

# Leclerc Looms

Since 1876



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Loom Prepared by: \_\_\_\_\_

Inspected by: \_\_\_\_\_

Date: \_\_\_\_\_

## DIANA 16 SHAFT COMPUTER-DOBBY

2120-1624

**The Loom shipping container includes the following:**

LOOM HEAD SECTION  
ASSEMBLED AND FOLDED



SHAFT SELECTOR UNIT  
WITH SOLENOIDS UNIT



1 TREADLE SET



BEATER ASSEMBLED  
WITH REED  
12 DPI --- SS---



2 BEATER SUPPORT BOARDS



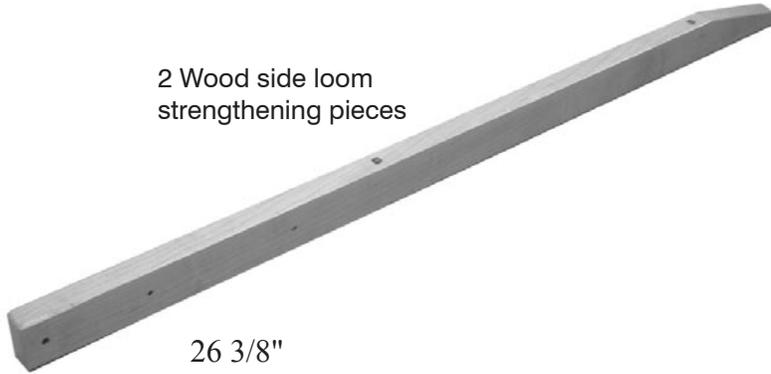
1 PULLEY



2 castle top shelves

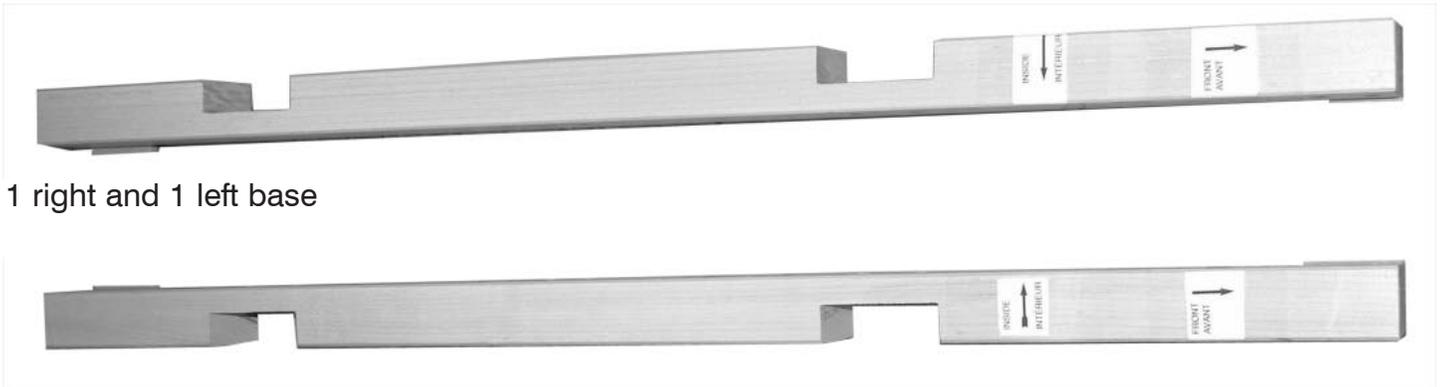


2 Wood side loom strengthening pieces



26 3/8"

1 right and 1 left base



2X LOWER cross-members

2 MIDDLE boards

4 UPRIGHTS



INTERFACE BOX WITH  
CONNECTING CABLES



2 CRANK HANDLES



1000 INSERTED EYE HEDDLES  
(OR TEXSOLV)



3 SQUARE HEAD  
SCREWDRIVERS  
( green, black & red)



1 BOAT SHUTTLE



1 REED HOOK 6141-0000 (10  
5/8")



1 Allen key 5/32"  
1 Allen key 3/16"



2 METAL LEASE STICKS



2 METAL WARP RODS



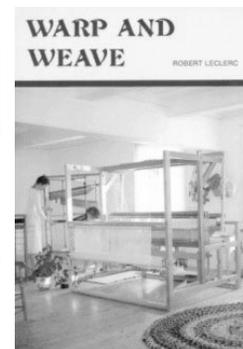
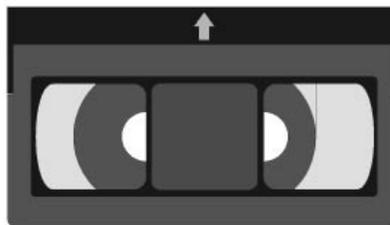
2 SOFT WOOD BOARDS (with  
black mark)  
(with the shaft frame section)



10x 18" (46cm) LOOP CORDS  
FOR LASHING

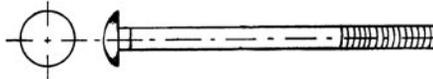


1 INSTRUCTION Video  
1 WARP & WEAVE BOOK



NOTE: Some modifications  
and improvements have recently been made  
and may not be shown in the video.

6 Carriage bolts 1/4" x 3 1/2"  
 10 Carriage bolts 1/4" x 1 3/4"  
 2 Carriage bolts 5/16" x 2"



16 Washers 1/4"  
 2x Washers 5/16"



8 Nylon auto lock nuts 1/4"  
 2x Nylon auto lock nuts 5/16"



1 LOOP CORD 47" FOR TREADLE CONTROL



1 METAL WIRE/CHAIN 43" FOR TREADLE CONTROL



1 LOOP CORD 15", KNIFE TO HANDLE ATTACHMENT



2 MACHINE SCREWS 1/4" X 1 1/2"



8 Square nuts 1/4"



ROUND HEAD SCREWS

2x #6 - 5/8"  
 8x #14 - 2 1/2"  
 2x #12 - 2" (Treadle blocks)  
 12x #8 - 1 1/4"



2x White Nylon Spacers 5/16" x 1/4"



1 3/8"

