

APT2009



# Owner's Manual

# **2 ROTARY COMBO KIT**



READ AND SAVE THESE INSTRUCTIONS!

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# Rotary Tool

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## Table of Contents

Topic	Page
Safety Guidelines - Definitions	3
General Precautions	4
Additional Warnings	7
Operation	12
Recommended Speeds	23
Maintenance	28
Limited Warranty	29

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***WARNING! READ AND UNDERSTAND ALL SAFETY PRECAUTIONS IN THIS MANUAL BEFORE OPERATING. FAILURE TO COMPLY WITH INSTRUCTIONS IN THIS MANUAL COULD RESULT IN PERSONAL INJURY, PROPERTY DAMAGE, AND/ OR VOIDING OF YOUR WARRANTY. ALL POWER AMERICA WILL NOT BE LIABLE FOR ANY DAMAGE BECAUSE OF FAILURE TO FOLLOW THESE INSTRUCTIONS.***

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# Owner's Manual

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## Safety Guidelines - Definitions

This manual contains important information that you need to know and understand in order to protect YOUR SAFETY and to PREVENT EQUIPMENT PROBLEMS. The following symbols help you recognize this information. Please read the manual and pay attention to these sections.



**WARNING! WARNINGS INDICATE A CERTAINTY OR STRONG POSSIBILITY OF PERSONAL INJURY OR DEATH IF INSTRUCTIONS ARE NOT FOLLOWED.**



**CAUTION: CAUTIONS INDICATE A POSSIBILITY OF EQUIPMENT DAMAGE IF INSTRUCTIONS ARE NOT FOLLOWED.**



*Note: Notes give helpful information.*



**WARNING! IMPROPER OPERATION OR MAINTENANCE OF THIS PRODUCT COULD RESULT IN SERIOUS INJURY AND PROPERTY DAMAGE. READ AND UNDERSTAND ALL WARNINGS AND OPERATING INSTRUCTIONS BEFORE USING THIS EQUIPMENT. WHEN USING AIR TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF PERSONAL INJURY.**

## Save These Important Safety Instructions!

Read and understand all of these safety instructions. Be sure to retain them for future use.



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# Rotary Tool

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## General Precautions



**WARNING! FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN SEVERE INJURY OR DEATH.**



**CAUTION: FAILURE TO FOLLOW THESE INSTRUCTIONS CAN ALSO RESULT IN DAMAGE TO THE TOOL AND/OR THE ITEM YOU ARE WORKING ON.**

- Verify that the power supply in your area is compatible with the voltage listed on the tool's label.
- Check the tool, cord, and plug for damage before each use.
- Make sure the tool is turned off before connecting the electrical cord.
- Always start the tool before setting it against the piece you are working on.
- Watch for and avoid potential electrocution hazards. Avoid bodily contact with grounded objects such as metal pipes, radiators, cooking ranges, refrigerators, and so forth when using the tool. Never work on any item that is connected to a live electrical circuit. Always disconnect electrical items before working on them.
- Large temperature variations cause condensation, which can increase the hazard of electrocution and/or internal corrosion. Allow the tool to adjust to the temperature of the work area for several minutes before each use.
- Do not use this tool, its charger, or any accessory for any purpose other than those for which they have been specifically designed.
- Secure all items you are working on. Use clamps, vices, or other securing devices as needed.
- Never wear jewelry or loose clothing that can become entangled in moving parts. Tie or otherwise secure long hair away from the tool and work area. Always wear fitted clothing and any protective items that may be necessary such as gloves, goggles, etc.
- Always wear protective goggles when using this tool.
- If working around dust, splinters, or shavings, wear a protective mask to avoid inhalation hazards.
- Always wear ear protection.

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# Owner's Manual

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## General Precautions (cont'd)

- Always wear suitable non-slip safety footwear where there is a risk of heavy objects injuring feet or if there is a risk of slipping on wet or slippery floors.
- Where there is a risk of falling objects or hitting your head on protruding or low level obstructions, a hard hat should be worn.
- Be sure you always have sure footing, especially when working on ladders and scaffolding.
- Keep electric tools away from humidity and rain. Do not immerse.
- When working outdoors, only use tools and extension cables designed and approved for outdoor use.
- Do not use the equipment in any areas any danger of fire or explosion exists. Keep batteries away from heat and allow to cool if warm.
- If the tool requires repair, be sure to have all work performed by a qualified technician.



***WARNING! CONSUMING ALCOHOL, MEDICATION, OR DRUGS, OR HEALTH PROBLEMS SUCH AS ILLNESS, FEVER, OR FATIGUE, AFFECT YOUR ABILITY TO PLAN AND REACT. NEVER USE ANY ELECTRICAL EQUIPMENT WHILE UNDER THE INFLUENCE OF ALCOHOL, DRUGS, HEALTH PROBLEMS, OR FATIGUE.***

- Keep all electric tools away from children.
- Store electric tools in the original box in a clean dry location out of the reach of children.
- Always unplug the power cable when the tool is not in use or when you are taking breaks or changing accessories.
- Never carry the tool by the cable. Never unplug the tool by pulling on the cable.
- When working, do not allow the motor to stall under the load.
- Keep your work place tidy. Untidiness can cause accidents!
- Avoid abnormal body postures while working.
- Make sure not to start the tool unintentionally.
- Do not leave keys, spanners, adjusting tools, etc. inserted in the tool.

