

David

Instructions for assembly



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Assembly tips and information

Please read all the text of these instructions completely. The pictures may seem clear enough to assemble the loom; however, the text also contains useful information about operating David.

Barrel nuts

To connect parts, barrel nuts are used. These cylinder shaped nuts have a slot on one of the flat sides. Always insert the barrel nut into the wooden part, so that the side with the slot is visible. The slot shows the direction of the threaded hole in the nut. With a flat screwdriver or a coin you can turn the barrel nut so that it is positioned properly to catch the bolt. If it is hard to catch the bolt, it usually helps to turn the barrel nut 180 degrees. If you inserted a barrel nut incorrectly into the wood, a magnet can be used to remove it.

Wood screws

Where wood screws are used, we have predrilled holes in the wood. The screw will cut its own thread into these holes. The screws are very sharp and will cut their own hole if you miss the predrilled hole during assembly. If this happens, you will find, that after a couple of turns, the screw will be very difficult to turn. You may even shear the head off of the screw. Also, the parts will be assembled in the wrong location.

If you have to disassemble and assemble again, makes sure that the wood screw turns in the same thread again which was cut the first time. Otherwise, after assembling several times, the thread will be destroyed.

You can find the existing thread by turning the screw counter clock wise, while pushing it into the wood. When you feel the screw snaps into the thread, turn clock wise. When the screw turns easily, you know that you have found the thread.

The Texsolv system

Texsolv cord and heddles are Swedish products, crocheted out of polyester yarn. Cotton heddles have the advantage of being silent in use. Metal heddles, flat or wire, have open eyes. Texsolv heddles combine these features.

Each shaft of the David is provided with one hundred Texsolv heddles (28cm long). The ties that are used for the bundles are in hardware bag 3 and can be used to tie bundles again.

A bundle of Texsolv heddles is a continuous line of 100 heddles folded into a zig zag. Each bundle is fastened in four places. This makes it easy to pass the shaft bars through the loops of the heddles. If you want to cut the heddles apart, use a sharp pair of scissors to cut the loops at the top and bottom of the shafts.

Before removing heddles from a shaft, tie them into a bundle. Do not remove the ties from the bundles, until the heddles have been slipped onto the shaft bars or the loops of the bundles are inserted by sticks, to protect the heddles from becoming entangled.

Practically, Texsolv cord consists of two cords, which are connected every 12 mm, forming loops between them. If needed, the cord should be cut between the two loops. To prevent unravelling, the ends should be singed with a match or lighter.

When we talk about the first or last loop in these instructions, the loop we mean is the one beside the loop where the cord is cut. The loop that remains after cutting has no strength and should not be used.



The Texsolv cord is adjustable in length by 12 mm steps (ca. 1/2"), according to the loops. For fine adjustment, plastic pegs are used, inserted into the loops of the cord. Each peg through the cord will shorten it about 1.5 mm (1/16"). You will not need more than 7 pegs in a cord, because with 8 pegs the cord becomes one cord loop shorter and you can just as well shorten the cord one loop. In hardware bag 3 are 50 spare pegs.

It is a bit hard to insert a peg when the cord is tight. You can release the tension of the cord by taking it off from a roller or by disconnecting the cord end.

In some of the pictures in these instructions you see wooden pins; we used these in the past to shorten the cord.

Marks

The uprights of the middle part of the loom are marked (A and B) at the location where they should be connected to the corresponding marked sides of the top side rails. This is to prevent you from making the mistake of assembling the parts backwards or upside down.

Tools

All hardware parts of Louët products are metric. To facilitate assembly, we have included a set of metric wrenches and a Pozidrive 2 cross head screwdriver (not a Phillips head).

Instructions for assembly



We have assembled the castle section of the David loom in the factory.

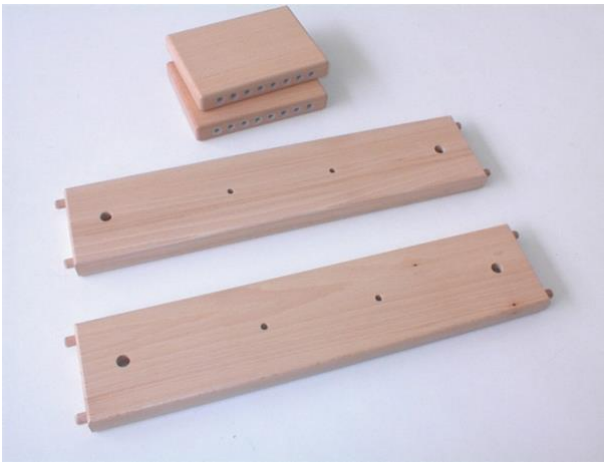
Slide the castle section out of the box. The beater, packed together with the reed and the shelf of the loom, will come out with the castle section.



