
Compu-Dobby II®

INSTALLATION INSTRUCTIONS

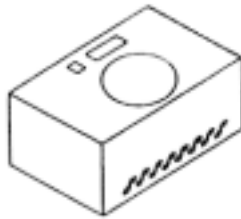
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(Version 6)

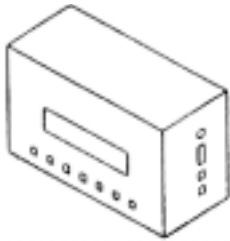
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Dear Customer,

Your Compu-Dobby package should include the following items:



Solenoid Box



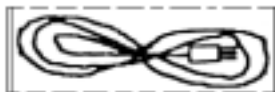
I/O Box



Weaving Cartridge (optional)



Dobby Arm Sensor



Power Cord (package)



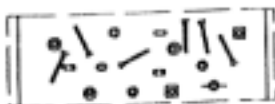
Solenoid - I/O Box Cable



Power Extension Cord



Serial Cable (IBM or Mac)



Hardware (package)

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IMPORTANT NOTE:

If you read no other part of this manual, please read pages 21-22 (Solenoid Box Adjustment). It is the critical adjustment.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Introduction

Installation of the Compu-Dobby II is a relatively simple affair, but it does differ slightly from loom to loom, and from era to era. Therefore, we request that you review the following instructions before beginning.

Before you start, you'll want to gather a few tools:

- Medium Phillips screwdriver
- Small bladed screwdriver
- Scissors
- Pliers
- Crescent or 9/16" wrench
- Needle nose pliers
- Pencil
- Scotch or masking tape
- An extra pair of hands (about 10 minutes worth!)

And, if your loom has a serial number less than #2240, you'll need:

- Electric drill
- 1/16" and 9/64" drill bits

Of course, you'll want to check that we did our job and shipped you all the necessary components (we do our best to be complete, but sometimes we're all too human). First thing, you opened the box you found packing lists that tell you what you should have gotten — check carefully to be sure you got everything.

Before we begin, please note that the next section - CONTROL BOX INSTALLATION - is OPTIONAL. Although many if not most weavers mount their Control Box on their looms, it is not necessary.

You may, if so desired, place it next to your computer. Just make sure to let the air flow through the bottom.

Got your tools? Got your parts? Let's begin.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

CONTROL BOX INSTALLATION

Attach the Mounting Struts to the Control Box

Select:

- Wooden Struts
- Control Box (with push buttons and window)
- Four machine screws (blunt ended)

As shown in Figure 1 (Note 1), use the screws to attach the struts to the rubber vibration dampers on the top of the Control Box.

If your loom predates #2240, grab your drill with 9/64" bit and a pencil. Otherwise go to "Mount the Control Box" below.

- Figure 2A of these instructions is a template; remove it.
- As directed, tape it into position on the Front Harness Pulley Support and make pencil marks for the two pilot holes.
- Untape the template and drill the pilot holes about 2" deep. Keep the drill as vertical as possible.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Mount the Control Box (for PDLs, TDLs, and Rug Looms)

You'll want an extra pair of hands for this next part. Bring the Control Box, two of the #10 x 1 1/2" screws, and a phillips screwdriver to the loom. While one person aligns the front holes in the Mounting Struts with the holes you've just drilled, the other person should run the screws in, thus securing the front end of the Control Box to the under side of the Harness Pulley Support (Figure 1, Note 2). Continue to lightly support the rear of the box.

You can now use the Mounting Struts themselves to locate the rear holes. Simply run your drill bit up through the back strut holes and into the bottom of the Rear Harness Pulley Support.

Remember, your pilot holes need to be at least 2" deep. Unless you have an especially long drill bit, you'll need to go back and deepen the holes.

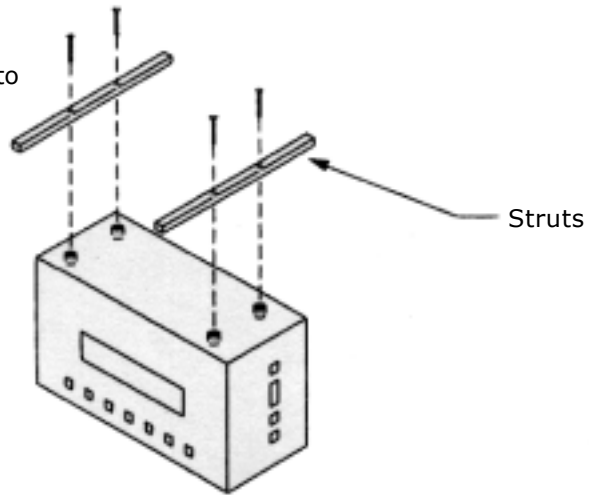
While supporting the Control Box, remove one of the front screws. This will allow you to rotate the assembly clear of the rear pilot holes, giving you clearance to finish the holes.

Now you have four screw holes at least 2" deep. Just run your screws in and the Control Box is mounted.

Reward your able assistant (whom you may now dismiss).

