

1

2

3

4

5

NOTES:

- All axis shown at mid-stroke
- Shown mounted to customer supplied mounting plate

REVISION TABLE					
REV	ECN#	DESCRIPTION	REV BY	APPROVED	DATE
---	---	Original Drawing	OOG	MPW	12-20-18

A

B

C

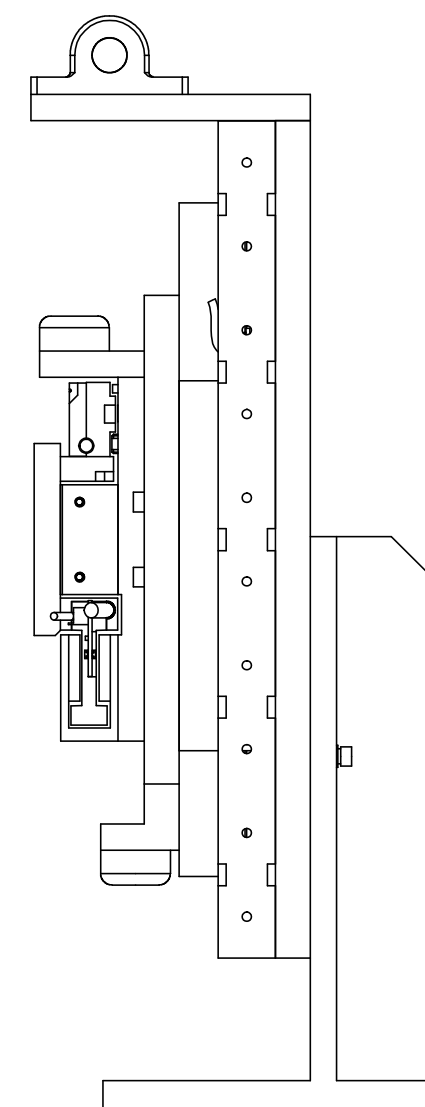
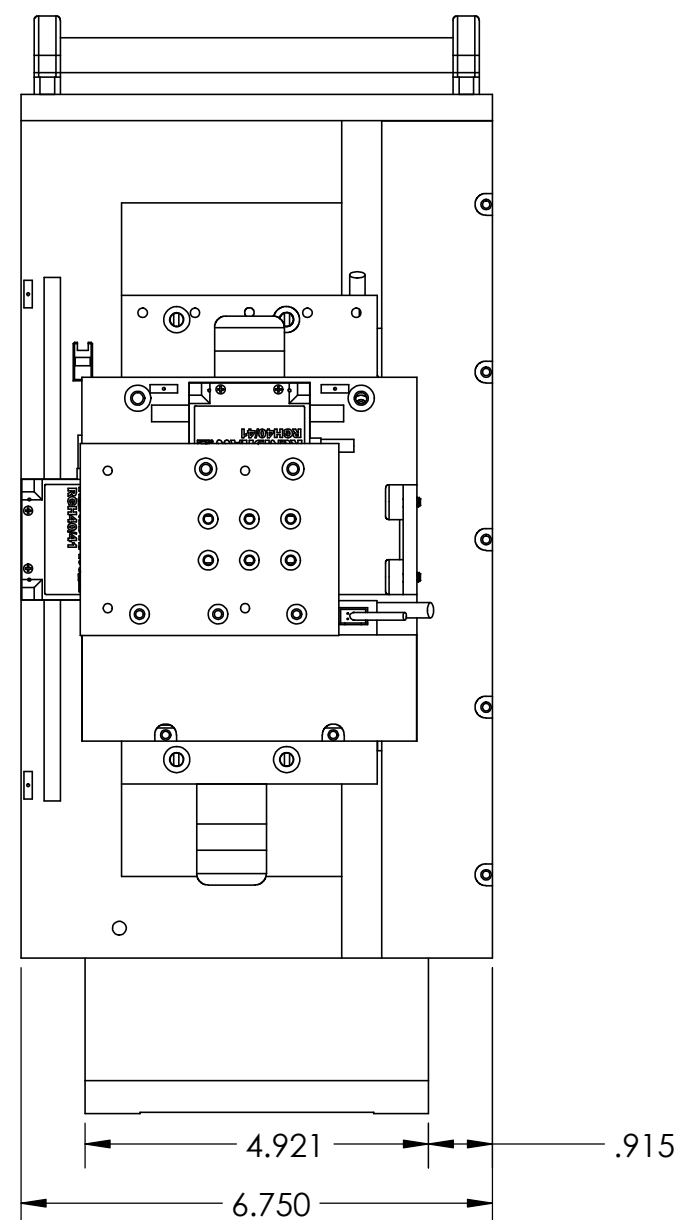
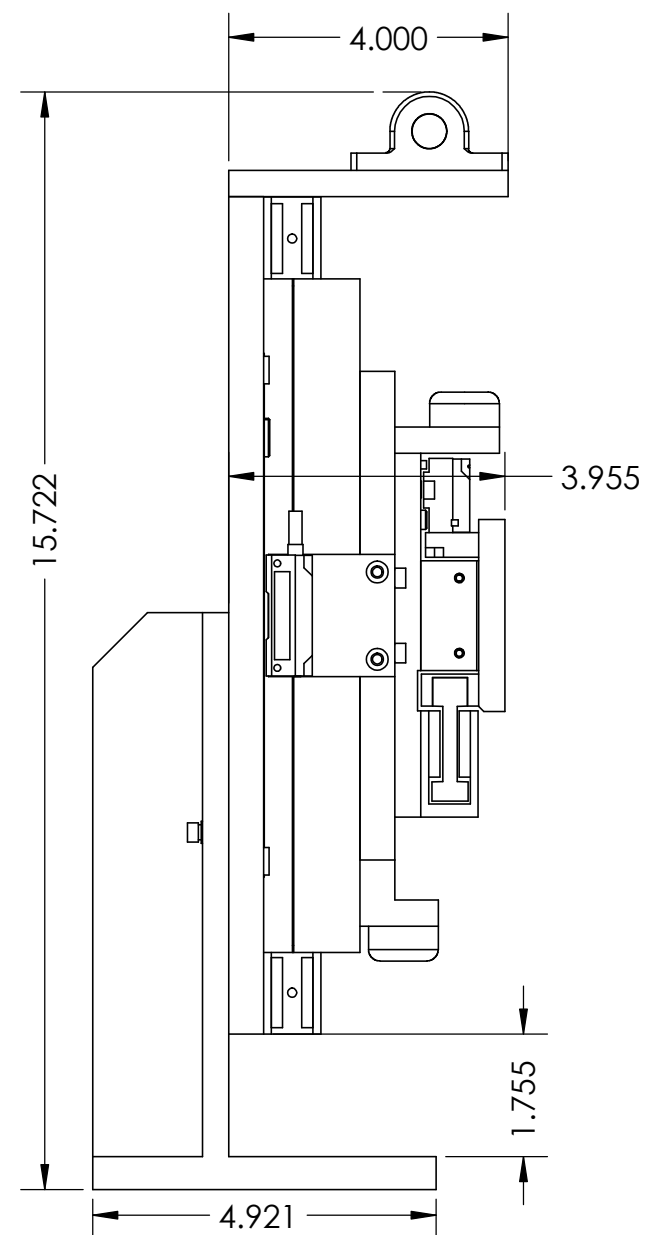
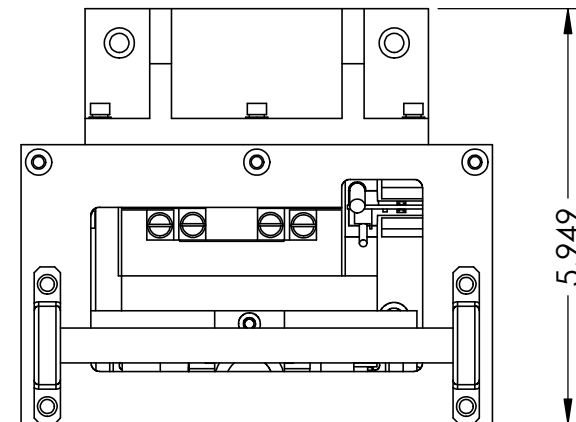
D

