

wiley[®]

powered by Thomas Scientific

T3700.001

**SINGLE SPEED CUTTING MILL
(115V, SINGLE PHASE, 60 HZ)**

USE AND CARE OF CATALOG NUMBER: T3700.001 Mill (115V, 60 HZ)

Volts: 115Vac

Hz: 60Hz

Amps: 11A

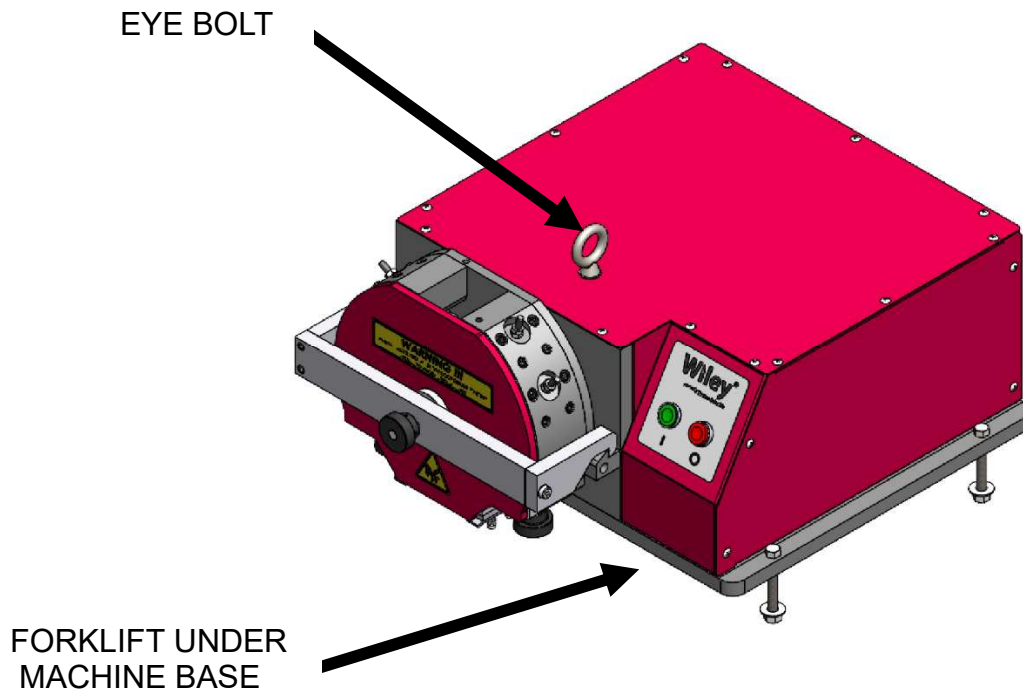
Speed: 935RPM \pm 5%

PRELIMINARY

The mill has been properly adjusted at the factory. However, clearance between stationary and rotating cutter head knives should be checked manually before power is turned on, to prevent damage caused if any of the stationary knives have shifted during shipment. Check for tip-to-tip clearance between all rotor blades and the six stationary knives by placing a piece of paper of average thickness (.002 to .003 in.) against each stationary knife in turn and turning the rotor shaft by hand counterclockwise so that all four rotor blades pass the stationary knives. Knives should touch the paper but not cut it. Greater clearance will interfere with the action of the mill.

Unpacking:

The T3700.001 is shipped upright within its packing crate. Cut banding and remove the wood screws holding the top and front panel, removing both. Remove internal packing and braces. With a forklift remove the mill from the crate.



****Save packing material in the event the mill must be returned. ****

!!!DANGER!!!



NEVER REACH INSIDE CHAMBER OR HOPPER WHEN POWER IS ON.

NEVER LEAVE PLUNGER OR ANY LARGE OR HARD OBJECT INSIDE THE CHAMBER WHILE THE DOOR IS CLOSED AND POWER IS CONNECTED.

ALWAYS USE APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT (PPE).

FAILURE TO COMPLY WITH WARNING NOTICES COULD RESULT IN DEATH OR SERIOUS INJURY AND EQUIPMENT/PROPERTY DAMAGE AND VOID THE WARRANTY.

!!!DANGER!!!

Installation:

The mill may be rolled on the four castors. Due to the high center of gravity be extremely careful when rolling the mill over uneven, cracked, or pitted surfaces. Roll the mill backwards firmly holding onto the front chamber.

Locate the mill near a suitable electrical outlet. **DO NOT USE AN EXTENSION CORD OR MULTIPLE OUTLET STRIP. DO NOT PLUG INTO A GFI OUTLET.** The mill should be plugged into an outlet with no other appliances on the circuit.

Assembly:

Open the mill chamber by turning the chamber hand wheel counterclockwise. Lift the right arm of the support bracket away from the latch.

Assemble the hopper onto the top of the head. Seat the hopper cover.

To install a sieve, loosen the receiver assembly by turning the two sieve release hand wheels at the bottom of the mill until the alignment pins disengage.

Latch door and tighten chamber hand wheel. Attach power cord to rear of mill and plug into proper electrical socket.

FIRST TIME SETUP:

WHEN A MILL HAS NOT BEEN USED FOR 1 YEAR OR LONGER TURN ON POWER SWITCH AND LET MILL SIT FOR 2 HOURS PRIOR TO USE, THIS WILL REFORM THE DRIVE CAPACITORS.

Original Instructions

Operation:

1. Ensure the cutting chamber is free and clear of all debris.
2. Ensure blades are set properly.
 - a. If blades need to be reset, see “cleaning/ replacement” instructions.
3. Close cutting chamber.
4. If this is the first time running, see first time setup instructions.
5. Plug in mill to proper supply outlet.
6. Press the green button to start the mill.
 - a. Allow the mill to get up to speed.
7. Open slide to allow material to fall into cutting chamber.
8. Put material through the hopper.
 - a. Too much material will stall the mill.
9. Continue to feed material into hopper until all material is processed.
10. Close hopper slide.
11. Press the red button to stop the mill.
12. Open cutting chamber and clean out once mill has fully stopped.

