

Tamarack's Clevisphere™ Joint

- **Saves** Fabrication Time
- Makes M-L Joint Co-Alignment **Automatic**
- Provides **Continuously Variable** Plantar Flexion Stop Adjustment

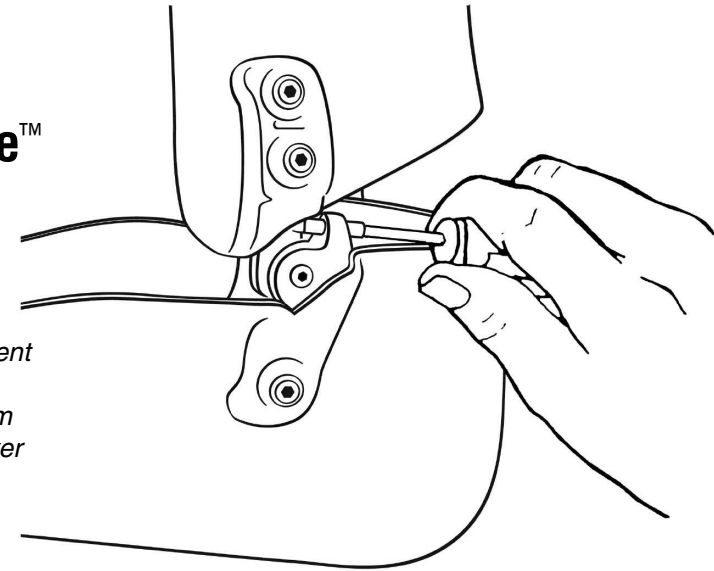
Tamarack's unique combination of a **spherical bearing and clevis linkage** creates an ankle joint with smooth, free motion, continuously variable plantar flexion stop, and easy, fast fabrication.

How? Each Clevisphere™ Joint can rotate about any axis within a 24° conical range (see illustration below). This is usually enough variation so that casual "eyeball" alignment errors and/or some tibial torsion joint alignment are automatically accommodated without joint binding.

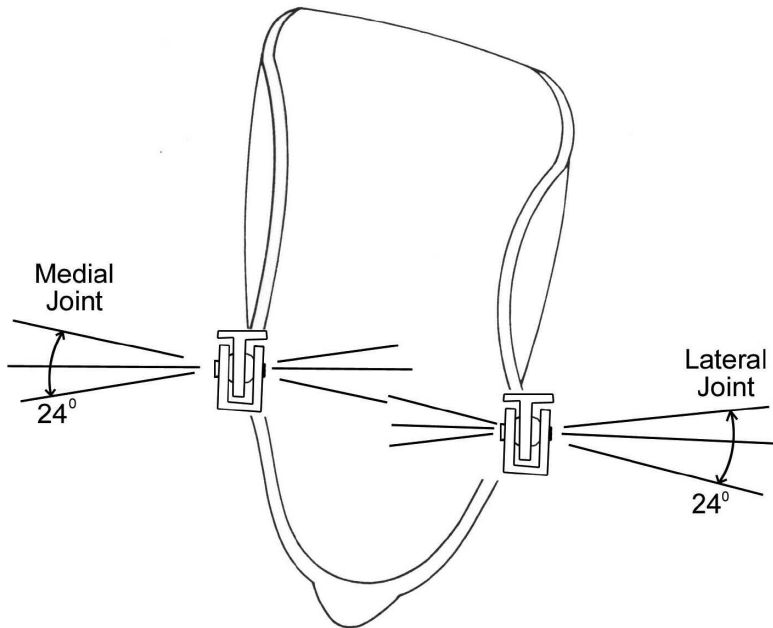
These joint bodies are cast of **high-strength precipitation hardened stainless steel**.



Tamarack Clevisphere™ Joint



For easier adjustment of Clevisphere™ Joints, use the 2mm Tamarack Hex Driver (Model 740-4)



Clevisphere™ Joint units automatically co-align (align to a common axis)

HOW TO PURCHASE TAMARACK PRODUCTS:

Becker Orthopedic
www.beckerorthopedic.com
1-800-521-2192 / 248-588-7480

Or

Locate a Distributor online at
www.tamarackhti.com

REV. 1 – 06/08
U.S.A. PATENT NO. 7,044,926
PATENT PENDING
GERMANY, U.K., FRANCE



Tamarack Clevisphere™ Joint

- Continuously Adjustable Plantar Flexion Stop
- Automatic Co-alignment of Medial and Lateral Joint Axes

www.tamarackhti.com

MADE IN THE U.S.A. **CE**

Tamarack Clevisphere™ Fabrication Instructions

Some Clevisphere™ joints may feel stiff before installation. This stiffness is normal and the joint will quickly break in and move freely within a few cycles after installation.

