



INSTRUCTION MANUAL

CABKING-6V3





READ FIRST



SAFETY GUIDELINES

The following guidelines must be observed to ensure proper usage and safety.

⇒ **READ ALL THE INSTRUCTIONS**

⇒ **Make sure that the electrical outlet you plug the machine into is securely grounded and away from the machine. Do not use any extension cord without a ground. Connect the motor power cord to a surge protected outlet or preferably a GFCI (Ground Fault Circuit Interrupter) outlet. While not necessary, a GFCI is recommended to prevent electric shock and can be purchased at your local hardware store. Though the motor is sealed, you must make sure to keep all electrical connections dry. Never disconnect the motor or pump with wet hands and avoid touching the pump when connected to the power.**

⇒ **Wear the enclosed safety goggles to protect from any debris that may fly out while grinding. Do not wear loose clothing or clothing that can become entangled with the wheels.**

⇒ **Some rocks contain poisonous elements such as uranium, mercury, lead, arsenic, etc. Be certain you are not grinding material that exhibits this trait.**

⇒ **Make sure there is adequate water used while grinding so that rock dust is not formed. This dust can be hazardous to your lungs if inhaled.**

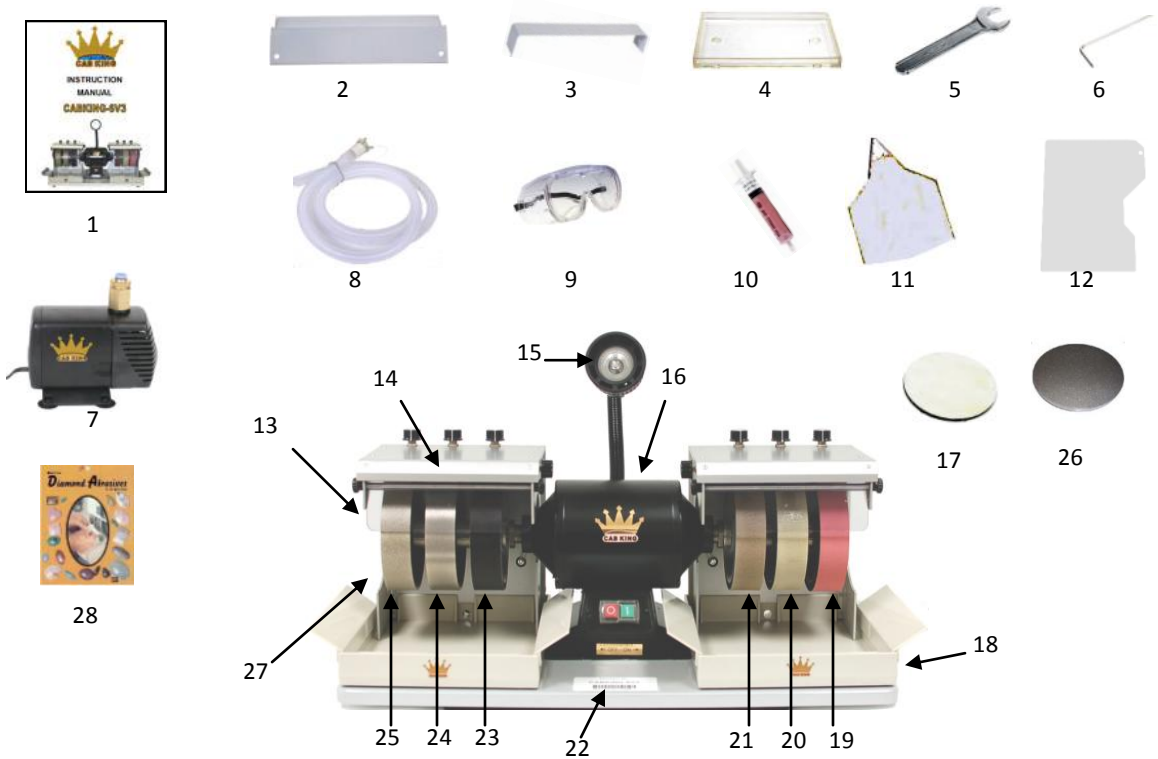
⇒ **Avoid contact with the motor housing when in use. The motor is totally enclosed and lubricated which results in a high temperature of 150F-165F.**

⇒ **You must be focused and alert when grinding. It is possible for stones to catch on the wheels and be ejected out of the grinding area.**