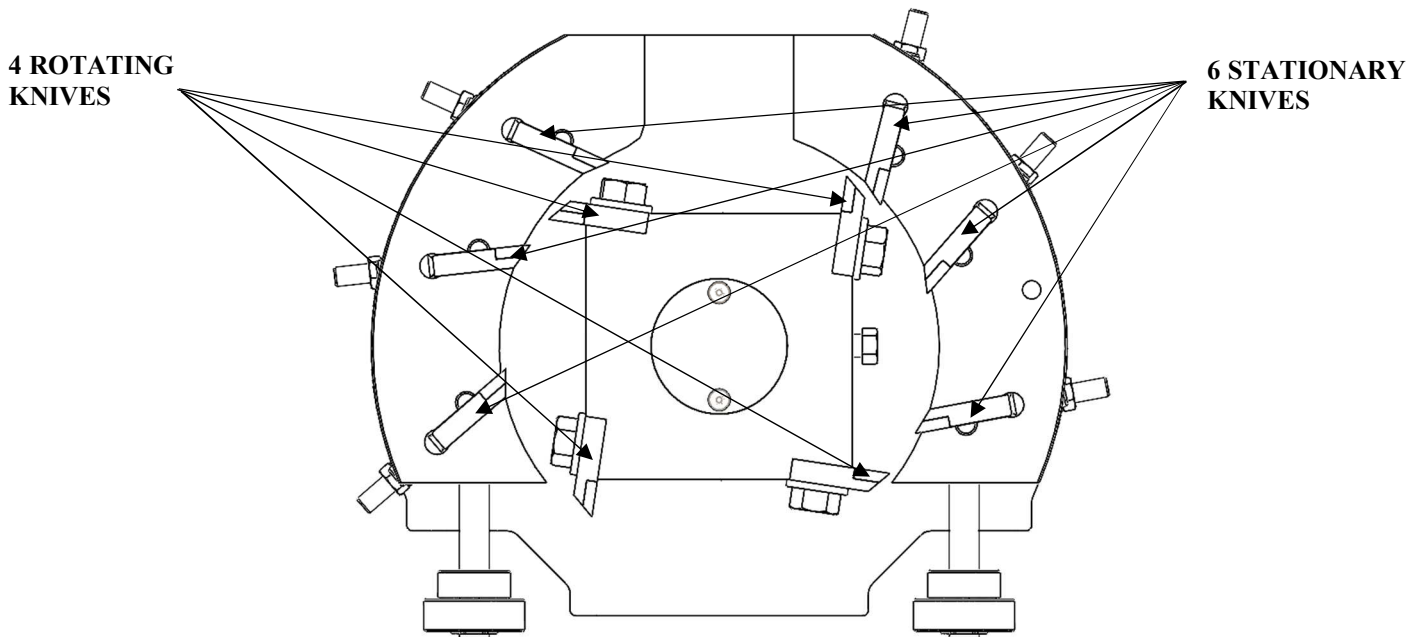
CLEANING / REPLACEMENT OF KNIVES

CAUTION: Make certain all electric power to the mill is shut off before replacing any blades. Unplug mill from outlet as added safety precaution.

CAUTION: When replacing or handling rotating blades use proper personal protective equipment.

1. Remove hopper from the top of the mill and open chamber door.
2. Loosen the hex head cap screw clamping the rotating cutter head to the shaft. Carefully remove the rotating cutter head and set on workbench. NOTE: There might be a spacer washer in the rotating cutter head cavity that must be kept in reassembly.
3. Using the wrench provided, remove the two cap screws, and lift a knife from rotating cutter head.
4. Clean the knife seat, making certain that all burrs, chips, and dirt have been removed.
5. Mount one of the replacement knives in the seat. Make certain that the knife is positioned as far to the rear of its seat as possible, and that the ends of the knife do not project beyond the front and rear faces of the rotating cutter head. Insert and tighten the two cap screws.
6. Repeat steps 2, 3, 4 and 5 for the remaining knives.

NOTE: **Rotating knives** must be replaced as a set.



7. There are two pairs of setscrews associated with each stationary knife. The pair which are in line with the threaded stud attached to the knife function as a back stop and allow minute up and down adjustments to be made on either side of the knife. The other pair of setscrews, found clockwise from the threaded stud, bear on the clamping bar, holding the clamping bar and thereby the knife itself firmly in position.

8. Loosen the pair of setscrews holding the clamping bar on the first stationary knife that is to be replaced. (If replacing the complete set of stationary knives, it may be convenient to start with the knife in the upper right.)

9. Hold or support knife and remove the two nuts from the threaded stud. Carefully remove the knife. Remove clamping bar from its slot.

10. If other knives are being replaced, remove the remaining knives, continuing clockwise.

11. Unpack replacement knives. Replace the knife-clamping bar. Insert threaded stud into its hole and seat knife in slot. (See illustration for correct position of knife bevel.) Replace the two nuts and draw the knife up so that there is ample clearance between it and the rotating cutter head knives. Repeat this operation for all knives being replaced and draw up any remaining knives.

12. Loosen nuts of the first stationary knife to be adjusted. Insert a piece of paper of the necessary thickness between the knife and any of the rotating cutter head knives and adjust the clearance by raising or lowering the stationary knife until it pinches the paper but does not sever it.

13. Slightly tighten the two setscrews holding the clamping bar on the knife. (May require further adjustment later.)

14. Turn rotating cutter head to make certain that all rotating cutter head knives clear the installed stationary knife. If one rotating cutter head knife projects beyond the others, adjust clearance of stationary knife with respect to this rotating cutter head knife. Find this rotating cutter head knife and make all stationary knife adjustments to it.

15. Repeat steps 12 and 13 above for the remaining stationary knives. Recheck all clearance and all associated nuts and set screws.

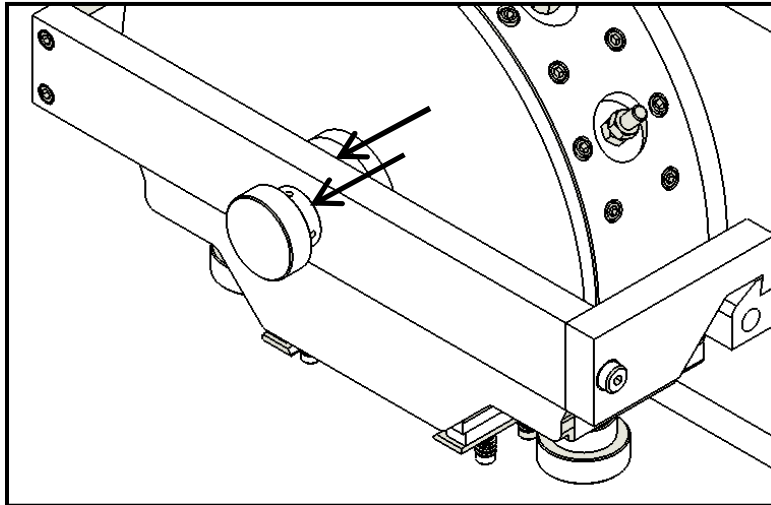
NOTE: Do not over-tighten to the point where threads may be stripped.

If you have any doubts or inquiries concerning operation, contact Thomas Scientific technical service.

