



TABLE OF CONTENTS

FUNCTIONAL ANATOMY OF THE HIP, THIGH, AND KNEE.....	1
Hip and Thigh.....	1
Anatomical Terms Used to Describe Body Movements.....	5
Muscles of the Hip and Thigh.....	11
Flexors.....	13
Extensors.....	15
Abductors.....	17
Adductors.....	18
Types of Amputations Above the Knee.....	20
Functional Anatomy of the Knee.....	21
Function of Major Muscles Related to A.K. Prosthetics.....	23
LOCOMOTION.....	26
The Physiological Background.....	26
Analysis of a Forward Step.....	31
The Basic Determinants of Gait.....	33
Axial Rotations of the Leg Segments.....	37
Muscle Action During Gait.....	37
Reaction Between Foot and Floor.....	40
HOW TO RECORD PROSTHETIC INFORMATION.....	44
HOW TO PLAN AND MAKE PATTERNS FOR THE SOCKET.....	69
HOW TO LAY OUT THE A.K. PROsthESIS SOCKET.....	76
HOW TO DO INITIAL SHAPING OF THE A.K. SOCKET.....	91

BIOMECHANICS.....	129
Mediolateral Instability.....	130
Forces and Levers.....	130
How Mediolateral Instability May Be Eliminated.....	136
Pressure.....	137
Knee Instability, Excessive Knee Stability.....	139
Methods of Knee Control - Voluntary and Involuntary.....	139
Effects of Limited Hip Extension and Adduction.....	147
HOW TO MAKE AN INITIAL FITTING AND MODIFICATIONS.....	152
HOW TO PREPARE THE PROSTHETIC FOOT FOR USE WITH THE ADJUSTABLE LEG.....	179
THE ADJUSTABLE LEG.....	185
Summary of Adjustments.....	188
HOW TO DO STATIC ALIGNMENT.....	191
HOW TO TEACH THE A.K. AMPUTEE TO DO FORWARD WALKING...	198
HOW TO DO DYNAMIC ALIGNMENT.....	203
THE ALIGNMENT DUPLICATION JIG.....	210
HOW TO SET UP THE ADJUSTABLE LEG ON THE ALIGNMENT DUPLICATION JIG.....	218
HOW TO INSTALL THE KNEE SETUP IN THE ALIGNMENT DUPLICATION JIG AND COMPLETE DUPLICATION OF THE LIMB....	228

AUXILIARY SUSPENSIONS FOR A.K. PROSTHESES.....	242
Types of Suspensions.....	243
Silesian Bandage.....	244
How to Apply Silesian Bandage.....	248
How to Fit and Align Rigid Pelvic Belt.....	253
How to Fit and Align Flexible Pelvic Belt.....	258
U. C. Auxiliary Suspension for Short A.K. Stumps.....	264
 HOW TO APPLY A COSMETIC COVER TO AN A.K. PROSTHESIS SHIN.....	265
 HOW TO PREPARE THE MALE SACH FOOT.....	271
 HOW TO PREPARE THE FEMALE SACH FOOT.....	278
 HOW TO PREPARE THE HYDRA-CADENCE FOOT FOR USE WITH THE ADJUSTABLE LEG.....	282
 HOW TO INSTALL THE HYDRA-CADENCE UNIT IN THE ALIGNMENT DUPLICATION JIG AND COMPLETE DUPLICATION OF THE LIMB....	284
 HOW TO ADJUST THE HYDRA-CADENCE UNIT.....	306
 HOW TO SERVICE THE HYDRA-CADENCE UNIT.....	311
 HOW TO TRAIN THE AMPUTEE TO USE HIS HYDRA-CADENCE PROSTHESIS.....	320
 BILATERAL ABOVE KNEE AMPUTEES.....	328