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PARTS LIST



Part #	Description	QTY
1	INSTRUCTIONS	1
2	PAN SPLASH GUARD	4
3	HAND REST	2
4	STONE TRAY	2
5	FLANGE WRENCH	1
6	FLANGE KEY	1
7	PUMP	1
8	DRIP TUBE	2
9	GOGGLES	1
10	DIAMOND PASTE	1
11	APRON	1
12	HOOD SPLASH GUARD	2
13	WHEEL SPLASH GUARD	2
14	HOOD	2

Part #	Description	QTY
15	SPOT LIGHT	1
16	MOTOR	1
17	POLISHING PAD	1
18	PAN	2
19	3000# RESIN WHEEL	1
20	1200# RESIN WHEEL	1
21	600# RESIN WHEEL	1
22	BASEBOARD	1
23	280# RESIN WHEEL	1
24	220# DIAMOND WHEEL	1
25	80# DIAMOND WHEEL	1
26	FULL FACE LAP - 360#	1
27	LAP ADAPTER	1
28	BOOK	1

ASSEMBLY INSTRUCTIONS

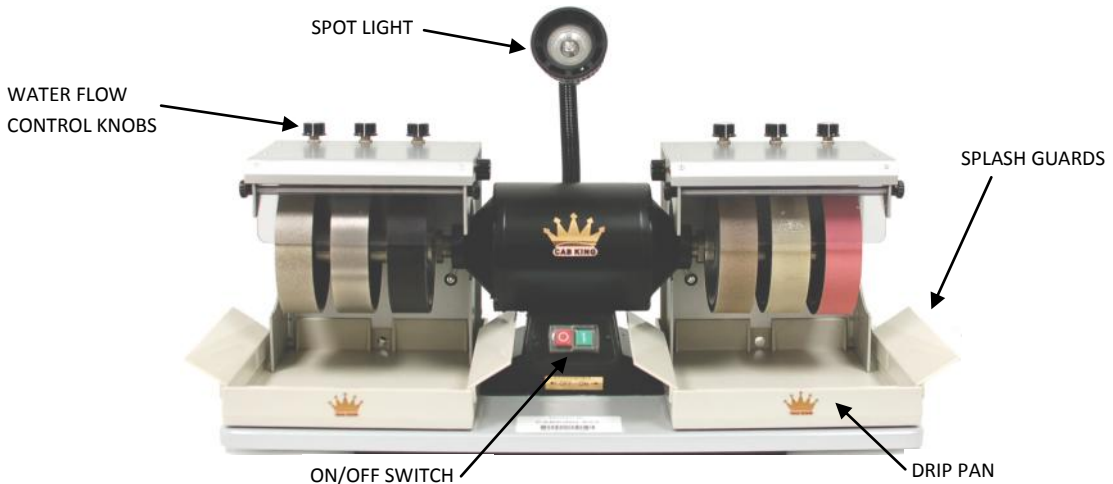


FIG. A

Refer to picture above for assembly.

1. Determine a suitable location to place the CABKING-6V3. The CABKING-6V3 weighs about 45lbs. so you will need a sturdy table or stable surface that has approximately 3 feet width by 2 feet depth of clear space. Try to find a well lit area so you can clearly see what you are grinding.
2. Open the box and remove all loose foam and accessories. Keep this packaging aside should you need it in the future. Next remove the unit from the box and place on the predetermined location. We recommend that two people help in performing this step. You can keep the foam that is under the baseboard in place as it will aid in support and vibration.
3. Remove foam packaging material and inspect unit for damage. Check to make sure all the parts are present according the parts list on the opposite page. If you find any missing or damage parts please contact your dealer immediately.
4. Install the 80# and 220# wheels that you will find with your accessories. The ribbed side should face the motor. Simply slide the 220# wheel onto the left shaft. Then slide 2, 3/4" spacers following the 220# wheel. Finish by sliding the 80# wheel and tightening the brass adapter counter-clockwise with the enclosed flange wrench.
5. Place the clear stone trays on top of the right and left hoods and insert the hand rests into the drip pans. Then place splash guards on both sides of the drip pans. You can adjust their position according to the splash.

6. Finally, you can optionally attach the side panels to the hoods. These are magnetically attached to the hood to make it easy to remove them. Twist the side spray tubing upwards to easily attach and remove the panels. The purpose of the side panels is to control splash, so you may prefer not to use them for easier access to the diamond lap and polishing pad.