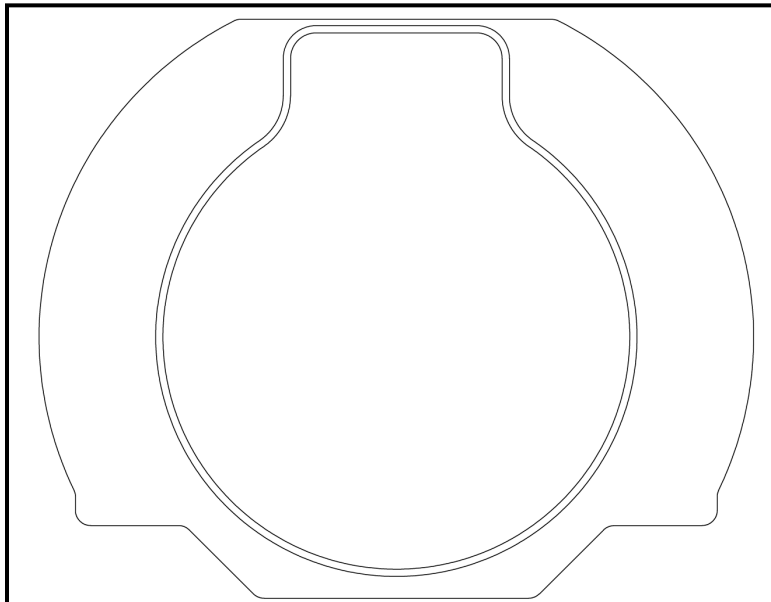
CAUTION:

DO NOT OPEN THE CHAMBER DOOR WHILE THE MACHINE IS RUNNING. SERIOUS INJURY MAY RESULT IF THESE INSTRUCTIONS ARE NOT FOLLOWED.

Maintenance



The door screw could become difficult to tighten over time. If so apply MOLYKOTE 1000 on the threads.



If the seal were to be damaged replace it with a suitable type. Standard seal (Viton) used on T3700.001 is stock #5457.7

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REPLACEMENT PARTS FOR MILL

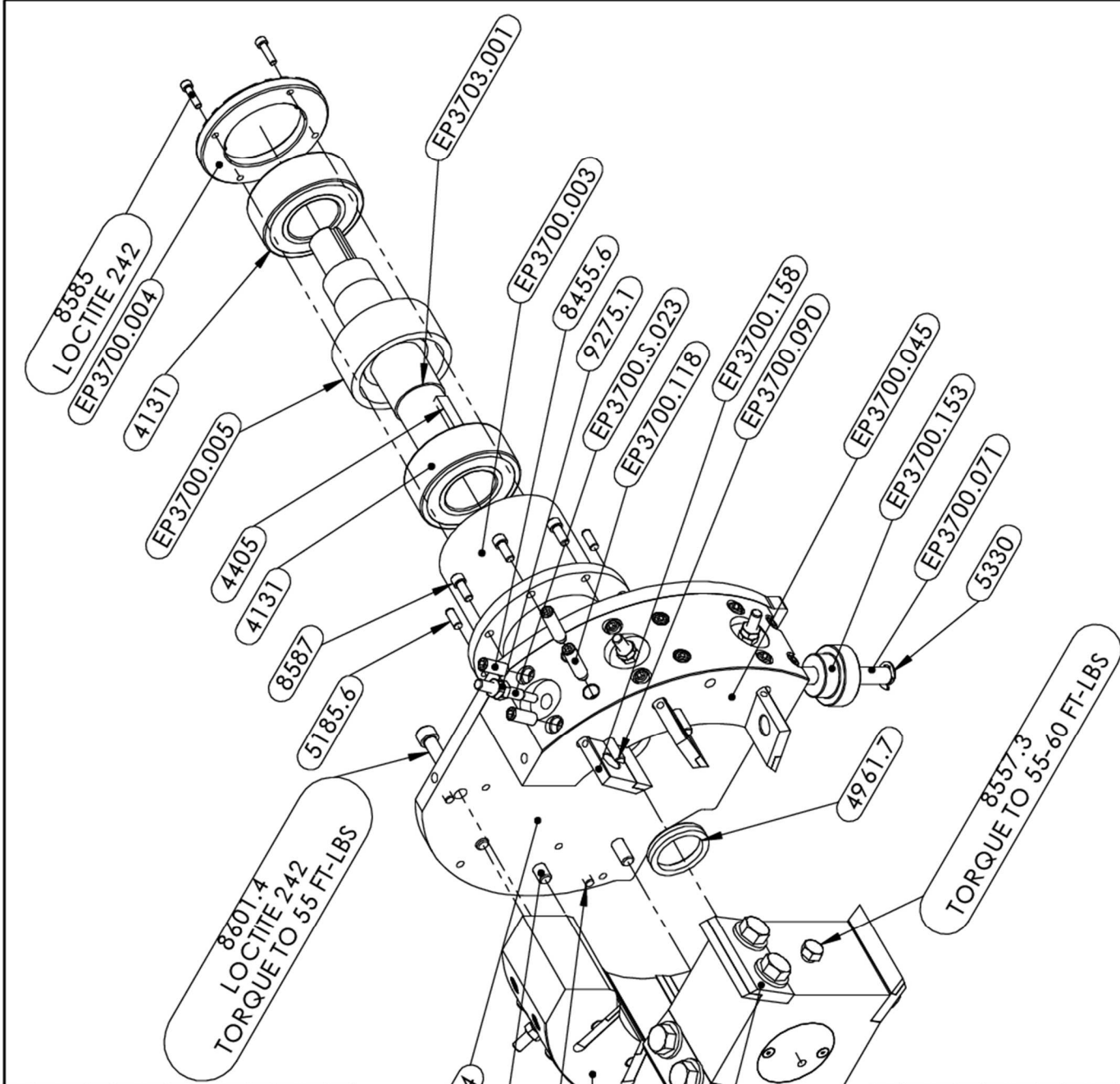
Part No	DESCRIPTION	QTY.
4314	B28 BELT	1
4400.9	1/4" X 1-1/4" SS KEY	1
4409.3	1" BUSHING	1
4426	PULLEY, BK36	1
4427	7" CAST IRON PULLEY, BK72H	1
5175	5/32 X 3/4 S/S SPRING PIN	2
5552	EYE HOOK, STEEL 1/2"-13	1
6063	CABLE TIE, LOW PROFILE MOUNT	4
6063.2	ZIP TIE	8
6101.2	WILEY CONTROL PANEL OVERLAY	1
6209	CABLE CLAMP, 3/8"	1
6272.5	AC INLET C20	1
6529.6	GREEN PUSHBUTTON SWITCH	1
6530.1	RED PUSHBUTTON SWITCH	1
6751.4	TERMINAL BLOCK COVER	1
6751.5	TERMINAL BLOCK ANCHOR	2
6751.6	GROUND TERMINAL BLOCK, UT2.5-3PE	1
6761.2	CIRCUIT BREAKER 20A 2 POLE	1
6762.4	CONTACTOR, 115V 2HP	1
7164.5	MOTOR, 1.5HP 50/60HZ	1
7516	#4-40 X 3/8" SS FLAT HEAD MACHINE SCREW	2
7661	#8-32 X 1/4" S/S ROUND HD. MACHINE SCREW	2
8005	#8-32 X 1/2" FLAT HD. MACHINE SCREW	4
8247	#10-32 X 1/2" S/S FLAT HD. SCREW	2
8277.11	#10-32 X 1/4" S/S TRUST HD. SCREW	41
8285	#8-32 X 1/4" S/S TRUST HD. SCREW	2
8529.3	5/16"-18 X 5/8" HEX HEAD SCREW	4
8554	3/8"-16 X 1" HEX HEAD SCREW	4
8569.5	7/16"-14 X 3-1/2" S/S HEX HEAD SCREW	4
8580	#6-32 X 3/4" SOCKET HD. SCREW	2
8582.6	#8-32 X 7/8" SOCKET HD. SCREW	1
8588.3	1/4"-20 X 1-1/4" SOCKET HD. SCREW	10
8598.6	5/16"-18 X 1-1/4" SOCKET HD. SCREW	1
8598.7	5/16"-18 X 1-1/2" SOCKET HD. SCREW	1
8601.8	1/2"-13 X 1" SOCKET HD. SCREW	1
9225	#6-32 S/S MACHINE SCREW NUT	2
9235	#8-32 S/S MACHINE SCREW NUT	1
9285.5	7/16"-14 S/S HEX NUT	4
9435	#12 SAE WASHER	8
9437	1/4 WASHER ZINC PLATED	4
9474	#6 S/S SAE WASHER	2
9483.5	3/8" S/S SAE WASHER	4
9504.5	7/16" S/S WASHER	4
9527.5	7/16" SS SPLIT LOCK WASHER	4
9531	1/4" SPLIT LOCK WASHER	2
9635	FIBER WASHER, 41/64 X 1.0 X 1/32	1
EP3300.026	LIMIT SWITCH BRACKET	1
EP3500.025	STATIONARY OUTSIDE HINGE PAD	1
EP3700.018	LOCKING PAD	1

