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## **E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**

### **SUPPORT AND WARRANTY**

Congratulations on your purchase of an **AVL E-Lift II™** for your **Folding Dobby Loom**. Your new E-Lift II takes the work out of lifting your harnesses and is designed to provide you with 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](mailto:info@avlusa.com).

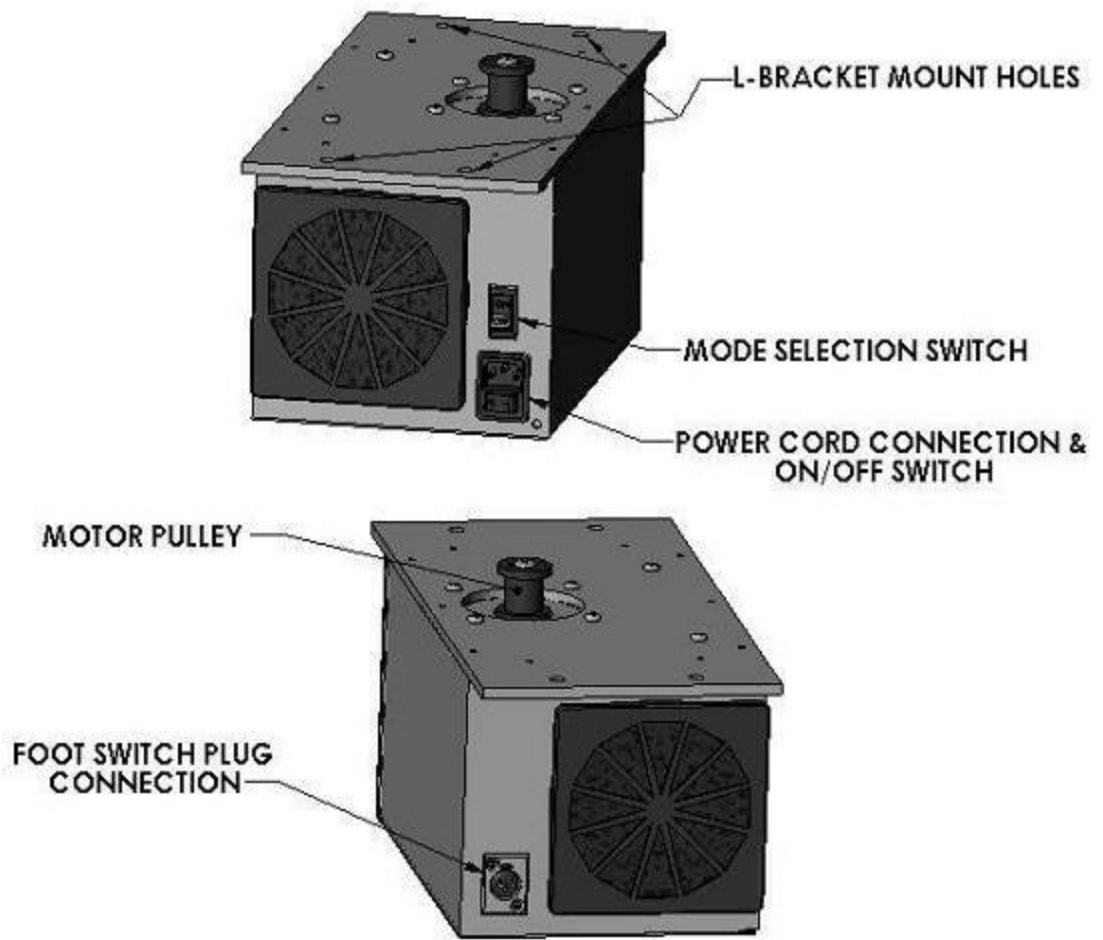
### **INSTALLATION**

**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.)

## E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II

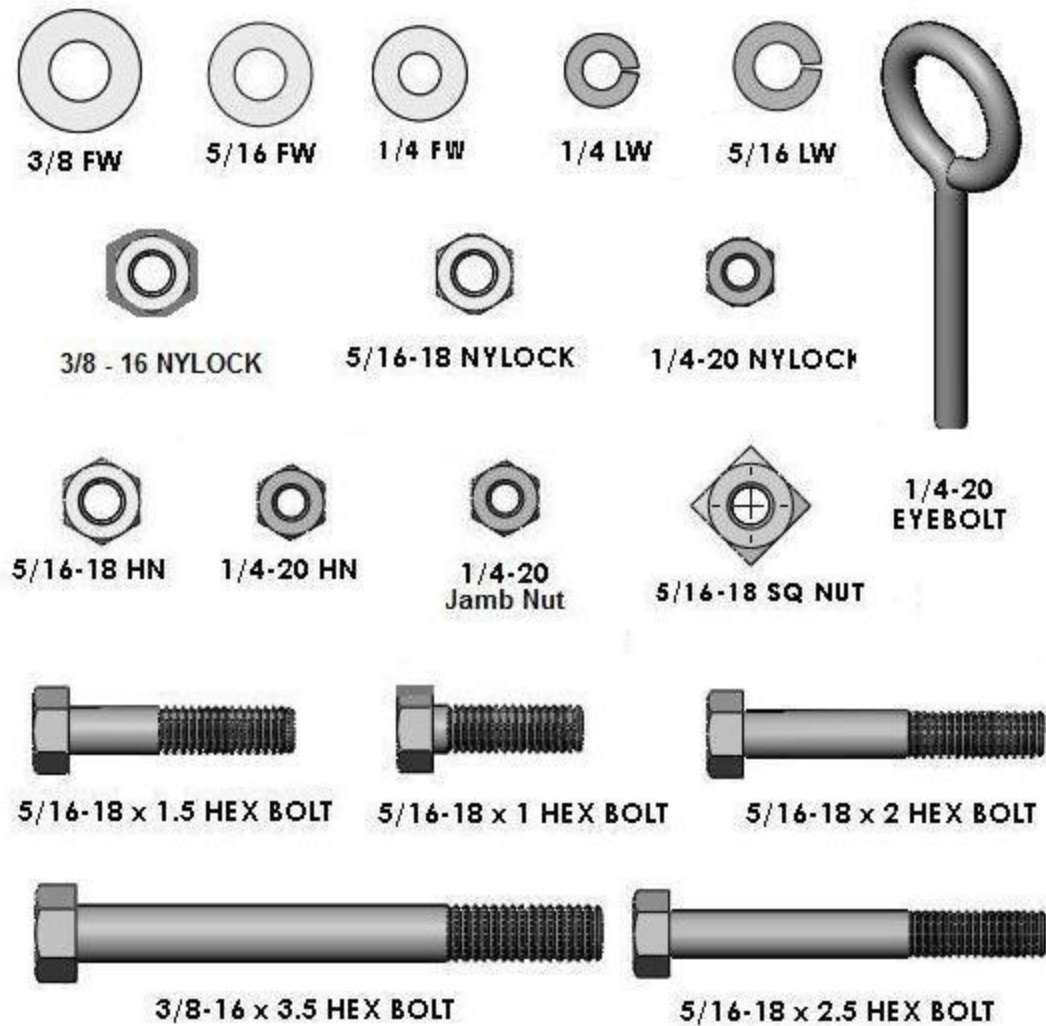
✓	Quantity	Description
	1	E-Lift II Motor/Driver Assembly
	4	E-Lift II Motor/Driver Mount Brackets
	1	6" Drive Pulley/Cylinder Assembly
	1	Drive Pulley/E-Lift II Cord (on assembly)
	1	Spring Lever Assembly (screweyes, bushing installed)
	1	Dobby Arm/Spring Lever Cord
	1	4" Guide Pulley (bushing installed)
	1	Spacer for 4" Guide Pulley
	1	3/8-16 x 3-1/2" Hex Bolt
	4	3/8" Flat Washer
	1	3/8-16 Nylock Nut
	1	1/4-20 x 1-3/4" Eye Bolt
	2	1/4-20 Jamb Nut
	2	1/4" Flat Washer
	1	1/4" Split Lock Washer
	1	#8370 Spring
	4	5/16-18 x 1" Hex Bolt
	4	5/16-18 x 2" Hex Bolt
	1	5/16-18 x 2-1/2" Hex Bolt
	19	5/16" Flat Washer
	8	5/16" Split Lock Washer
	5	5/16-18 Nylock Nut
	4	5/16-18 Hex Nut
	1	Foot Switch and Attached Cord
	1	Power Cord