FIG. B

CONNECTING THE SINGLE-PASS WATER SYSTEM

The CABKING-6V3 water system is single-pass meaning non-recirculating. Do not setup the machine as a re-circulating system. Please read further about it in the Parts & Maintenance section after finishing the set up. Also, note that the color of the tubing may vary from the pictures.

8. Connect the water drainage system by attaching the clear tubing to the spout of the drip pans (FIG. C). Secure the connection by positioning the spring clasp so it covers the spouts. Tug on the tubes to make sure they are firmly attached. You can set up the drip pans so they drain in the rear or in the front.
9. Place the unconnected ends of the clear tubes in a large (5gal) empty bucket (FIG. D) (not included), or drain hole, or wherever you would like the dirty water from the pans to drain out. It is important that you have the drainage tube pointing as downward as possible from the machine. This will allow gravity to drain the water from the drip pans. If you notice the pans filling up with water, most likely the clear drain tubes are not sufficiently angled down. You can tilt the drip pans up and shake the tubing to drain. Once you have this properly set-up you may want to cut the tubing so there is no excess slack. This will further help to drain the pans.
10. Make sure pump is not connected to power supply. Connect the water intake system by inserting the clear tubing from the T-Junction located behind the motor (FIG E.) into the pump. Tug on this tubing to verify a secure connection. Place the pump in a separate large (5gal) bucket (not included) filled fully with clean water (FIG. F). To ensure enough water pressure, the length from the bucket to the unit should not be more than 6 feet.



FIG. C



FIG. D



FIG. E



FIG. F

FINAL ASSEMBLY

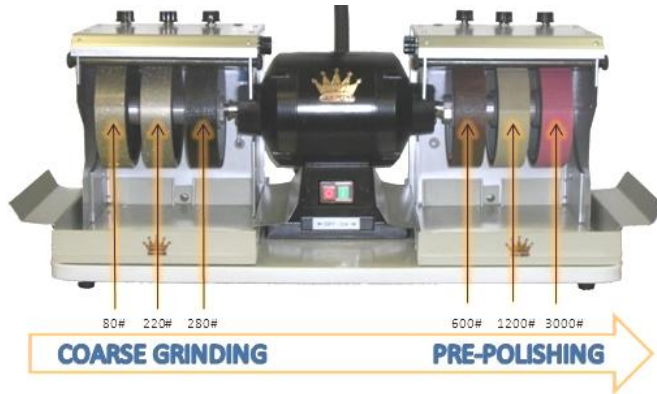
11. Make sure the power switch on the motor is in the off position. Connect the motor power cord to a surge protected outlet or preferably a GFCI (Ground Fault Circuit Interrupter) outlet. While not necessary, a GFCI is recommended to prevent electric shock and can be purchased at your local hardware store. Though the motor is sealed, you must make sure to keep all electrical connections dry.
12. Twist the water flow knobs on the right and left hoods to the off position according to the directions on the knobs (FIG. G). Also, swing out the clear splash guards on the hoods so they are not in contact with the wheels of either wheel assembly. You can readjust the guards to reduce the splash after turning on the machine.



FIG. G

13. Next attach the water pump to a surge protected power outlet. The pump has no on/off switch so once you connect it to the power supply it will start working. After following the next step you can adjust the water flow rate using the control knobs to the desired level. Avoid touching the pump in the water bucket with the power on. **NEVER UNPLUG OR TOUCH THE POWER CORDS WITH WET HANDS.**
14. You can turn the power on the machine. The wheels spin at 1800RPM, so do not wear loose clothing or anything that may accidentally get entangled with the wheels. It is typical for the motor to produce a winding sound when starting up and a mild humming sound after. On some occasions the motor may make a high pitch sound. This is most likely caused by the space between the unit and the table surface. You can try to reduce the sound by putting cloth or cardboard under the unit. **The totally enclosed design of the motor produces heat. The general temperature range is between 150F and 165F, so do not touch motor housing after the motor is in use.**
15. Now you can start the water drip by adjusting the water knobs, see FIG. G. Our unique system allows you to drip water on each wheel individually. When grinding you want to make sure there is enough water dripping so that the wheels do not become dry. In order to use the side spray for the canvas pad or diamond disc, you will need to turn the knob located on the opposite side of the hood closest to the motor see FIG. H.
16. You are now ready to begin using the CABKING-6V3! We recommend reading the rest of this manual, especially the safety instructions. Also, it's a good idea to clean your machine after each use.