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# Rotary Tool

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## General Precautions (cont'd)

- Keep cutting tools sharp and clean.
- Follow all instructions for lubrication and changing accessories.
- Before using the power tool, check it carefully to ensure that it will operate properly and perform its intended function.
- Check that all moving parts are correctly aligned and free from binding.
- Check for broken or missing parts and have them replaced or repaired at an authorized service center.
- If the power tool requires mounting make sure it is securely attached to a suitable work bench.
- Check any other condition that may affect the operation of the power tool.
- Any damaged guard or any other damaged part of the power tool should be properly repaired or replaced by an authorized service center unless otherwise indicated in this instruction manual.
- Any switch that does not operate correctly must be replaced by an authorized service center. Do not use the power tool if the ON/OFF switch does not turn the power tool ON and OFF.
- Do not attempt to modify the power tool in any way. The use of any attachment or accessory other than those recommended in this instruction manual could result in damage to the power tool and injury to the operator.
- This electric power tool complies with national and international standards and safety requirements. Repairs should only be carried out by qualified persons using original spare parts. Failure to do so may result in considerable danger to the user.
- If using the power tool inside your house, protect furnishings and floors with a suitable dust sheet.
- Always observe general fire safety precautions when using certain power tools inside your house or workshop. It is recommended that you have an appropriate fire extinguisher available at all times while working.

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# Owner's Manual

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## Additional Warnings

### Electrical Safety

- This double-insulated tool comes equipped with a polarized plug where one blade is wider than the other. This plug only fits in a polarized outlet one way. If the plug does not fit into the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not modify the plug in any way to fit a non-polarized outlet.
- Double insulation eliminates the need for three-wire grounded cables and plugs. Be certain that the outlet voltage supplied is within the voltage marked on the tool. Never use AC tools with a DC power supply or vice-versa.
- Avoid coming in contact with pipes, radiators, ranges, refrigerators, and other grounded devices as grounding your body increases your risk of electric shock. If you must operate the tool in damp locations, use a Ground Fault Circuit Interrupter (GFCI) to supply the power to your tool. Rubber electrician gloves and footwear provide further protection against electrical shock.
- Never use this power tool in rain or wet conditions as water entering the tool greatly increases the risk of electric shock.
- Do not abuse the power cord. Never carry or unplug the tool using the cord. Keep cord away from heat, oil, sharp edges, and moving parts. Damaged cords increase the risk of electric shock and must be replaced immediately.
- When operating this tool outside, only use an outdoor-rated extension cord to reduce the risk of electric shock.

### Cutting Tool

- This tool requires the use of two hands to ensure safe operation and should not be used when working from ladders and stepladders.



***WARNING! SOME WOOD AND WOOD TYPE PRODUCTS CAN PRODUCE DUST THAT CAN BE HAZARDOUS TO YOUR HEALTH. ALWAYS USE OF AN APPROVED FACE MASK WITH REPLACEABLE FILTERS WHEN USING THIS TOOL IN ADDITION TO USING THE DUST EXTRACTION FACILITY (IF AVAILABLE).***

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# Rotary Tool

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## Additional Warnings (cont'd)

### Cutting Tool (cont'd)

- Ensure that power tools are disconnected from the power supply when not in use, before servicing, lubricating or making adjustments and when changing accessories.
- Always keep the accessory securing mechanism clean and free from dust build-up.
- Do not start the tool with the accessory in contact with the work piece.
- Check the work piece for any protruding nails, screw heads or anything that could damage the accessory.
- Ensure that there are no obstructions underneath the work piece; it is easy to cut into sawhorses and bench tops.
- Always hold the tool by its insulated gripping surfaces when doing an operation where the accessory could contact hidden wiring or the tool's power cord. Contact with a live electrical circuit will make the tool's exposed metal parts live, possibly causing electrical shock. Always disconnect fuses or circuit breakers whenever working in any area where you could come in contact with electrical wiring.
- Always hold the hand piece firmly in your hands during the start-up. The reaction torque of the motor, as it accelerates to full speed, can cause the shaft to twist.
- Do not alter or misuse tool. Any alteration or modification is a misuse and may result in serious personal injury.
- Always disconnect the power cord before attaching or changing accessories. The tool could start unexpectedly, causing serious personal injury.
- Be aware of the switch location when picking up or setting down the tool to avoid accidental starting and possible injury.
- Never leave running tools unattended. Always stop and unplug the tool before leaving it.
- Clean the tool's air vents regularly to prevent overheating.



***WARNING! NEVER USE THIS PRODUCT AS A DENTAL DRILL OR IN ANY HUMAN OR VETERINARY MEDICAL APPLICATIONS. SERIOUS PERSONAL INJURY OR DEATH COULD RESULT.***

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# Owner's Manual

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## Additional Warnings (cont'd)

### Accessories



***WARNING! ALWAYS WEAR EYE PROTECTION WHEN USING THIS TOOL. HIGH-SPEED ACCESSORIES CAN DISCHARGE PARTICLES, BRISTLES, OR OTHER DEBRIS OR CAN COME APART DURING USE. FLYING DEBRIS CAN CAUSE SERIOUS INJURY.***

- Do not stop the tool by forcing the accessory or by using sideways pressure.
- Do not use accessories that are bent, damaged, or have missing teeth. This is highly dangerous and could result in a serious accident causing injury to the operator and bystanders and damage to the tool.
- Only use accessories that are recommended by the supplier and that are in good condition.
- Do not force the tool; let the accessory do the work. This will reduce the wear on the tool and accessory, increasing its efficiency and operating life.
- Accessories must be rated for the speed recommended on the tool warning label or higher. Wheels and other accessories running beyond their rated speeds can fly apart and cause serious injury.
- Never bend the flexible shaft tighter than a 6" radius. Overly tight bends can generate excessive heat on the jacket or hand piece and cause burns.
- Always tighten the collet nut and any other adjustment devices when attaching accessories. Loose accessories can fly out of the tool with great force, possibly causing injury or property damage.
- Do not place your hands or any other part of your body near spinning accessories. Touching a spinning accessory can cause serious injury.
- Run brush accessories at full operating speed for at least one minute before each use, being sure that the area surrounding the brush is clear. This procedure will remove loose bristles or wires and help prevent injury or damage to the item you are working on.
- Never operate wire and bristle brushes at speeds above 15,000RPM. Always aim brushes away from you. These accessories discharge particles and bristles at high speed, which can become embedded in our skin.

