

REVISIONS		
REV.	DESCRIPTION	DATE
A	INITIAL RELEASE	2021-05-08

37	5058K221	1/8 HOSE FITTING	1
36	8020CM-077	PUSH BLOCK, X-AXIS	1
35	8020CM-018	ACME NUT MOUNT X/Y-AXIS	1
34	8020CM-076	INNER BELLOWS MOUNT, X-AXIS	2
33	1010-S	4-INCH 1010-S FRAME	2
32	8020CM-050	BELLOWS MOUNT, Y/Z-AXIS	2
31	95090A104	1/2-10 ACME NUT	6
30	8020CM-019	PUSH BLOCK, BOT. Z-AXIS	2
29	8020CM-029	ACME NUT MOUNT, Z-AXIS	4
28	8020CM-011-R	R. X-AXIS CARRIAGE SIDE PLATE	1
27	NEMA 24	NEMA 24 STEPPER MOTOR	1
26	6208K565	SHAFT COUPLER	1
25	8020CM-080	STEPPER MOUNT, X-AXIS	1
24	8020CM-079	PUSH BLOCK, BOT. Z-AXIS	2
23	ARC-20-M-N-BZ-V1-H	20 mm LINEAR CARRIAGE	8
22	8020CM-074-R	R. FRAME BRACKET, X-AXIS	2
21	APS11700-600	HALL SENSOR	3
20	1020-S	16-INCH 1020-S FRAME	2
19	8020CM-078	L. ACME NUT MOUNT, X-AXIS	1
18	8020CM-010	X-AXIS CARRIAGE BASEPLATE	1
17	ARC-20-P	20 X 325 mm LINEAR RAIL	2
16	MMC-98935A718	1/2-10 ACME SCREW Y-AXIS	1
15	8020CM-074-L	L. FRAME BRACKET, X-AXIS	2
14	1010-S	5-INCH 1010-S	4
13	8020CM-011-L	L. X-AXIS CARRIAGE SIDE PLATE	1
12	5909K31	THRUST BEARING	2
11	5909K44	THRUST WASHER	4
10	9961K17	SET COLLAR	2
9	8020CM-017	BEARING BLOCK	2
8	60355K601	LEADSCREW BEARING	2
7	8020CM-072	OUTER BELLOWS MOUNT, X-AXIS	2
6	8020CM-064	CHIP COVER PLATE	2
5	8020CM-012	SPINDLE CARRIAGE BASE	1
4	8020CM-026	SPINDLE CARRIAGE WALLS	2
3	8020CM-030	SPINDLE CLAMP	2
2	110V Spindle	SPINDLE MOTOR	1
1	8020CM-025	FRONT COVER PLATE	1
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.

