

## SUPPORT AND WARRANTY

Congratulations on your purchase of an AVL E-LIFT™ II. Your new E-Lift II takes the work out of lifting your harnesses and is designed to provide years of dependable service. The E-Lift II is compatible with the A-Series, Production Dobby and Technical Dobby looms when equipped with a mechanical dobbie, Compu-Dobby® I, Compu-Dobby II, or Compu-Dobby III.

Your E-Lift II comes with a lifetime of phone and e-mail support and a standard AVL One-Year Warranty for the original owner. For a complete warranty statement, to have warranty service performed, or to get support, please contact AVL at 530 893-4915 or by e-mail to [info@avlusa.com](mailto:info@avlusa.com).

## INSTALLATION

### Package Contents:

- ◆ E-Lift II Motor-Controller Assembly (1)
- ◆ Mounting Blocks (2)
- ◆ Foot Switch and Attached Cord (1)
- ◆ Power Cord (1)
- ◆ Counterweight (1)
- ◆ Counterweight Cable (1)
- ◆ E-Lift II Cam-Pulley Assembly with Attached Cables (1)
- ◆ Cam-Pulley Axle Bushings
- ◆ Hardware Pack (1)

### Required Tools:

- ◆ 7/16" & 1/2" Wrench
- ◆ Socket Wrench
- ◆ 1/2" and 7/16" Socket
- ◆ 5/32" Allen Wrench
- ◆ Pliers

### Preparing the Loom for the E-Lift II

- 1) Remove the Left Treadle Cable from your loom. Disconnect the Right Treadle Cable from the Right Treadle. Lift the front of the loom to gain access to the mounting nuts (this is on the underside of the front crossmember) and remove your Left and Right Treadles. Disconnect the Turnbuckle-Dobby Slide Plate Cable from the Dobby Slide Plate (Compu-Dobby® III equipped looms) or the Right Treadle Cable from the Dobby Arm (Mechanical or Compu-Dobby I or II equipped looms).

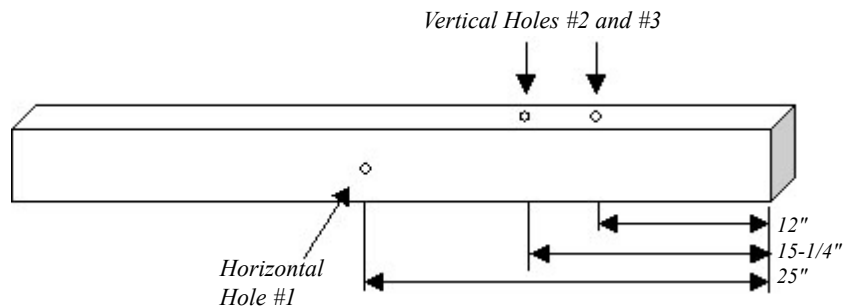
# UPGRADING TO AN E-LIFT™ II SYSTEM

**NOTE:** For Compu-Dobby III equipped looms, keep the quicklinks attached to the Dobby Slide Plate when removing the Left Treadle Cable and Turnbuckle-Dobby Slide Plate Cable. For mechanical or Compu-Dobby I or II equipped looms, retain the doobby arm cable retainers for use with the E-Lift II cables. Also, note the path and orientation of entry of the cables into the doobby arm.

- 2) Remove the four hex bolts holding the Treadle Pulley Support Crossmembers (#12) to your loom. Remove the Treadle Pulley Support Crossmembers from the loom and place on a suitable work surface.
- 3) Remove the Treadle Cable Axles from the Treadle Pulley Support Crossmembers. If your axles are fitted with black plastic caps, use pliers to distort and remove them. If your axles have stop collars at the ends, remove them with the allen wrench. Keep one Pulley, an Axle, and two Stop Collars. You'll use these when you install the new E-Lift II.
- 4) Check to see if your front and rear Treadle Pulley Support Crossmembers have the following mounting holes:

HOLE NO.	HOLE ORIENTATION	HOLE SIZE	DISTANCE FROM EDGE
1	Horizontal	33/64"	25"
2	Vertical	21/64"	12"
3	Vertical	21/64"	15-1/4"

