



All-U-Need Instruction Manual



IMPORTANT SAFETY INSTRUCTIONS



READ FIRST



For your own safety be sure to read, understand and follow all warnings, safety rules and instructions in this instruction manual before using this machine. Failure to do so can result in serious personal injury. This instruction manual is intended for the following machine models: 20-020, 20-021, 20-023, 20-024, 21-001, 21-002, 21-003 and 21-005.

READ ALL INSTRUCTIONS

SETUP SAFETY

- **KNOW YOUR POWER TOOL.** Read this instruction manual carefully. Learn the correct applications and limitations as well as specific warnings and hazards related to this machine.
- **INTENDED FOR INDOOR USE ONLY.**
- **AVOID DANGEROUS ENVIRONMENTS.** Do not use this machine near gasoline or other flammable liquids.
- **MAKE SURE MACHINE IS SECURELY PLACED ON A STURDY, LEVEL SURFACE WITH AMPLE WORKING AREA AND AWAY FROM OPEN ELECTRICAL OUTLETS.**
- **USE ONLY RECOMMENDED ACCESSORIES.** The use of improper accessories on this machine may cause risk of injury.
- **CHECK FOR DAMAGED PARTS.** Before use of this machine, always check for any damaged parts to determine that it will operate properly and perform its intended function. Check for proper alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A part that is damaged must be properly replaced through the manufacturer of this machine to avoid risk of injury.
- **USE ONLY IDENTICAL ALL-U-NEED PARTS FOR REPLACEMENT PARTS.** Use of any other parts not originally intended for the All-U-Need may create a hazard or cause product damage.

USAGE SAFETY

- **ALWAYS WEAR PROPER EYE PROTECTION** to protect you from any debris that may fly out while grinding. We recommend wearing safety goggles or safety glasses with side shields. Everyday glasses are NOT safety glasses. If anyone is around the machine while it is in use, they must wear safety glasses.
- **ALWAYS WEAR PROPER APPAREL.** Do not wear any loose clothing, gloves, neckties or jewelry that can get caught in the machine's moving parts. Long hair must be secured with a rubber band or hair tie.
- **KEEP WORK AREA WELL LIT AND CLEAN.** Make sure your work area is not cluttered.
- **ADULT SUPERVISION IS REQUIRED AT ALL TIMES.** Never leave the machine running unattended.
- **DO NOT OPERATE UNATTENDED.**
- **DO NOT OPERATE THIS MACHINE WHILE UNDER THE INFLUENCE OF DRUGS, ALCOHOL OR ANY MEDICATION.**
- **NEVER RUN DISCS DRY.** Make sure there is adequate water used while grinding so that rock dust is not formed. This dust contains chemicals that can be hazardous to your lungs if inhaled and is known to cause cancer, birth defects or other reproductive harm. To reduce your exposure to these chemicals, work in a well ventilated area and wear a face or dust mask if the grinding operation is dusty.
- **USE ONLY WATER AS COOLANT.**
- **SOME ROCKS CONTAIN POISONOUS ELEMENTS.** Avoid grinding rocks that contain uranium, mercury, lead, arsenic, etc. Be certain you know the material you are grinding.
- **DO NOT ALLOW WATER TO RUN DOWN THE SHAFT AND INTO THE MOTOR.** This will cause the motor to instantly burn out. This machine is designed in such a way that this does not occur with normal use.
- **DO NOT ALLOW THE WATER LEVEL TO BUILD UP IN THE CATCH TRAY.** Be sure the drainage hole is open so water does not back-up in the catch tray and possibly leak down the motor shaft.

- **DO NOT FORCE THE TOOL** or attachment to do a job it is not designed to do.
- **NEVER GRIND MORE THAN ONE WORKPIECE AT A TIME.**
- **DISCS CONTINUE TO SPIN AFTER TURNOFF** eventually slowing to a stop.
- **AVOID AWKWARD OPERATIONS AND HAND POSITIONS.** Make sure you have good balance while working on this machine. A sudden slip could cause your hand to move into the disc.
- **ALWAYS STAY ALERT.** You must be focused while working on this machine. It is possible for stones to catch on the discs and be ejected out of the grinding area.

