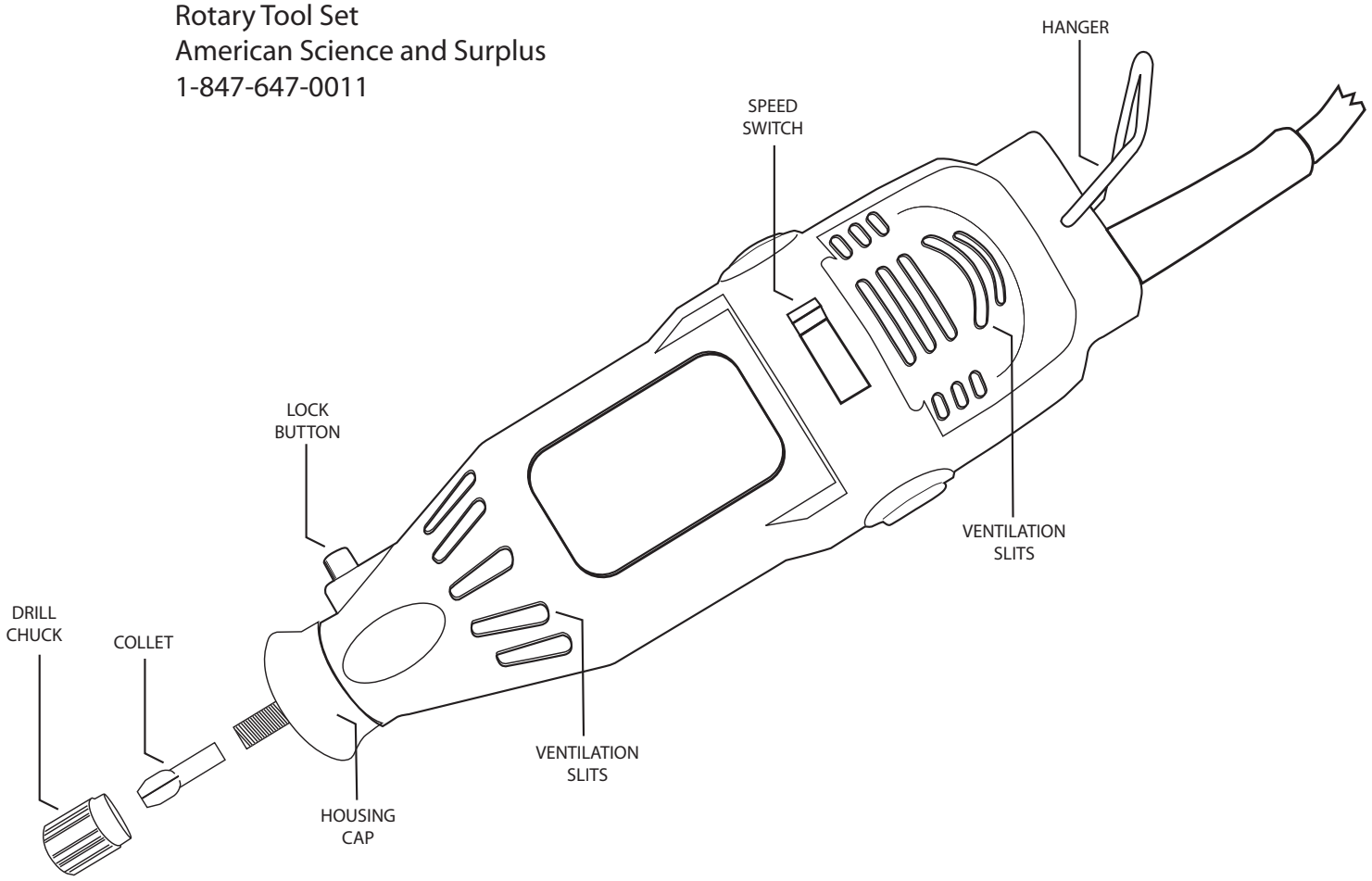
Rotary Tool Set
American Science and Surplus
1-847-647-0011



Inserting Bits into Drill.

Unplug unit before changing bits.

Push and hold lock button on side of tool. Partially unscrew drill chuck to loosen the collet. You may need to use the included small wrench or any small wrench to loosen the drill chuck.

Insert bit into chuck. While holding lock button down make sure bit is secure in the chuck. Retighten drill chuck using the included small wrench or any small wrench until bit is not easily removed from chuck. Bit shaft should be inserted approx ½" into collet.

Never press lock button while drill is running.

Attaching Flexible Shaft onto Drill.

Unplug unit before attaching flexible shaft.

Unscrew and remove housing cap. (As seen in diagram)

Push and hold lock button on side of tool. Partially unscrew drill chuck to loosen the collet.

The flexible shaft casing has a small shaft inside the threaded collar of the unit. Slide the inner shaft out of the shaft casing approx 2" and insert it into the drill chuck.

Push and hold the lock button on the drill and retighten the chuck around the inner shaft of the flexible shaft casing.

Thread the flexible shaft casing collar onto the threaded drill housing and tighten.

Inserting Bits into Flexible Shaft.

Unplug unit before changing bits.

The flexible shaft has a chuck and a collet at the tip just like the drill does.

At the neck of the flexible shaft is a small hole. This is for locking the drill chuck while tightening and loosening your drill bits. Retrieve the chuck tool from the accessory bag. (The chuck tool is a small right angle bar.)

Insert the chuck tool into the small hole at the neck of the shaft. Rotate the chuck while pushing the chuck tool into the hole. When the holes align the chuck tool will slide into the hole approx. ½". When this is achieved the chuck is ready to be tightened using the included small wrench or any small wrench like tool. Bits should slide into the chuck approx. ½".