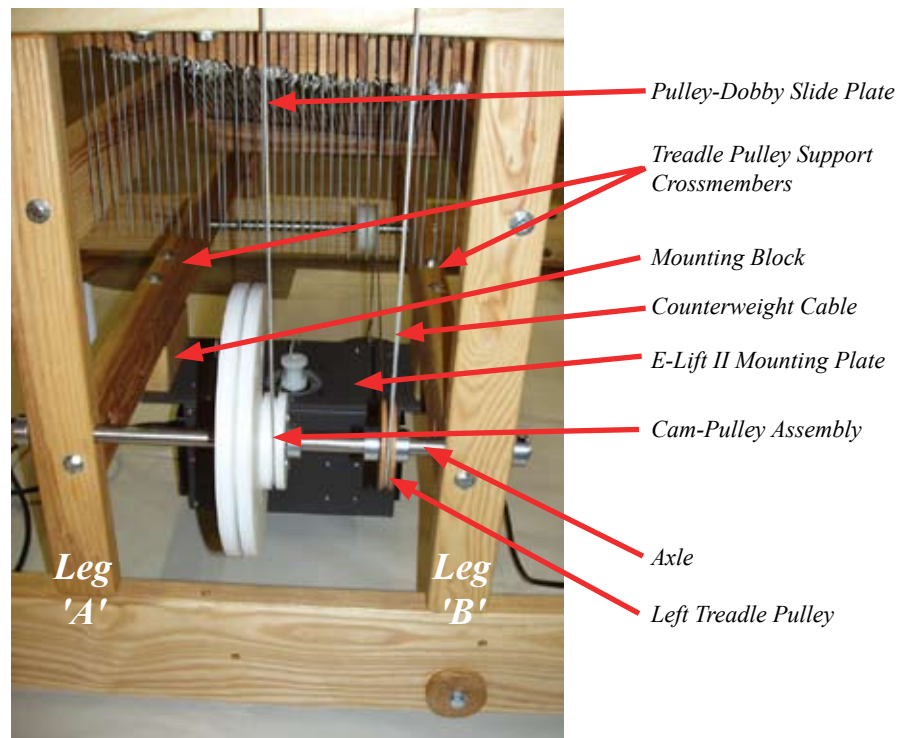
Location is measured from the right-side end of the Treadle Crossmember. Drill any holes that do not exist (see FIGURE #1).



**FIGURE #1: Treadle Pulley Support Crossmember Holes**

## Install the E-Lift II Motor-Controller Assembly

- 5) Here is where you re-use the Pulley, Axle, and two Stop Collars. Re-install them into Hole #1 of your Treadle Pulley Support Crossmembers. (NOTE: there are two new Stop Collars in your hardware pack in case you need them).
  - 6) Re-install the Treadle Pulley Support Crossmembers Assembly on the loom.
- 1) Position the E-Lift II under the Treadle Pulley Support Crossmembers to align the holes in the E-Lift II mounting plate with Holes #2 and #3. Ensure that the E-Lift II Power Switch faces to the rear of the loom and the Foot Switch connector faces the front of the loom.
  - 2) Use the wood Mounting Blocks, four 5/16" x 6" hex bolts, washers, and hex nuts to mount the E-Lift II to the underside of the Treadle Pulley Support Crossmembers. To do this: Place one bolt and flat washer in each of the #2 and #3 holes and let them hang with the exposed ends pointing to the floor. Thread a Mounting Block onto each set of bolts and then engage the bolts in the corresponding holes in the E-Lift II Mounting Plate. Apply the remaining washers and nuts and tighten. Check that the E-Lift II hangs securely below the Treadle Pulley Support Crossmembers.



**FIGURE #2: Right Side View**

## UPGRADING TO AN E-LIFT™ II SYSTEM

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### Install the Cam-Pulley Assembly and Cables

- 1) Loosen the stop collars located on the Cam-Pulley Axle on your loom. Withdraw the axle and remove the original Cam-Pulley Assembly, the Stop Collars, and the Left Treadle Pulley. You will re-use your old Cam-Pulley Axle, Stop Collars, and Left Treadle Pulley.

