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Output Faraday Isolator Drawing Package

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Abstract

This document lists the Bill of Materials (BOM) and the detailed drawings that comprise the Output Faraday Isolator

1 Introduction

This document lists the Bill of Materials (BOM) and the detailed drawings that comprise the Output Faraday Isolator.

Faraday Isolator Weldment Structure Assy, [LIGO-D0900136-v1](#)

Faraday Isolator Input Baffle, [LIGO-D0902846-v1](#)

Faraday Isolator Refl Baffle, [LIGO-D0902845-v1](#)

Faraday Isolator Earth Quake Stop Assembly, [LIGO-D0901161-v1](#)

Faraday Isolator Table Assembly, [LIGO-D0900623-v1](#)

Faraday Isolator Upper Blade Clamp Assy, [LIGO-D0900570-v1](#)

Faraday Isolator Blade Guard Assy, [LIGO-D0900579-v1](#)

Faraday Isolator Copper Holder Assembly, [LIGO-D0900048-v1](#)

Structural Weldment Assembly, Advanced LIGO Output Mode Cleaner Suspension, [LIGO-D0900655-v1](#)

3 Bill of Materials with Drawing List

ASSY	QTY.	PART NO.	MATERIAL	DESCRIPTION
1	1	D0900655_AdvLIGO_OMC_Structural Weldment Assembly	N/A	STRUCTURAL WELDMENT ASSY, OMC
	1	D0900308	6061-T6 AL	OMC STRUCTURAL WELDMENT
	1	D0900346_AdvLIGO_OMC_Structure_Base	6061-T6 Al	BASE PLATE, OMC STRUCTURAL WELDMENT
	1	D0900347_AdvLIGO_OMC_Structure_Top	6061-T6 Al	TOP PLATE, OMC STRUCTURAL WELDMENT
	4	D0900348_AdvLIGO_OMC_Structure_Leg	6061-T6 Al	LEG, OMC STRUCTURAL WELDMENT
	4	D0900349_AdvLIGO_OMC_Structure_Gusset_7X7	6061-T6 Al	7IN X 7 IN GUSSET
	4	D0900350_AdvLIGO_OMC_Structure_Gusset_7X4	6061-T6 Al	7 IN X 4 IN GUSSET
	8	D0900309_AdvLIGO_OMC_CORNER BRACE	6061-T6 Al	CORNER BRACE, OMC STRUCTURAL WELDMENT
	64	90585A358	316 SSTL	CHCS, 1/4-20 X 5/8" LONG (McMASTER-

ASSY	QTY.	PART NO.	MATERIAL	DESCRIPTION
				CARR)
2	1	D0900048_AdLIGO_AOS_D0900136_Magnet Holder Assembly	--	MAGNET HOLDER ASSEMBLY
	1	D0900026_AdLIGO_AOS_FI D0900048_Magnet Mounting Plate	6061-T6 Al	MAGNET MOUNTING PLATE
	4	-	"SW-Material"	HEX NUT, #8-32
	4	-	Ag-PLATED 300 SSTL	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.875 LONG
	2	D0901569_AdLIGO_AOS_FI D0900136_Magnetic Plate Mounting Front Bracket	6061-T6 Al	MAGNETIC PLATE MOUNTING FRONT BRACKET
	2	D0901570_AdLIGO_AOS_FI D0900136_Magnetic Plate Mounting Back Bracket	6061-T6 Al	MAGNETIC PLATE MOUNTING BACK BRACKET
	2	D0900027_AdLIGO_AOS_D0900623_Copper Plate	COPPER	COPPER PLATE
3	2	D0900579_AdLIGO_AOS_D0900136_Blade Guard Assy	--	BLADE GUARD ASSY
	1	D0901271_AdLIGO_AOS_FI D0900579_Blade Guard Crosspiece	6061-T6 Al	BLADE GUARD CROSSPIECE
	2	D0900578_AdLIGO_AOS_D0900579_Blade Guard Riser	6061-T6 Al	BLADE GUARD RISER
	2	93235A194	300 SSTL	SST_VENTED SHCS #8-32X1/2 McMASTER
	1	-	"SW-Material"	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 1.75 LONG, ROUNDED END
	2	-	"SW-Material"	HEX NUT, #8-32
	8	-	Ag-PLATED 300 SSTL	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.5 LONG
4	1	_____Ag-SST SOCKET HEAD CAP SCREW (Fully Threaded) #8-32 UNC-2A X 2 LONG	300 SSTL	
5	2	D0900570_AdLIGO_AOS_D0900136_Up Blade Clamp Assy	--	UP BLADE CLAMP ASSY
	1	D0900586_AdLIGO_AOS_FI D0900570_Upper Wire Assembly	N/A	UPPER WIRE ASSEMBLY
	1	D0900584_AdLIGO_AOS_D0900586_Upper Music Wire	STEEL MUSIC WIRE	UPPER MUSIC WIRE
	2	D0900582_AdLIGO_AOS_D0900586_Music Wire Split Clamp 1	304, 316 OR 302 SSTL	MUSIC WIRE SPLIT CLAMP 1
	2	D0900583_AdLIGO_AOS_D0900586_Music Wire Split	304, 316 OR 302	MUSIC WIRE SPLIT CLAMP 2

