E-LIFT II UPGRADE INSTALLATION TO SDL

SUPPORT AND WARRANTY

Congratulations on your purchase of an **AVL E-Lift II™**, for your **Studio Dobby Loom**. Your new E-Lift II takes the work out of lifting your harnesses and is designed to provide years of dependable service.

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.

INSTALLATION

Package Contents: Note: If, upon your inspection of the contents of your package, all pieces listed here are not represented, please contact AVL Looms immediately, prior to installation. See Figure 2 for help with identification of these components and hardware.

✔	Quantity	Description
	1	E-Lift II Motor/ Pulley Box – Fig. 1a, 1b
	1	Spring Lever Assembly
	1	Spring Lever Stand-off Bushing
	1	1/2"OD x 5/16"ID x 3/8" L Bushing
	1	# 8350 Spring
	2	SDL E-Lift II Mount Block
	1	Cam/Cylinder Assembly
	1	Cord, Motor Pulley to Cam
	1	Cord, Dobby Arm to Spring Lever
	4	1/2" Stop Collar
	1	1/4-20 x 2-5/8" Eye Bolt
	1	1/4-20 Hex Nut
	1	1/4-20 Nylock Nut
	2	1/4 Flat Washers
	4	5/16-18 x 2 3/4" Hex Bolt
	1	5/16-18 x 3-1/2" Hex Bolt
	5	5/16-18 Nylock Nut
	12	5/16 Flat Washer
	4	5/16-18 x 2 Hex Bolt
	4	5/16-18 Square Nut
	4	5/16 Split Lock Washer
	1	Foot Switch and Attached Cord
	1	Power Cord

