

**E-LIFT II UPGRADE INSTALLATION**  
**TO FDL with Compu-Dobby III**

**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 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.)

✓	Quantity	Description
	1	E-Lift 2 Motor/ Driver Assembly
	4	E-Lift 2 Motor/ Driver Mount Brackets
	1	Cam/Cylinder Assembly
	1	Drive Pulley/E-Lift 2 Cord (on Box Pulley Assembly)
	1	Spring Lever Assembly (Screw eye, Pulley, Bushing installed)
	1	Slide Plate/Spring Lever Cord
	1	Foot Switch and Attached Cord
	1	Power Cord
	1	3/8 -16 x 2 3/4" Hex Bolt
	10	3/8 Flat Washers
	1	3/8 -16 Nylock Nut
	7	3/8 Stop Collars
	2	5/16-18 x 1 3/4" Hook Bolts
	4	5/16-18 x 1" Hex Bolts
	4	5/16-18 x 2" Hex Bolts
	2	5/16-18 Jamb Nuts
	12	5/16 Flat Washers
	10	5/16 Split Lock Washers
	6	5/16-18 Nylock Nuts
	4	5/16-18 Hex Nuts
	1	Large Spring

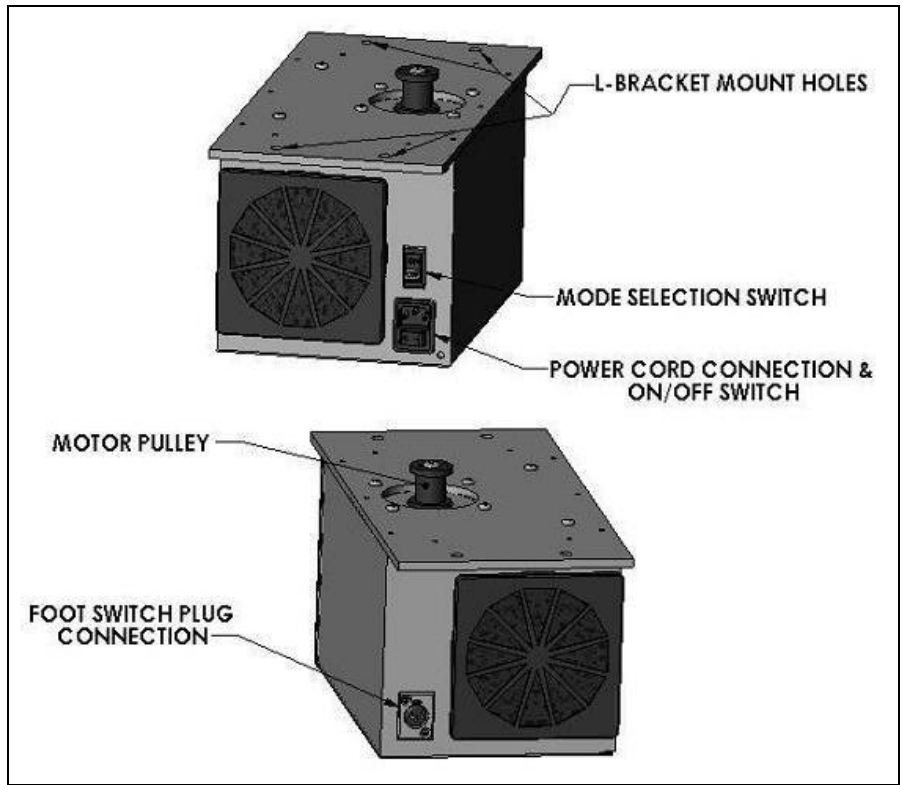


Fig. 1a – E-Lift II Motor Box (front and rear views)

