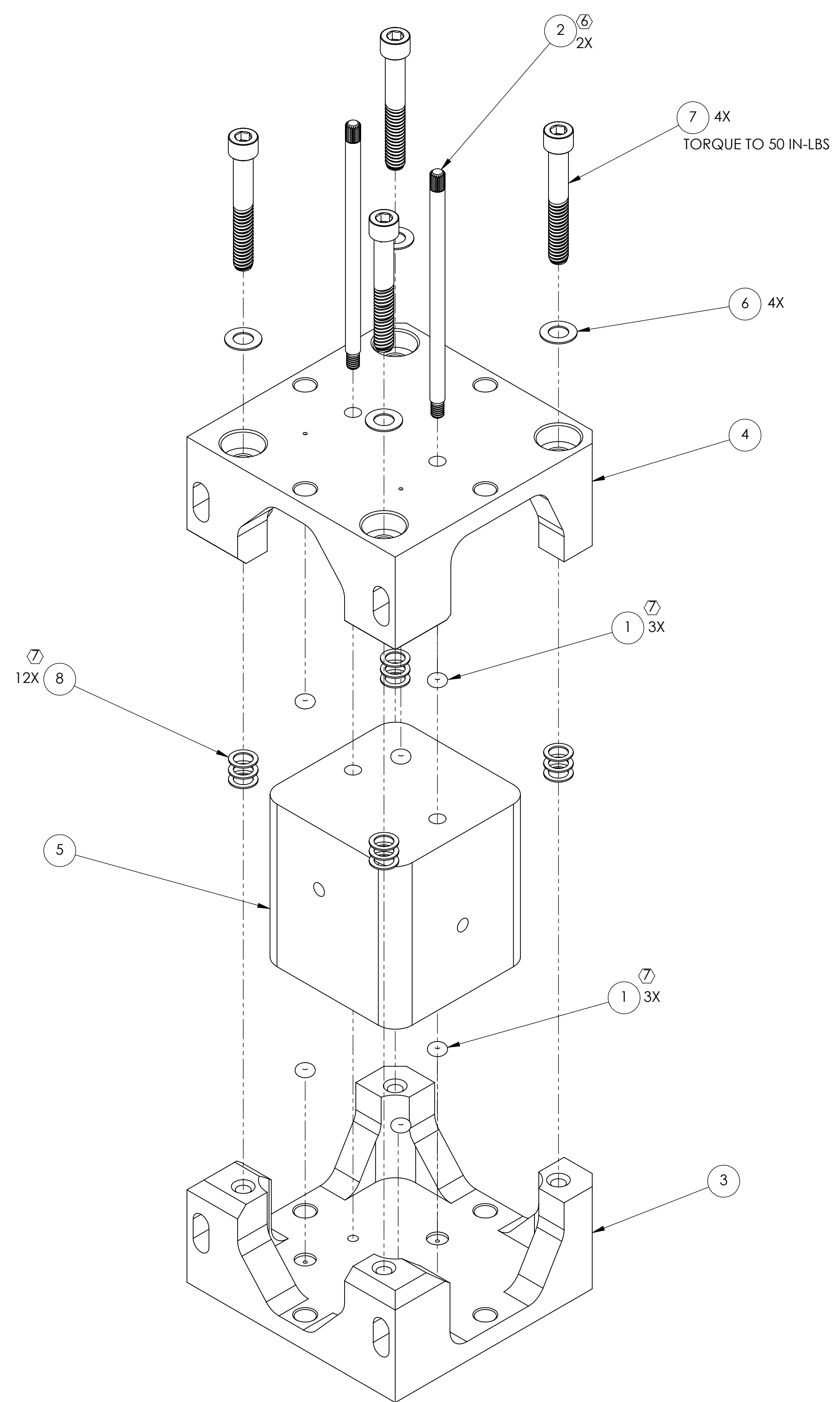


NOTES CONTINUED:
 ⑤ SCRIBE, ENGRAVE (A VIBRATORY TOOL MAY BE USED), LASER MARK OR MECHANICALLY STAMP (NO INKS OR DYES) DRAWING PART NUMBER, REVISION (AND VARIANT OR "TYPE" IF APPLICABLE) ON NOTED SURFACE OF PART FOLLOWED ON THE NEXT LINE WITH A THREE DIGIT SERIAL NUMBER. SERIAL NUMBERS START AT 001 FOR THE FIRST ARTICLE AND PROCEED CONSECUTIVELY. USE MINIMUM 0.12" HIGH CHARACTERS, UNLESS THE SIZE OF THE PART DICTATES SMALLER CHARACTERS. EXAMPLE: DXXXXXX-VY, TYPE-XX, S/N XXX

⑥ LOCKING PINS, ITEM 2, MUST BE IN PLACE DURING ASSEMBLY, TRANSPORT AND INSTALLATION. MUST BE REMOVED PRIOR TO USE AFTER INSTALLATION ONTO STRUCTURE.

⑦ ADJUST QUANTITY OF WASHERS, ITEM 6 TO ACHIEVE ~10% COMPRESSION OF O-RINGS, ITEM 7.



BASIC VERTICAL CONFIGURATION

REV.	DATE	DCN #	DRAWING TREE #
V1	15 SEPT 2010	E1000493	-
v4	27 APR 2017	E1700154-x0	-
v5	05 DEC 2017	E1700406-x0	-

SEE SHEET 2 - 4 FOR SPECIFIC STRUCTURE CONFIGURATIONS AND CLAMPS/MOUNTING PLATES
 SEE T1100057 FOR SPECIFIC ASSEMBLY INSTRUCTIONS.

