



BURR KING MFG. CO., INC

1220 Tamara Lane

Warsaw, MO 65355

www.burking.com

(660)438-8998 • 800-621-2748

Fax (660)438-8991

VIBRAKING 110S INSTRUCTION MANUAL



your model maybe a different color

BURR KING VIBRAKING 110S VIBRATORY BOWL



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June, 2007

Burr King Manufacturing Company, Inc. warrants the below product to be free in material and workmanship. The period of warranty is 1 year (90 days for vibratory bowls of 20 quart and lesser volume) from the date of purchase. No warranty is provided for products that have been modified, abused, handled carelessly, where repairs have been made or attempted by others, or for freight damage. No warranty is provided for three phase electric motors, controllers, etc. when the motors, controllers are not protected by magnetic starters that were supplied and installed by Burr King Manufacturing Company, Inc. No other warranty, written or verbal is authorized by Burr King Manufacturing Company, Inc.

During the warranty period Burr King Manufacturing Company, Inc (or its authorized suppliers or agents) will replace or repair the below product without charge if the product is found by Burr King Manufacturing Company, Inc. to be defective. To receive warranty services you must contact Burr King Manufacturing Company, Inc. and receive authorization fir warranty service. Unless otherwise authorized by Burr King Manufacturing Company, Inc. Products (see * below) must be returned to the factory to receive warranty service.

*Motors, speed controllers, and certain other accessories are warranted by their respective manufactures. To receive warranty service on these items you must contact a brand label service center that supports the product in need of service. Burr King Manufacturing Company; Inc. will assist you in locating a service center.

For the first thirty days after purchase, and when Burr King Manufacturing Company, Inc. authorizes warranty service, we will pay normal and necessary surface freight charges both ways (except for items in *). After thirty days the customer is responsible for all freight charges. Where possible Burr King Manufacturing Company, Inc. may elect to make on site service and/or repairs necessary to return the product to serviceable condition.

To assure prompt warranty service it is necessary that you complete and return the below warranty information to Burr King Manufacturing Company, Inc. please **FAX** or **MAIL** at your convenience.

Product model: _____ Serial number: _____
Date Purchased: _____ Purchased from: _____
Address: _____ City: _____ State/Prov: _____ Postal code _____

Your company name: _____
Address: _____ City: _____ State/Prov: _____ Postal code _____
Phone: _____ Fax: _____ Email: _____
Your name: _____ Title: _____

How did you learn about Burr King products?

Trade show ___ Web ___ Industrial Distributor ___ Advertisement ___ Other _____ Which one: _____

What is the intended use of this product? _____

Please indicate the general work types performed at your company. check all that apply:

Fabrication ___ Machining ___ Casting ___ Molding ___ Welding ___ Finishing ___ Assembly ___ Research ___ Other ___

Please indicate the primary product focus of your company; check all that apply.

Aircraft/Missile ___ Automotive ___ Contract machine ___ Contract Fabrication ___ Agricultural ___ Maintenance ___ Recreational ___
Job shop ___ Foundry ___ Construction ___ Arts ___ Orthopedic ___ Dental ___ Medical ___ Other _____

Please tell us what we can do to improve our products:

May we contact you? Yes ___ No ___

Thank you for purchasing Burr King products!

**REGISTER ONLINE @
WWW.BURRKING.COM**



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June 21, 2007

LETTER OF AUTHENTICITY

This letter is to certify that all Burr King Belt grinders, Disc grinders, Polishing machines Vibra King Chambers and Bowls are manufactured and assembled in the United States of America.

(Tariff number 847990 criterion A)

A handwritten signature in black ink, appearing to read "Don Mac Carthy".

Don Mac Carthy
President

See our catalog at www.burrking.com

contact us at info@burrking.com



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December 2013

Operating instructions for Model 110S VibraKING vibratory bowls

The VibraKING 110s vibratory bowl is a bench top mounted vibratory processing machines. The bowls are compatible with ceramic, plastic, shell, cob, and most other media types. The bowls include a port for fluid induction, and a port for fluid draining. The bowls are excellent for de-burring, de-scaling, cleaning, surface moderating, and polishing of metals, plastics, and other materials.

At receipt and prior to using you VibraKING bowl

Before leaving the Burr King factory your VibraKING bowl was completely tested and inspected to assure that it was complete, functional, damage free, and properly packaged for shipment. You should:

- Inspect the equipment for completeness and shipping damage. If anything is missing contact your equipment supplier, or Burr King Manufacturing. If there is shipping damage file a claim with the freight carrier that delivered the bowl,
- Read all instructions completely. If you have questions please contact your equipment supplier or Burr King Manufacturing for assistance,
- Verify that you have your media and compound of choice,
- Locate the warranty card, complete it, and return it to Burr King Manufacturing. This will insure that we can better assist you in the unlikely event you require warranty service.