Now open the other end of the box to remove the box containing all the parts listed below, a cross head screwdriver Pozidrive 2 and ties for the heddles.



- 10 treadles
- 2 warp beam supports L+R
- 2 front posts L=R
- warp beam and cloth beam
- breast beam
- 2 lower side rails L=R
- 2 upper side rails L+R
- back beam
- foot rail
- beater suspension bars L+R
- hardware bags 1, 2 en 3
- 16 warp sticks
- 2 lease sticks
- 2 apron bars



The picture on the previous page shows the parts of the David 70. Into each of the lower side rails, eight nylon bearings for the lams are inserted.

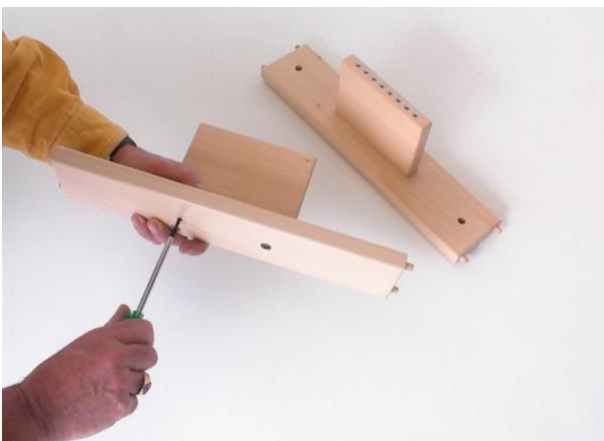
The picture on the right shows the lower side rails of the David 90 and the additional lam squares in which the nylon bearings are inserted.

Open hardware bag 1



The hardware bag contains:

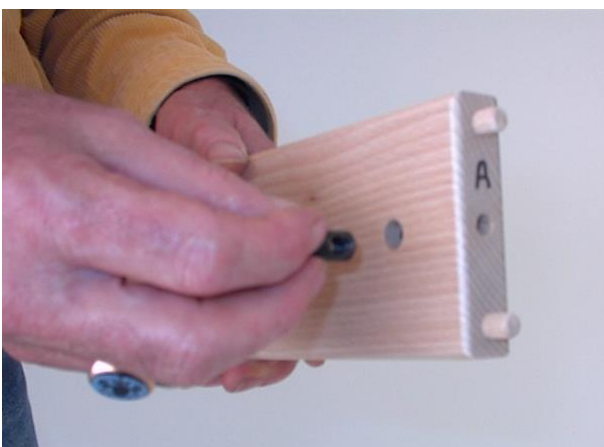
- 8 threaded ends m6 X 135 with barrel nut, washer and cap nut
- 2 bolts m6 X 70 with barrel nut and washer
- 4 screws 5 X 50 mm (these screws you will need only for a David 90. Sometimes, for efficiency reasons, they are also included in the hardware bag of the David 70)
- set of metric wrenches (you will only need wrench 10 for the David assembly)



If your loom is a David 90, use the four 5x50 screws and attach the lam squares to the lower side rails at the same side where the holes for the barrel nuts are located.

Position the middle part of the loom with its back to the wall or a table.

The uprights of the middle part are marked **A** and **B** at the location where they should be connected to the corresponding marked sides of the top side rails.



Unscrew the barrel nuts from the eight threaded ends, but leave the cap nuts and washers.

Insert a barrel nut into the top side rail at the marked end. Remember what you read on the first page about barrel nuts.



Put a threaded end through the hole in the upright.

Slide the top side rail onto the threaded end and push its wooden dowels into the holes of the upright.

Turn the threaded end into the barrel nut, while positioning the barrel nut, if necessary, using a coin or a screwdriver.

The lower side rails should be mounted the same way, their nylon bearings facing the middle of the loom.