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# Rotary Tool

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## Additional Warnings (cont'd)

### Accessories (cont'd)

- Never apply excessive pressure when using brush accessories. Let the bristle tips do the work. Excessive pressure may damage the piece being worked on and could cause bristles to fly loose, possibly causing injury.
- Handle all accessories with care to avoid chipping, cracking, or bending them. Damaged accessories can come apart at speed and scatter debris at high speed, possibly causing serious injury. Sharp accessories can cause cuts or other injury.
- Always install a new accessory if you drop the tool. Never use a damaged accessory.
- Fragments from burst accessories will fly at high speed and with great force and could cause serious injury. Always position yourself and work in a direction that minimizes the chances of debris flying at you.
- Never use dull or damaged bits. Sharp bits must be handled with care. Damaged bits can snap during use. Dull bits require more force to push the tool, possibly causing the bit to break.
- Round material such as dowels and pipes might roll while being cut, possibly causing the accessory or bit to jump towards you. Always clamp work pieces whenever you cannot guarantee their stability.
- Beware of nails, screws, foreign objects, or unusual surface features that could cause the accessory to catch, bind, slip, or break.
- Always start the tool and bring the accessory up to full operating speed before bringing the accessory in contact with the work piece. Starting the tool with the accessory contacting the work piece can cause the tool to jump out of control.
- Feed the accessory into the work piece in the same direction as the cutting/working edge is exiting the material (the same direction chips and other debris are being thrown). Feeding the accessory in the wrong direction could cause the working edge to climb out of the work piece, possibly causing loss of control and serious injury.
- Shut the tool off immediately if any accessory becomes jammed or otherwise stuck in the work piece. Wait for all moving parts to stop, then unplug the tool before resolving the problem. Leaving the tool plugged in could lead to accidental starting and possibly serious injury.

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# Owner's Manual

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## Additional Warnings (cont'd)

### Accessories (cont'd)

- Never use any grinding or sanding accessory near any flammable material. Sparks could cause a fire.
- Both the tool collet and the accessory might become hot during normal use. Allow to cool before touching.
- Never attempt to hold the work piece with one hand while using any saw or cutting tool. These accessories could bind if they become canted and could cause the tool to kick back, possibly causing serious injury.
- Dust and debris from work pieces may contain chemicals known to cause cancer, birth defects or other reproductive harm. These chemicals may include (but are not limited to) lead from lead-based paints, silica from masonry products, and arsenic and chromium from chemically treated lumber. Always work in a well-ventilated area and use approved safety equipment rated for the specific chemical(s) you might be exposed to.
- Always use accessories at their recommended speeds. This manual includes several tables with recommended speed settings for various accessories on various materials.



***WARNING! RUNNING ACCESSORIES AT EXCESSIVE SPEED CAN CAUSE FRAGMENTATION AND SERIOUS INJURY FROM FLYING DEBRIS. IT CAN ALSO CAUSE THE WORK PIECE TO OVERHEAT, RESULTING IN CHARRING, MELTING, AND/OR DISCOLORATION.***



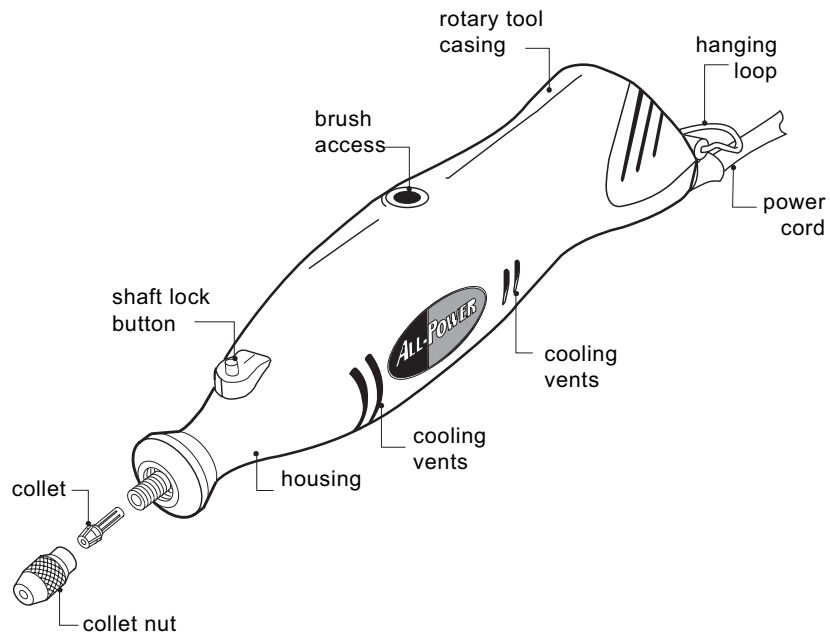
***CAUTION: ALWAYS REFER TO THE RECOMMENDED SPEED TABLES IN THIS MANUAL AND EXPERIMENT ON SCRAP MATERIAL BEFORE STARTING YOUR ACTUAL PROJECT TO ENSURE THAT YOU WILL NOT DAMAGE YOUR WORK PIECE.***

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# Rotary Tool

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## Operation



Your new rotary tools have been engineered and manufactured to All Power America's high standards for dependability, ease of operation, and operator safety. Properly cared for, they will give you years of rugged, trouble-free performance. Every care has been taken to ensure that they reach you in perfect condition. However, in the unlikely event that you should experience a problem, or if we can offer any assistance or advice, please do not hesitate to contact our customer care department at the address or telephone number listed at the back of this manual.

