

RevoFit Fabrication

Best Practices

Version 1 March 2016

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Welcome to the Click Medical best practices for fabricating RevoFit sockets. We've compiled these best practices based on years of fabricating RevoFit sockets. We've learned from our mistakes and offer this information to help you produce the best RevoFit sockets possible. If you study this document, lamination video and take your time you'll be well on your way to fabricating amazing adjustable sockets for your patients.

In addition to this document we have several additional resources for you online at www.ClickMedical.co/revosupport.

Video: Please review the fabrication overview video located online.

RevoFit Lamination Guide: Printable PDF of the primary steps to fabricate a RevoFit socket.

RevoFit Schematics: Printable PDF of the various options for creating the lacing methods to use in different RevoFit designs.

CFab Recommendations: Please visit us online for a complete list of CFabs with RevoFit fabrication expertise.

Need More Support?

Please contact us with any questions, support needs or feedback.

Call: 970-670-7012 ext. 2

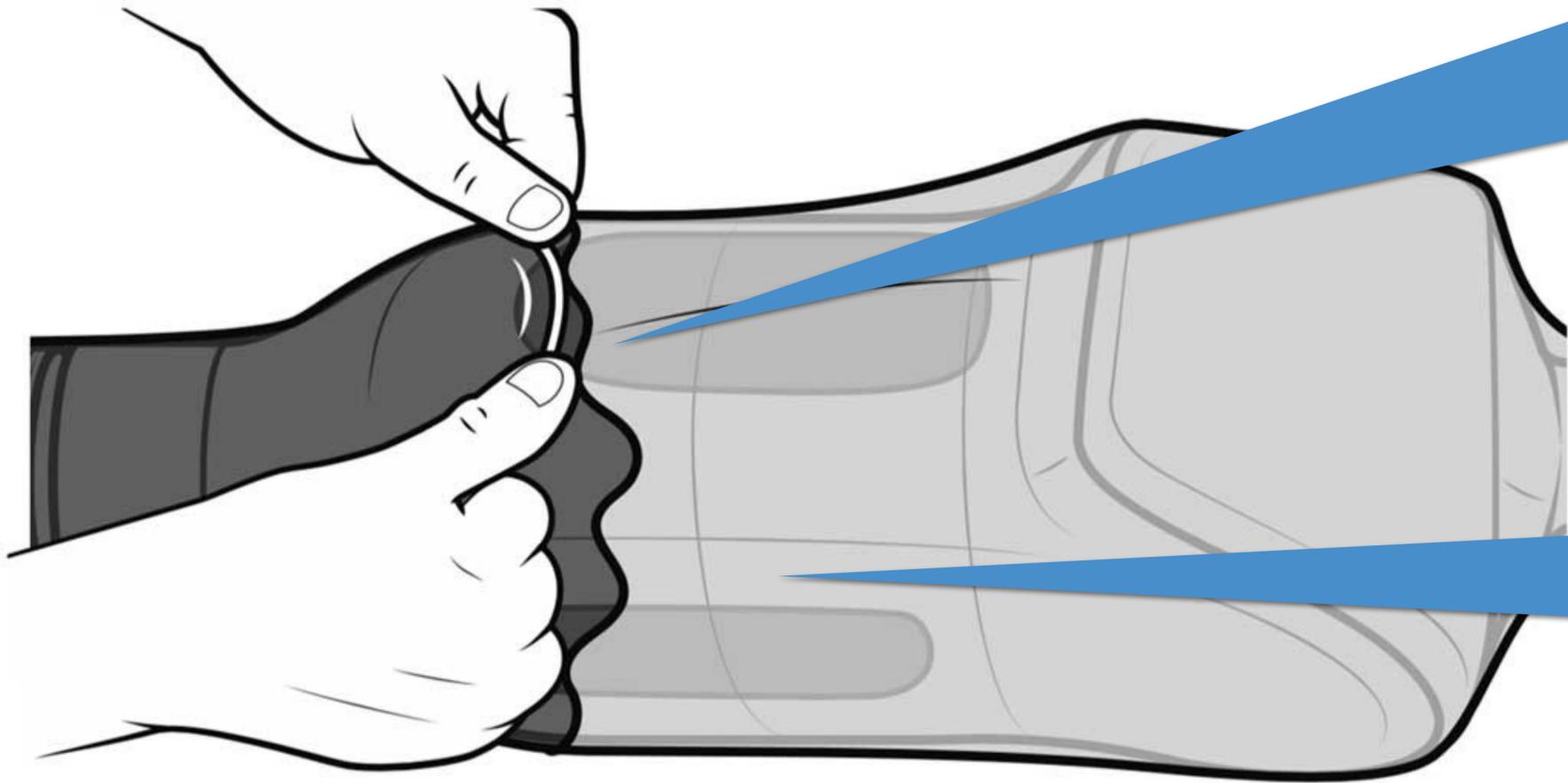
Email: help@clickmedical.co

All the best with your next RevoFit fabrication!

Revofit Design Matrix

Adjustable Endoskeletal Designs												
	Flexible Insert	1st Layup	Re-enforcement	Resin	Kit Options	2nd Layup	Finish	Suspension	Socket Interface	Panel Size	Padding for Panels	Tube Turnarounds
AK	Blister: short-med 3/8 proflex Blister: long 1/2 proflex Drape: 3/16 proflex Note: Finish thickness over adjustable areas 1/8 max	1 - Nyglass 1 - Carbon 1 - Nyglass	Unidirectional Carbon along any section of frame less than 2" wide	Resin of Choice	Revofit Versa: Remote mount Revofit Direct: In-line mount	Carbon Finish: 2 - Nyglass 1 - Carbon Colored Finish: 1 - Carbon 2 - Nyglass 4 Finish Nylon	Carbon Finish or Colored Finish	Suction Valve Pin Lock Lanyard	Skin Fit Locking Liner Seal-In Liner Cushion Liner	Min: None Max: 1/4 of socket circumference	Average Displacement: 3/16 Puff Shore 35 Maximum Displacement: 1/4 - 1/2 Puff Shore 35 Note: Skive Edges	> 1.25" in Diameter
BK	Blister: 3/8 proflex Drape: 3/16 Proflex Note: Finish thickness over adjustable areas 1/8 max	1 - Nyglass 1 - Carbon 1 - Nyglass	Unidirectional Carbon along any section of frame less than 2" wide	Resin of Choice	Revofit Versa: Remote mount Revofit Direct: In-line mount	Carbon Finish: 2 - Nyglass 1 - Carbon Colored Finish: 1 - Carbon 2 - Nyglass 4 Finish Nylon	Carbon Finish or Colored Finish	Suction Valve Pin Lock Lanyard	Locking Liner Seal-In Liner Cushion Liner	Min: None Max: 1/4 of socket circumference	Average Displacement: 3/16 Puff Shore 35 Maximum Displacement: 1/4 - 1/2 Puff Shore 35 Note: Skive Edges	> 1.25" in Diameter
Symes	1/4 Medium Puff	1 - Nyglass 1 - Carbon 1 - Nyglass	Unidirectional Carbon along any section of frame less than 2" wide	Resin of Choice	Revofit Versa: Remote mount Revofit Direct: In-line mount	Carbon Finish: 2 - Nyglass 1 - Carbon Colored Finish: 1 - Carbon 2 - Nyglass 4 Finish Nylon	Carbon Finish or Colored Finish	Medial Panel or Lateral Panel	Foam Skin Fit Liner	Min: None Max: 1/4 of socket circumference	1/8 - 3/16 Puff Shore 35	>1.25" in Diameter