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL
8	MCMMASTER_93574A513	washer 0.373" od, 0.253" id, 0.02" thck	18-8 SSSL	12		12
7	92200A548	SCREW, SHC, 1/4-20 x 1 3/4, MS16995-55, MC #92200A548	18-8 SSSL	4		4
6	MCMMASTER_90945A760	Washer .47 od x .26 id x .02-.04 thk	18-8 SSSL	4		4
5	D1002427	Mass for the SEI vibration absorbers 5 Lb	304, 316 OR 302 SSSL	1		1
4	D1002426	Top Clamp for the SEI vibration absorber 5 Lb version	6061-T6 Al	1		1
3	D1002425	VIBRATION ABSORBER, 5LB CLAMP BASE	6061-T6 Al	1		1
2	D1002347	PIN, LOCKING, VIBRATION ABSORBER	304 SSSL	2		2
1	AS568-102	AS568-102 VITON O-RING	VITON	6		6
PARTS LIST						

NOTES AND TOLERANCES: (UNLESS OTHERWISE SPECIFIED)	
DIMENSIONS ARE IN INCHES	
TOLERANCES: .XX ± .01 .XXX ± .005	
ANGULAR ± 0.5°	
MATERIAL	FINISH
N/A	N/A μinch

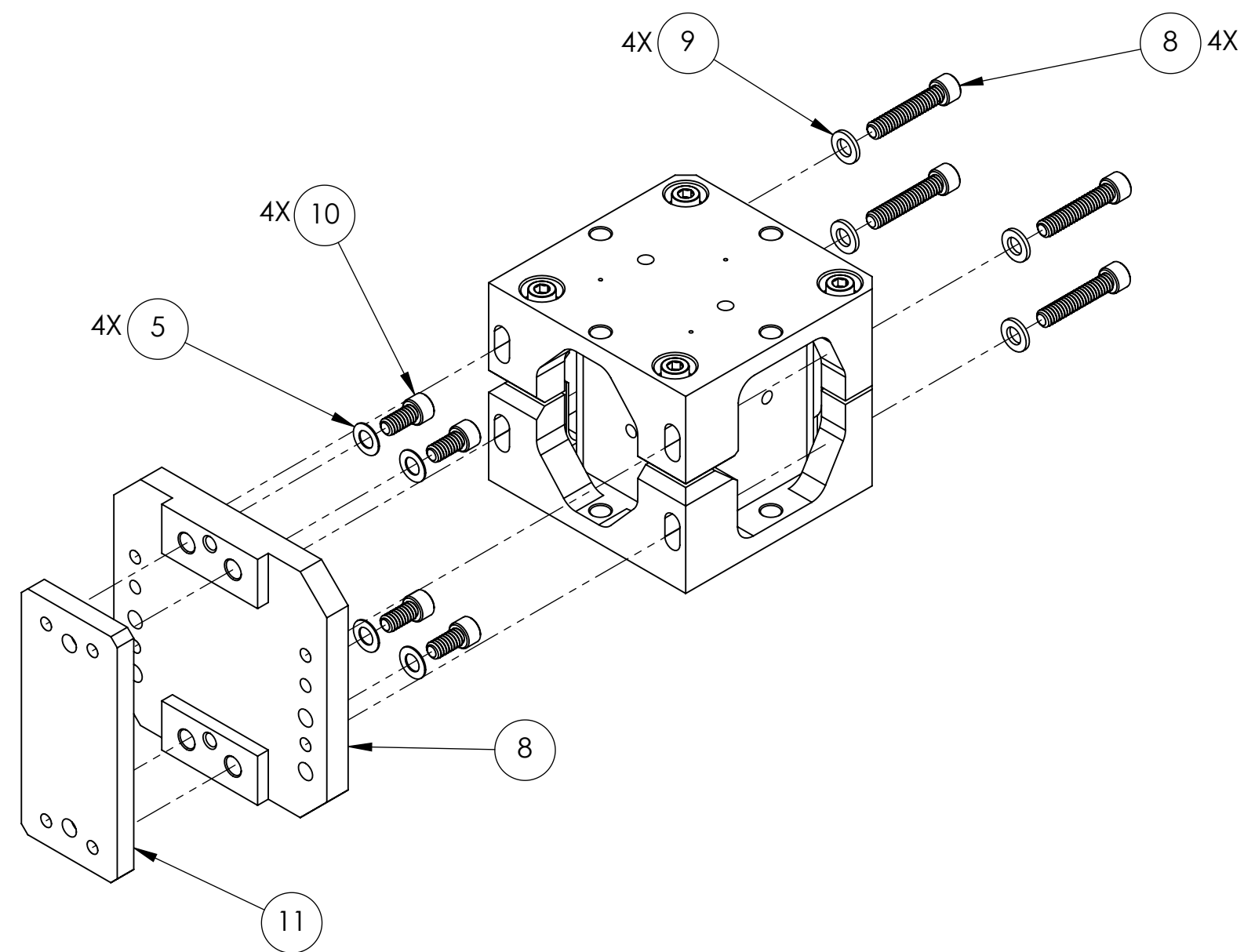
LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
 MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SYSTEM: ADVANCED LIGO SUB-SYSTEM: SUS