CONTROL BOX INSTALLATION

1. Attach struts to the Control Box



2. Attach Control Box to the Harness Pulley Supports

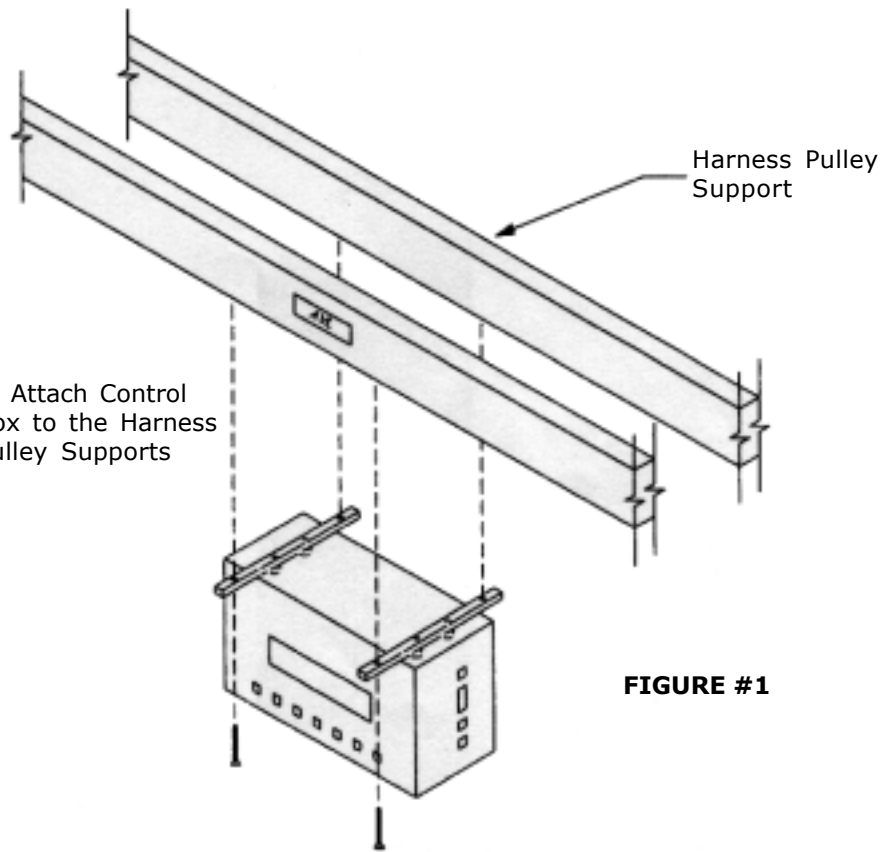


FIGURE #1

SOLENOID BOX INSTALLATION

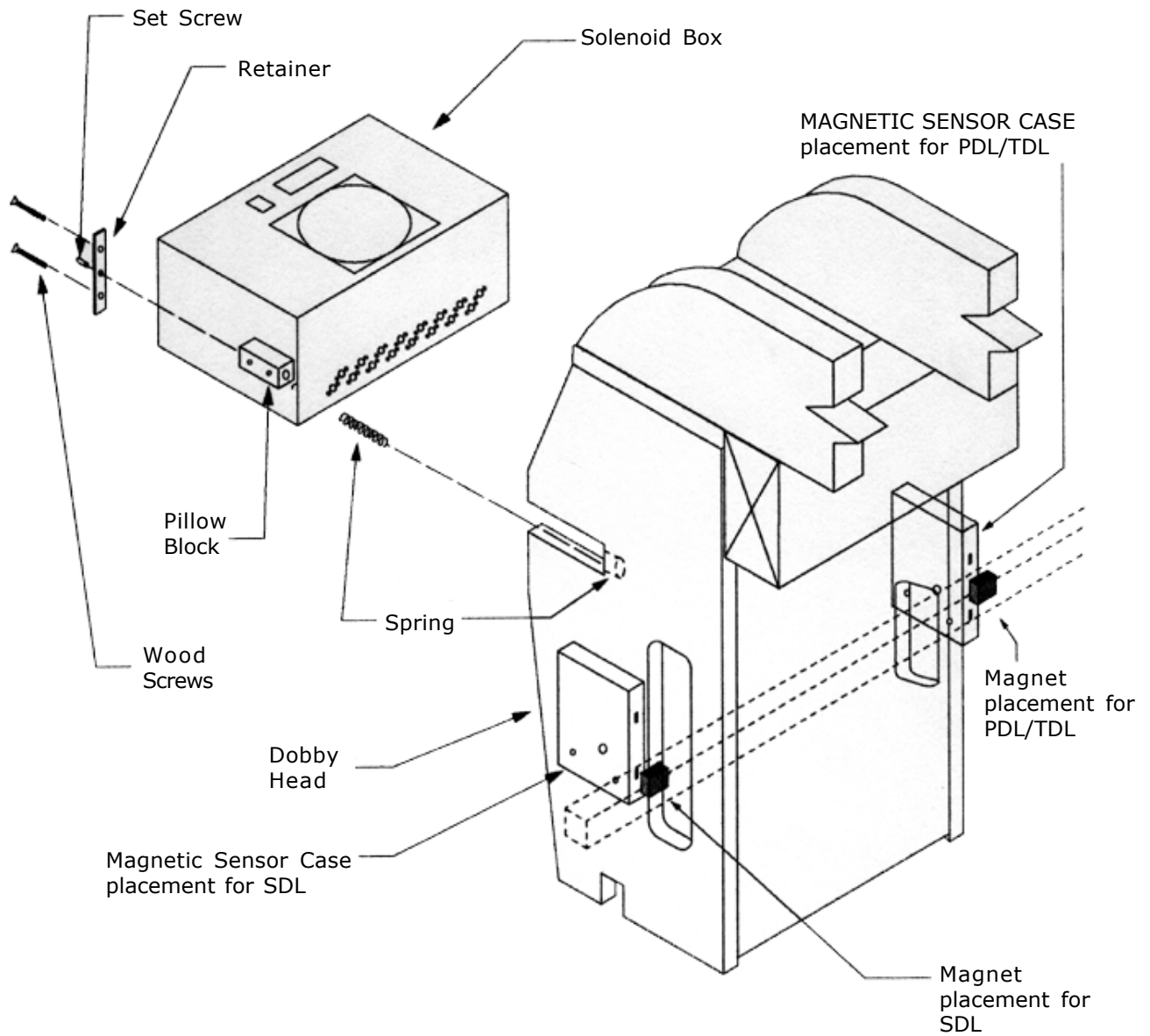


FIGURE #2

- 1.) Insert the Solenoid Box into the Dobby Head as shown.
- 2.) Secure with spring, retainer, and wood screws.
- 3.) Adjust the tension with a set screw.

Align marks with edges of the ID Plate

Fold Here

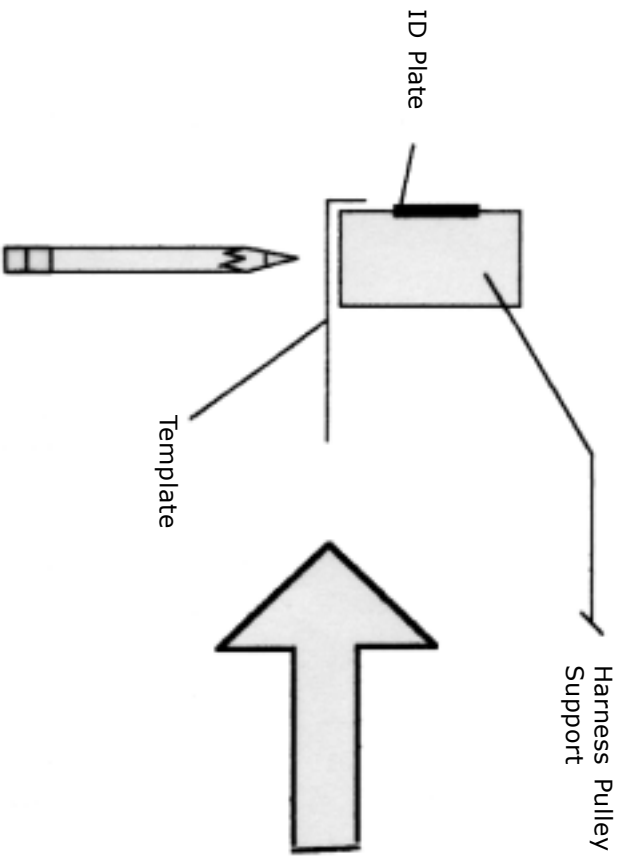


Mark and Drill



Cut along this line

Mark and Drill



1. Cut along the heavy dash line.
2. Fold the template along the dotted line.
3. Align the marks with the edges of the identification plate. Tape to the Harness Pulley Support.
4. Use a pencil to make an impression on the underside of the front Harness Pulley Support, at the X's.
5. Remove the template and drill.

FIGURE #2A

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Prep the Dobby Head to Accept the Solenoid Box

The next part is less acrobatic and can be accomplished by a single person. The Solenoid Box will essentially nest in the Dobby head. First, however, you'll need to remove a few pieces to create the proper clearance.