1 Prep the mold with a thin first lamination layer
Reinforce areas under the tubing and under the panel cutout areas

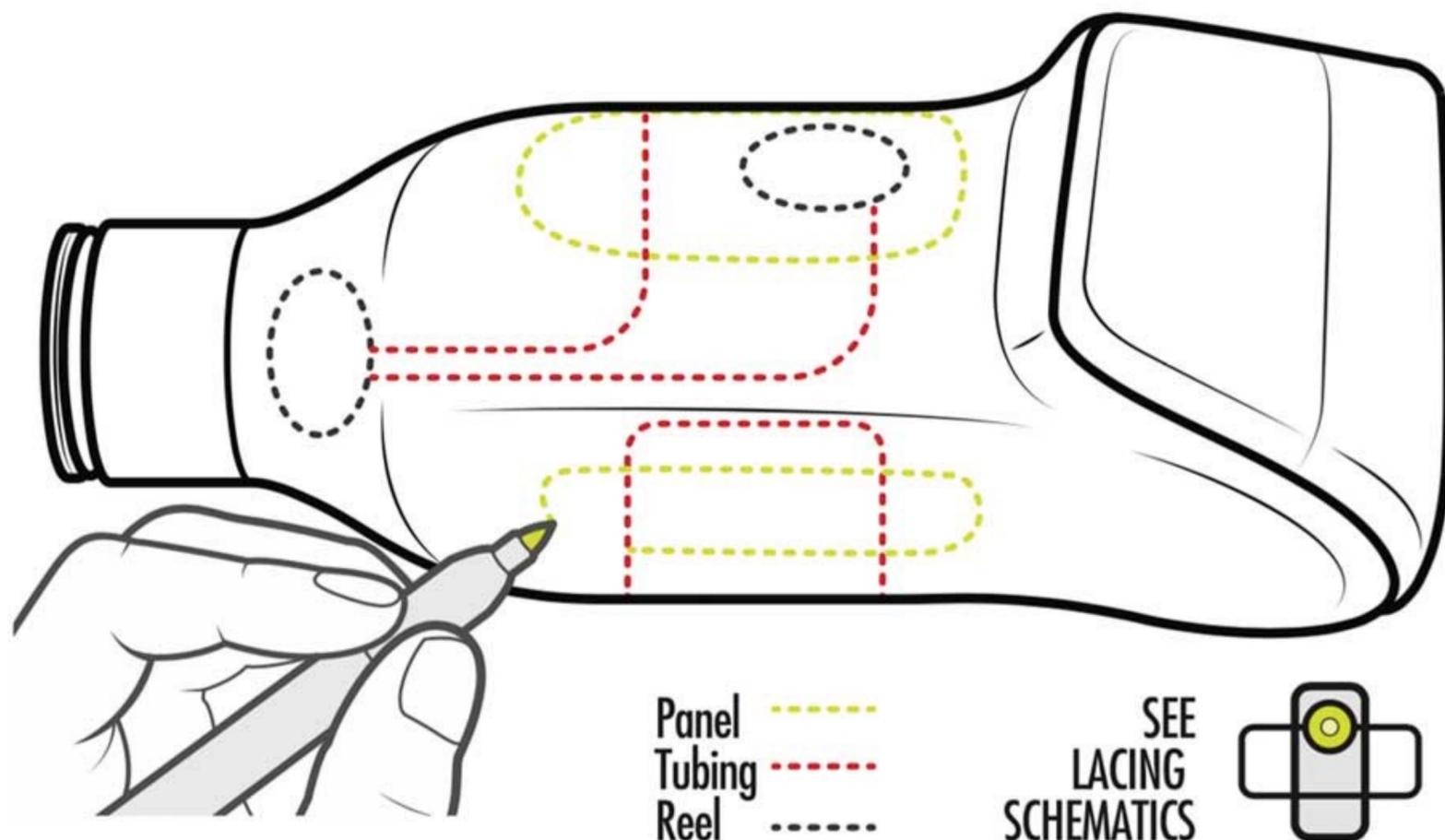


For a standard first lamination you will need:

- 1 full length Nyglass
- 1 bi-directional carbon
- 1 full length Nyglass

Reinforce narrow sections of frame with carbon in first lamination. Knowing where these narrow sections will be comes with practice. However, in general, the areas between the panels tend to be narrow and can use some reinforcement.

- 2 a. Roughly sand socket.
- b. Draw in trim lines.
- c. **Using the lacing schematics**, determine reel, panel and lace path location.
- d. Roughly draw in lace path.



Download

Download Click Medical Lacing Schematics online at www.ClickMedical.co/revosupport



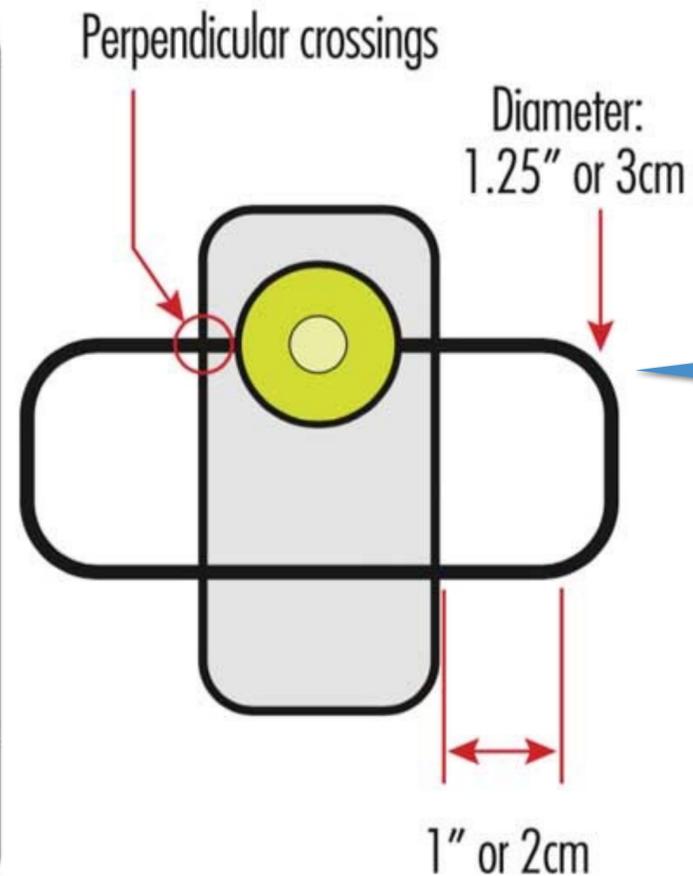
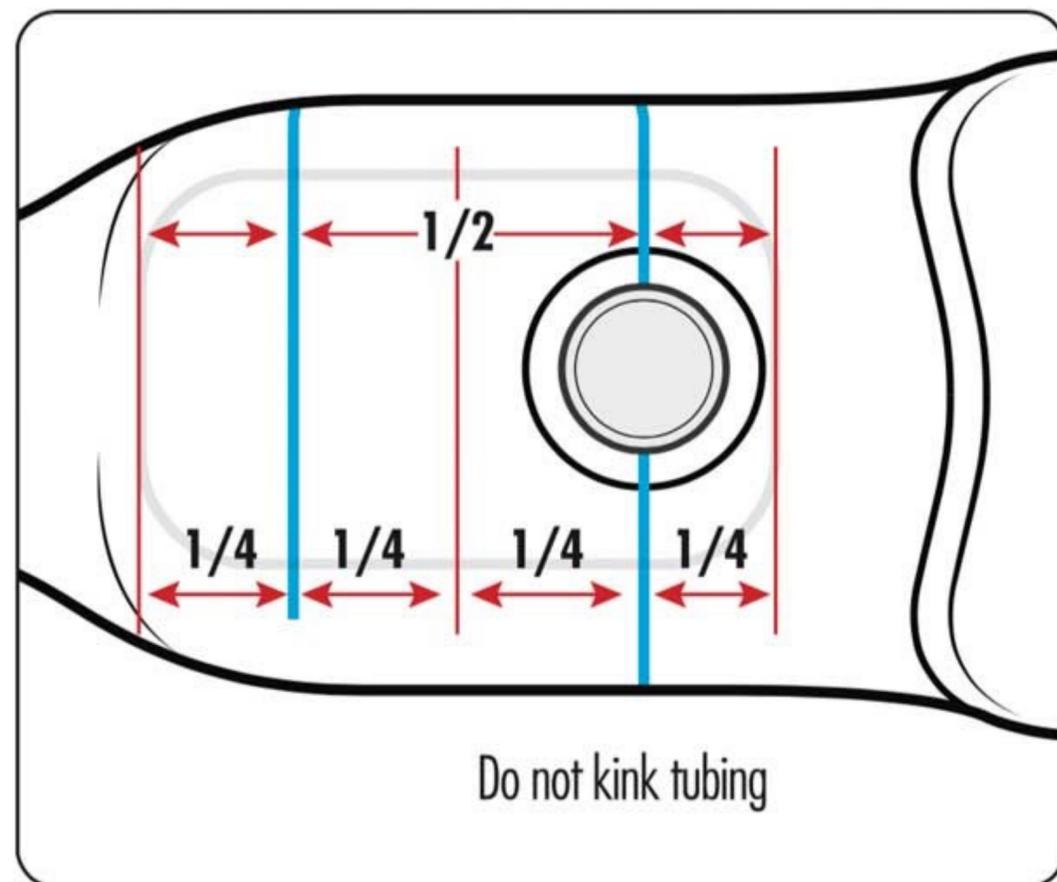
When you place the reel on the panel, you increase the build height of the panel by the thickness of the pad you add to that panel. So by placing the reel on the frame, you will obtain the lowest possible build height.

Direct Kits: Used for simple lace routing and fabrication. It is very effective in most applications. Note however, that the pad that is glued to the inside of the panel, will increase the overall build height. So if you are looking for a minimal build height, consider a frame mounted Versa kit instead.

Versa Kits: Versa kits mount to the frame, allowing the build height to be lower. You can also place a versa kit on locations on the socket that help to hide the profile, such as on the distal curve of the socket. Finally, a Versa kit helps each panel expand more evenly when the reel is released.

3 Draw tube guide lines

Ensure that lace path crosses all panels with the $\frac{1}{4}$ spacing rule.
Ensure tubing crosses panels perpendicularly.
Don't turn tubing until 1cm past any panel edge.