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# Owner's Manual

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## Operation (cont'd)

### Inserting/Removing Accessories



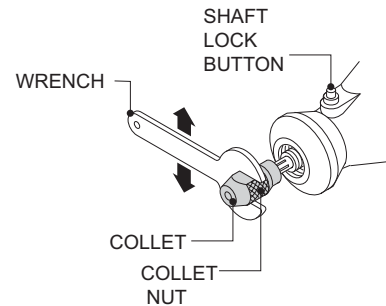
**WARNING! ALWAYS UNPLUG THE ROTARY TOOL BEFORE CHANGING ACCESSORIES/COLLETS OR SERVICING YOUR TOOL THE TOOL COULD START UNEXPECTEDLY, CAUSING SERIOUS INJURY.**

To loosen the collet nut:

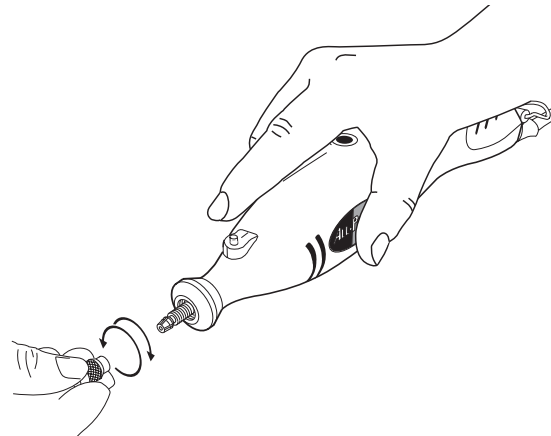
- 1 Press the shaft lock button.
- 2 Rotate the shaft manually until the lock engages and prevents further rotation.



**CAUTION: DO NOT ATTEMPT TO ENGAGE THE SHAFT LOCK WHILE THE TOOL IS RUNNING.**



- 3 Use the wrench to loosen the collet nut by turning in the direction of the arrow labeled **L** in the illustration. The collet nut must be loose in order to insert or remove accessories.
- 4 Remove the old accessory (if any) and install the new accessory, being sure to push it as far as possible into the collet.
- 5 Tighten the collet nut by hand until snug.
- 6 Finish tightening the collet by turning the wrench in the direction of the arrow labeled **T** in the illustration. Do not overtighten.



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# Rotary Tool

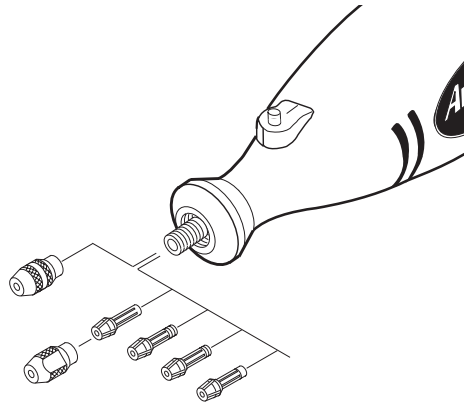
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## Operation (cont'd)

### Collet Sizes

Your rotary tool kit includes four collets to accommodate different accessories with varying shank sizes. To change a collet:

- 1 Loosen the collet nut as described above, then remove the collet nut.
- 2 Remove the old collet.
- 3 Insert the loose collet.
- 4 Tighten the collet nut as described above.



Each collet has a series of rings on its shank that identify its size.

The collet sizes included with your kit are:

- 1/32" - one (1) ring
- 1/16" - two (2) rings
- 3/32" - three (3) rings
- 1/8" - no rings

### Balancing

For best results, be sure to balance each accessory in the collet. Your tool's high RPM makes imbalances easily detectable as a wobble while the tool is running. To balance an accessory:

- 1 Stop the tool.
- 2 Loosen the collet nut.
- 3 Rotate the accessory 1/4 turn.
- 4 Tighten the collet.
- 5 Run the tool.
- 6 Continue adjusting as needed. You will hear and feel when the accessory is properly balanced.

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# Owner's Manual

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## Operation (cont'd)

### General Hints

Your rotary tool and its accessories work using high RPM (up to 35,000PRM) instead of brute force. When working, use the lightest possible touch while retaining full control of the tool and allow the high-speed accessory to do its work. For heavier work, make multiple passes instead of forcing the tool. Do not lean on or push the tool while working.



***WARNING! FORCING THE TOOL COULD CAUSE THE ACCESSORY TO BREAK AND SCATTER FRAGMENTS AND OTHER DEBRIS AT HIGH SPEED. NEVER FORCE THE TOOL AND ALWAYS REMAIN CLEAR OF THE PATH OF DEBRIS. ALWAYS WEAR EYE PROTECTION WHEN USING THIS TOOL. FLYING FRAGMENTS CAN CAUSE BLINDNESS AND OTHER SERIOUS INJURY.***

Your rotary tool can be used for carving, grinding, engraving, polishing, cutting, brushing, drilling, and more. Your kit includes a wide assortment of accessories for these tasks and you can order more by visiting the location where you purchased this kit. This tool uses high speed and low torque- the opposite most power tools, which rely on low speeds and high torque. This gives your rotary tool some unique capabilities, including cutting hardened steel, engraving glass, polishing plastic, and other uses that most power tools simply cannot duplicate. Learning how to use your tool's high speed to best advantage is the key to getting the most from this rotary tool.