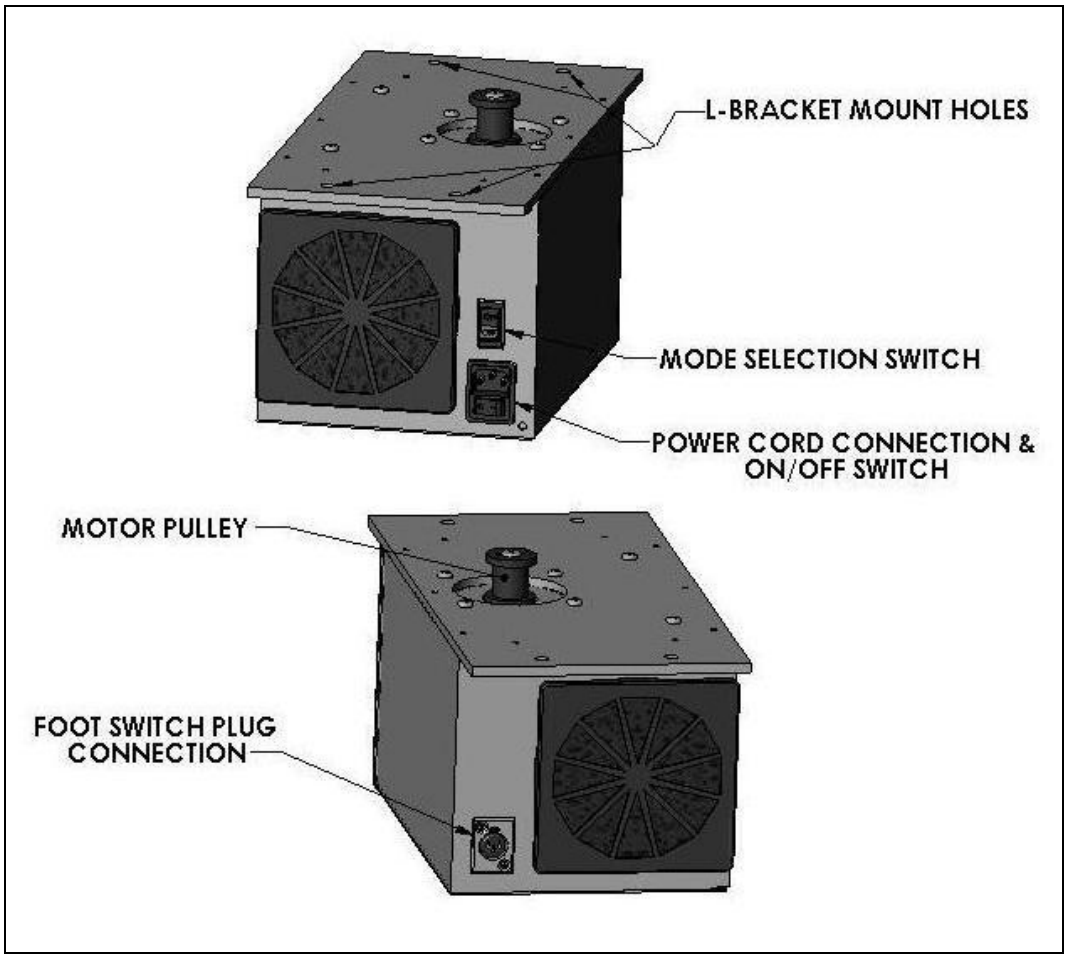

Figure 1 – E-Lift II Motor Box

Required Tools
7/16" and 1/2" Wrench or
Socket Wrench with 7/16" and 1/2" Sockets
5/32" Allen Wrench
Pliers
Drill with 21/64" Bit
Tape Measure
Masking or other type of Tape
Pencil

ORIENTATION**: All directional references are relative the Weaver's position for loom operation. This is the Front of the Loom.

PREPARING THE LOOM FOR THE E-LIFT II

1) **Remove the Treadle Assemblies** - Disconnect the Left Treadle Cable and remove it from the Dobby Arm (Keep the black retainer collar for this installation). Disconnect the