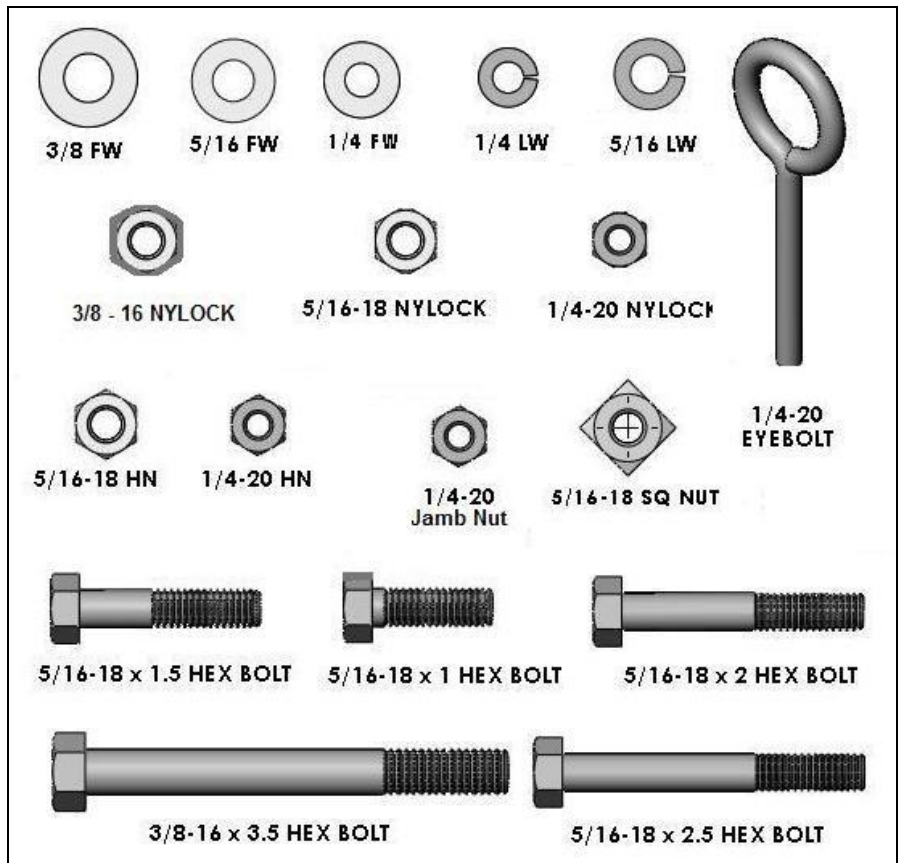


Fig. 1b – Hardware package contents

### Required Tools

5/16" & 3/8" Wrench or  
Socket Wrench w/ 5/16" & 3/8" Sockets  
5/32" Allen Wrench  
Pliers  
Drill with 11/32" and 25/64" Bits  
Tape measure  
Masking or other type of Tape  
Pencil

**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 Right Treadle Cables. 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 and/or Pulley is/are fitted 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. Save the Right Treadle Cable Axle for use in this installation. This will become your Idler Pulley Assembly Axle.

### **3) Drill Instructions/Hole Orientation**

Check to see if your Front and Rear Treadle Pulley Support Crossmembers have the following mounting holes:

HOLE No.	Crossmember PLACEMENT	HOLE SIZE	Measure from RIGHT Edge	Measure from Top	Purpose
1	Front	11/32	37 1/8"	1"	Mount Box
2	Front	11/32	23 15/16"	1"	Mount Box
3	Front	11/32	6"	1"	Idler Axle
4	Rear	11/32	37 1/8"	2"	Mount Box
5	Rear	11/32	23 15/16"	2"	Mount Box
6	Rear	11/32	20 1/2"	3/4"	Bolt Hook - Spring Assembly
7	Rear	25/64	17"	3 1/4"	Spring Lever Assembly
8	Rear	11/32	10 3/4"	2"	Bolt Hook – for Spring Lever Cord
9	Rear	11/32	6"	2"	Idler Axle

If the (9) nine 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 four 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.

Locations of the Holes, as shown in Fig. #2a and 2b, are measured from the right-side end of the Treadle Crossmember. Drill any holes that are not already in place.