Equipment start-up

- Place the bowl on a stable, working surface such as a solid workbench, metal pedestal. Avoid surfaces that are slick or any other work surface that could place a person (or property) in danger should the bowl fall from, or otherwise be dislodged from the work surface.
- Select a work location near an AC power output plug that provides 110/115/120 VAC, single phase, 60 hertz electrical power of at least 2 amperes current capability.



Avoid electrocution hazards. The 110s is not NEMA 4 or NEMA 4X rated. They must not be used in a manner that allows fluids to enter the unit base, power cord, on/off switch, or electrical plug. ***This machine must be installed with a GFCI outlet to minimize the risk of electric shock or electrocution.***

Avoid fire and explosion hazards. The use of fluids other than water and Burr King specified soaps in the bowl (or any associated fluid re-circulating system) may create a fire/explosion hazard that could result in personal injury, or death. Use only clean water with recommended soaps in your VibraKING bowl and associated accessories.

- If you intend to use dry media such as walnut shell, or corncob the bowl ports should be left plugged.
- If you intend to use manually induced fluids, the bowl ports should remain plugged.
- If you intend to use a re-circulating fluid system (such as the **FilterPAK 4001** filtration system) connect the fluid input through an appropriate metering valve to the port on the upper rim of the bowl. Connect the drain line from the lower port on the bowl to the drain input on the re-circulating device (i.e. the **FilterPAK 4001**) or to your fluid container. Note: it is common for new media to slough of small particles that may clog the bowl drain. The clog resistant drain can be cleaned with a reverse flow air blast into the bowl (**be sure to empty the bowl first and do wear protective eyewear when doing this**)
- Fill the bowl with your media of choice. The media should be filled to a level approximately just below the wing-nut level. You may harm your motor by underfilling the bowl with media
- If you intend to use fluids, mix the fluids per the manufacturer's instructions and introduce the fluids into the bowl either manually, or via your re-circulating system. The fluid input quantity (approximately 1/3 cup of mixed solution) should be adjusted to completely wet the media, but not to leave standing fluid

in the bowl. Too much soap solution will cause the media to move in a clockwise direction and not to the center. This will decrease the deburring action. To correct this condition, flush media with water and drain your machine.

- Instill your parts into the bowl. The maximum combined media plus part load is 10 pounds
Typically, ceramic media will weight 90 to 110 pounds per cubic foot. Plastic media will weight from 40 to 60 pounds per cubic foot. Shell and cob media will weigh 20 to 40 pounds per cubic foot.
- Install the bowl lid. Using the lid will dampen generated noise, and reduce fluid evaporation.
- Connect the bowl to the 110/115/120 VAC, single-phase, 60 hertz electrical service.
- Turn the unit ON. The media and parts should rotate in a toroid form (a doughnut shape), with the media and parts circulating vigorously from the bowl outside toward the inner bowl post, then downward to return to the bowl edge.

Removing and replacing the bowl

The bowl may be removed to empty, clean, maintenance, or other reasons. Insure that the bowl is held down using the large flat washer and wing nut provided.

Tips for getting the best service from your Model 110s vibratory bowl

- Use the proper media to reach the result you expect. Burr King Manufacturing will assist you in selecting the proper media, compound, and process. Use media that will obtain your desired finish without lodging inside part cavities. Burr King Manufacturing's media is available in several grades, shapes, and material types to be best for many part materials. Finishes can be obtained from a light matte to a chrome like shine dependent on part material type and incoming part finish quality.
- Use the proper fluids (compounds) with your media of choice. Burr King recommends **BKS-60** low suds soap for non-ferrous materials, and **AR-60** anti-rust soap for ferrous materials. Typically, these soaps are mixed at 1 to 3 ounces per 1 gallon of clean water. Note that anti-rust soaps such as AR-60 will not provide extended rust inhibition. If you require more than a few hours of rust inhibition, you should dip your parts in a commercially available rust inhibitor solution.
- Maintain your media and equipment in a clean condition. If you use a re-circulating, filtration system such as the Burr King **FilterPAK 4001**, it will greatly reduce the need to clean your bowl and media. Without a filtration system, you will need to clean your bowl and media at regular intervals to remove media sludge, and material fines that will accumulate inside the bowl.
- Do not allow your parts to rest in the bowl for extended periods. Doing so may result in stained, oxidized, or etched parts.
- If your process uses ceramic or plastic media, clean and dry your parts immediately after withdrawing them from the vibratory bowl. With dry media such as shell or cob cleaning may not be necessary.
- Establish a process time that allows the media and compounds of choice to process your parts to the desired finish; control this process time from part load to part load in order to assure consistent load to load results.
- Change your media when its size is reduced to a point that the media lodges in part cavities, if any. Also change your media if its shape changes to a point where it will not reach desired surfaces.
- Pre-mix your fluids (compounds) to assure consistent mixture. Too much soap will delay results, too little soap will reduce finish quality, and limit media life.
- Control the quality of the incoming part condition. Variation in lot to lot incoming part quality may cause variation in the vibratory process output.