MAINTENANCE SAFETY

- **ALWAYS DISCONNECT POWER BEFORE SERVICING.** Disconnect machine from power source before making any adjustments and when not in use.
- **DO NOT ABUSE CORD.** Never carry the machine by the cord or yank it to disconnect from receptacle. Keep cord away from heat, oil and sharp edges.
- **DO NOT OPEN THE BLACK CONE BODY.** There are no user serviceable parts inside.
- **CLEAN AND DRY MACHINE AFTER USE.**

SAVE THESE INSTRUCTIONS

Table of Contents

SAFETY INSTRUCTIONS..... 2

MACHINE DETAILS..... 6

OPERATING INSTRUCTIONS..... 7

GRINDING & POLISHING PROCESS..... 8

MAINTENANCE..... 9

OPTIONAL CUP HOLDER INSTRUCTIONS..... 10

FAQ..... 11

OPTIONAL ACCESSORIES..... 12

WARRANTY INFORMATION..... 15

Machine Details

What you see in the picture below is everything you should have when you unpack your All-U-Need machine:



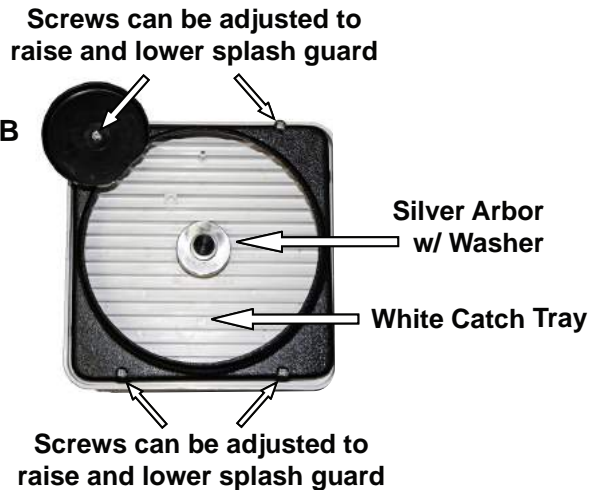
Operating Instructions

- 1) Carefully unpack the All-U-Need from the box and check all packaging material to make certain no accessories or small parts are inadvertently discarded. Should the machine arrive damaged, **IMMEDIATELY** contact the shipping company. If there are any missing parts or defects in the material or workmanship, contact Hi-Tech Diamond for repair or replacement at repairs@hitechdiamond.com.
- 2) Make sure the machine sits level on the table you are working on and the white catch tray is securely mounted on a horizontal plane on the motor housing. If the tray is raised or tilted, it will hit the motor shaft or silver arbor and rub, causing a squeaking sound on the 2" arbor.
- 3) Install the water system by inserting the black tube with valve into the white cup with the hole. Position the cup on top of the spray shield. Insert the clear drain tube into the drain hole on the bottom right side of the white catch tray. Position the other white cup under the drain tube. See cover image for correct water set-up. Fill the top cup with **CLEAN** water. **NEVER** re-use water.
- 4) Among the accessories included with your All-U-Need, you will find four colored Diamond Smoothing Discs, one white Tech-10 Pad, and four backing plates. To prepare these items for use, they must first be assembled. To do this, remove the protective backing from the Diamond Smoothing Discs. Make sure to center properly. The disc may be slightly smaller than the backing plate. Improper centering may cause the disc to spin out of round resulting in machine vibration. Apply the exposed pressure sensitive adhesive to the clean, smooth surface of a hard backing plate. Make sure the discs have an even contact with the backing plate surface. Clip a hole with a sharp knife, following the 1/2" center hole in the backing plate (**FIG. A**). This is where the 1/4"-20 thread black knob goes through.

FIG. A



FIG. B



- 5) Set the 180 Mesh Electroplated Diamond Disc on the arbor and secure with the 1/4"-20 thread knurled black knob and washer (**FIG. B**). This is the first disc you need to use to start shaping your rough material. Put on your safety goggles (not included) and turn the power switch on. Adjust the water drip so that the water is aimed at the center of the disc. You only need drops of water to adequately cover the discs. You can control the splash by raising or lowering the black splash guard.

Grinding & Polishing Process

NOTE: When you are finished using any of the diamond discs, rinse and spin completely dry. Make sure to store them in a clean, dry plastic bag. All discs are made with industrial grade diamonds. **The maximum weight of any discs/laps shouldn't exceed 1.5lbs on your All-U-Need machine.**

Step 1: 180 Mesh Electroplated Diamond Disc (Rough Shaping)

The 180 Mesh Diamond Disc is used for stock removal and shaping of hard-to-grind materials covering a wide hardness range. **NEVER** use discs dry and use only clean water as a lubricant. Do not use wipers or sponges, as they can become contaminated with cutting debris and larger diamond particles. Contamination from coarse material will cause hard-to-remove scratches in the material you are working with. Grind the edge of your material to fit the mounting or template. Also, remove bulk of material to create your desired shape gemstone. Remove as many flat spots as possible if you are making a domed cabochon. If a sharp edge is present on your material, gently apply the sharp edge to the diamond disc to prevent possible chipping of your material.