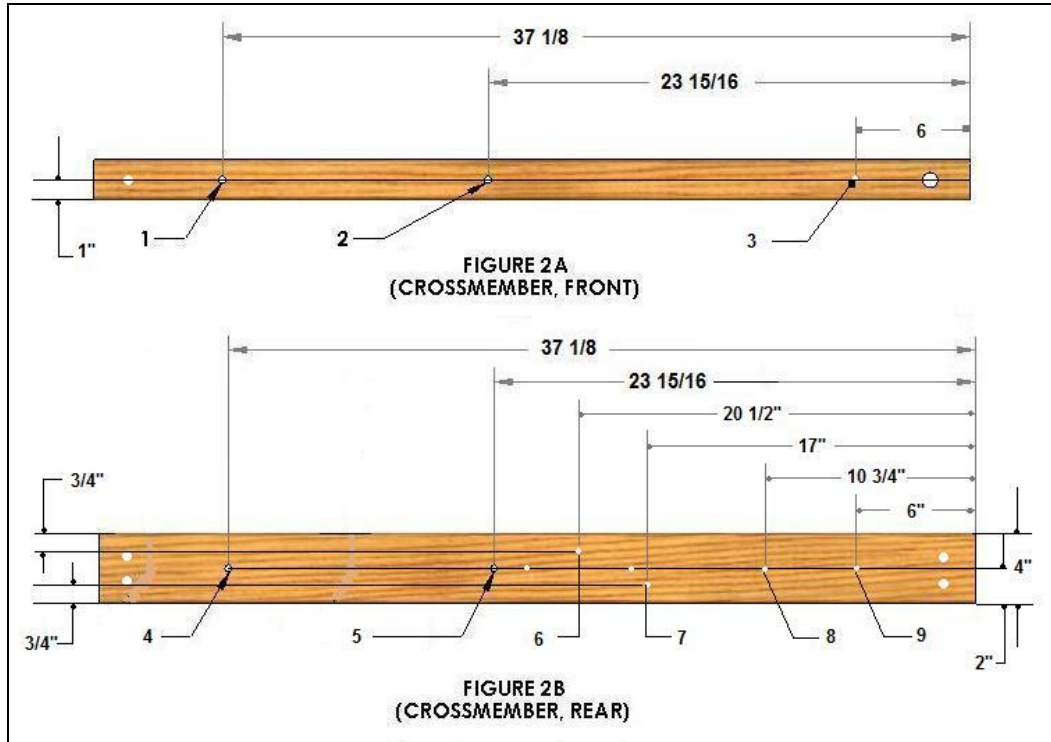


Fig. 2a and Fig.2b – Placement of Holes in Crossmembers

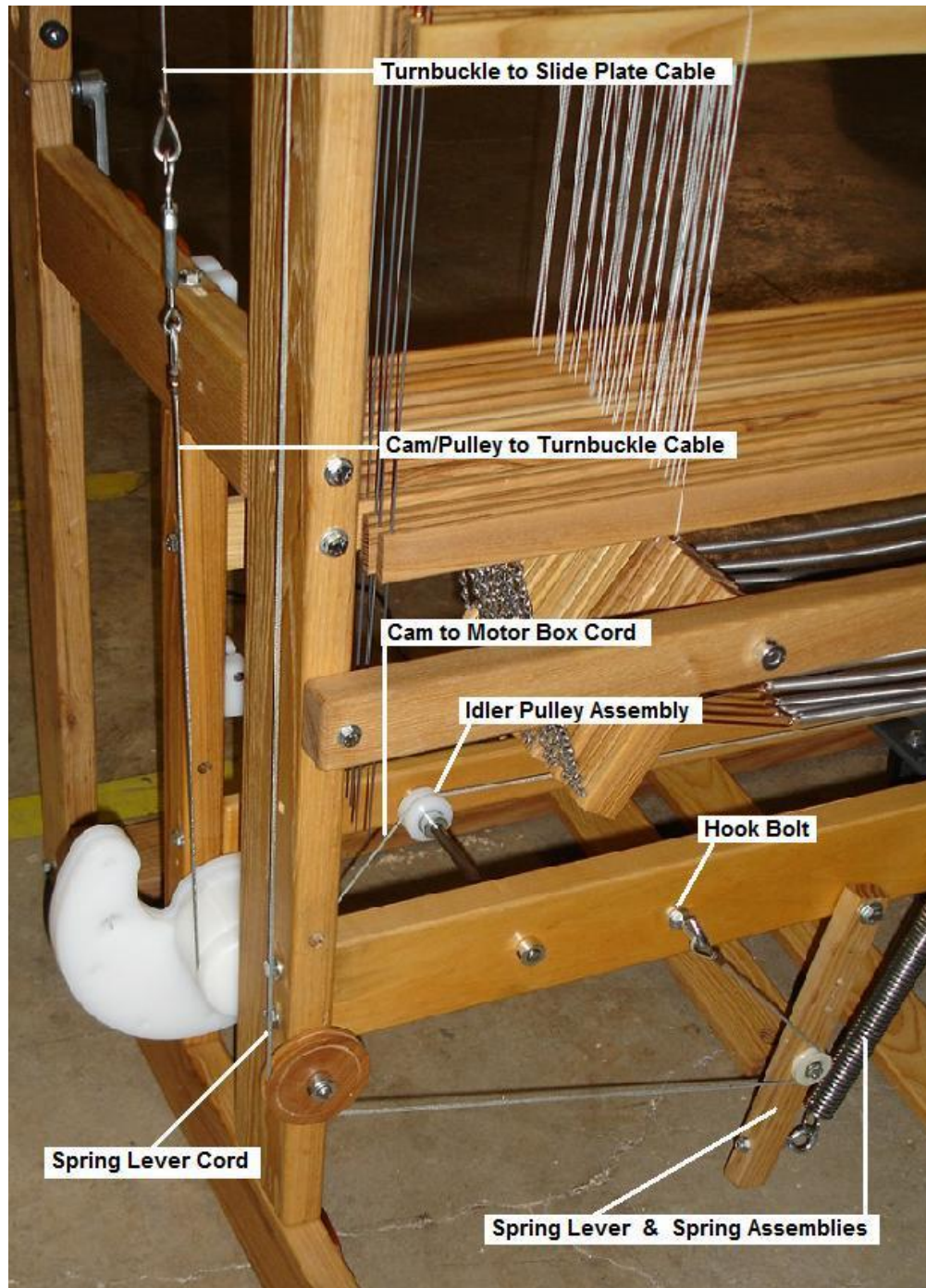
**4) Re-install the Treadle Pulley Support Crossmembers** to the loom. Take care to place them in the same positions in which they were previously installed.

**5) Install the Idler Pulley Assembly** – (See Fig. 3) Insert the 3/8" Idler Pulley Assembly Axle (this was previously your Right Treadle Cable Axle) through the Front Crossmember at Hole #3. Install the Assembly as follows, (ending with insertion of the Axle into Hole #9) with the addition of the stop collars at each end extending outside of the Crossmembers.

- |   |     |                                  |
|---|-----|----------------------------------|
| 1 | 3/8 | Stop Collar                      |
| 1 | -   | Front Crossmember – into Hole #3 |
| 1 | 3/8 | Stop Collar                      |
| 1 | 3/8 | Flat Washer                      |
| 1 | -   | Cam-to-Box Cord Pulley           |
| 1 | 3/8 | Flat Washer                      |

- |   |     |                                 |
|---|-----|---------------------------------|
| 1 | 3/8 | Stop Collar                     |
| 1 | -   | Rear Crossmember – into Hole #9 |
| 1 | 3/8 | Stop Collar                     |

After all parts of the Assembly are in place, tighten the two (2) outside Stop Collars to secure the Assembly, but do not tighten the inner two (2) Stop Collars until the Cord has been attached (see below).



*Fig. 3 – Cables and Spring Lever & Spring Assemblies*

**6) Install the Bolt Hook for Spring Lever Cord** – (See Figure 3 & 4) From the Outside, Rear of the loom, into Hole No. 8 of the Rear Crossmember, insert the 5/16 -18 x 1 3/4” Hook Bolt, with one (1) 5/16 –18 Jamb Nut and one (1) 5/16 “ Washer. Secure it, on the Inside of the Crossmember, with one (1) 5/16” Washer, one (1) 5/16” Split Lock Washer and one (1) 5/16 –18 Jamb Nut.

