

# LimbLogic® Side Mount Pump Fabrication Instructions

Fabricating an airtight socket is critical to the proper operation of the system.

## WHAT'S IN THE BOX

- LimbLogic Side Mount Pump
- Side Mount Lamination Plate (1)
- Side Mount Lamination Dummy (1)
- M4x10 Socket Head Cap Screws (8)
- Poron Filter (1)

## ADDITIONAL MATERIALS REQUIRED

- Modified positive model
- Fabtech 60 Second Adhesive
- ER Resin
- Vaseline
- Standard fabrication supplies

## DIAGNOSTIC SOCKET

Fabricate a conventional diagnostic socket, then conduct the static diagnostic socket fitting. Make any necessary adjustments to the socket.

Attach a 3-prong adapter or LimbLogic 4-Hole Adapter to the socket with FabTech 60 Adhesive.

*Note: this might not be the final adapter that is used for the definitive socket.*

Reinforce the distal socket and adapter with fiberglass.

Drill a 9/32" (7 mm) hole in the distal third of the socket wall.

Press the Diagnostic Gasket onto the pump so that the gasket does not fall off if you turn the pump upside down.



Position pump with the gasket over the hole on the socket, then secure with tape.

Bench-test the socket to confirm that it is airtight. After attaching the pump to the socket, conduct the **Vacuum Test** described at the end of this document to confirm that the socket is airtight.



Conduct the diagnostic socket fitting.

## DEFINITIVE SOCKET

Create a plaster model from the diagnostic socket.

Apply a double layer of carbon braid and a PVA bag.

Proceed with the first lamination, using standard practices and **ER Resin**.

Remove the PVA bag and roughly sand the entire model to improve the bonding of the remaining components.

Place the model in a transfer fixture and attach the desired distal adapter (3-prong or 4-hole) using Fabtech 60 Second Adhesive. Once the adhesive has set, remove the socket from the transfer fixture.

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Trace the outline of the Lamination Plate in the desired location on the socket. The plate should be as far distal as possible with the rounded corners oriented proximally.

**Do not bend the Lamination Plate. The plate is contoured to match the shape of the pump.**

Insert the M4x10 socket head cap screws into the holes. Insert the screws all the way, so that the plate stands off of the socket slightly.

Cover the 1/2" hole with a small piece of masking tape.

Fill the 1/2" hole with enough Fabtech 60 Second Adhesive to create a slight puddle.

Trace the underside of the plate with a bead thick enough to ensure contact with the socket.

Gently press the Lamination Plate onto the socket, lining the plate up with the outline that was drawn on the socket earlier.

Apply additional Fabtech 60 Second Adhesive to fill any open areas between the socket and the Lamination Plate. To prevent pooling of resin in the open areas, the Lamination Plate should be fully sealed.

Smooth any excess adhesive with a tongue depressor.

Allow adhesive to set.

While the adhesive is still soft, remove the cap screws and masking tape, then remove any excess material from the top of the Lamination Plate. Ensure that the adhesive does not protrude above the surface of the plate in the recess below the seal surface.

**DO NOT scrape or damage the seal surface.**



Apply Vaseline to the mating surface of the Side Mount Lamination Dummy.

Attach the Lamination Dummy to the Lamination Plate with the M4 x 10 screws.

Fill the heads of the screws and the edge of the Lamination Dummy with clay.

*make sure aluminum is exposed all the way around*



Tape off the surface of the distal adapter to protect it from resin. Secure the distal adapter with 4 carbon struts.

- For a carbon finish, apply a layer of reflected carbon braid.
- For a pigment finish, apply 2 reflected stockinettes (4 layers) and a reflected Nysert.

Apply a PVA bag and seal the bag at the distal end of the model. Proceed with the second lamination, using standard practices and **ER resin**.

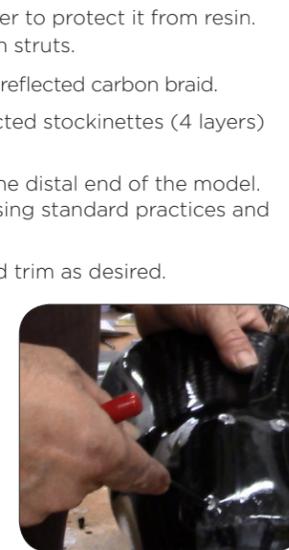
Remove the socket from the model and trim as desired.

Sand to expose the four cap screws holding the Lamination Dummy.

Using an Allen wrench, remove the four cap screws.

Sand to expose the edge of the Lamination Dummy.

**Do not sand into the aluminum plate.**



Using a small screwdriver, pry up the corner of the Lamination Dummy. Remove the Lamination Dummy.

Sand the exposed edge of the socket by hand.

Drill and de-burr a 9/32" (7 mm) hole for the vacuum port.

**Avoid contacting the aluminum plate.**

Press the Poron plug into the 9/32" (7 mm) hole so that it is flush with the inside of the socket.

Carefully trim the excess Poron so that it is flush with the Side Mount Lamination Plate.

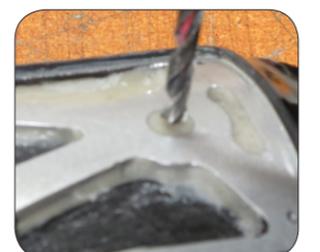
**DO NOT gouge or scratch the area where the pump will seal.**

Clean the aluminum surface with alcohol and inspect for damage that may cause a leak.

Snap the sealing gasket onto the Side Mount Pump.

Attach the pump to the socket using the M4x10 socket head cap screws. Tighten the screws to 22 in-lbs (2.5 Nm).

Conduct the **Vacuum Test** described below to confirm that the socket is airtight.



## Vacuum Test

- Apply the Suction Pad (LLV-01100) to the inner surface of the socket against the vacuum hole
- Turn on the pump
- Make sure that the vacuum level holds steady

# ATTENTION

**LimbLogic® Side Mount Pump kits now include an Adhesive Seal that must be applied to the Side Mount Lamination Plate in order to create the appropriate sealing surface for the pump.**

**WillowWood® One System sockets fabricated at WillowWood will be shipped with the Adhesive Seal already applied.**

**Side Mount sockets not fabricated at WillowWood must have the Adhesive Seal applied as follows:**

1. Fabricate the socket as described in the *WillowWood® One System Socket Fabrication Instructions* booklet.
2. Before attaching the Side Mount Pump to the Side Mount Lamination Plate, apply the Adhesive Seal to the area of the plate indicated in red below.

*apply Adhesive Seal here*



3. Apply the sealing gasket to the LimbLogic Side Mount pump and attach the pump to the socket as described in the *WillowWood One System Socket Fabrication Instructions* booklet.

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