NEXT ASSY: MULTIPLE

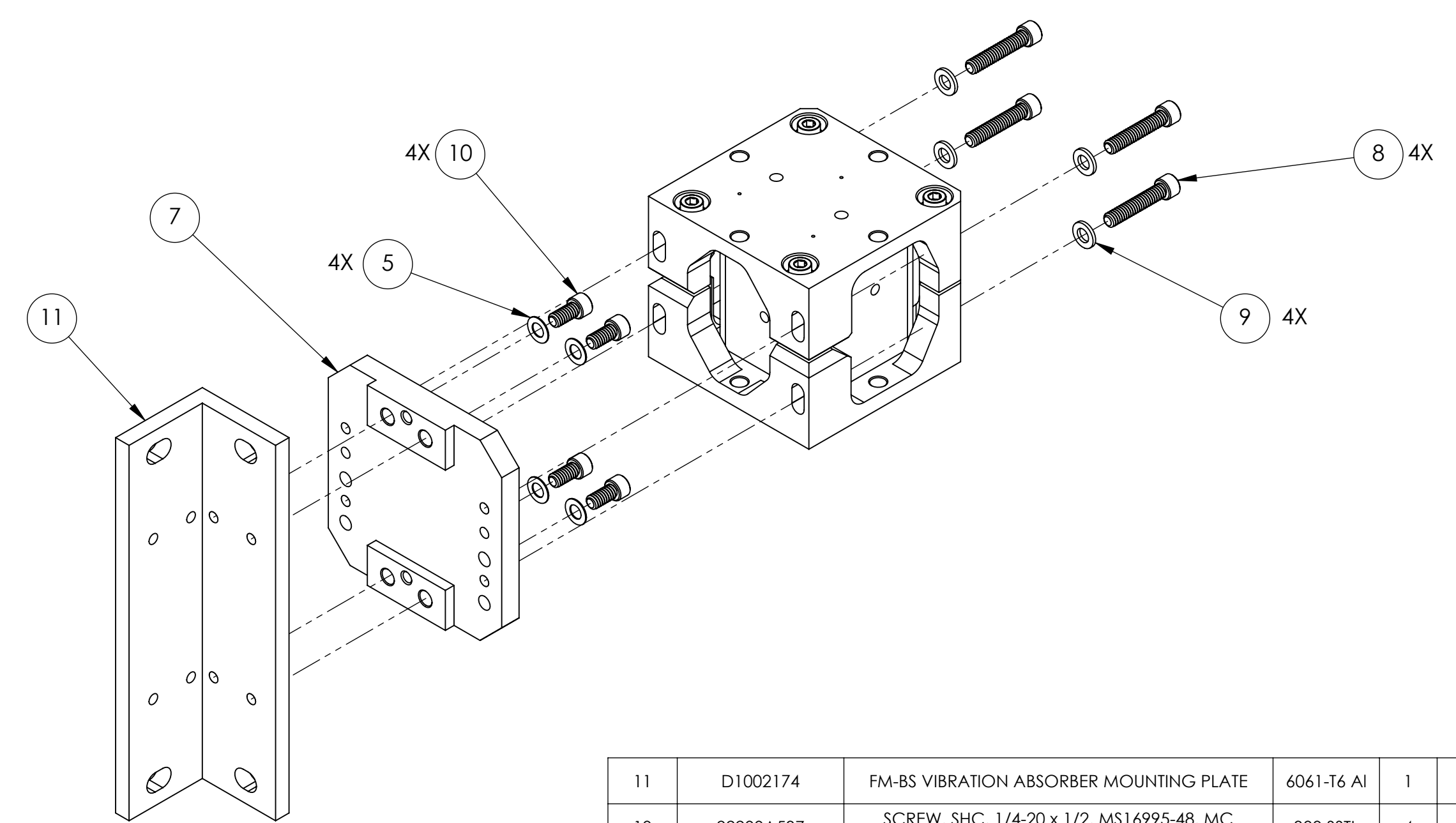
PART NAME		VIBRATION ABSORBER ASSEMBLY	
DESIGNER	K. BUCKLAND	15 SEPT 2010	SIZE DWG. NO.
DRAFTER	K. BUCKLAND	15 SEPT 2010	D D1002424
CHECKER	F. MATCHARD	5 OCT 2010	
APPROVAL	C. TORRIE	5 OCT 2010	SCALE: 1:1 PROJECTION: SHEET 1 OF 4

D1002424.dwg, SUS, VIBRATION ABSORBER, SUB VERTICAL WITH O-RINGS, PART PDM REV: X-1.0B, DRAWING PDM REV: X-013



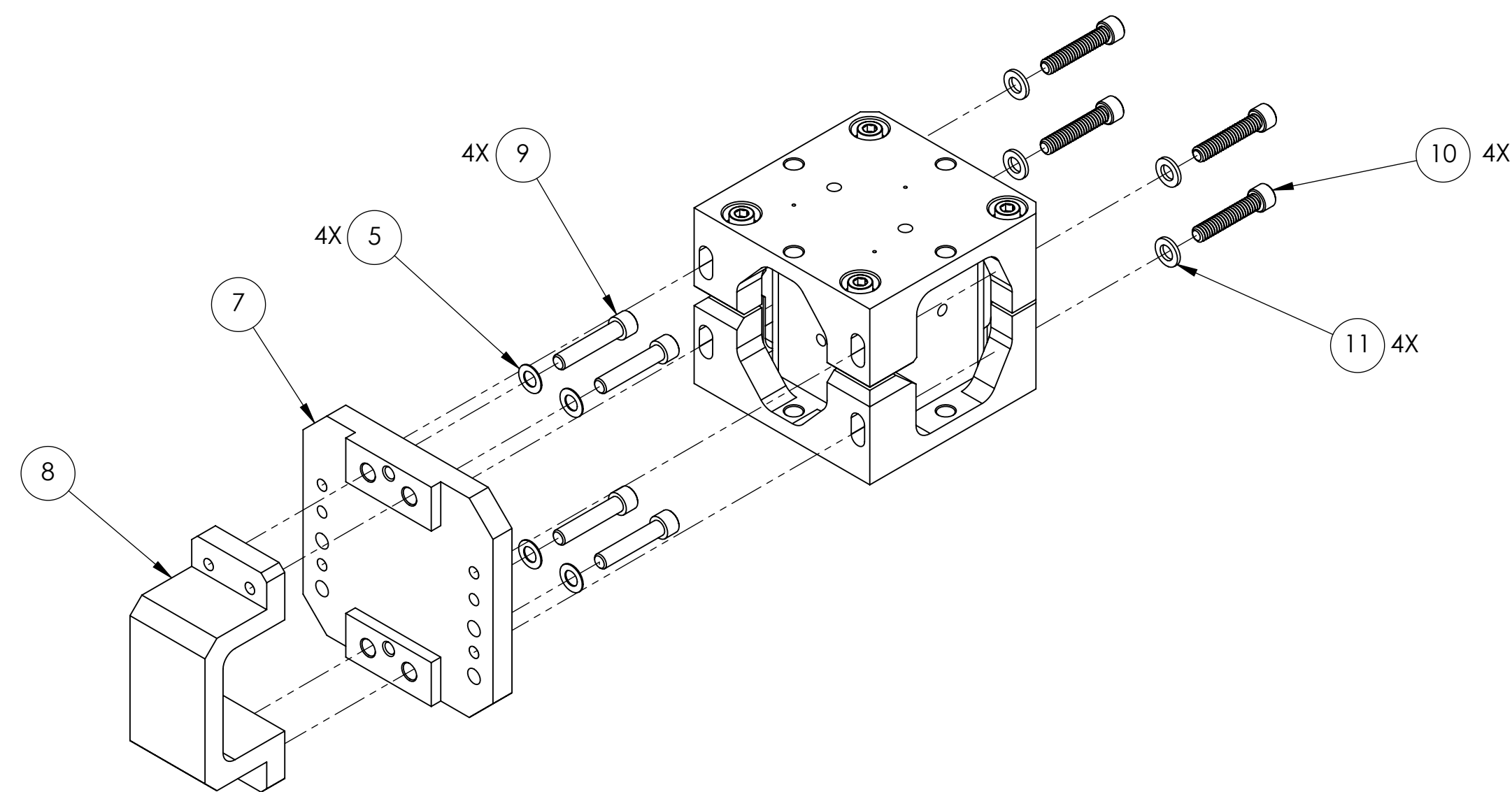
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL
11	D1002081	OMC VIBRATION ABSORBER MOUNTING PLATE	6061-T6 Al	1		1
10	92200A537	SCREW, SHC, 1/4-20 x 1/2, MS16995-48, MC #92200A537	300 SSSL	4		4
9	MCMaster_90945A761	Washer .47 od x .26 id x .06-.07 thk	18-8 SSSL	4		4
8	92200A544	SCREW, SHC, 1/4-20 x 1 1/4, MS16995-53, MC #92200A544	300 SSSL	4		4
7	D100895	Plate 2 for SEI Vibration absorber 5 Lb version	6063-T6	1		1
5	MCMaster_90945A760	Washer .47 od x .26 id x .02-.04 thk	18-8 SSSL	4		4
4	92200A548	SCREW, SHC, 1/4-20 x 1 3/4, MS16995-55, MC #92200A548	18-8 SSSL	4		0