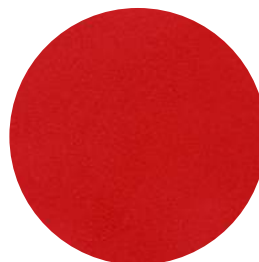
Step 2: 325 Mesh Brown Smoothing Disc (Smoothing)

This disc is used following the 180 mesh metal disc to further refine the desired shape. It also removes scratches and flat spots left from the 180 rough grinding process. It is important to remove all scratches from Step 1 because these scratches are difficult, sometimes impossible to remove later on. Rinse black spray shield before proceeding to Step 3.



Step 3: 600 Mesh Red Smoothing Disc (Smoothing)

This disc is used following the 325 mesh smoothing disc. The 600 mesh red smoothing disc is used to further refine the work piece before proceeding to the next step. It is not as aggressive as the last disc and is excellent for removing the scratches and flat spots remaining.



Step 4: 1200 Mesh Blue Smoothing Disc (Pre-Polish)

This disc is used following the 600 mesh smoothing disc. Once you have completed shaping your stone through the previous steps, you use this disc to remove any scratches left from Step 3. This disc is a pre-polish pad, prepping your stone for the final step.



Grinding & Polishing Process

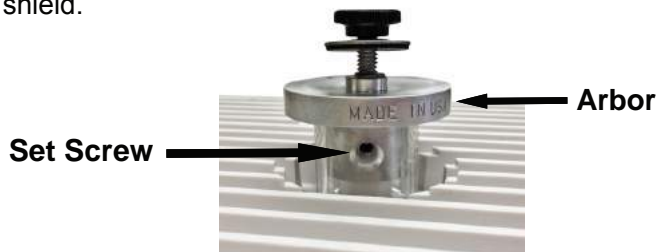
Step 5: Tech-10 Polish Pad w/ 14,000 Diamond Compound

The white Tech-10 Pad needs to be charged with the 14,000 Mesh Diamond Compound. This is used for the final polish on your stone. This pad is **NOT** to be used with water. Run it dry. The Diamond Compound mixture contains its own carriers, making this unnecessary. However, if you are working with Brittle heat sensitive material such as opal, be careful not to let your work piece get too hot. Lower your RPM and check your work piece frequently to avoid this. To charge your polishing pad, take the syringe of 14,000 Mesh Diamond Compound, remove the cap and squeeze a small amount onto your Tech-10 Pad. Turn your machine on so that it spins slowly. Use your fingers to distribute the Diamond Compound overwork area of the Tech-10 Pad. Once you have charged your Tech-10 Pad, turn your machine on to working speed and apply work piece. Use only one type of polishing compound per polishing pad.



Maintenance

1) Oiling: The only thing you ever oil on your All-U-Need machine is the inside of the 2" arbor. This is necessary because the motor shaft and arbor are made of different materials. Over time, they can seize together, making it impossible to remove the arbor. Every two months or so, remove the arbor by sticking the hexagonal wrench into the set screw, turning counter-clockwise. Turn the arbor upside down. Apply a few drops of motor oil or way oil in the area where it fits on the shaft, making sure there is no excess oil. Make sure that no oil drips down the motor shaft. This will cause an instant motor burn-out. A bit of lithium or water pump grease will serve as well. When putting the arbor back on the shaft, be sure the screw is positioned against the flat side of the motor shaft. If the screw is positioned against a rounded side of the shaft, it will make a squeaking noise and create friction, causing the motor shaft to feel hot. Once the arbor is properly positioned, check the set screw for tightness on the arbor, using the hexagonal wrench. Do not over tighten the screw, as you will need to remove it regularly to clean the tray. The arbor may be adjusted up and down if necessary to keep the spinning disc below the black spray shield.



2) Cleaning: After every use, the All-U-Need is easily disassembled for cleaning. Rinse the black splash guard and flush out white catch tray with **CLEAN** water. Any used water must **NOT** be disposed down a sink as it can harden like cement, closing off the drain. Allow the machine to dry completely then store it in a safe place, away from children.