**E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**



***Figure 1a - Motor Box – Front and Rear Views***

## E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II



**Figure 1b – Hardware Components**

### **REQUIRED TOOLS**

9/16” and 1/2” Wrench or  
Socket Wrench with 9/16” and 1/2” Sockets  
5/32” Allen Wrench  
Pliers  
Drill with 11/32” and 9/32” Bits  
Tape Measure  
Masking or other type of Tape  
Pencil

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## E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II

### **ORIENTATION\*\***

All directional references are relative the Weaver's position for loom operation, at 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/Box (keep the black retainer collar for this installation). Disconnect the Right Treadle Cable. Remove the Left and Right Treadle Assembly.

You may need to tip the front of the loom up to access the bolts that hold the Treadle Assembly in place; or you may wish to simply remove the Lower Front Crossmember by removing the retainer bolts that hold it in place. Once the Treadle Assembly is removed, replace the Crossmember.

- 2) **Remove the Right Treadle Cable Axle and Left Treadle Pulley** from the Treadle Pulley Support Crossmembers. If your Axle is installed with black plastic caps, use pliers to distort and remove them. If your Axle has stop collars at the ends, remove them with the Allen Wrench.

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## **E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**

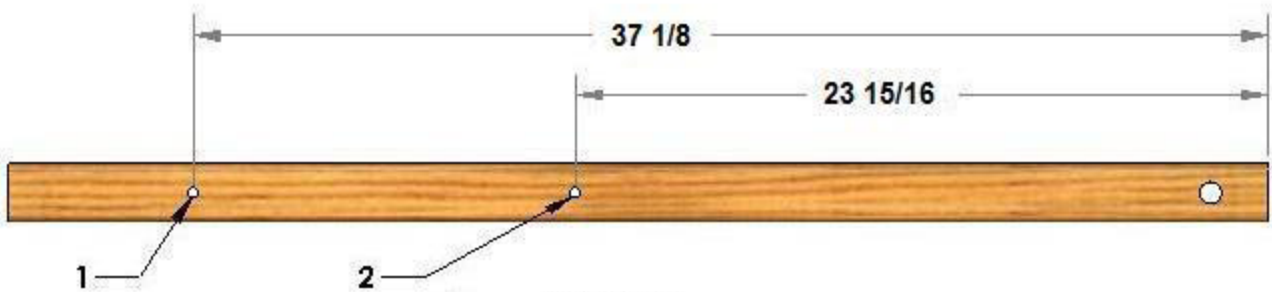
- 3) **Drill Instructions/Hole Orientation.** Check to see if your Front and Rear Treadle Pulley Support Crossmembers have the following mounting holes:

<b>Hole #</b>	<b>Crossmember Placement</b>	<b>Hole Size</b>	<b>Distance from Right** Edge</b>	<b>Purpose</b>
1	Front	11/32"	37-1/8"	Motor Box
2	Front	11/32"	23-15/16"	Motor Box
3	Rear	9/32"	41"	Spring Assembly
4	Rear	11/32"	37-1/8"	Motor Box
5	Rear	11/32"	31"	Spring Lever Assembly
6	Rear	11/32"	23-15/16"	Motor Box