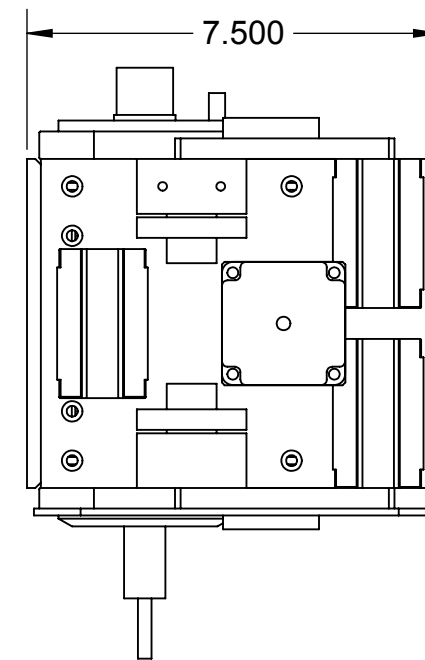
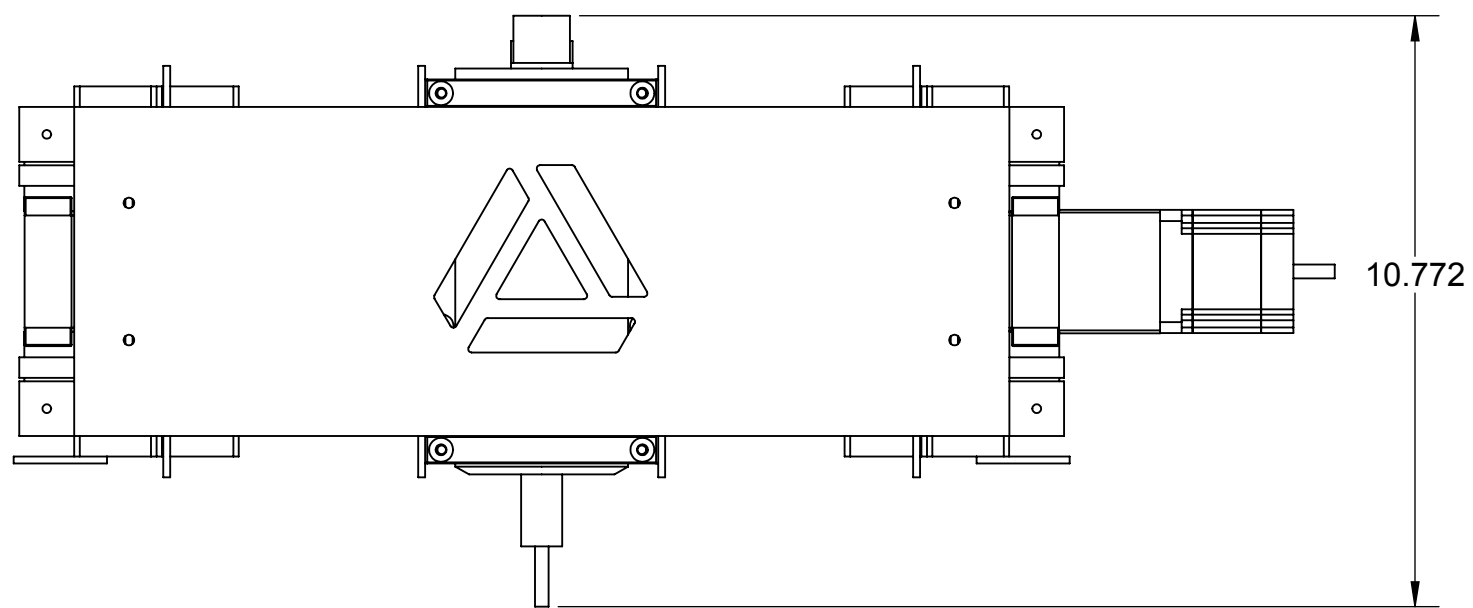
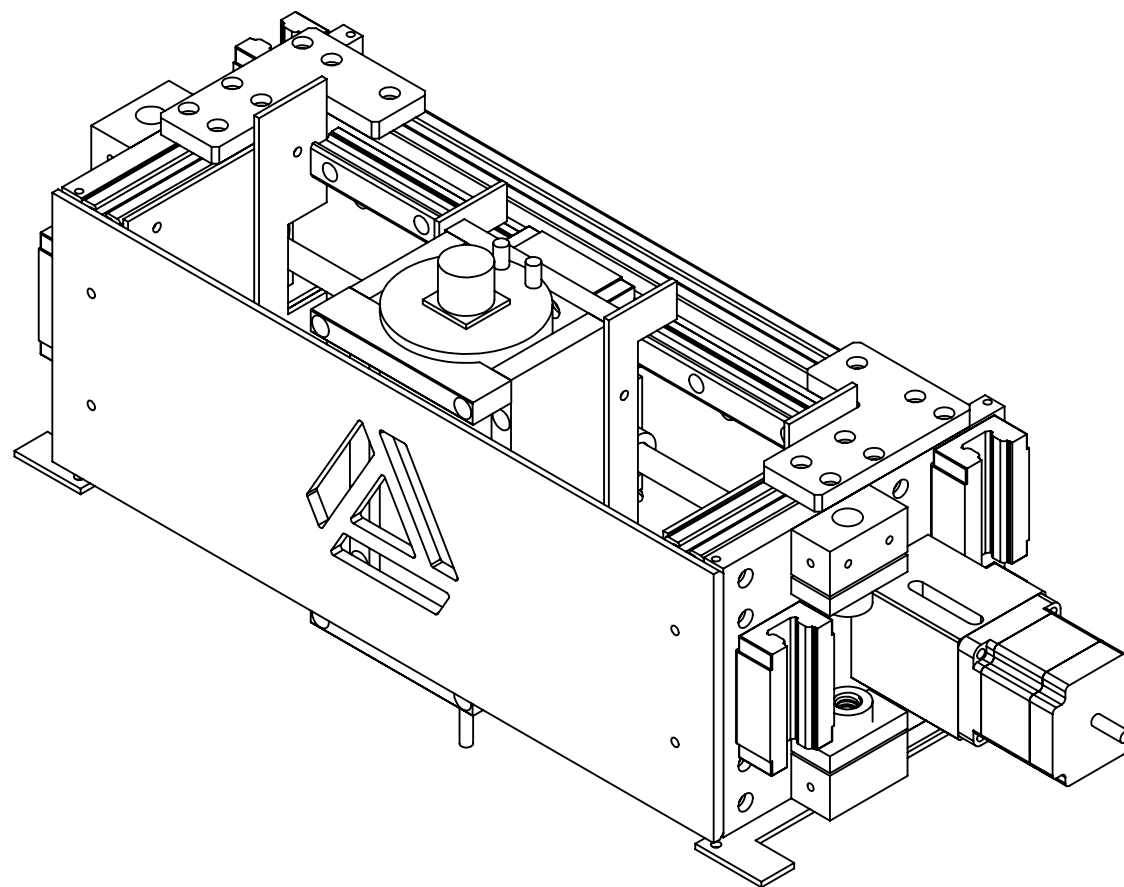