1. Pull thin/sheer stockinette over the model per your usual practice.
2. In accordance with where you wish the orthotic ankle axis to be located, align the molding dummies on the plaster model and use small nails or cement to fasten the dummies to the model. The dummies are not flexible, so any gaps must be filled with plaster, putty, or clay. Medial and lateral components will automatically align with each other. They will not “bind” unless misaligned by more than 12° relative to each other.
3. For an AFO with adjustable plantar flexion stop, the dummy ears must point anteriorly and the end with two bosses (for two mounting screws) should be proximal as in **Figure #1**. Please note that the two molding dummies are **not** identical.

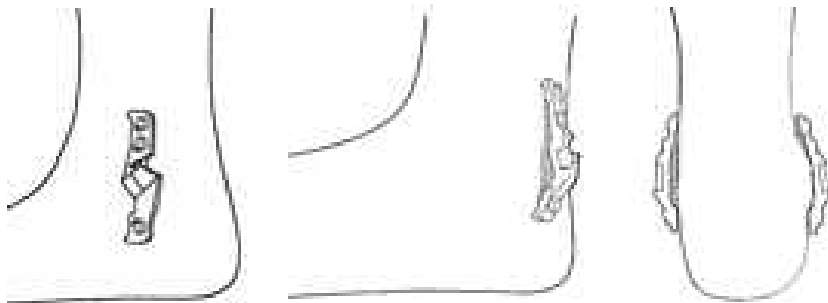


Figure 1 - Line drawing of dummy on model and gap areas that may need filling.

4. **DO NOT** pull stockinette over top of the molding dummies.
5. Vacuum form or laminate as usual. Use an awl to mark the six anchor screw locations while the plastic is still soft.
6. After removing the shell from the model, make the cut separating the foot and calf sections. The cut should be located as indicated in **Figure #2**.
7. The molding dummies may be pried out with a small screw driver before or after the separation cut.

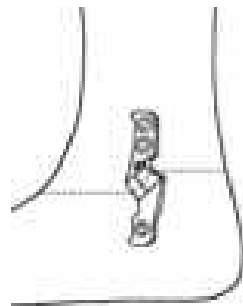


Figure 2 – Dotted line indicates approximate cut line path.

NOTE: Clevisphere™ joints require very strong, durable anchorage. Polypropylene is an ideal thermoplastic material for this purpose. Polyethylene is not.

8. Carefully grind down the cut surfaces without removing joint cavity material beyond what is indicated in Figure #3. If too much of the joint cavity is removed, joint support will be compromised.

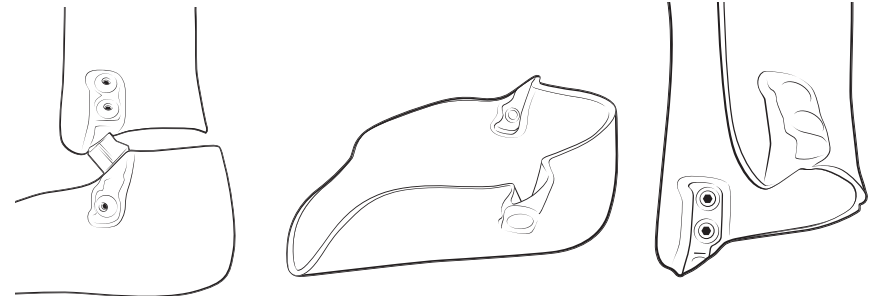
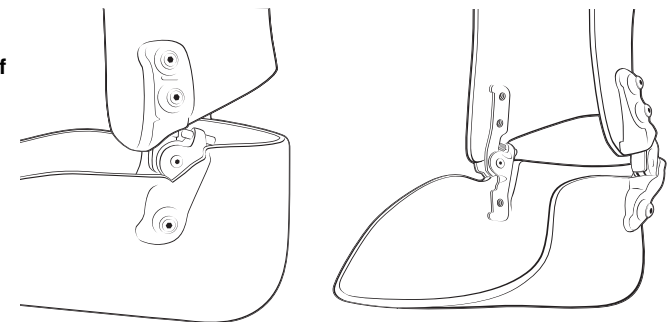


Figure 3 - Illustrations showing extent of grinding.

9. Carefully drill or punch the mounting screw holes to create a 5.5mm (7/32 inch) clearance hole.
10. Install Tamarack Clevisphere™ Joints with the anchoring screws using thread-locking compound. If you need a different screw length or head style, contact your distributor or the Tamarack website regarding information on alternatives (www.tamarackhti.com).

NOTE: Medium strength threadlocker has been applied to the variable stop set screw. Adjustments will progressively loosen that lock. Reapply threadlocker as needed.

Figure 4 - Appearance of installed Clevisphere™ joint.



NOTE REGARDING USE AS A VARIABLE DORSIFLEXION STOP

Tamarack Habilitation Technologies, Inc. does not endorse the use of this joint as a variable dorsiflexion stop in an ambulatory orthosis. In almost all ambulation situations, stopping dorsiflexion subjects the joint and its anchorage to much higher moments than the joint was designed for. However, there are non-ambulatory variable dorsiflexion stop applications for which this joint is useful.