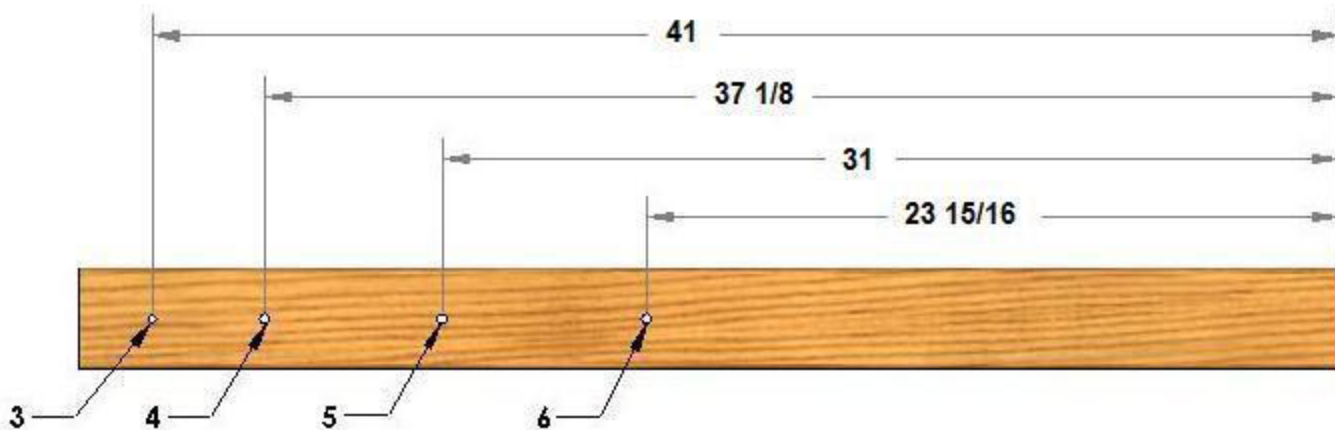
If the six (6) holes are not already present, they will need to be drilled at this time. You may wish to pull the Crossmembers in order to complete this task. If so, you can remove the hex bolts holding each of the Treadle Pulley Support Crossmembers to your loom. *Be sure to mark the left and right sides and the inside and outside face of both Crossmembers with tape and pencil prior to removing them.* Place on a suitable work surface.

## E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II

Locations of the holes (as shown in Figure 2) are measured from the right-side end of the Treadle Crossmembers. Drill any holes that are not already in place.



**FIGURE 2A  
(CROSSMEMBER, FRONT)**



**FIGURE 2B  
(CROSSMEMBER, REAR)**

***Figure 2 - Placement of Drilled Holes in Crossmembers***

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## **E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**

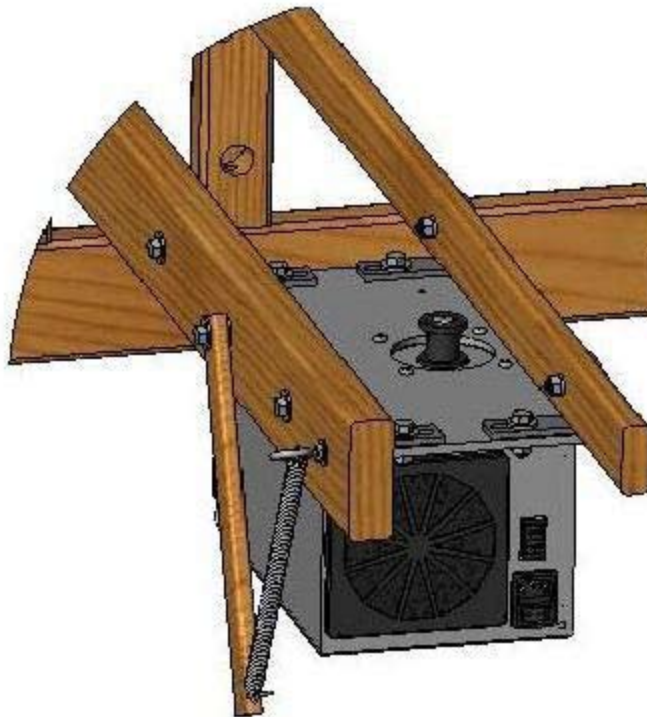
4) **Mount the Spring Lever Assembly** (see Figure 3). Load one (1) 5/16-18 x 2-1/2" Hex Bolt with one (1) 5/16" Washer, the Spring Lever (with factory inserted bushing), and (1) 5/16" Washer. From outside of the Rear Crossmember, insert this Assembly into Hole #2. Secure the bolt on the inside face of the Rear Crossmember with (1) 5/16" Washer and (1) 5/16-18 Nylock.