8x BB bolts





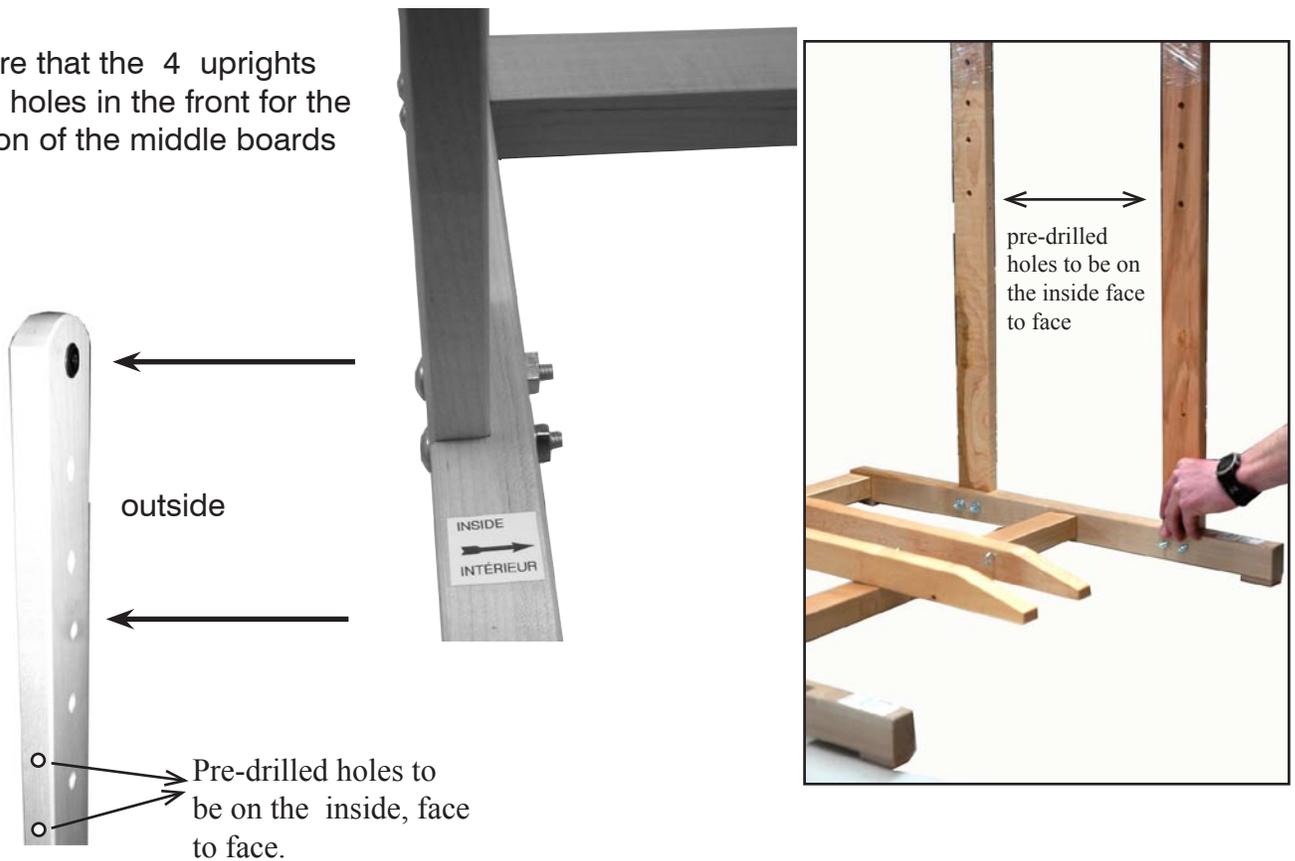
Screw the side base parts to the base cross-members using the 8 round head screws #14, 2 1/2"

Turn the base stand over (all non-skid pads up) and affix the treadle set using 2 rounded head screws # 14, 2½"



Assemble the 4 uprights to the base using the carriage bolts ¼", 1¾", the square nuts and the washers.

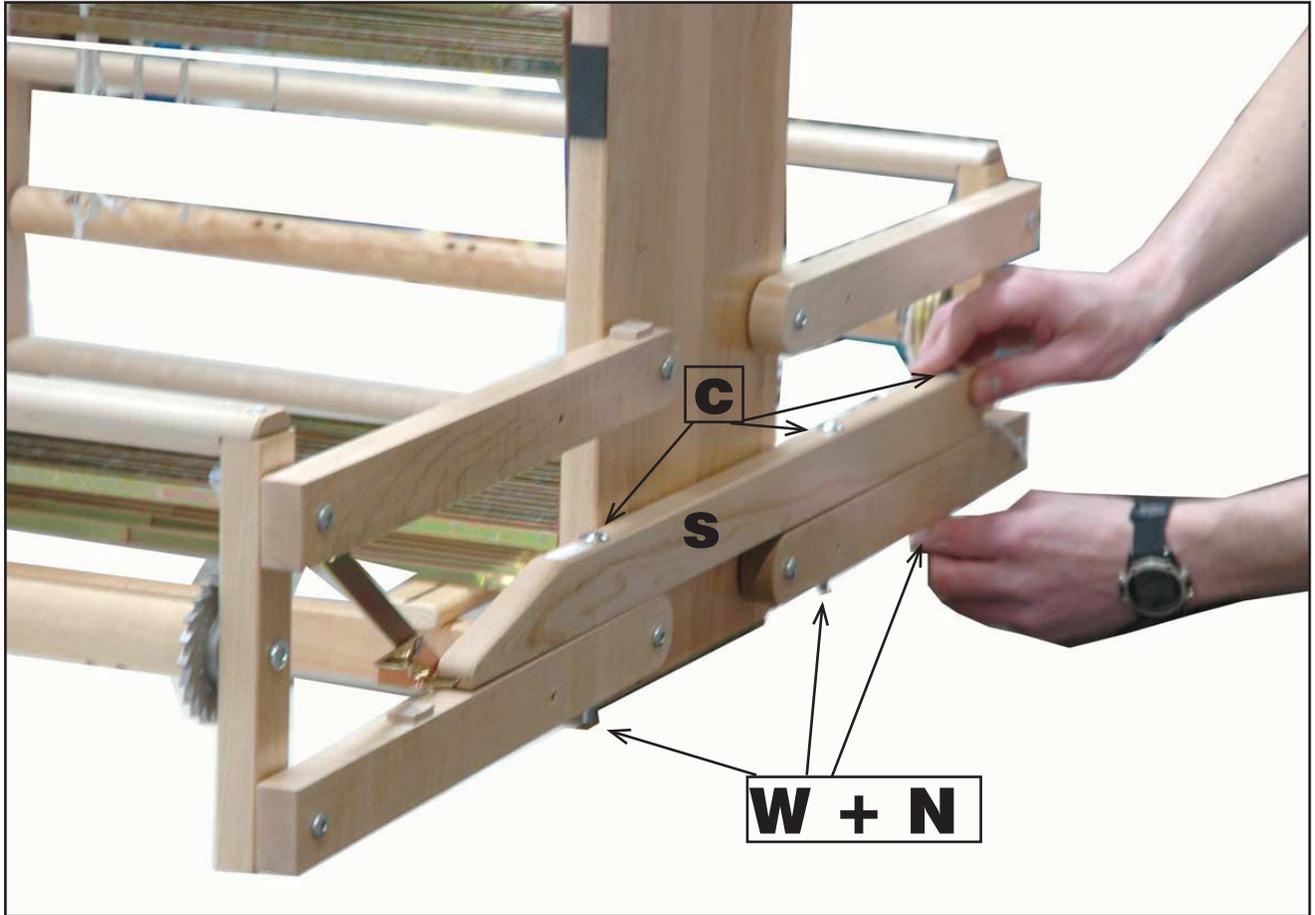
Do not remove saran wrap. (The Cap nuts have to be outside) Make sure that the 4 uprights have the holes in the front for the installation of the middle boards (next).





Affix the Middle boards (1 & 2) in the Uprights using 8 screws # 8, 1¼"  
Make sure that the 2 boards are screwed into the pre-drilled holes of the uprights.

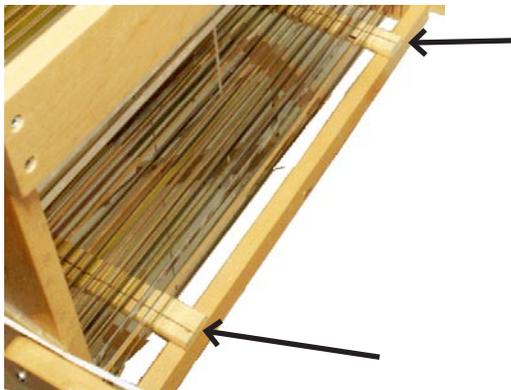
Unfold the loom on a table.