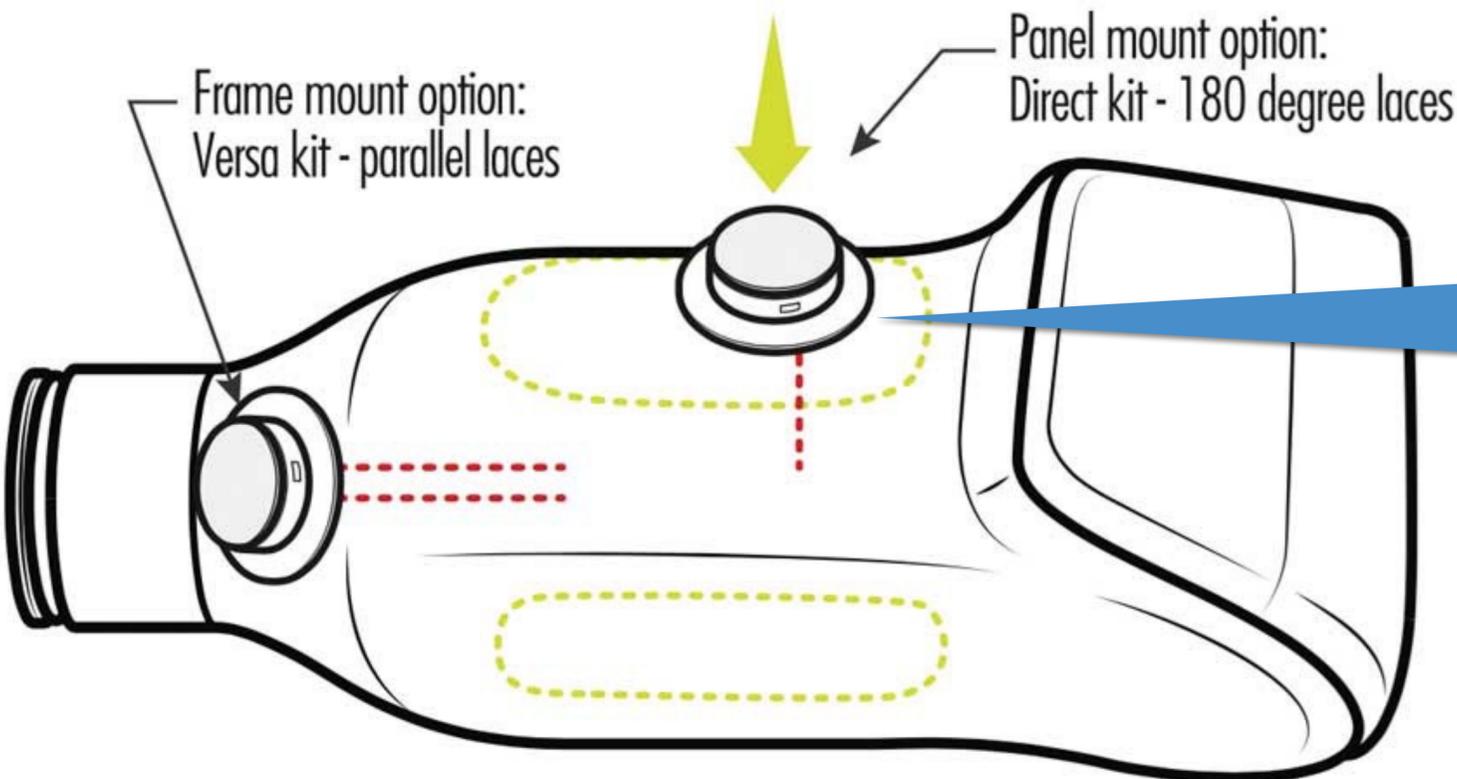


- Use schematics to help determine what lace routing will be best for the type of socket you are fabricating.
- If mounting the reel on the panel, make sure to glue it along the top or bottom $\frac{1}{3}$ line and center it in relation to the panel edges
- Ensure that the guideline you draw use soft curves and don't require sharp turns that could kink the tubing.

Download

Download Click Medical Lacing Schematics online at www.ClickMedical.co/revosupport

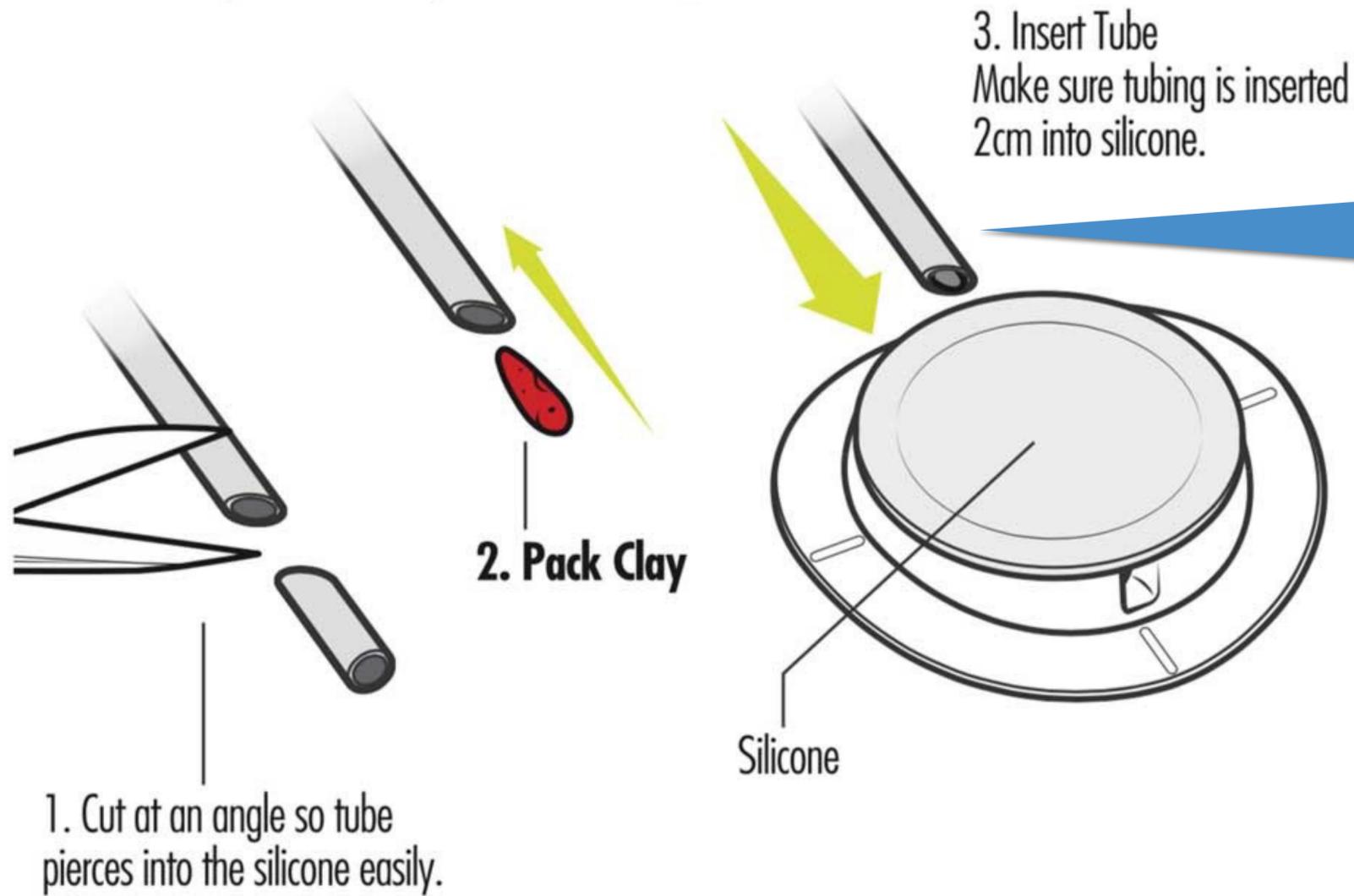
4 If mounting reel on frame, glue it into place now.
If mounting reel on panel refer to **Step 3** before gluing



When gluing the mounting plate to the socket, fill the void under the mounting plate with glue, so that resin does not collect under the mounting plate.

Note: Indicate position of lace path -----

5 Trim one tube, pack with clay, insert into bayonet.



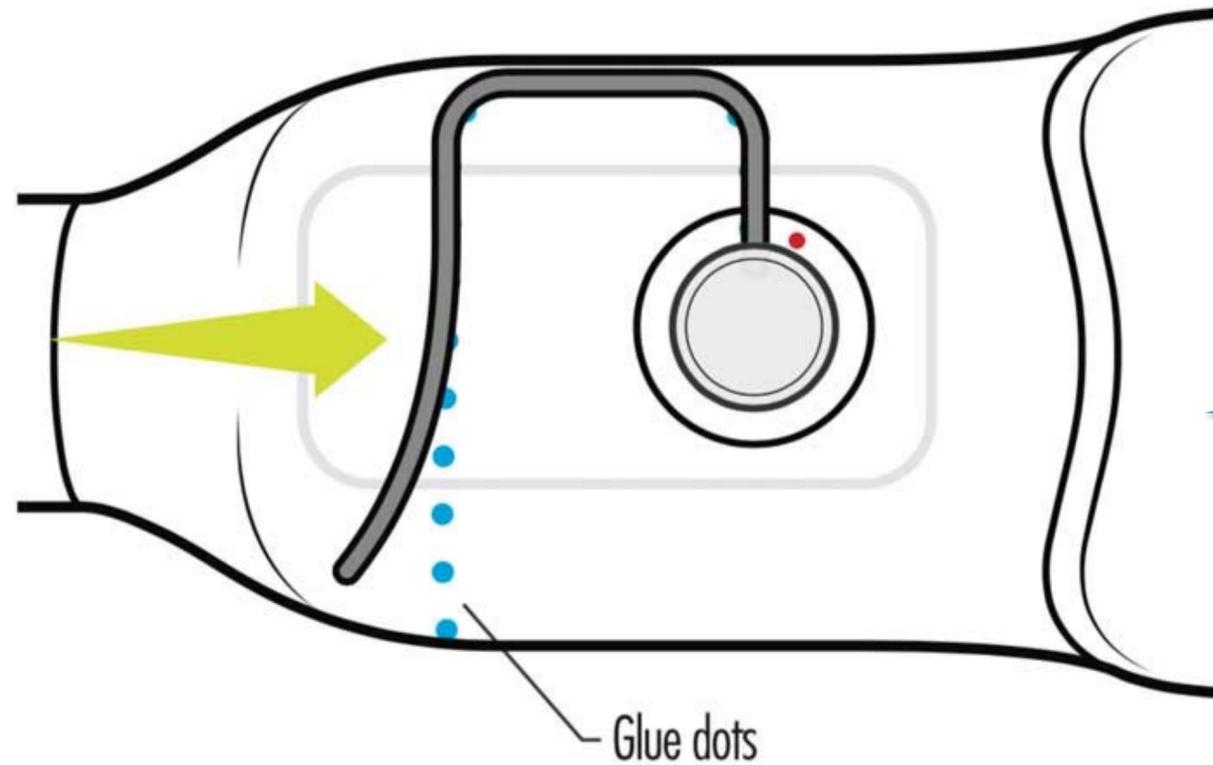
It's easy to kink the tubing when inserting into the silicone base, so use caution and ensure that there are no kinks in the tubing.