EP3700.019	HOOKING POST	1
EP3700.020	HOOKING CROSS POST	1
EP3700.126	MOUNTING TRACK	1
EP3700.25.054	MOTOR BRACKET	1
EP3700.503A	HEAD ASSEMBLY	1
EP3700.517A	SAFETY SWITCH PLUNGER ASSEMBLY	1
EP3700.520A	DELIVERY CHUTE SUBASSEMBLY	1
EP3700.521A	BASE ASSEMBLY	1
TP3700.001.051	TOP COVER	1
TP3700.001.057	SIDE CONTROL CLEAT	1
TP3700.001.058	LEFT SIDE PANEL	1
TP3700.001.059	RIGHT SIDE PANEL	1
TP3700.001.507A	CONTROL PANEL ASSEMBLY	1
TP3700.001.509A	REAR PANEL ASSEMBLY	1
TP3700.001.526A	FRONT CLOSURE PLATE AND HINGE ASSEMBLY	1
TP3700.001.650A	WIRE HARNESS	1

REPLACEMENT PARTS FOR ACCESSORIES

Part No	DESCRIPTION	QTY.
5635	1/2" COMBINATION BOX OPEN END WRENCH	2
5635.5	9/16" COMBINATION BOX WRENCH	1
5636	3/4" COMBINATION BOX OPEN END WRENCH	1
5647	3/16 ALLEN HEX KEY	1
5652	SOCKET KEY, SHORT 1/4"	1
5706	LARGE BRUSH	1
5709	STRAIGHT SCRAPER	1
5818	MASON JAR, 16OZ	3
5818.5	MASON JAR LID	3
6649.1	POWER CORD 5-20 TO C19, 8FT	1
E3700.A.HP.S	HOPPER ASSEMBLY	1
E3700.A.S05	0.5MM SIEVE	1
E3700.A.S1	1MM SIEVE	1
E3700.A.S2	2MM SIEVE	1
T3700.001.001	MASON JAR HOLDER	1

PartNo	DESCRIPTION	QTY.	UoM
4131	BEARING	2	EA
4405	3/8" X 1-1/4" KEY	1	EA
4961.7	OIL SEAL BEARING	1	EA
5185.6	1/4" X 5/8" STEEL DOWELPIN	2	EA
5185.7	1/4" X 3/4" STEEL DOWEL PIN	4	EA
5330	E-STYLE EXTERNAL RETAINING RING	2	EA
8455.6	3/8"-16 X 1" SET SCREW	12	EA
8557.3	3/8"-16 X 1.625" 316 S/S HEX HEAD SCREW	1	EA
8585	#10-32 X 3/4" SOCKET HD. STEEL SCREW	4	EA
8587	1/4"-20 X 5/8" SOCKET HD. SCREW	6	EA
8601.4	3/8"-16 X 1-1/4" SOCKET HD. SCREW	8	EA
9275.1	5/16"-18 GRADE 5 HEX NUT	12	EA



PartNo	DESCRIPTION	QTY.	UoM
EP3700.003	BEARING CARTRIDGE	1	EA
EP3700.004	REAR BEARING CAP	1	EA
EP3700.005	SPACER BEARING	1	EA
EP3700.034	CHAMBER BACK	1	EA
EP3700.045	STATIONARY CUTTER HD RIGHT SIDE	1	EA
EP3700.046	STATIONARY CUTTER HD LEFT SIDE	1	EA
EP3700.071	DELIVERY TUBE CLAMPING STUD	2	EA
EP3700.090	CAM LOCK	6	EA
EP3700.118	CAM LOCK SCREW	12	EA
EP3700.153	DELIVERY CHUTE KNOB	2	EA
EP3700.158	UNIVERSAL KNIFE BLADE	6	EA
EP3700.S.023	KNIFE ADJUSTING STUD	6	EA
EP3703.001	MAIN SPINDLE SHAFT	1	EA
EP3703.502A	ROTATING CUTTER ASSEMBLY	1	EA

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HEAD ASSEMBLY

PART NO. EP3700.503A

DATE 12-14-17

DPT. ENG.