MACHINE USAGE



The CABKING-6V3 is an universal grinder/polisher for gemstones. It is configured with 2 hard diamond electroplated wheels, 4 resin diamond wheels, 1 full face diamond flat lap, and 1 canvas polishing disc for use with the included diamond compound. The motor on the CABKING-6V3 is direct drive which means a smaller, compact unit with no belts or other parts to maintain or replace. The water system on the CABKING-6V3 is unique and allows you to independently control water spray on the wheels. Make sure you use adequate water when grinding and monitor the pump bucket to avoid running dry. If the wheels become covered with stone residue you should increase the water flow. Another advantage to our water system is that you can adjust the spray angle on the wheels. This will allow you to use wheels of various widths. You can adjust the nozzles located at the end of the Y-SPLIT under the hood see FIG H. If you find the nozzles are too loose or coming off, we suggest using some Teflon tape and wrapping the portion of the nozzle that is inserted into the Y-SPLIT with enough tape to tighten the fit. While you can use the CABKING-6V3 to grind all kinds of shapes and designs, the general process of making a cabochon is described below.

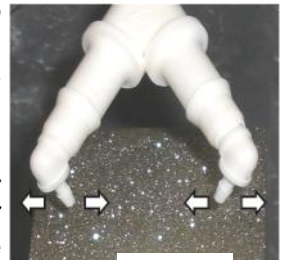


FIG. H

To make the cabochon start with the hard diamond wheels on the left which will allow you to create a domed shape from your rough stone. You can choose to hold your stone free hand or on a dop stick. Begin with the 80 grit diamond wheel and be sure to completely grind the surface of the stone using adequate water coolant. If the stone is not ground thoroughly scratching will occur. Making sure that all scratches are removed is the most important part of grinding the cabochon. Repeat this process for the 220 grit wheel. Next move onto the resin wheel sequence, which will sand and smooth the stone resulting in a pre-polished cab. Note: New resin wheels may bleed some of their pigment. This is entirely normal and will not affect your stones.

Start with the 280 grit and grind thoroughly, moving onto the next wheel when finished. After you finish the sequence of 600, 1200, to 3000 grit, the stone will be ready for polishing. Make sure you are adjusting the spot light as you are grinding to provide addi-

tional light. This light will be adequate for most situations, but you may require a separate light source for additional brightness.

Note: The supplied resin wheels are designed to work exclusively together in sequence To avoid scratching or other problems, you should change all the resin wheels if you plan on using different brands.

Using diamond paste for polishing will finish the process for most stones, resulting in a bright shiny cabochon, however there are many other polishing powders and pastes available. To polish your stone, attach the enclosed polishing pad by screwing it into the end of the right wheel assembly while the machine is turned off. Then use the enclosed 14,000 mesh diamond paste syringe and apply to the canvas polishing pad, by spreading small drops randomly over the surface. Then using circular motions with your finger rub the diamond compound thoroughly across the surface of the pad. Now its ready for use. Most polishing compounds do not require water so you can turn the machine back on and



FIG. K

begin use. If you want to use with water then make sure to aim the spray tube to center of the disc (FIG. L). Aiming at the center will allow the spinning motion of the disc to spread the water evenly over the surface. The spray can be aimed by appropriately twisting and turning the tube as well as the nozzle (FIG K). This will allow the water to spread over the disc when spinning. Make sure to use a separate polishing pad for each different kind of polishing compound.

Now that you have domed and polished your stone you can put a flat on the backside using the full face diamond flat lap (FIG. Z) Attach the lap by screwing it into the end of the right wheel assembly, while the machine is off. Again, make sure the water spray is aimed to the center of the disc. Simply hold the back of your cab on the surface of the diamond lap until the back flattens evenly. Both the canvas and full face lap can only be used on the right shaft.



FIG. L

THE ART OF CABBING

The art of cabbng involves experimentation since every stone is different. As you progress in your cabbng ability, you may find that different grits are necessary depending on your stone and application. Ask your dealer about the other available grits for both electroplated and resin wheels.

Again, this is a very brief and simple introduction to the cabbng process. The enclosed book (FIG. L) should help you out further in your understanding as well as searching the internet and talking with your dealer. We also recommend trying to find a local lapidary club to further your knowledge. As with all stone cutting and cab making, practice and experimentation are the keys to success.

MAINTENANCE

The CABKING-6V3 is designed as a maintenance free unit. There are no belts, pulleys, gears, or other parts to actively maintain. All parts should be cleaned manually.