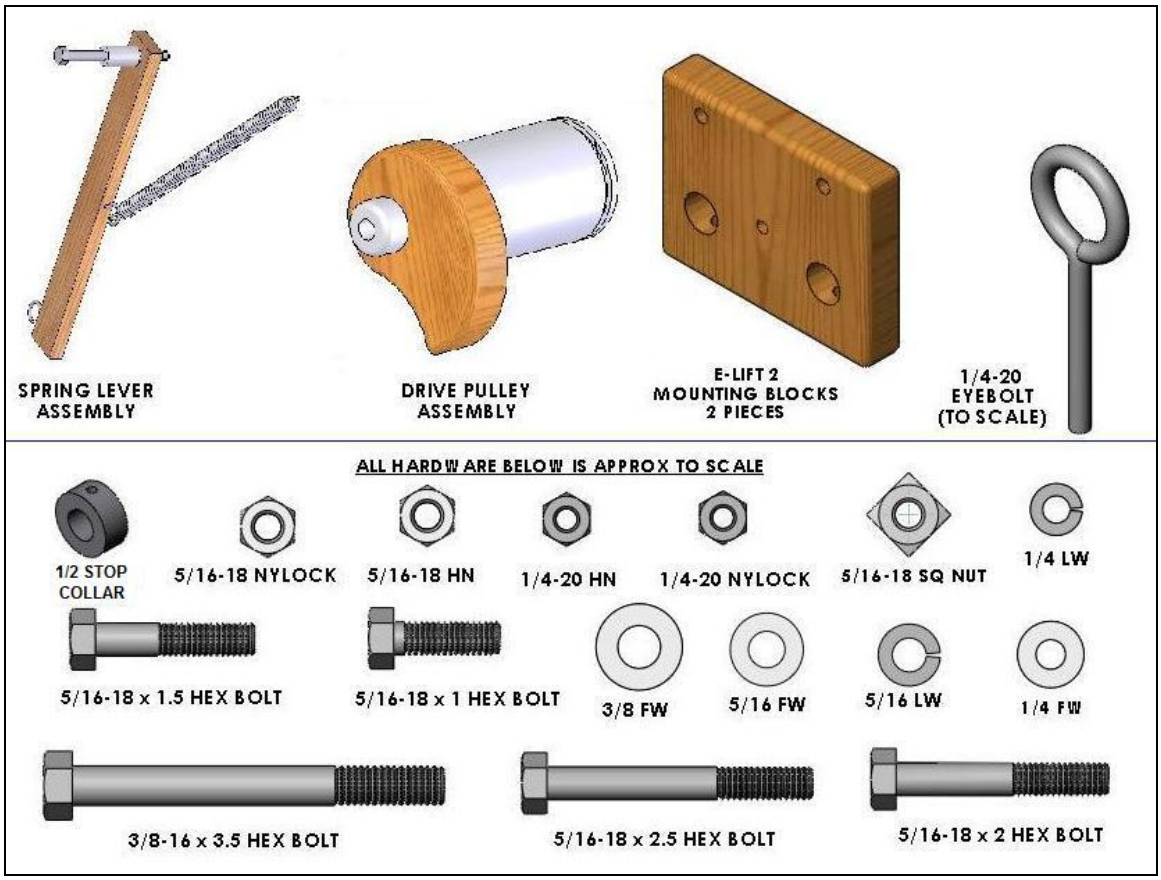

Figure 2 – Assembly Components and Hardware Identification

Right Treadle/Cam Cable from the Treadle, but do not disconnect the Cylinder Cable from the Dobby Arm. Remove your Left and Right Treadle Assembly.

2) Remove the Treadle Cable Axle 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.

3) Drill Instructions/Hole Orientation (see Figure 3)
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 RIGHT** EDGE
1	Horizontal	21/64"	9-7/8“
2	Horizontal	21/64"	15-3/4"
3	Horizontal	21/64"	19"

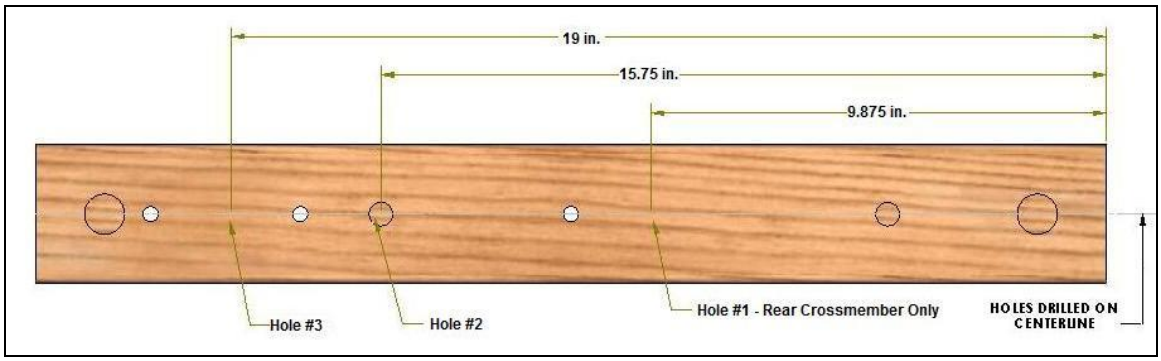

Figure 3 – Placement of Drilled Holes

If the three (3) holes are not already present, they will need to be drilled at this time. You may wish to remove the Crossmembers in order to complete this task. If so, you can remove the two (2) hex bolts holding each of the Treadle Pulley Support Crossmembers to your loom. Be sure to mark the left and right sides and the inside and outside face of both Crossmembers with tape and pencil prior to removing them and place on a suitable work surface.

Locations for the three (3) holes are measured from the right-side end of the Treadle Crossmember. Drill any holes that are not already in place (see Figure #3).