ASSY	QTY.	PART NO.	MATERIAL	DESCRIPTION
		Clamp 2	SSTL	
	2	McMaster Carr Dowel pin .031D x .312L_90145A313 D0900588_AdLIGO_AOS_FI D0900586_Wire Adjustable	316 SSTL	DOWEL PIN .031DX.312L McMASTER CARR
	1	Adapter	6061-T6 Al	WIRE ADJUSTABLE ADAPTER
	4	- D0900541_AdLIGO_AOS_D0900570_Faraday Isolator	Ag-PLATED 300 SSTL	SCREW, SOCKET HEAD CAP, #2-56 UNC- 2A X 0.1875 LONG
	1	Upper Blade D0900566_AdLIGO_AOS_D0900570_Upper Blade	MARAGING STEEL C250	FI UPPER BLADE
	1	Clamp_Top	6061-T6 Al	UP BLADE CLAMP TOP
	1	D0900569_AdLIGO-AOS-D0900570_Blade Clamp Platform	6061-T6 Al	BLADE CLAMP PLATFORM
	10	_____SST SOCKET HEAD CAP SCREW #8-32 UNC-2A X 0.375 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, #8-32 UNC- 2A X 0.375 LONG
	2	-	Ag-PLATED 300 SSTL	SCREW, SOCKET HEAD CAP, 1/4-20 UNC- 2A X 1.125 LONG
	2	-	300 SSTL	WASHER, FLAT, 1/4 (NAS 620-C416L OR EQUIVALENT)
6	1	D0901161_AdLIGO_AOS_FI D0900136_Lower Wire Attachment Sub Assy	VARIABLE	LOWER WIRE ATTACHMENT SUB ASSY
	1	D0900170_AdLIGO_AOS_FI D0901161_Earth Crossbar Assy	--	EARTH CROSSBAR ASSY
	1	D0900168_AdLIGO_AOS_D0900170_Crossbar Plate	6061-T6 Al	CROSSBAR PLATE
	2	D0900169_AdLIGO_AOS_D0900170_Crossbar Side	6061-T6 Al	CROSSBAR SIDE
	1	_____SST SOCKET HEAD CAP SCREW 0.25-20 UNC-2A X 3 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, 1/4-20 UNC- 2A X 3 LONG
	2	_____SST SOCKET HEAD CAP SCREW #10-24 UNC- 2A X 2.5 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, #10-24 UNC- 2A X 2.5 LONG
	1	-	"SW-Material"	JAM NUT, 1/4-20
	2	-	"SW-Material"	HEX NUT, #10-24
	4	-	"SW-Material"	SCREW, SOCKET HEAD CAP, #8-32 UNC- 2A X 0.75 LONG, VENTED

