



CALIFORNIA INSTITUTE OF TECHNOLOGY
 MASSACHUSETTS INSTITUTE OF TECHNOLOGY
 IGR, GLASGOW UNIVERSITY, GEO 600 GROUP

E080335 - A - D

DRWG NO. REV GID

SHEET SEE BOTTOM LEFT

ASSEMBLY NO.

MATERIAL LIST (or OVERALL BOM)

D080327

TITLE: Output Mode Cleaner (LLO) Overall Assembly and Assembly Fixtures

ITEM NO.	REQ.	SPARE	TOTAL	PART NO.	DESCRIPTION
	1	0	1	D080327	OUTPUT MODE CLEANER (LLO) OVERALL ASSEMBLY AND ASSEMBLY FIXTURES
	1	0	1	D060306	OUTPUT MODE CLEANER (LLO) OVERALL ASSEMBLY
	1	0	1	D060296	STRUCTURE WELDMENT, OUTPUT MODE CLEANER
68	14		82		Countersunk Head Cap Screw, 1/4-20 X 0.75 Long
54	11		65		Helicoil, #8-32 X 0.328 Long
16	4		20		Helicoil, 1/4-20 X 0.375 Long
68	14		82		Helicoil, 1/4-20 X 0.25 Long
2	0		2		Dowel Pin, 1/8" Diameter X 1/2" Long
2	0		2	D070145	TOP BLADE GUARD ASSEMBLY
1	0		1	D070146	Blade Guard Crosspiece
2	0		2	D070147	Blade Guard Riser
4	1		5		SHCS, #8-32 UNC-2A X 0.625 Long
1	0		1	D030021	SHCS, 1/4-20 X 2.5 Long, Rounded End
1	0		1		Jam Nut, 1/4-20
34	7		41		SHCS, #8-32 UNC-2A X 0.5 Long
70	14		84		Flat Washer, #8 (NAS 620-C8 or equivalent)
2	0		2	D070052	Connector Bracket, OMC
26	5		31		SHCS, 1/4-20 UNC-2A X 0.75 Long
26	5		31		Flat Washer, 1/4 (NAS 620-C416 or equivalent)
2	0		2	D070028	Blade Platform, OMC
2	0		2	D030451	ROTATIONAL ADJUSTER ASSEMBLY
1	0		1	D030448	Base Plate
1	0		1	D030447	Rotating Plate
1	1		2	D020205	Upper Blade
1	0		1	D030450	Pull Plate
1	0		1	D030449	Push Plate
1	0		1	D030459	RA Upper Blade Clamp Lower Side 0.0 Degree
1	0		1	D020116	Upper Blade Clamp Upper Side 0.0 Degree
1	0		1		SHCS, 1/4-20 UNC-2A X 0.375 Long
2	0		2		SHCS, 1/4-20 UNC-2A X 0.5 Long
2	0		2		SHCS, #8-32 UNC-2A X 1 Long
3	0		3		SHCS, #8-32 UNC-2A X 0.75 Long (Ag-Plated)
1	0		1		SHCS, #8-32 UNC-2A X 1 Long (Ag-Plated)
2	0		2		SHCS, 1/4-20 UNC-2A X 1.25 Long (Ag-Plated)
2	0		2		Flat Washer, 1/4 (NAS 620-C416 or equivalent)
4	1		5		Flat Washer, 1/4 (NAS 620-C416L or equivalent)
1	0		1	D020680	Upper Blade Clamp Lower Side Shim 2mm
ALT				D020677	Assembly Library of Clamps
8	2		10		SHCS, #8-32 UNC-2A X 0.375 Long
2	1		3	D060536	UPPER WIRE ASSEMBLY
1	0		1	D070022	Top Blade Wire Clamp
1	0		1	D030042	Upper Blade Wire Clamp Plate
2	0		2		SHCS, #4-40 UNC-2A X 0.3125 Long (Ag-Plated)
4	1		5		Flat Washer, #4 (NAS 620-C4L or equivalent)