1	5/16 -18 x 1 3/4	Hook Bolt
1	5/16 -18	Jamb Nut (as far up on the thread as possible)
1	5/16	Flat Washer
Rear Crossmember – Hole #8		
1	5/16	Flat Washer
1	5/16	Split Lock Washer
1	5/16 -18	Nylock Nut

**7) Mount the Spring Lever Assembly** – (See Figures 3 & 4) Load one (1) 3/8 – 16 x 2 3/4” Hex Bolt with one (1) 3/8 Washer, the Spring Lever (with factory inserted Bushing), and (1) 3/8 Washer. From outside of the Rear Crossmember, insert this Assembly into Hole #7. Secure the bolt on the inside face of the Rear Crossmember with (1) 5/16 Washer and (1) 5/16 – 18 Nylock.

1	3/8” – 16 x 2 3/4”	Hex Bolt
1	3/8”	Flat Washer
1	-	Spring Lever Assembly (install with eyehook facing to the left)
1	3/8”	Flat Washer
1	-	Rear Crossmember – Hole #7
1	3/8”	Flat Washer
1	3/8” – 16	Nylock

**8) Mount the Spring Assembly** – (See Figure 3 & 4) From the Outside, Rear of the loom, into Hole No. 6 of the Rear Crossmember, insert the 5/16 - 18 x 1 3/4” Hook Bolt, with one (1) 5/16 - 18Jamb Nut and one (1) 5/16 “ Washer. Secure it, on the Inside of the Crossmember, with one (1) 5/16” Washer, one (1) 5/16” Split Lock Washer and one (1) 5/16 – 18 Jamb Nut. Hang the Large Spring from the Hook Bolt and hook the other end of it to the Eye Hook located on the facing side of the Spring Lever.

1	5/16 - 18 x 1 3/4	Hook Bolt
1	5/16 - 18	Jamb Nut (as far up on the thread as possible)
1	5/16	Washer
Rear Crossmember – Hole #6		
1	5/16	Washer
1	5/16	Split Lock Washer
1	5/16 - 18	Nylock Nut
1	Large	Spring – from Eye Bolt to Spring Lever Eye Hook

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

**1) Mount L-Brackets to E-Lift II Motor Box** – (See Figure 4) Mount the four (4) L-Brackets onto the top of the E-Lift Motor Box, as shown in Fig. 4, inserting the Bolts from the top, with Washers, and Nuts as follows. (Note: Do not completely tighten these Mounting Bolts; leave them slightly loose for later adjustment.)

1	5/16-18 x 1”	Hex Bolt
1	5/16	Flat Washer
1		E-Lift II Mount Bracket
1	5/16	Split Lock Washer
1	5/16-18	Hex Nut



*Fig. 4 - Mounted Spring Lever, Spring Assembly, and Motor Box.*

**2) Install E-Lift II Motor Box** - (See Figure 4) Position the Box underneath and between the two Crossmembers with the Top Pulley of the Box nearest to the Front Crossmember. The Box will be situated between Holes #1 and 2 at the Front, and Holes #4 and 5 in the Back. The Support Brackets will mount to the Front side of the Front Crossmember and to the Inside Face of the Rear Crossmember as shown in Fig. 5. Insert two (2) of the 5/16-18 x 2" Hex Bolts, with Flat Washers, from the outside, into Holes #4 and #5 of the Rear Crossmember, just far enough to keep them from falling out, while not protruding into the central area. Keep the other two (2) 5/16-18 x 2" Hex Bolts close at hand. 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) 5/16 Split Lock Washer and one (1) 5/16-18 Nylock on each Bolt.

