicated.

2. Loosen the nut on the bottom of the sliding stop as indicated below.

Adapter Bracket

Use this nut to lock the bracket in place
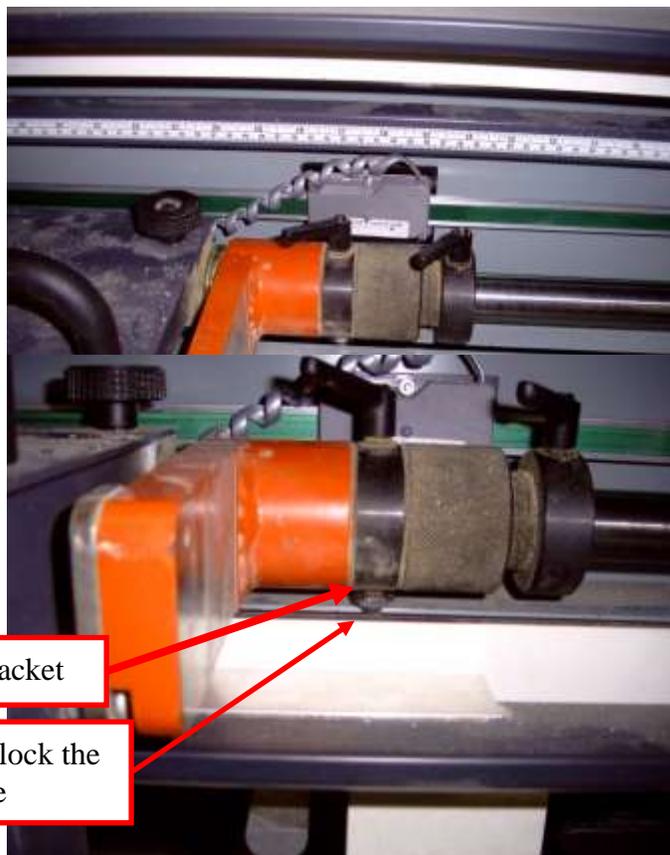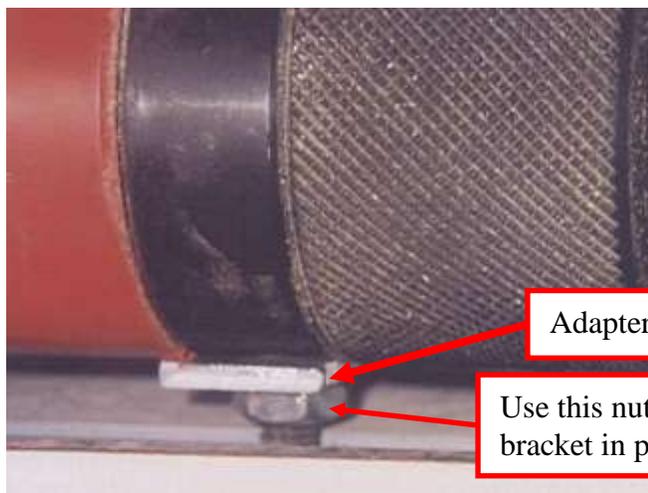
3. Slip the scale, encoder, and bracket assembly behind and above the round bar as shown in the pictures.

4. Hold the scale level with the round bar and mark the hole locations. The right end of the scale should line up with the steel plate as shown at right.

5. Drill out the marked locations using a 3/16" drill bit.
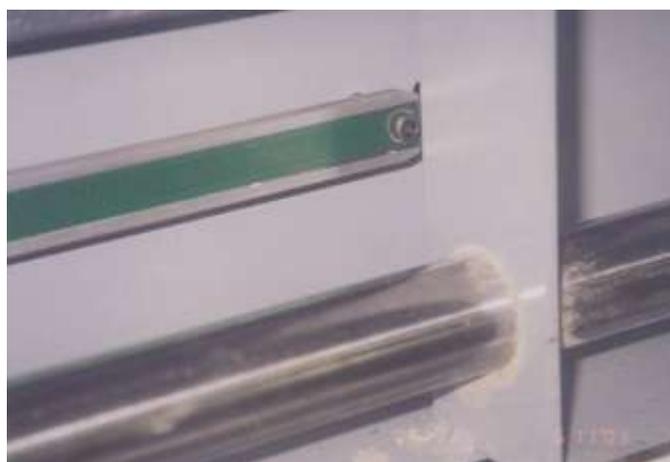
6. Insert #10-32 bolts through the scale and the newly drilled holes. Use the supplied nuts to secure the bolts. If the scale needs to be shimmed to prevent binding on the bracket assembly, use the supplied washers and/or spacers.