After you mounted all four side rails to the castle section, position the front posts onto the dowels of the side rails.



Make the connections to the front posts in the same way you did the connection to the castle section.

Fasten all eight cap nuts, using the wrench number 10.



Cut the ties that hold the lams to the back rail.

Position the lams, one by one, with their ends into the nylon bearings, starting with the rear lam.

Insert one end of the lam into the bearing, while holding the other end of the lam just underneath the side rail. Now bring that other end to its bearing by bending the lam slightly. Push the end into the bearing while you move the lam up and down.



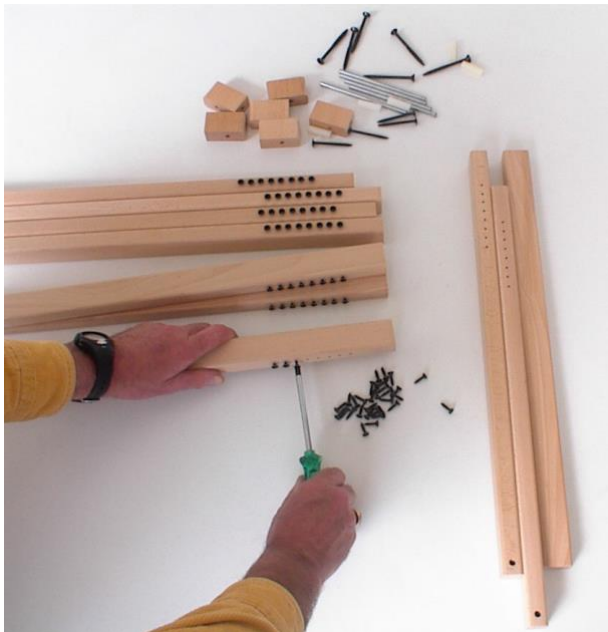
Use the remaining bolts with barrel nut and washer to attach the beater suspension bars at the top of the loom.

Open hardware bag 2

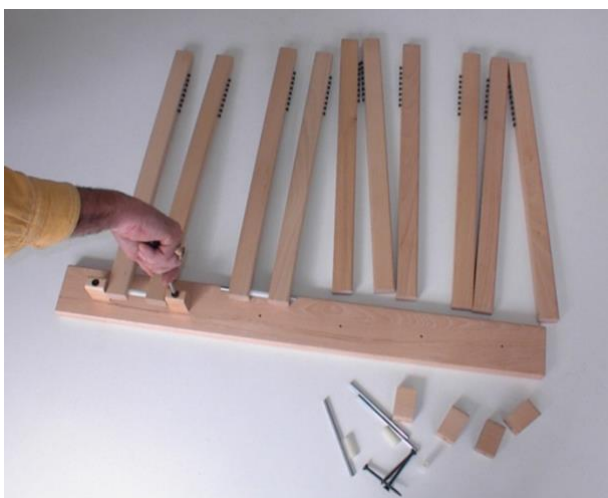


The hardware bag contains:

- 6 axle support blocks
- 6 screws 6 X 70
- 5 axles \varnothing 6 X 122 mm
- 5 nylon bushings \varnothing 6-8 X 30
- 4 screws 5 X 50
- 80 screws 4 X 17



Screw the small screws into the eight holes of each treadle, so far that the screw heads protrude approximately 5 mm (3/16") from the wood. The thread of the screws should just disappear into the wood.

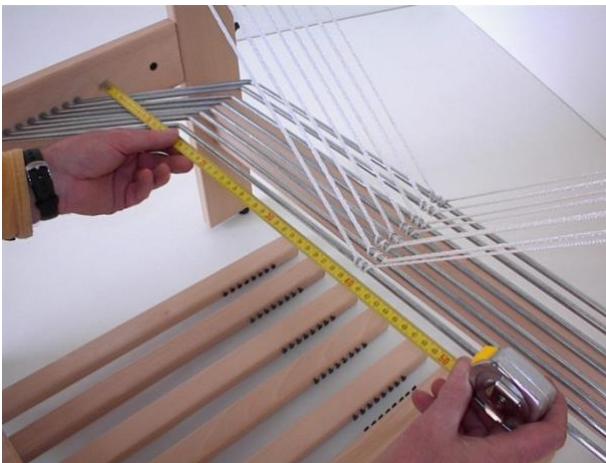


Assemble the treadles onto the foot rail. The screw heads on the treadles should point towards the middle so that the five treadles on the left side are opposite to the five treadles at the right side.