APP. 1-4

SCALE A

REV B-01

STOCK NO. EP3700.503A

DRAWING LEVEL

MATERIAL

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

FRACTION 11/64

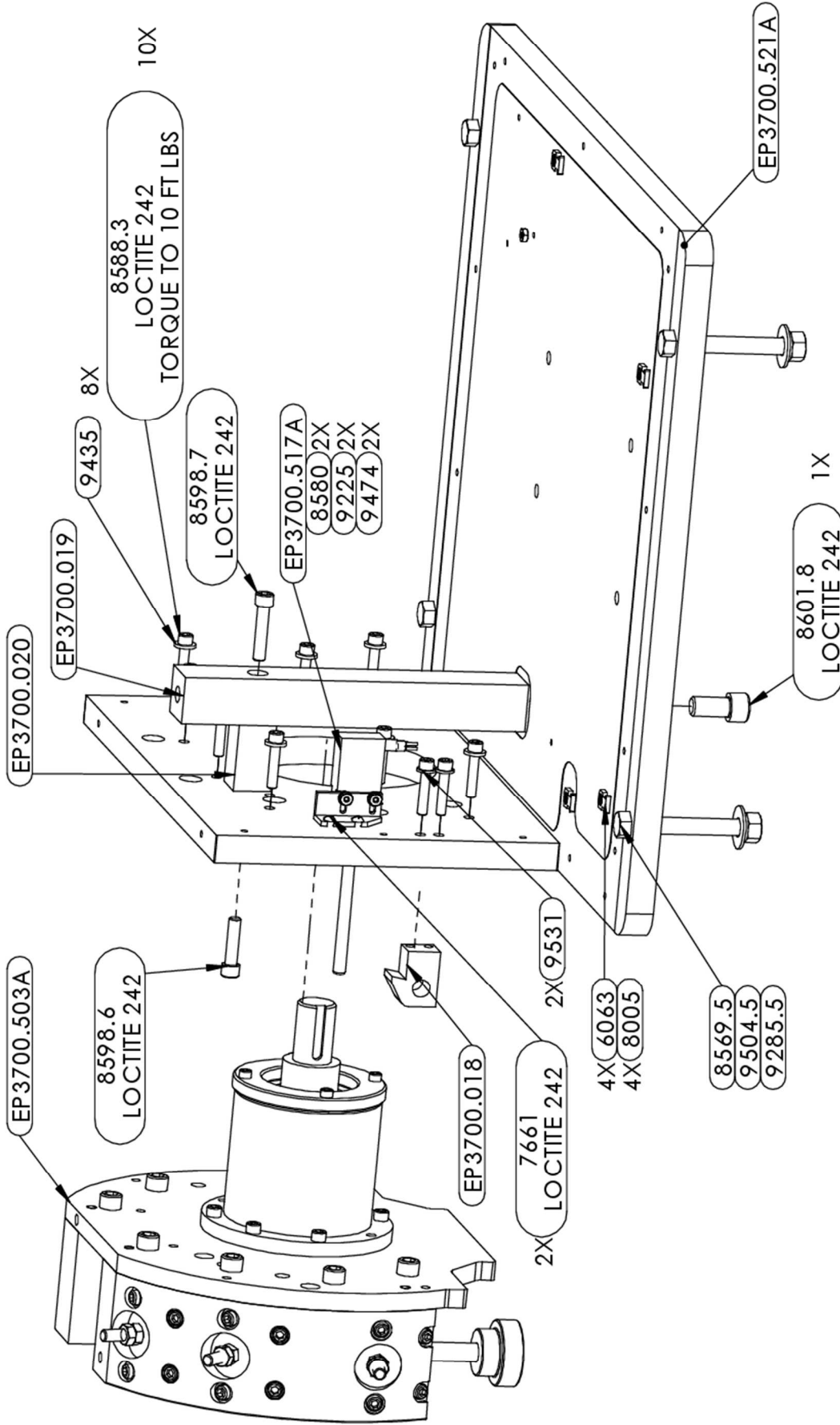
DECIMAL .001

ANGLE 1.0°

3RD ANGLE PROJ.