If you suspect a kink, **FIX IT RIGHT AWAY** by exposing the kink, heating and forming the tubing to ensure a smooth inner pathway.

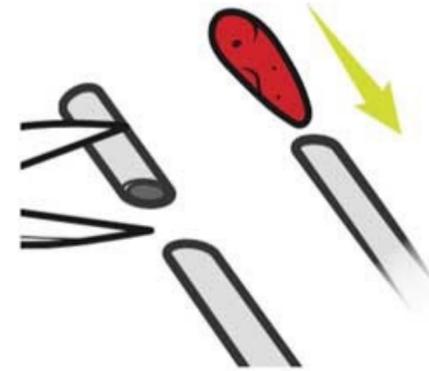
This is a critical step that can save you significant time and energy.

6 Glue on tubing

1. Glue on tubing according to lace pattern.
2. Cut second end of tubing to length, plug and insert second end into bayonet.



NOTE: Take picture of socket for reference after second lamination.



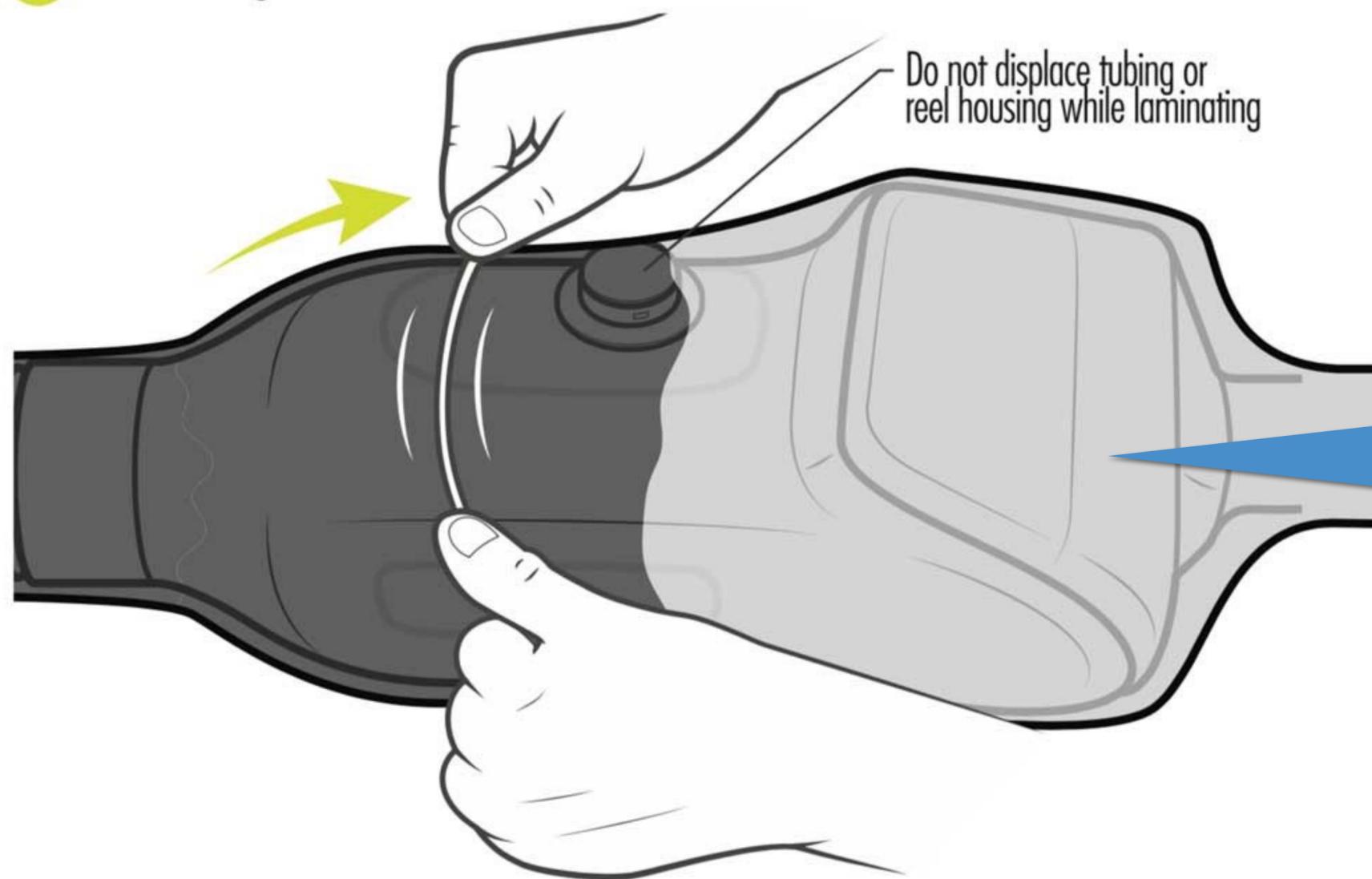
Insert Tube
Make sure tubing is inserted
2cm into silicone.



- Don't criss-cross the tubing..
- Use enough glue to lock tubing into place and decrease migration during lamination.
- Glue tubing down with dots of glue rather than a line of glue so as not to create a dam that blocks the flow of resin. Be careful during lamination though, not to pull the tubing out of position.
- Avoid kinks and tight radius turns with the tubing. You may cautiously use a heat gun to pre-bend tubing if necessary

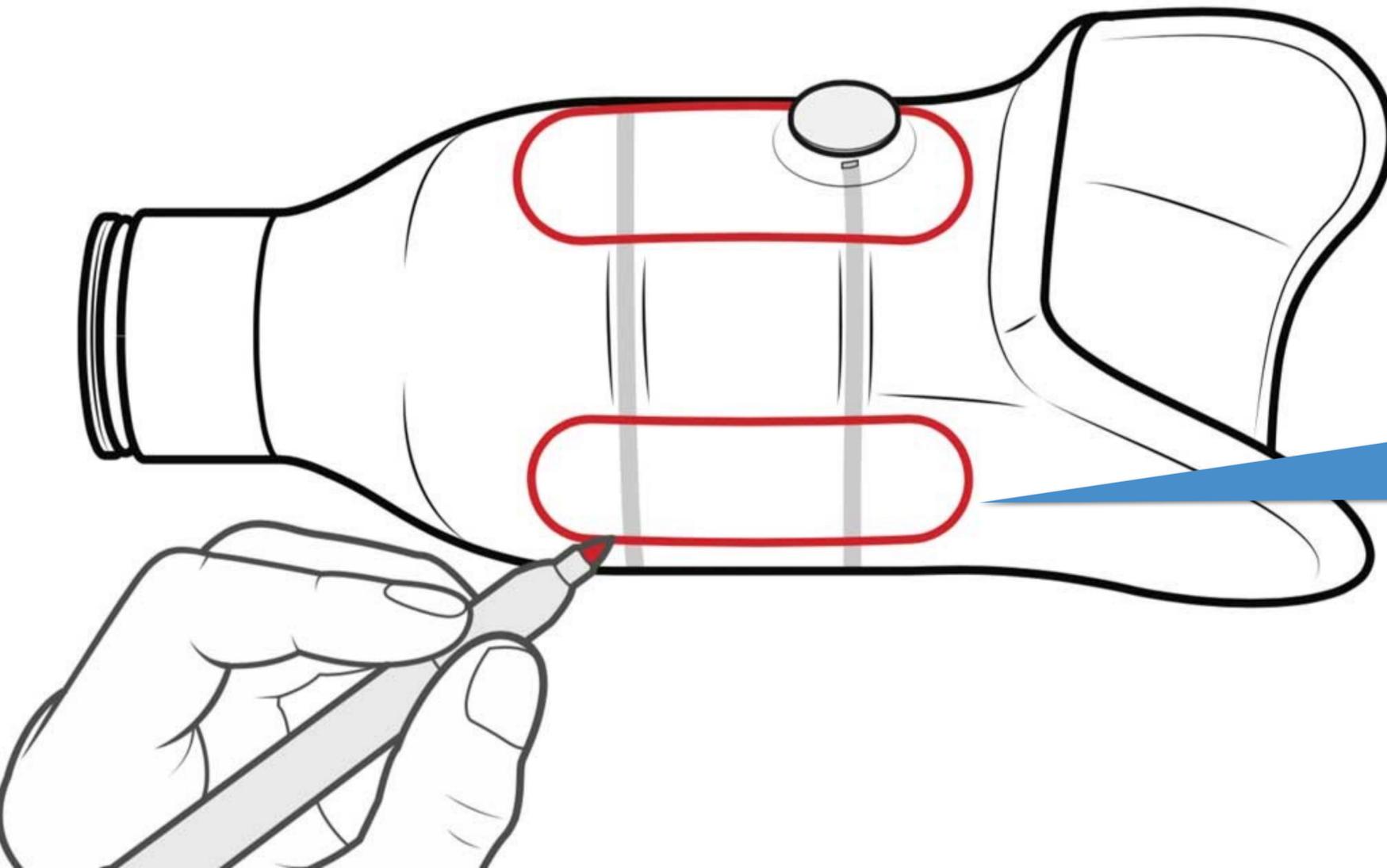
Take pictures of socket with:
trim lines, panels, and
adjustable zones clearly
defined for reference during
the trimming process