Optional Cup Holder Instructions

We are always trying to make our products better for our customers. A new, helpful addition to the All-U-Need is the All-U-Need Cup Holder. Instead of a loose, tilted cup that isn't held up by anything but the drain tube, we have added a cup holder to your All-U-Need to secure the cup. For a visual, the pictures below are the before and after images:

Without Cup Holder



With Cup Holder



Since this is an optional addition, you will have to install it yourself. Follow these three simple instructions to install your new cup holder:

- 1)** You will find the black cup holder in your water kit bag, take it out.
- 2)** Take a screwdriver and unscrew the screw that comes in your All-U-Need base. You will find the screw in your All-U-Need base in the front right corner.
- 3)** Center the hole in the black cup holder with the hole in the base and screw the black cup holder into the All-U-Need base.

IMPORTANT NOTE: Do not over-tighten the screw or the screw may strip the hole. If this happens, the screw will not be able to tighten. Only tighten the screw so there is a snug fit.



FAQ

Who do I contact if I need a repair or replacement for my All-U-Need?

All repairs are done in-house by qualified personnel. For any repairs or replacements concerning your All-U-Need, contact Hi-Tech Diamond for repair or replacement at sales@hitechdiamond.com. You will also receive a new one year warranty on all replaced parts.

How do you flush the white catch tray when you are cleaning the All-U-Need?

Every time you are done using your All-U-Need, you must flush the white catch tray. Sediment from the rocks you are working with will end up in the white catch tray so you must clean this out to prevent the sediment from getting hard and possibly clogging the drain tube. You can do this by taking a bucket of water and pouring the water into the white catch tray so all the sediment will get flushed down the drain tube. Once you see all the sediment gone and the white catch tray is clean, you are all set for the next time you work with the All-U-Need. If you need to remove the white catch tray for further cleaning, you can do so by removing the arbor as described in the Oiling section. Remember, it will be easier for you in the long run to flush out the white catch tray frequently.

What should I do if my drain tube keeps clogging with sediment?

You can flush out the sediment with lots of water or with an air spray gun. Remember to always flush out the white catch tray every time you use your All-U-Need.

What is the clear tube attached to the arbor for?

This is a new addition on all of our All-U-Need machines. This tube will help prevent water to get into the motor. The All-U-Need is designed in such a way that water should never get into the motor but we take every precaution to prevent this from happening.

My motor is beginning to rust, why is this?

Your motor should never rust. The only way your motor can begin to rust is if there is water getting to the motor. Like the answer above, water should never get into the motor so if you are seeing rust, you must make sure your set-up doesn't allow water to drip into the motor.

My All-U-Need is making a loud, squeaking noise. Why is this?

Your All-U-Need should never make a loud squeaking noise. If it is, you either haven't oiled your shaft in a while or your white catch tray is raised or tilted, thus hitting the motor shaft or arbor causing them to rub against each other. Always make sure your machine sits on a level table.

Can I place new smoothing discs on top of old, used smoothing discs?

We don't recommend this. Our smoothing discs are meant to be applied to a clean, smooth backing plate for the adhesive to properly stick. The uneven wear of the previous smoothing disc may cause the new smoothing disc to not stick properly or not lay on a flat surface, thus causing bumps. When it is time to buy a new smoothing disc, always order a new backing plate along with it.

Optional Accessories

These accessories can be purchased through Hi-Tech Diamond at www.HITECHDIAMOND.com

Backing Plates

These molded composite discs have a 1/2" arbor hole. They are the backing plates used for smoothing discs and polishing pads.

SIZE	PRODUCT ID
------	------------

6"	32-007
----	--------

8"	32-009
----	--------



Tech-10 Polish Pad

These polish pads offer polishing for a wide variety of material. Charge with cerium oxide, tin oxide or diamond compound.

SIZE	PRODUCT ID
------	------------

6"	33-221
----	--------

8"	33-223
----	--------



Final Polish Pads

These polish pads are specially designed to put a final mirror polish on your gemstones. They eliminate having to mess with pastes because each pad comes pre-charged with cerium oxide.

SIZE	PRODUCT ID
------	------------

6"	33-117
----	--------

8"	33-119
----	--------



Sponge Pads

These sponge pads are 1/8" thick with pressure adhesive backing. Place them under diamond smoothing discs. The cushion helps remove flat spots from cabochons.

