

LIGO Laboratory / LIGO Scientific Collaboration

LIGO- E1300409-v3

LIGO

08/02/13

Install Manifold/Cryo Baf LHO ETM X Test

Michael Smith, Lisa Austin

Distribution of this document:
LIGO Scientific Collaboration

This is an internal working note
of the LIGO Laboratory.

California Institute of Technology
LIGO Project – MS 18-34
1200 E. California Blvd.
Pasadena, CA 91125
Phone (626) 395-2129
Fax (626) 304-9834
E-mail: info@ligo.caltech.edu

Massachusetts Institute of Technology
LIGO Project – NW22-295
185 Albany St
Cambridge, MA 02139
Phone (617) 253-4824
Fax (617) 253-7014
E-mail: info@ligo.mit.edu

LIGO Hanford Observatory
P.O. Box 159
Richland WA 99352
Phone 509-372-8106
Fax 509-372-8137

LIGO Livingston Observatory
P.O. Box 940
Livingston, LA 70754
Phone 225-686-3100
Fax 225-686-7189

<http://www.ligo.caltech.edu/>

1 Introduction..... 5

2 Acceptance Tests 5

2.1 X-Arm Manifold-Cryopump Baffle Alignment Test & Exit Check List..... 8

Abstract

This document presents the data for the LHO ETM X Manifold/Cryo Baffle Installation Acceptance Test.

1 Introduction

This document presents the data for the LHO ETM X Manifold/Cryo Baffle Installation Acceptance Test.