A

B

C

D



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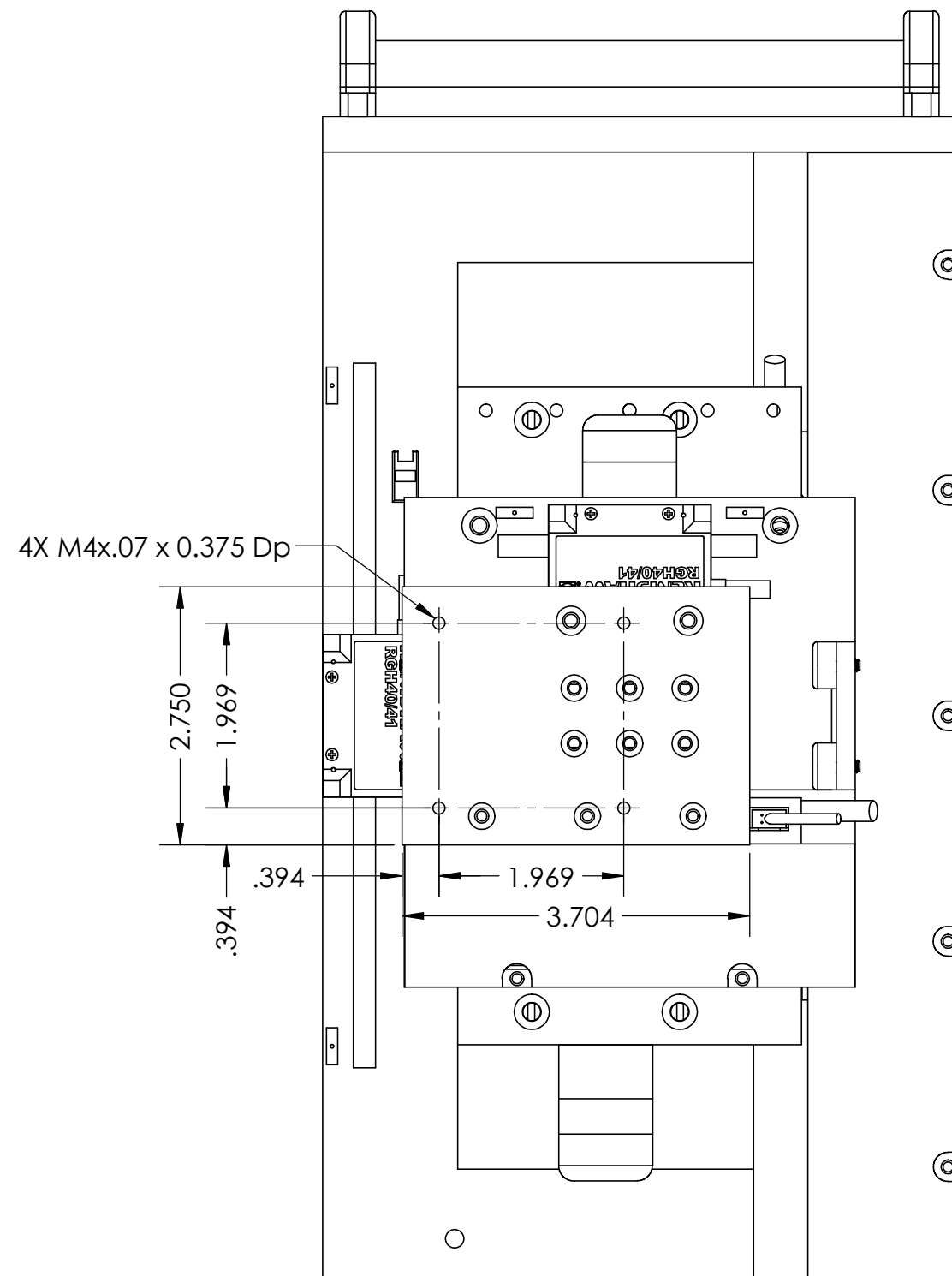
UNLESS SPECIFIED OTHERWISE:
All dimensions are in inches
Standard Tolerances are as follows
.XXX ±.005 ANGLES ±.1°
.XX ±.010 FILLETS .010
.X ±.020 CORNERS .010
Remove All Burrs and Sharp Edges

**RELEASED FOR
MANUFACTURING**
[Signature]
2-4-19

TITLE		DWG #	43-0049
ZX Crossed Roller Stage		REV	----
DATE	12-20-18	SHEET	1 of 4