7. Tighten the nut of the bottom of the sliding stop to lock the bracket in place.

8. Determine a mounting location for the readout. It should allow for easy viewing by the machine operator. The readout can be mounted using the supplied Velcro, or with the readout hinge.

Final Installation Checks:

9. Verify there is no binding of the bracket assembly as it is moved from end to end, and adjust as needed.

10. Verify no part of the machine's stop can touch or rub the digital scale.

11. Verify electrical connections and cables are secured and dressed to minimize the chance of interference or snagging.

Reading Direction:

12. Plug the encoder into the readout.

13. Move the stop to the left and right. The display should read small numbers near the saw blade and large numbers away from the blade. 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 horizontal stop in place. Verify the ABS indicator is displayed in the upper left 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 using 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 repeated each time a saw blade is changed and when the batteries in the digital readout are changed.

Programming the Digital Readout for different cutting stations:

The digital readout can be programmed to add "station offsets" to the displayed value. This allows the digital readout to track the correct distance to the stop for each cutting station.

Programming:

1. Determine the number of station positions that will be tracked (as many as 5 stations can be tracked). Subtract one from this total to determine the **number of offsets** that will be used. (For instance, if the machine has four stations, you will use three 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 station 1 to station 2 should be programmed into parameter Pr31.
3. The distance from station 1 to station 3 should be programmed into parameter Pr32.
4. The distance from station 1 to station 4 should be programmed into parameter Pr33.
5. The distance from station 1 to station 5 should be programmed into parameter Pr34.

NOTE: The distance from station 1 to other stations may not be exactly 40 inches or exactly 1 meter. Only testing on your machine can determine the exact offsets that should be used to ensure the best accuracy.

Operation:

For this example, four stations are used.
Programming parameter Pr30 is programmed to 3 offsets.
Programming parameters Pr31, Pr32, and Pr33 are programmed to 40, 80, and 120 inches.

1. The operator is making a vertical cut at the leftmost station. The display shows a dimension of 10.000 inches.
2. His next cut needs to be at station #2. He moves the gantry one station to the right, and 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 50.000 inches.
3. His next cut is at station #3. He moves the gantry one station to the right, and presses the F1 key again. The readout shows a number 2 (indicating the second offset has been added), and the reading changes to 90.000 inches.
4. His next cut is at station #4. He moves the gantry one station to the right, and presses the F1 key again. The readout shows a number 3 (indicating the third offset has been added), and the reading changes to 130.000 inches.
5. His last cut is back at station #1. He moves the gantry back to the first station and 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 stop 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 and place it against the stop.
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 sliding 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 stop 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 battery clips seem loose when changing the batteries:
- ❑ DO NOT bend these clips. They are specially designed to compress and hold the batteries when the readout halves are screwed together. Avoid touching the clips as much as possible.

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 1.0000.

The displayed measurement is off by 0.060 inches (1.524mm):
- ❑ 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 0.060 inches (1.524mm):
- ❑ 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 1.0000.
- ❑ There have been several very large static electricity discharges into the measuring system. Ensure the machine and its dust collection tubing is 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.
- ❑ Also, extreme vibration may cause this. Mount the digital readout in a different location.
- ❑ 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 batteries need to be changed. ProScale uses two standard AA **alkaline** cells. To change the batteries, unscrew the top cover (two screws) and remove old batteries. Do not mix old and new batteries. Only install alkaline batteries. Recalibrate the readout after replacing the batteries.