OMC CONFIGURATION



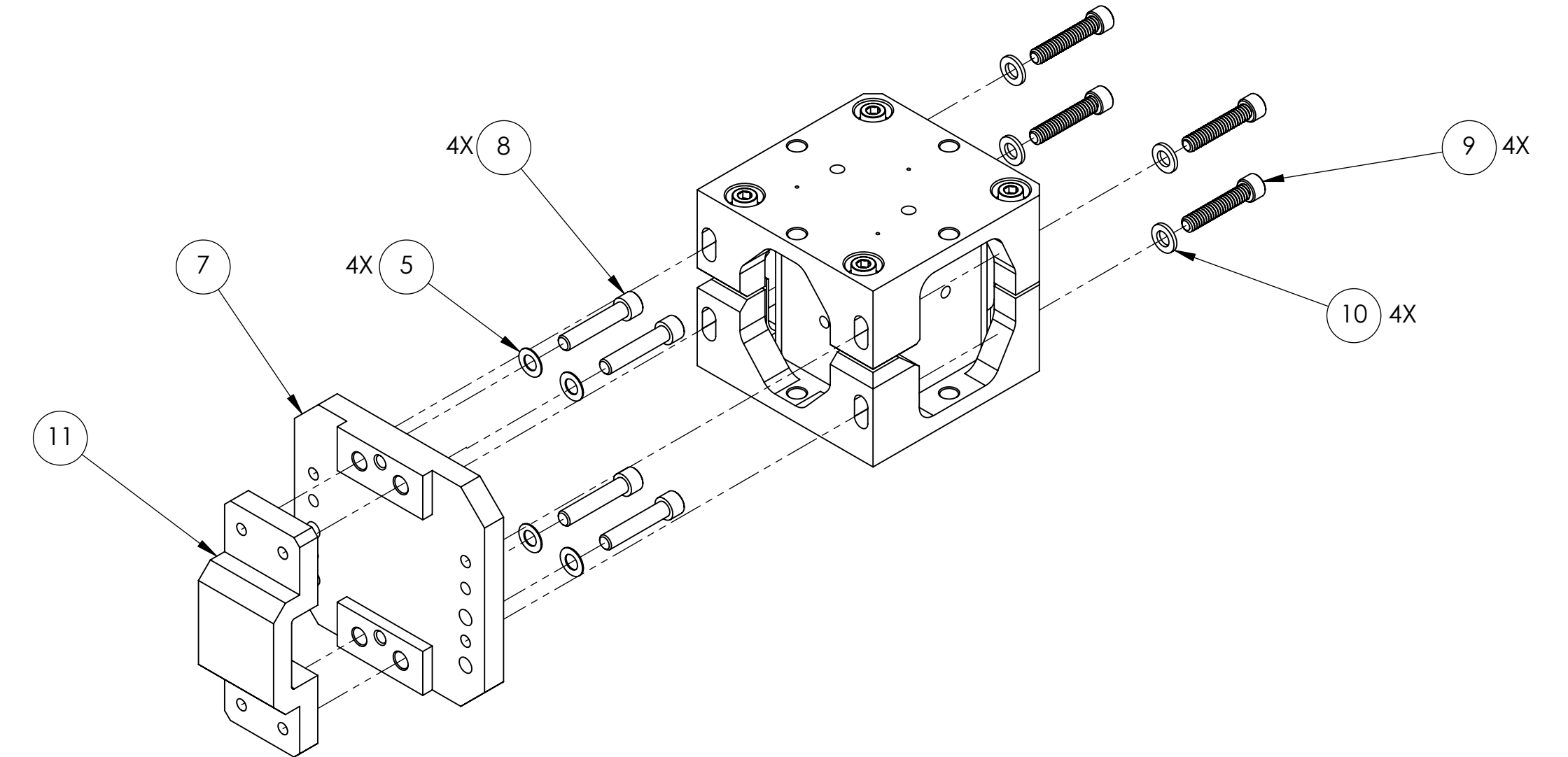
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL
11	D1002174	FM-BS VIBRATION ABSORBER MOUNTING PLATE	6061-T6 Al	1		1
10	92200A537	SCREW, SHC, 1/4-20 x 1/2, MS16995-48, MC #92200A537	300 SSSL	4		4
9	MCMaster_90945A761	Washer .47 od x .26 id x .06-.07 thk	18-8 SSSL	4		4
8	92200A544	SCREW, SHC, 1/4-20 x 1 1/4, MS16995-53, MC #92200A544	300 SSSL	4		4
7	D100895	Plate 2 for SEI Vibration absorber 5 Lb version	6063-T6	1		1
5	MCMaster_90945A760	Washer .47 od x .26 id x .02-.04 thk	18-8 SSSL	4		4
4	92200A548	SCREW, SHC, 1/4-20 x 1 3/4, MS16995-55, MC #92200A548	18-8 SSSL	4		0

FM/BS CONFIGURATION



ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL
11	MCMaster_90945A761	Washer .47 od x .26 id x .06-.07 thk	18-8 SSSL	4		4
10	92200A544	SCREW, SHC, 1/4-20 x 1 1/4, MS16995-53, MC #92200A544	300 SSSL	4		4
9	MCMaster_92196A540	SHCS, 1/4-20 x 1.75" (1" to Fully Threaded)	AISI 304	4		4
8	D1001060	CLAMP, VIBRATION ABSORBER, HLTS	6061-T6 Al	1		1
7	D100895	Plate 2 for SEI Vibration absorber 5 Lb version	6063-T6	1		1
5	MCMaster_90945A760	Washer .47 od x .26 id x .02-.04 thk	18-8 SSSL	4		4
4	92200A548	SCREW, SHC, 1/4-20 x 1 3/4, MS16995-55, MC #92200A548	18-8 SSSL	4		0