Accessories and supplies that are available from your Burr King equipment supplier

- **Media and compounds** of many descriptions.
- **FilterPAK 4001** filtration systems with integrated fluid pump, filter, and fluid reservoir.
- **Spare bowls**, and replacement parts.

Care and Maintenance

- **Media and compounds** Sealed ball bearing motor requires no lubrication. Your 110s is relatively maintenance free. Care should be taken to keep the motor and surrounding area dry and free of dust or accumulation of dirt and abrasives. This will help prevent any possibility of dirt and grit working into the bearings. Make sure no water or moisture gets into the motor or surrounding area. **DO NOT** cover unit with anything to dampen noise as this will block air flow and cause the motor to overheat, or possibly creating a fire hazard.



Occupational Noise Exposure

Burr King vibratory bowls produce levels of noise consistent with their intended purposes. The level and spectral content of noise produced is dependent on the bowl size, the degree that the bowl is maintained in proper operating condition, the abrasive/media and accessories used, the specific application, use or not of the supplied lid, and the surrounding environment. Noise levels produced by various Burr King vibratory bowls, as measured at the Burr King factory, range from 76 to 88 decibels. Product operators and persons in the immediate product vicinity should be protected from excessive noise does levels as prescribed in OSHA regulation 29, part 1910.95 titled “Occupational Noise Exposure”.

Warranty

Burr King Manufacturing warrants the 110s against defects in material and/or workmanship for a period of ninety days after original customer purchase. This warranty is in lieu of all other warranties, either expressed or implied. Customer induced damage, miss-application, and/or abuse is not covered by warranty. To receive warranty service you must provide the serial number of your bowl, and its original date of purchase, then request a return authorization from Burr King Manufacturing, or an authorized distributor. All material, for which warranty service or replacement is requested must be returned, freight prepaid to the factory for evaluation. Burr King will (at its sole discretion) repair or replace items that qualify under this warranty. In the event warranty coverage is extended by Burr King the warranty service will be performed without charge (including return surface freight charges) to locations within the contiguous United States. For all other destinations, or for other freight modes, warranty terms are FOB Warsaw, MO USA.



BURR KING®

PLASTIC & SYNTHETIC MEDIA

PLASTIC MEDIA

SYNTHETIC MEDIA

Formula	Color	Purpose	Formula	Color	Purpose
V	Light Green	Light Deburr Preplate finish	SP	Tan	Polish Edgebreak
X	Dark Green	General Deburr Preplate Finish	SV	Light Green	Light Deburr Preplate Finish
XV	Blue	Fast Deburr Preplate Finish	SX	Pink	General Deburr Preplate Finish
Z1	Tan	Fast Deburr Preplate Finish	SJ	Tangerine	Fast Deburr Preplate Finish