7 Laminate again



- Use more resin than you think you will need. The sheath around the tubing and the space around the base absorbs more resin than you would think.
- Double check and make sure the tubing or the reel base hasn't migrated or moved before the resin gels and sets into place permanently
- Be careful of flooding around base of tubes.
- If resin gets too thick, it can over heat. Reduce heat with acetone evaporation if needed.
- Air and resin tend to collect around the tubing. Make sure to string excess resin out of lamination before it sets.

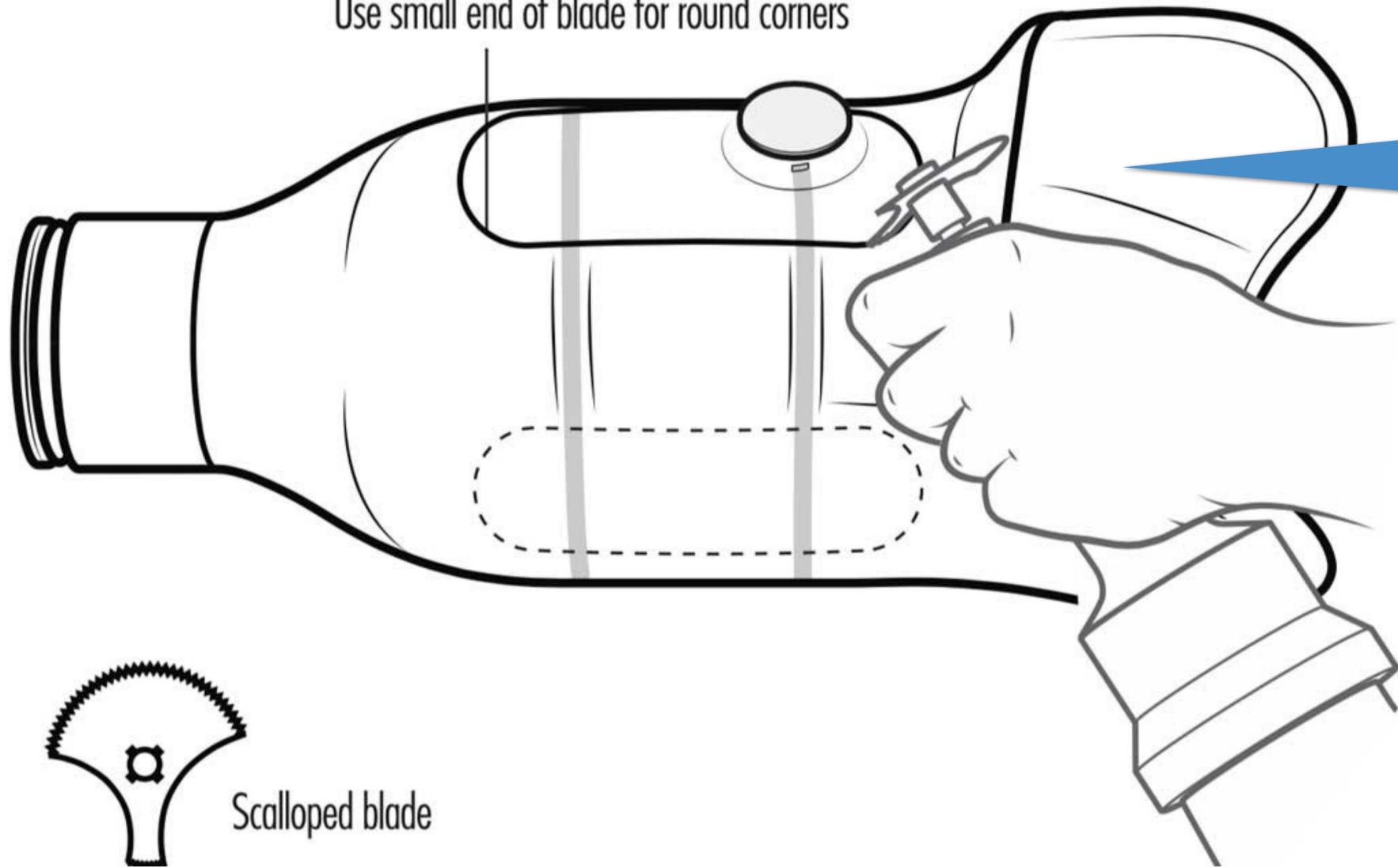
8 Mark with a pen the location of the panels to cut out.



Reference the picture you took of the socket after gluing on the tubing. This will help you draw the panels in the same location as previously planned.

9 Cut out the panels.

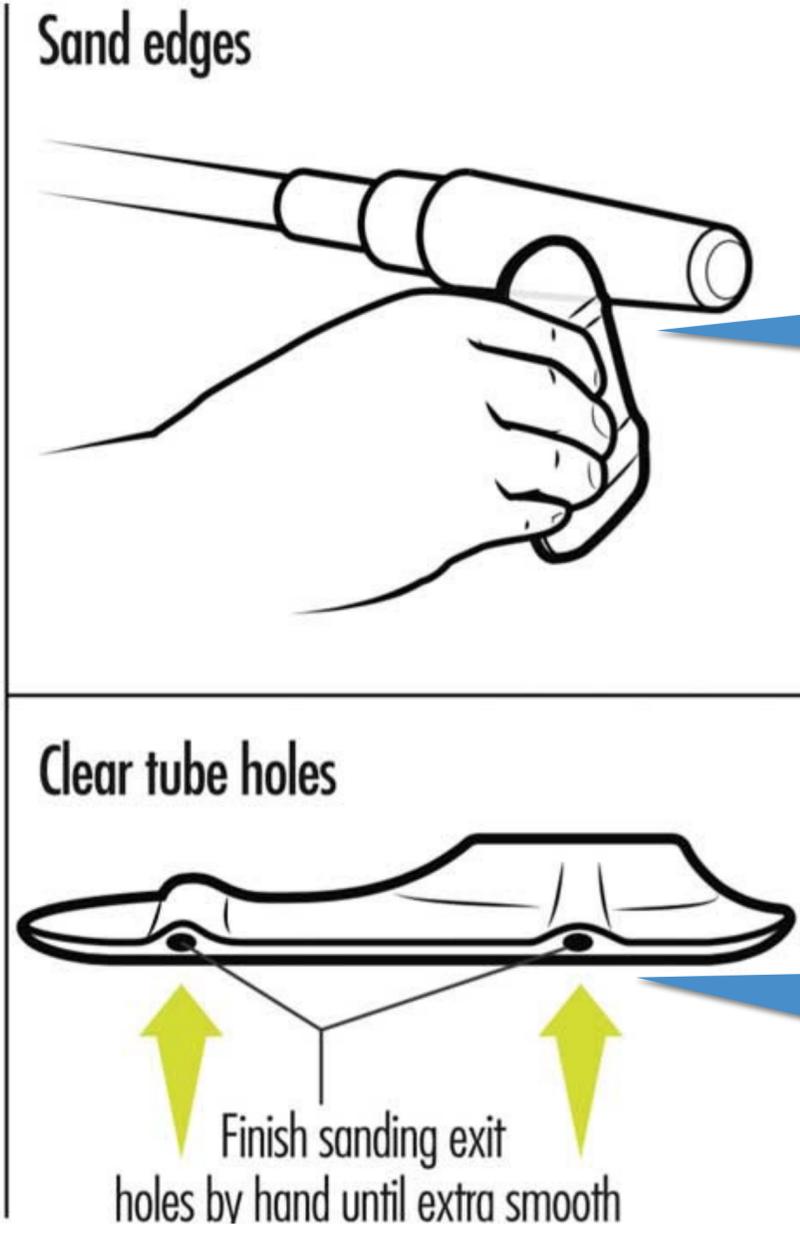
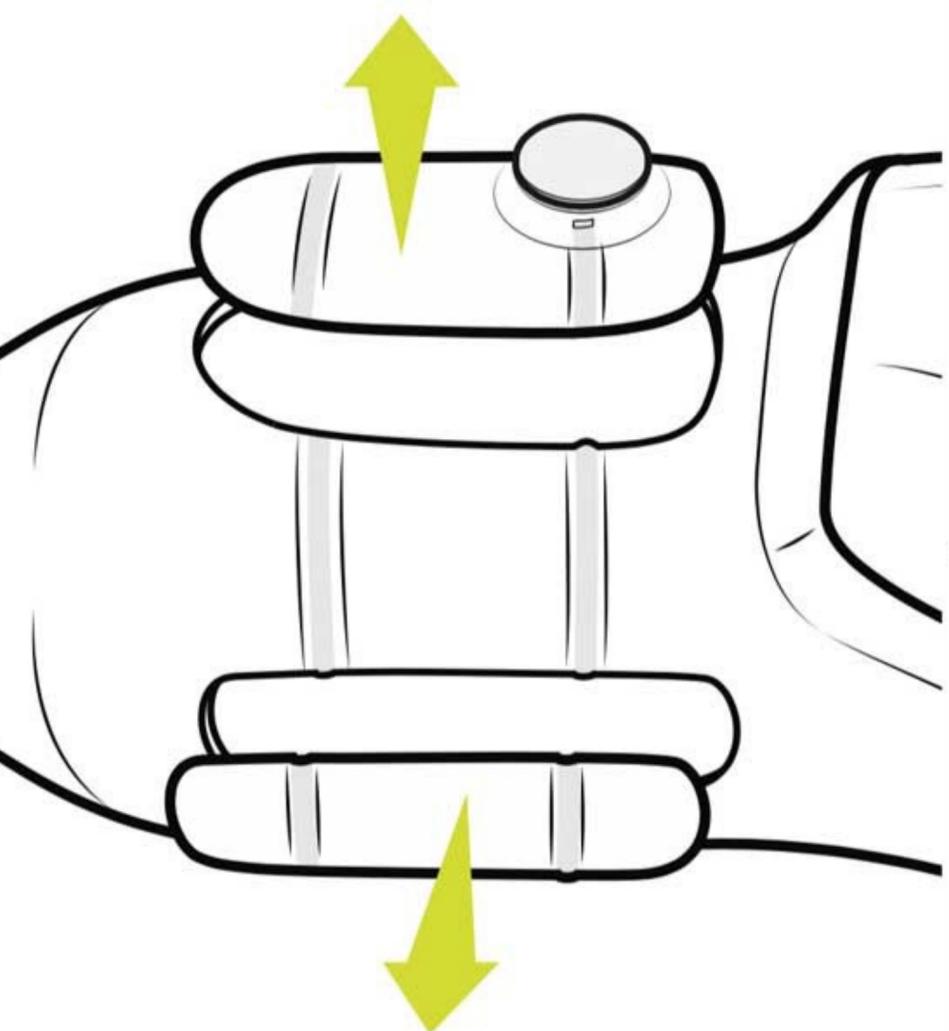
Use small end of blade for round corners