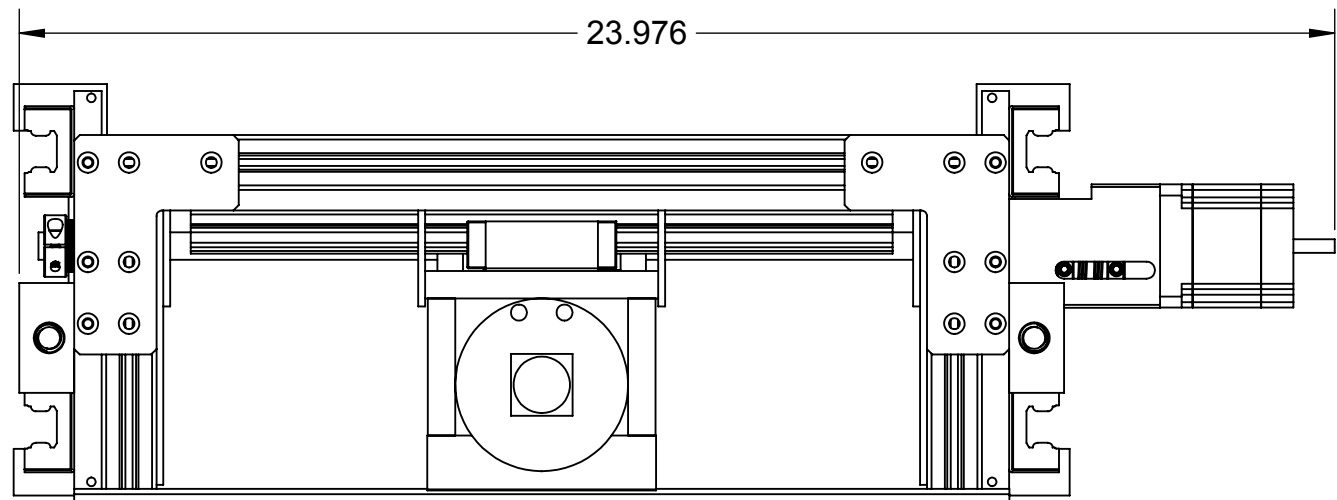
DIMENSIONS IN INCHES [mm]		TOLERANCES (U.O.S.)	
THIRD ANGLE PROJECTION		.X	±.1
		.XX	±.01
		.XXX	±.005
		ANGULAR	± 1°