From the left side of the Dobby (see Figure 3):

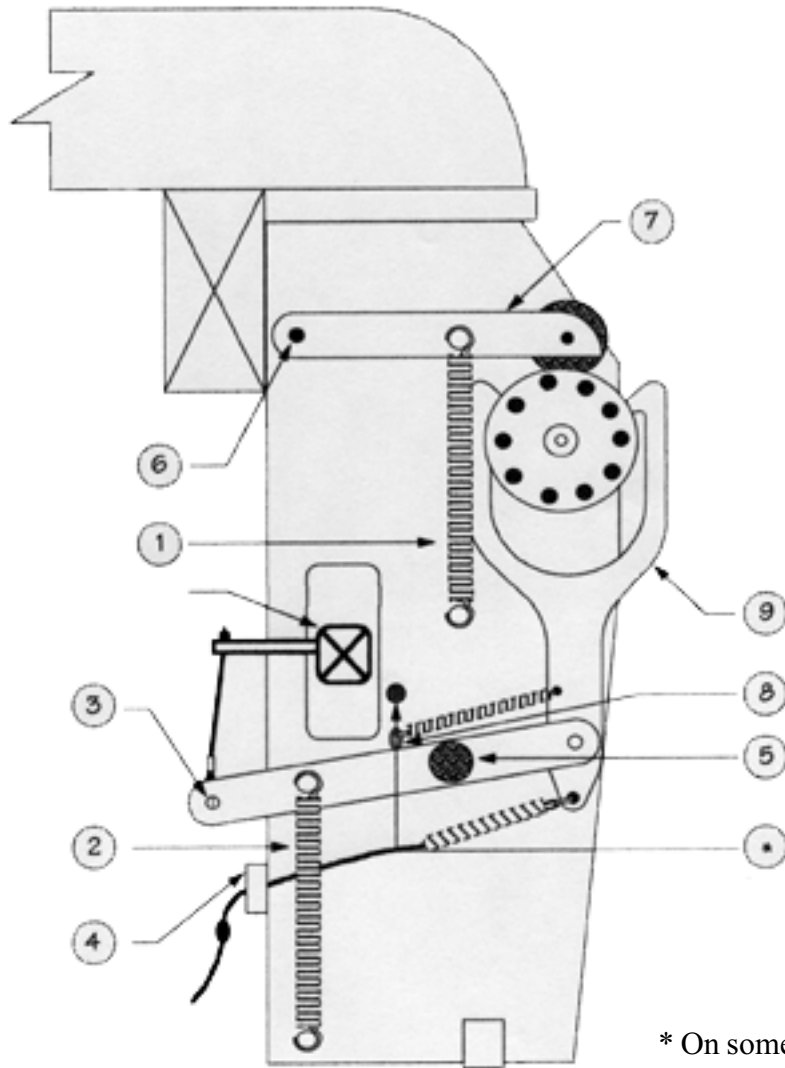
- Remove the spring labeled #1.
- Remove spring #2.
- With the bladed screwdriver, remove the screw labeled #3. You may need a pair of needle nose pliers here to hold the body of the screw post while you loosen the screw.

When you've removed the screw, push the post back enough that you can disengage the cable loop. Once the cable end is free, replace the screw post and screw so they don't get lost.

- Remove phillips screws that secure the cord retainer (#4) to the back of the Dobby head.
- With pliers, crush and remove the black cap (#5, #6). You may have a stop collar here — if so, use an allen wrench to loosen and remove it.
- Remove the Detent Arm (#7).
- Disconnect the end of spring #8.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

- Remove the Dobby Hook Assembly (#9) with the attached Dobby Index Lever.



* On some older looms, there may be an extra pin here. Please remove it before mounting the Magnetic Sensor Case.

FIGURE #3

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

From the front of the Dobby:

- Unchain the Dobby.
- Use the 9/16" wrench to loosen the hex nuts on the face of the Dobby Cylinder Adjustment Brackets (#10).
- With the phillips screwdriver, remove the two screws that keep each of the Dobby Cylinder Adjustment Brackets in place (aluminum pieces with set screws in the middle).
- Carefully pry out the brackets and slide the doobby cylinder free of its slots. A couple of small wooden pillow blocks and springs will come out with the cylinder.
- Once you've removed these brackets, use the 1/8" allen wrench to back each set screw out until it is flush to the back of the bracket (see illustration at left). Re-tighten each hex nut until just finger tight.
- Put the two springs and the Adjustment Brackets aside for the moment — you'll need them again later when you install the Solenoid Box.
- You may again have occasion to covert your Dobby to its mechanical mode, so you'll want to keep its parts together. Gather all the loose parts, except the two Adjustment Brackets and springs, place them in the plastic bag your Compu-Dobby came in, and store them in its box. And you might want to throw in your extra pegs and wrench — you won't be needing those for a while!



Install the Magnetic Sensor

The Magnetic Dobby Arm Sensor is the unit that sends signals to the Compu-Dobby and tells it whether the harnesses (arm) are up or down. It has two slots. One slides over the bottom pin of Spring #1 (see Figure 3). The other slot is held in place by a screw that replaces the center brace screw of the doobby.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Install the Magnet

There is a sensor in the Compu-Dobby system which responds to a magnetic field. This field is produced by a magnet, which you'll need to affix to the Dobby Arm.

- Locate the magnet and peel the covering material from the adhesive strip.
- Place the Dobby Arm in its uppermost position.
- **Orient the magnet horizontally and press it firmly onto the front of the Dobby Arm. The right edge of the magnet should be aligned with the left side of the Dobby Head. In this position, the magnet will be immediately opposite the sensor case that you will later install.**
- In some cases, you may need to drill a pilot hole for the magnet as a screw is more secure than glue. In this case, we have supplied a template for your use. It's Figure 3A and is the actual size. This applies ONLY to Production and Technical Dobby looms built prior to 1997.

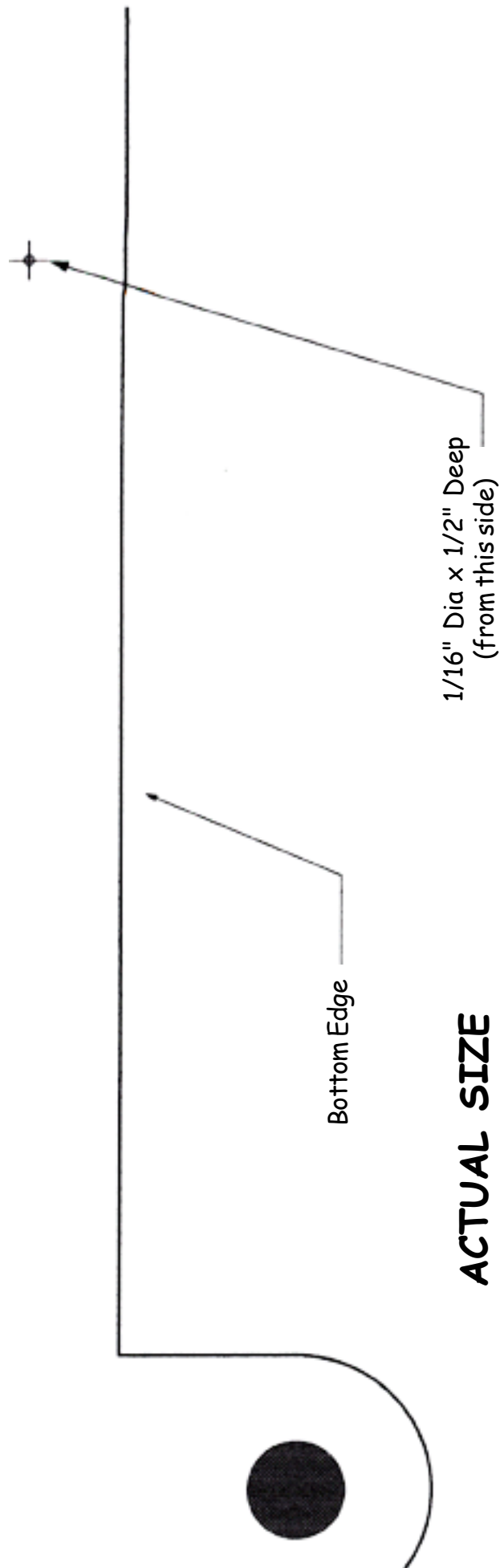
Install the Solenoid Box

Congratulations! — You've completed all the hard work and will find the next task, installing the Solenoid Box, instantly gratifying.