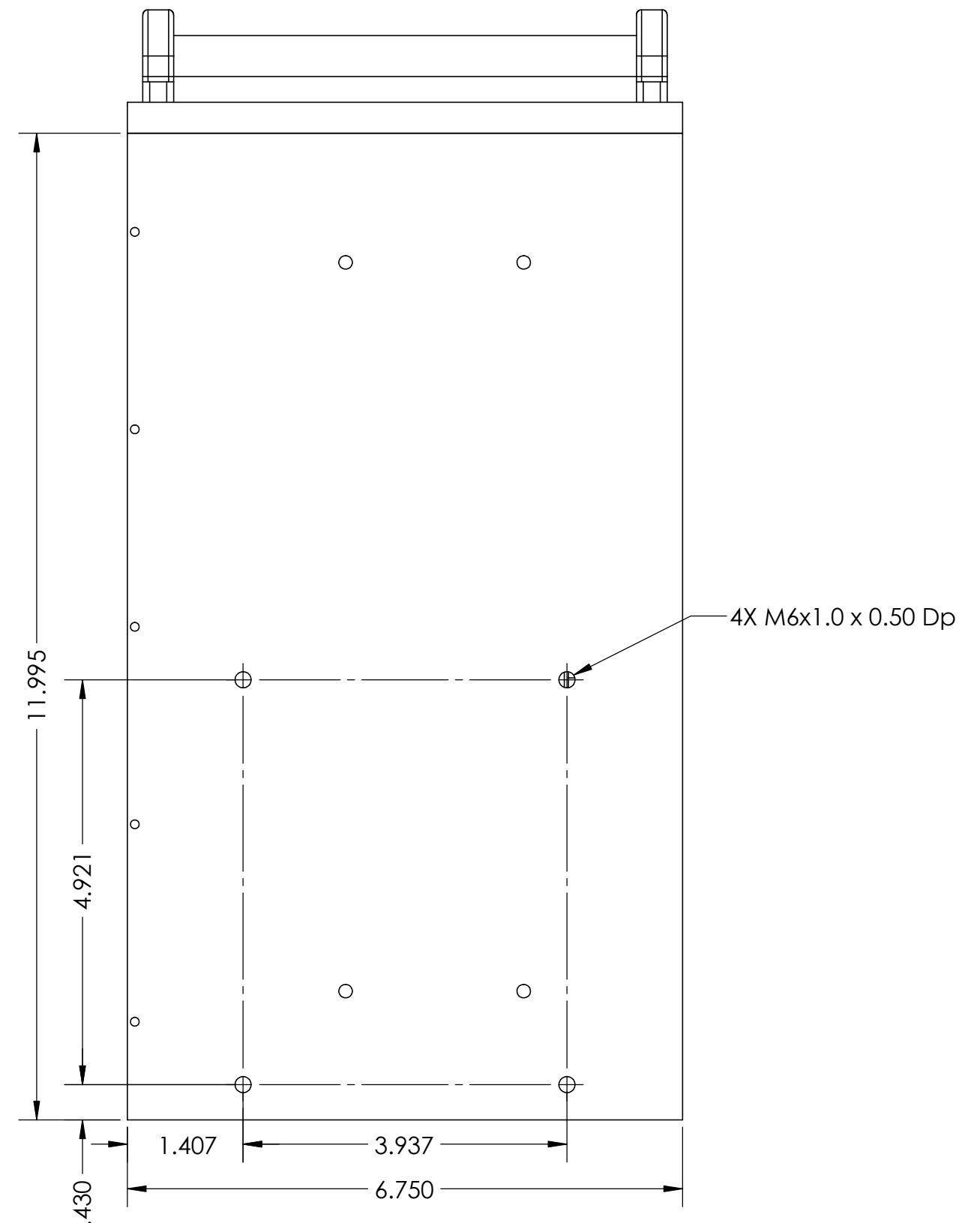
PAYLOAD MOUNTING PROVISIONS

X-Axis Moving Table Shown



STAGE MOUNTING PROVISIONS

Z-Axis Base Plate View Shown



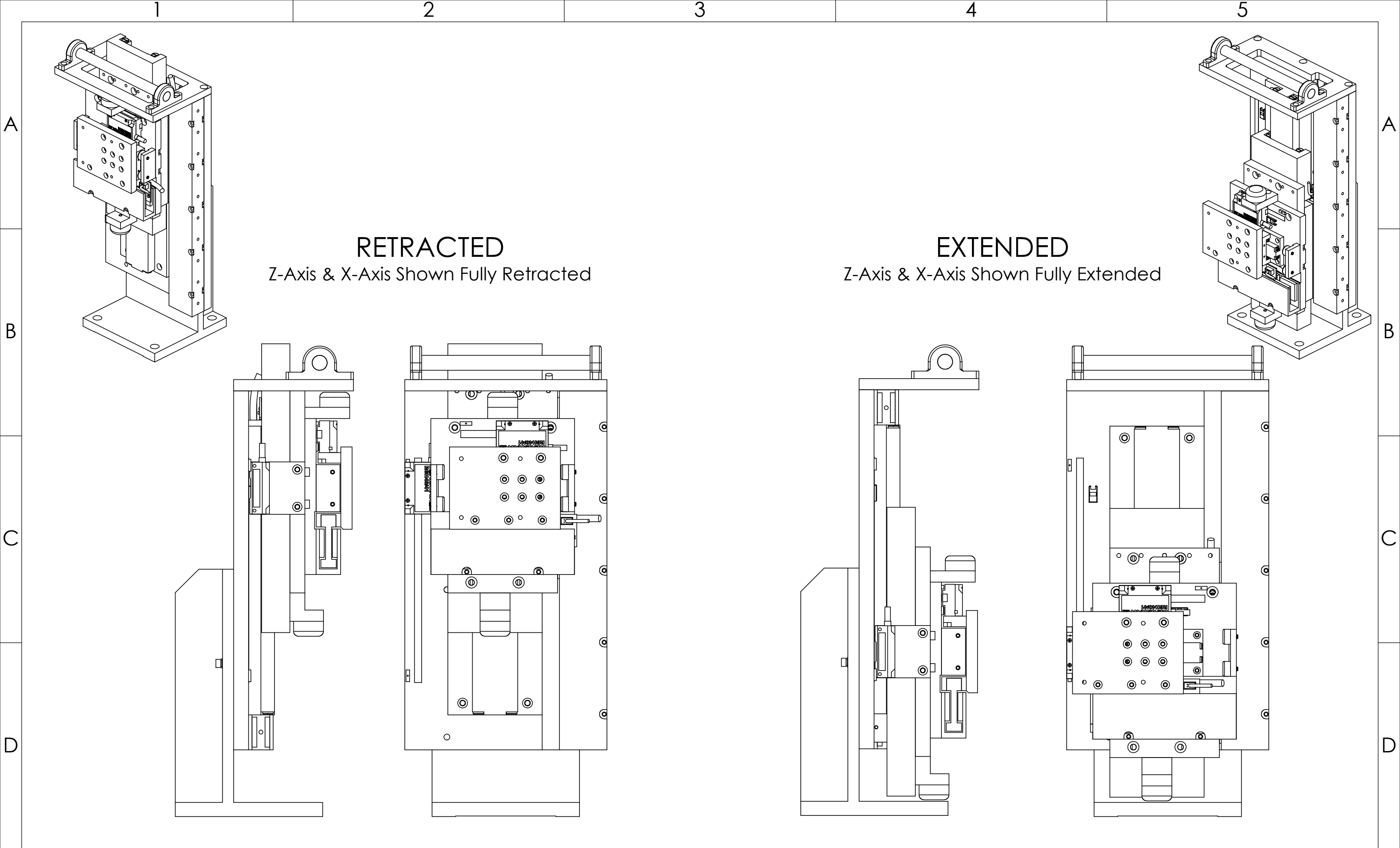
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TITLE		DWG #	43-0049
ZX Crossed Roller Stage		REV	----
DATE	12-20-18	SHEET	2 of 4



Vertical Z-Axis

Motor P/N	BLDM-B04	
Stroke	5.5 in	140 mm
Encoder Resolution	0.1 micron	
Bearing Type	Crossed Roller	
Moving Mass	4.10 lbs	1.86 kg
Total Mass	12.25 lbs	5.56 kg
Resistance @ 20C	6.4 ohms	
Inductance @ 20C	4.0 mH	
Electrical Time Constant	1 msec	
Motor Constant	1.2 LBS/SQRT(Watt)	5.20 N/SQRT(Watt)
Force Constant	3.0 LBS/Amp	13.2 N/Amp
Back EMF	0.34 V/ips	13.2 V/m/sec
Force @ 100% Duty	6.2 lbs	27.8 N
Power @ 100% Duty	39.3 watts	
Current @ 100% Duty	2.1 amps	
Force @ 10% Duty	18.7 lbs	83.3 N
Power @ 10% Duty	353.7 watts	