STANDARD SHAPES & SIZES

● No Minimum Required
Δ Minimum 500 lb. Order

		Formulations								
		PLASTIC				SYNTHETIC				
	Cones		V	X	XV	Z1	SP	SV	SX	SJ
	A	B	Δ	●	●	●	Δ	●	●	●
	3/8"	3/8"	●	●	Δ	●	Δ	●	●	●
	1/2"	9/16"	●	●	Δ	●	Δ	●	●	●
	5/8"	7/8"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
	3/4"	3/4"	●	●	●	●	Δ	●	●	●
	1"	1"	Δ	●	Δ	Δ	Δ	Δ	Δ	Δ
	1 1/4"	1 1/4"	●	●	Δ	●	Δ	●	Δ	Δ
	1 1/2"	1 1/2"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
	1 3/4"	1 3/4"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
2 1/2"	3"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	Cylindrical Wedges		V	X	XV	Z1	SP	SV	SX	SJ
	A	B	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
	5/8"	1/2"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
	3/4"	3/4"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
	1 1/8"	1"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ
1 1/2"	1 1/2"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	●	
	Tetrahedrons		V	X	XV	Z1	SP	SV	SX	SJ
	A	B	Δ	●	●	Δ	Δ	Δ	Δ	Δ
	3/4"	3/4"	Δ	●	●	Δ	Δ	Δ	Δ	Δ
	1 1/8"	1 1/8"	Δ	●	Δ	Δ	Δ	●	Δ	Δ
	1 1/2"	1 1/2"	Δ	●	Δ	Δ	Δ	Δ	Δ	Δ
	Pyramids		V	X	XV	Z1	SP	SV	SX	SJ
	A	B	C	●	●	Δ	●	Δ	Δ	Δ
	1/4"	1/4"	1/4"	●	●	Δ	●	Δ	Δ	Δ
	3/8"	3/8"	3/8"	●	●	Δ	●	Δ	Δ	Δ
	3/8"	5/8"	3/8"	Δ	●	Δ	Δ	Δ	●	Δ
	1 5/8"	1"	1"	Δ	●	Δ	●	Δ	Δ	●
2"	1 1/2"	1"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	
	Triangles		V	X	XV	Z1	SP	SV	SX	SJ
	A	B	C	Δ	Δ	Δ	Δ	Δ	Δ	Δ
	5/8"	3/8"	1/2"	●	●	Δ	Δ	Δ	●	Δ
1 1/4"	7/8"	5/8"								
	TriStars		V	X	XV	Z1	SP	SV	SX	SJ
	A	B	Δ	●	Δ	Δ	Δ	Δ	Δ	Δ
1 3/4"	3/4"									
2"	1"									
	Wedges		V	X	XV	Z1	SP	SV	SX	SJ
	A	B	Δ	●	Δ	●	Δ	Δ	Δ	Δ
	1"	3/4"	Δ	●	Δ	●	Δ	Δ	Δ	Δ
	1 1/2"	1"	Δ	●	Δ	Δ	Δ	Δ	Δ	●
	2"	1 1/4"	Δ	●	Δ	Δ	Δ	Δ	Δ	●
2 1/2"	1 1/2"	Δ	Δ	Δ	Δ	Δ	Δ	Δ	Δ	

- * Plastic media with low foam additive.
- * Synthetic media is UF resin and sand mixture.
- * Plastic media is polyester and sand mixture.
- * Packaged in 50LB boxes.

FORMULATIONS

POLISH

Made of high alumina and contains no abrasives. Use with burnishing compounds to burnish metals or with loose abrasives or compounds for deburring. These pins produce a high luster finish and are suitable for use in all types of finishing equipment.

	FORMULA	COLOR	PURPOSE	MEDIA WEAR	SURFACE FINISH	CU. F.T. BULK RATE
POLISH Made of high alumina and contains no abrasives. Use with burnishing compounds to burnish metals or with loose abrasives or compounds for deburring. These pins produce a high luster finish and are suitable for use in all types of finishing equipment.	Polish	White	Polish/ Light deburr	Excellent	Bright	115-120
FAST CUT Made for fast cutting and deburring applications in all types of finishing equipment	Fast Cut	Grey	Fast Cut	Good	Good	100-110

FAST CUT

Made for fast cutting and deburring applications in all types of finishing equipment

SHAPES/SIZES

STOCK * NON STOCK **


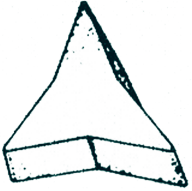
SHAPES	STANDARD SIZES (IN MM)		SHAPES	STANDARD SIZES (IN MM)	
STRAIGHT CUT POLISHING CYLINDERS	DIAMETER	LENGTH	FAST CUT CYLINDERS	DIAMETER	LENGTH
	1.3 **	3.0		1.5 *	5.0
	1.7 **	5.0		2.0 **	4.0
	2.5 *	8.0		2.0 **	7.0
	3.0 *	10		2.5 *	8.0
	4.5 *	14		3.0 **	6.0
	5.5 **	17		4.5 **	8.0
7.0 **	23				
POLISHING TRIANGLE	DIAMETER	LENGTH	FAST CUTTING TRIANGLE	DIAMETER	LENGTH
	2.0 *	2.0		2.0 *	2.0
	3.0 **	3.0		3.0 *	3.0
	4.0 *	4.0		3.0 **	6.0
	6.0 *	6.0		4.0 **	8.0
			6.0 *	6.0	
POLISHING SPHERES	DIAMETER		FAST CUTTING SPHERES	DIAMETER	
	2.0 *			2.0 **	
	3.0 *			3.0 *	
	4.0 *			4.0 *	
	5.0 **			5.0 **	
	6.0 *			6.0 **	
	8.0 *			9.0 *	
10.0 **		10.0 **			

NOTE: The polishing pins and polishing spheres are stocked in both OH, and CA warehouses. Delivery on the other products listed - stock to eight weeks. Other sizes and non-standard items are available on special order, call for pricing and delivery. No stock 800lbs. minimum.