- Look at the Solenoid Box. You'll see two rows of white tipped rods. These are the solenoid ends and they'll take the place of your doobby bars and pegs.
- You'll also note a small plastic block on each side of the box. See the holes in the blocks? Remember the springs we had you set aside? Place one spring in each hole.
- Orient the box so that the solenoids face the Dobby and are at the bottom of the box.
- Align the blocks with the slots in the Dobby head and slowly slide the unit into the wooden case (see Figure 4).
- At the end of each slot, you'll see a hole. Seat the free end of each spring in this hole.

You can see now that the springs will keep the Solenoid Box under a bit of physical tension. This tension helps keep the box in proper adjustment.

- Finally, replace the two aluminum Adjustment Brackets you removed earlier. This will keep the Solenoid Box in place.
- We'll return later to adjust the box (page 18).



ACTUAL SIZE

1. Align template over Dobby Arm along bottom edge and mark hole placement
2. Drill 1/16" pilot hole, approximately 1/2" deep
3. Hole is in middle of arm, 8 7/8" from edge
4. Attach magnet, glue side against wood.

**Magnet Pilot hole
Drilling Guide**

FIGURE #3A

SOLENOID BOX INSTALLATION (PDLs and TDLs)

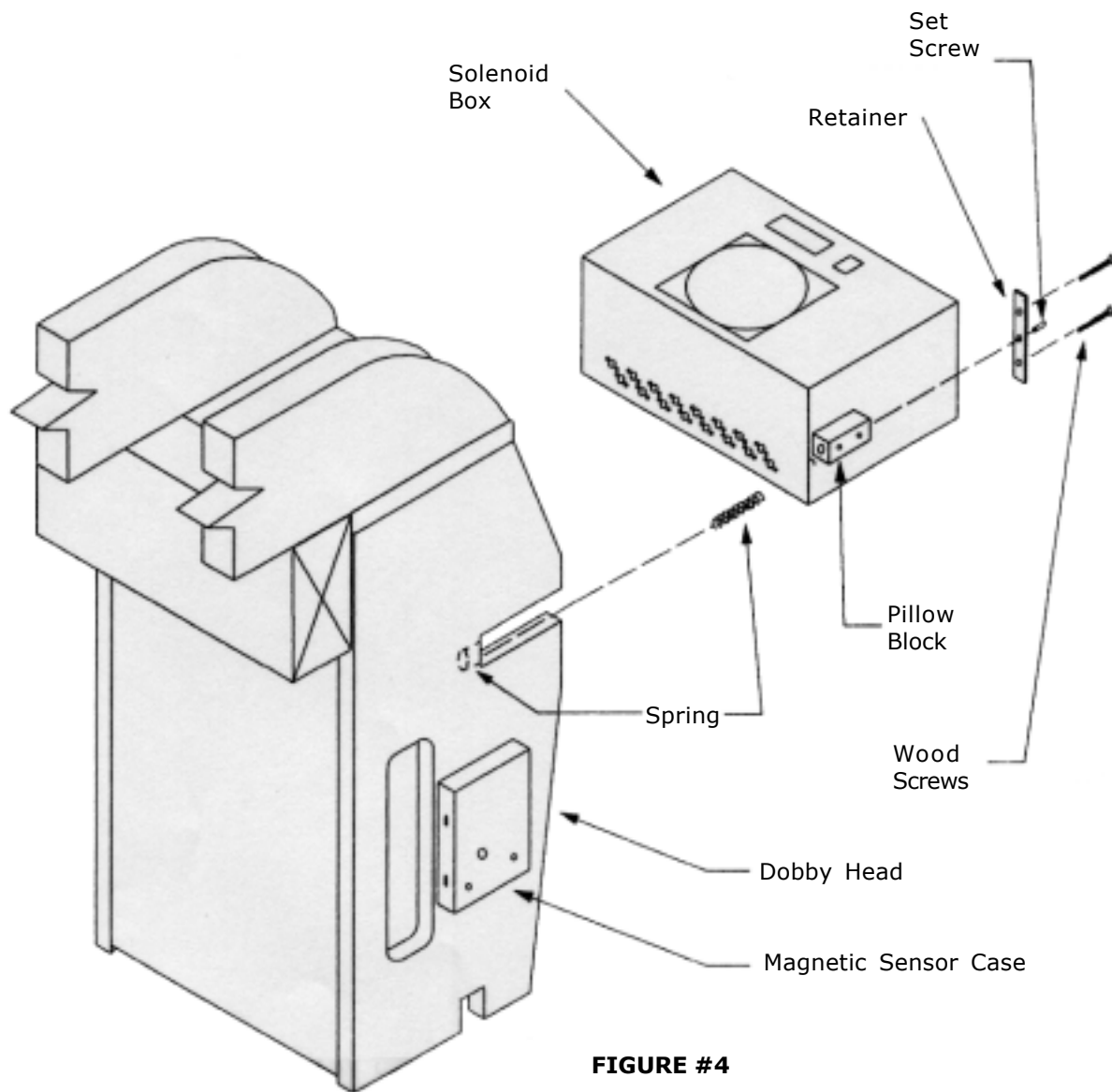


FIGURE #4

- 1.) Insert the Solenoid Box into the Dobby Head as shown.
- 2.) Secure with the spring, the retainer, and the wood screws.
- 3.) Adjust the tension with the set screw.
- 4.) Make sure the magnet on the Dobby Arm can be seen by both sensors in the Magnetic Sensor Case. Note, the Magnetic Sensor and magnet are on the front side of the dobbie (nearer the weaver). The sensor and magnet are toward the rear of the loom for the Studio Dobby Loom.

Cables

The main components of your Compu-Dobby system are now in place and need only to be connected. You've a mess of cables and maybe you're a little worried cause they look like so much spaghetti. Relax, they're easily sorted out. The trick is in the ends. Each cable has a distinct set of connectors, making it readily identifiable from the others.

Let's begin with the:

- Dobby Arm Sensor

This is an easy cable to identify — it has a big plywood block on one end. On the other end is a connector like you see on a telephone cord.

- Push this connector into the uppermost port on the right side of the Control Box. You should feel it snap into place.

- **For PDLs and FDLs, the plywood sensor case will be fastened to the left side of the Dobby head (see Figure 2) and the right side for SDLs (see Figure 2). It's important that you get this right. Slip the case over the locating stud that sticks out of the left Dobby side and fasten it down with the screws we provided (you'll need to remove the original screw first).**

- Serial Cable (RS-232)

- The serial cable, generically called an RS-232, is different depending on whether you have a Macintosh or IBM computer. In either case, one end will have a male connector with two rows of pins, nine in all. The connector at the other end will be clearly different and may be male or female.

- Find this cable and push the pin end into the port that is second from the top on the Control Box.

- Use your small bladed screwdriver to run the side screws in. These provide strain relief.

- Allow the free end of the cable to hang for now. Later, you'll connect it at the rear of your computer.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

- Control to Solenoid Box

For this connection, you'll need the slender cable that looks like a piece of phone cord. It is a piece of phone cord and has phone connectors at both ends.

- Push one end into the next lowest port on the side of the Control Box.
- Insert the other end into the appropriate port on the top of the Solenoid Box.

- Power Extension Cable

This cable is the same at both ends: chrome plugs with fifteen pins.

- Connect one end to the remaining port at the back of the Control Box.
- Connect the remaining end to the appropriate port in the top of the Solenoid Box.

- Power Cord

You've one cord remaining, the power cord.

- Connect the female end to the rear of the Control Box.
- Let's wait a bit before we add power.

Set-Up Your Computer

If you haven't already, set your computer up at the right side of the loom. Once you make the necessary connections, you can move it to a position you find most user-friendly.