HLTS CONFIGURATION



ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL
11	D1001059	CLAMP, VIBRATION ABSORBER, HSTS	6061-T6 Al	1		1
10	MCMaster_90945A761	Washer .47 od x .26 id x .06-.07 thk	18-8 SSSL	4		4
9	92200A544	SCREW, SHC, 1/4-20 x 1 1/4, MS16995-53, MC #92200A544	300 SSSL	4		4
8	MCMaster_92196A540	SHCS, 1/4-20 x 1.75" (1" to Fully Threaded)	AISI 304	4		4
7	D100895	Plate 2 for SEI Vibration absorber 5 Lb version	6063-T6	1		1
5	MCMaster_90945A760	Washer .47 od x .26 id x .02-.04 thk	18-8 SSSL	4		4
4	92200A548	SCREW, SHC, 1/4-20 x 1 3/4, MS16995-55, MC #92200A548	18-8 SSSL	4		0

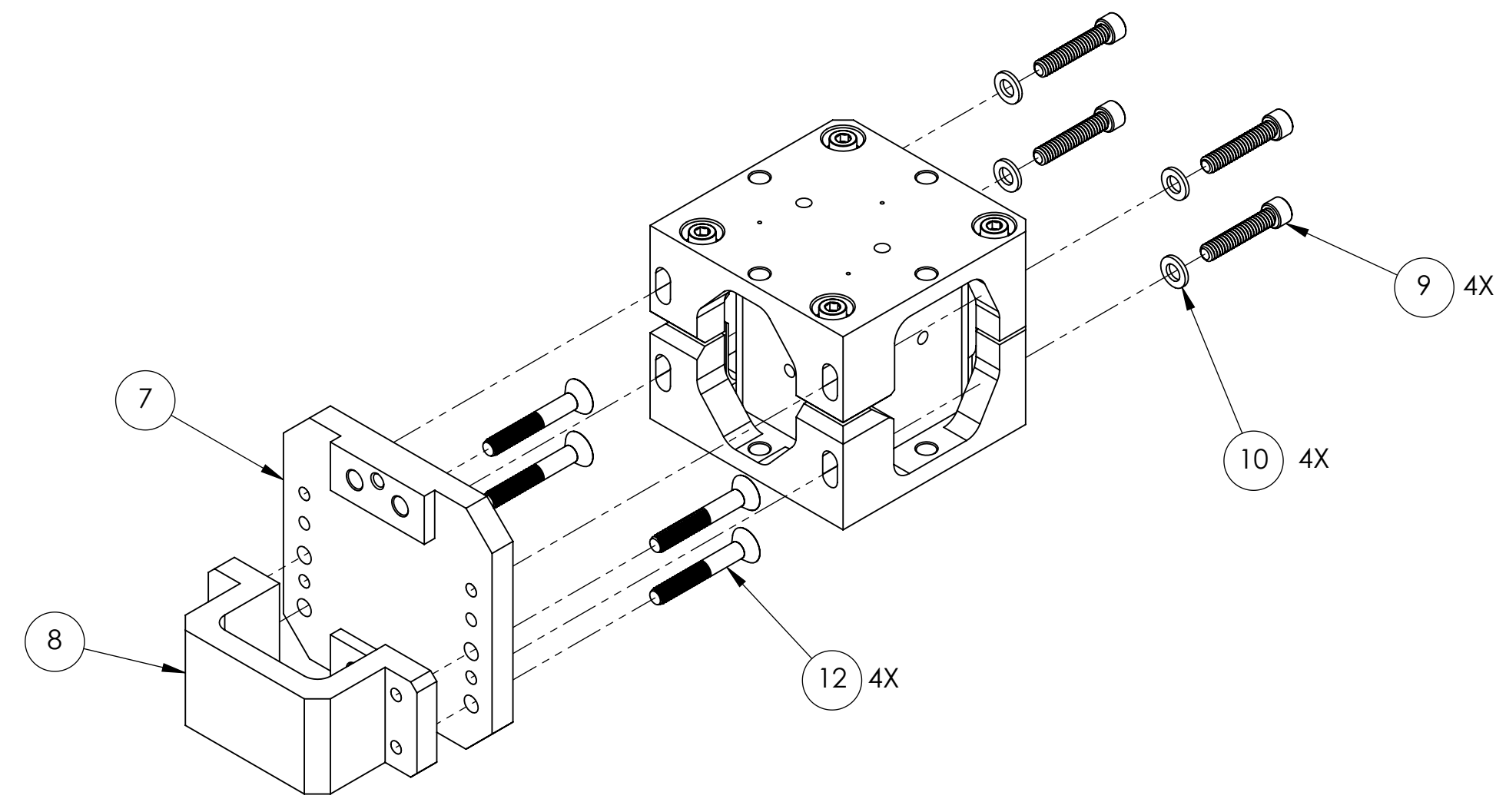
HSTS CONFIGURATION

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO. **D1002424** REV. **v5**

SCALE: 1:1 PROJECTION: SHEET 2 OF 4

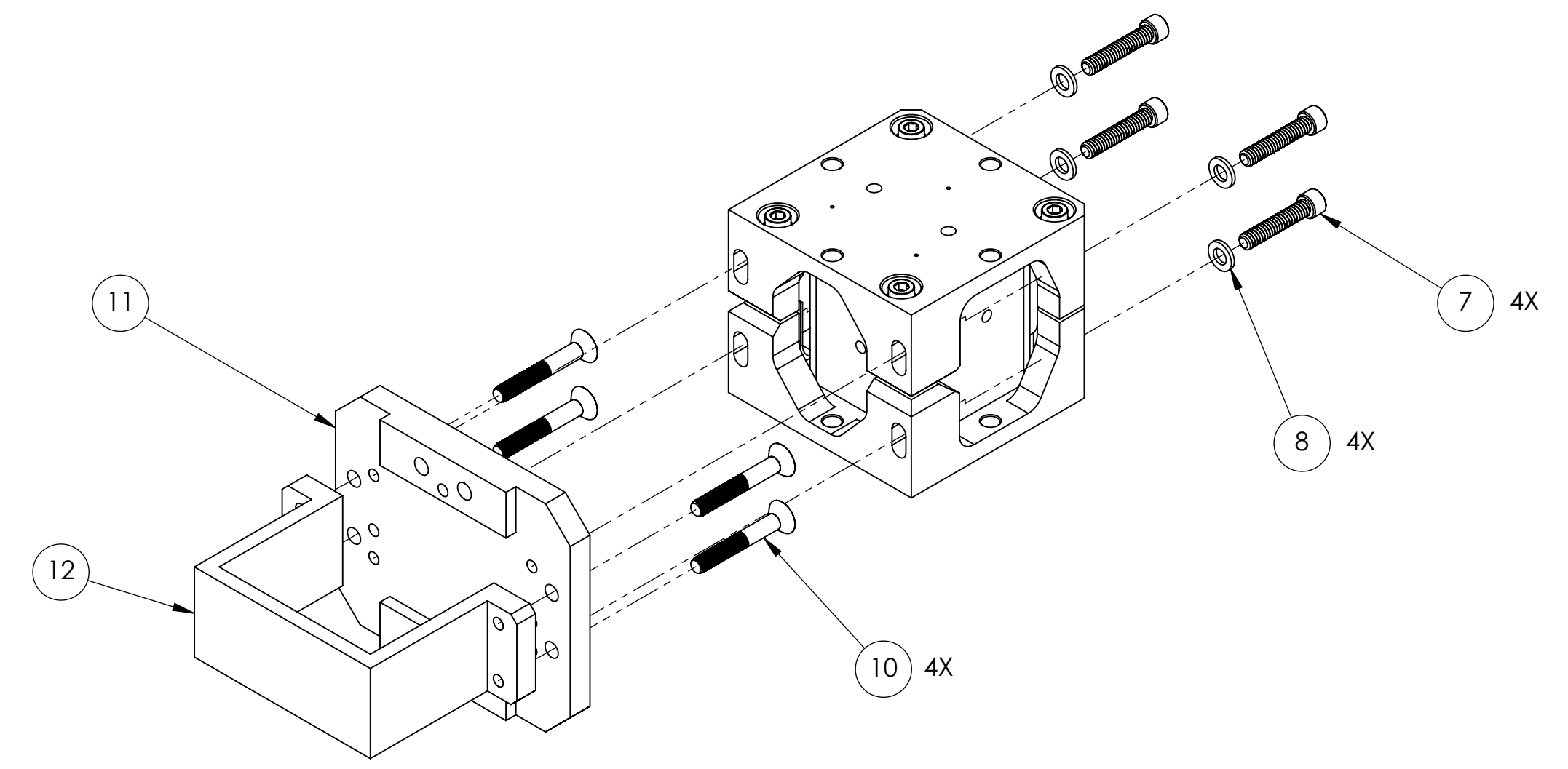
D1002424-LIGO.3105.VIBRATION ABSORBER.5EB.PDM.REV.X-1.5B.DRAWING.PDM.REV.X-013



12	92210A548	1/4-20 x 1 3/4 82 deg FHS	18-8 SSSL	4		0
