

Modification on the PDL with 4 shuttle fly box, overhead hanging beater

Original modification is by Sandy Lomen, with small updates by Lilly Marsh

This modification allows for a kick fly shuttle action on the PDL, leaving both hands for the beater bar. It effects 2 systems: the standard re-set action of the left treadle, and the fly shuttle. This modification was originally done by the original owner of the loom, Sandy Lomen, and has been very slightly modified by me. You will need to take measurements of your loom to insure correct fitting.

Required materials:

- 2 – 1.5 inch pulleys, plus bolts, nuts and washers to secure to beam under the lower cloth roller bar at the front of the loom
- 2 – 1.25 inch pulleys, plus bolts, nuts, and washers to secure to side vertical under the lower cloth roller bar at the front of the loom
- A large spring (3/4 inch diameter, 15 inches long at medium tension) plus materials for securing spring to left treadle cable and to the side vertical of the loom
- 1/8th inch non-stretching cord to run from the picker on the back side of the fly box, down the verticle to the beam under the lower cloth roller bar and to the top of the left treadle at the center of the beam, with extra for knots, **x2**, (1 length for each side)
- 4 – 2 inch wooden pads to lift the loom 2 inches. This extra height gives the left treadle slightly more travel room for an effective kick throw. The original owner made these out of dimension lumber and plywood.

Freeing the Left Treadle:

The action of the left treadle in resetting the dobbie is moved to a large spring. Remove the cable from the treadle and remove the original pulley mechanism from the beam. Attach the spring to the cable (I used a small carabiner I had handy) .

The spring could be attached to the left side beam of the loom with a bolt but mine holds quite well simply attached to a dowel that is held by the verticals and lightly tied to the beam. You want enough tension so that the dobbie is reset if not in use by the right treadle.



1 Spring to reset dobbie action



2 view of under loom from dobby to opposite side

This image is the view from under the dobby. The cable runs straight to the spring with no pulley. The action of the right treadle is unaffected.



3 Cord is secured to picker with fat knot

Lifting the Loom

These pads were made by the original owner out of dimension lumber and plywood. They are in two parts: the solid 2 inch support for the loom and the plywood with a center cutout, secured to the top of the support to prevent the loom from sliding off the support. The bracing from the pad along the floor is simply there to prevent my loom from walking.





This view of the pad shows the top plywood. The leg of the loom sets into a cutout and directly on the 2 inch lumber, while the plywood acts as a collar for the leg, preventing it from sliding. The plywood is simply screwed onto the lumber.

Re-Routing the fly shuttle cables

Fly shuttle cord must now run down under the loom, along the wooden beam under the lower cloth roller (cloth will travel above this system). The 1.25 inch pulleys will direct the cord from the picker box to the beam level. Thread the cord through the picker box and route it under the loom, on each side. Drill into the wood of the side vertical to secure these pulleys.