1	5/16-18 x 2”	Hex Bolt
1	5/16	Flat Washer
1	-	Front Crossmember – with Holes #1 and 2 OR

1	-	Rear Crossmember – with Holes #4 and 5
1	5/16-18	Split Lock Washer
1	5/16	Nylock

Please note that when the Motor Box is correctly in place, the Rear Brackets will be on the interior side of the Rear Crossmember and the Front Brackets will be on the exterior side of the Front Crossmember. Securely tighten all eight (8) bolts, at Box and Crossmember Brackets.

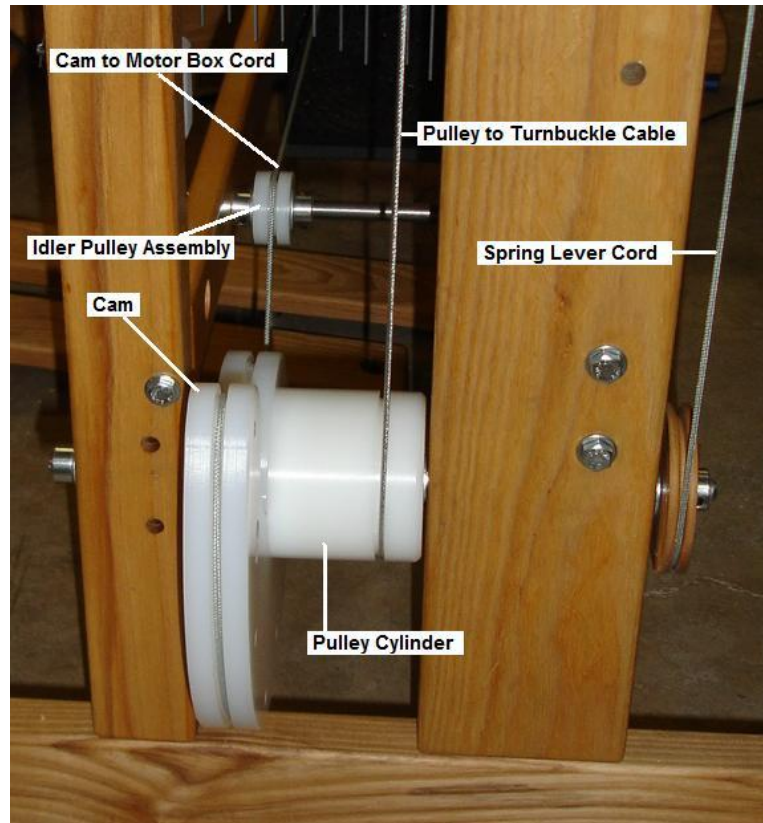


FIG. 5 - Cam-Pulley Assembly with cable & cord routes

**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 Left Treadle Pulley.

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 5) Attach the Turnbuckle/Cylinder Cable 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). With a Stop Collar and Flat Washer first, then install the Pulley/Cylinder Assembly and one more Flat Washer onto the Axle. Next,



insert the Axle through the Rear Side Vertical Support (Castle), place a Flat Washer onto the Axle and replace the 3" Left Treadle Pulley, finishing off with a Flat Washer and a Stop Collar. When completed this Assembly will be as follows:

1	3/8	Stop Collar
1	3/8	Flat Washer
1	-	Front Side Member
1	3/8	Stop Collar
1	3/8	Flat Washer
1	-	Cam/Cylinder Assembly (Large Cam & Cylinder)
1	3/8	Flat Washer
1	-	Rear Side Member
1	3/8	Flat Washer
1	-	3" Guide Pulley (Original your Left Treadle Pulley)
1	3/8	Flat Washer
1	3/8	Stop Collar

#### 5) **Installing the Cords** (See Figures 3, 5 & 6)

5a) The Spring Lever Cord – In order to install this Cord, it will be necessary to remove the Compu-Dobby from the loom.

Turn off the Compu-Dobby. It is not necessary to unplug it for this installation. Remove the thumbscrews that hold the Compu-Dobby Box in place. Lift the Box free of the Mount and set it aside. You will now have clear access to the Pulley and Retainer mounted in the upper right corner of the Mounting Box (See Fig. 6).