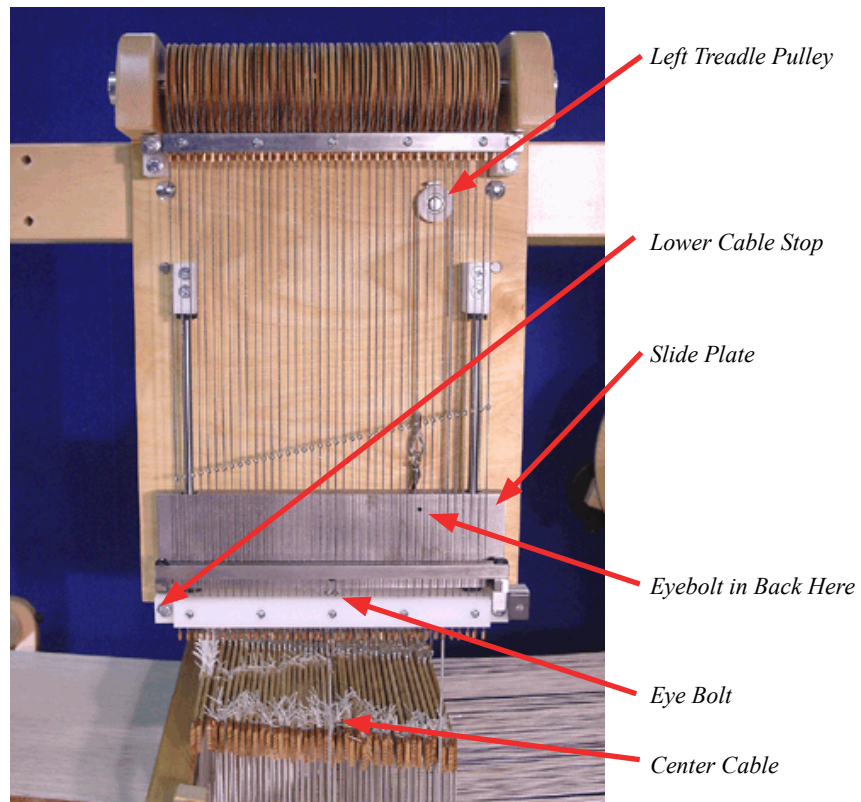
**NOTE:** Cam-Pulley axles have been different sizes (3/8", 1/2", 5/8") depending upon the year and make. The E-Lift II Cam-Pulley is designed to fit the 5/8" axle; however, your upgrade package includes different sized bushings to accommodate the 7/16" and 1/2" axles, should you need them. The bushings are slide fit and should be pre-assembled with your Cam-Pulley axle and the E-Lift II Cam-Pulley prior to assembling on the loom.

- 2) Replace the axle through Leg 'A' so the end extends a few inches into the middle space between Legs 'A&B'. As seen in FIGURE #2 and in this order, slide the following components onto the axle:

- a. Stop Collar
- b. Cam-Pulley
- c. Two Stop Collars
- d. Left Treadle Pulley
- e. Stop Collar

Then slide the axle through Leg 'B' and put a Stop Collar on the axle outside Legs A & B. Tighten the outside stop collars.

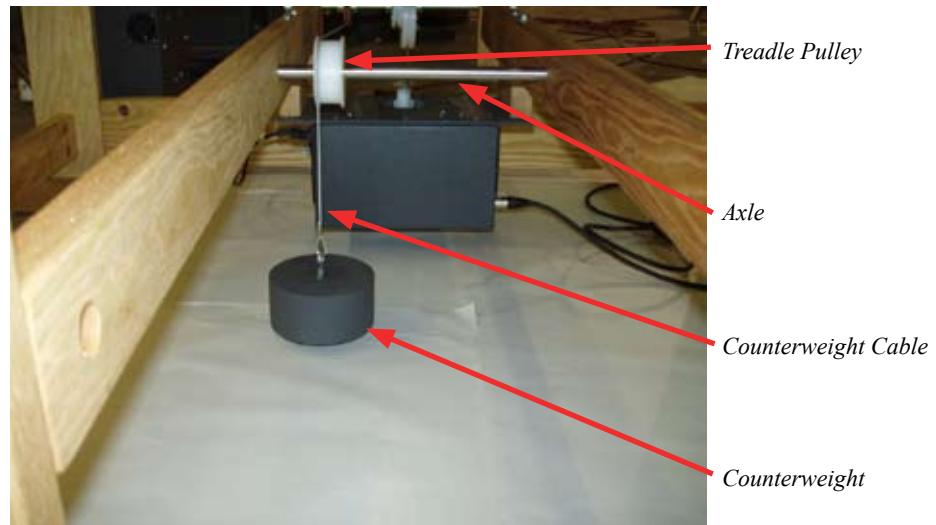
- 2) Route the Pulley-Dobby Slide Cable around and under the Pulley as seen in FIGURE #2, then up the backside to the Dobby Slide Plate (or Dobby Arm). If you have a Slide Plate, connect the quicklink at the cable end to the lower eyebolt on the plate. If you have a Dobby Arm, the cable end will have a small barrel fitting in place of the quicklink. Connect this as you would the Turnbuckle-Dobby Arm Cable. (see FIGURE #3.)