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# Rotary Tool

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## Operation (cont'd)

### Using the Tool

Before running your rotary tool, spend some time getting the feel of its weight and balance. The housing is tapered, allowing you to grasp the tool much like a pen or pencil for fine work. be sure to practice on scrap materials until you are comfortable using the tool and are ready to work on actual materials.

To use the tool:

- 1** Insert the correct accessory and tighten the collet nut securely.
- 2** Be sure to wear eye protection and any respiratory protection that may be required.
- 3** Mount or grasp the work piece securely, being sure to follow every precaution listed on pages 6-11 of this manual.
- 4** Grasp the tool using either of the gripping methods shown here. The pencil grip (top) is best for fine work requiring precise control. The golf grip (bottom) is best for rougher work to maintain more control of the tool.
- 5** Start the tool. If using the variable-speed tool, select the appropriate speed for the work you are performing. If using the single-speed tool, it will rotate at approximately 16,000RPM.
- 6** Balance the accessory as described on the previous page.

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# Owner's Manual

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## Operation (cont'd)

### Variable Speed Control

Your rotary tool kit includes a variable-speed tool. The speed-control switch is on the side of the tool, as shown here. To increase the tool's speed, slide the switch down away from the OFF position. To decrease the tool's speed, slide the switch up towards the OFF position. Moving the switch to the OFF position stops the tool.

The numbered indicators next to the switch indicate the tool's approximate RPM as follows:

Speed Setting	Speed Range
2	8,000 - 10,000 RPM
4	11,000 - 15,000 RPM
6	16,000 - 19,000 RPM
8	20,000 - 24,000 RPM
10	25,000 - 35,000 RPM

Certain materials such as plastics and soft metals require lower speeds to avoid overheating and possible damage due to friction. Slower speeds are also best for polishing using the felt polishing accessories and for delicate work with fragile materials. Higher speeds are optimal for carving, cutting, routing, shaping, engraving, etc. in hard materials such as hardwoods, some metals, and glass. Drilling is also best done at high speed in many cases.



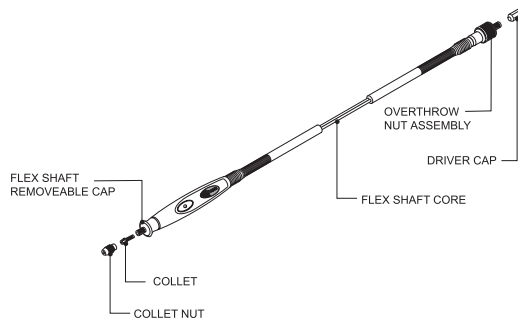
**WARNING! ALWAYS UNPLUG THE TOOL PRIOR TO CHANGING ACCESSORIES. NEVER LEAVE A PLUGGED-IN TOOL UNATTENDED. THE TOOL COULD START UNEXPECTEDLY, CAUSING SEVERE INJURY AND/OR PROPERTY DAMAGE.**

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# Rotary Tool

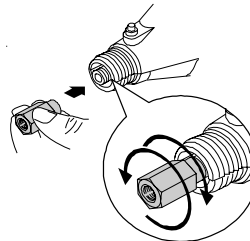
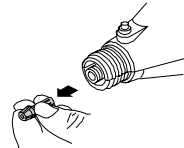
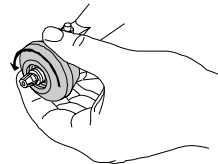
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Your rotary tool kit includes a flex attachment and hanger rod that is useful for extra-delicate work and/or when working in close spaces. When using the flex attachment, be sure not to bend it tighter than a 6-inch radius at any point as this could cause overheating and a possible burn hazard. Overly tight bends will also reduce the attachment life.



To use the flex attachment:

- 1 Remove the collet nut, being sure that the tool is unplugged. You may need to use the wrench to loosen the nut.
- 2 Remove the housing cap and collet as shown here.
- 3 Place the driver cap on the drive shaft and tighten as shown here.
- 4 Insert the threaded end of the flex attachment shaft into the driver cap nut and tighten until secure. Do not overtighten.
- 5 Attach accessories to the flex attachment using the collet and collet nut just as you would to the tool itself.
- 6 Remove the flex shaft by reversing the removal procedure.



You can use the tool hanger to keep your rotary tool out of the way while you work with the flex attachment. To use the hanger tool:

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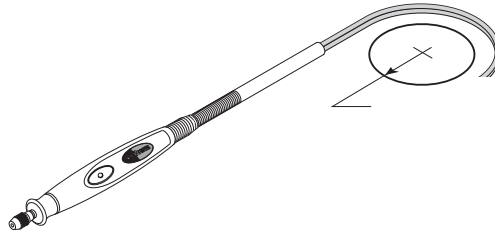
# Owner's Manual

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## Operation (cont'd)

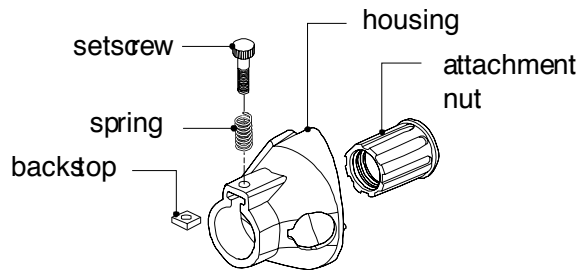
### Flex Shaft (cont'd)

- 1 Secure the clamp base to your work surface in a location where the flex shaft will not be overextended or bent beyond a 6" radius.
- 2 Screw the hanger rod into the base.
- 3 Hang the tool using the wire hanger next to the power cord.