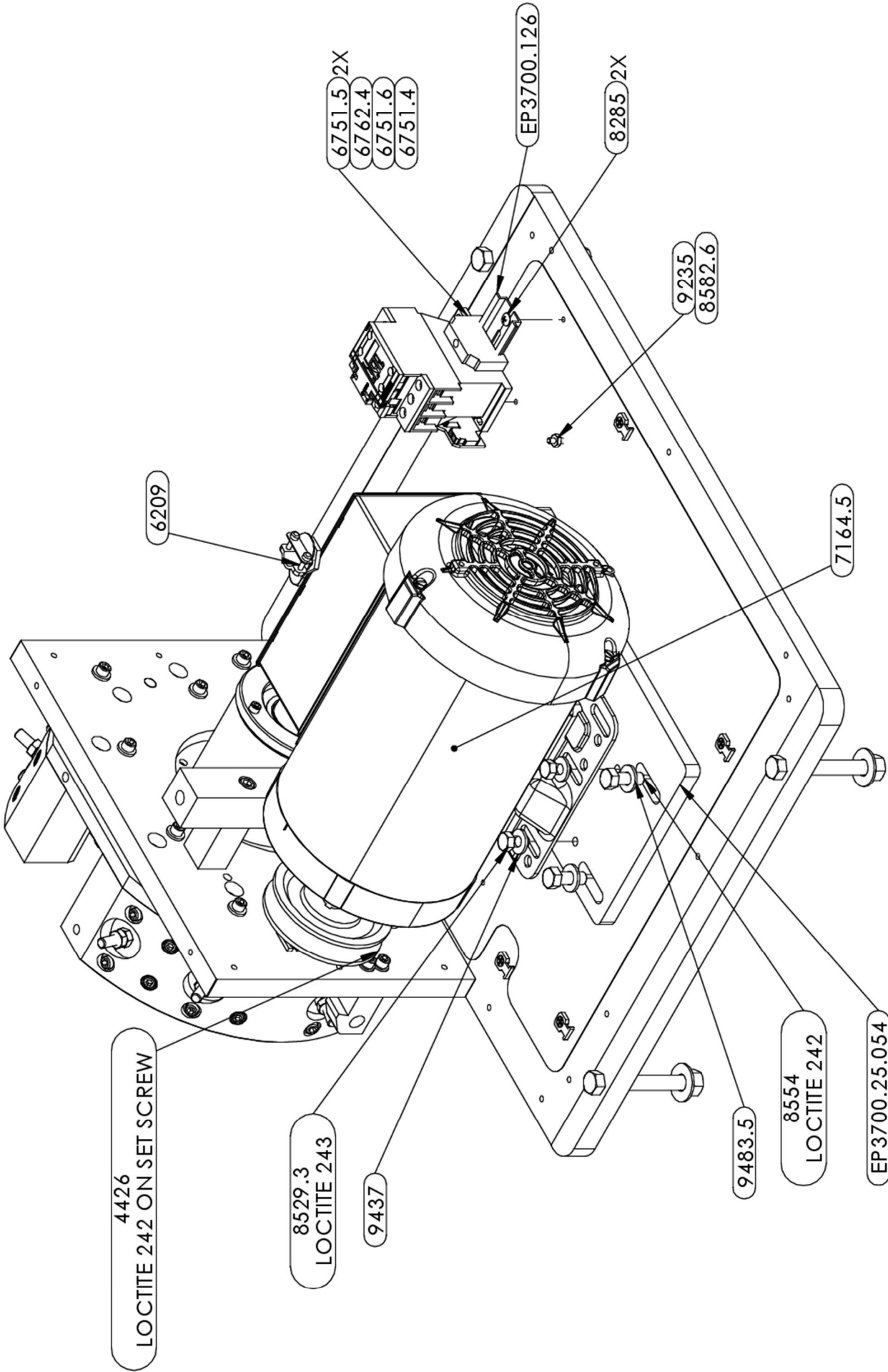
PART NAME

WEIGHT 80.51 LB



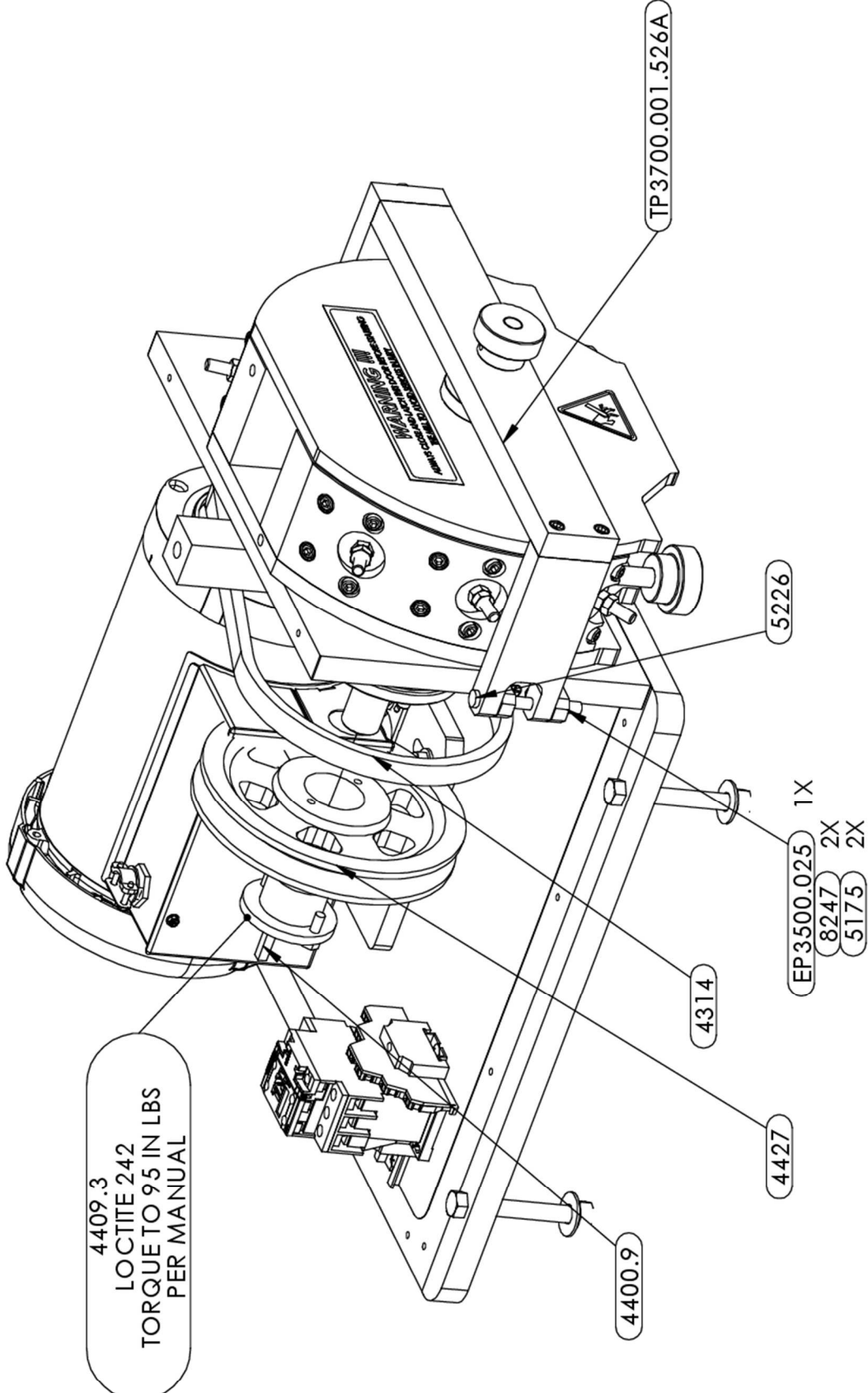
THOMAS SCIENTIFIC

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		MATERIAL		STOCK NO.	
FRACTION	DECIMAL	PART NO.		T 3700.001	
11/64	.171875	8" MILL		DATE	
1/8	.125	197.5 LB WEIGHT		06-24-19	
3/16	.1875	1:16 SCALE		DEPT. ENG.	
1/4	.25	1:16 SCALE		AB	
5/16	.3125	1:16 SCALE		APP. AB	
3/8	.375	1:16 SCALE		DRAWING STATUS	
7/16	.4375	1:16 SCALE		- DEVELOPMENT	
1/2	.5	1:16 SCALE		REV	
5/8	.625	1:16 SCALE		A-00	
3/4	.75	1:16 SCALE			
7/8	.875	1:16 SCALE			
1	1.0	1:16 SCALE			



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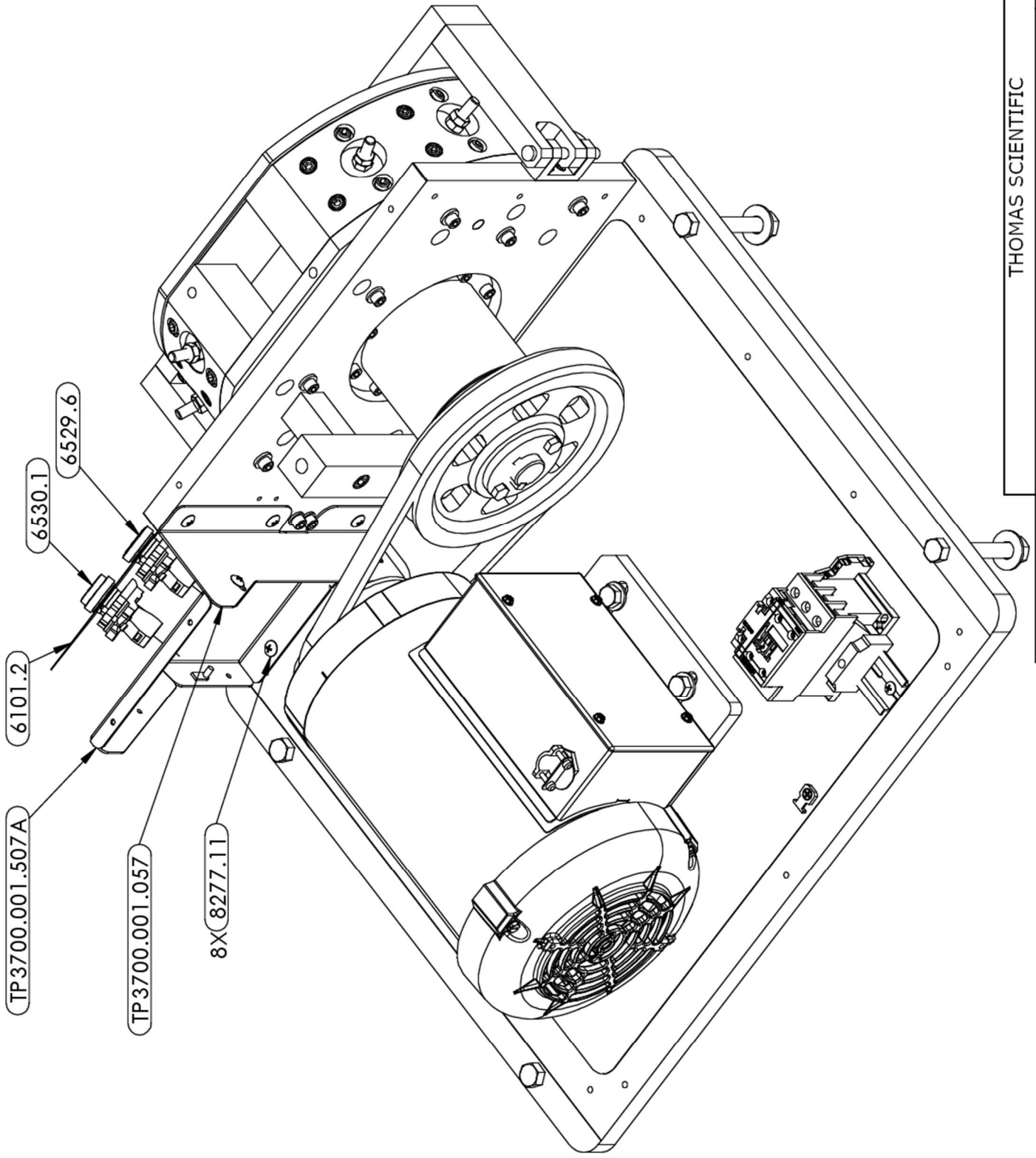
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FRACTION	DECIMAL	PART NO.	T 3700.001
11/64	X : 1	DEPT.	DEVELOPMENT
ANGLE	.XX : 01	APPR.	AB
2" : 1"	.XXX : .005	DATE	06-24-19
3RD ANGLE PROJ		WEIGHT	224.3 LB
		SCALE	A
		REV	A-00



