Impulse® Exoskeletal Kit Instructions

WHAT'S IN THE BOX

1 Composite Laminating Attachment Post
1 Rigid Foam Ankle
1 Laminating Cap
Instructions

ADDITIONAL MATERIALS REQUIRED

Impulse Foot, Impulse Transfer Block (Part No. 700-435), carbon braid, carbon tape, adhesive, two-part urethane foam, standard lab supplies (stockinette, resin, etc.)

1. Assemble and align a prosthesis using the Impulse and the alignment components of your choice.
2. Remove the foot from the aligned prosthesis.
3. Install the Transfer Block onto the foot plate of a vertical transfer fixture.
4. Place the aligned prosthesis into a vertical transfer fixture.
5. Lock the vertical transfer fixture into place, fill the socket with plaster, and allow the plaster to harden.
6. Remove the alignment device from the socket.
7. Using the Foot Bolt that was supplied with the foot, connect the Composite Laminating Attachment Post to the foot. (The ridge on the Composite Laminating Attachment Post fits into either one of the grooves on the keel of the foot. The grooves are positioned to allow for seven degrees of toe-out, either left or right.)
8. Slide the Rigid Foam Ankle down over the Composite Laminating Attachment Post until the Rigid Foam Ankle rests on top of the foot.

   Note: If the residual limb is very long, the Composite Laminating Attachment Post can be used by itself without the Rigid Foam Ankle. Cut the Composite Laminating Attachment Post to the desired length, omit Steps 8 and 9, and proceed with the directions.
9. Use instant adhesive to secure the Rigid Foam Ankle to the Composite Laminating Attachment Post in the proper orientation.
10. Remove the Rigid Foam Ankle/Composite Laminating Attachment Post assembly from the foot.
11. Place the Rigid Foam Ankle/Composite Laminating Attachment Post assembly in the vertical transfer fixture, making sure that the anterior of the assembly is facing anteriorly (as opposed to 180 degrees opposite).
12. Using common fabrication techniques, fill in the area from the ankle to the bottom of the socket with a two-part urethane foam.
13. Remove the prosthesis from the vertical transfer fixture and reattach the foot.
14. Shape the foam to the desired contour.
15. Remove the foot from the prosthesis.
16. Since the lamination will increase the circumference of the Rigid Foam Ankle relative to the foot, reduce the shape of the Rigid Foam Ankle so that after the lamination, the shape of the ankle will match the shape of the foot. (The extent to which the ankle should be reduced depends upon the lamination layup that is used.)
17. Place the socket in a lamination fixture.
18. Snap the Laminating Cap into place on the end of the Composite Laminating Attachment Post. (The ridge on the Composite Laminating Attachment Post fits into the slot in the Laminating Cap.)
19. Apply petroleum jelly or paste wax to the threads of the Foot Bolt.

WillowWood®

The Ohio Willow Wood Company
15441 Scioto Darby Road
Mt. Sterling, OH 43143
phone 740.869.3377 / 800.848.4930
fax 740.869.4374 www.willowwoodco.com

Ohio Willow Wood Company B.V
Keizersgracht 62/64
1015 CS Amsterdam
The Netherlands

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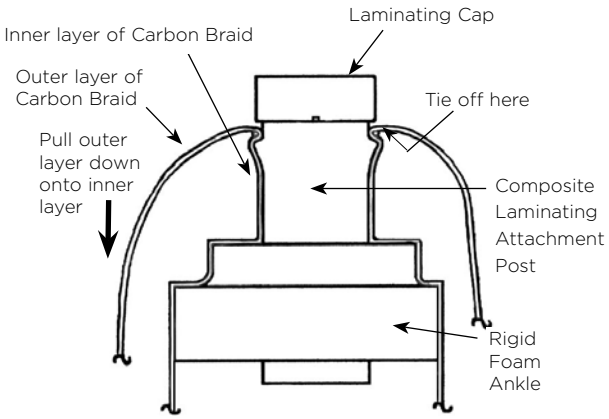
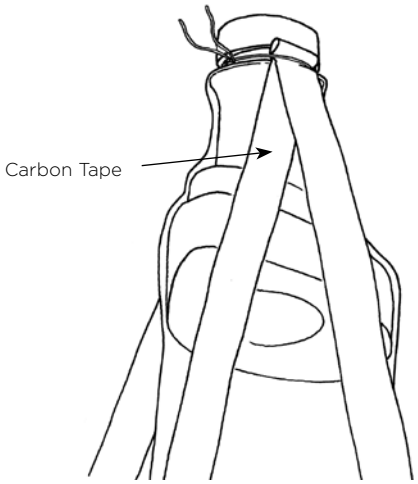
20. Install the foot bolt into the Laminating Cap and hand-tighten the Foot Bolt.
21. Fill the hex head on the Foot Bolt with clay to keep resin out of the opening.
22. Pull carbon braid onto the model, tie it off in the groove formed by the Laminating Cap and the Composite Laminating Attachment Post, and pull the rest of the carbon braid down onto the model.



23. Reinforce the layup with carbon tape applied from the original lamination to the tie-off groove and back up to the original lamination, as shown at right. Apply additional reinforcement if required. Proceed with the lamination, using standard procedures.



24. When the lamination is complete, remove the Foot Bolt and the Laminating Cap.
25. Remove the petroleum jelly/paste wax from the Foot Bolt threads.
26. Reattach the Impulse to the prosthesis, making sure that the ridge on the Composite Laminating Attachment Post fits into the appropriate slot on the keel of the foot.
27. Apply Loctite Removable Threadlocker 242 (or equivalent) to the foot bolt and tighten the foot bolt to 30 ft-lbs (41 Nm).