- Leave the computer unplugged for the moment.
- You're going to plug the free end of the serial cable (RS-232) into a port on the back of your computer. You left this cord hanging from the second port on the Control Box.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

- First, you need to locate the serial port on the back of your computer. Here's what to look for:
 - Most recently manufactured, name brand, PCs are configured with one 9-pin external serial port (always a male port).

Older PCs will usually have two or more external serial ports, 9- and 25- pin. The 9-pin port is used for the mouse. The 25-pin port is available for other peripherals, including your Compu-Dobby.

When we take your order, we try to establish which configuration you have so that we can provide the correct cable. If you did not receive a serial cable that corresponds to your particular port configuration, please call AVL Customer Service. Unless you have access to a full-service computer store, it's unlikely you'll find the cable you need. One decided disadvantage of rapid change in the computer industry, is the difficulty we all have in staying current with the latest trends.

We have supplied you with an adaptor from 9 to 25 pins, so if your computer has a 25 pin port, it will still work.
 - Newer Macs use USB ports. You'll need a serial-USB adaptor to connect the Mac to the Compu-Dobby. We recommend the Dual Adaptor from KeySpan or the Belkin adaptor.
 - Older Macs usually have two serial ports. These are round and contain holes for eight pins and are labeled *modem* or *printer* — you may connect to either.
 - If you have a Macintosh system, you'll be asked to specify which port you connected to. This happens later and you'll be prompted by your weaving software.

Secure the Cords

We've provided you with a number of adhesive backed anchors and plastic zip ties. Use these to bundle your cords in the fashion you find most utilitarian and pleasing.

Now you're ready to plug in the computer and Compu-Dobby. We should talk about surge protectors.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Surge Protector

Surge protectors are electronic protection devices that limit the amount of electrical current that can be delivered to your equipment. Though your power supply is regulated by your utility company, occasional load fluctuations can result in power spikes. A power spike can rip the heart out of sensitive electronic equipment, your computer or Compu-Dobby, for example.

We **strongly recommend** that you install a surge protector between your electrical socket and computer/Compu-Dobby.

- Plug-in the power cord on your computer.
- Plug-in the power cord on your Compu-Dobby.

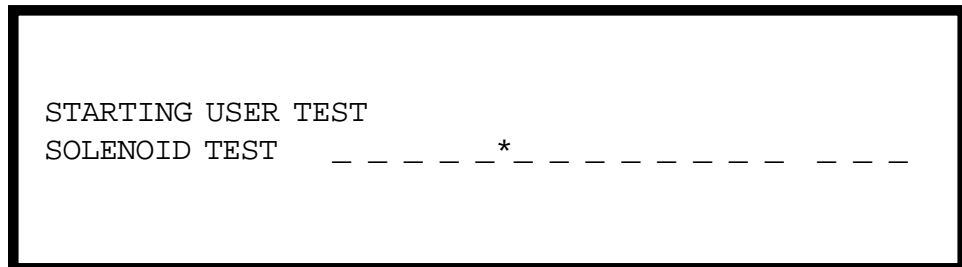
DIAGNOSTIC TESTS

Your Compu-Dobby actually has on-board diagnostics capability that will allow it to self-check the function of its major systems. This can save you lots of time, trouble, frustration, and anxiety.

You, of course, will need to direct the system to check itself (it's not that smart!) Here's how:

- The Control Box has a row of seven function buttons. Depress and hold the Skip button.
- Still holding the Skip button, turn the power switch on.

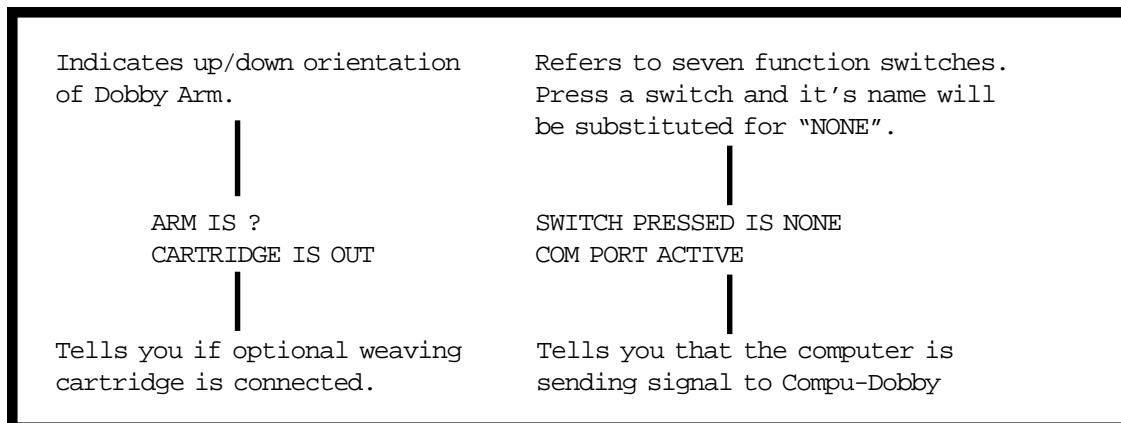
You should see this display:



Immediately, the asterisk will begin to trace it's way left to right and you'll hear each of the solenoids deploy. The asterisk represents the firing of each solenoid. Each dash corresponds to a harness.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

When the solenoid test has completed itself, the following message will appear in the display window.



Function Buttons Test

To complete the function button diagnostic, depress each function switch in turn, noting if its name appears at the display message: "SWITCH PRESSED IS _____".

Dobby Arm Sensor Test

This test will determine if the display on your Control Box corresponds with the actual position of your treadles.

Your left treadle is now in the *up* position. Depress the left treadle: the Dobby Arm will now travel to the *up* position. Check the display on your Control Box. You should see this message: *Arm Is Up*.

If the readout indicates *Arm Is Down*, the position of the Dobby Arm Sensor (that wooden case attached to the left side of the Dobby Head) may need to be adjusted slightly. Loosen the mounting screw and try tilting the case a little towards the magnet. The message on your display should change to *Arm Is Up*.

Cycle through a couple of treadlings to be sure all is in order.

Cartridge Test

If you have installed an optional Weaving Cartridge, the display should say: *Cartridge Is In*. If it doesn't, please check your connections. Is the red light on the cartridge case on? If not, you probably have a faulty connection.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Com Port Test

Some, but not all, software will support this test. If the software you are using is compatible, the message *Com Port Active* will appear briefly when you go into loom control. If you do *not* get this message, don't worry -- it's likely that your particular software is simply not written to accommodate this feature.

If you like, you can purchase a hard-wire solution from AVL that will give you this feature, even if your software is not written for it. It's not essential that you have this diagnostic control, however, it can be extremely helpful if you are having a problem and aren't sure if it's in your computer or in the Compu-Dobby.

Finally, depress and hold the Select button while pushing Skip. This will end your Compu-Dobby test and put your system in weaving mode. You should see the following message:

WAITING FOR COMPUTER OR SWITCHES

If everything has happened as it should have, your system is in good working order and weaving ready.

About the Weaving Cartridge

The Weaving Cartridge is an especially handy option if you will frequently want to have your computer available for things other than weaving, or if it's not possible to have your computer located near the loom.

About the size of a bar of soap, the Cartridge plugs in at the bottom port on the Control Box. Depending on the software you're using, you may create as many as ten different peg plans at your computer and send them to the Cartridge for storage in it's memory chip. Thereafter, you can remove the computer from loom control and make your plan selection from the Control Box. It's a truly great way to maximize your resources!