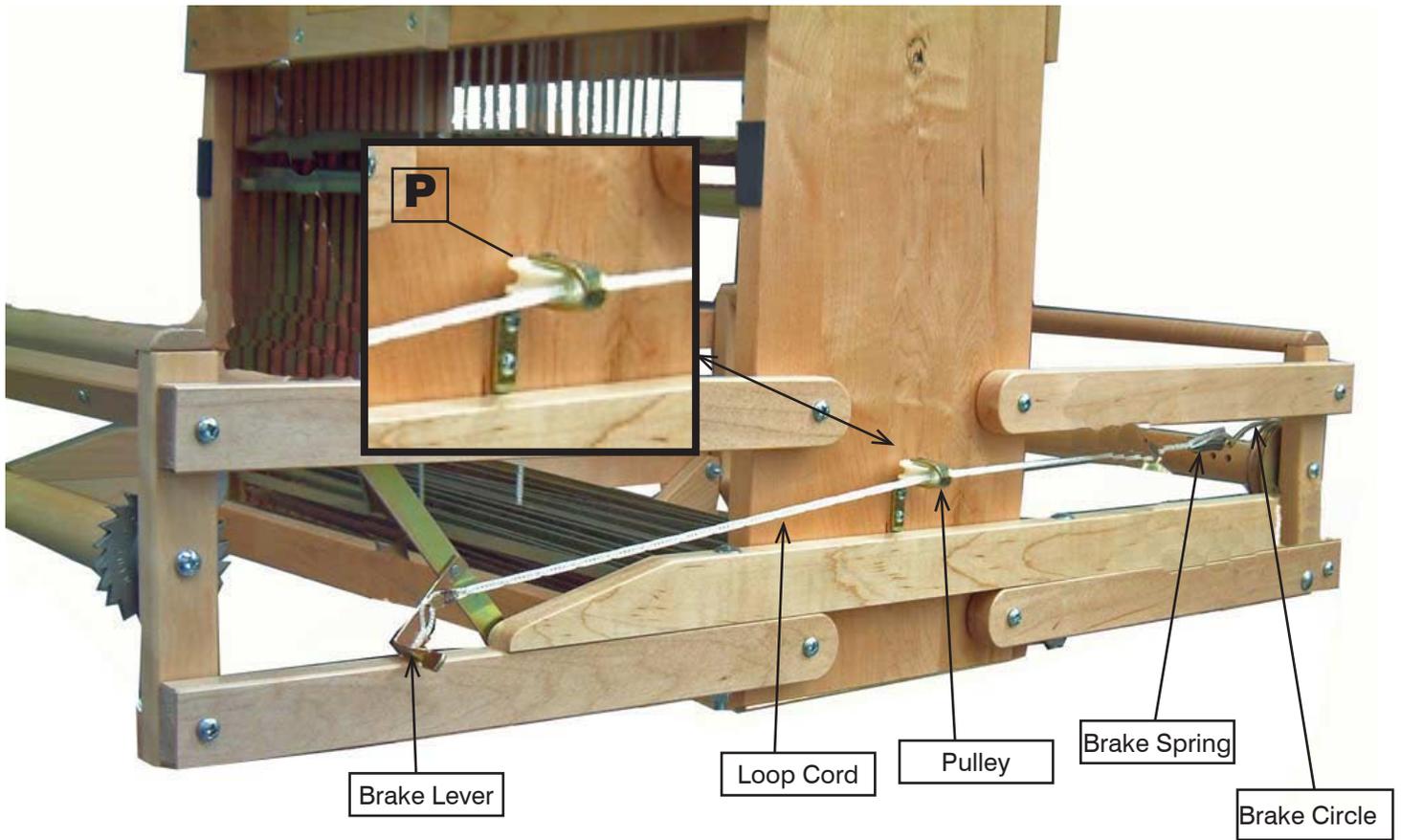


Install the Strengthening wood piece (S) on both sides of the loom using:  
6 Carriage bolts 1/4" x 3 1/2" (C)  
6 Washers 1/4" (W)  
6 Nylon auto lock nuts 1/4" (N)

If the back crank has been installed, you will have to remove it in order to insert from the back the strengthening piece.

**Make sure the 2 soft wood boards stay under the shafts until they are connected to the head section.**





### Friction brake;

Affix pulley (P) to the pre-drilled holes on the right side of the loom.

The friction brake system on this loom has a brake lever, a loop so tension can be adjusted easily, a spring, a brake circle and a brake drum.

The brake loop cord passes outside of the loom and outside of the white pulley.

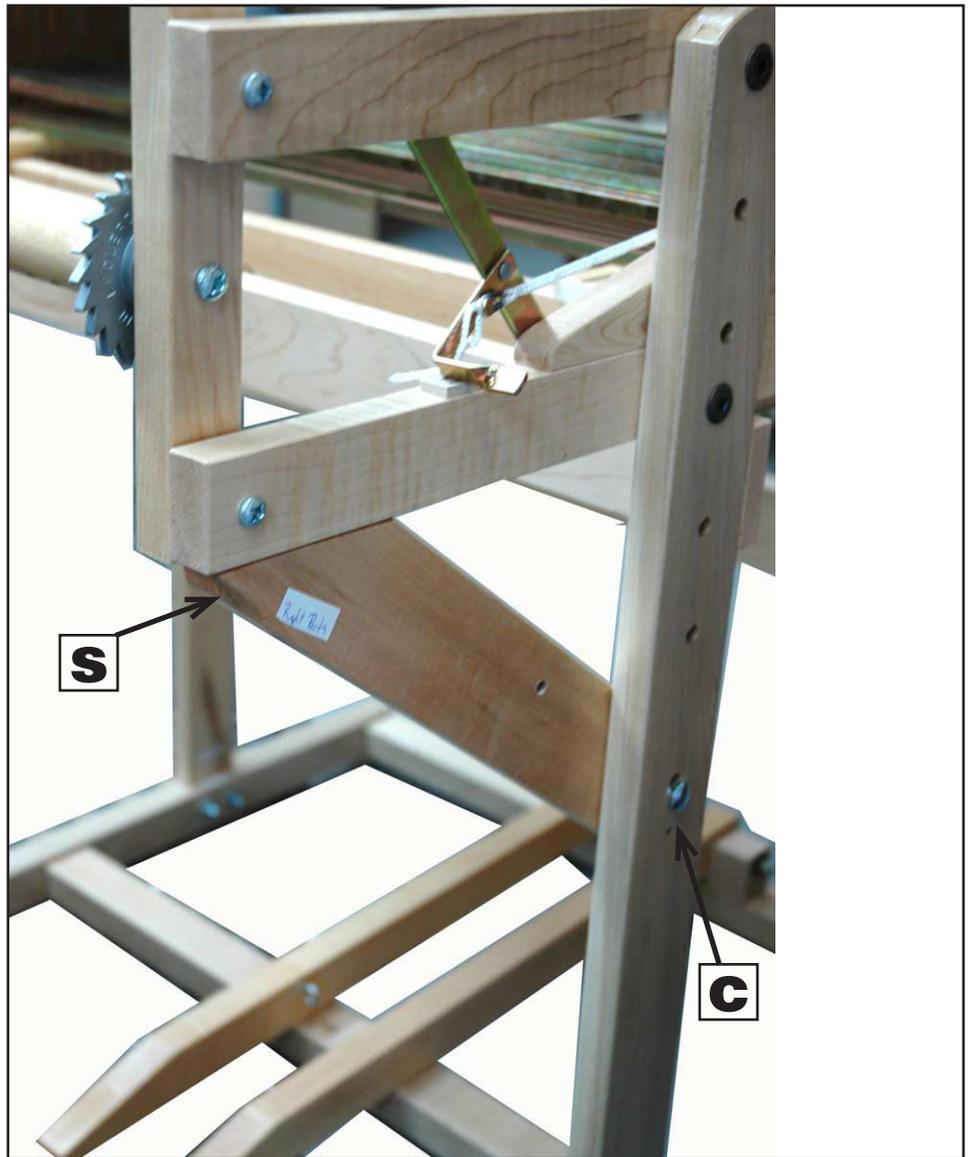
To advance the cloth, lift the lever and turn the front beam. When sufficiently advanced, lower the lever, then tighten the warp with the front beam crank. To warp, it is wise to release the spring to let the beam turn freely.