	TITLE X-AXIS ASSEMBLY	
	DWG. NO. X Axis	REV A
LAST UPDATED 2021-05-09	DO NOT SCALE DRAWING	SHEET 1 OF 5

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

A
B
C
D
E
F
G
H
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J

NOTES:
1. ESTIMATED WEIGHT: 50 LBS



A
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J

DIMENSIONS IN INCHES [mm]
THIRD ANGLE PROJECTION

TOLERANCES (U.O.S.)
.X ±.1
.XX ±.01
.XXX ±.005
ANGULAR ±1°

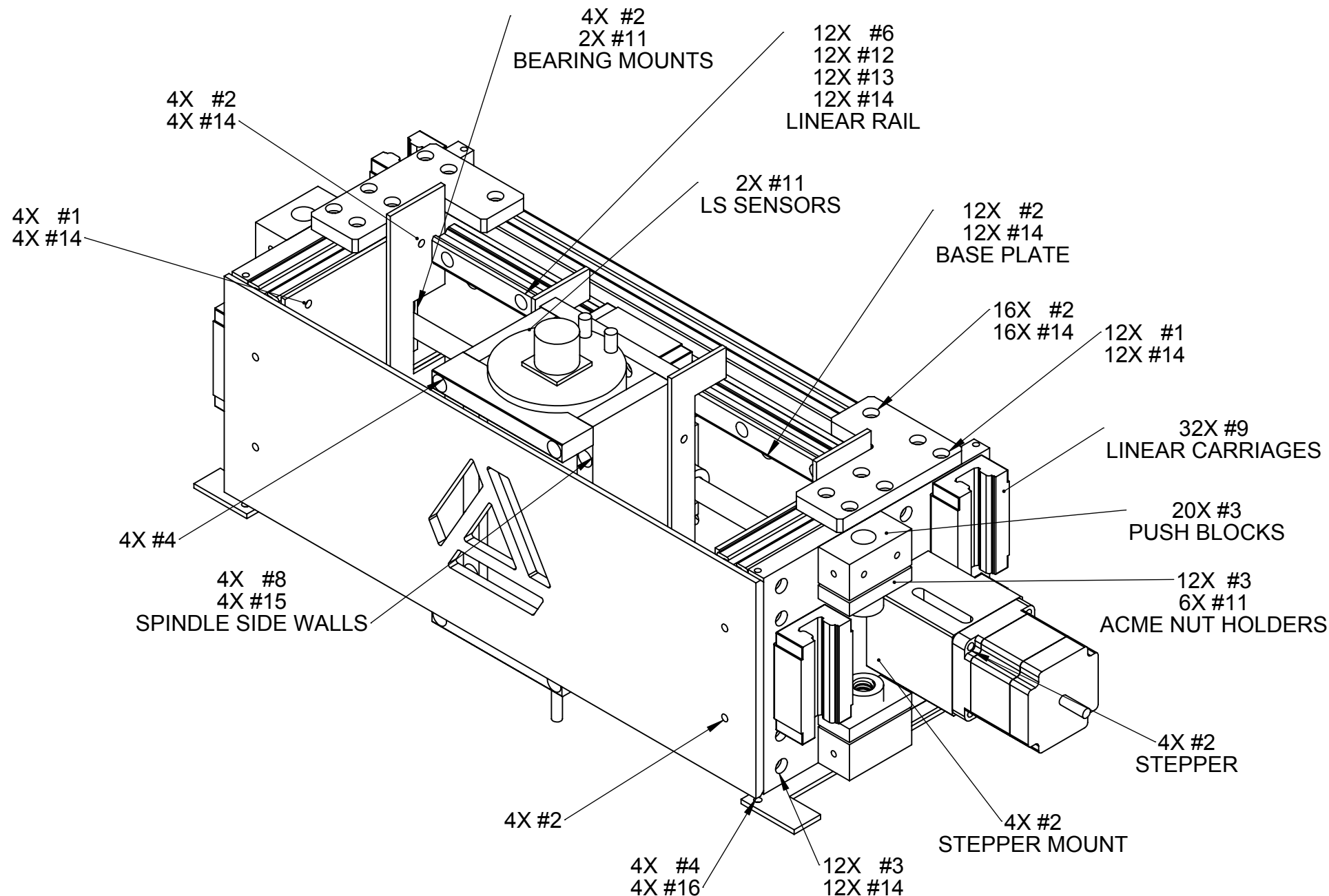
VriMech
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TITLE OVERALL DIMENSIONS
DWG. NO. X Axis REV A
DO NOT SCALE DRAWING SHEET 2 OF 5