Using the Cartridge

- Plug the Weaving Cartridge into the bottom port on the right side of the Control Box.
- Turn the Control Box *ON* if you have not previously done so (switch at back).
- Bring up your weaving program at the computer.
- Select *Weaving Cartridge Mode*. How you do this will depend on the specifics of the software you are using. Please consult your software manual for direction to the appropriate menu and command.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

- Once in *Cartridge Mode*, you may *save* any peg plan *to* or *from* your cartridge.
- Having saved a pattern, follow the usual exit procedure to quit *Cartridge Mode*.
- **NOTE:** You will need to reset the Compu-Dobby before you begin weaving from the Cartridge. There are two ways to accomplish this:
 - Simply turn the Compu-Dobby *OFF/ON*; or
 - Simultaneously depress and hold the *Skip* and *Select* buttons on the Control Box: release *Skip*: release *Hold*.
 - At the Control Box display, you should see the following message: *Waiting for Computer or Switches*.
- At this point, use the *Select* button to locate the peg plan you intend to weave. It will appear in the Control Box screen under the name you previously assigned it. You may note that the Compu-Dobby screen gives you somewhat more information than you receive from your software when in *Loom Control*.

Using the Control Box

The Control Box has seven function switches which allow you to manipulate your weaving program while seated at the loom. It is designed to communicate with the computer or with a Weaving Cartridge if you use one.

The function switches are:



We'll discuss each in turn.

Select: This switch is used to select a peg plan which you have previously created at your computer and sent, or "written", to the cartridge (Remember: an AVL Weaving Cartridge can simultaneously hold up to ten weaving plans in its memory).

The *Select* switch is only functional when you are in *Cartridge Mode*.

When you first create a plan, you'll be directed to give it a name. When you press *Select*, the name of your first peg plan will appear. Push again and the name of the next peg plan appears.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Immediately below the name, you'll see the message: Pick #1. This tells you that you are poised to weave from the first pick in your peg plan. When you select a plan, the system will always put you at the first pick. If for some reason you choose to start at a later pick, simply press the skip button. Each time you hit skip, you'll advance one pick position. The number of the next pick to be performed will be displayed.

As a further visual aid, the display indicates which harnesses are designated to lift.

Save: If you need to leave your loom for an extended period, and wish to shut-down, hit Save and turn-off the Compu-Dobby. Your place in the peg plan will be saved.

Resume: If you've used the Save function, you'll need to hit Resume when you restart the Compu-Dobby. This will return you to the place in your peg plan where you last left off.

Tabby: Because weavers so often use plain weave, we've pre-programmed tabby into the Compu-Dobby. This plan is always available to you at the press of the switch.

You can even insert a section of plain weave into one of your other peg plans "on-the-fly". For example, say you're weaving a pattern you've named Cool and you decide that you want to incorporate a ribbon of plain weave. Press Tabby and your next pick will be in plain weave. Hit the button again at any point and you'll be returned to the pick you left off with in Cool. However, if you wish to begin at the beginning of Cool, rather than where you exited the plan, hit Pattern and you'll return to pick #1.

Pattern: Press this switch and you'll be returned to pick #1 of whatever peg plan you're weaving in.

Reverse: Press this button and you will return to the pick that *precedes* your last shot.

In order to unweave your last shot, you'll need to press *Skip* once: press *Reverse* once.

PLEASE NOTE: The *Reverse* function causes you to proceed through your peg plan in the *opposite* direction you were last moving. This means each time you press *Reverse*, you will reverse direction.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Skip: Allows you to advance one pick: one hit = one advance.

Reset: You don't actually have a reset switch, but you do have a reset function. Press and hold Select while you also depress Resume and the Compu-Dobby will return to its neutral condition.

IMPORTANT: Solenoid Box Adjustment

In order for your Compu-Dobby to function properly you'll need to make one adjustment. This adjustment is made at the front of the Dobby head. ***This is the critical adjustment. Without this, your Compu-Dobby won't work.***

To Adjust

Recall that you earlier installed the two brackets that hold the Solenoid Box into the plywood Dobby Head. The set screws in the middle of these brackets are your adjusting points. You've previously backed these screws out so they are now properly located for the start of your adjustment. Slightly loosen the hex nuts through which each screw is threaded.

- Your goal is to locate the Solenoid Box so that when each solenoid is extended, it pushes the corresponding cable into a slot in the metal bar on the Dobby Arm.

If you take a moment to look up into the Dobby Head, you'll see that each solenoid pushes against a wooden lever (like a piano key), and that each lever in turn moves a cable into position against a multi-slotted black metal bar (the Dobby Arm Insert, by name).

There are two things to check here:

- That each cable is centered side-to-side in the corresponding slot in the black metal bar (Dobby Arm Insert). If the cables fall to the left or right of the slots, you'll need to adjust your Dobby Arm as directed in your loom manual.
- That each solenoid tip is approximately centered side-to-side on its corresponding Dobby Finger strip.

The trick is to adjust the Solenoid Box in or out until the cables are each deposited just to the rear of each slot. If the cables are pushed too far back, or not back far enough, the harnesses will not lift properly.

In order to make this adjustment, you must have your solenoids extended.

Before you make your actual adjustment, you'll need to move to your computer and create a peg plan that activates the outer two harnesses (1 and 16 or 1 and 24). Then proceed through the steps necessary to begin weaving.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Having sent your adjusting peg plan to the Compu-Dobby, return to your loom and treadle once. You should hear the solenoids activate (they make an abrupt snapping sound). If this doesn't happen, repeat your treadling.

Return to the Solenoid Box and, peering in from the bottom, verify that the two solenoids are extended.

- Loosen each hex nut.
- Pull back on the Solenoid Box so that it rests against the adjustment brackets.

Now use the 1/8" allen wrench to turn the left set screw clockwise. This will cause the Solenoid Box to move forward. Continue to turn the screw until the left-most extended solenoid just pushes its steel cable to the rear of the slot in the Dobby Arm Index Lever. **REMEMBER:** The cable should *just* touch the rear of its slot. If it is pushed too far back, it will cause problems later with your harness lifts.

Hold the set screw stationary with the allen wrench and use your wrench to snug down the hex nut. This will lock the adjustment.

Repeat this procedure on the right side.

NOTE: The key point is that the solenoids won't work properly unless they are fully extended. So, **WHEN IN DOUBT, BACK IT OUT!** In other words, better to have solenoids away from the dobbie fingers than too close. This is a bit counter-intuitive, but it is critical. If 1 and 16 (or 24) work, then all the rest will follow.

If your harnesses are either not lifting or are dropping, the Solenoid Box requires further adjustment. Check the position of the cables relative to their slots. Again, each should just touch the rear of the slot where the solenoid is extended -- too far in or out and it won't behave properly.

Once you've established that you're getting good lifts, you may assume that the Solenoid Box is adjusted. Please make sure you've tightened the hex nuts on the adjustment brackets.

Next, create a peg plan that fires two solenoids at a time. Set up either a 2/14 twill or a 2/22 twill so you can treadle through and see each shaft lift.