Install the loom over the base stand using the BB bolts.  
Use both sizes of allen keys to tighten them.



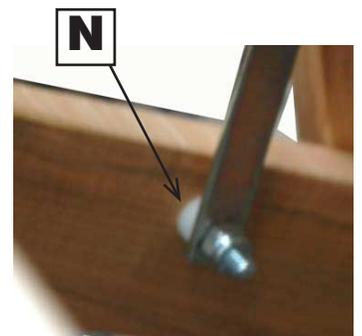
Affix the 2 beater board supports to the base stand using  
2 machine bolts (S)  $\frac{1}{4}$ ",  $1\frac{1}{2}$ ",  
2 carriage bolts (C)  $\frac{5}{16}$ ", 2",  
2 washers  $\frac{1}{4}$ "  
and 2 Nylon auto lock nuts

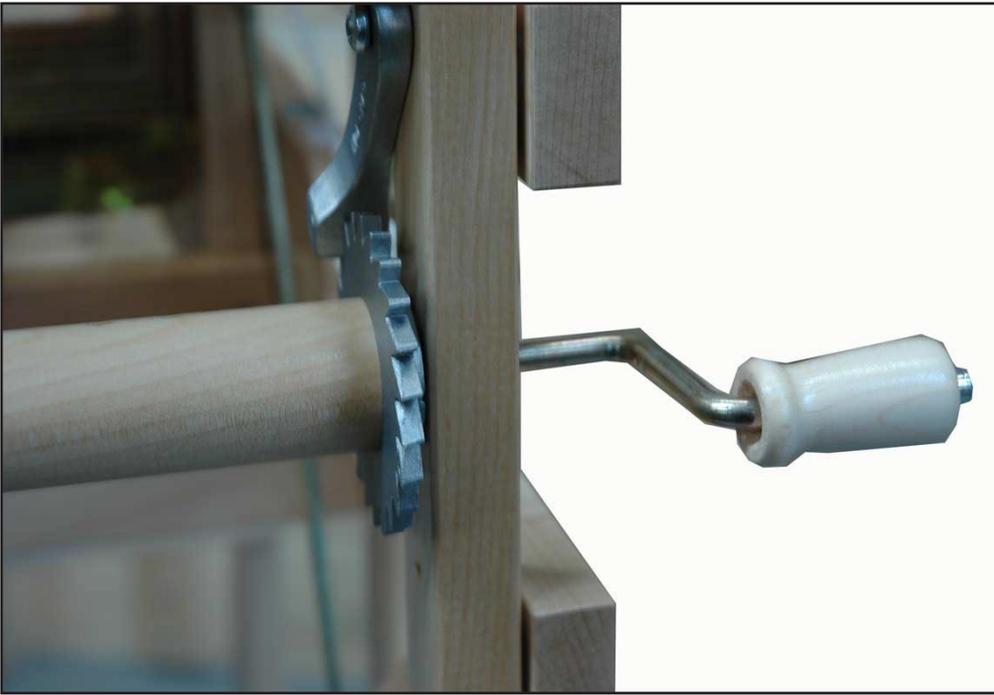


Install the beater to the loom using:  
2 carriage bolts (N)  $\frac{1}{4}$ " x  $1\frac{3}{4}$ "  
2 Spacers  $\frac{5}{16}$ "  
and 2 Nylon auto lock nuts

Place a nylon spacer (N)  $\frac{5}{16}$ "  
between each sword and the  
wood.

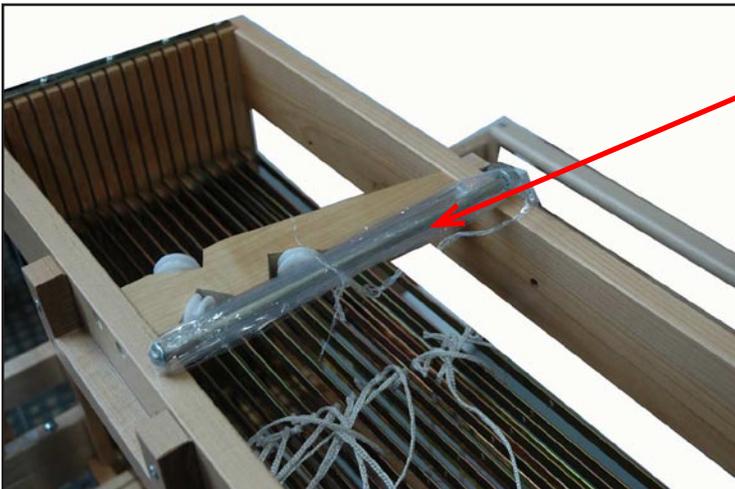
Do not over tighten so the beater  
can move freely and easily.