**FIGURE #3: VIEW OF DOBBY FROM RIGHT SIDE OF THE LOOM**

- 3) The cable should be vertical between the pulley and its attachment at the Slide Plate (or Dobby Arm) above. Adjust the Cam-Pulley Axle Stop Collars to position the Cam-Pulley to achieve this alignment. Tighten the stop collars.
- 4) For a Compu-Dobby III style dobbie, connect the quicklink in the upper eyebolt of the Dobby Slide Plate to the Counterweight Cable. Route the cable over the small white plastic pulley directly above the eyebolt, around and down the right side of the pulley, behind the slide plate, and out through the hole in the bottom of the Cable Stop. Guide the cable around the Left Treadle Pulley on the Cam-Pulley axle, then to the center of the loom, and finally over and down the far side of the Treadle Pulley. Connect it to the Counterweight.

If you have a mechanical or Compu-Dobby I or II style dobbie, attach the Counterweight Cable to the Dobby Arm as you would with the Left Treadle Cable, which you removed earlier (see FIGURE #4). Guide the cable around the Left Treadle Pulley on the Cam-Pulley axle, then to the center of the loom, and finally over and down the far side of the Treadle Pulley. Tie it to the Counterweight, at the red line marked on the cord. The weight should hang about an inch off the floor.



**FIGURE #4: Left Side View**

- 5) Here again the Counterweight Cable should run vertically from the Dobby Slide Plate or Dobby Arm to the pulley, then 90° to the Left Treadle Pulley (parallel to the crossmembers). Adjust the pulleys to achieve this alignment and tighten the stop collars.
- 6) Untape the Pulley Cable, which is wound round the Cam (nautilus-shaped white plastic piece). Conduct the cable around the bottom lobe of the nautilus, up and over the "horn", then to the black spindle on top of the motor. Bring the cord around the left (or front) side of the spindle. Insert its end into the hole you see at the top (or base) of the spindle and tie a knot at the red line marked on the cord (see FIGURE #4A). Starting from the top of the spindle, wind the cord **clockwise** until you've taken up all the slack. Do not overlap windings.



**FIGURE #4A: Knotted Cord (detail)**

### OPERATION

- 7) Connect the Foot Switch cord to the front of the E-Lift II. Connect the female end of the Power Cord at the back of the housing (be sure it's completely inserted). Turn off the E-Lift II Power Switch. Plug the male end of the power cord into a surge-protected power strip, preferably the same one as used for your Compu-Dobby as this will allow you to turn on the loom more easily.

This completes your installation. You now need to make one adjustment, setting the home position, and you will be ready to weave.

The E-Lift II replicates the action of treading. When you activate the Foot Switch, the motor turns and selected harnesses rise or fall. The motion is smooth, quick, and precise and does not jar the harnesses.

Before you use the E-Lift II, you must set the “home” or neutral position:

- 1) Turn off the E-Lift II Power Switch. Unwind the E-Lift II pulley to allow the Dobby Slide Plate (or Arm) to move to its upper most position.
- 2) Rewind the E-Lift II pulley, bringing the Dobby Arm or Dobby Slide Plate to a stop approximately ¼” above the ball on the rear most Dobby Cable (or cylindrical crimp if you have Dobby Wires). If you have a 16 harness Production Dobby Loom, this would be the Dobby Cable for harness 16. Turn on the E-Lift II Power Switch.