CHANGING WHEELS—The wheels supplied with the machine are 6” diameter x 1.5” width with a 1” arbor. The CABKING-6V3 only works with 1” arbor wheels.

NOTE: Our resin wheels are designed to work exclusively together in sequence. You should change all the resin wheels if you plan on using different brands.



FIG. M

LEFT ASSEMBLY



FIG. N

RIGHT ASSEMBLY

The wheels on CABKING-6V3 are attached onto two assemblies of three wheels each. Each separate assembly is then spun onto the right and left side of the motor. In order to change an individual wheel, twist off either the left assembly (FIG. M) or right assembly (FIG. N). Before removing either assembly make sure to turn off the machine.

Start by removing the hoods. Next, take the flange wrench and use it to secure the shiny metal flange located on the inside part of the left or right shaft closest to the motor (FIG. U). Holding the wrench will prevent the shafts from spinning as you take off the wheel assembly. To take off either wheel assembly turn the assembly towards you clockwise for the left assembly, counter-clockwise for the right (FIG. O).

LEFT ASSEMBLY

SHAFT FLANGE

RIGHT ASSEMBLY

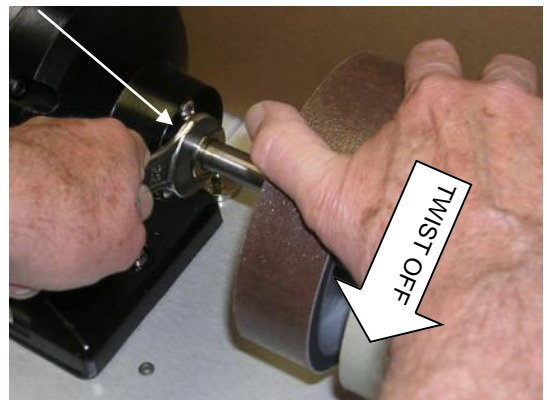
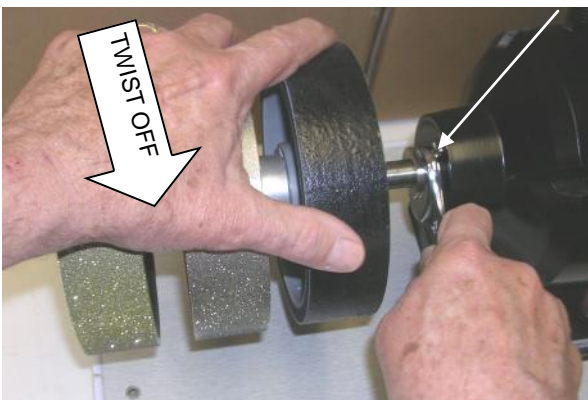


FIG. O

Once you have taken the assembly off the shaft, the left wheel assembly can be disassembled by removing the brass adapter by twisting it clockwise (FIG V.) with a pair of pliers (not included) and then sliding the wheels off. The slotted bolt on the end of the brass adapter is used to attach optional 1/2" arbor laps (remove bolt by turning clockwise). The three spacers on this assembly are two 3/4" and one 1.25". The right wheel assembly can be disassembled by unscrewing clockwise the nut (FIG V.) on the end with a pair of pliers. The nut will be located on the side where the groove part of the shaft is sticking out. The two aluminum spacers on this assembly are 3/4".



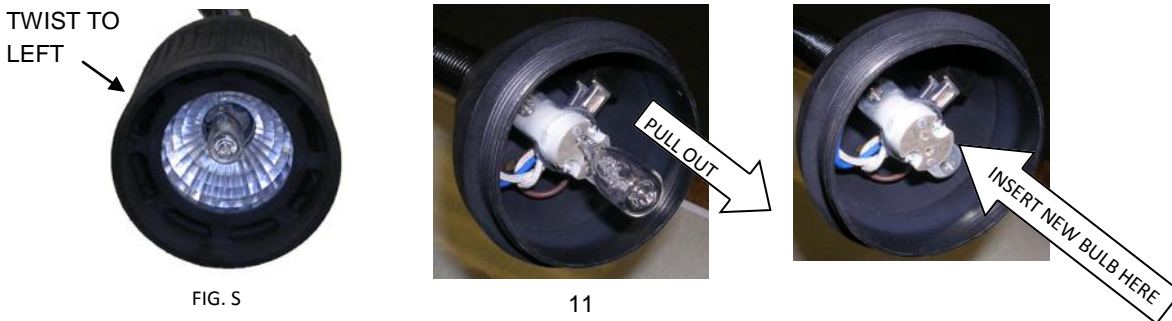
Now, you can slide the wheels off and change as necessary. Make sure to correctly position the wheels using the spacers. Correctly positioned wheels should have roughly 3/4" gap between them. Also, make sure the grits are in the correct order and the wheels are tightly secured. Reverse the process to put the assemblies back on and make sure to tighten adequately. **To prevent rust and ease future removal put some grease on the motor shaft before putting the shaft assembly back on.**