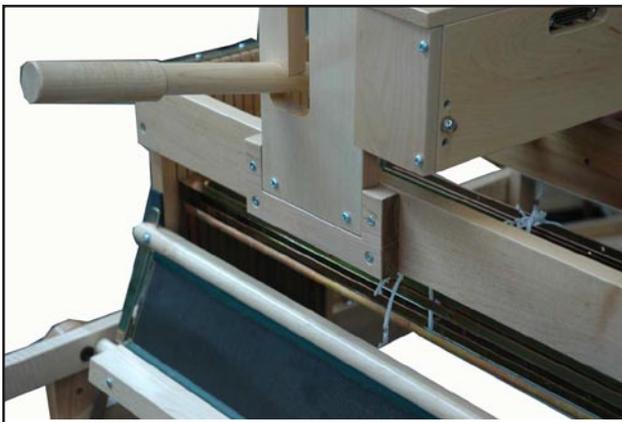


### Install the Warp and Cloth Beam Cranks.

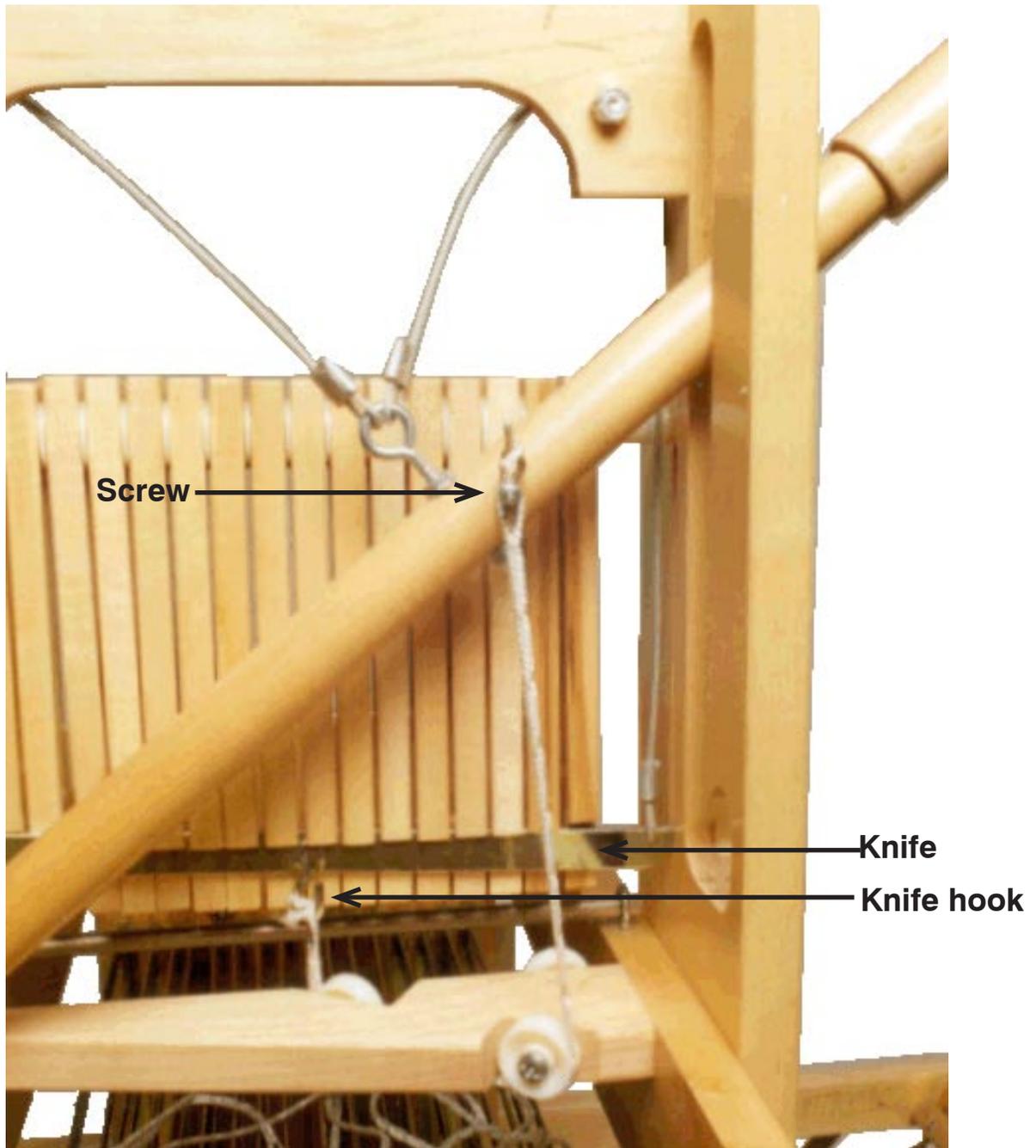
The loom is shipped with a bolt holding the warp and cloth beams. Unscrew the Bolts holding the beams and screw in the cranks. Screw in as far as possible while holding the beams with your hand.



Remove the saran wrap over the metal rod. Make sure to leave the metal rod in the eyescrews.

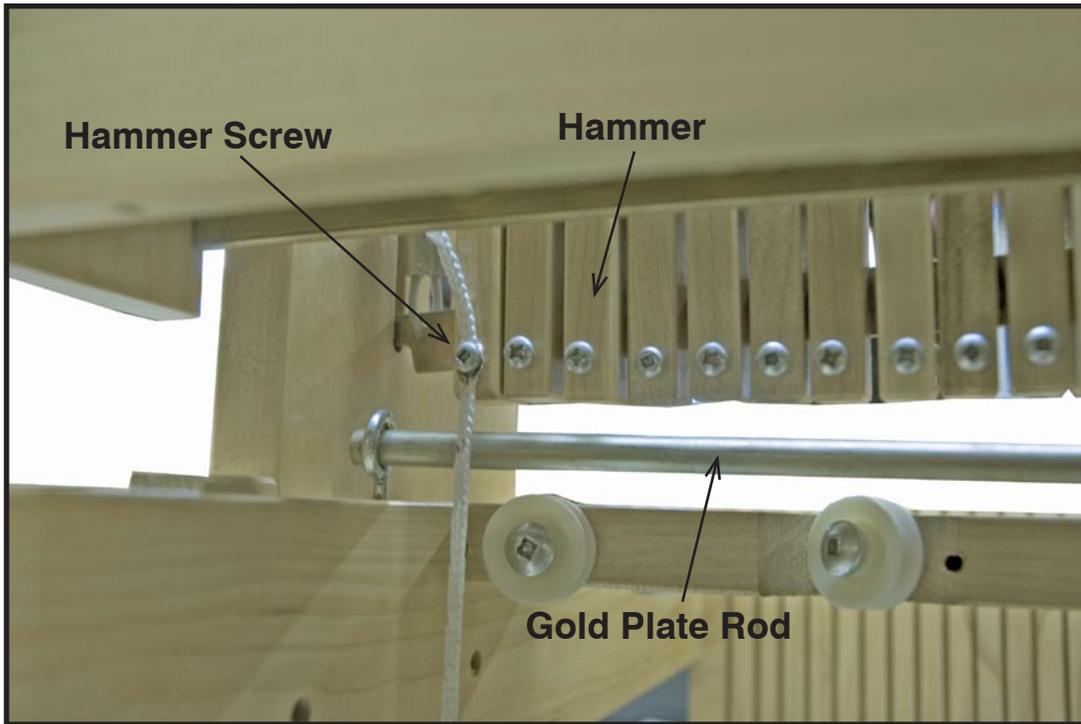


Put the shaft selector in place (sitting on the front and back guides) and affix it using 4 round head screws #8 - 1 1/4"  
Make sure to screw into the pre-drilled holes.



Connect the loop cord between the knife and the screw on the outside of the handle. Slip the hole with the black mark around it over the screw.

The cord will probably have to be adjusted later. If this cord is too tight, the action of the handle will be too hard. If the cord is too loose, the knife will not go completely down causing weaving errors.



Connect shaft frame loop cords to each hammer at the black mark. Just pass hole of black mark around each screw of the hammer.  
Make sure to pass loop cord **INSIDE** the gold plated rod as in the picture.

When all shaft frames are connected to the correspondant hammer, remove the soft wood (black mark) board from under the shaft frame.

All loop cord should be now under tension (weight of the shaft frame).





Install the loop cord joining the screw hook of the left treadle and the hook under the knife, threading it between the shaft frames. Adjust the length so the knife is at the low position when the left treadle is depressed.

Make sure that the loop cord in the knife hook does not catch the hammer when the knife is raised. Put the end of cord in front of the knife.

Install the metal wire joining the screw hook of right treadle and the screw hook at the back of the handle.

The Chain's end attaches to the treadle screw hook.

The Cable from the treadle has to pass between shaft frame 2 and shaft frame 3, then pass in front of the forward inside pulley to go to the handle hook.