Slide two treadles with a nylon bushing in between on each axle. Use the axle suspension blocks and the big screws to assemble these pairs of treadles to the foot rail.



Put the foot rail with the treadles in between the front posts of the loom and connect these parts with the four remaining screws.



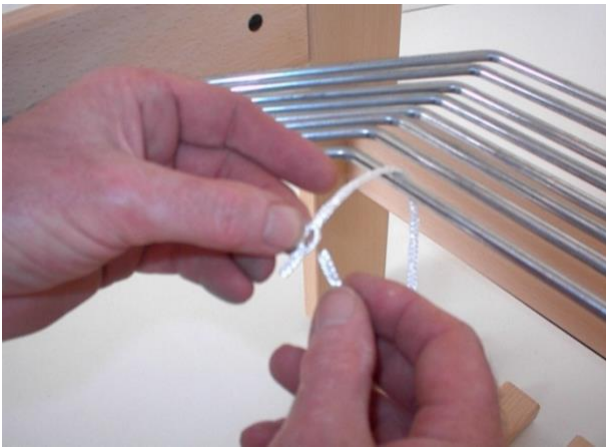
Check the position the cords that connect the lams to the lower shaft bars. The location on the lams should be exactly in the middle. Replace the connection to the lams if necessary. Start with the ones in the front and the back, so the ones in between can be placed in line.

Open hardware bag 3



The hardware bag contains:

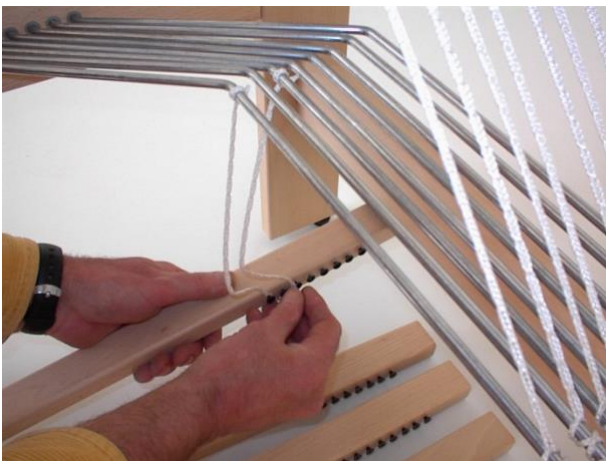
- 2 threaded ends \varnothing 6 X 135 each with 2 washers and 2 wing nuts
- 4 screws 5 X 50
- 8 screws 4 X 15
- 2 ratchets
- 2 screws 4,5 X 17 (round head)
- 2 screw eyes \varnothing 6
- 2 screws 3 X 20
- 2 beam handles with O-ring (If you are going to have a brake on the warp beam, you only need one)
- 3 O-rings (one is for spare)
- 60 tie-up cords for the treadles
- 6 beam cords
- 50 spare pegs to shorten cords



The tie-up cords for the treadles have already been cut to the correct lengths.

Lead a cord around the lam and insert one end into the loop at the other end, the one next to the loop where the cord has been cut.

Pull the cord, so that the loop you made around the lam is tight.



Hook the other end of the cord to the corresponding screw head of the treadle.

Tie-up the treadles for the weaving project you planned, or tie at least each lam to a treadle.



A spring for each shaft is located at the top of the David. These springs pull up the shafts by cords that run over a wooden disc.

A locking pin at the top right of the loom blocks the moving action of springs, discs, shafts, lams and treadles.

This locking pin is inserted into holes in the front and back rail and into holes in the wooden discs.

Remove the locking pin. It helps when you push the shafts a bit downwards.

Look at the situation now: The shafts are pulled upwards by the springs. Because the lams are connected to the shafts and the treadles are connected to the lams, treadles and lams are pulled up as well. The upward movement of the shafts is blocked by the treadles that hit the bottom rail.

So the level of the shafts is determined by the distance between treadles and shafts and not by the lengths of the disc cords from which the shafts hang. If necessary, the level of the shafts has to be adjusted by adjusting the lengths of the slanting cords that connect the shafts to the lams.