4409.3
 LOCTITE 242
 TORQUE TO 95 IN LBS
 PER MANUAL

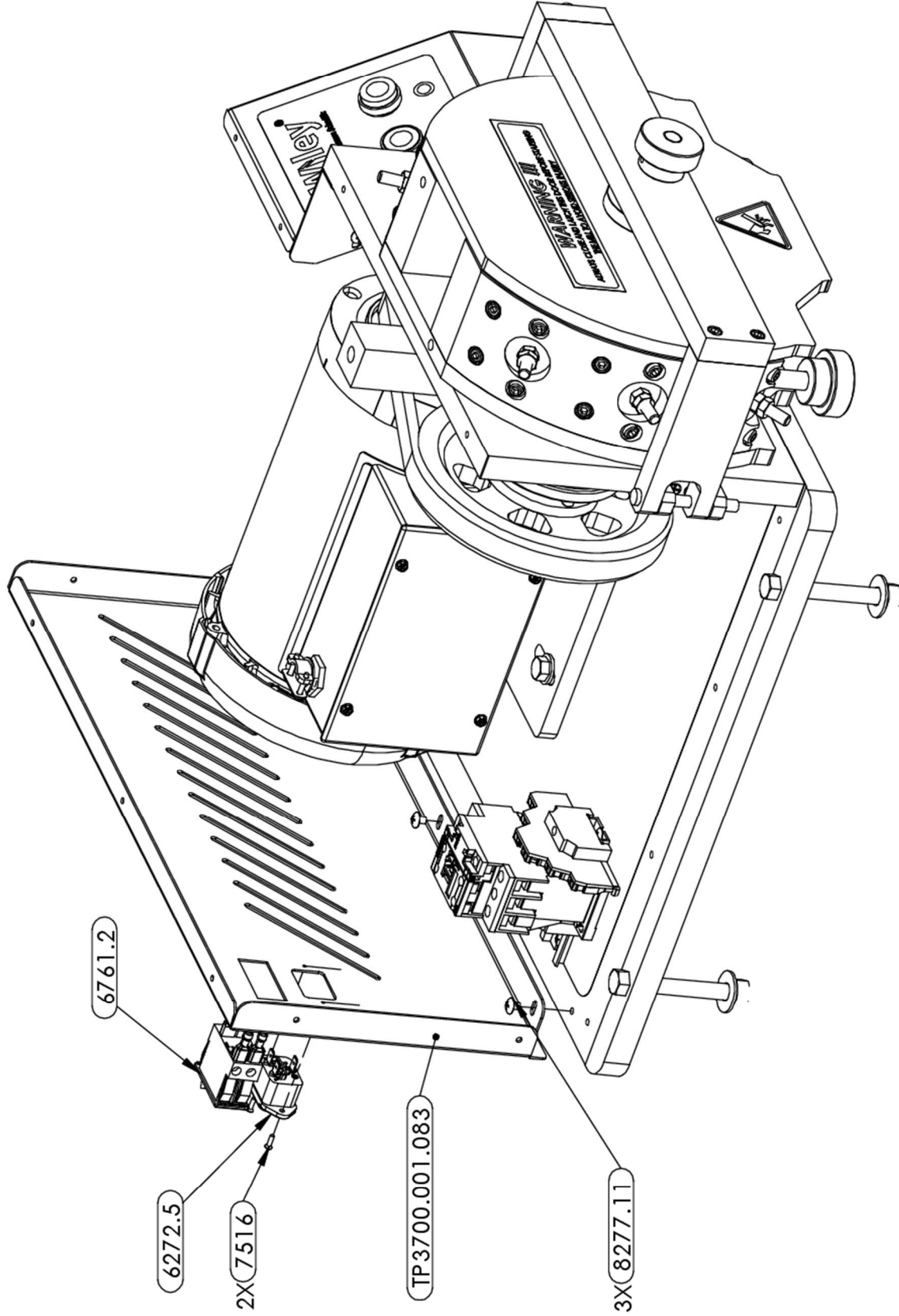
THOMAS SCIENTIFIC

DIMENSIONS ARE IN UNITS AS SHOWN UNLESS OTHERWISE SPECIFIED		STOCK NO.	
FRACTION	DECIMAL	8" MILL	
1/16	.0625	PART NO.	T3700.001
1/8	.125	DATE	244.01B
3/16	.1875	DEPT.	DEVELOPMENT
1/4	.25	APPR.	AB
5/16	.3125	ENG.	REV. A
3/8	.375	SCALE	1:12
7/16	.4375	WEIGHT	244.01B
1/2	.5	DRAWING	REV. A
5/8	.625	STATUS	-
3/4	.75	REV.	A-00
7/8	.875		
1	1.0		