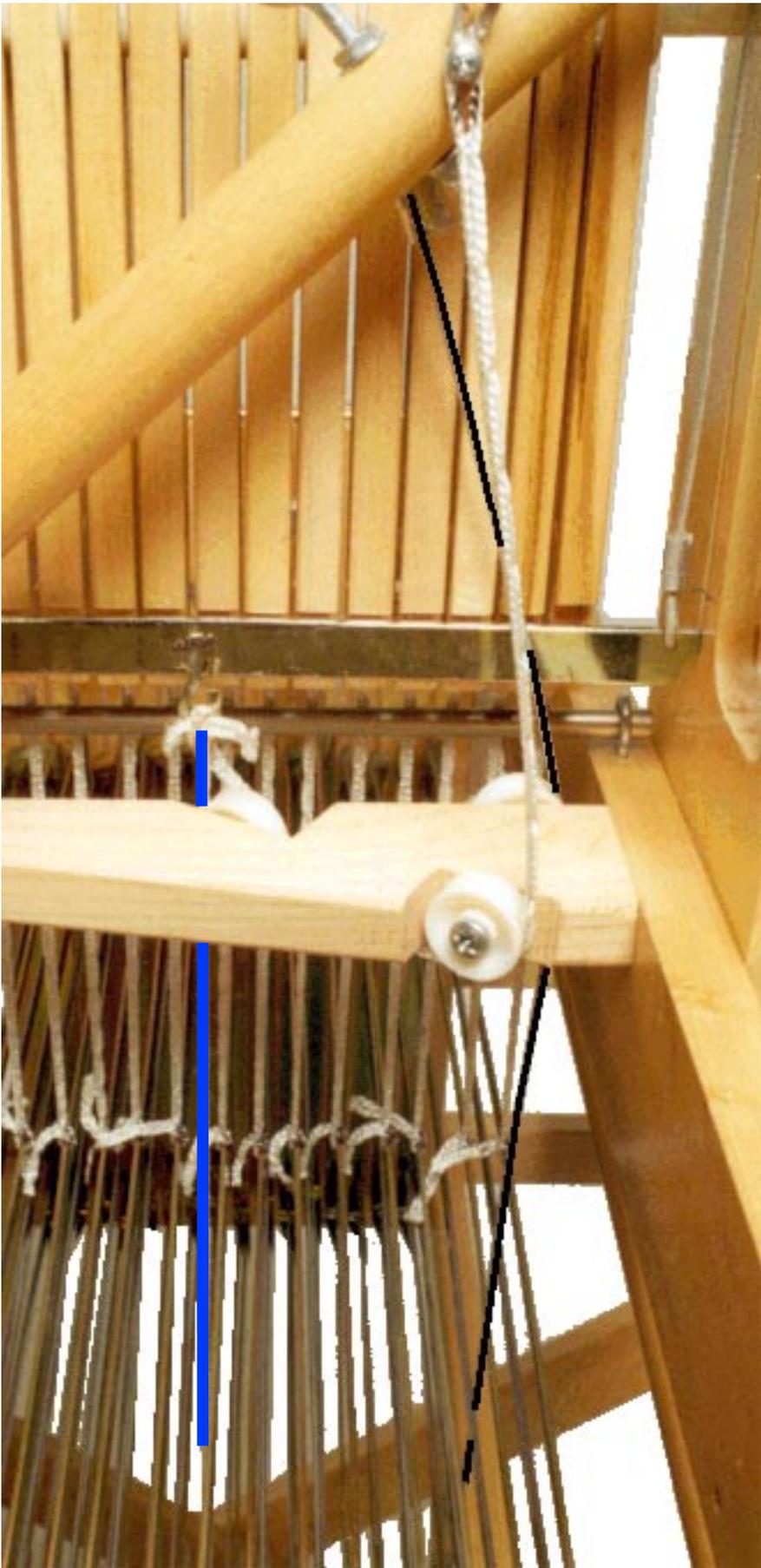
Adjust the length of that wire so the shed is wide open (handle in the bottom of the slot) when the treadle is depressed.

**SEE ALSO PAGE 14 for another picture.**

**IMPORTANT NOTE:**

The loom with the stand is designed to operate with two treadles. The right one lifts the shafts to open the shed. Never release the right treadle until all shafts are in the rest position, then complete the sequence by pushing the left treadle. It is very important to depress the left treadle in order to make sure all shafts are in neutral and to control the pattern advance.





## HEDDLES

To insert the heddles in the shaft frames, remove the heddle bars (support) from each shaft frame by bending it a little. Do not overbend in order to keep them straight.

## LOOM CONNECTION

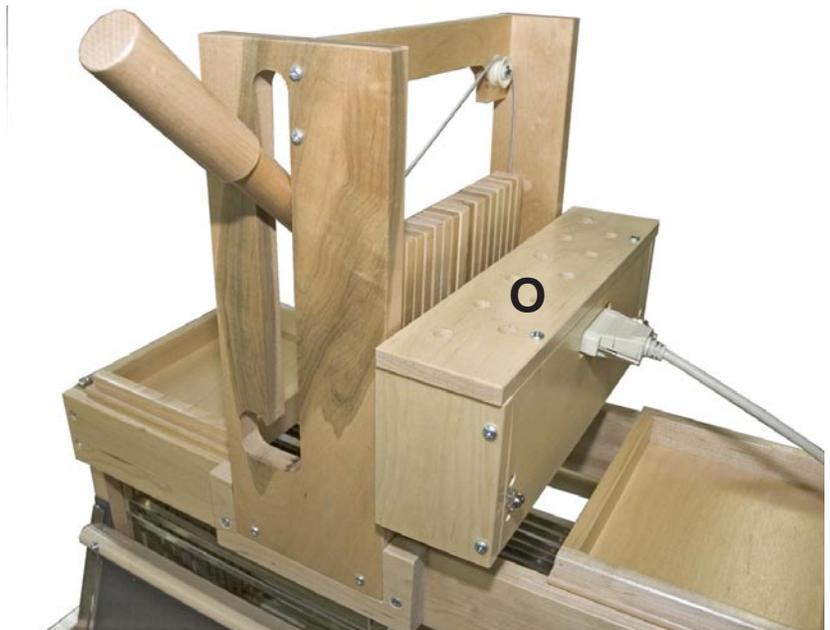
Make sure that the control box (Interface box) and computer are turned off and then connect the cables between:

- 1) Computer serial (com) port and the interface box.
- 2) Interface box and the solenoid unit. (Female to female cable)

The standard cables supplied are for the PC Rs232 serial port. For PC lap top you will need a 9 pin adaptor.

Remove the cover (O) of the solenoid unit.

This solenoid box cover can remain off until you complete the installation and test the unit.