10	MCMMASTER_90945A761	Washer .47 od x .26 id x .06-.07 thk	18-8 SSSL	4		0
9	92200A544	SCREW, SHC, 1/4-20 x 1 1/4, MS16995-53, MC #92200A544	300 SSSL	4		0
8	D1001060	CLAMP, VIBRATION ABSORBER, HLTS	6061-T6 Al	1		0
7	D1000895	Plate 2 for SEI Vibration absorber 5 Lb version	6063-T6	1		0
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL

PARTS LIST

LOWER QUAD CONFIGURATION



12	D1002597	CLAMP, VIBRATION ABSORBER, UPPER QUAD	6061-T6 Al	1		0
11	D1002594	UPPER QUAD VIBRATION ABSORBER MOUNTING PLATE	6061-T6 Al	1		0
10	92210A548	1/4-20 x 1 3/4 82 deg FHS	18-8 SSSL	4		0
8	MCMMASTER_90945A761	Washer .47 od x .26 id x .06-.07 thk	18-8 SSSL	4		0
7	92200A544	SCREW, SHC, 1/4-20 x 1 1/4, MS16995-53, MC #92200A544	300 SSSL	4		0
ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	REQ	SPARE	TOTAL

PARTS LIST

UPPER QUAD & TMS CONFIGURATION

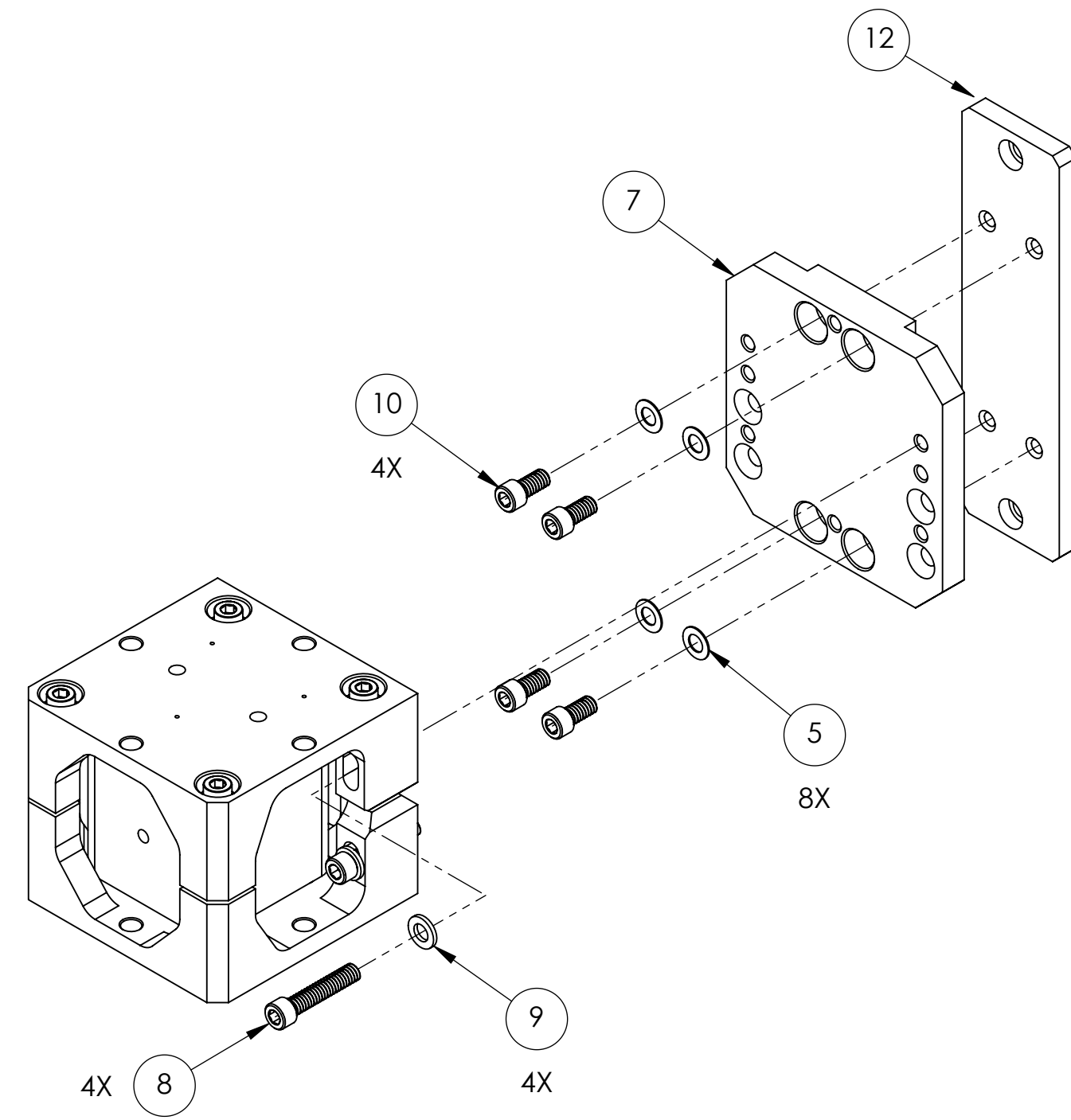
LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO. REV.
D D1002424 v5

