




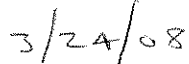
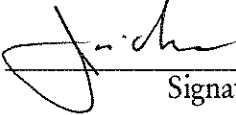
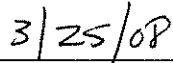


LCLS Engineering Specifications Document #		1.3-139	LTU	Revision	0
LTU Stand Installation Bolt Torque Specification					
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Brief Summary:

LTU (Linac to Undulator) bolt torque specification for stands and devices installed in the BTH (Beam Transport Hall)

Change History Log

Rev Number	Revision Date	Sections Affected	Description of Change	By
000	March 20, 2008	All	Initial Version	DS

Summary

This document specifies the torque values of the LTU stand mount bolts, floor anchors, and beamline device mount bolts. These stands start in the Beam Transport Hall (BTH) and end at the Undulator hall.

LTU Stand and Device Assembly Hardware Overview

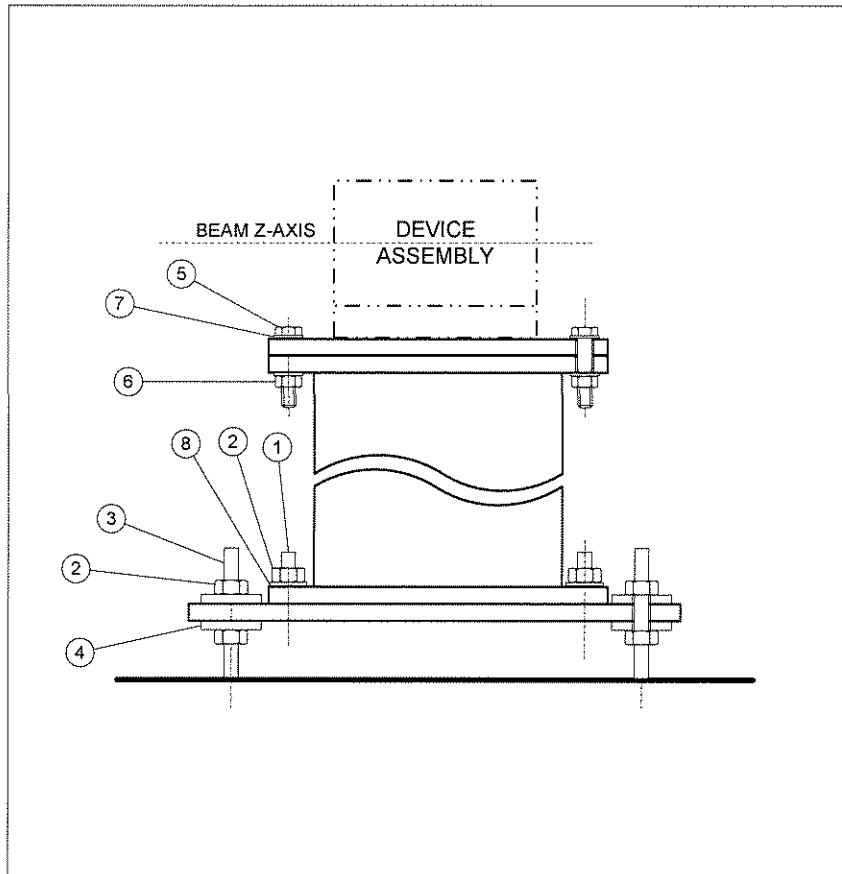


Figure 1
Stand Installation Hardware

Item	Description
1	3/4-10 x 3.5 Lg. Threaded Stud ASTM A193 Grade B7
2	3/4-10 Hex Nut ASTM A 563 Grade DH
3	3/4-10 Anchor Bolt PF-380-736-25
4	PF-380-713-53 Thick Washer
5	1/2-13 HHCS ASTM A-325 Type 1 (SAE Grade 5)
6	1/2-13 Hex Nut ASTM A 563 Grade DH
7	1/2 Flat Washer High Strength Steel
8	3/4 Flat Washer High Strength Steel

Table 1
Stand and Device Installation Hardware Description

LTU Stand and Beamline Device Mount Bolt/Nut Torque

The LTU stands and devices will be installed and the installation hardware listed in table 2 torqued to the values listed in Table 2. The items in table 2 refer to the Figure 1 illustration.

Item	Fastener Description	Location	Torque
2	3/4-10 Hex Nut	Stand Alignment Plate/Floor Anchor	130 Ft-Lbs
2	3/4-10 Hex Nut	Stand Base Mount	130 Ft-Lbs
5	1/2-13 Hex Bolt	Beamline Device/Stand Top Plate	80 Ft-Lbs

Table 2
Stand and Device Installation Hardware Torque Values

Installation Notes

1. The drift and component stand floor anchor nuts will be torqued to the values defined in table 2. Figure 1 illustrates a device or quadrupole stand. Items 1, 2, and 3 shown in figure 1 apply to the drift and component stands.
2. Do not use an impact wrench to install LTU hardware.
3. The SLAC UTR will inspect and approve the torque values after stand and device installation.