Remove flexible insert before trimming socket.

Scalloped blade

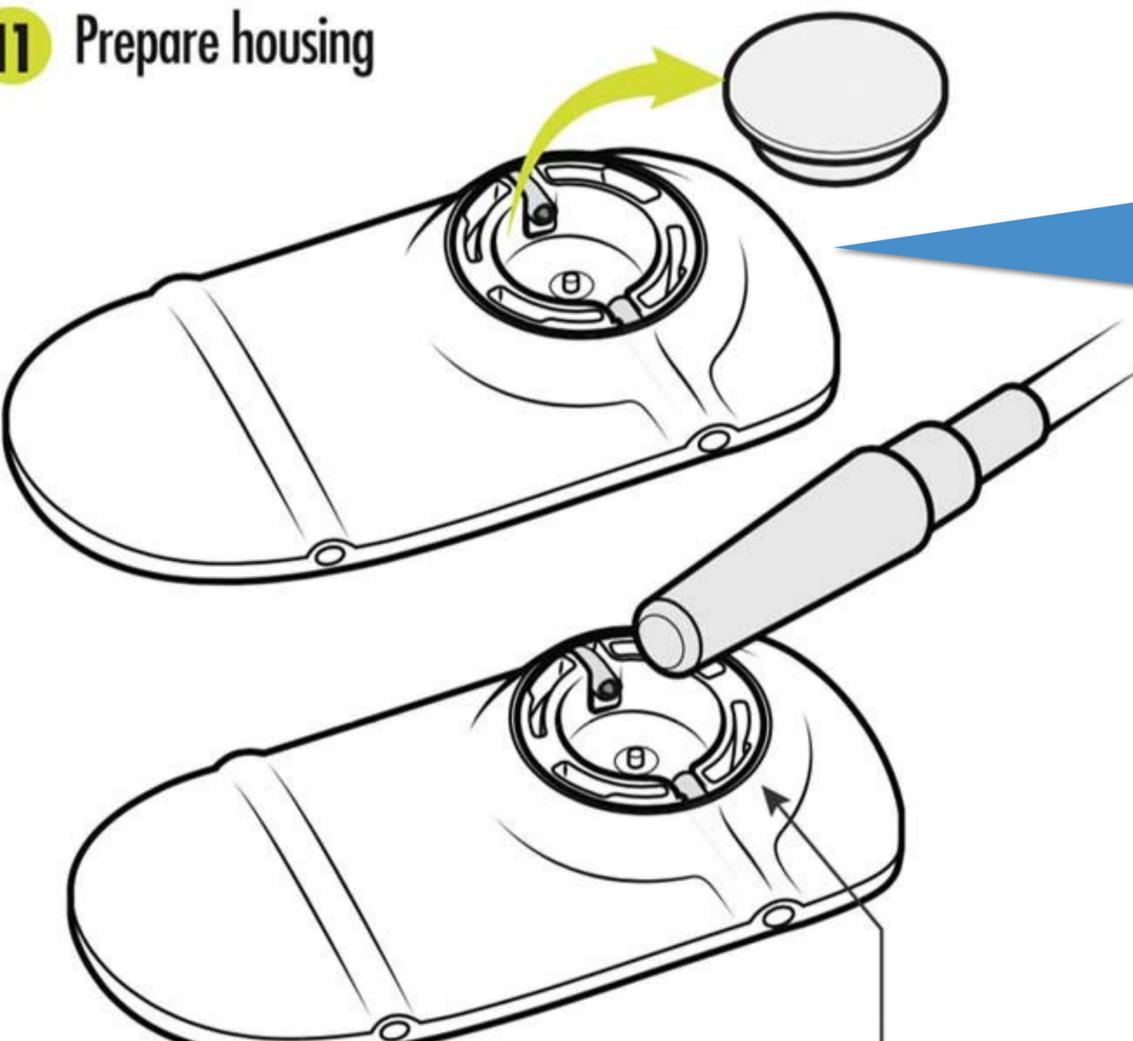
10 Remove panels



- Important! Any sharp edge that the lace comes in contact with will shorten the lifespan of the lace and cause premature failure.
- Finish sanding around tubes with fine sand paper.

Cut any protruding tubing with clean razor.

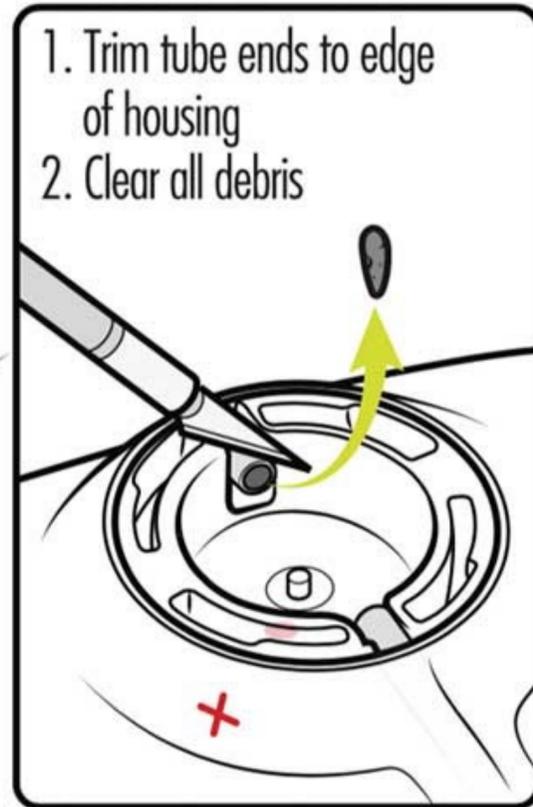
11 Prepare housing



Grind flush with top of reel housing.
Take care to not damage reel housing.

Grind down to silicone
and remove silicone plug.

