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E3700.00 SINGLE SPEED CUTTING MILL (115 V, 50/60 HZ)

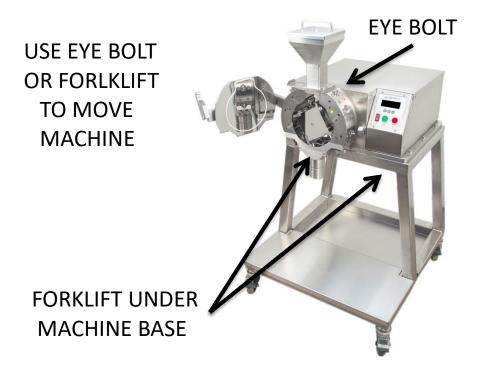
USE AND CARE OF CATALOG NUMBER: E3700.00 Mill (115 V, 50/60 HZ)

<u>PRELIMINARY</u>

Mill has been properly adjusted at the factory. However, clearance between stationary and rotor knives should be checked manually before power is turned on, to prevent possible 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 one or two pieces of paper of average thickness (.002 to .005 in) against each stationary knife. Turn 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. Blade clearance will depend on process and materials.

Unpacking:

The E3700.00 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. Unlock the four wheels-the mill can now be rolled to its desired location.



****Stainless steel E3703.SS version shown above. ****

****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.



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 an appropriate electrical outlet. <u>DO NOT USE WITH AN EXTENSION CORD OR MULTIPLE OUTLET STRIP. DO NOT PLUG INTO A GFI OUTLET.</u> The mill should be plugged into an outlet with no other appliances on the circuit.

Lock castors prior to use.

Assembly:

Open the mill chamber by turning the chamber hand wheel counter-clockwise. 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. Be sure that the sieve is oriented with the label face up on the edge closest to the chamber door.

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

Cleaning Cutting Chamber:

Use isopropyl alcohol to clean the interior of the cutting chamber. Once clean, wipe away remaining alcohol and allow the surface to dry before resuming processing.

Caution: Do not use 710 Spirits® or other Ethanol / n-Heptane base solution on the door seal or the rear chamber seal.

STARTING AND STOPPING THE MILL

1. To start the mill first turn the power on using the black power switch. Then press the white start switch to start mill rotation. To stop the mill turn the power off using the black power switch.

OPERATION

- 1. The E3700.00 mill has been used successfully for a wide variety of materials. Samples should be free of hard inorganic material, although a small amount of such material, smaller than 24 mesh, usually will not interfere with milling. Washing such material from samples will, however, prevent any problems and protect the mill.
- 2. Samples containing excessive moisture or oil cannot be satisfactorily run through the mill since they tend to cling to the walls of the chamber. It is recommended that these samples be dried or given preliminary extraction with suitable solvents before milling.
- 3. Feed the sample into the hopper slowly enough so that the mill does not slow down or become jammed. Optimum feed rate will vary with the type of material being ground. A sliding shutter at the bottom of the hopper controls the rate of feed.
- 4. Four hardened steel knives, bolted to the rotor, work with a shearing action against six stationary knives mounted in the periphery of the chamber. A stainless steel screen is fitted to the frame in such a way that no material can come out of the grinding chamber until it is fine enough to pass through the mesh of the screen. Three screens, of 0.5 mm, 1 mm and 2 mm mesh respectively, are furnished with each mill. (Other sieves, meshes, and screens are available as accessories).

<u>NOTE</u>: It may be necessary to step down through sieve sizes to achieve smallest possible sample sizes.

<u>NOTE:</u> To interchange screens, loosen the two hand wheels at the bottom off the mill, until screen alignment pins disengage. Remove and replace screen and tighten hand wheels.

5. All mills are provided with two types of delivery chutes, which are interchangeable. One delivery chute has an outlet threaded to accommodate standard Mason jars (up to 2 qt capacity); the other provides for the mounting of a 1200 ml stainless steel beaker.

NOTE: A bag or sack can be fastened to the delivery chute in place of Mason jar.

NOTE: Rotor knives must be replaced as a set.

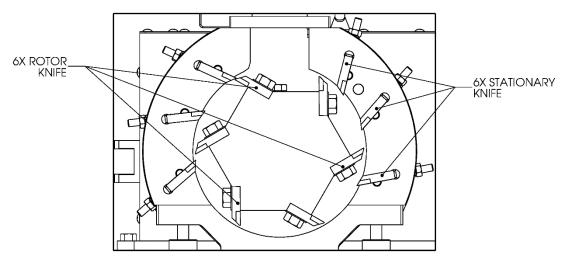
CLEANING / REPLACEMENT OF KNIVES

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

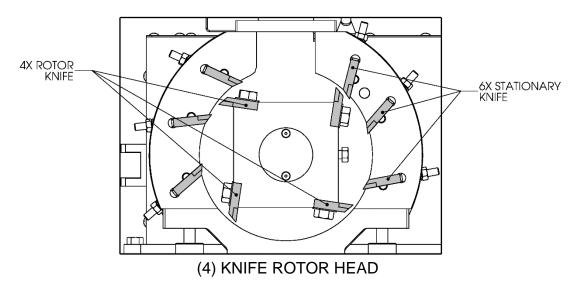
<u>CAUTION: When replacing or handling rotating blades use appropriate</u> personal protective equipment.