TIGHTENING THE SHAFT FLANGE—If you notice that the wheels are not coming off or that the chrome shaft flange is spinning, you will need to tighten the flange using the supplied allen wrench. Simply take the wrench, insert it into the black screw located on the flange and turn clockwise to tighten as seen in the adjacent picture.

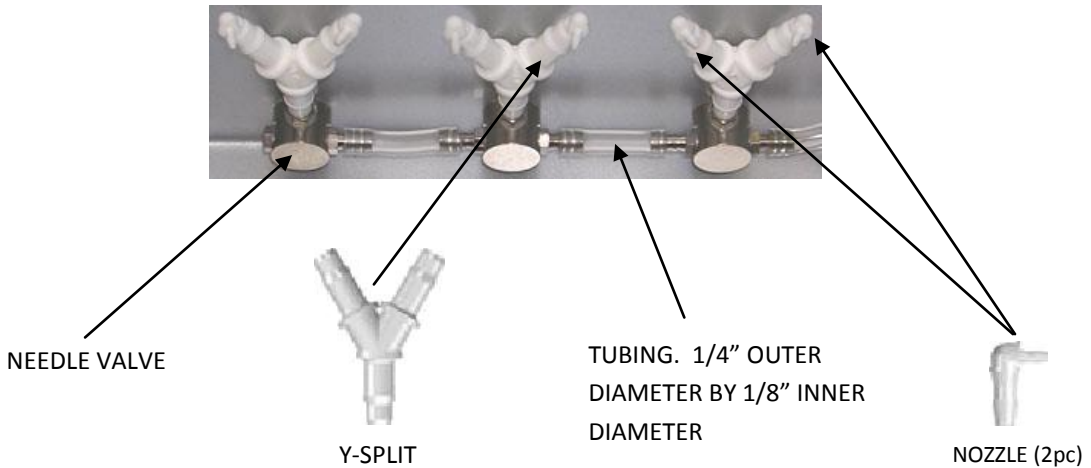


FIG. U

CHANGING THE LIGHT— The flex stem lamp (FIG. S) is connected to the motor, so to be safe, unplug the motor before attempting to switch the bulb (40W, 110V). The bulb is replaced by twisting counter-clockwise the plastic housing that surrounds the light and pulling out the bulb. Then, take the new bulb (hold with a cloth to prevent passing on any bodily oil) and insert it into the empty sockets, it doesn't matter which position the prongs are inserted. Press firmly making sure the light bulb prongs are not exposed. Finally, screw the lamp cover back on.



CABKING WATER SYSTEM PARTS



PARTS AND TUBING CAN BE REMOVED BY EITHER PULLING APART OR UNSCREWING.

Water System—One of the key features to the CABKING-6V3 is the single pass, contamination free water system. All parts of the water system will remain trouble free as long as you use a fresh, clean supply of water. Do this by using a separate intake water bucket from the drainage bucket. Most importantly, a fresh supply of water will protect you from cross-contamination of grit which can occur in re-circulating systems that use a bubbler or geyser. With fresh water the pump and intake tubes will stay clean and unobstructed so there will be enough water pressure. The pump is rated at 30watts, 605GPH, 8.2ftHmax. We recommend using a minimum 5 gallon bucket for both the pump and drainage. You will typically go through an average of 1-2 gallons of water per hour, with the water control knob on a light to medium drip. You want to monitor the water level in the bucket to make sure the pump is always submerged. The pump is not designed to run dry, so be vigilant.

By design, all parts of the water system can be easily disassembled by pulling off or unscrewing, then cleaned with soapy water. For routine maintenance it is a good idea to clean the nozzles, Y-SPLIT, and tubing with a small wire brush or pipe cleaner, like the one supplied. If you find the nozzles are too loose or coming off, we suggest using some Teflon tape and wrapping the portion of the nozzle that is inserted into the Y-SPLIT with enough tape to tighten the fit.