When you shorten these cords by one loop at the hooks of the lower shaft bar, the shaft will come down about 2 cm (3/4"). In most cases, that will be too much. For finer adjustment, use the plastic pegs to adjust the lengths of these cords. Every loop you thread the peg through, will shorten the cord by about 1.5 mm (1/16").



To assemble the back part of the David, use the warp beam supports, the back beam and the warp beam (one of the two round beams with a ratchet wheel).

Connect these parts together, using the four screws 5x50, as shown in the picture.

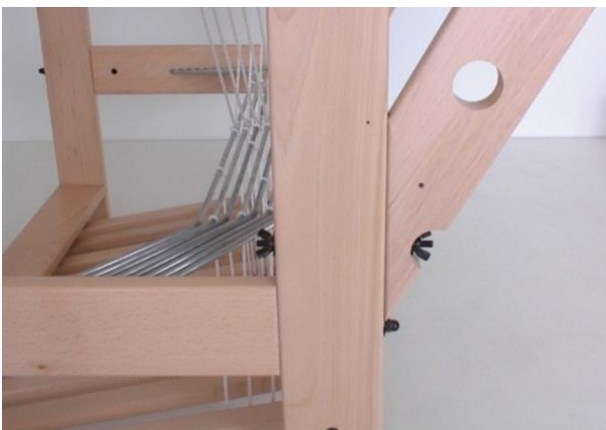


If you also purchased a brake for the warp beam, find the bracket in the contents of its hardware bag.

Attach the bracket onto the warp beam support with the same screws that join the support and the back beam at the side where the end of the warp beam protrudes.



Place the back part in its location by inserting the polyurethane dowels into the holes at the rear of the loom.



Remove one wing nut and one washer from both threaded ends.

Insert them into the holes through the uprights and warp beam supports, slide on the washers and fasten the wing nuts.



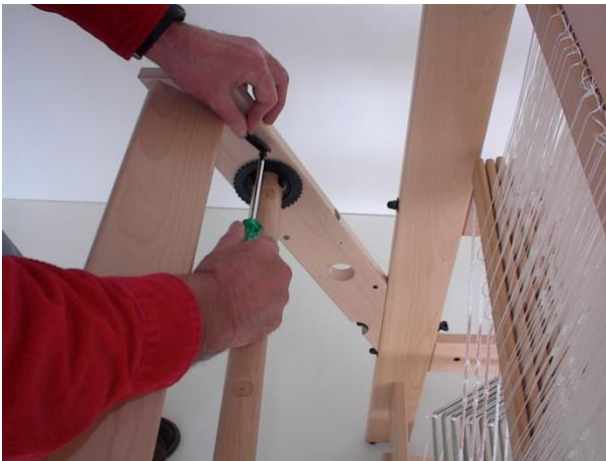
In both uprights at the back of the loom there is a hole in the location where the polyurethane dowels of the back part are inserted. With the two screws 3 X 20 (not the round head 4.5 X 17 ones) you will secure the polyurethane dowels.

These dowels make it possible to fold the back part of the David to save space when the loom is not in use. To do so, you first have to unscrew the wing nuts from the threaded ends. You will need a warp to keep the back part folded, or you have to tie the back part to the uprights.



Install the cloth beam in the loom. First insert the side with the ratchet wheel into the hole in the side rail, while you keep the other end of the beam just below the opposite side rail. Because of the beam is slanted in this position, the hole is tight and you have to turn the beam while pushing it through.

To slip the other end of the beam in place, you have to push the side of the loom slightly outwards.



Install a ratchet next to the ratchet wheels of both beams. Use the round head screws 4.5 X 17. Tighten them and then unscrew them just far enough that they can turn freely.



Insert the beam handles through the holes in the beams and secure them by rolling the rubber O-ring into the groove around the handles. The third O-ring in the hardware bag is a spare.