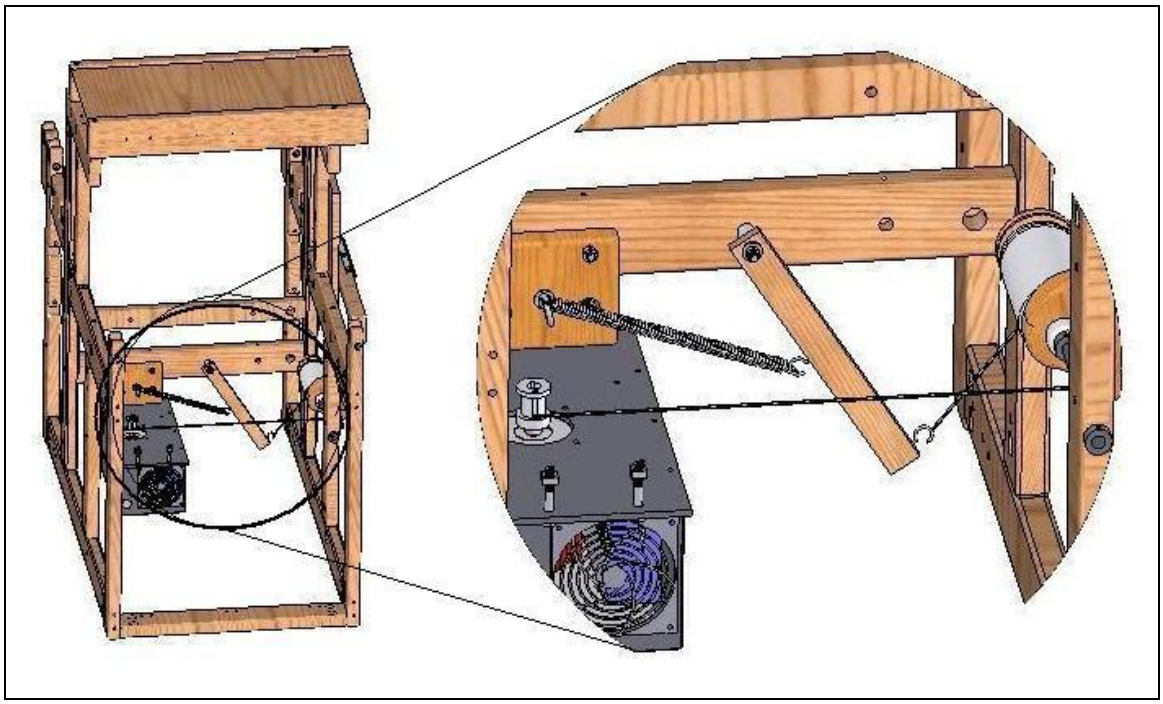
Figure 4 – Mounted Spring Lever Assembly

4) Mount the Spring Lever Assembly – (see Figure 4) Into Hole #1, insert one (1) 5/16–18 x 3-1/2" Hex Bolt with one (1) 5/16 Washer, from the outside of the rear

Crossmember and mount the Spring Lever Assembly onto it, on the inside of the Crossmember as follows:

1	5/16	Washer
1		Spring Lever Stand-off Bushing
1	5/16	Washer
1		Spring Lever Assembly (bushing taped to Spring Lever; install with eyehook at the tip facing to the right side of the loom)
1	5/16	Washer
1	5/16–18	Nylock

5) Re-install the Treadle Pulley Support Crossmembers to the loom. Take care to place them in the same positions as they were previously installed.

6) Install Mounting Blocks – (see Figure 5) Mount the two Blocks onto the top of the E-Lift Motor Box. Run one (1) 5/16-18 x 2" Hex Bolt, with one (1) 5/16 Split Lock Washer, up through the flange on the top ends of the Box, into the pre-drilled holes located at the narrow, bottom end of each Block. Tighten by holding one (1) 5/16 Square Nut in place, with the flat side down, through the lateral hole provided for access. Note: the angular corners of the Square Nut will need to bind down, into the wood.