- 1 - 5/16" – 18 x 2 1/2<sup>3/4</sup>" Hex Bolt
- 1 - 5/16" Flat Washer
- 1 - Spring Lever Assembly (bushing taped to Spring Lever; install with eyehook at the tip facing to the left side of the loom)
- 1 - 5/16" Flat Washer
- 1 - Rear Crossmember – Hole #7
- 1 - 5/16" Flat Washer
- 1 - 5/16" – 18 Nylock



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## E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II



***Figure 3 - Mounted Spring Lever, Spring Assembly, and Mounted Motor Box***

- 5) **Mount the Spring Assembly** (see Figure 3).  
From the outside, rear of the loom, into Hole #6 of the Rear Crossmember, insert the 1/4-20 x 1-3/4" Eye Bolt, with one (1) 1/4-20 Jamb Nut and one (1) 5/16 " Washer.

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## E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II

Secure it, on the inside of the Crossmember, with one (1) 1/4" Washer, one (1) 1/4" Split Lock Washer, and one (1) 1/4-20 Jamb Nut (as outlined below). Stretch the #8370 Spring from the Eye Bolt to the Eye Hook centered on the facing side of the Spring Lever.

- 1 - 1/4-20 x 1-3/4" Eye Bolt
  - 1 - 1/4-20 Jamb Nut (as far up on the thread as possible)
  - 1 - 1/4" Flat Washer
- Rear Crossmember
- 1 - 1/4" Flat Washer
  - 1 - 1/4" Split Lock Washer
  - 1 - 1/4-20 Jamb Nut
  - 1 - 8370 Spring (from Eye Bolt to Spring Lever Eye Hook)

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

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## **E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**

7) **Install the 4" Guide Pulley** (see Figure 4). For safety, remove the Cloth Storage, Separation, and Warp Beam(s); then remove the Right-Hand Support Arm, Spacer, and Bolt. Using the 3/8"—16 x 3-1/2" Hex Bolt provided, replace the Support Arm as follows:

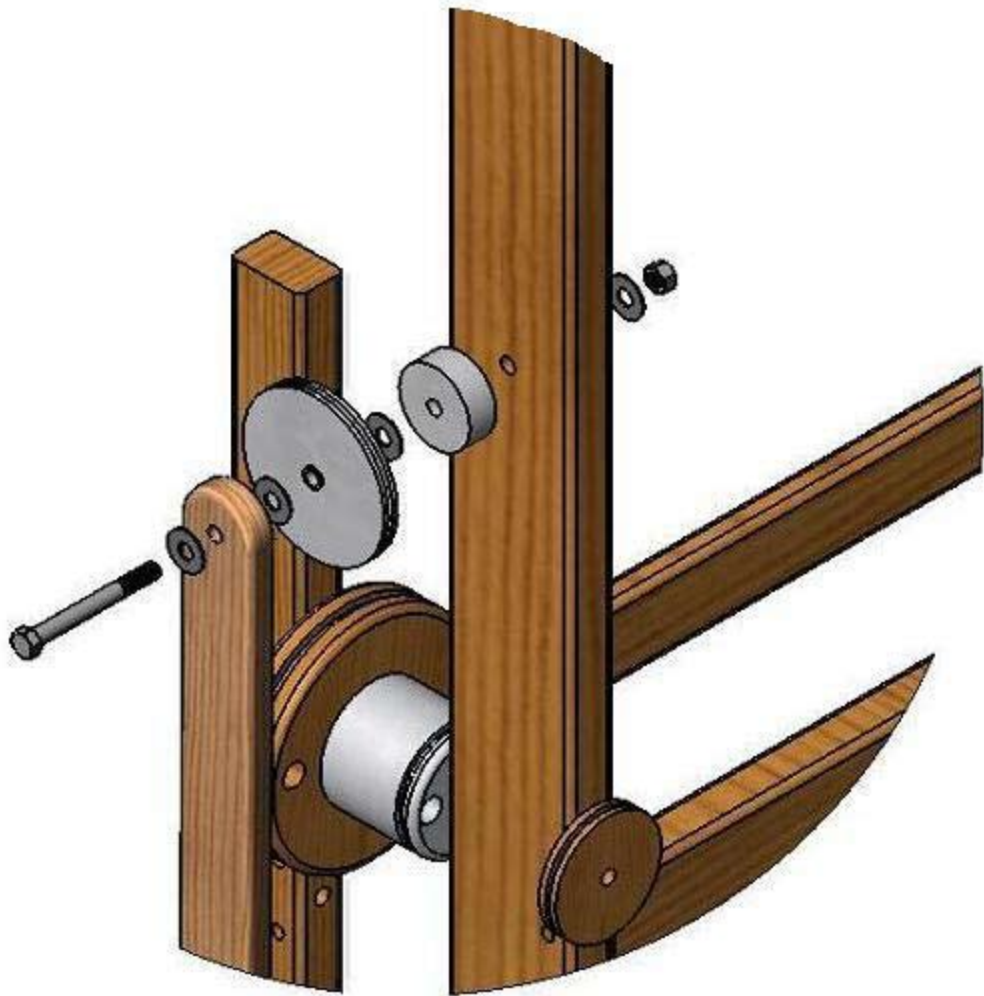
- 1 - 3/8"—16 x 3-1/2" Hex Bolt
- 1 - 3/8" Flat Washer
- 1 - Support Arm
- 1 - 3/8" Flat Washer
- 1 - 4" Guide Pulley
- 1 - 3/8" Flat Washer
- 1 - 4" Guide Pulley Spacer  
(with Factory Installed Bushing)

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## E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II

Insert this Assembly, from the outside, in the same Support Arm Hole. Secure in place with:

- 1 - 3/8" Flat Washer
- 1 - 3/8-16 Nylock



**Figure 4 - Expanded 4" Guide Pulley Assembly**

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## **E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**

### **INSTALLING THE E-LIFT II**

- 1) **Mount the L-Brackets to the E-Lift II Motor Box** (see Figure 3). Mount the four (4) L-Brackets onto the top of the E-Lift Motor Box (as shown in Figure 3) inserting the four (4) 5/16-18 x 1" Hex Bolts and four (4) 5/16 Flat Washers from the top, down through the Brackets and the holes in the Mounting Plate, on the top of the Motor Box. Hold them in place with four (4) 5/16 Flat Washers and four (4) 5/16-18 Hex Nuts, as follows: (**Note:** Do not completely tighten these Mounting Bolts; leave them slightly loose for later adjustment.)

When complete, each Bolt will be assembled as follows:

- 1 - 5/16-18 x 1" Hex Bolt
- 1 - 5/16" Flat Washer
- 1 - E-Lift II Mount Bracket
- 1 - Motor Box Top Mounting Plate
- 1 - 5/16" Flat Washer
- 1 - 5/16" Split Lock Washers
- 1 - 5/16-18 Hex Nut

- 2) **Install the E-Lift II Motor Box** (see Figure 3). Position the box underneath and between the two Crossmembers with the Top Pulley of the box nearest to the Front Crossmember. Insert two (2) of the 5/16-18 x 2" Hex Bolts, with Flat Washers, from the outside, into Holes #3 and #5, of the Rear Crossmember, just far enough to keep them from falling out, while not protruding into the central area.