### Milling Cutter Holder

Your rotary tool kit includes a milling cutting holder, which regulates the accessory depth when routing, milling, or shaping. This holder fits onto the end of the rotary tool and features an adjustable depth setting. To fit the milling cutter holder:



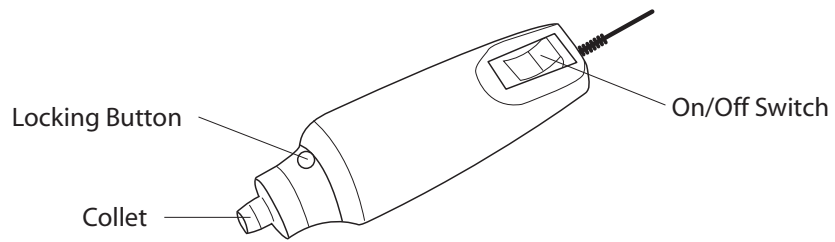
- 1 Remove the housing cap from the rotary tool.
- 2 Secure the attachment nut to the threaded end of the rotary tool.
- 3 Slide the housing over the attachment nut.
- 4 Insert the backstop into the slot in the housing so it rests between the housing and attachment nut.
- 5 Insert the spring and setscrew.
- 6 Adjust the housing to the desired depth by sliding it up and down the attachment nut. Tighten the setscrew when you reach the desired depth.

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# Rotary Tool

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## Operation (cont'd)



## Small Rotary Tool

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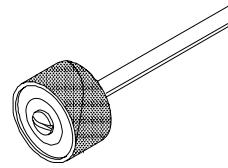
# Owner's Manual

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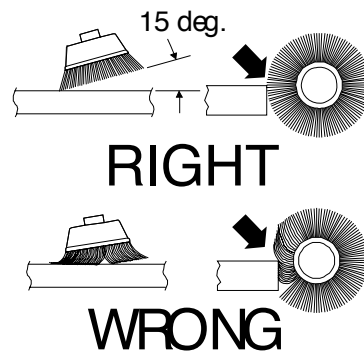
## Accessories

Your rotary tool kit includes the following accessories:

- **Sanding bands:** Your kit includes both a 1/2" x 1/2" and 1/2" x 1/4" sanding shank, which holds sanding bands. These small drum sanders help you shape and smooth surfaces in tight places. Replace bands when they become worn. Bands come in fine grades for finish and delicate work and coarse grades for heavier work. Sanding bands work best at lower speeds. Experiment with scrap material before working on an actual project. To use a sanding band, loosen the screw in the shank, slip the band onto the shank, then tighten the screw to secure the band.



- **Brushes:** Your kit includes several wire and bristle brushes. Wire brushes are useful for cleaning and polishing metal, while bristle brushes are suitable for cleaning softer surfaces. As with all rotary tool accessories, you should let the speed do the work without applying excessive force. Use the bristle tips only without mashing the brush against the work piece as shown in the top part of the illustration on the right.



**WARNING! NEVER RUN BRUSHES AT SPEEDS ABOVE 15,000 RPM. THE BRUSH COULD EJECT BRISTLES AT HIGH SPEED WHICH COULD BECOME EMBEDDED IN YOUR SKIN OR WHICH COULD CAUSE OTHER SERIOUS INJURY.**

- **Drill bits:** Your kit includes high-speed steel drill bits. These are suitable for most drilling applications in wood, plastic, and thin metal. For ceramics, drywall, or other specialized applications, you will need to purchase an appropriate drill bit.



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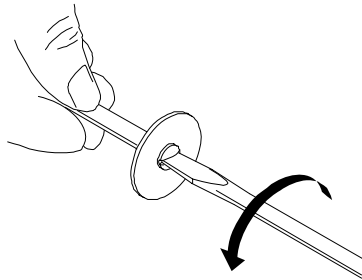
# Rotary Tool

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## Operation (cont'd)

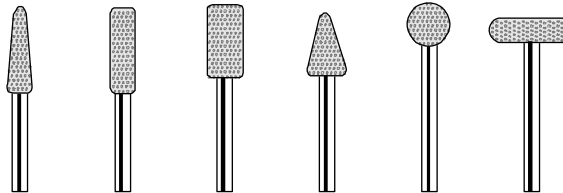
## Accessories (cont'd)

- **Cutting wheels:** Your kit includes several cutting wheels and a special shank for mounting them. To prepare a cutting wheel for use, remove the screw in the center of the shank, mount the wheel, and replace the screw.



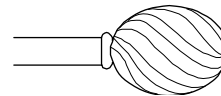
**WARNING! FAILURE TO FOLLOW ALL OF THE WARNINGS ON PAGES 9-11 OF THIS MANUAL COULD CAUSE THE CUTTING WHEEL TO FRAGMENT, CAUSING SERIOUS INJURY.**

- **Grinding stones:** Your kit includes several grinding stones in various shapes. Use these for smoothing hard materials such as wood, plastic, and metal.



Be sure not to allow the work piece to overheat as this can cause charring (wood), melting (plastic), or discoloration (metal). Aluminum oxide (red) accessories are best for wood, metals, and plastics, while silicon carbide (blue) accessories are best for very hard surfaces such as glass.

- **Cutting bits:** Your kit includes several cutting bits, which are useful for shaping various materials. The smallest cutting bits are suitable for use in engraving.