4	5/16-18 x 2"	Hex Bolts
4	5/16	Split Lock Washers
4	5/16	Square Nuts

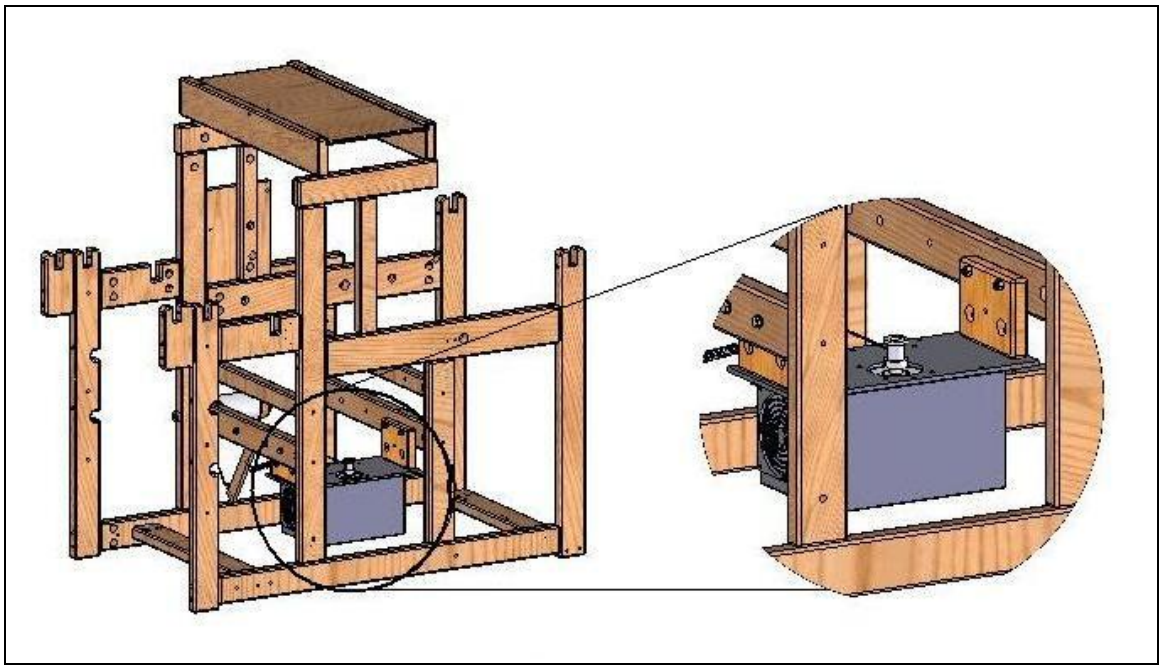

Figure 5 – Motor Box Installed

INSTALLING THE E-LIFT II

1) Install the E-Lift II Motor Box - (see Figure 5) Position the Box underneath and between the two Crossmembers. Insert the four (4) 5/16-18 x 2-3/4" Hex Bolts, with washers, from the outside, into the previously drilled Holes #2 and #3, just far enough to keep them from falling out, while not protruding into the central area. Position the Box in the space between the Crossmembers, so that the Plug Connection for the Pedal faces to the Front and the Motor Box Pulley is closest to the Left Side of the loom. Lift the Box into place and push the Mounting Block Bolts all the way through the Blocks and tighten in place with one (1) 5/16 Washer and one (1) 5/16 Nylock on each Bolt.

4	5/16-18 x 2-3/4"	Hex Bolts
8	5/16	Washers
4	5/16	Nylock

2) Mount the Spring Assembly – (see Figure 4) On the inside of the loom, into the hole located in the mid-section of the rear Mounting Block, insert the 1/4-20 x 2-5/8 Eye Bolt, with one (1) 1/4-20 Hex Nut and one (1) 1/4" Washer. Secure it, on the outside of the Mounting Block, with one (1) 1/4" Washer and one (1) 1/4" Nylock. Stretch the #8350 Spring from the Eye Bolt to the Eye Hook centered on the facing side of the Spring Lever.

1	1/4-20 x 2-5/8	Eye Bolt
1	1/4-20	Hex Nut
2	1/4"	Washers
1	1/4"	Nylock
1	8350	Spring

3) Remove the Original Cam-Pulley Assembly – Loosen the right-hand stop collar located on the Cam-Pulley Axle on your loom. Pulling to your left, withdraw the axle and remove the Cam-Pulley Assembly and Left Treadle Pulley.

Disconnect the Dobby Arm/Cylinder Cable from the Cylinder, leaving it attached to the Dobby Arm. Use a sley hook to reach into the side hole and pull out the retainer, allowing the Cable to slip free of the Cylinder.

4) Replace Cam-Pulley Axle – (see Figure 6) Attach the Dobby Arm Cable to the new Cylinder, using the retainer to hold the Nico tip in place on the new Cylinder. Starting from your left, insert the Axle through Leg "A" so the end extends a few inches into the middle space between Legs "A" and "B". As seen in Figure 4 and in this order, slide the following components onto the Axle:

a.	1	1/2" Stop Collar
b.	1	Cam/Cylinder Assembly
c.	2	1/2" Stop Collars
d.	1	Left Treadle Pulley
e.	1	1/2" Stop Collar

Then slide the Axle through Leg “B” and replace the right-hand Stop Collars on the end of the Axle.