2 Acceptance Tests

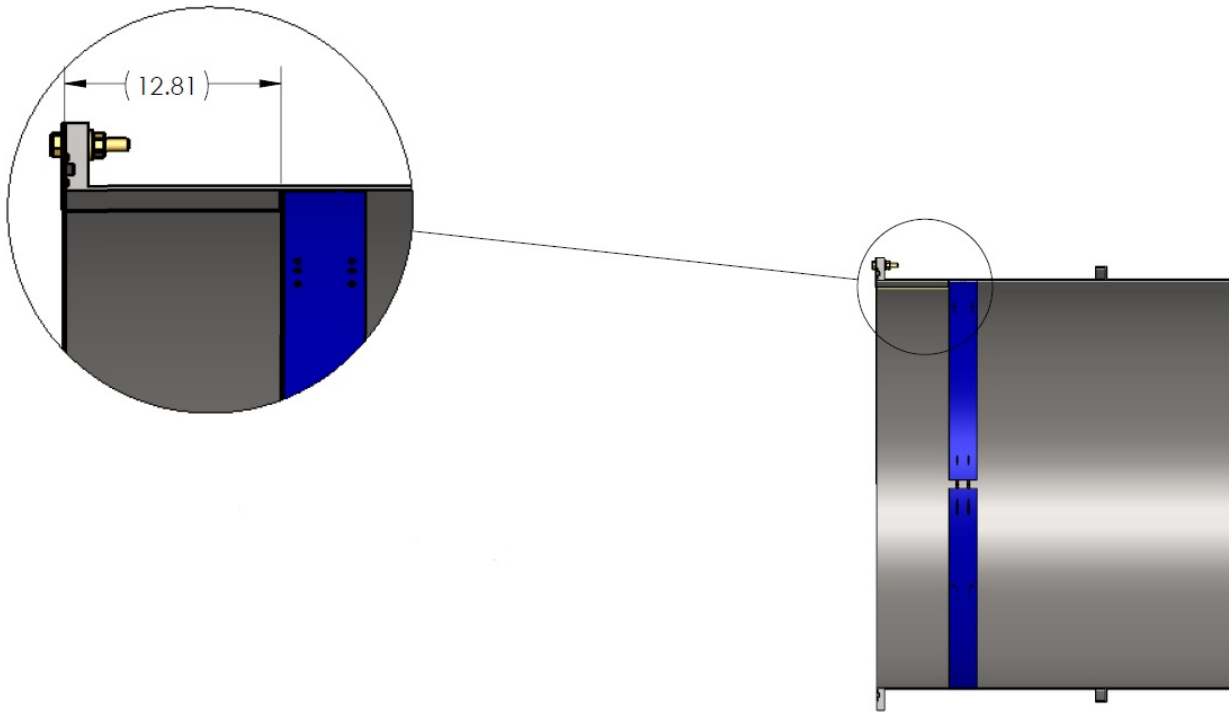


Figure 1: Manifold Cryopump Baffle placed ~ 12.81” away from Adapter end

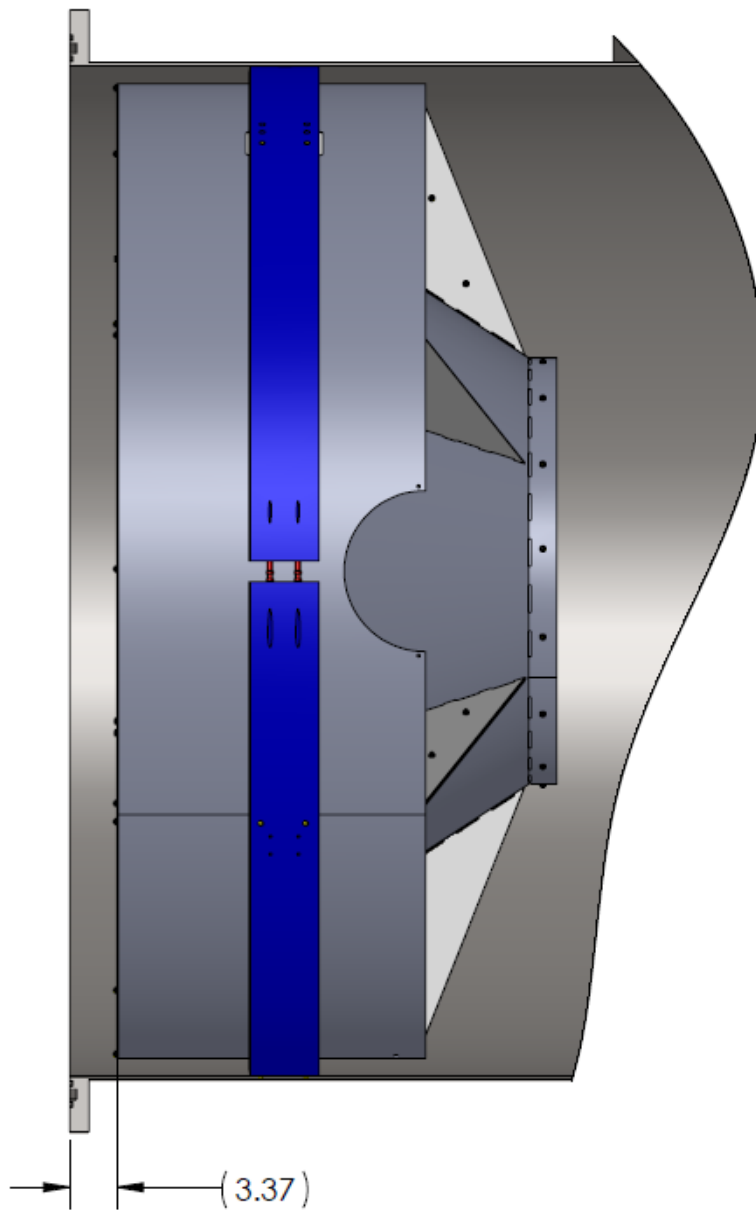


Figure 2: Manifold Cryopump Baffle placed ~ 3.37” away from Adapter end

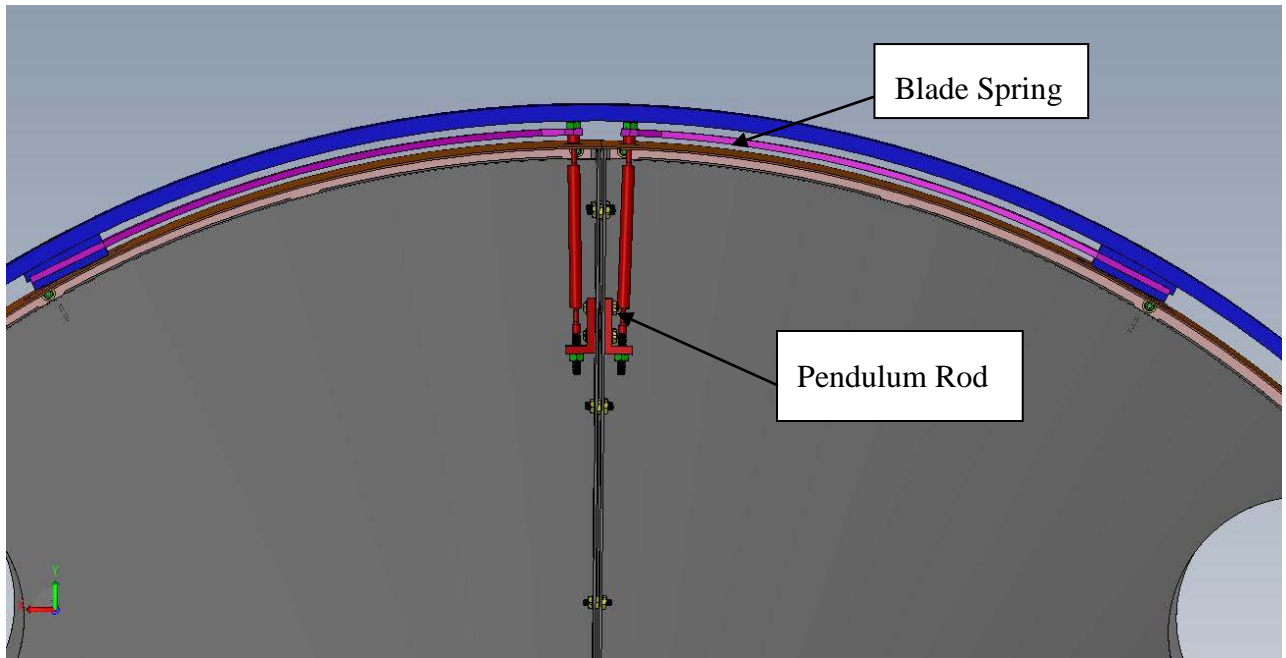


Figure 3: Close up of Blade Spring and 2-Wire Pendulum Suspension Mechanism

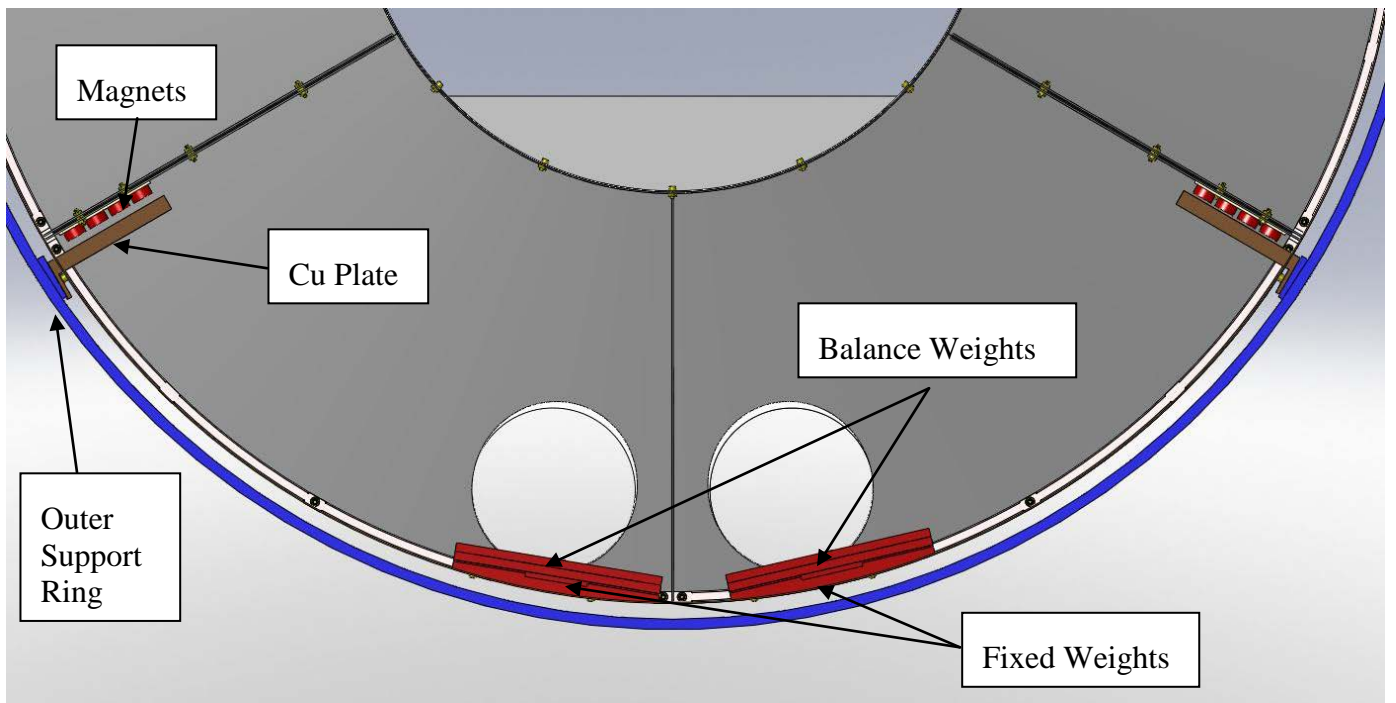


Figure 4: Magnet Gap and Balance Weights

2.1 X-Arm Manifold-Cryopump Baffle Alignment Test & Exit Check List

Parameter	Value/Note	Check Box
Installation Acceptance Test--Refer to E1100607		
D0902817 Blade Spring S/Ns	SN013 and SN023	
Balance Weights (refer to E1300420)		
25.3 # fixed		yes
15 #	D1002417-1 (x2)	yes
0.75 #		no
Total weight #		40.3 lbs.
Distance of Support Ring from End Station A1 Adapter Flange	Used fixture D1300609 for installation of Outer Ring. Measurements of Baffle to Adapter end - left side = ~3.5", right side = ~3.25".	~ 12.81"
Vertical gap of Blade Spring Tip from ID of Support Ring	Fixture shims (D1101341) Width = 0.265"	
Peripheral gap between Baffle Outer Cylinder and ID of Support Ring	Nominally equal on all sides of Baffle Outer Cylinder (top, bottom, left & right) = ~ 0.75"; used fixture D1300658	
Magnet Gap between Cu Plate--nominal gap 0.125in	Used fixture D1300616 between o-rings and Copper Plate.	~ 0.128"
Exit Check List	Balance Weights securely mounted	