Current @ 10% Duty	6.3 amps	

Horizontal X-Axis

Motor P/N	BLDM-B02	
Stroke	1.18 in	30 mm
Encoder Resolution	50nm	
Bearing Type	Crossed Roller	
Moving Mass	0.90 lbs	0.41 Kg
Total Mass	4.25 lbs	1.93 Kg
Resistance @ 25C	3.2 ohms	
Inductance @ 25C	15.9 mH	
Electrical Time Constant	1.0 msec	
Motor Constant	0.84 LBS/SQRT(Watt)	3.7 N/SQRT(Watt)
Force Constant	1.48 LBS/A Peak	6.57 N/A Peak
Back EMF	0.17 V/ips	6.7 V/m/sec
Force @ 100% Duty	3.1 LBS	13.8 N
Power @ 100% Duty	19.6 Watts	
Current @ 100% Duty	2.1 Amps	
Force @ 10% Duty	9.4 LBS	41.8 N
Power @ 10% Duty	176 Watts	
Current @ 10% Duty	6.3 Amps	

NOTE:

- Moving and Total Mass are per individual stage axis.
- XZ Assembly total mass is 17.5 Lbs [7.94 Kg] (approx.)



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[Signature]
2-4-19

TITLE	ZX Crossed Roller Stage		DWG #	43-0049
REV	----		DATE	12-20-18
			SHEET	4 of 4