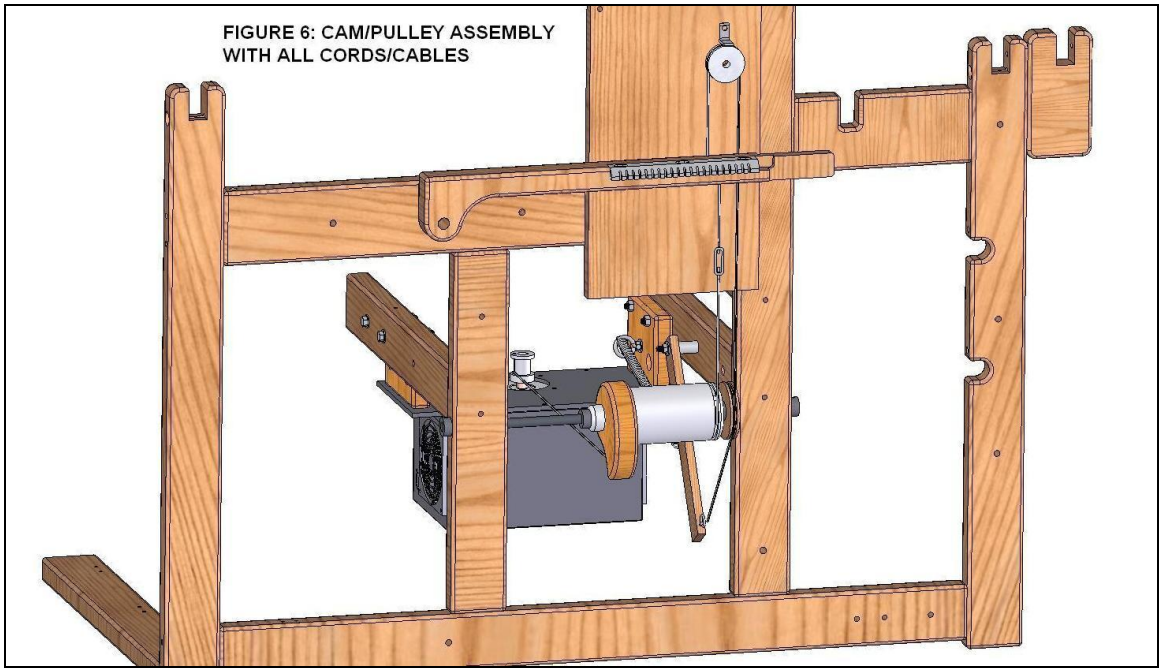

Figure 6 – Cables installed

5) Installing the Cords (see Figure 6)

5a) <u>The Spring Lever Cord</u> – In order to install this Cord, it will be necessary to remove the Compu-Dobby from the loom. Follow steps 1–8 below before proceeding with the installation of the Cord. Please refer to your Compu-Dobby Manual for further information, as well as for reinstallation, and adjustment.

1. Turn off the Compu-Dobby.

2. Unplug the Sensor Box from the Compu-Dobby or detach it from the Mount Box, in order to be able to extract the Compu-Dobby completely from the Mount Box.

3. Using pliers, loosen the nuts that hold tension on the Set Screws centered in the retainer plates.

4. Using an allen-wrench, back out the Set Screws to release the tension on the Springs. It is not necessary to remove these screws or their nuts completely from the Retainer Plates.

5. Using a phillips screwdriver remove the two (2) screws that hold each Plate in place. Be aware that there is a small spring behind each Set Screw which will gently push the box out as the Retainer Plates are removed.

6. Lift the Box free of the Mount and set it aside. Be sure to catch the two springs held in place between the Pillow Blocks and the back of the Mounting Box. They are only held in place by the positioning of the Compu-Dobby Box and will probably fall free when it is removed.

7. Lift a few of the hanging Dobby Fingers now exposed and you will have clear access to the Pulley and Retainer mounted in the upper right corner of the Mounting Box.

8. When the Spring Lever Cord is in place, refer to Pages 5 and 10 of your Compu-Dobby Manual for re-installation, and Page 21 for Adjustment procedure.