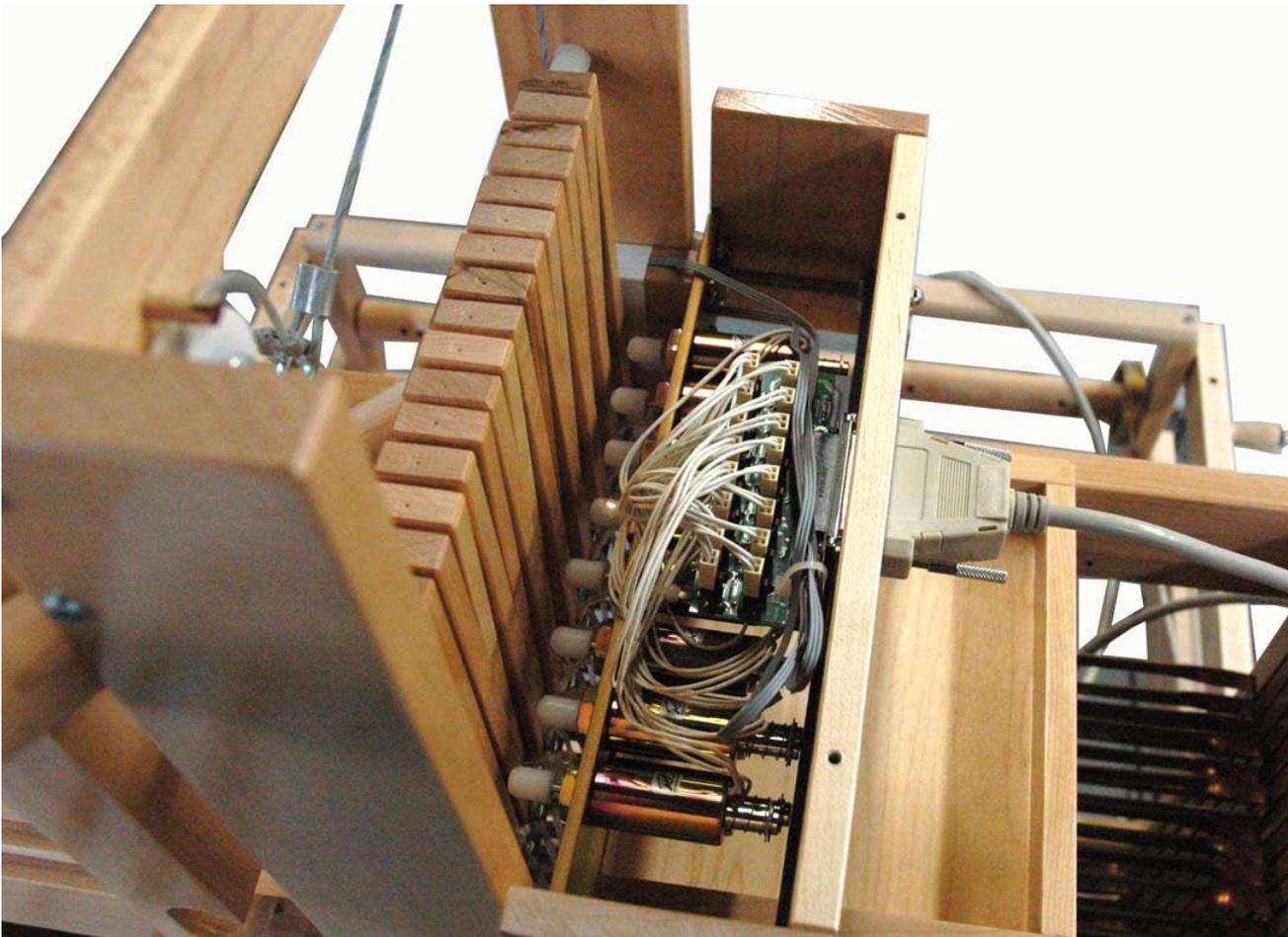
# STARTING THE UNIT

BEFORE YOU START THE SOFTWARE AND AFTER ALL CABLES ARE CONNECTED, TURN THE SWITCH OF THE BLACK BOX ON. LEAVE IT ON UNTIL YOU TURN THE SOFTWARE OFF. MAKE SURE THE KNIFE IS IN THE DOWN POSITION. (HANDLE IN TOP POSITION) TO CHANGE ANY CONNECTION, TURN THE SWITCH OFF.

The solenoid unit is adjusted and tested before shipping. When the solenoids are in the push position (on) they must be at their maximum extension (or very close to it). If they are not at their full extension for some reason, they will overheat quickly.

It is important to check the action of each solenoid before you start, to determine that they are all functioning correctly. The easiest way to do this is with the self-test that is usually available with your design software.

Each plunger should move freely when not in action. If they are sticking, try to determine the cause or call for technical assistance.



## KNIFE ACTION

The knife, as illustrated in the photograph, catches any fingers that have been pushed forward by the solenoid. It is **VERY IMPORTANT** that the knife is in the lower position before you start weaving (first selection)

When you raise the knife with the front handle or the left treadle, the magnet (see page 7 picture), which is glued to the back of the knife, passes in front of two magnetic sensors. As it passes the top sensor, the solenoids will release.

As you complete this pick, by closing the shed completely (handle in the uppermost position or right treadle pushed down completely) the magnet will pass by the lower sensor and cause the pattern to advance one pick and then actuate the solenoids for the new pick.

The magnetic sensors are mounted in a slot behind the fingers. The sensors have been adjusted and glued in place before shipping. The position is marked on the block that the sensors are mounted on. Small adjustments can be made, but be careful, the sensors are very delicate.

Both the sensors and the magnet work only on one side. If the magnet must be replaced do a test first and reverse if necessary.

## One pick sequence

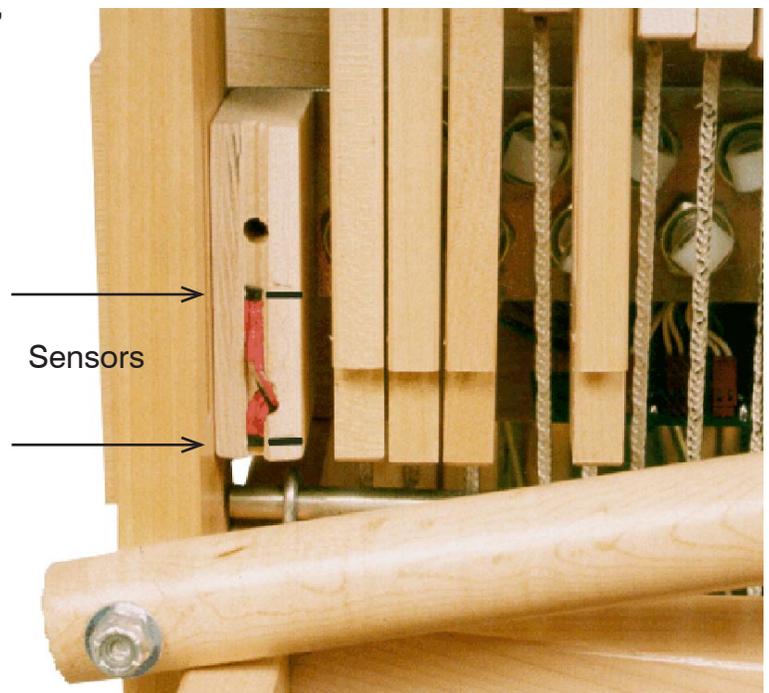
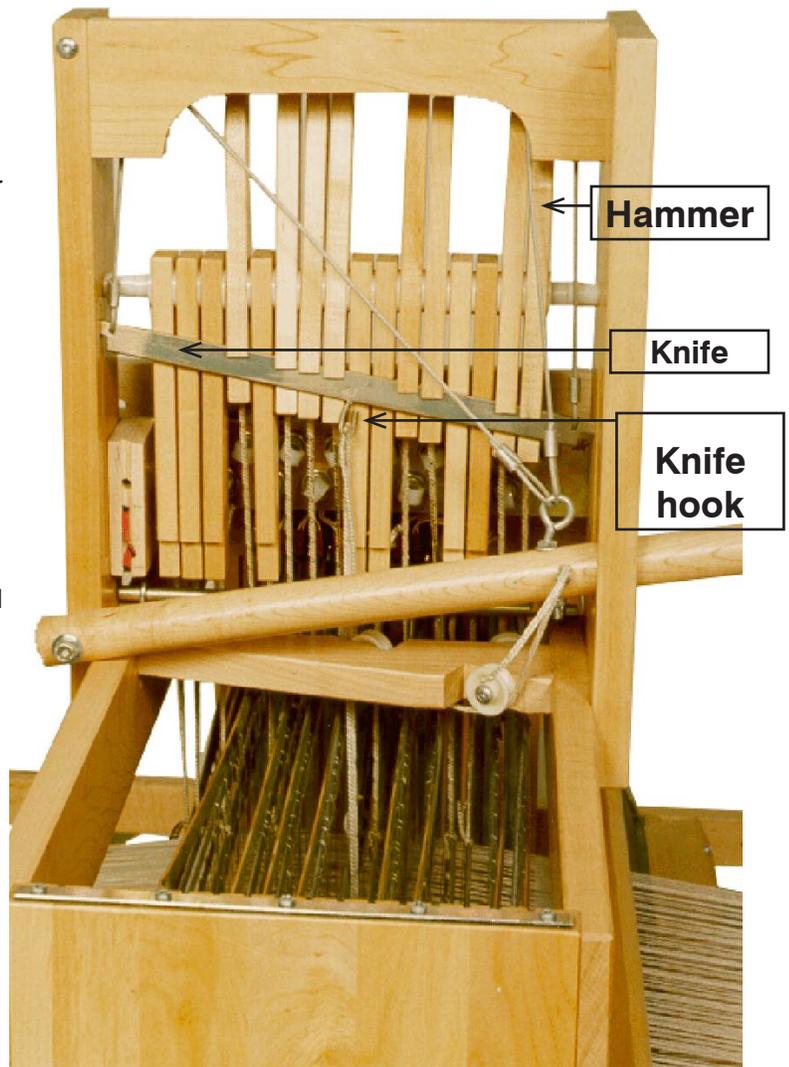
- a) Start Pattern (software). The solenoids activate, pushing the fingers forward.
- b) As the knife moves up, the fingers are caught by the knife and the solenoids are then released.
- c) After the pick is woven and the shed closed, the next pick is made.