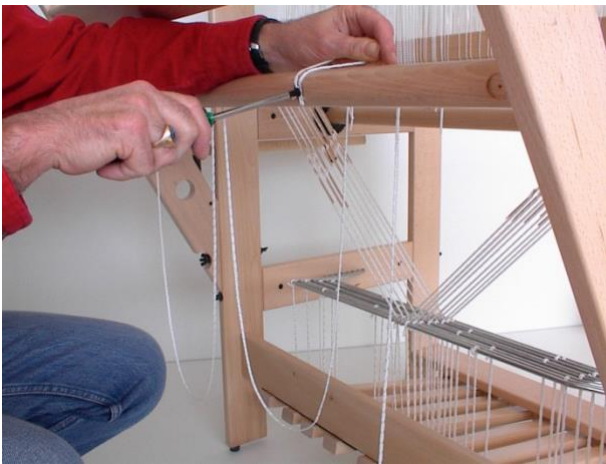
If you have to assemble a brake for the warp beam, don't install the handle in the warp beam.



Screw the little screw eyes into the warp beam supports. Use a nail or something similar to twist it easily.

The lease sticks can be attached to these screw eyes. If you want to keep the lease sticks in your warp during weaving, they should never pass the back beam. They would shorten the effective depth of your loom for shed building.

Some weavers remove the lease sticks entirely while they are weaving; this is a matter of personal preference.



Attach three cords each to the warp beam and the cloth beam with the little screws 4x15.

Start at one side of the beam with the end of a cord. The other end of that cord has to be fixed together with the end of the next cord in the second hole of the beam etc.



Insert the end of the beater at one side into the nylon bearing of the suspension bar. Be sure that the curve in the beater supports is in the right direction (see picture below).



Place the end of the other beater support into the nylon bearing at the other side.

You have to bend the beater support a bit and when you get the end in line with the bearing, it will snap inside.



Install the breast beam. The metal dowels onto of the front posts will fit in its holes.

The plastic foil has to be removed from the reed. You can take the reed out of the beater, after you pull the top beater bar upwards.

Next when you push down the top beater bar at one end completely, you can also take out the top beater bar.

The lower beater bar can be a nice support for your arms while threading the warp through the heddles, but that is a matter of personal preference. You can also turn the beater completely away to the backside of the loom, after you removed the breast beam.



Install the shelf, which was packed with the beater.

The hole in the shelf has to be located at the right back side.



This hole in the shelf is meant to store the locking pin.



Tips:

If you have to add heddles or to remove heddles from a shaft, you have to block the wooden discs by inserting the locking pen. In this situation the springs give no tension on the system.

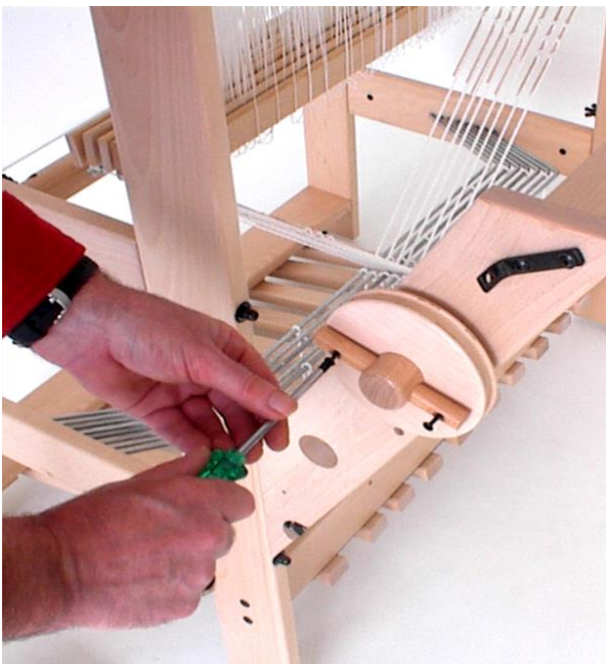
It is neat to insert a knitting needle at the left side through all the cords that the upper shafts bars are connected to. Now when you unhook an upper shaft bar at that side, its cord will stay in place.

Assembling the brake on the warp beam



The hardware bag contains:

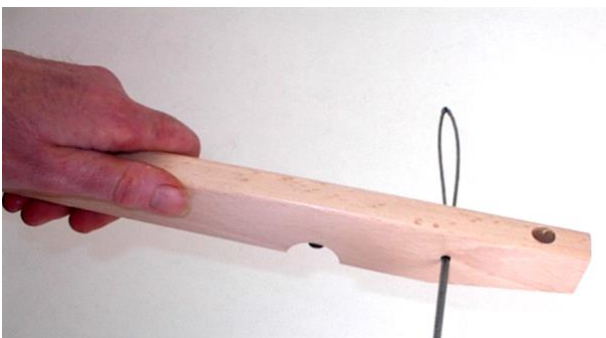
- 1 brake cable
- 1 carriage bolt m8x70 with large washer, bushing $\varnothing 8-10 \times 36$, small washer and cap nut
- 1 lag screw $\varnothing 6 \times 30$
- 2 screws 4x30
- 1 bracket (mounted in an earlier stage)
- 1 wooden dowel
- 1 screw eye m6 with knurled nut
- 1 spring



Slip the brake disc on the protruding end of the warp beam.