DO NOT SET UP AS A RE-CIRCULATING SYSTEM, meaning putting the drip pan tubes into the same bucket of water as your pump. Doing so will void your warranty. Setting up this way will also mean you will risk cross contamination of grit, resulting in scratches on your stone. Grit will eventually build up in the water control valve, nozzles, and tubing to restrict water flow.

PARTS & ACCESSORIES

It is best to purchase spare parts directly through www.CABKING.US

Motor—The CABKING-6V3 comes with a 1/4 HP, single phase, 1800RPM, 110/115Volt, 60 HZ, ball bearing, AC motor. The motor is totally enclosed and non ventilated, which means it is sealed to protect itself from dust, water and other particulates. However, since it is enclosed it will become very hot, so follow the safety guidelines and avoid touching the motor. The motor warranty is 1 year free of material defects from the date of purchase.

Drip Pans—The two drip pans are kept in place with two prongs that fit into the base board. They are not dishwasher safe. It is best to drain all the water from the pans after usage. The drip pan also comes with four clip-on splash guards to reduce the amount of splash. It is best to drain the pans fully after using the machine. If you notice standing water in the pans check to make sure the drainage tubing is sufficiently angled downward and the pan drainage hole is clear.

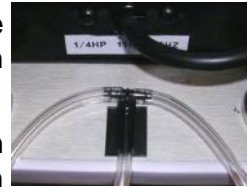


FIG. P

Hoods—These are made from aluminum to offer better protection from stones that may catch on the wheels. The hoods can be taken off by removing the side panels and then disconnecting the intake tubes from the T-Junction (FIG. P) Note: color of T-Junction and color of tubing clip may vary. Make sure to reconnect the intake tube after putting the hoods back on.



FIG. Q

Guards—The CABKING-6V3 comes with two clear, adjustable splash guards attached to the hoods. These splash guards can be tightened using the side knob on the hood (FIG. Q). You can also remove the splash guards for manual cleaning by loosening the knobs and removing the rod that goes through the guard.



FIG. R

Polishing Pad—The canvas polishing pad (FIG. R) is attached to the end of the right shaft. It can be removed by turning counter-clockwise. This pad should only be used for one grit of diamond compound. The pad can only be used on the end of the right shaft.



FIG. T

Lap Adapter—This is located at the end of the left wheel assembly. You can use this to add a 1/2" arbor diamond lap to the end of the left wheel assembly. To remove the slotted bolt (FIG. T), use a flat head screwdriver (not included) and twist counter-clockwise.

Flange—The flange is located on the inside of the left shaft closest to the motor. The flange is used to hold the shaft while removing and securing wheel assemblies. If the flange becomes loose, use the included flange key to tighten it (FIG. U).



FIG. U

Knobs—These knobs can be removed by unscrewing the brass set screw located on the side. If you notice that the knobs keep spinning then using a small flat head screwdriver, tighten the set screw by twisting clockwise.



Spacers—These are aluminum rings supplied on the wheel assemblies to create proper distance between wheels. See Changing Wheels for more info. Spacers are available in 1/2", 3/4", 1".



Stems—The stems are located behind the motor used for attaching optional accessories like a light or magnifier.



FIG. I

Stone Trays—These are the two clear trays on the hoods for you to place stones as you are grinding.



FIG. J

Resin Diamond Wheels—Our resin wheels (FIG. N) are formulated to be used exclusively together. When ordering replacement wheels, make sure not to mix and match with other brands of wheels. Doing so will most likely result in scratching and improper grinding/polishing. If you plan on using other types of resin wheels, make sure to replace all the wheels. Also, note that using other brands of wheels may change the spacing configuration. You may need to purchase additional spacers to make the wheels fit properly



FIG. N

Diamond Laps— The CABKING-6V3 is configured to accept a standard 1/2" arbor hole lap (FIX. Y) with base to be used on the brass adapter located on the left shaft or a full face lap (FIG. Z) with 1/4"-20 thread to be used on the end of the right shaft. The CABKING-6V3 comes standard with a 360# diamond full face lap for use on the right shaft only. Full face laps are useful for putting flats on larger cabs.



FIG. Y



FIG. Z

Light Bulbs—40W, 110V miniature halogen bulbs can be purchased through your dealer or from www.CABKING.us.