SCALE: 1:1 PROJECTION: SHEET 3 OF 4

D1002424-LIGO.3105_VIBRATION_ABSORBER_3EB_VERTICAL_WITH_ORBITS_PART_PDM_REV_X-15B_DRAWING_PDM_REV_X-013

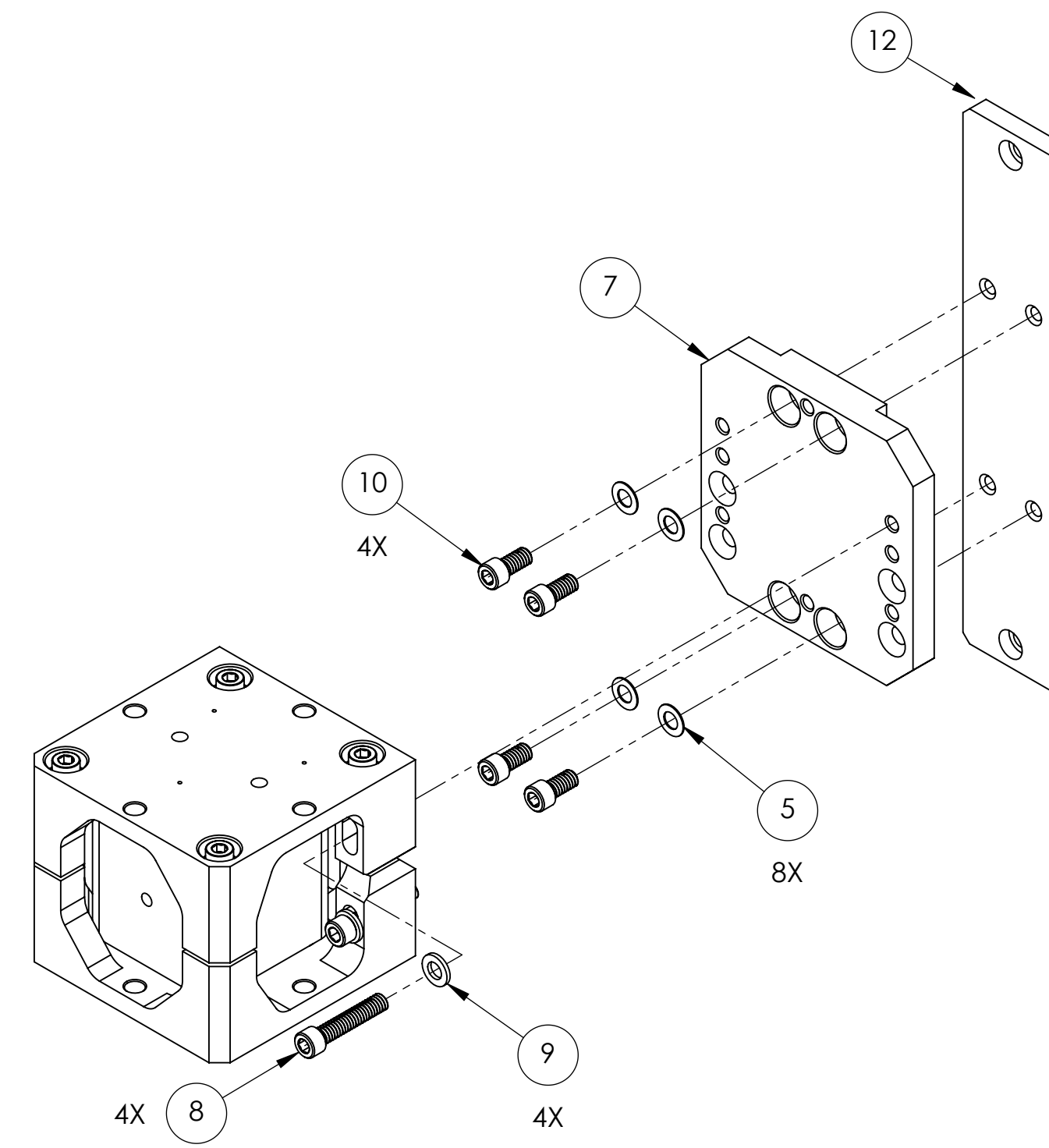
-01 TYPE



ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
12	D1600401-00	aLIGO, PCAL, Vibration Absorber, Mt. Plate	6061-T6 Al	1
10	92200A537	SCREW, SHC, 1/4-20 x 1/2, MS16995-48, MC #92200A537	300 SSSL	4
9	MCMaster_90945A761	Washer .47 od x .26 id x .06-.07 thk	18-8 SSSL	4
8	92200A544	SCREW, SHC, 1/4-20 x 1 1/4, MS16995-53, MC #92200A544	300 SSSL	4
7	D1000895	Plate 2 for SEI Vibration absorber 5 Lb version	6063-T6	1
5	MCMaster_90945A760	Washer .47 od x .26 id x .02-.04 thk	18-8 SSSL	8

