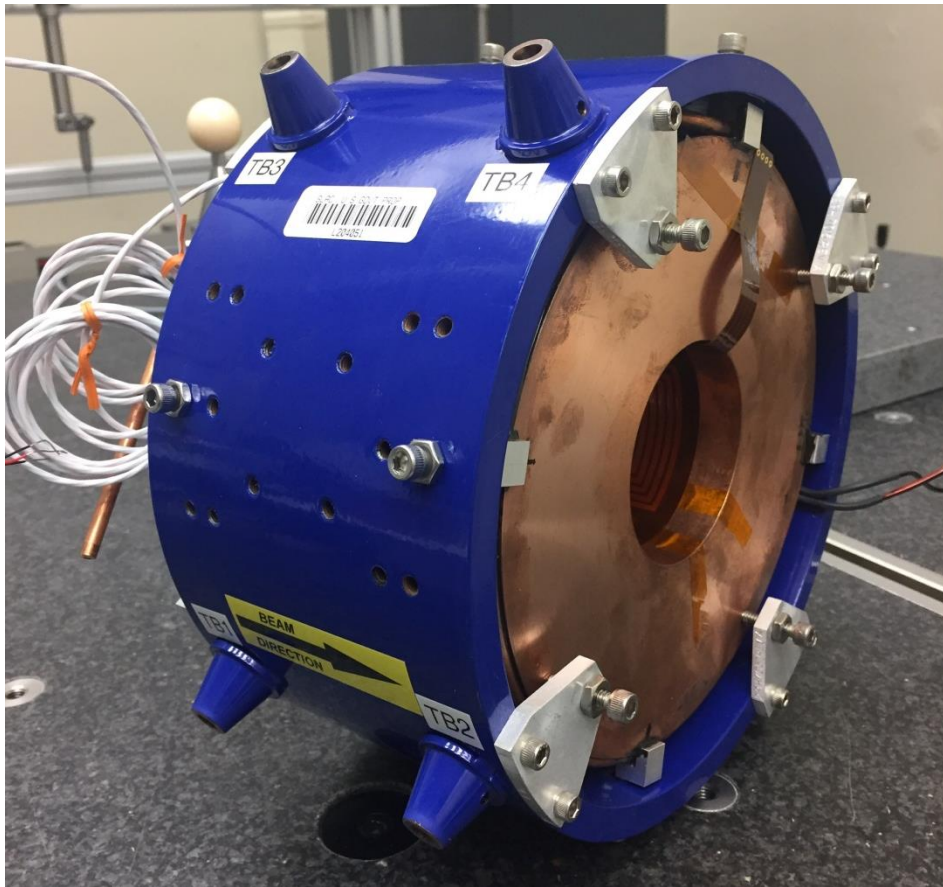


LCLS II Injector Solenoid 2 Fiducialization Report



Inspector : K. Caban
Engineer : J. Amann
Drawing No. : 29K462 (LBNL)
Barcode : 4051

Coordinate System Setup

Spatial Alignment

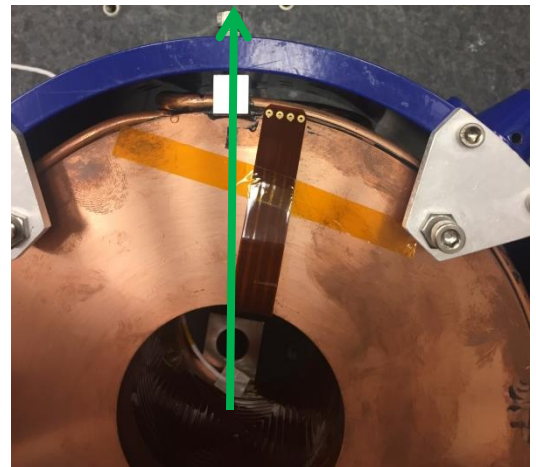
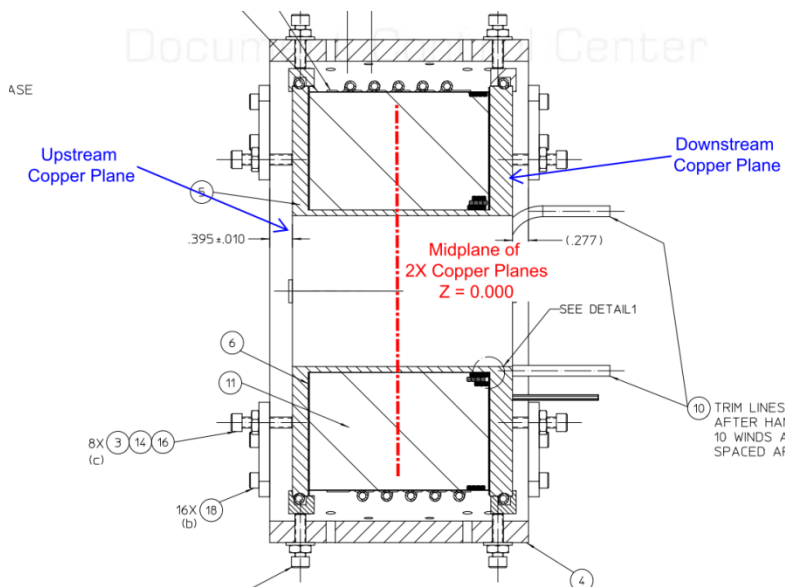
The Spatial Alignment (Pitch/Yaw) of the Solenoid is the Cylindrical Diameter (2.625") on both ends of the Solenoid. This is the Z axis where +Z Points towards where the coil ribbon exits the Solenoid. This Cylinder also sets zero in X & Y.

Planar Alignment

The Planar Alignment (Roll) is set by creating a line of 2X 10-32 threads (-Y side and on +Y side), this creates the Y axis. +Y is the direction where the coil ribbon exits, and points up towards +Y. (see image lower right, the alignment of coil ribbon is not in line with the 10-32 Threads)
Per John Amann, keep alignment to the 2X 10-32 Threads 06-29-2017.

Z Zero

Z Zero is the midplane of the 2 end copper surfaces of the Solenoid.



Barcode # : 4051

Tooling Ball Locations using 1" offset TB's



TB	X	Y	Z
TB 1	-4.2899	-4.3859	-1.6652
TB 2	-4.3515	-4.3084	1.5798
TB 3	-4.3402	4.3157	-1.7202
TB 4	-4.3212	4.3532	1.5349
TB 5	4.3217	4.3391	-1.7119
TB 6	4.3346	4.3434	1.5397
TB 7	4.3507	-4.3327	-1.6666
TB 8	4.3132	-4.3399	1.5848

Barcode # : 4051

Tooling Ball Locations using 5/16" offset TB's



TB	X	Y	Z
TB 1	-3.8165	-3.8870	-1.6664
TB 2	-3.8602	-3.8270	1.5795
TB 3	-3.8491	3.8341	-1.7144
TB 4	-3.8449	3.8574	1.5425
TB 5	3.8452	3.8444	-1.7055
TB 6	3.8420	3.8639	1.5398
TB 7	3.8564	-3.8547	-1.6672
TB 8	3.8351	-3.8458	1.5849

Barcode # : 4051