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## **E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**

Keep the other two (2) 5/16-18 x 2" Hex Bolts, with Flat Washers, close at hand. They will need to be inserted, from the front, through the L-Brackets and into the Front Crossmember before the box can be allowed to hang without additional support. Lift the box into place and push the four (4) bolts all the way through the Crossmembers and Brackets and tighten in place with one (1) Flat Washer, one (1) 5/16" Split Lock Washer, and one (1) 5/16-18 Hex Nut on each Bolt.

- 1 - 5/16-18 x 2" Hex Bolt
- 1 - 5/16" Flat Washer
- 1 - Rear Crossmember (with Holes #4 and 5)
- 1 - Front Crossmember (with Holes #1 and 2)
- 1 - 5/16" Flat Washer
- 1 - 5/16-18 Split Lock Washer
- 1 - 5/16-18 Hex Nut

When the Motor Box is correctly in place, tighten all eight (8) bolts, at box and Crossmember Brackets.

- 3) **Remove the Original Cam-Pulley Assembly.**  
Loosen the right-hand stop collar located on the Cam-Pulley Axle on your loom. Pulling it to your left, withdraw the Axle and remove the Cam-Pulley Assembly and Dobby Return Pulley.

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## **E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**

Once the side of the Cylinder is exposed, use your sley hook to reach in and pull out the retainer, releasing the Cylinder/Turnbuckle Cable from the Cylinder, leaving the other end attached to the Turnbuckle/Dobby Arm. Keep the retainer nearby. You will be using it again, in the next step.

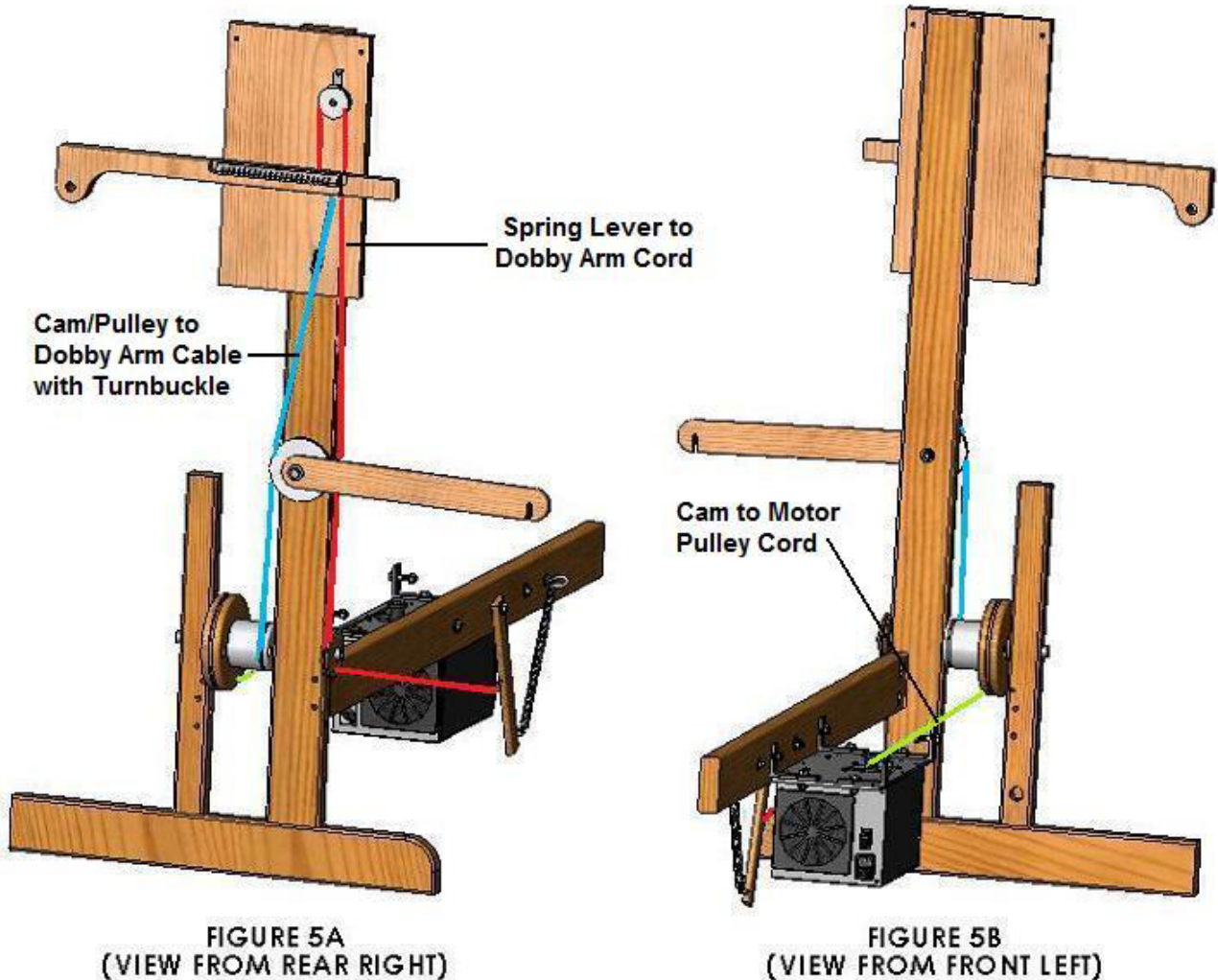
- 4) **Attach the Cylinder/Turnbuckle Cable and Replace Cam-Pulley Axle** (see Figure 4). Attach the Turnbuckle/Cylinder Cable (shown in Blue, Figure 5) to the new Cylinder, using the retainer to hold the nico tip in place on the new Cylinder. Insert the Axle, from the left, through the Front Side Vertical Support (Castle) so the end extends slightly into the middle space between side-members and in this order (as seen in Figure 4), slide the other components onto the Axle. When completed, this Assembly will be as follows:

- 1 - 3/8" Rod onto which is mounted:
- 1 - 3/8" Stop Collar
- 1 - Front Side Member
- 1 - Cam/Cylinder Assembly (6" Circular Wooden Pulley/Cam and Cylinder)
- 1 - Rear Side Member
- 1 - Dobby Return Pulley (now for the Spring Lever/Slide Plate Cord)
- 1 - 3/8" Stop Collar

## E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II

### INSTALLING THE CORDS (see Figure 5)

- 5) **The Spring Lever/Dobby Arm Cord.** This Cord (shown in Red, Figure 5) has one open end and one with a loop, fastened with a nico. Insert the open end, from above, down through the center one of the three holes near the end of the Dobby Arm. Tie an overhand knot at the end of the cord. Route the Cord up and over the top of the Dobby.



**Figure 5 - Installed Cam-Pulley Assembly and Cable/Cord Routes**



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## **E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**

### **ADJUSTING TO THE “HOME” POSITION**

- 6) **Connect the Foot Switch Cord and the Power Cord** (see Figures 1a and 1b). Turn off the E-Lift Power Switch (0). Connect the Foot Switch Cord to the front of the E-Lift II (now facing the right side of the loom). Connect the female end of the Power Cord at the back of the housing, now facing the left side of the loom. Be sure they are both completely, firmly inserted. It is best to plug the male end of the Power Cord into a surge-protected power strip or, if not available, directly into a wall plug.

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.

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. This will be approximately 1/4” above the ball on the rearmost Dobby Cable, not touching the top bumpers.
- 2) Turning the Pulley clockwise, rewind the E-Lift II Motor Pulley Cord, allowing the cord to wind on upward from the bottom of the spool, without any overlap. Do not allow the Dobby Arm to move down from its uppermost position (as described above in Step 1).

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## E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II

### **MODE SELECTION (see Figure 1b)**

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 dobbie 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 II 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 II Power Switch. You are ready to weave!

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## **E-LIFT II UPGRADE INSTALLATION TO FDL WITH COMPU-DOBBY II**

### **MAINTENANCE AND REPLACEMENTS**

#### 1) Regularly Required Maintenance

Occasionally you will need 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 you with 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, arrange service, or answer any questions you may have regarding this product.