

Operations / Assembly Manual

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1 INTRODUCTION

The breadth of this document is to outline the use instruct the user as to how to operate and maintain the Lap Organizer. The following sections will cover how to safely and properly make use of Lap Organizer to ensure the user experiences the most optimum experience when using this product.

With this Lap Organizer, the user is able to transform their favorite wheelchair mobility device into a comfortable working platform. The generously sized portable holder is perfect for bearing any supplies necessary for the task at hand while on duty. The Lap Organizer rests securely the flat area between the waist and knees of the seated user without wobbling and includes one large open ended band to affix the device and it's contents to the user.

The Lap Organizer's strong yet lightweight treated oak wipes clean and includes grips for carrying or setting to the side. This Lap Organizer has been specially designed to be a firm carrying tool for all models of wheelchair mobility devices both manual and electric. Available in a range of materials, sizes and shapes, the wheelchair Lap Organizer enables independence and convenience for wheelchair users.

2 MANUFACTURING

Box:

This section covers the proper procedure to manufacture the Lap Organizer using the methods our team employed to produce the original design. All materials required may be obtained from your local home improvement store. Reference the Bill of Materials for the required list of materials.

1. Obtain oak planks, three (3) 2' x 7" are standard sizes sold and will be enough material for one unit.
2. Cut and plane planks to correct size: (2) - 6 $\frac{1}{4}$ " x 7" x $\frac{1}{2}$ " (3) - 16 $\frac{1}{4}$ " x 7" x $\frac{1}{2}$ "
3. Stain and treat wood to desired finish.
4. Using a dovetail jig, treat the edges of the four side planks. The bottom plank will be glued and secured upon assembly.
5. Apply waterproof wood glue to all seams that will be in contact with wood.
6. Wipe away excess glue and clamp to dry.
7. Drill two holes on each short-side in order to install carrying handles.
8. Apply the loop side of the hook & loop tape to bottom exterior surface.
9. Attach the securing lap band to the loop tape, by the hook portion of the tape, to the bottom surface of the Lap Organizer.
10. Slip the two arms of the lap band under both legs to ensure the Lap Organizer is secured.

Hook

The “hook” will be constructed next to allow the box to rest securely on the lap. The materials for the hook are tabulated below. The aluminum sheet metal can be purchased at a local home improvement store, the material can be located at a fabric store.

Required Materials:

Aluminum sheet metal -2 ft

Material (Nylon/Polyester)- 0.5 yd

Black Thread

- 1) Cut a 1.5-2 ft length of sheet metal. The length depends on individual lap lengths
- 2) Cut fabric to cover sheet metal (Figure 1)



Figure 1: Preparing Hook

- 3) Sew together down the center of the metal piece
- 4) Sew edges closed and glue down excess material at the ends.
- 5) Bend ends to form hooks for the legs to rest in.

The final product can be seen below in figure 2.

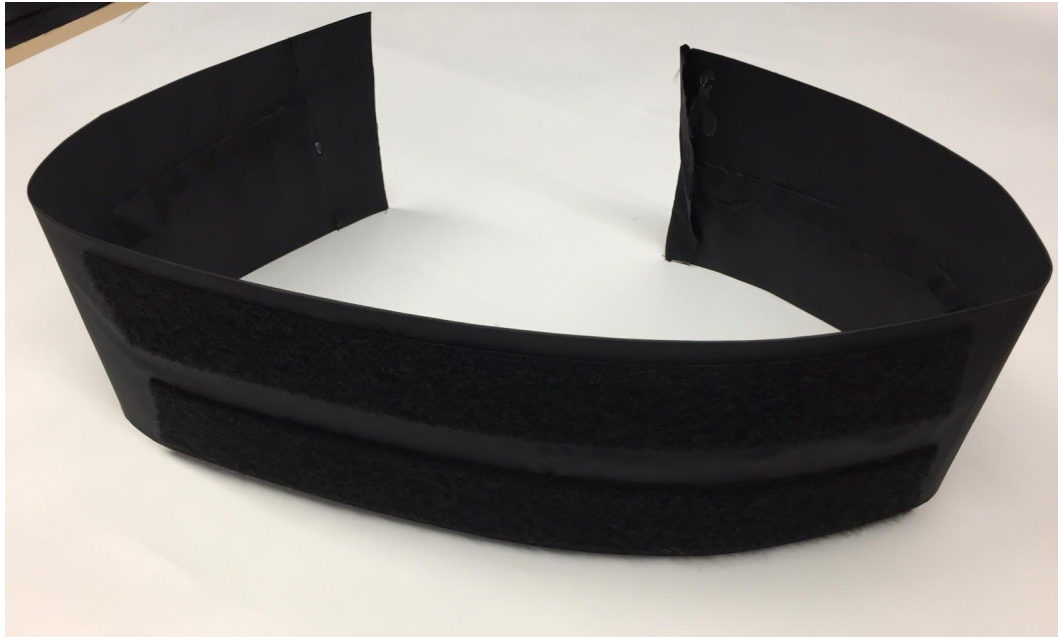


Figure 2: Final Product

2.1 Alternate Manufacturing

This section will detail alternative methods for constructing both the box and hook.

Box:

The box may also be fastened together by nails/screws and epoxy, the following will detail how to construct the box with the two different fasteners.

Screws/Nails:

- 1) Measure and cut three 16inx6in and two 6inx 6in pieces
- 2) Treat wood with water proof stain, this step will be easier to complete at this stage rather than after the box is assembled.
- 3) Align two of the 16inx6in in a V shape and using either a drill or hammer insert a nail/screw on either end at the bottom edges
- 4) Repeat with last 16inx6in piece
- 5) Last nail the two 6inx6in on the ends
- 6) Once all pieces are attached place an additional nail/screw on each of the top corners to gain a perfect seal

Epoxy:

- 1) Follow steps 1-2 above
- 2) Align the edges of two 16inx6in pieces and apply epoxy to edges. Clamp edges together to maintain a proper seal
- 3) Repeat for the rest of the edges
- 4) leave clamps attached for 1-2 hours or until epoxy has fully dried

Hook:

An alternate way to construct the cover for the hook is to use glue, fabric or super, and directly glue the fabric to the metal piece instead of sewing a cover.

3 MAINTENANCE

The lap organizer was designed to have minimal maintenance requirements. To maintain a waterproof seal on the box it should be restained every 1-2 years. The velcro and Nylon-Polyester material can be replaced on an 'as need basis'.

3.1 Scuff & Stain Repair

Over the years, the surface of the wood may become distressed from usual wear and tear. Due to the adaptability and durability of these materials, there are only a few straight forward steps in order to repair such damages.

1. Sand down damaged area until bare wood is exposed.
2. Wipe away any dust with a damp cotton cloth.
3. Evenly spread a thin layer of matching stain and follow instructions listed on stain.
4. Complete the process with a waterproof polyethylene finishing shellac