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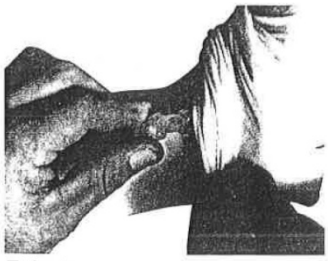


FIG. 1

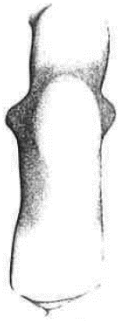
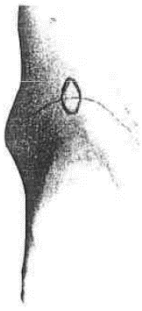


FIG. 2



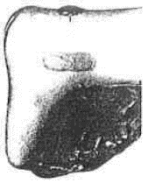


FIG. 3 FIG. 4

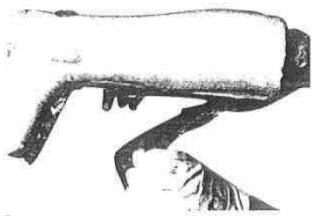


FIG. 5

1. Position the plaster ankle-foot model in the clamping/vacuum fixture so the calf portion is horizontal and the toes are pointed downward.

2. Select a nylon stockinette size which will fit snugly on the plaster AFO model.

3. The Flexible Ankle Joint should be inserted between the positive model and nylon stockinette. The joint should be positioned so the mid-point of each joint is located exactly where you want the ankle motion axis to be (see FIG. 1). Do not be concerned if the flat portions of the joint are in line or not.

4. Tie off the distal and proximal ends of the stockinette, ensure it is snug with no wrinkles and holding the joint securely in the desired location (see FIG. 2).

5. Two pieces of polypropylene should have been prepared and placed into the oven. The large piece should be sized as needed to cover the entire AFO model. A second piece, very small, 1/8” thick by 1” in diameter, is also placed in the oven (a bit later than the larger piece).

6. Remove the pre-heated polypropylene from the oven. Place the small piece on the Achilles tendon directly posterior of the joint center (see FIG. 3). Since a firm bond is desired between the large piece and the small piece of polypropylene, the small piece should still be transparent when the large one is applied.

7. The large piece of polypropylene should then be lowered onto the model taking care not to stretch, move, or pull it in a way which will drag the small piece of polypropylene or the joints out of position. The drape/vacuum-assist method of forming works very well (see FIG. 4).

8. The usual steps should be taken without delay to seal the polypropylene so that the vacuum can bring the polypropylene to a close fit around the model and joints components (see FIG. 5).

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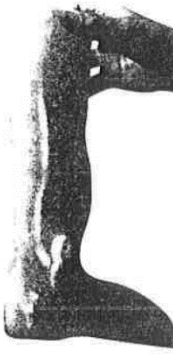

FIG. 6

9. When the assembly has fully cooled and solidified, establish approximate trimlines and remove with a cast cutter.

10. Remove the nylon stockinette and, with it, the two Flexible Action Joints.

11. The polypropylene shell should show dimples at the locations of the two mounting holes in each joint. Drill 0.140 inch diameter (#28) holes through the polypropylene shell at each of the four locations and countersink (82 degrees) (See FIG. 6).

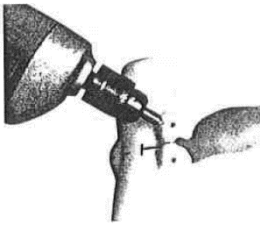

FIG. 7

12. Remove a small “U” shaped portion of polypropylene, as pictured in FIG 6, with a small hand-held deburring tool. The “U” should be exactly over the center point of the joint.

13. Cut the AFO from anterior to posterior with a hand or power coping saw with a thin blade. The cut should be directed toward the center of the polypropylene lump created by the small piece of polypropylene in the area of the Achilles tendon (see FIG. 7). The upper and lower halves of the lump will form a plantarflexion stop. Assembly is facilitated by halting the thin parting cut short of the lump and finishing the last bit of the cut after the joints are installed.

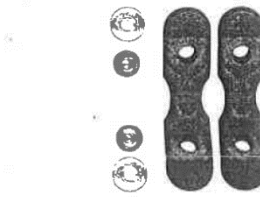

FIG. 8

14. Install the Flexible Ankle Joints using the threaded metal fasteners provided (see FIG. 8 and FIG. 9).

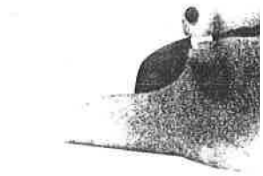

FIG. 9

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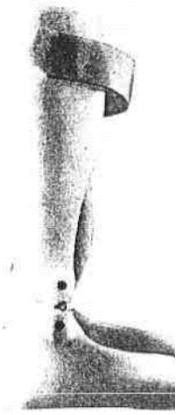

FIG. 10

15. A darcon strap may be added longitudinally across the plantarflexion stop area to limit dorsiflexion range-of-motion to whatever amount is indicated (see FIG. 10).

FIG. 11

16. Plantarflexion range-of-motion may be increased by wedge-cutting posterior to the joints (see FIG. 11).

FIG. 12

17. Plantarflexion range-of-motion may be decreased by adding material (welding or cementing) to the facing cut surfaces of the plantarflexion stop lump (see FIG. 12).

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