ASSY	QTY.	PART NO.	MATERIAL	DESCRIPTION
	4	-	300 SSTL	WASHER, FLAT, #8 (NAS 620-C8 OR EQUIVALENT)
	4	_____SST SOCKET HEAD CAP SCREW 0.25-20 UNC-2A X 1 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 1 LONG
7	1	D0900623_AdLIGO_AOS_D0900136_Faraday Isolator Table Assy	--	FARADAY ISOLATOR TABLE ASSY
	1	D0900015_AdLIGO_AOS_FI D0900623_Isolator Table	6061-T6 Al	FARADAY ISOLATOR TABLE
	1	D0900359_AdLIGO_AOS_D0900623_Wedge Window Holder Assy	--	WEDGE WINDOW HOLDER ASSY
	2	LW-2-1037-UV_AdLIGO_AOS_Faraday Isolator_Wedge Window	Glass	WEDGE WINDOW .375 THK X 1.00 DIA X 2 DEGREE
	2	D0900356_AdLIGO_AOS_D0900359_Wedge Setscrew #1.125-20	304, 316 OR 302 SSTL	WEDGE SCREW #1 1/8-20 UN
	2	2857T132_Faraday Isolator_AOS_D0900359_O-Ring .103 Round X 1 OD	VITON	O-RING .103 ROUND X 1.00 OD McMaster Carr
	2	D0900357_AdLIGO_AOS_D0900359_Wedge Window Housing	6061-T6 Al	WEDGE WINDOW HOUSING
	1	D0900355_AdLIGO_AOS_D0900359_Wedge Rotating Fixture	6061-T6 Al	WEDGE ROTATING FIXTURE
	2	5710-743-30_Seastrom SS Washer .030x.820x.990	304, 316 OR 302 SSTL	SEASTROM WASHER .030 THK X .820 ID X .990 OD
	1	D0900358_AdLIGO_AOS_D0900359_Wedge Window Plate Holder	6061-T6 Al	WEDGE WINDOW PLATE HOLDER
	3	_____SST SOCKET HEAD CAP SCREW #8-32 UNC-2A X 0.375 LONG	300 SSTL	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.375 LONG
	1	D0900615_AdLIGO_AOS_D0900623_Prism Mounting Assy-RH	--	PRISM MOUNTING ASSY-RH
	1	D0900620_AdLIGO_AOS_D0900615_Prism Block-RH	6061-T6	PRISM BLOCK-RH
	4	90585A542	300 SSTL	FSHCS #1/4-20X1.00 McMASTER CARR
	1	D0900618_AdLIGO_AOS_D0900614_Prism Clamp	6061-T6 AL	PRISM CLAMP
	2	D0900619_AdLIGO_AOS_D0900614_Prism Post	6061-T6	PRISM POST .312 DIA
	1	_____SST SOCKET HEAD CAP SCREW #2-56 UNC-2A X 0.125 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, #2-56 UNC-2A X 0.125 LONG

ASSY	QTY.	PART NO.	MATERIAL	DESCRIPTION
		_____SST SOCKET HEAD CAP SCREW #4-40 UNC-2A X 1.5 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, #4-40 UNC-2A X 1.5 LONG
1		D0900617_AdLIGO_AOS_D0900614_Optical Prism	Glass	PRISM KLC NO. K1063-4
1		KLC PRISM SPRING	STAINLESS STEEL	KLC PRISM SPRING REF KLC # K1063-4
		_____SST SOCKET HEAD CAP SCREW #4-40 UNC-2A X 0.5 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, #4-40 UNC-2A X 0.5 LONG
2		KLC PRISM STOP	6061-T6	KLC PRISM STOP REF. KLC # K1063-4
1		9713K54	STAINLESS STL	DISC SPRING MC #9713K540
2		KLC Prism Flat Spring		KLC PRISM FLAT SPRING REF #K1063-4
1		D0900464_AdLIGO_AOS_D0900623_Faraday Rotator-Modified	UNKNOWN	ROTATOR 20mm 1064nm-VAC COMPATIBLE
1		D0900353_AdLIGO_AOS_D0900623_Half Wave Plate Holder Assy.	--	HALF WAVE PLATE HOLDER ASSY
1		D0900352_AdLIGO-AOS_D0900353_Half Wave Plate Holder	6061-T6 Al	HALF WAVE PLATE HOLDER
1		MWPQA2-22-1064-V_AdLIGO_AOS_D0900353_Half Wave Plate		HALF WAVE PLATE-klccgo.com
1		-	Ag-PLATED 300 SSTL	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 0.5 LONG
2		90585A542	300 SSTL	FSHCS #1/4-20X1.00 McMASTER CARR
1		D0900440_AdLIGO_AOS_D0900623_TFP Polarizer Plate Assy	--	TFP POLARIZER PALTE ASSY
1		D0900439_AdLIGO_AOS_D0900440_TFP Polarizer Plate	6061-T6 Al	TFP POLARIZER PLATE
1		TFP-1064-PW-2025-UV_CVI Thin Film Plate Polarizer 56		THIN FILM PLATE POLARIZER 56
3		D0900441_AdLIGO_AOS_D0900440_TFP Mirror Clip	302 SSTL	TFP MIRROR CLIP
3		-	Ag-PLATED 300 SSTL	SCREW, SOCKET HEAD CAP, #4-40 UNC-2A X 0.375 LONG
1		Part2^D0900440_AdLIGO_AOS_D0900614_AdLIGO_AOS_D0900623_Prism Mounting Assy-LH	--	PRISM MOUNTING ASSY-LH
1		D0900616_AdLIGO_AOS_D0900614_Prism Block-LH	6961-T6 AL	PRISM BLOCK-LH