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

NOTES:

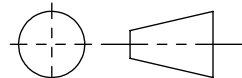
1. SCREWS NOT INCLUDED IN CAD MODEL. THIS SHEET ESTIMATES THE QUANTITY OF HARDWARE USED.
2. ALL SCREWS ZINC-PLATED STEEL
3. MCMASTER-CARR PN 98001A125 LOW-PROFILE, 10-32 WELD NUT USED FOR MOUNTING TO 8020 FRAME.



16	NUT	10-32, LOW CLEARANCE	4
15	LOCK NUT	10-32, LOW CLEARANCE	4
14	WELD NUT	10-32	72
13	LOCK WASH.	10-32	12
12	WASHER	#10 .365-IN OD	12
11	SET SCREW	10-32 X 3/8	10
10	SHCS	M5-0.8 X 16 mm	0
9	SHCS	M5-0.8 X 12 mm	32
8	SHCS	10-32 X 2-1/2	4
7	SHCS	10-32 X 2	0
6	SHCS	10-32 X 1-1/4	12
5	SHCS	10-32 X 1	0
4	SHCS	10-32 X 3/4	8
3	SHCS	10-32 X 5/8	44
2	SHCS	10-32 X 1/2	48
1	SHCS	10-32 X 3/8	16
ITEM NO.	TYPE	SIZE	QTY.

DIMENSIONS IN INCHES [mm]

THIRD ANGLE PROJECTION



TOLERANCES (U.O.S.)