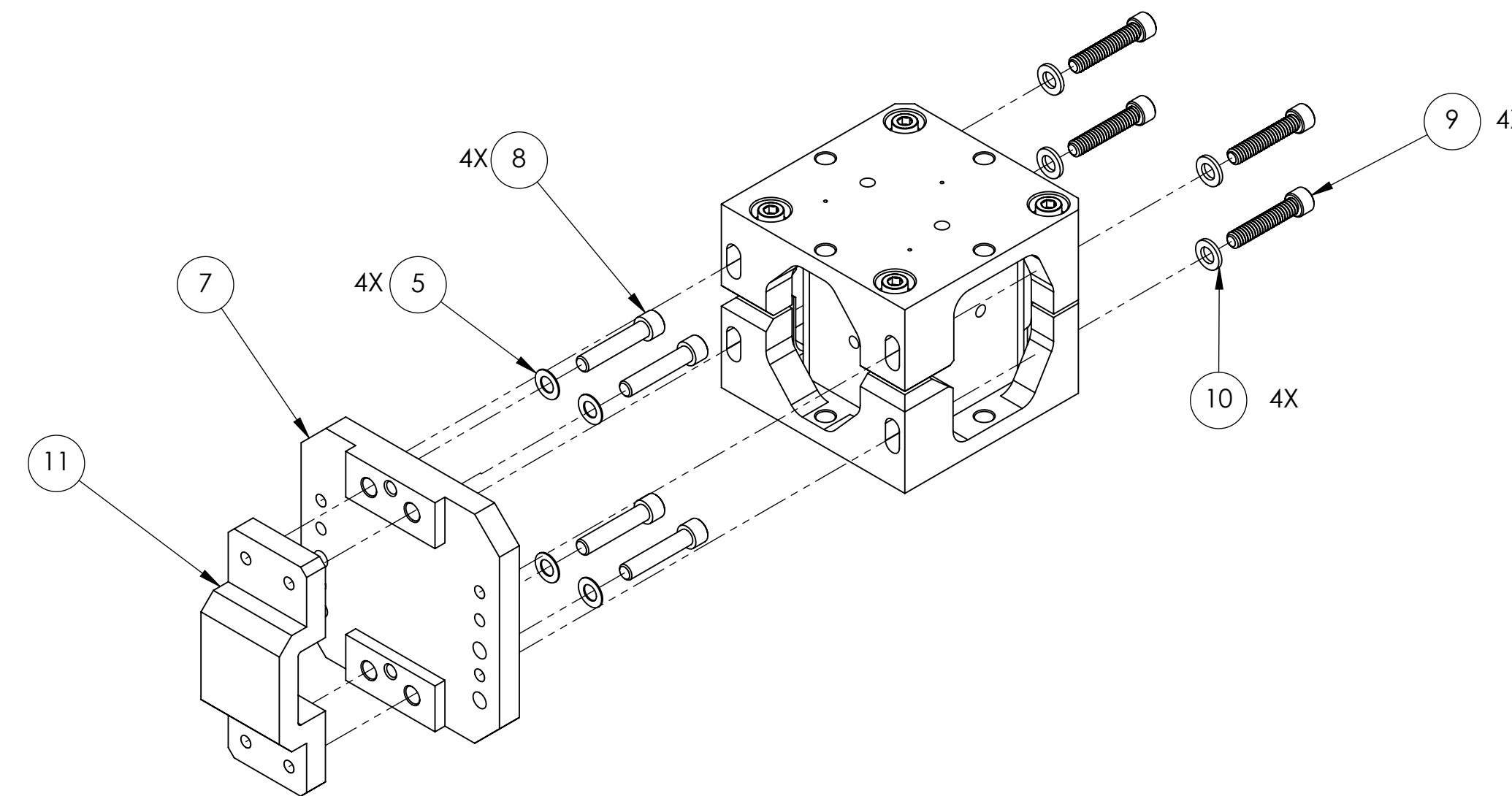
PCAL CONFIG. (3 AND 9 O'CLOCK POS. ONLY)

-02 TYPE



ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	QTY.
12	D1600401-01	aLIGO, PCAL, Vibration Absorber, Mt. Plate	6061-T6 Al	1
10	92200A537	SCREW, SHC, 1/4-20 x 1/2, MS16995-48, MC #92200A537	300 SSSL	4
9	MCMaster_90945A761	Washer .47 od x .26 id x .06-.07 thk	18-8 SSSL	4
8	92200A544	SCREW, SHC, 1/4-20 x 1 1/4, MS16995-53, MC #92200A544	300 SSSL	4
7	D1000895	Plate 2 for SEI Vibration absorber 5 Lb version	6063-T6	1
5	MCMaster_90945A760	Washer .47 od x .26 id x .02-.04 thk	18-8 SSSL	8

PCAL CONFIG. (VERTICAL AND 45 DEG.)



TCS CONFIGURATION

ITEM NO.	PART NUMBER	DESCRIPTION	MATERIAL	TCS WITH O-RINGS/QTY.	SPARE	TOTAL
11	D1001059	CLAMP, VIBRATION ABSORBER, HSTS	6061-T6 Al	1		0
10	MCMaster_90945A761	Washer .47 od x .26 id x .06-.07 thk	18-8 SSSL	4		0
9	92200A544	SCREW, SHC, 1/4-20 x 1 1/4, MS16995-53, MC #92200A544	300 SSSL	4		0
8	MCMaster_92196A540	SHCS, 1/4-20 x 1.75" (1" to Fully Threaded)	AISI 304	4		0
7	D1000895	Plate 2 for SEI Vibration absorber 5 Lb version	6063-T6	1		0
5	MCMaster_90945A760	Washer .47 od x .26 id x .02-.04 thk	18-8 SSSL	8		0
4	92200A548	SCREW, SHC, 1/4-20 x 1 3/4, MS16995-55, MC #92200A548	18-8 SSSL	4		0

PARTS LIST

LIGO CALIFORNIA INSTITUTE OF TECHNOLOGY
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

SIZE DWG. NO. **D1002424** REV. **v5**

SCALE: 1:1 PROJECTION: SHEET 4 OF 4

D1002424-LIGO, SUS, VIBRATION ABSORBER, SEB VERTICAL WITH O-RINGS, PART PDM REV: X-15B, DRAWING PDM REV: X-013