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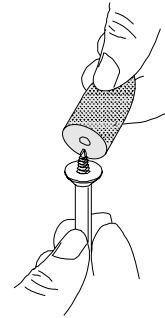
# Owner's Manual

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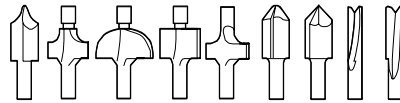
## Operation (cont'd)

### Accessories (cont'd)

- **Polishing wheels:** Your kit includes several felt polishing wheels in assorted shapes. These accessories are useful for removing tarnish and weathering on metal and for polishing plastics. They require a special shank with a screw tip. To prepare a polishing wheel, screw the felt onto the shank tip. Reverse to remove. Your kit also includes polishing grease, which you can use in small quantities to aid polishing metal. Lower speeds are best for these accessories.



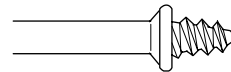
- **Router bits:** An assortment of router bits is available for purchase from your Nikota dealer. These accessories carve patterns in wood and plastic that can be used for ornamental purposes or for joining (such as when cutting a dado).



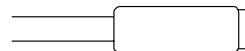
- **Collets:** Your kit includes several collets of various sizes to accommodate accessories with different-sized shanks. Replace collets as described on page 14.



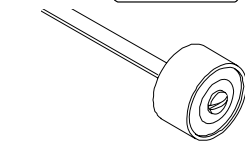
- **Threaded-tip shanks:** Threaded-tip shanks are used for felt polishing wheels. Shanks with a long threaded tip are used for pointed polishing wheels while shanks with short threaded tips are used for round felt polishing wheels. To install a felt polishing wheel, simply screw it onto the threaded shank.



- **Screw shanks:** Screw shanks are used for mounting cutting wheels.



- **Sanding band shanks:** Sanding band shanks feature an expanding core that holds disposable bands securely. To contract the core to remove or install a band, loosen the screw. Tightening the screw expands the core.



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# Rotary Tool

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## Recommended Speeds

The following tables display recommended speed ranges for various accessories on various materials.



**WARNING! NEVER RUN ACCESSORIES AT SPEEDS EXCEEDING THE LISTED MAXIMUMS. ACCESSORIES COULD BREAK APART AND SCATTER FLYING DEBRIS AT HIGH-SPEED, POSSIBLY CAUSING SERIOUS INJURY.**



**CAUTION: IT IS HIGHLY RECOMMENDED THAT YOU NOT EXCEED THE RECOMMENDED SPEEDS FOR THE LISTED ACCESSORY/MATERIAL COMBINATION AS DOING SO COULD HARM THE WORK PIECE. ALWAYS EXPERIMENT WITH A PIECE OF SCRAP MATERIAL TO ENSURE OPTIMUM SETTINGS BEFORE BEGINNING ANY WORK ON AN ACTUAL PRODUCT.**



*Note: Where a speed range (such as 4 - 8) appears, experiment at the lower end of the range first and gradually increase the speed to obtain best results. Never exceed the recommended speed range to avoid damaging the work piece and never exceed the accessory's maximum speed.*

## High-speed cutters

- **Soft wood:** 10
- **Hard wood:** 6 - 10
- **Laminates & plastic:** 4 - 6
- **Steel:** 6
- **Aluminum, brass, etc.:** 6-10

## Engraving cutters

- **Soft wood:** 10
- **Hard wood:** 10
- **Laminates & plastic:** 6 - 8
- **Steel:** 4
- **Aluminum, plastics, etc.:** 6

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# Owner's Manual

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## Recommended Speeds (cont'd)

### Diamond wheel points

- **Soft wood:** 10
- **Hard wood:** 8
- **Stone:** 10
- **Ceramic:** 10
- **Glass:** 10

### Tungsten carbide cutters (toothed)

- **Soft wood:** 10
- **Hard wood:** 8
- **Laminates & plastic:** 4
- **Aluminum, brass, etc.:** 6

### Tungsten carbide cutters

**Soft wood:** 10

**Hard wood:** 8

**Laminates & plastic:** 4

**Steel:** 10

**Aluminum, brass, etc.:** 6

**Stone:** 8

**Ceramic:** 8 - 10

**Glass:** 8 - 10

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# Rotary Tool

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## Recommended Speeds (cont'd)

### High-speed router bits

- Soft wood: 10
- Hard wood: 8 - 10

### Silicon carbide grinding stones

- **Laminates & plastic:** 6
- **Steel:** 10
- **Aluminum, brass, etc.:** 4
- **Stone:** 6
- **Ceramic:** 10
- **Glass:** 10

### Abrasive points

- **Soft wood:** 4 - 6
- **Hard wood:** 4 - 6
- **Steel:** 6 - 8
- **Aluminum, brass, etc.:** 4 - 6

### Aluminum oxide grinding stones

- **Soft wood:** 10
- **hard wood:** 10
- **Steel:** 8
- **Aluminum, brass, etc.:** 4
- **Stone:** 6
- **Ceramic:** 10

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# Owner's Manual

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## Recommended Speeds (cont'd)

### Cutting wheels

- **Soft wood:** 8 - 10
- **Hard wood:** 6 - 10
- **Laminates & plastic:** 2 - 4
- **Steel:** 10
- **Aluminum, brass, etc.:** 10
- **Stone:** 6 - 10
- **Ceramic:** 6 - 10

### Polishing wheels

- **Soft wood:** 4
- **Hard wood:** 4
- **Laminates & plastic:** 2 - 4
- **Steel:** 4 - 8
- **Aluminum, brass, etc.:** 4 - 8
- **Stone:** 6 - 8
- **Ceramic:** 6 - 8
- **Glass:** 6 - 8