ASSY	QTY.	PART NO.	MATERIAL	DESCRIPTION
	1	D0900617_AdLIGO_AOS_D0900614_Optical Prism	Glass	PRISM KLC NO. K1063-4
	2	D0900619_AdLIGO_AOS_D0900614_Prism Post	6061-T6	PRISM POST .312 DIA
	1	D0900618_AdLIGO_AOS_D0900614_Prism Clamp	6061-T6 AL	PRISM CLAMP
	4	90585A542	300 SSTL	FSHCS #1/4-20X1.00 McMASTER CARR
	2	_____SST SOCKET HEAD CAP SCREW #4-40 UNC-2A X 1.5 LONG	"SW-Material" STAINLESS	SCREW, SOCKET HEAD CAP, #4-40 UNC-2A X 1.5 LONG
	1	KLC PRISM SPRING	STEEL	KLC PRISM SPRING REF KLC # K1063-4
	1	KLC PRISM STOP	6061-T6	KLC PRISM STOP REF. KLC # K1063-4
	2	_____SST SOCKET HEAD CAP SCREW #4-40 UNC-2A X 0.625 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, #4-40 UNC-2A X 0.625 LONG
	2	9713K54	STAINLESS STL	DISC SPRING MC #9713K540
	1	KLC Prism Flat Spring		KLC PRISM FLAT SPRING REF #K1063-4
	1	D0900166_AdLIGO_AOS_D0900623_Picomotor Mount Bracket	6061-T6 Al	PICOMOTOR MOUNT BRACKET
	1	PICOMOTOR MODEL 8302-UHV	6061-T6 Al	UHV 1" PICOMOTOR; NEWFOCUS.COM
	1	D0900165_AdLIGO_AOS_D0900623_Counter Mass Block	6061-T6 Al	COUNTER MASS BLOCK
	1	Ball Slides Isotechinc M-2SS Special	6061-T6 Al	BALL SLIDES ISOTECHINC
	1	94035A523	18-8 SS	SHOULDER SCREW #6-32X.125 McMASTER CARR
	1	94035A527	18-8 SS	SHOULDER SCREW #6-32X.38 McMASTER CARR
	1	McMaster-Carr Extension Spring 9654k712	STEEL MUSIC WIRE	EXTENSION SPRING-McMASTER
	2	D0900624_AdLIGO_AOS_D0900623_Table Hanger Assembly	--	TABLE HANGER ASSEMBLY
	1	D0900143_AdLIGO_AOS_FI D0900624_Wire Hanger Bridge	6061-T6 Al	WIRE HANGER BRIDGE
	2	D0900147_AdLIGO_AOS_FI D0900624_Wire Support Bridge	6061-T6 Al	WIRE SUPPORT BRIDGE
	8	_____SST SOCKET HEAD CAP SCREW 0.25-20 UNC-2A X 0.875 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, 1/4-20 UNC-2A X 0.875 LONG

ASSY	QTY.	PART NO.	MATERIAL	DESCRIPTION
	8	-	300 SSSL 304, 316 OR 302	WASHER, FLAT, 1/4 (NAS 620-C416 OR EQUIVALENT)
	1	92196A386	SSSL	SCREW SOCKET HD #.50-20X1.25
	1	-	"SW-Material"	JAM NUT, 1/2-13
	8	_____SST SOCKET HEAD CAP SCREW #8-32 UNC-2A X 1.5 LONG	"SW-Material"	SCREW, SOCKET HEAD CAP, #8-32 UNC-2A X 1.5 LONG
	4	-	"SW-Material"	HEX NUT, #8-32
	20	90585A542 D0901764_AdLIGO_AOS_FI D0900623_Table Balance	300 SSSL 304, 316 OR 302	FSHCS #1/4-20X1.00 McMASTER CARR
	4	Weight	SSSL	TABLE BALANCE WEIGHT
	4	McMaster-Carr Lock Washer #8x .04 Thk_91475A025 D0900778_AdLIGO_AOS_FI D0900048_Magnet Attachment	300 SSSL AISI 1020 Steel, Cold Rolled	LOCK WASHER #8 X .04 THK X .293 OD SS
	2	Plate		MAGNET ATTACHMENT PLATE
	16	N35P500500HT_AdLIGO_AOS_FI D0900048_.50 Dia x .50 L Magnet	NEO 35	BLUNTING MAGNETICS-NEODYMIUM .50 DIA X .50L
8	1	D0902845_AdLIGO_AOS_FI D0900136_Reflection Baffle	304 SSSL	REFLECTION BAFFLE
9	1	D0902846_AdLIGO_AOS_FI D0900136_Input Baffle	304 SSSL	INPUT BAFFLE



LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY



LASER INTERFEROMETER GRAVITATIONAL WAVE OBSERVATORY