Installation of the Spring Lever Cord (continued) - Note the opening in the Dobby Arm through which the Left Treadle Cable is attached. Remove the old Cable from the Dobby Arm.

From the top side of the Dobby Arm, insert the new Cord through the hole in the Dobby Arm, previously used by the Left Treadle Cable. Tie an overhand knot at this open end of the cord. Route the Cord over the top of the Dobby Box Pulley, from left to right, and under the cable retainer. Guide the Cord behind the Dobby Bar, down the outside of the loom, and around the bottom of the Lever Pulley (formerly the Left Treadle Pulley). Connect the looped end of the cable to the Spring Lever, using the Eyehook located at the tip of the Lever.

Check to see that the Cord is running in a direct line from the right side of the Dobby Box pulley straight down to the Lever Pulley and on over to the Lever. Loosen the stop collars to either side of the Pulley and adjust the position as needed.

5b) The Cam-Motor Pulley Cord – Check to be sure the Dobby Arm is in the Up Position before proceeding. Unwrap the Cord from the nautilus-shaped, wooden Cam. Guide the Cord down and around the bottom lobe of the Cam, under the horn-shaped end, over to the black Pulley located on top of the Motor Box. Bring the cord around the left, front side of the Motor Pulley. Insert its end into the hole you see at the base of the Pulley and tie a simple overhand knot at the end of the cord. (Note: do not use the hole located at the top of the Pulley). Turn the Pulley clockwise, while starting at the bottom, winding on and taking up all of the slack. Do not allow the winding to overlap.

The Cord and Cable on the Cam/Cylinder Assembly need to align directly with their respective anchor points. The Dobby Arm Cable must run vertically from the Dobby Arm to the Cylinder and the Cam/Motor Pulley Cord needs to run in a direct line from the Cam to the Motor Pulley on the top of the E-Lift II Motor Box. In order to accomplish this, with the respective stop collars loosened, slide the Cam and Pulley into place along the Axle and tighten the Stop Collars.

6) **Connect the Foot Switch Cord and the Power Cord** – (See Figure #1a, 1b) 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 is completely, firmly inserted). Turn off the E-Lift Power Switch. Plug the male end of the Power Cord into a surge-protected power strip or directly into a wall plug.

ADJUSTING TO THE "HOME" POSITION

The E-Lift II replicates the action of treadling. 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.

In order for the E-Lift to function properly, your last step is to set the "home" or neutral position.

1) Turn off the E-Lift II power switch. Unwind the E-Lift II Motor Pulley Cord to allow the Dobby Arm to move to its uppermost position.

2) Rewind the E-Lift II Motor Pulley, bringing the Dobby Arm to a stop approximately 1/4" above the ball on the rear most Dobby Cable.

SELECTION OF WEAVING MODE (see Figure 1)

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

The Double Shed Mode, with one pedal action on your part, will complete every lifting cycle, beginning and ending with the open shed. For example, assume you have just completed a shot and the shed is still open. You depress the foot switch and the shed closes, the dobby advances to the next pick, and the shed opens – all as a single, continuous movement. You will very quickly develop a rhythm and will find there is ample time to beat while the shed is transitioning the Open-Close-Open Cycle. To use the Double-Shed mode, find the selector switch located at the rear of the E-Lift and set it to the "ON" position.

The Single Shed Mode will require two pedal actions, on your part, to complete the cycle: once to open the shed, and once to close the shed. If you wish to use the single shed mode, ensure that the Double-Shed Mode Selector Switch is in the "OFF" position.

CONGRATULATIONS!
Turn on the E-Lift Power Switch. You are ready to weave!

MAINTENANCE AND REPLACEMENTS

1) Regularly Required Maintenance
You will need occasionally to clean the air filters, which are located on the front and back of the E-Lift II housing. To clean, unsnap and remove the plastic baffle/covers. Remove the foam elements and carefully wash them in warm soapy water. Be sure the elements are completely dry before you replace them.

2) Suggested Monthly Maintenance
a) Inspect the cables for wear, especially where they move over a pulley. Do this on a monthly basis if you weave regularly.

b) 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 to place your order, arrange service or answer any questions you may have regarding this product.

Lg – 5/30/08