

LIFT TAB POSITIONING JIG ^a

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INTRODUCTION

The dual control cable system for operating an above-elbow prosthesis consists of two separate cables: one cable operates the elbow lock, and the other cable positions the forearm and controls the terminal device.

Positioning of the forearm is accomplished by force exerted on the cable which is transmitted to a forearm lift tab. The lift tab position is selected to provide the best balance between force and excursion for the individual amputee. Distal placement requires low force and high excursion. Proximal placement requires high force and low excursion. Although each amputee is different, one publication suggests $1\frac{1}{4}$ in. from the elbow center as an average position (1).

Often, more distance is desirable when a new amputee is beginning to learn the operation of the prosthesis. After learning the operational sequence, if required, the position of the lift tab can be changed up to $\frac{3}{8}$ in. closer to the elbow center.

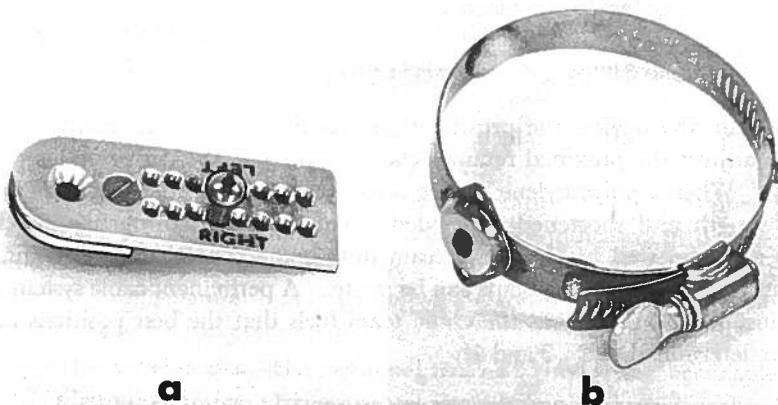


FIGURE 1

^a Based on work performed under VA Contract V1005M-1079.

To provide for this adjustment during the harnessing and training process, the Prosthetic Research Center has devised an adjustable lift tab jig (Fig. 1a). When used in connection with a proximal retainer base plate jig (Fig. 1b) and a polyethylene lift tab, the best cable path can be experimentally determined and changed as operating skill increases.

INSTALLATION

The adjustable lift tab jig is designed for use with either Hosmer or Sierra elbow units. When used with Hosmer elbows, the lift tab jig indexes in the forearm lift assist hole; when used with Sierra elbows, it indexes into the indentation in the elbow saddle. The lift tab unit is installed by placing it in position at the elbow center and inserting the screw which normally retains the elbow saddle (Fig. 2).

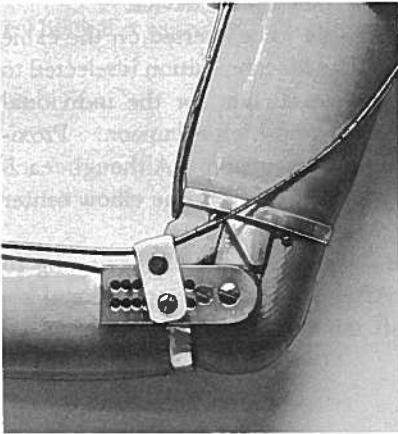


FIGURE 2

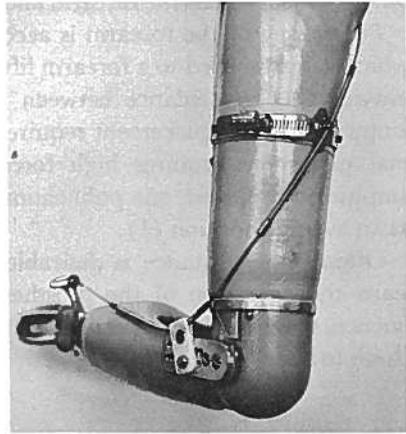


FIGURE 3

PROCEDURE

To use the device, the prosthetist selects the best lift tab position. He then adjusts the proximal retainer clamp to provide the correct cable pathway. When a polyethylene lift tab is used, this can be punched at an average length and shortened as needed. The cable system can be checked out and reviewed by the clinic team during the control and use training phases and minor adjustments can be made. A permanent cable system can be installed as quickly as the clinic team feels that the best positions have been determined (Figs. 3 and 4).

REFERENCE

1. Manual of Upper Extremity Prosthetics, U.C.L.A., 1958, p. 169 (Installation of the A/E Dual Control System).