Insert the wooden dowel into the hole of the warp beam. Push and turn the dowel in a position that the screw holes of the dowel and the disc match each other. The countersunk side of the holes should face the outside.

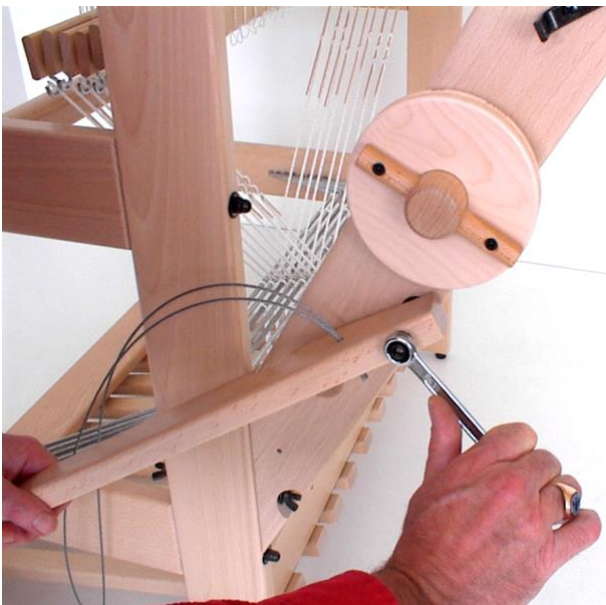
Join both parts with the 4x30 screws.



Insert the brake cable through the brake handle. The picture shows from which side this should be done.



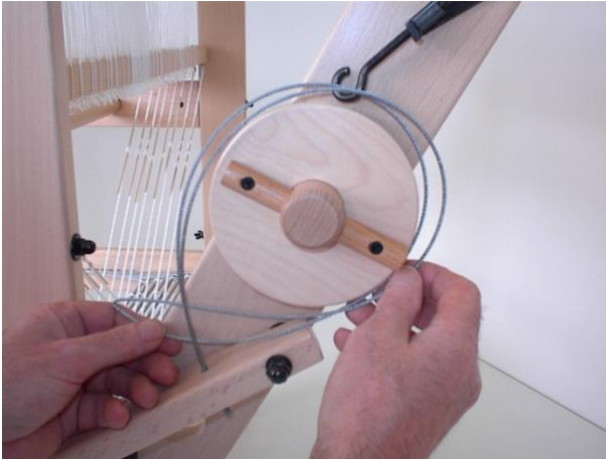
Insert the bolt through the hole in the warp beam support and slip on the large washer.



Slip the brake handle on the bushing. Put the small washer in place and complete this assembly by fastening the cap nut with wrench number 13 so tight that the square neck under the bolt head is pulled completely into the wood.



Screw the lag bolt into the warp beam support with wrench number 10 only so far that the thread just disappears in the wood.



Unscrew the knurled nut from the eye bolt and insert this bolt through the bracket and screw on the knurled nut again.

Lead the brake cable around the brake disc and hook it on the eye bolt.



Hook the spring onto the lag bolt and the screw head on the brake handle.

Pull the brake handle up and tighten the cable with the knurled nut. When you release the handle it should stay in a horizontal position.

When you use the brake on the warp beam, of course the ratchet should be removed from the ratchet wheel. This can be achieved by turning the ratchet over its top or fasten the screw keeping the ratchet in an upright position.

Warranty and contact

Louët products are known worldwide for their excellence in quality, design and workmanship. Many of our customers are happy to own more than one Louët product. We stand behind our products to the fullest extent possible and guarantee each product is free from manufacturing defects. We and our distributors will work with you, to the best of our abilities, to ensure that you are content with your purchase.

If you still have a question after reading this manual, please contact your dealer or Louët directly.

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