.X ±.1
.XX ±.01
.XXX ±.005
ANGULAR ±1°

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TITLE HARDWARE

DWG. NO. X Axis

REV A

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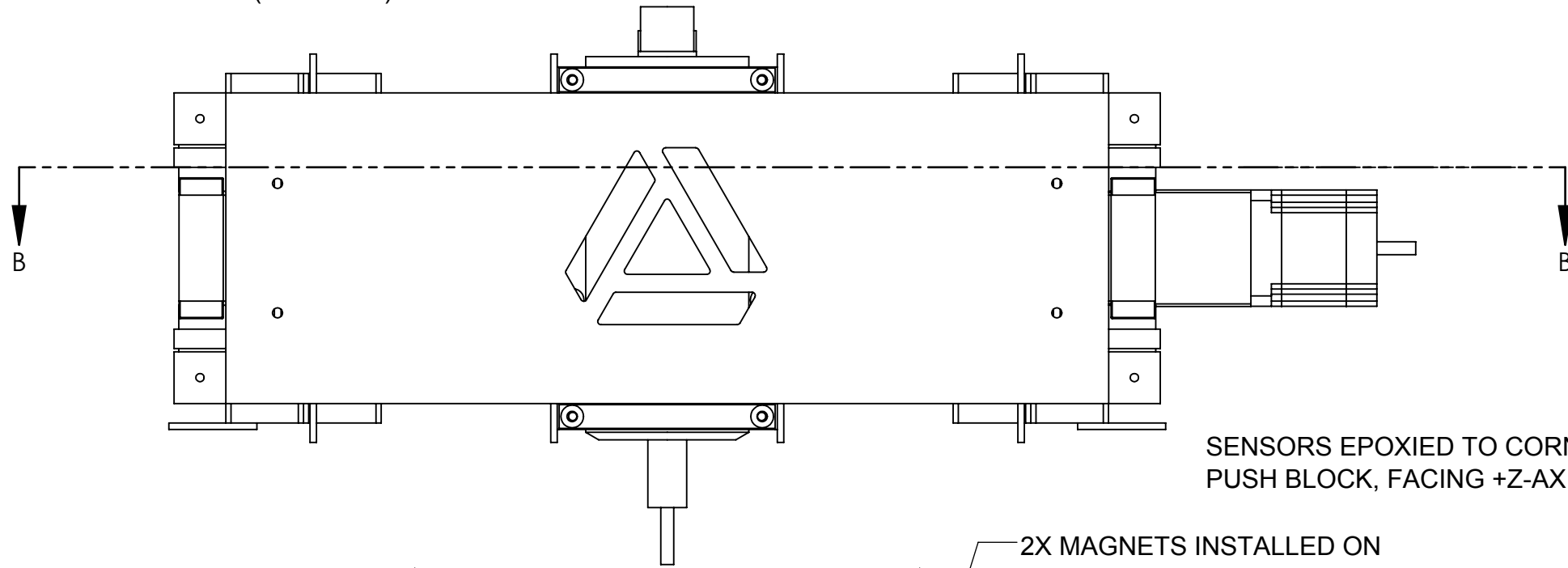
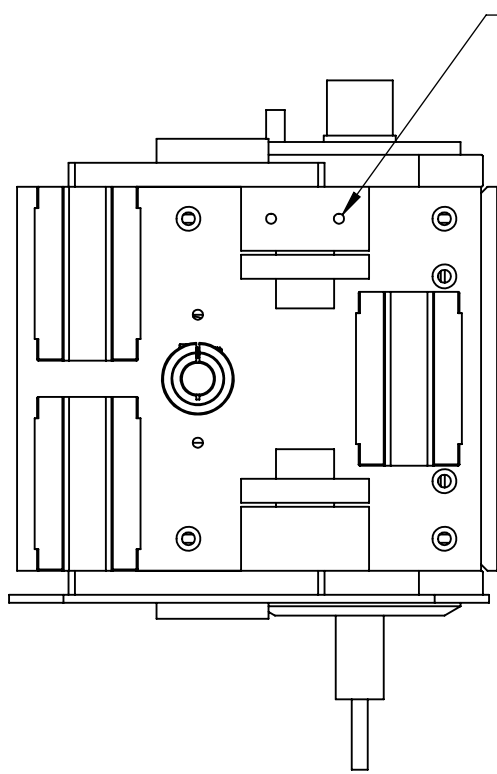
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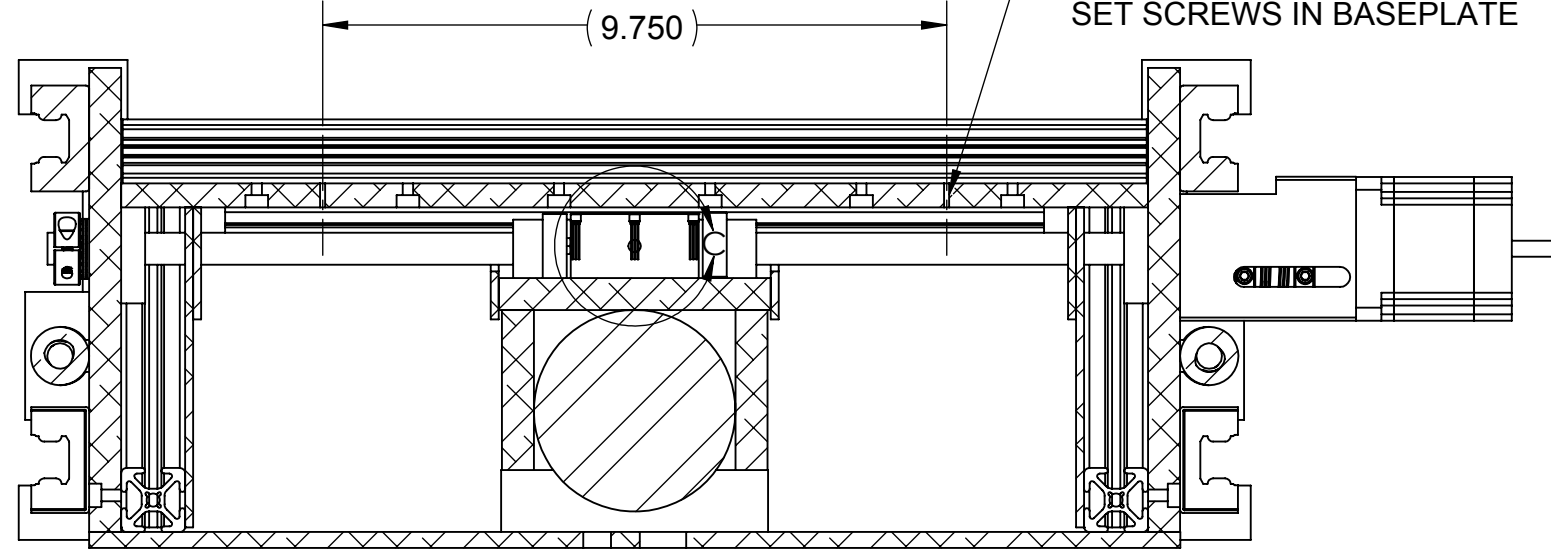
NOTES:

1. X-AXIS ORIGINALLY DESIGNED WITH 3X LS, ONLY 2X WERE USED IN PRACTICE
2. 2X MAGNETS INSTALLED ON PUSH BLOCKS FOR Z-AXIS LS, ONLY 1X USED IN PRACTICE (L. SIDE, ARBITRARILY)

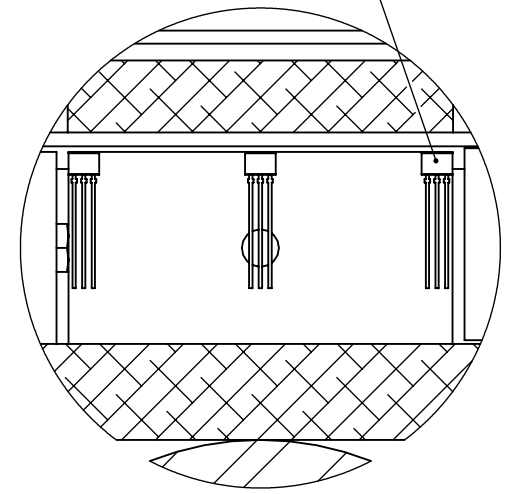


SENSORS EPOXIED TO CORNERS OF PUSH BLOCK, FACING +Z-AXIS DIRECTION

2X MAGNETS INSTALLED ON SET SCREWS IN BASEPLATE



SECTION B-B



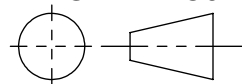
DETAIL C

DIMENSIONS IN INCHES [mm]

TOLERANCES (U.O.S.)

