

LP Symes™ Instructions for Use

Product Number: LP2

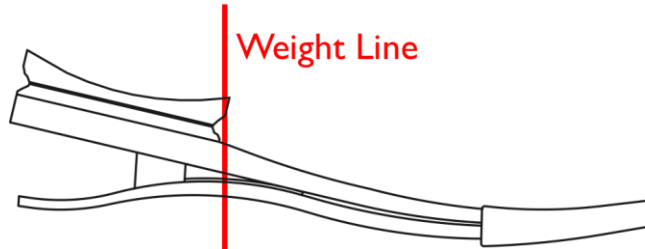
Assembly

The LP Symes™ foot module is pre-assembled consisting of a graphite component (keel), Spectra™ sock, direct lamination cup, and foot shell. Foam *stiffening bumpers* for increasing heel stiffness are provided.

Bench Alignment

Prior to donning the prosthesis:

- Plantarflex/Dorsiflexion foot to match the shoe heel height.
- Adduct/Abduct socket to provide appropriate frontal plane angle.
- Flex/Extend socket to provide appropriate sagittal plane angle.
- Move the socket linearly to ensure the weight line falls through the foot module as illustrated below.



Diagnostic Socket

As the *direct lamination cup* does not allow alignment changes after socket fabrication, the static and dynamic alignment may be completed with a diagnostic socket.

- Use a filler material between the socket and *direct lamination cup* to establish the bench alignment.
- Reinforce the prosthesis by wrapping the diagnostic socket and direct lamination cup with fiberglass casting tape.
- The amputee should remain between parallel bars at all times when ambulating with a diagnostic socket.
- Repeat the previous steps as necessary until establishing an optimal alignment. Transverse rotation must be established prior to final socket lamination.

Dynamic Alignment

During *loading response*, the heel lever stores energy and release it during *midstance*. This action provides momentum for the keel to store energy and release it during *terminal stance*. To optimize the heel to toe rollover motion, adjust the following variables:

- Anterior/posterior foot placement
- Dorsiflexion/plantarflexion
- Heel stiffness

Troubleshooting

Heel too soft

Symptoms

- Foot flat occurs too rapidly
- Toe feels excessively stiff
- Knee hyperextension

Solutions

- Shift socket anteriorly in relation to the foot
- Attach foam *stiffening bumpers*

Heel too hard

Symptoms

- Rapid knee flexion, instability
- Heel to toe progression to rapid
- Lack of energy return sensation

Solutions

- Shift socket posteriorly in relation to the foot
- Verify appropriate foot module category

Foot module too stiff

Symptoms

- Flat spot in rollover motion at slow cadences

Solutions

- Consider a lower category foot module

Foot module too soft

Symptoms

- Clicking noise at *initial contact*
- Excessive toe deflection with high impact activity

Solutions

- Consider a higher category foot module

Stiffening Bumpers Foam *stiffening bumpers* are included to adjust the heel stiffness during *loading response*. The bumpers may be temporarily attached with tape between the heel lever and keel. If the bumpers provide excessive heel stiffness, exclude or trim as appropriate. For permanent placement, adhere bumpers using Barge or similar contact cement.

Lamination of Socket When laminating the socket, removal the *direct lamination cup* from the foot module.

- Either an open-ended socket with poured distal pad, or closed-end socket design may be used with the *direct lamination cup*.
- If a closed-end socket is used, it is desirable to re-evaluate socket alignment after the inner socket wall is bonded to the *direct lamination cup*.
- For the socket lay-up, a minimum of two tubular carbon fiber braids should be tied into the lamination groove of the *direct lamination cup* and reflected over the socket. For heavier and/or very active users, additional layers of carbon may be necessary.

Final Assembly After final socket lamination, re-attach the *direct lamination cup* to the foot module.

- Apply 5 minute epoxy or equivalent between the *direct lamination cup* and the graphite foot interface.
- Secure attachment bolts with thread locking adhesive (i.e., Loctite T242).
- Torque the attachment bolts to 35ft-lbs.

Spectra™ Sock A Spectra™ sock is provided to protect the foot shell and minimize noise. Spectra™ socks must be replaced at intervals appropriate to the user's activity level. Failure to inspect and replace the Spectra™ socks may prematurely wear the foot module, and will void the warranty.

Foot Shell When removing or installing the foot shell, use the Foot Shell Removal Tool (ACC-00-10200-00) to prevent damage to the foot module.

LP Symes™ System Minimum clearance: 67mm-83mm
Maximum user weight: 166 kg (365 lbs)
Available sizes: 22cm-30cm
Heel height: 3/8"
Warranty: Graphite components (36 months)
Foot shell (6 months)

Maintenance The foot module requires periodic maintenance.

- Inspect the foot module every six months. If the user is more active, more frequent inspection may necessary. Service as necessary. Replace Spectra™ sock and/or foot shell if worn to prevent damage to the graphite components.
- The foot module may be cleaned and/or disinfected with soap and warm water. If the foot is exposed to water, remove the foot shell to clean and disinfect its interior.

Warnings

Failure to adhere to the guidelines of the *Instructions for Use* will void the warranty.

- Never use the foot module without a *foot shell*. Failure to comply may cause premature wear, loss of function, and/or product failure.
- Always use the foot module with a sock and shoe. Failure to comply may cause premature wear, loss of function, and/or product failure.
- Never allow aggregates such as sand to remain in the *foot shell*. Upon exposure to aggregates, immediately disassemble foot module and rinse with water. The abrasive properties of aggregates will quickly wear the graphite components of the foot module.
- Discontinue use and consult your prosthetist if any part of the prosthesis starts to make noise.
- Inform your prosthetist if you lose or gain a significant amount of weight.
- Freedom Innovations foot products are manufactured and tested for a particular weight and activity impact level. Use by another user for whom it was not originally manufactured may cause injury and shall void any written or implied warranty.



Jaargetijdenweg 4
7532 SX Enschede
The Netherlands
tel +31 (0)53-20 30 300
fax +31 (0)53-20 30 305
info@freedom-innovations.eu



Advena Ltd. Pure Offices, Plato
Close, Warwick, CV34 6WE UK