Replacement Parts— All the wheels, polishing pads, diamond laps, diamond compound, spacers and other CABKING-6V3 accessories are best purchased from www.CABKING.us

Optional Accessories— The CABKING-6V3 can be fitted with many optional accessories. Some of them are: sintered grinding wheels, concave grinding wheels, polishing buffs and polishing wheels. Please contact your dealer for more information or visit www.CABKING.us

TROUBLESHOOTING

PROBLEM	RECOMMENDED SOLUTION
PARTS MISSING OR DAMAGED	CONTACT YOUR DEALER IMMEDIATELY FOR REPLACEMENTS
MOTOR IS HOT	THIS IS NORMAL. BY DESIGN THE MOTOR IS TOTALLY ENCLOSED AND NON-VENTILATED. THIS MEANS THAT THE HEAT GENERATED BY THE MOTOR DISSIPATES THROUGH ITS HOUSING. THE NORMAL TEMPERATURE RANGE IS 150F-165F. AVOID CONTACT WITH THE HOUSING AT THESE TEMPERATURES.
MOTOR MAKES A HIGH PITCH SOUND	THIS IS TYPICALLY DUE TO THE TABLE OR PLATFORM THAT THE CABING-6V3 IS PLACED ON. PLACE SOME CARDBOARD OR CLOTH UNDER THE MACHINE TO ABSORB THE VIBRATION.
MOTOR VIBRATES OR SHAKES	MAKE SURE THE WHEELS ARE PROPERLY BALANCED. SOMETIMES IN SHIPPING THE WHEELS WILL BECOME UNBALANCED. THIS CAN BE FIXED BY TAKING THE WHEELS OFF AND REALIGNING THEM. MAKE SURE TO TIGHTEN THE SHAFT PROPERLY.
WATER CONTROL KNOBS KEEP SPINNING	MAKE SURE TO TIGHTEN THE SET SCREW ON THE KNOB USING A FLAT HEAD SCREWDRIVER.
WHEELS DON'T TURN	MAKE SURE POWER IS CONNECTED AND MACHINE IS TURNED TO THE ON POSITION.
	MAKE SURE THE WHEELS ARE NOT OBSTRUCTED. IF THE WHEELS ARE CAUGHT ON SOMETHING BEFORE YOU TURN ON THE MOTOR, THERE WILL NOT BE ENOUGH MOMENTUM TO START SPINNING.
WATER FLOW IS WEAK OR DOESN'T FLOW AT ALL	TURN WATER CONTROL KNOB SO IT WON'T TURN ANYMORE
	CHECK IF THERE IS WATER IN THE BUCKET WITH PUMP
	CHECK IF PUMP IS CONNECTED TO POWER SUPPLY
	CHECK ALL TUBING IS CONNECTED PROPERLY
	CLEAN NOZZLES AND Y--SPLITS WITH PIPE CLEANER OR SMALL BRUSH.
DRIP PANS DO NOT DRAIN	SHAKE THE TUBES TO START THE FLOW WHILE TILTING THE PANS UP.
	MAKE SURE DRIP PAN TUBING IS ANGLED DOWNWARD. THE TUBING SHOULD ALSO BE CUT TO LENGTH AFTER SETTING UP THE UNIT.
	CLEAN THE DRIP PAN OUTSPOUT
NOZZLE / WATER SYSTEM PARTS ARE LOOSE OR FALL OFF	WE SUGGEST USING SOME TEFLON TAPE OR ANY THIN SOFT TAPE AND WRAPPING THE PORTION OF THE NOZZLE THAT IS INSERTED INTO THE Y-SPLIT WITH ENOUGH TAPE TO TIGHTEN THE FIT.

ONE YEAR LIMITED WARRANTY

The CABKING-6V3 is warranted by REENTEL International Inc. to be free from defect for the period of one year from the date of purchase.

What does this warranty cover?

This warranty covers all parts of the CABKING-6V3, including the motor and pump, excluding the light bulb and wheels.

What this warranty does not cover?

Your warranty does not cover problems resulting from any abuse, misuse, intentional damage, incorrect usage, failure to adequately take care of the machine, or improperly following the instructions.

Who is covered under this warranty?

The warranty covers the original purchaser of the equipment. This warranty is non-transferrable.

What is the warranty period?

The warranty is in force for one year from the date of purchase. Please retain this book for your records.

What to do if you need warranty service?

Contact your dealer. They will determine how best to deal with your problem. Shipping to your dealer or us will be at your expense. If your problem is determined to be under warranty, we will pay for return shipping. You can also send an email to:

warranty@cabking.us

Manufactured by:

REENTEL International Inc., 808 Burr Oak Dr., Westmont, IL 60559, USA