SIZE	PRODUCT ID
------	------------

6"	33-333
----	--------

8"	33-337
----	--------



Optional Accessories

Diamond Smoothing Discs

These diamond smoothing discs offer a variety of grits used to grind and pre-polish your stones. Using a propriety technique, a high concentration of diamond is loaded into each disc to provide an extremely aggressive grinding rate, yet leaving an exceptionally smooth surface finish. They are used on our All-U-Need, Slant Cabber and many other lap machines.

Diamond Smoothing Disc Kits Include:

One 325#, One 600#, One 1200#, One Tech-10 Polish Pad, One 14K Diamond Compound Syringe

DIAMETER SIZE & GRIT	PRODUCT ID
6" - 220# Diamond Smoothing Disc	30-021
6" - 325# Diamond Smoothing Disc	30-023
6" - 600# Diamond Smoothing Disc	30-025
6" - 1200# Diamond Smoothing Disc	30-027
6" - 3000# Diamond Smoothing Disc	30-035
6" - Diamond Smoothing Disc Kit (without backing plates)	30-300
6" - Diamond Smoothing Disc Kit (with four backing plates)	30-370
8" - 220# Diamond Smoothing Disc	30-121
8" - 325# Diamond Smoothing Disc	30-123
8" - 600# Diamond Smoothing Disc	30-125
8" - 1200# Diamond Smoothing Disc	30-127
8" - 3000# Diamond Smoothing Disc	30-135
8" - Diamond Smoothing Disc Kit (without backing plates)	30-310
8" - Diamond Smoothing Disc Kit (with four backing plates)	30-375



Optional Accessories

Electroplated Diamond Discs

These electroplated diamond discs are the perfect tool for the commercial cutter or serious hobbyist. They are used on our All-U-Need, Slant Cabber and many other lap machines. Top grade diamonds are electroplated uniformly onto a steel plate, resulting in the highest quality lap on the market. All electroplated discs come with a 3M pressure sensitive high-tack adhesive backing.

We also have these Electroplated Discs prebound to backing plates available on our website at www.HITECHDIAMOND.com.

DIAMETER SIZE & GRIT	PRODUCT ID
6" - 080# Electroplated Diamond Disc	54-043
6" - 100# Electroplated Diamond Disc	54-041
6" - 180# Electroplated Diamond Disc	54-039
6" - 260# Electroplated Diamond Disc	54-037
6" - 360# Electroplated Diamond Disc	54-036
6" - 600# Electroplated Diamond Disc	54-035
6" - 1200# Electroplated Diamond Disc	54-033
6" - 3000# Electroplated Diamond Disc	54-031
8" - 080# Electroplated Diamond Disc	54-125
8" - 100# Electroplated Diamond Disc	54-123
8" - 180# Electroplated Diamond Disc	54-121
8" - 260# Electroplated Diamond Disc	54-119
8" - 360# Electroplated Diamond Disc	54-118
8" - 600# Electroplated Diamond Disc	54-117
8" - 1200# Electroplated Diamond Disc	54-115
8" - 3000# Electroplated Diamond Disc	54-113

More grits available online!



One Year Limited Warranty

Your All-U-Need is warranted by Reentel International Inc. to be free from defect for one full year from the date of your purchase.

What does this warranty cover?

This warranty covers all parts of your All-U-Need machine.

What doesn't this warranty cover?

This warranty does not cover problems resulting from any abuse, misuse, intentional damage, incorrect usage, failure to adequately take care of your All-U-Need or improperly following the instructions. It also does not cover rusty motors, as this is a result from water getting into the motor which should never occur if used properly.

Who is covered under this warranty?

This warranty covers the original purchaser of the equipment. This warranty is nontransferable.

What is the warranty period?

This warranty is in force for one full year from the date of your purchase. Please retain the original invoice of your machine for proof of warranty.

Who should I contact if I need warranty service?

Contact Hi-Tech Diamond directly and we will provide you a solution for your problem. Shipping to us will be at your expense. If your problem is determined to be under warranty, we will pay for return shipping. **You must PROVE you are under warranty by providing us with the original invoice of your machine to receive our warranty service.**



Manufactured by:

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

Phone:

1.630.596.9909

E-mail:

sales@hitechdiamond.com

Website:

www.hitechdiamond.com

 www.facebook.com/hitechdiamond

 www.twitter.com/hitechdiamond