### Sanding bands

- **Soft wood:** 2- 10
- **Hard wood:** 2 - 10
- **Laminates & plastic:** 2 - 6
- **Steel:** 10
- **Aluminum, brass, etc.:** 2 - 10
- **Stone:** 2 - 10
- **Ceramic:** 2- 10

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# Rotary Tool

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## Recommended Speeds (cont'd)

### Drill bits

- **Soft wood:** 10
- **Hard wood:** 6 - 10
- **Laminates & plastic:** 2 - 4

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# Owner's Manual

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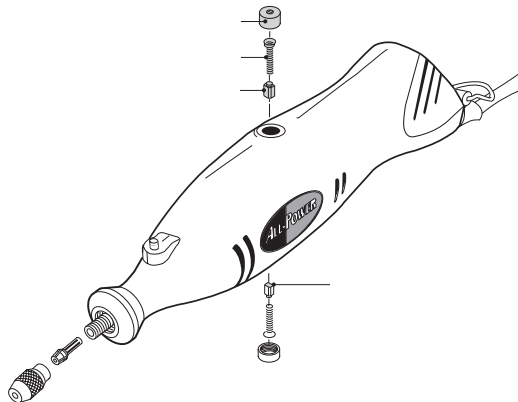
## Maintenance

- Clean the tool with a rag dampened with clean water. Do not use chemicals or soap. Do not allow water to get inside the tool.
- Make sure the vent passages remain clear of dust and debris to avoid overheating the tool. Use the brush supplied with your kit.
- Clean the collet nut by tapping it against a hard surface to remove accumulated debris.
- Store the tool in a clean dry place.
- All repairs must be performed by a qualified electrician.
- Opening the tool voids the warranty (except for the brush replacement procedure described below).

## Brush Replacement

Brushes need replacing when your tool begins running sporadically, loses power, or runs at a lower speed. Do not use the tool with worn brushes as you could cause permanent damage. To change the brushes:

- 1 Unplug the tool.
- 2 Remove the brush caps with a small screwdriver. The brush spring and brush will slide out.
- 3 If the brush is less than 1/8" long, rough, and/or pitted, it must be replaced. Replace the brushes with Nikota brushes, which are available from your Nikota dealer or directly from Nikota.
- 4 When replacing brushes, be sure that the curved end is touching the commutator and that the curvature is in line with the commutator curvature. The brush should be resting on the commutator with no gaps.
- 5 Once the brush is in position, reinsert the spring and reattach the cap.
- 6 Run the tool at full no-load speed for 5 minutes to seat the brushes.



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# Rotary Tool

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## Limited Warranty

All-Power America warrants to the original purchaser who uses the product in a consumer application (personal, residential or household usage) that all products covered under this warranty are free from defects in material and workmanship for one year from the date of purchase. All products covered by this limited warranty which are used in commercial applications (i.e. income producing) are warranted to be free of defects in material and workmanship for 90 days from the date of original purchase. Products covered under this warranty include air compressors, air tools, service parts, pressure washers, and generators.

All-Power America will repair or replace, at All-Power America's sole option, products or components which have failed within the warranty period. Service will be scheduled according to the normal work flow and business hours at the service center location, and the availability of replacement parts. All decisions of All-Power America with regard to this limited warranty shall be final.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

### RESPONSIBILITY OF ORIGINAL PURCHASER (initial User):

- To process a warranty claim on this product, DO NOT return item to the retailer. The product must be evaluated by an Authorized Warranty Service Center. For the location of the nearest Authorized Warranty Service Center contact the retailer or place of purchase.
- Retain original cash register sales receipt as proof of purchase for warranty work.
- Use reasonable care in the operation and maintenance of the product as described in the Owners Manual(s).
- Deliver or ship the product to the nearest Authorized Warranty Service Center. Freight costs, if any, must be paid by the purchaser.
- Air compressors with 60 and 80 gallon tanks will be inspected at the site of installation. Contact the nearest Authorized Warranty Service Center that provides on-site service calls for service call arrangements.
- If the purchaser does not receive satisfactory results from the Authorized Warranty Service Center, the purchaser should contact All-Power America.

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# Owner's Manual

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## Limited Warranty (cont'd)

### THIS WARRANTY DOES NOT COVER:

- Merchandise sold as reconditioned, used as rental equipment, or floor or display models.
- Merchandise that has become damaged or inoperative because of ordinary wear, misuse, cold, heat, rain, excessive humidity, freeze damage, use of improper chemicals, negligence, accident, failure to operate the product in accordance with the instructions provided in the Owners Manual(s) supplied with the product, improper maintenance, the use of accessories or attachments not recommended by All-Power America, or unauthorized repair or alterations.
- Repair and transportation costs of merchandise determined not to be defective.
- Costs associated with assembly, required oil, adjustments or other installation and start-up costs.
- Expendable parts or accessories supplied with the product which are expected to become inoperative or unusable after a reasonable period of use.
- Merchandise sold by All-Power America which has been manufactured by and identified as the product of another company, such as gasoline engines. The product manufacturer's warranty, if any, will apply.
- ANY INCIDENTAL, INDIRECT OR CONSEQUENTIAL LOSS, DAMAGE, OR EXPENSE THAT MAY RESULT FROM ANY DEFECTS, FAILURE OR MALFUNCTION OF THE PRODUCT IS NOT COVERED BY THIS WARRANTY. Some states do not allow the exclusion, so it may not apply to you.
- IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

All-Power America  
16273 E. Gale Ave.  
City Of Industry, CA 91745  
626.855.0840  
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