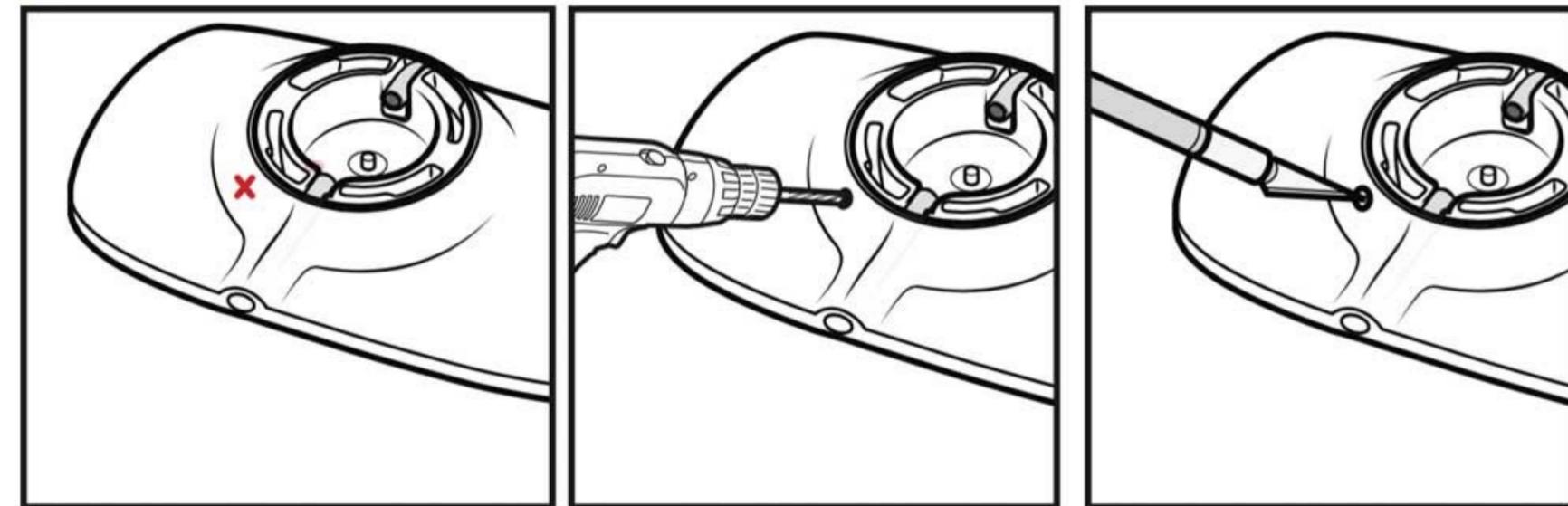
If any debris is stuck in the
tubing, use compressed
air to remove.



- 1. Trim tube ends to edge of housing
- 2. Clear all debris

Note of location of the red dot
for the future pilot hole

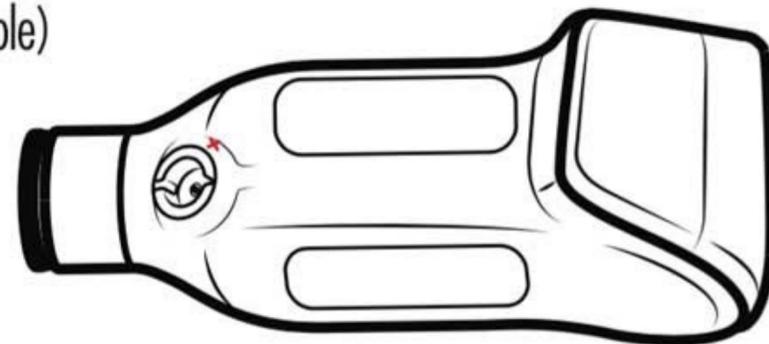
12 Drill pilot hole to access tab for reel removal



Locate the red dot on the bayonet and plan to drill at that location.

Drill through lamination at an angle creating a tunnel to access the pilot hole & release tab. (2 mm diameter hole)

Test and clear the pilot hole before installing the Boa[®] dial into the laminated base.

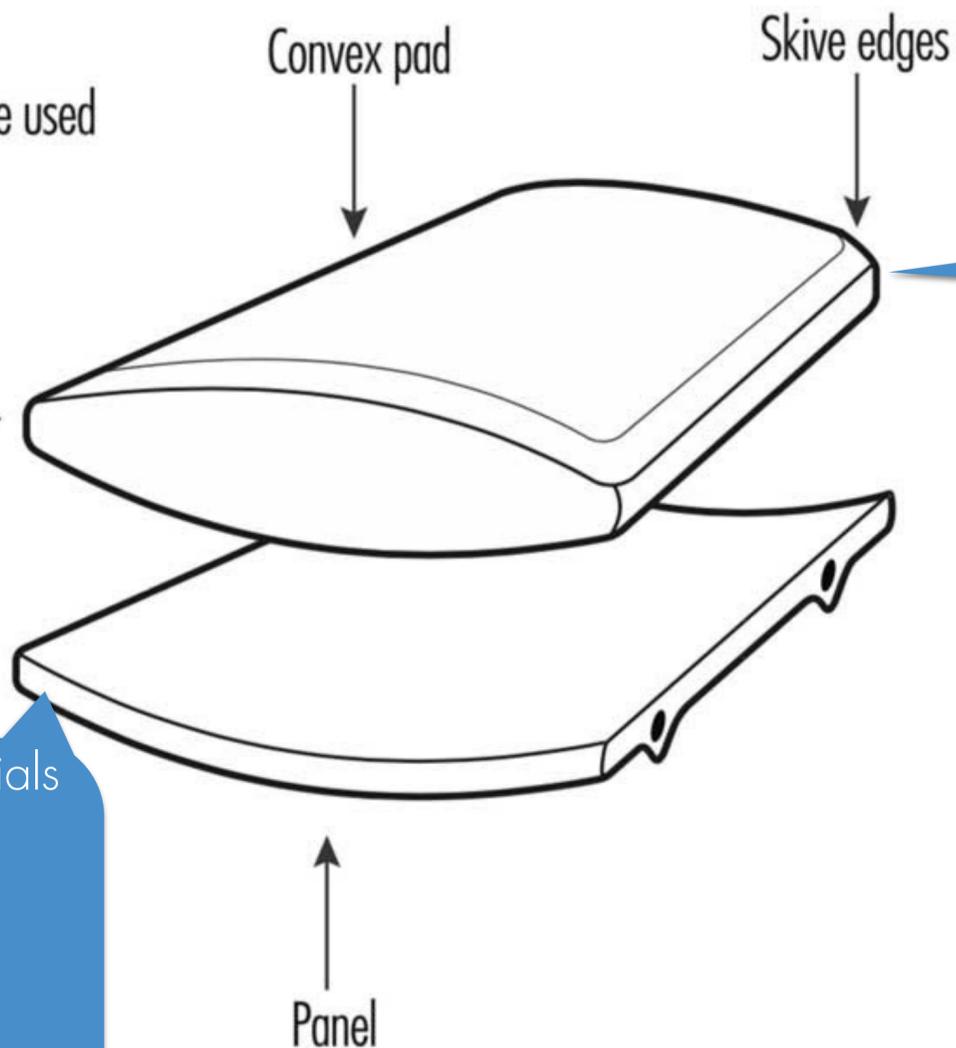


The red dot inside the base indicates the corresponding location on the socket to drill the pilot hole.

13 Fabricate and install pads

Pad thickness, material and shape are used to refine pressure and fit.

Slight convex shape allows for better application of pressure.



It's critical here to create a convex shape on the pads. The convex shape allows the pads to properly apply pressure as the panels are tightened.

In Depth

Varying Pad shape, material/density, and thickness are the main methods for "Tuning" the socket fit. Work with your patient to ensure that the pads are correctly fabricated:

Pad shape: Convex pad delivers more pressure during closure. Concave pad, delivers less.

Pad material / Density: Choose the best pad type to optimize the fit for your patient. More dense pads, deliver more direct pressure. Less dense pads, deliver more distributed pressure.

Pad Thickness: The thicker the pad, the greater the distance the panel can travel to create closure. If your patient has significant volume loss daily, then consider using a thicker pad to create a larger range of closure.

Recommended Padding materials for AK and BK sockets:

Average Displacement: 3/16 Puff Shore 35 Maximum

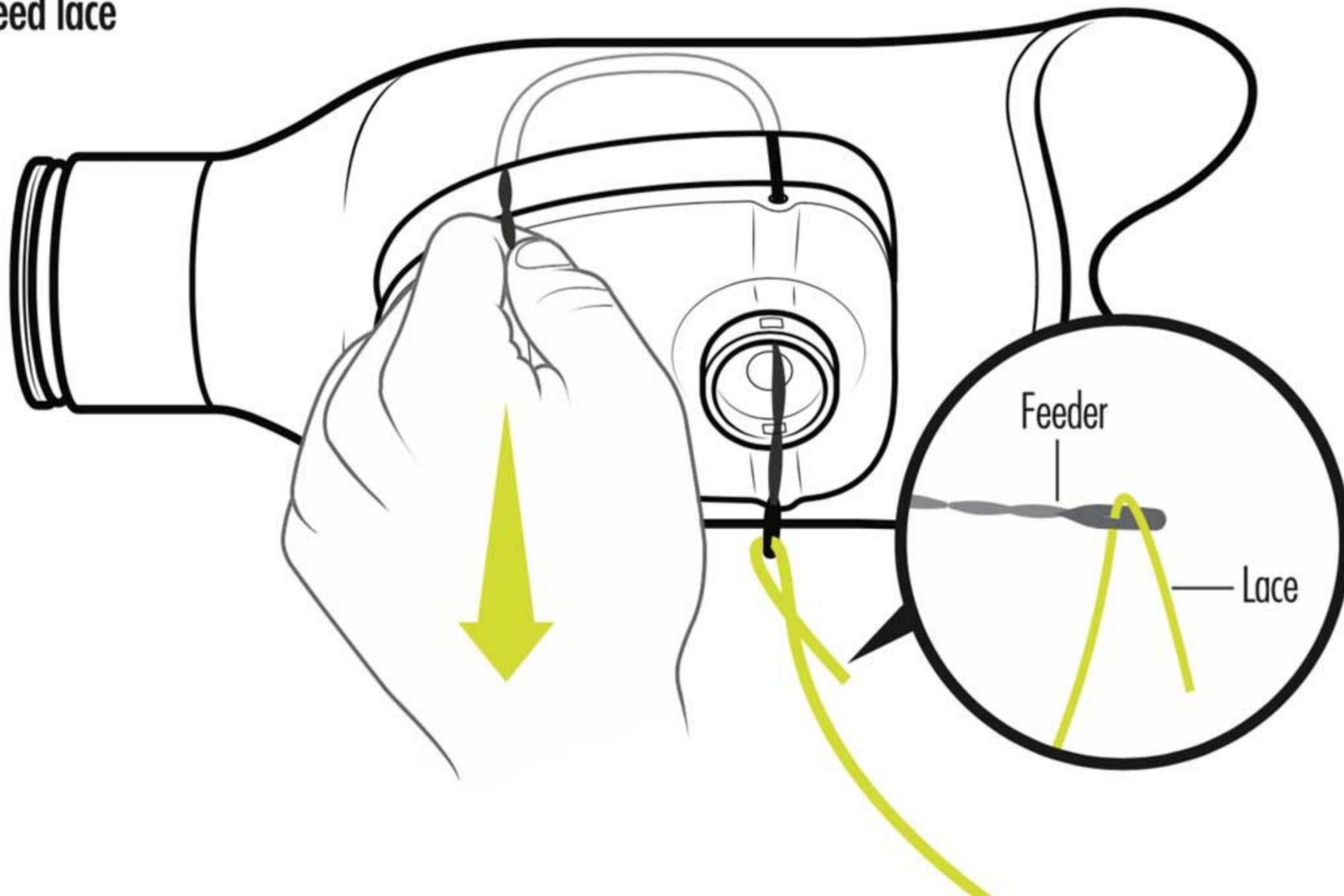
Displacement: 1/4 - 1/2 Puff Shore 35

Note: Skive Edges

Recommended padding material for Symes:

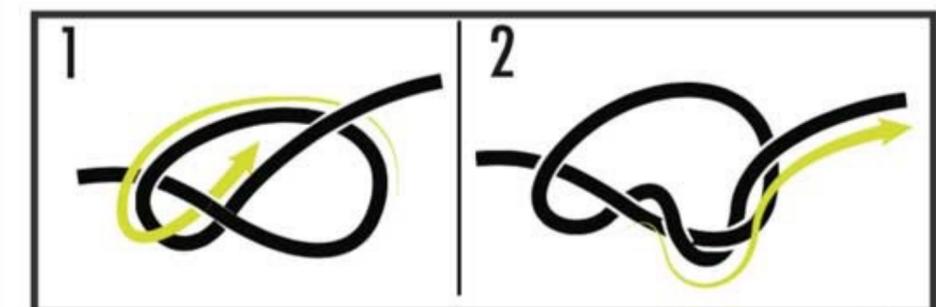
1/8 - 3/16 Puff Shore 35

14 Feed lace



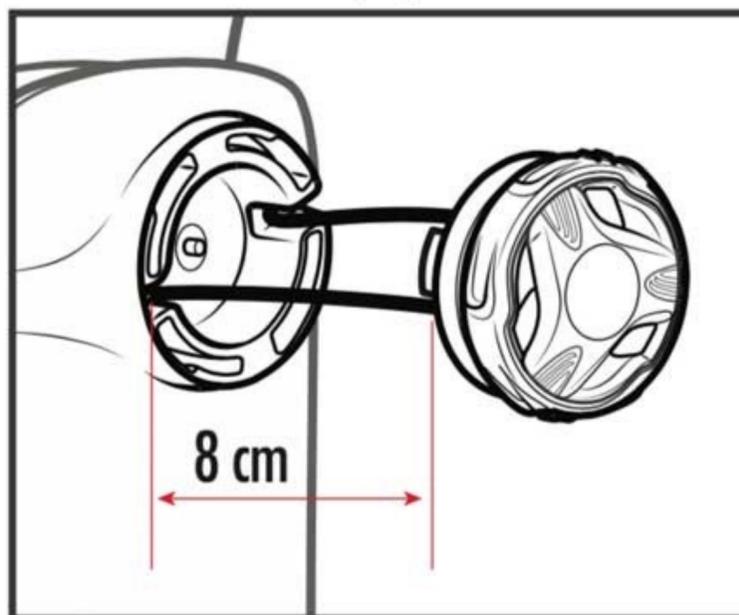
Use the Steel lace feeder to feed the lace through the socket.
If you don't have a lace feeder, contact Click Medical. This will save you many hours of frustration.

15 Attach lace to reel



Insert laces and tie double overhand knots on each end.

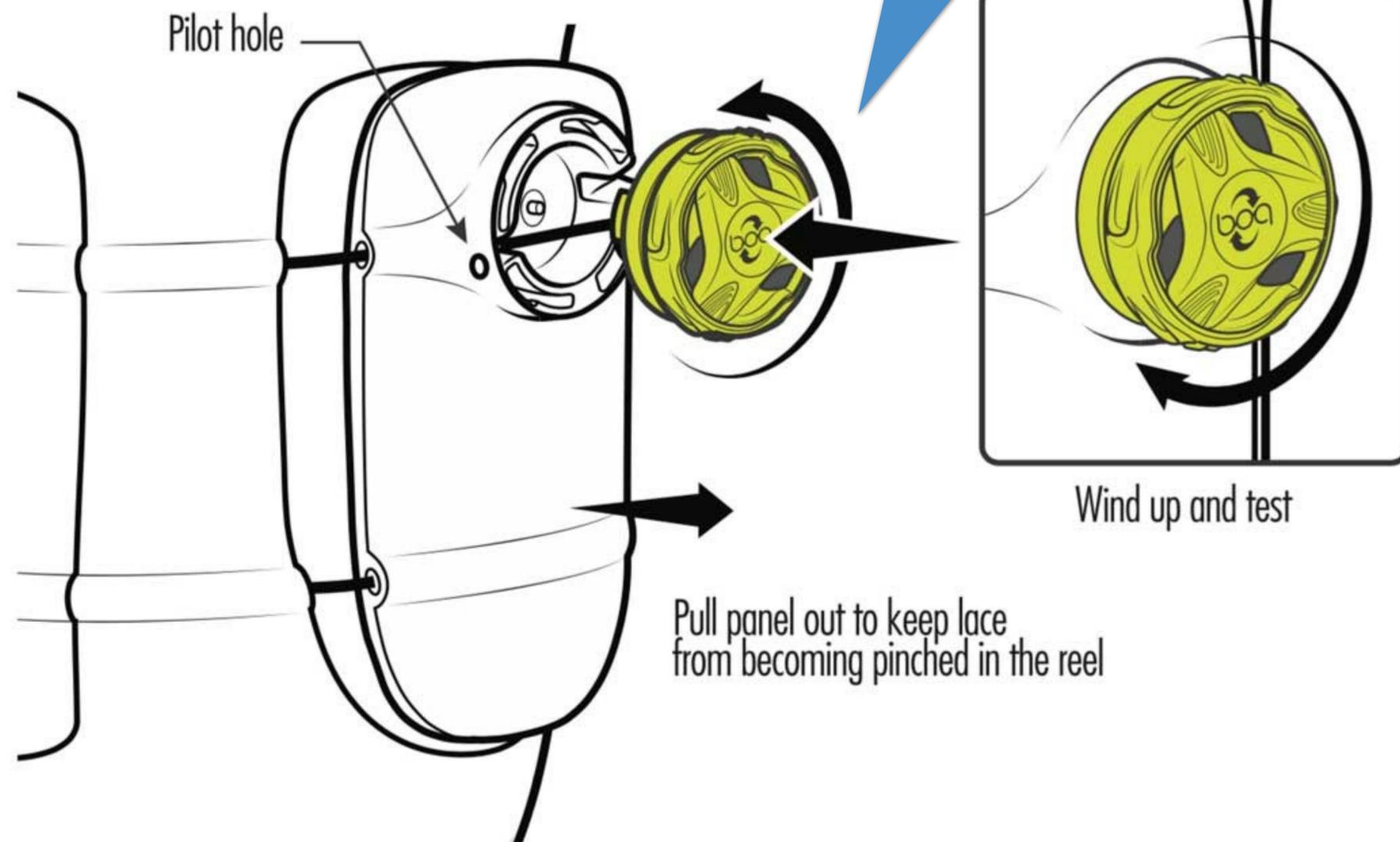
Leave 8cm of lace on both ends before tying knots.



Start by threading filament through one side of the reel base and continue until it enters the other side of the reel base. Leaving 8cm of lace allows for the connection to the spool to be much stronger. This is an important safety protocol.

Leaving 1 cm of lace after the knot, and burning it, ensures that the end cannot pull through the knot. Spectra is slippery, so if knot slippage is a problem, dab a little super glue on the knot before setting the knot into the spool.

16 Insert reel into socket - turn counter-clockwise to lock.



- Wind up tight, release reel, pull out panel,
- Wind up, release reel, pull out panel
- Repeat a total of 3 times.

- Ensure that lace is freely moving through the system.
- If the lace binds at all, release the reel from the panel, and ensure that no laces are pinched.
- Pull the panel out to remove the slack lace, then re-insert the reel and lock into position.
- Cycle test again.