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PREFORMED TUMBLING AND VIBRATORY CERAMIC ABRASIVES

NOTE: **Green** and **Grey** fields are in stock.
 Non stock items 500lb. minimum

SIZE	STOCK			SHAPE	SIZE	STOCK			SHAPE
	P-20	P-40	P-60			P-20	P-40	P-60	
2 x 7/8				ANGLE CUT TRIANGLE  ACT	1-7/8 x 5/8				ANGLE CUT TRISTAR  AC3S
2 x 11/16					1-3/8 x 7/16				
1-7/8 x 7/8					1-3/8 x 1/2				
1-7/8 x 5/8					1-1/8 x 1				
1-1/2 x 1-1/2					1-1/8 x 7/8				
1-1/2 x 1/2					1-1/8 x 3/8				
1-3/8 x 5/8					1-1/8 x 5/16				
1-3/8 x 1/2					7/8 x 3/8				
1-3/8 x 7/16					7/8 x 7/8				
1-1/8 x 1-1/8					7/8 x 5/16				
1-1/8 x 1					5/8 x 3/4				
1-1/8 x 7/8					5/8 x 5/16				
1-1/8 x 5/8					5/8 x 1/4				
1-1/8 x 3/8					3/8 x 3/16				
7/8 x 7/8					1-1/8 x 1-3/4				
7/8 x 3/8					7/8 x 1-3/4				
7/8 x 5/16					7/8 x 1-1/2				
3/4 x 3/4					3/4 x 1-1/2				
5/8 x 5/8					5/8 x 1-1/2				
5/8 x 1/2 x 5/16					5/8 x 1-1/8				
5/8 x 1/4				1/2 x 7/8					
5/8 x 3/8				7/16 x 7/8					
3/8 x 3/8				3/8 x 5/8					
3/8 x 1/4				5/16 x 5/8					
3/8 x 5/16				1/4 x 5/8					
3/8 x 3/16				3/16 x 5/8					
1/4 x 1/4				3/16 x 3/8					
1/4 x 5/16				5/32 x 5/16					
1/4 x 3/16				ACC ELLIPSE 22 Degrees					
7/8 x 1/4				3/8 x 5/8 x 5/8					
7/8 x 5/8				3/8 x 5/8 x 7/8					
1/4 x 3/16				1 x 3/8 x 1					
1/4 x 1/4				45 & 60 Degrees					
3/8 x 3/8				3/8 x 5/8					
7/16 x 7/16				5/8 x 1-1/8					
5/8 x 5/8				1/4 x 9/16					
3/4 x 3/4									
1 x 1									
1-1/2 x 1-1/2									
2 x 2									

Compositions, General Info., Anti rust and soap solution on back.

PREFORMED TUMBLING & VIBRATORY CERAMIC ABRASIVES

COMPOSITIONS

P-60 = Light cut, superior finish, leaves clean surface, good for aluminum parts. (78-80lbs.)

P-40 = Good cut and wear life, excellent finish, ideal for general purpose use, economical
(89 to 90 lbs. per cubic foot)

P-20 = Fastest cut, for heavy deburring, matte finish. (85 to 90 lbs. per cubic foot)

GENERAL INFORMATION

Successful parts processing depends not only on the capability of equipment used, but also on the type, shape and size of the media used.

Users whose work requires preforms will find that an understanding of the types available will influence the quality of their work as well as time cycles and operating procedure.

We are totally capable of rendering assistance in your selection of specific media and equipment for your particular problem in deburring and finishing.

We base our recommendations and technical information on testing we consider reliable, but they are based on information we assume is correct from our dealers, agents and customers.

SOAP SOLUTIONS

AR-60 - Anti Rust solution is the neutral liquid used for prevention of oxidation and rust formation. Excellent for rinse after tumbling to prevent spotting and streaking of aluminum and magnesium. Can be mixed hot or cold. When used as a dip will impart a dry, oily microscopic film which does not require removal for subsequent operations. Anti rust is mildly sudsy.

BKS-60 soap solution has a slightly alkaline liquid that is especially designed for vibratory equipment as it is a low sudser. Contains some petroleum additives.