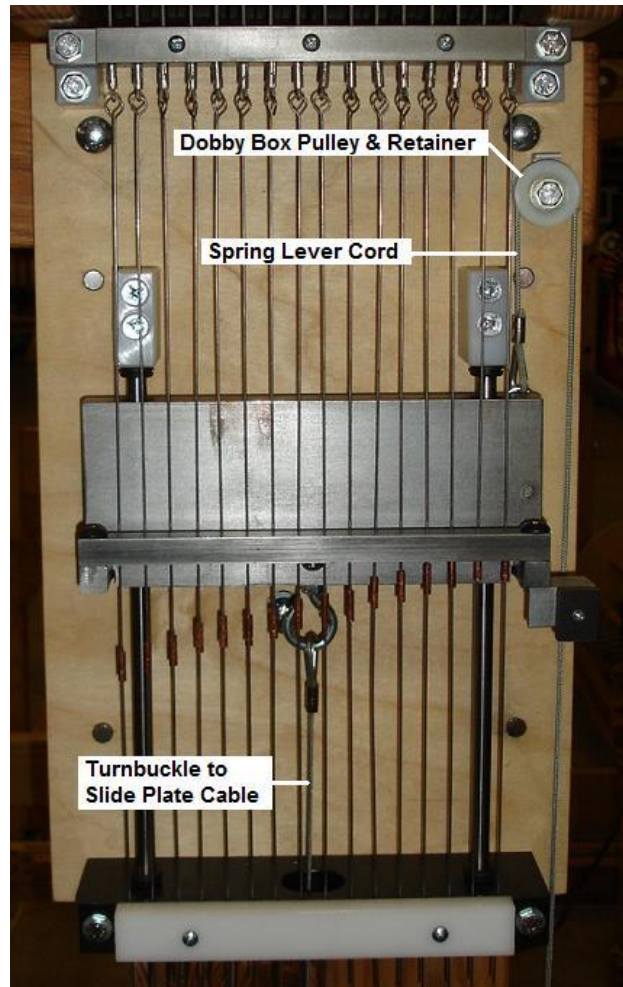
At the top right corner of the Dobby Box Back Plate, loosen the Bolt that holds the Retainer and Pulley in place, just far enough to allow the Cable to slip off the Pulley.

Detach the old cable from the loop at the right side of the Slide Plate and fix the looped end of the New Cord into the Quick Link at the Slide Plate and guide the Cord over the Pulley and under the Retainer, from left to right. Re-tighten the Bolt to secure the Pulley and Retainer to the back of the Dobby Box, holding the Cord in place (See Fig. 6).

Guide the Cord down the outside of the loom, and around the bottom of the Spring Lever Pulley (formerly the Left Treadle Pulley). Direct the Cord over to the Spring Lever and wrap the Cord under the Pulley mounted on the Spring Lever. Bring the looped end of the Cord up and to the left, back over to the Hook. Place the looped end of the Cord onto the Hook Bolt. Replace the Dobby Box and secure with the four (4) thumbscrews. (See Fig. 3)

5b) The Cam-Motor Pulley Cord – Check to be sure the Slide Plate is in the Up Position before proceeding. Unwrap the Cord from the large Cam. Guide the Cord down and around the bottom of the Cam, over the top of the Idler Pulley and to the black Pulley located on top of the Motor Box. Bring the Cord around to the left, across the front side of the Motor Pulley, located on the top of the Box. Insert its end into the hole you see at

the top of the Pulley and tie a simple overhand knot at the end of the cord. Turn the Pulley clockwise, while starting at the top, winding on and taking up all of the slack in the Cord. Do not allow the winding to overlap. Now, tighten the stop collars at either side of the Idler Pulley, maintaining a straight path for the cord from Cam to Motor Box. (See Fig. 3)



*Fig. 6 - Dobby Box with Cord and Cable*

**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 (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. 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 ¼” above the ball on the rear most Dobby Cable.

### **MODE SELECTION (See Fig. 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 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](mailto:info@avlusa.com) to place your order, arrange service, or answer any questions you may have regarding this product.

Lg – 12/5/2008