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Energy Miser	Your Compu-Dobby has an energy conservation function and is programmed to shut down if it's inactive for ten or more minutes. At the ten minute point, the following message will appear on your display: "SLEEPING TREADLE TO WAKE UP". To re-energize the system, treadle through one pick cycle. Your Compu-Dobby will awaken and you'll be where you were before it dozed off.
Maintenance	The system requires little maintenance, but the little maintenance it does require is important and should be performed conscientiously. Otherwise, the life of the unit may be shortened.
Clean the Filters	<p>The Solenoid Box has a fan filter. It needs to be cleaned at least every two weeks.</p> <p>Simply unsnap the plastic cover, remove the foam filter, wash in soapy water, rinse, and air dry. Please do not replace the filter while wet — moisture is extremely hostile to electrical equipment.</p> <p>If there is something in your studio setting that makes it especially dusty, clean your filters more often.</p>
Fuse Replacement	<p>The Compu-Dobby is protected by a 250v/3 amp fuse. This is contained in a fuse block at the back of the Control Box where the power cord plugs in.</p> <p>You will perhaps never have occasion to replace your fuse, but on the off-chance you do:</p> <ul style="list-style-type: none"><li data-bbox="470 1165 1482 1207">• Disconnect the power cord at the rear of the Control Box.<li data-bbox="470 1249 1482 1354">• Locate the fuse cover immediately to the right of the power cord port. See the small slot? Insert a small screwdriver here and pry the cover loose.<li data-bbox="470 1396 1482 1480">• Pull out the fuse block and inspect the fuse. If it's blown, replace with an equivalent 250v/3A fuse.<li data-bbox="470 1522 1482 1564">• Replace the fuse block and power cord. <p>WARNING: Never, under any circumstances, should you install a fuse with an amperage rating greater than 3A.</p>

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

Troubleshooting

This section identifies and offers solutions for some of the common problems you may encounter when you work with and install the Compu-Dobby.

If you are unable to solve a problem after reading this section, call the AVL support line at 1 888 893-0913.

Solenoid Box Adjustment

Some Harnesses Don't Lift

- The solenoid box is too close to the dobbie fingers. Use an 1/8" allen wrench to move the Box *away* from the dobbie fingers.
- The dobbie cables may not all be captured by the dobbie fingers. Each dobbie finger has a slot for a corresponding dobbie cable. You should be able to push a dobbie finger with your finger and see the correct cable slide into the appropriate slot on the Dobby Arm Insert.
- Turn the Compu-Dobby off, wait ten seconds and turn it back on. Listen to each solenoid as it clicks through the sequence. Each should make a solid sound; a loud clack. If it makes a soft "thunk", then the solenoid box is probably too close to the fingers. If there is no sound at all, then it may be a burned out solenoid. If this is the case, then call AVL immediately.

Some Extraneous Harnesses Lift When I Don't Want Them To

- Check to see if the unwanted harnesses are at the far end of the dobbie arm, 13 through 16 on a 16 harness or 20 through 24 on a 24 shaft loom. If this is the case, then the problem may not be electronic. It may be that the left treadle isn't doing its job.

Remember, the right treadle lifts the harnesses; the left clears the dobbie. If the left doesn't do its job, then unwanted harnesses may remain on the Dobby Arm Insert.

To fix:

- 1.) Check that when the left treadle is fully depressed, the dobbie arm moves all the way to the top of the dobbie box. When the left treadle is depressed, the dobbie arm should clear the line of stainless steel balls swaged to the dobbie cables by a good 3/8".
 - 2.) If, when depressed, the treadle still doesn't do its job, then tighten the turnbuckle under the dobbie to shorten the throw of the left treadle.
- If the same harness comes up everytime, then it may be a blown solenoid driver. Call AVL.

I Treadle, But Nothing Happens

- Windows: You may have selected the wrong Comm Port in your software. Try a different Comm Port.
- Windows: Your Comm Ports may not be active. Go to the Start Menu: Settings: Control Panel: Device Manager: Ports. Click on the Ports icon (the plus sign) and see how many Communication Ports are available on your computer.

Click on a Port, then click the Properties button; it should say Device Status: This device is working properly.

If not, contact your computer dealer or try another port.

- Windows: Check the software. Make sure it's compatible with your Compu-Dobby. That is, make sure it is set for Compu-Dobby II.
- Mac: *Newer Macs use USB Ports; to use the Compu-Dobby, you must have an adaptor.*
 - 1.) Make sure the Adaptor Control Panel is installed. If not, you may need to download it from the Internet.
 - 2.) Try switching USB ports. If it doesn't work in 1, try 2.
 - 3.) Check your software. Does it ask (in Preferences or in the Loom Menu) for a USB Printer Port? Or simply a USB port?
- Mac: On older Macs, you will only have a printer or modem port. Make sure your software agrees with where the RS-232 cable from the Compu-Dobby is plugged in.

On some PowerBooks, there is only one port.

- Sometimes modems and/or printers won't "release" the port, so the Compu-Dobby signal can't get through.
 - 1.) Try turning everything on and off.
 - 2.) See if you have Serial Port Arbiter in your Control Panel. If so, you may be able to free the port.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

APPENDIX A: Mechanical Dobby to Compu- Dobby Conversion

Depending on your loom, you may need to remove the Mechanical Dobby. Use Figure 1 to assist in identifying the parts to be removed.

1. Remove the spring labeled -1- in Figure 1.
2. Remove the spring labeled -2- in Figure 1.
3. Unscrew and remove the screw labeled -3- in Figure 1. A pair of needle nose pliers will help here. They can be used to grip the portion of the screw that is inside the slot at the end of the index lever while loosening the screw. Push the screw post through the back until the cable loop can be disengaged. Hold the cable loop out of the way and reconnect the screw and screw post.
4. Remove the two phillips head screws found at the back edge of the Dobby head (see part labeled -4- in Figure 1).
5. With a pair of vise grips or pliers, crush and remove the black cap located at -5- in Figure 1 (or remove the stop collar with an allen wrench).

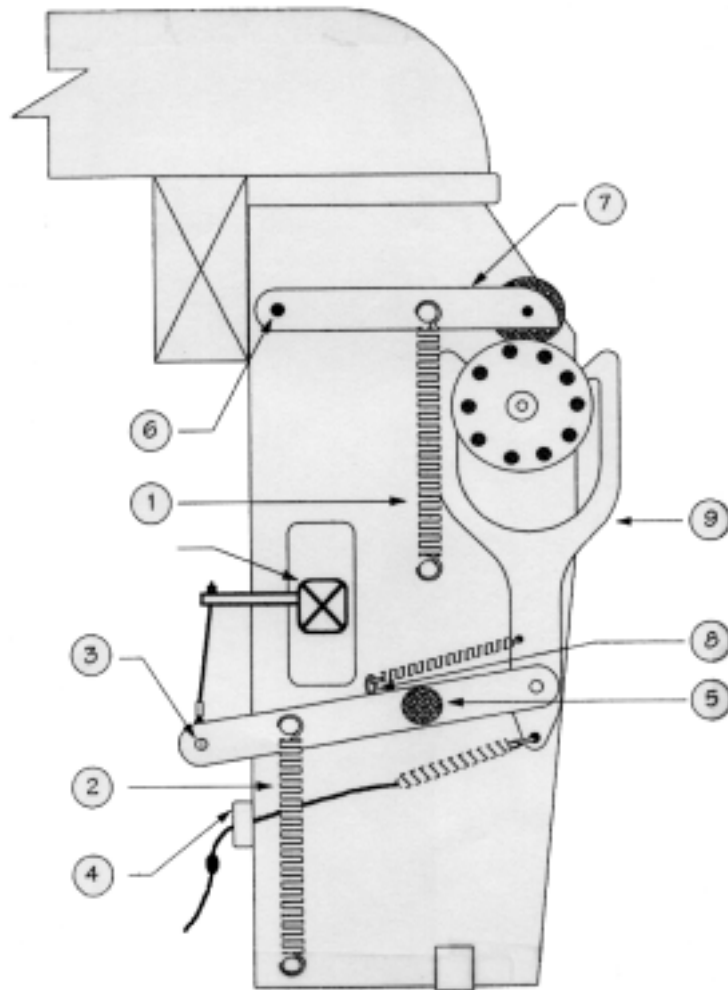


FIGURE #1

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

6. Crush and remove the black cap located at -6- in Figure 1 (or remove the stop collar with an allen wrench).
7. Remove the detent arm labeled -7- in Figure 1.
8. Disconnect the end of the spring labeled -8- in Figure 1.
9. Remove the Dobby hook assembly labeled -9- in Figure 1.
10. With a crescent wrench or socket, loosen the lock nuts located at the center of each retention bracket.
11. Remove the adjusting screws located in the center of the nuts in the retention bracket using a 1/8" allen wrench.
12. Using a phillips screwdriver, remove the two screws on each retention bracket (see Figure 2). Also remove the spring behind each pillow block. Keep the retention brackets close at hand, as you will be re-using them in a moment.