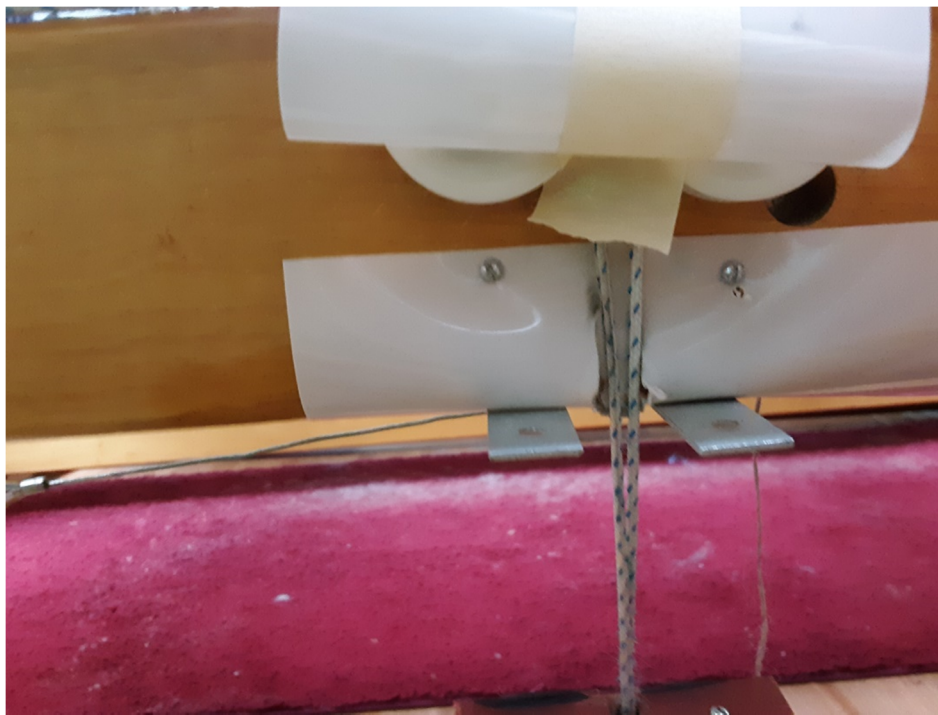
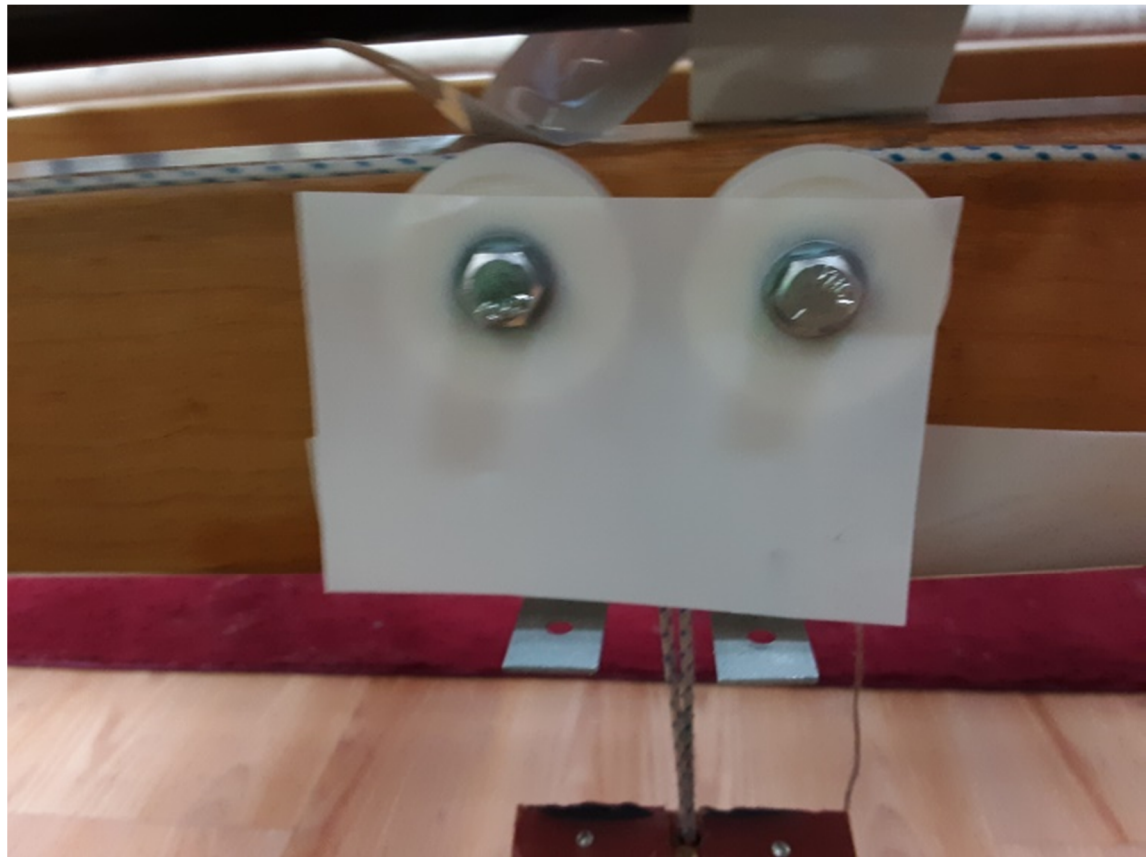
These two images show the back and front view of the cable route.

This front view shows the cable routing from the side vertical to the 1.5 inch pulleys



above the left treadle. Each side (right and left shuttle boxes) will have their own cord running from the picker to the treadle. Length must be sufficient to hold the treadle against the beam while at rest, with pickers at the back of the box. This enables the stomp of the treadle to 'throw' the pickers forward.

The center pulleys direct the cord to the top of the treadle. Drill through the beam to attach these pulleys. I believe the treadle here has been shortened by the original owner, and we needed to add small angle irons to the underside of the beam to prevent the treadle from rebounding up above the edge of the beam. If the



treadle has not been shortened, this would not have been necessary.

An 'under the mylar view' of the center pulley system, with the treadle pulled slightly down.

We added the mylar flaps to keep the cloth route clear from interference from the cords. This is a judgment call for your work.

This back view of the center pulley system shows the washers and nuts at the back of the beam, just above and to the side of the original pulley site.



I hope this is helpful. I've never tried to write up these kinds of 'engineering' directions before and, as I'm not the original modifier, I can only describe what I'm seeing on my loom. Let me know if you have questions.