## Down system function

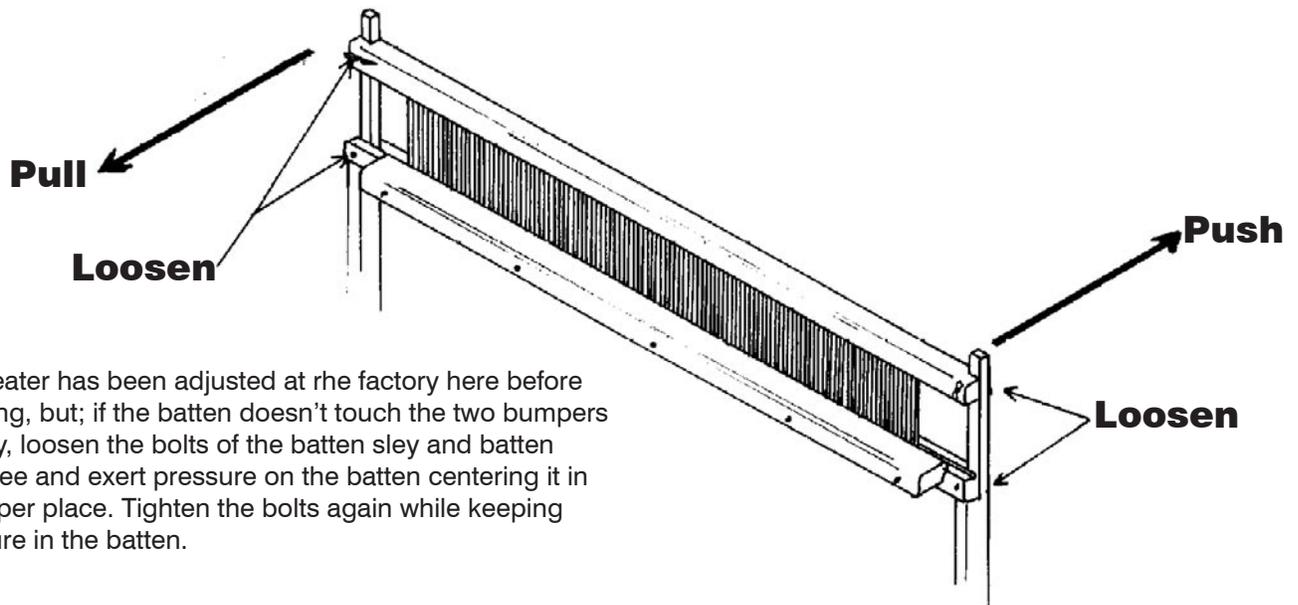
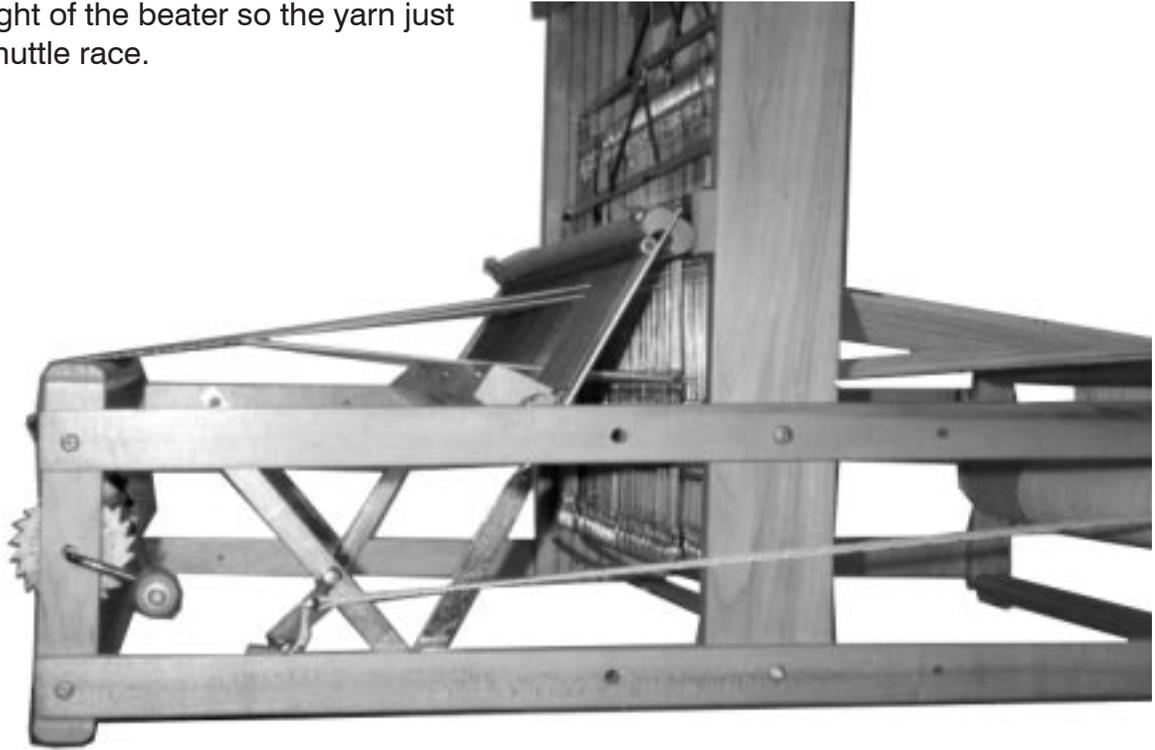
There is a time out after 60 seconds of no activity. To continue weaving, you will have to stop and start your sequence in the loom control of your software.

## MAINTENANCE

It is **very important** that all hammers are kept in clean condition. Application of furniture wax is a good idea to keep them moving easily.



Adjust the height of the beater so the yarn just touches the shuttle race.



The beater has been adjusted at the factory here before shipping, but; if the batten doesn't touch the two bumpers equally, loosen the bolts of the batten sley and batten handtree and exert pressure on the batten centering it in its proper place. Tighten the bolts again while keeping pressure in the batten.

## PREPARING (Stringing) WARP AND CLOTH BEAMS

- 1) Into 5 evenly chosen holes on each beam, thread one length of the loop cord.
- 2) Thread each loop cord back through itself, using the first hole in the Cord, as it comes out of the beam and pull tight.
- 3) Using the last hole of the free end on each Cord, pull a portion of the Cord through the hole forming a Loop. ( A crochet hook can help you)
- 4) Slip a Bar through each loop of all cords and pull tight. (See diagram)



**PROMPTLY CALL YOUR DEALER OR  
LECLERC FOR ANY QUESTIONS.**



**We at Leclerc encourage Weaver feedback on  
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comments to  
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**HAPPY WEAVING**

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