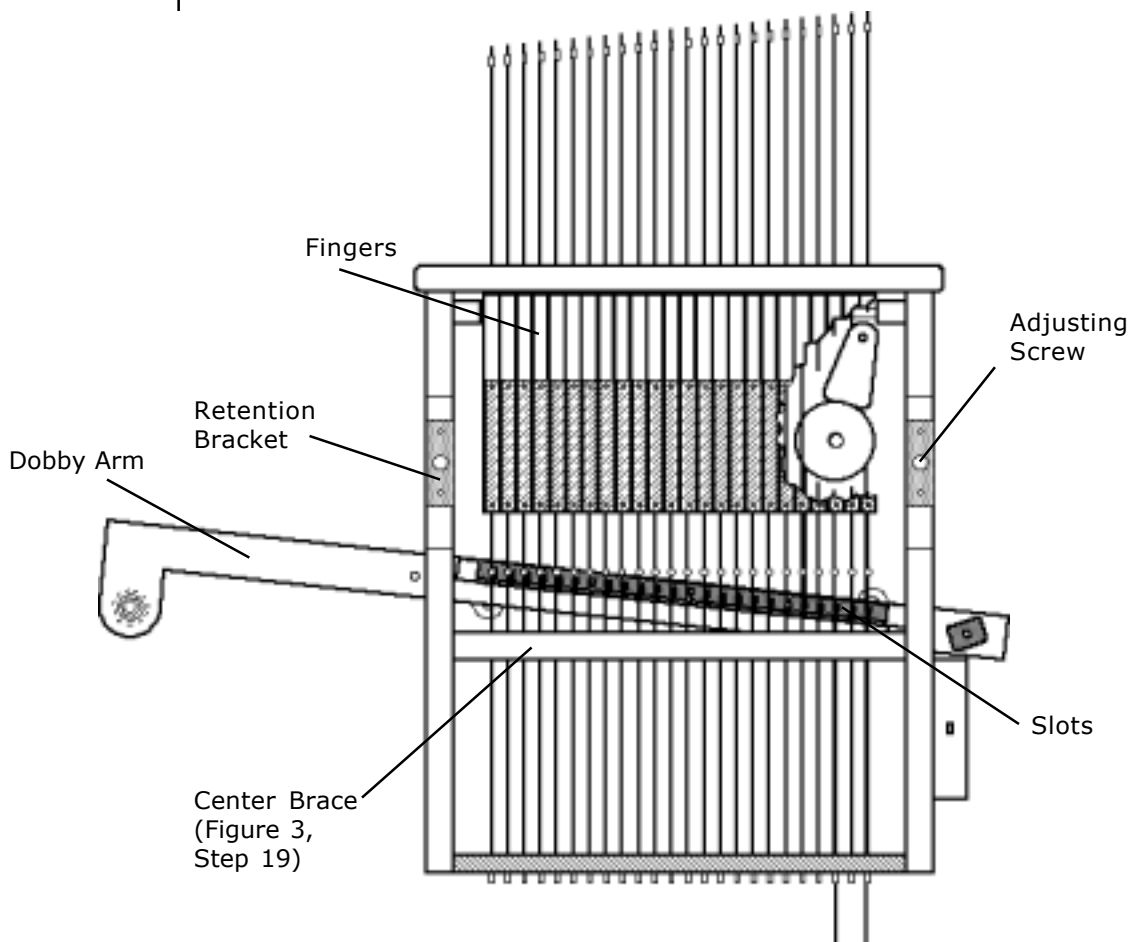


FIGURE #2

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

13. Pull the cylinder assembly straight out toward you.
14. *Locate the retention brackets that you removed in step #12 and set them back in their previous location. Do not use any hardware to hold them in place at this point. They will be held in place after completing the following step.*
15. Install the two Compu-Dobby mounting brackets. These were packed with your Compu-Dobby and are marked "R" and "L". Position them as shown in Figure 3, placing them directly over the retention brackets that you just set in place. Start by using the four #8 x 1 1/2" pan-head screws that were used for the retention brackets removed in step #12.

NOTE: In some cases, the mounting bracket screw holes on the sides of the Dobby may not be pre-drilled. If necessary, you must now make some small pilot-holes with either an awl or a drill bit approximately 1/8" diameter x 1/4" deep (be careful not to drill through, see Figure 3 for details).

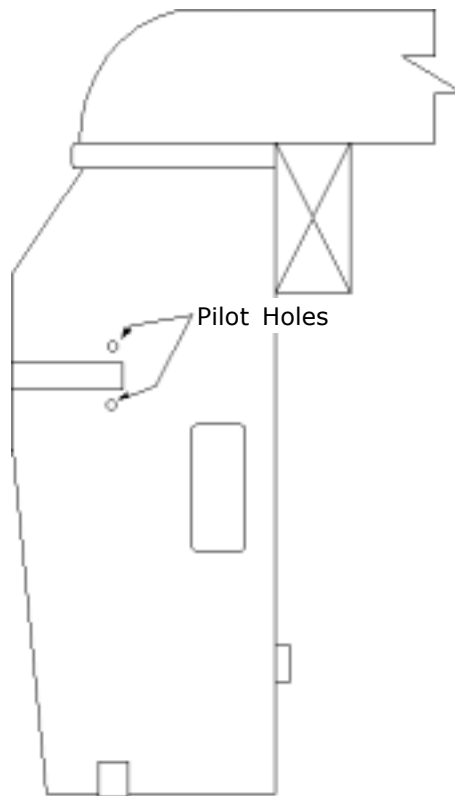


FIGURE #3

16. Screw in the four #8 x 1 1/2" pan-head screws included with the mounting brackets, two on each bracket.
17. Finger-tighten the two bolts with washers with two washers on each knob about halfway into both sides of the Compu-Dobby.

COMPU-DOBBY II INSTALLATION INSTRUCTIONS

18. Slide the Compu-Dobby into the mounting brackets with one washer on the outside of the bracket and one between the bracket with the Compu-Dobby, but do not tighten down the adjustment knobs with the large allen wrench. There is still an adjustment to be made later.
19. Note the two center brace screws (see Figure 2). Remove only the right (or outermost) screw.
20. Slide the optical switch unit onto the pins (see Figure 1, #8) at the side of the Dobby box.
21. Using the #8 x 2 1/2" screw provided, attach the optical switch unit to the Dobby box and center brace.
22. Peel the tape off the back of the squares on the control unit and place the unit where you'll be able to easily reach it.

On full-frame looms, this should be somewhere near the tool holder on the right front vertical. On the folding 40" looms, we recommend that you place it on the Dobby arm support bracket.

There will be some extra wire when mounting the control unit on the 40" looms. We recommend that you wrap the wire three times around the upper right horizontal before sticking the unit on the Dobby arm support bracket. Tie off the triple-wrapped wire with a Dobby chain tie.

The Compu-Dobby must be adjusted with respect to the Dobby fingers prior to using it as a part of your weaving system. This adjustment involves the use of a weaving program that interfaces to the Compu-Dobby.