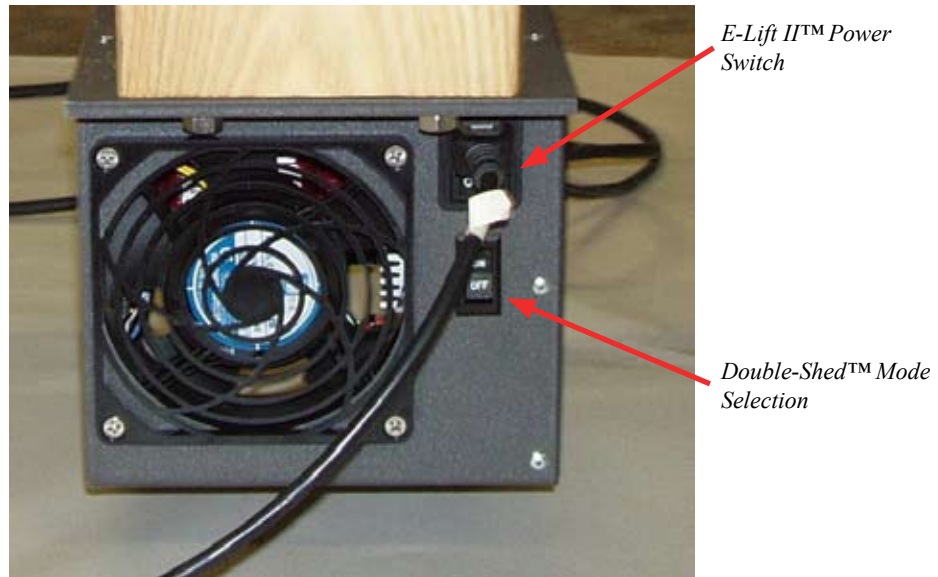
You have now set your home position and may weave!

## UPGRADING TO AN E-LIFT™ II SYSTEM

### MODE SELECTION

The E-Lift II is programmed with two modes: double or single shed selection.

The Double-Shed™ mode completes every lifting cycle with the shed open. For example, assume you've just completed a shot and the shed is still open. You depress the foot switch and the shed closes, the dobbie advances to the next pick, and the shed opens — all as a single continuous movement. You'll very quickly develop a rhythm and will find there's ample time to beat while the shed is transitioning between Open-Close-Open. To use the Double-Shed mode, find the selector switch located at the rear of the E-Lift II and set it to the "On" position. (see FIGURE #5).



**FIGURE #5: Selecting E-Lift II Mode**

In single shed mode, you activate the foot switch once to open the shed; and again to close the shed. In other words, you achieve one action per activation. If you wish to use the single shed mode, ensure that the Double-Shed mode selector switch in the "off" position.



### MAINTENANCE AND REPLACEMENTS

#### Required Maintenance

- ◆ You'll need occasionally to clean the air filter, which is located on the front of the E-Lift II housing. To clean, unsnap and remove the plastic baffle. Remove the foam element and carefully wash it in warm soapy water. Be sure the element is completely dry before you replace it.

#### Suggested Maintenance

- ◆ The E-Lift II Pulley-Cam, Pulley to Slide Plate and Counterweight Cables may stretch with extensive use. If after setting your home position, you find that the Counterweight is hitting the floor with the shed open, this is likely the cause. To adjust, simply push the cable through the Cam-Pulley and re-tie the knot to a shorter length. For the Counterweight Cable, tie a knot in the cable at a location where it won't run over a pulley in normal operation.
- ◆ Inspect the cables for wear, especially where they move over a pulley. Do this monthly if you weave regularly.
- ◆ Check the supporting hardware and re-tighten if loose.

Your E-Lift II is designed to provide years of dependable service. When replacement parts, such as the air filter or cables are needed, AVL is your source. AVL can also rebuild your E-Lift II when it reaches the end of its wear cycle. Please contact us at 530-893-4915 or [info@avlusa.com](mailto:info@avlusa.com) to place your order or to arrange service.