1	0		1	D070030	C-Clamp 4 Top Wire
1	0		1	D020309	Upper Mass Wire Clamp Plate
1	0		1	D020139	Upper Mass Wire Clamp Plate
2	0		2		SHCS, #4-40 UNC-2A X 0.5 Long (Ag-Plated)
A/R					0.014 Dia Spring Steel Wire (CFW)
4	1		5		SHCS, #4-40 UNC-2A X 0.25 Long (Ag-Plated)
28	6		34		Flat Washer, #4 (NAS 620-C4L or equivalent)
2	0		2	D060533-1	Mounting Bracket, Coil Holder, OMC
2	0		2		Dowel Pin, 3/16" Diameter X 5/8" Long
3	0		3		SHCS, #4-40 UNC-2A X 0.375 Long
7	1		8		Helicoil, #8-32 X 0.25 Long
2	0		2	D060533-2	Mounting Bracket, Coil Holder, OMC
2	0		2		Dowel Pin, 3/16" Diameter X 5/8" Long
3	0		3		SHCS, #4-40 UNC-2A X 0.375 Long
7	1		8		Helicoil, #8-32 X 0.25 Long
16	4		20		SHCS, #8-32 UNC-2A X 0.625 Long
16	4		20		SHCS, #8-32 UNC-2A X 0.5 Long (Ag-Plated)
1	0		1	D060530	Coil Holder, OMC (Table Cloth)
12	3		15		Flange Nut, #8-32
6	2		8	D060218	BOSEM ASSEMBLY
1	1		2	D060106	Coilformer
1	1		2	D060107	Coilformer Backplate
1	1		2	D060108	Coilformer Clamp
2	2		4	D060109	Adjuster Shaft
2	2		4	D060110	Adjuster Nut
1	1		2		Connector (GlenAir)
1	1		2	D050435	Flexi-Circuit
1	1		2		Coil Winding (MWS 32QML)
1	1		2	D060217	PD ASSEMBLY
1	1		2	D060112	PD Carrier
1	1		2	D060117	PD Sleeve
1	1		2	D060114	PD Retainer
1	1		2		PD (BPX65)
1	1		2	D060216	IRLED ASSEMBLY
1	1		2	D060111	IRLED Carrier
1	1		2	D060113	IRLED Retainer
1	1		2	D060115	IRLED Lens Retainer
1	1		2	D060116	IRLED Sleeve
1	1		2		Plano-Convex Lens (08PQ06)
1	1		2		IRLED (OP232)
4	4		8		SHCS, #2 UNC X 0.3125 Long
4	4		8		SHCS, #2 UNC X 0.25 Long
2	2		4		SHCS, #2 UNC X 0.5 Long
24	6		30		SHCS, #4-40 UNC-2A X 1 Long (Ag-Plated)
1	0		1	D060502	UPPER MASS ASSEMBLY
1	0		1	D060491	Main Section, Upper Mass, OMC
1	0		1	D060503	Pitch Insert, T-Section
1	0		1		Socket Set Screw, 1/2-20 X 2 Long (Ag-Plated)
1	0		1	D070032	T-Section, Upper Mass, OMC
9	4		13	D060416	OSEM MAGNET SPACER AND FLAG CONCEPT
1	0		1		10 mm Magnet
1	0		1	D060418	Magnet Retainer
2	0		2	D060401	Magnetic Plug
1	1		2	D060400	OSEM Magnet Flag
4	1		5	D020482	Screwdrive System
4	1		5	D070031	Lower Blade Clamp Upper Side
2	0		2		SHCS, 1/4-20 UNC-2A X 0.5 Long (Ag-Plated)
26	5		31		Flat Washer, #4 (NAS 620-C4L or equivalent)
2	0		2		Hex Nut, 1/4-20
4	1		5		SHCS, #4-40 UNC-2A X 0.75 Long (Ag-Plated)
4	0		4	D020201	Lower Blade
4	1		5	D020308	Lower Blade Clamp Lower Side



