

Critical Tips on Bolt and Screw Installation

Torque: It is essential to use a **torque wrench** when assembling prosthetic components. Too much torque may cause over stressed bolts resulting in failure or stripped threads. Not enough torque will allow improper movement and flexing causing fatigue failure. Torque must be measured on lubricated bolts. To prevent galling it is important to use lubricant when installing stainless steel bolts or screws into a stainless steel component. Torque bolts into wood keel to foot **manufacturer recommendation** to avoid embedding.*

Locking: Thread locking compounds, such as Loctite, not only prevent loosening and maintain torque, but also lubricate bolts. Follow all instructions for cleaning and using primer; generally, apply **Loctite 222 and 242** to each part prior to assembling. Fixture strength in 10-30 minutes; full **cure** 24 hours. Hardware locks such as lock washers provide a reliable locking method when properly installed. Use them with the proper torque settings only where specified.

Inspection and Re-inspection: All bolts should be **periodically** inspected for proper torque settings. Determine the inspection interval **not exceeding 6 Months**, by the frequency of loading (i.e., patient weight and activity). Re-inspection of foot bolts is absolutely necessary.

Record Keeping: Record the torque settings and dates of re-inspection along with serial numbers in the appropriate patient files.

ALWAYS FOLLOW THE COMPONENT MANUFACTURER'S RECOMMENDATIONS FOR BOLT USE. USE ONLY BOLTS THAT ARE FURNISHED WITH COMPONENTS. ONE MANUFACTURER CANNOT GUARANTEE ANOTHER MANUFACTURER'S PRODUCT.

RE-INSPECTION CAN HELP PREVENT PROBLEMS, WHICH WILL OCCUR IF IGNORED!

TORQUE SETTINGS FOR HOSMER PYRAMID SYSTEM SCREWS								
WHERE USED		SCREW SPECIFICATIONS						
P/N	Component	P/N	Screw Size	Function	Nm	in/lbs	ft/lbs	Loctite
60273	S.A.C.H. Pyramid Adaptor, Ti	59374	M10 x 1.5 x 65mm	Attach to foot	41*		29*	242
60405	S.A.C.H Pyramid Adaptor, SS							242
60267	Socket Attachment Block	60329	M6 x 1 x 20mm	Attach to socket	12		9	242
60247	Tube Clamp, Ti	60249	M5 x .8 x 14mm	Clamp screw	10	90		242
60400	Tube Clamp, SS	60248	M8 x 1.25 x 12mm	Alignment adjustment, Standard	15		11	242
		60270	M8 x 1.25 x 10mm	Alignment adjustment, Short	15		11	242
		60271	M8 x 1.25 x 16mm	Alignment adjustment, Long	15		11	242
60246	Tube/Adaptor, Ti 300mm	60248	M8 x 1.25 x 12mm	Alignment adjustment, Standard	15		11	242
60430	Tube/Adaptor, SS 300mm	60270	M8 x 1.25 x 10mm	Alignment adjustment, Short	15		11	242
60245	Tube/Adaptor, Ti 400mm	60271	M8 x 1.25 x 16mm	Alignment adjustment, Long	15		11	242
60429	Tube/Adaptor, SS 400mm							
60293	AK Rotatable Adaptor, Ti	60248	M8 x 1.25 x 12mm	Alignment adjustment, Standard	15		11	242
60435	AK Rotatable Adaptor, SS	60270	M8 x 1.25 x 10mm	Alignment adjustment, Short	15		11	242
61100	AK Pyramid Rotatable Adapter, Ti	60271	M8 x 1.25 x 16mm	Alignment adjustment, Long	15		11	242
		60329	M6 x 1 x 20mm	Attach to socket	12		9	242
60312	AK Rotatable Socket Adaptor, SS	56353	M5 x .8 x 30mm	Clamp screw	10	90		242
60576	AK Rotatable Male Adaptor, SS	60248	M8 x 1.25 x 12mm	Alignment adjustment, Standard	15		11	242
61332	Symes Adaptor, Ti	60270	M8 x 1.25 x 10mm	Alignment adjustment, Short	15		11	242
62590	Rotatable Pyramid Receiver							
60558	Short Tube Adaptor, Ti 100mm	60248	M8 x 1.25 x 12mm	Alignment adjustment, Standard	15		11	242
61352	Short Tube Adaptor, AL 200mm	60270	M8 x 1.25 x 10mm	Alignment adjustment, Short	15		11	242
		60271	M8 x 1.25 x 16mm	Alignment adjustment, Long	15		11	242
60306	Dual Adaptor, Ti 32 mm	60248	M8 x 1.25 x 12mm	Alignment adjustment, Standard	15		11	242
61361	Dual Adaptor, AL 32mm	60270	M8 x 1.25 x 10mm	Alignment adjustment, Short	15		11	242
60439	Dual Adaptor, Ti 45mm	60271	M8 x 1.25 x 16mm	Alignment adjustment, Long	15		11	242
61362	Dual Adaptor, AL 45mm							
60440	Dual Adaptor, Ti 60 mm							
61363	Dual Adaptor, AL 60mm							
60441	Dual Adaptor, Ti 75 mm							
61364	Dual Adaptor, AL 75mm							
60471	Single Axis Locking Knee	56039	M6 x 1.0 x 25mm	Clamp screw	12		9	242

*Foot bolts should be torqued to the foot manufacturer's specifications, generally 15 ft lb for wood keels.