- 1. Remove hopper from the top of the mill and open chamber door.
- 2. Loosen the hex head cap screw clamping the rotor to the shaft. Carefully remove the rotor and set on workbench. NOTE: There is a spacer washer in the rotor cavity that must be retained in reassembly.
- Using the wrench provided, remove the two cap screws and lift a knife from rotor.
- 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 knife is positioned as far to the rear of its seat as possible, and also that the ends of the knife do not project beyond the front and rear faces of the rotor. Insert and tighten the two cap screws.
- 6. Repeat steps 2, 3, 4 and 5 for the remaining knives.

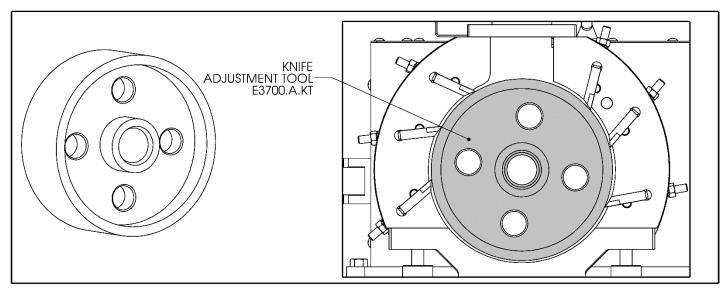
NOTE: Rotor knives must be replaced as a set.



(6) KNIFE ROTOR HEAD. 230V 3-PHASE RECOMMENDED



- 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 act as a back stop and also allow minute up and down adjustments to be made on either side of the knife. The other pair of setscrews, located 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 entire 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 knife. Remove clamping bar from its slot.
- 10. If other knives are being replaced, remove the remaining knives, proceeding 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 rotor knives. Repeat this operation for all knives being replaced, and also 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 rotor knives, and adjust the clearance by raising or lowering the stationary knife until it pinches the paper but does not sever it.



Set up tool shown above (optional accessory). Allows for quick stationary blade gapping in between cleaning. For use with new OEM rotating (rotor) blades only. Once rotating (rotor) blades are sharpened, the set up tool can no longer be used to set blade gap.

- 13. Slightly tighten the two setscrews holding the clamping bar on the knife. (May require further adjustment later.)
- 14. Turn rotor to make certain that all rotor knives clear the installed stationary knife. If one rotor knife projects beyond the others, adjust clearance of stationary knife with respect to this rotor knife. Identify this rotor 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.

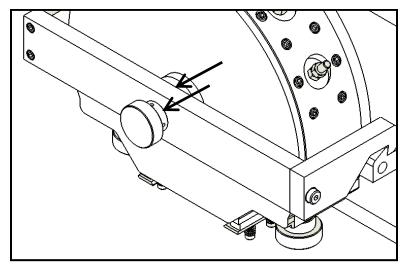
NOTE: Do not over-tighten to the point where threads may be stripped.

If you have any doubts or inquiries concerning operation contact your supplier or Eberbach Corporation technical service.

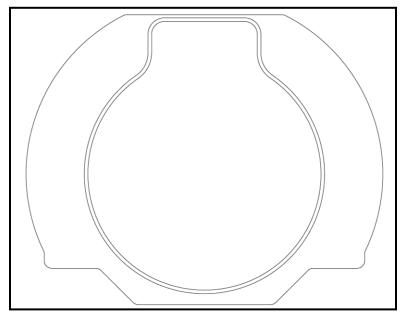
CAUTION:

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 damage replace with a suitable type. Standard seal (Viton) used on E3700.00 is Eberbach stock #5457.7

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Replacement Parts for E3700.00

<u>PartNo</u>	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
5184.2	3/8" X 1" DOWEL PIN	4
5552	EYE HOOK, STEEL 1/2"-13	1
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
6063	CABLE TIE, LOW PROFILE MOUNT	3
6063.2	ZIP TIE	8
6101.5	EBERBACH CONTROL PANEL OVERLAY	1
6121.5	CIRCUIT BREAKER 20 AMP	1
6209	CABLE CLAMP, 3/8"	1
6209.5	CABLE CLAMP, 3/4"	1
6259	CONTACTOR, 115V 2HP	1
6272.5	AC INLET C20	1
6529.5	SWITCH, GREEN	1
6530	SWITCH, RED	1
6649.1	POWER CORD CEE7 TO C19	1
6751.4	TERMINAL BLOCK COVER	1
6751.5	TERMINAL BLOCK ANCHOR	2
6751.6	GROUND TERMINAL BLOCK, UT2.5-3PE	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	3
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	5/16"-18 X 3/4" 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
8601.3	3/8"-16 X 1" SOCKET HD. SCREW	3
8601.8	1/2"-13 X 1" SOCKET HD. SCREW	1
9225	#6-32 S/S MACHINE SCREW NUT	2
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
E3700.A.HP.S	HOPPER ASSEMBLY	1
E3700.A.JH	MASON JAR HOLDER	1
E3700.A.S05	0.5MM SIEVE	1
E3700.A.S1	1MM SIEVE	1
E3700.A.S2	2MM SIEVE	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
EP3700.25.507A	CONTROL PANEL ASSEMBLY	1
EP3700.503A	HEAD ASSEMBLY	1
EP3700.506A	REAR PANEL ASSEMBLY	1
EP3700.516A	FRONT CLOSURE PLATE AND HINGE ASSEMBLY	1

EP3700.517A	SAFETY SWITCH PLUNGER ASSEMBLY	1
EP3700.520A	DELIVERY CHUTE SUBASSEMBLY	1
EP3700.652A	WIRING HARNESS	1
EP3703.010	BASE	1
EP3703.012	MOUNTING PLATE	1
EP3703.051	TOP COVER	1
EP3703.057	SIDE CONTROL CLEAT	1
EP3703.058	LEFT SIDE PANEL	1
EP3703.059	RIGHT SIDE PANEL	1