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TITLE: Output Mode Cleaner (LLO) Overall Assembly and Assembly Fixtures

ITEM NO.	REQ.	SPARE	TOTAL	PART NO.	DESCRIPTION
	2	0	2	D070045	Lower Blade Cover, OMC
	16	3	19		Flat Washer, #8 (NAS 620-C8L or equivalent)
	4	1	5		Hex Nut, #4-40
	8	2	10		SHCS, #8-32 UNC-2A X 0.75 Long
	2	0	2		Socket Set Screw, 1/4-20 X 0.375 Long (Ag-Plated)
	4	1	5		Flat Washer, #8 (NAS 620-C8 or equivalent)
	2	0	2		Socket Set Screw, 1/4-20 X 0.25 Long, Vented (Ag-Plated)
	4	1	5		SHCS, #8-32 UNC-2A X 0.375 Long (Ag-Plated)
	20	4	24		SHCS, #4-40 UNC-2A X 0.5 Long (Ag-Plated)
	8	2	10		SHCS, #8-32 UNC-2A X 1 Long (Ag-Plated)
	2	0	2		SHCS, #4-40 UNC-3A X 0.5 Long, Vented (Ag-Plated)
	2	0	2		SHCS, 1/4-20 UNC-3A X 1.125 Long, Vented (Ag-Plated)
	9	2	11	D070020	Magnet Holder, OMC
	4	1	5		SHCS, #4-40 UNC-2A X 0.625 Long
	16	4	20		SHCS, #8-32 UNC-2A X 0.75 Long (Ag-Plated)
	4	1	5	D060537	LOWER WIRE ASSEMBLY
	1	0	1	D020132	Lower Blade Wire Clamp
	1	0	1	D020133	Lower Blade Wire Clamp Plate
	2	0	2		SHCS, #2-56 UNC-2A X 0.25 Long (Ag-Plated)
	2	0	2		Flat Washer, #2 (NAS 620-C2 or equivalent)
	1	0	1	D070070	Wire Clamp for Optical Bench
	1	0	1	D070213	Wire Clamp for Optical Bench
	2	0	2		SHCS, #2-56 UNC-2A X 0.1875 Long (Ag-Plated)
A/R					0.008 Dia. Spring Steel Wire (CFW)
	4	1	5	D070068	C Spacer Located Between Glass Bench and Wire Clamp
	1	0	1	D060488	OPTICS BENCH ASSEMBLY
	2	0	2	D080163	OMC CROSSBAR ASSEMBLY
	1	1	2	D080164	OMC Crossbar Base Plate
	2	1	3	D080165	OMC Crossbar Side Plate
	4	1	5		SHCS, #8-32 UNC-2A X 0.5 Long
	4	1	5		Flat Washer, #8 (NAS 620-C8 or equivalent)
	1	0	1	D070049	Earthquake Bracket Top
	16	4	20	D060544	EARTHQUAKE STOP ASSEMBLY
	1	0	1	D060545	Earthquake Stop Adjuster
	1	0	1	D060546	Earthquake Stop (Compliant)
	1	0	1	D060547	Earthquake Stop Mount Plate
	1	0	1	D060548	Fused Silica Earthquake Stop
	16	4	20		Flange Nut, 1/4-20
	4	2	6	D070484	Earthquake Bracket Side Alternate
	1	0	1	D070050	Earthquake Bracket Bottom
	1	0	1	D070035	METAL BENCH ASSEMBLY
	1	0	1	D070027	Metal Dummy Optical Bench
	8	4	12	D020350	Upper Mass 100g Add On Mass
	8	4	12	D020351	Upper Mass 50g Add On Mass
	2	4	6	D030078	Upper Mass 20g Add On Mass
	16	4	20		SHCS, 1/4-20 UNC-2A X 0.75 Long
	1	0	1	D070249	JIG ASSEMBLY, LOWER WIRES
	1	0	1	D070250	OMC Lower Wire Jig Bar
	1	0	1	D020376	Wire Start Grooved Clamp
	1	0	1	D020380	Wire Start Clamp Upper
	2	0	2		SHCS, #4-40 UNC-2A X 0.5 Long
	4	1	5		SHCS, #8-32 UNC-2A X 0.375 Long
	4	0	4	D980184	LOS Clamp, Long
	4	1	5		SHCS, 1/4-20 UNC-2A X 1.125 Long
	2	0	2	D020159	Lower Blade Wire Jig (Intermediate Wires)
	4	1	5		SHCS, #2-56 UNC-2A X 0.3125 Long (Ag-Plated)
	1	0	1	D070069	Interface to Wire Jig for D070067
	1	0	1	D070248	OMC Interface for Wire Jig
	1	0	1	D080151	JIG ASSEMBLY, UPPER WIRES (LLO)
	1	0	1	D080150	Bar Jig Plate, Upper Wires
	1	0	1	D020440	Upper Wire Height Balance
	1	0	1	D020540	Wire Start Matched Height (Grooved Clamp)
	1	0	1	D020380	Wire Start Clamp Upper
	2	0	2		SHCS, #8-32 UNC-2A X 1.125 Long
	4	1	5		SHCS, #8-32 UNC-2A X 0.625 Long
	2	0	2		SHCS, #4-40 UNC-2A X 1.25 Long
	2	0	2		SHCS, #8-32 UNC-2A X 0.75 Long
	4	0	4	D980184	LOS Clamp Long
	4	0	4		SHCS, 1/4-20 UNC-2A X 1.125 Long
	2	0	2		Flat Washer, #4 (NAS 620-C4L or equivalent)
	1	0	1	D070023	Wire Jig Attachment, Upper Blade Wire Clamp
	2	0	2		SHCS, #4-40 UNC-2A X 0.5 Long
	1	0	1	D070038	Bar Jig Step Plate
	2	0	2		SHCS, #4-40 UNC-2A X 0.75 Long (Ag-Plated)
	1	0	1	D070556	UPPER BLADE BAKING FIXTURE
	1	1	2	D070557	Base Plate
	2	0	2	D070558	Side Support
	1	0	1	D070559	Top Bridge
	4	0	4		Leveling Mount (McMaster Carr 83685T16)
	8	2	10		SHCS, #8-32 UNC-2A X 0.75 Long (Ag-Plated)
	4	1	5		Flat Washer, #8 (NAS 620-C8 or equivalent)
	4	1	5		SHCS, 1/4-20 UNC-2A X 1.5 Long (Ag-Plated)
	4	1	5		Flat Washer, 1/4 (NAS 620-C416 or equivalent)
	4	1	5		SHCS, 1/4-20 X 2.5 Long, Rounded End (Ag-Plated)
	8	2	10		Jam Nut, 1/4-20
	2	1	3	D080014	Glass OMC Counterbalance Mass
	11	5	16	D080015	Counterbalance Add On Mass, 20g, OMC
	2	1	3		SHCS, #4-40 UNC-2A X 1 Long (Ag-Plated)
	2	1	3		SHCS, #4-40 UNC-2A X 0.75 Long (Ag-Plated)
	2	1	3		Flat Washer, #4 (NAS 620-C4 or equivalent)
	26	5	31		Flat Washer, 1/4 (NAS 620-C416L or equivalent)
	26	5	31		SHCS, 1/4-20 UNC-3A X 1 Long, Vented (Ag-Plated)