THIRD ANGLE PROJECTION

- .X ±.1
- .XX ±.01
- .XXX ±.005
- ANGULAR ±1°



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TITLE **LIMIT SWITCHES**

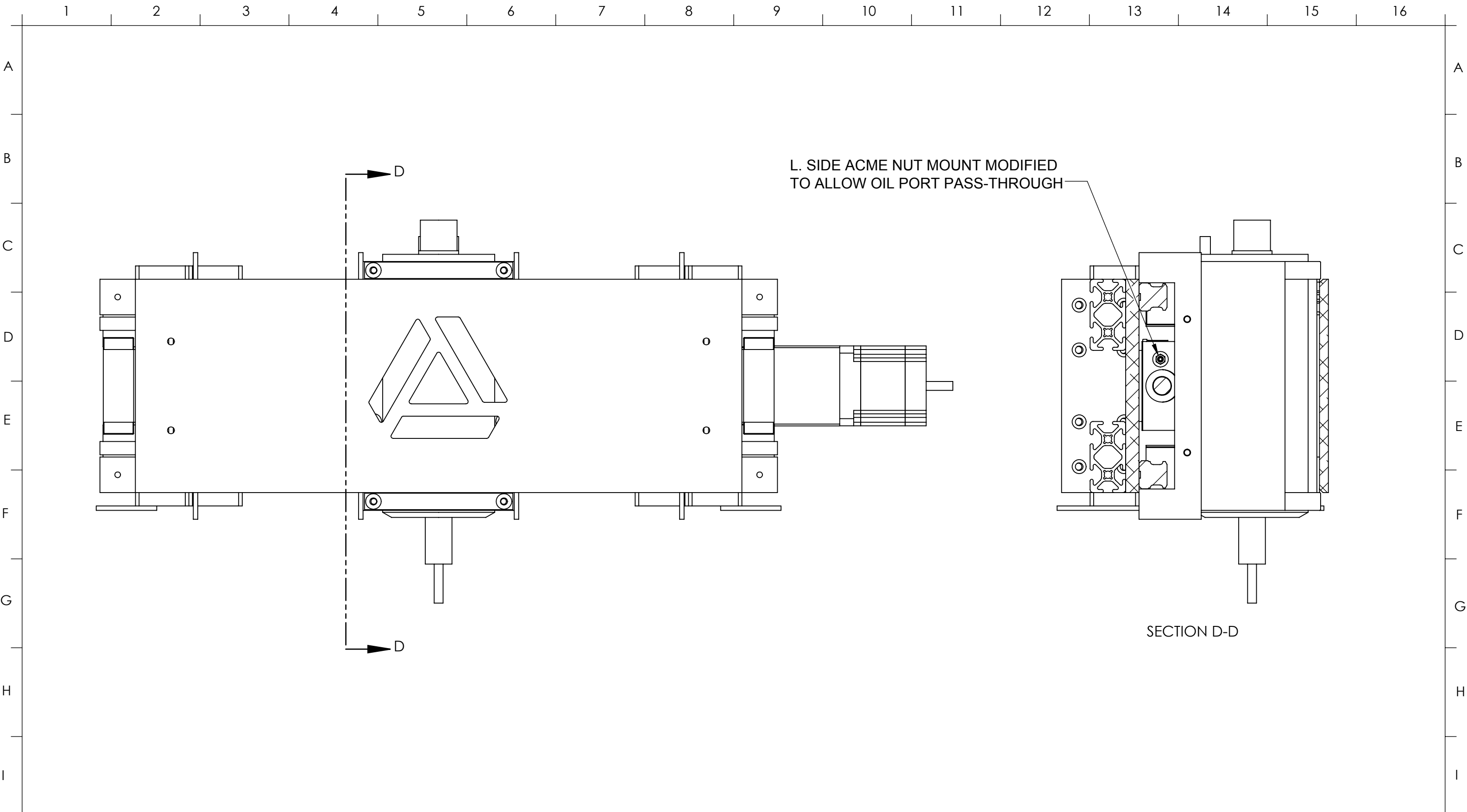
DWG. NO. **X Axis**

REV **A**

DO NOT SCALE DRAWING

SHEET 4 OF 5

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



L. SIDE ACME NUT MOUNT MODIFIED
TO ALLOW OIL PORT PASS-THROUGH

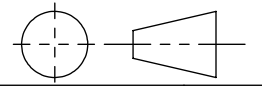
SECTION D-D

DIMENSIONS IN INCHES [mm]

TOLERANCES (U.O.S.)

THIRD ANGLE PROJECTION

- .X ±.1
- .XX ±.01
- .XXX ±.005
- ANGULAR ±1°∠



TITLE OIL PORT LOCATION

DWG. NO. X Axis REV A

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