



Fillauer LLC

KNEE EXTENSION ASSIST

PRODUCT MANUAL

KNEE EXTENSION ASSIST



The Fillauer Orthotic Knee Extension Assist is an adjustable extension assist that can be attached to virtually any orthotic knee joint. The Extension Assist can be used in orthotic knee joints with a locking mechanism to insure that the knee joint reaches full extension and the lock engages, increasing safety in ambulation. The Extension Assist provides resistance after 35° of knee flexion, allowing easy sitting without tension. Individuals can dial in the adjustable elastomeric tension for the amount of assist they need to suit their activities.

FEATURES AND BENEFITS

- Can be mounted to most knee joints
- Provides extension assist from 35° -130°
- Insures knee extension
- Limits heel rise for selective locking devices
- Provides optimum function for orthotic knee joints
- Allows patient to bend the knee for sitting to the seated position
- Uses standard attachment tools

L-CODE

- L2999* – Orthotic Knee Extension Assist

**Suggested L-Codes are provided as a reference only. It is the responsibility of the practitioner to confirm this information.*

INSTALLATION

Mounting

The Extension Assist unit can be mounted to most orthotic knee joints that use a screw attachment. If the knee joint does not use screw attachment, holes can be drilled in the uprights to attach the extension assist unit.

- Depending on the amount of extension assist that is desired, it can be mounted in different locations. The more posterior the proximal mounting is from the knee center, the more extension assist will be present.

(Standard and metric hardware kits are available.)



Step 1

Remove existing upper joint screw heads and mount the backing shim to the top upright bar using one 10-32 X 7/16"/M5 X .8 X 12mm flat head cap screw. Next, mount the Extension Assist to the backing shim using one 10-32 X 5/8"/M5 X 16mm and one 10-32 X 7/8"/M5 x 22mm flat head cap screw. Remember to use thread locker Loctite® on mounting screws.



Step 2

Determine the correct orientation of the cord lock mount according to the figures on the left. Attach the cord lock to cord lock mount using the 3/16" x 1/4" Chicago screw. Remember to use thread locker Loctite®.

posterior | *anterior*
RT LATERAL

anterior | *posterior*
LT LATERAL

Step 3

Remove the lower joint head screws and attach the cord lock mount to the bottom upright bar using two 10-32 X 5/8"/M5 X 16mm flat head cap screws. Remember to use thread locker Loctite® on mounting screws.



Step 4

With the knee joint at full extension, cut the elastomer cord at the midpoint of the tension wheel as shown.

Step 5

Insert the elastomer cord into the tension wheel's pocket and tighten the elastomer securing screw. Make sure the end of the elastomer reaches the back of the pocket before tightening.



posterior | *anterior*

RT LATERAL

anterior | *posterior*

LT LATERAL

Step 6

Wind the tension wheel by using a 3mm Hex Key to create the desired tension in the elastomer cord.

Step 7

For left lateral leg mounting, assemble as shown.

Adjustment

To adjust the level of assist force, turn the tension screw located on the Extension Assist Housing. If more extension force is necessary than can be achieved by adjusting the tension wheel, the elastomer will need to be trimmed to a shorter length.

Alternate Fabrication Technique

- If there are no removable joint heads or if the hardware provided is not compatible with the knee joint, new holes will need to be drilled in the uprights. M5 threaded holes are required for metric hardware and standard hardware requires 10-32 threaded holes. Hole spacing should be $\frac{1}{2}$ " or $\frac{7}{16}$ " apart.
- If the bars are too narrow for the backing shim or the cord lock mount to sit flush, washers may be used to close the gap between the bars and the shim. This may require longer screws.

DAILY CARE AND MAINTENANCE

The elastomer K Cord periodically needs to be replaced. Inspect the elastomer K Cord for cracks, tears, or other signs of wear, and replace as necessary.

- To replace the elastomer K Cord, loosen the elastomer securing screw and remove the old elastomer K Cord from the proximal end of the orthosis.
- Detach the old elastomer K Cord from the distal portion of the orthosis.
- Repeat steps 2-5 on page 6 of instruction manual.

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