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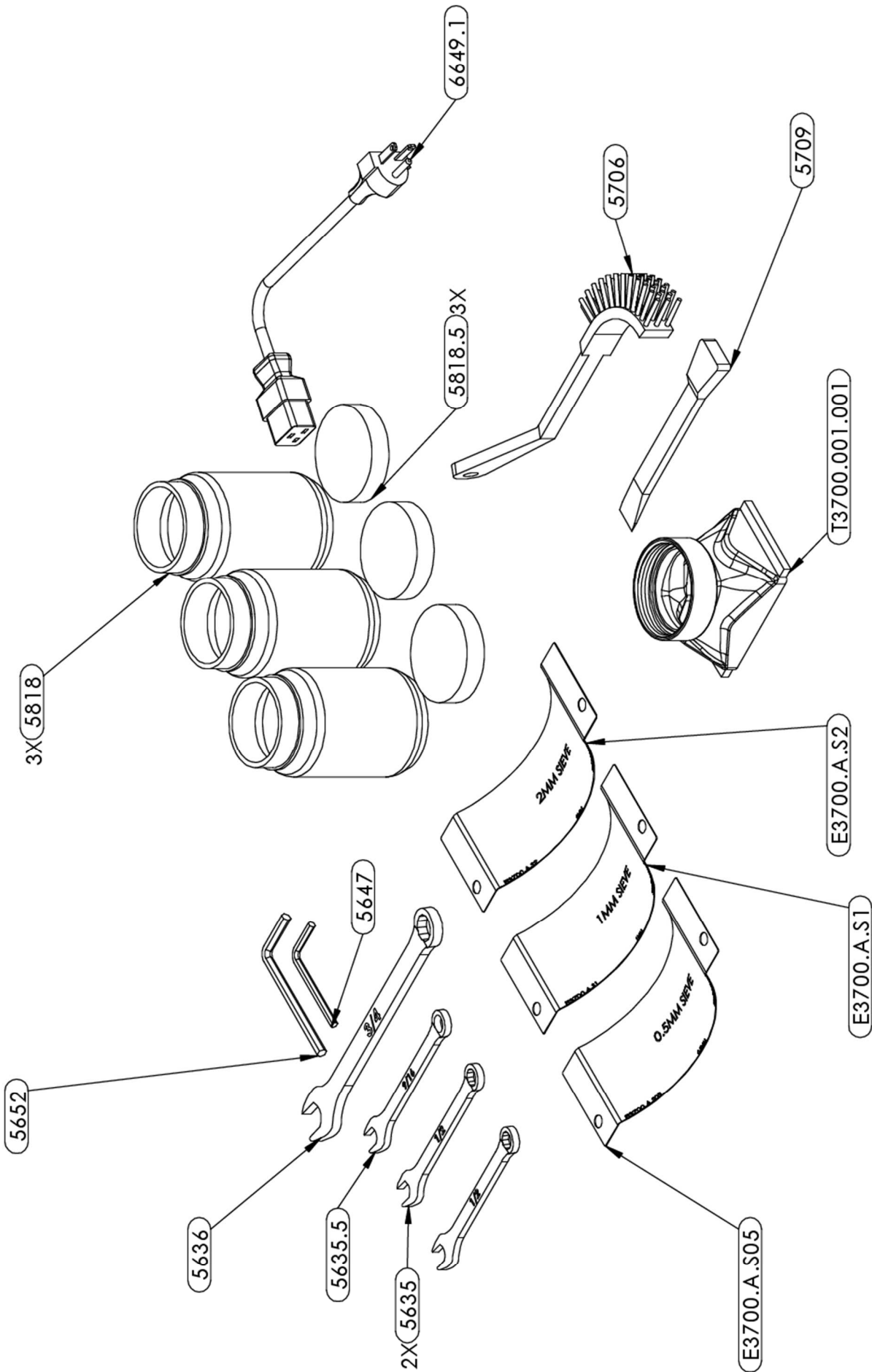
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FRACTION	DECIMAL	PART NO.	T 3700.001
1/16	.0625	DATE	246.11B
1/8	.125	DEPT.	DEVELOPMENT
1/4	.25	APP.	AB
3/8	.375	ENG.	AB
1/2	.5	SCALE	A
5/8	.625	DRAWING	REV
3/4	.75	REV	A-00
7/8	.875		
1	1.0		
1 1/8	1.125		
1 1/4	1.25		
1 3/8	1.375		
1 1/2	1.5		
1 5/8	1.625		
1 3/4	1.75		
1 7/8	1.875		
2	2.0		
2 1/8	2.125		
2 1/4	2.25		
2 3/8	2.375		
2 1/2	2.5		
2 5/8	2.625		
2 3/4	2.75		
2 7/8	2.875		
3	3.0		
3 1/8	3.125		
3 1/4	3.25		
3 3/8	3.375		
3 1/2	3.5		
3 5/8	3.625		
3 3/4	3.75		
3 7/8	3.875		
4	4.0		
4 1/8	4.125		
4 1/4	4.25		
4 3/8	4.375		
4 1/2	4.5		
4 5/8	4.625		
4 3/4	4.75		
4 7/8	4.875		
5	5.0		
5 1/8	5.125		
5 1/4	5.25		
5 3/8	5.375		
5 1/2	5.5		
5 5/8	5.625		
5 3/4	5.75		
5 7/8	5.875		
6	6.0		
6 1/8	6.125		
6 1/4	6.25		
6 3/8	6.375		
6 1/2	6.5		
6 5/8	6.625		
6 3/4	6.75		
6 7/8	6.875		
7	7.0		
7 1/8	7.125		
7 1/4	7.25		
7 3/8	7.375		
7 1/2	7.5		
7 5/8	7.625		
7 3/4	7.75		
7 7/8	7.875		
8	8.0		
8 1/8	8.125		
8 1/4	8.25		
8 3/8	8.375		
8 1/2	8.5		
8 5/8	8.625		
8 3/4	8.75		
8 7/8	8.875		
9	9.0		
9 1/8	9.125		
9 1/4	9.25		
9 3/8	9.375		
9 1/2	9.5		
9 5/8	9.625		
9 3/4	9.75		
9 7/8	9.875		
10	10.0		



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DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED UNLESS OTHERWISE SPECIFIED		STOCK NO.	
FRACTION	DECIMAL	8" MILL	
1/16	.0625	PART NO.	T3700.001
1/8	.125	DATE	249.91B
3/16	.1875	DEPT.	AB
1/4	.25	APP.	AB
5/16	.3125	ENG.	ENG.
3/8	.375	SCALE	A
7/16	.4375	WEIGHT	249.91B
1/2	.5	DRAWING	DEVELOPMENT
5/8	.625	REV.	A-00
3/4	.75		
7/8	.875		
1	1.0		

3RD ANGLE PROJ	
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DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED		STOCK NO.	
FRACTION	DECIMAL	PART NO.	T3700.001
11/64	.171875	DATE	12-5-19
ANGLE	°	DEPT.	ENG.
1/8	15.0	AB	AB
3RD ANGLE PROJ		SCALE	A
MATERIAL		WEIGHT	12.5 LB
PART NAME		DEVELOPMENT	MIT
1:12		REV	A-00
06-24-19			