Please note: The drill bit shafts are the same size as the chuck tool. In the event the chuck tool is misplaced any of the bit shafts can be used as the chuck tool.

See main instruction booklet for Safety Rules and Warnings.

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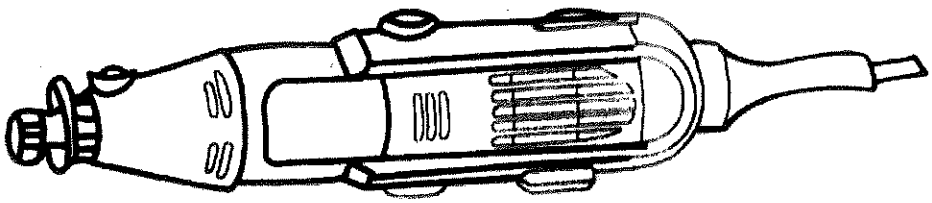
KL1811UL



ROTARY TOOL

WARNING! PLEASE READ ALL INSTRUCTIONS BEFORE USING PRODUCT. Improper use of this product may lead to fire, electric shock, and/or personal injury.

SAVE THESE INSTRUCTIONS

Work Area

- Keep work area clean and well lit. Cluttered and dark work areas increase the chance of accidents and injury.
- Do not operate in areas with explosive or flammable gases or materials. Power tools generate small sparks that can ignite flammable dust or fumes.
- Keep children and bystanders at a distance while operating the power tool.
- Distractions may cause you to lose control of the power tool.

Electrical Safety

- All grounded tools should be plugged into outlets that are properly installed and are approved by all local codes and ordinances.
- Do not modify or remove the grounding prong. Doing so will increase the chance of damaging the power tool.
- Do not use any damaged or altered adapter plugs.
- If you are in doubt, check with a certified electrician before using the adapter plug/outlet.
- Double insulated tools have polarized plugs. Polarized plugs will only fit in the outlet one way. If the plug does not fit in the outlet try reversing the plug. If it still does not fit, please contact a certified electrician to install a polarized outlet.
- Do not expose power tools to rain, water, or any wet conditions. If water enters the power tool there is an increased chance of electrical shock.
- When working outdoors, only use outdoor power cords that are marked "W-A" or "W" to prevent chances of electrical shock.

Personal Safety

- Stay alert and careful when operating power tools.
- If you are tired or under the influence of drugs, alcohol, or medication, do not use any power tools. Serious injuries may result.
- Wear appropriate clothing. Do not wear loose clothing or jewelry while operating power tools. Tie long hair back and keep hair, clothes, and gloves away from the moving parts. Loose clothing, jewelry, and

hair are at risk of getting caught in the moving parts.
- Avoid accidental starting. Check that the power tool is switched in the OFF position before plugging in the power tool.
- Remove adjusting keys or switches before turning on the tool. Failure to do so may result in personal injury.
- Do not over reach. Keep proper footing to prevent serious injury.
- Use the proper safety equipment when operating power tools. Dust masks, safety gloves, nonskid shoes, hard hats, and/or hearing protection should be used while working with power tools.

Tool Use and Care

- Holding the piece being worked at by hand is not suggested. It has a higher chance of loss of control. Secure work with clamps for more stability.
- Do not force tools. Use the appropriate tool for each job.
- If switch does not turn on and off, do not use and get it repaired.
- Disconnect power cord before making any adjustments, changing accessories, or storing the tool.
- The power tool should be stored in a location away from children and other untrained persons.
- Maintain tools with care. Keep cutting tools sharp and clean.
- Before each use, check for misalignment and binding to prevent further damage to power tool. If there is any misalignment or binding, have the power tool serviced.
- Only use the recommended accessories for your model.

Service

- Only service the power tool by qualified repairmen. Service performed by unqualified repairmen may result in personal injury or further damage of the power tool.
- When repairing the tools, only replace with identical replacement parts.

Additional Safety Rules for Rotary Tools

- When holding the power tool, hold by the insulated gripping surfaces to prevent electrical shock.
- If the power cord gets cut or the insulation is peeled off, "live" wires might be exposed. "Live" wires can cause electrical shock.
- REMINDER: The owner is responsible for using the power tool properly.

Functional Description

The rotary tool is a multi-purpose tool used to cut, drill, grind, sand, engrave, and much more. It works on a high speed, low torque principle from 8,000RPM (rotations per minute) up to 30,000 RPM. Set the desired speed and correct accessory, then simply hold and guide the tool to get the job done.

Please see the diagram below to see the major components of the tool before use (See figure below).

Prior to use check for damage that may have occurred during transportation and read the manual.

Accessory Installation

WARNING! Always unplug the tool before changing accessories, making adjustments, or servicing the tool.

To loosen the collet, press down the shaft lock button and rotate the shaft until the lock engages. With the shaft locked, further rotation is prevented, and the collet can be loosened and adjusted accordingly.

WARNING! Do not engage shaft lock while the rotary tool is running. Engaging the shaft lock while the rotary tools are running can damage the rotary tool and/ or cause personal injury.

With the shaft lock engaged loosen the collet nut. Change the accessory by removing and inserted a different accessory into the collet. Push the accessory in as far as it can go and tighten the collet nut. Do not over tighten.

Collet size is 1/16" (1.6mm) and will fit accessories with this shank size. If you purchase accessories of a different brand, please make sure that the collet matches he shank size of the accessory.

Operation

Startup

1. Check that the accessory is securely attached to the collet before plugging the power cord.
2. Grip tool and rotate to view the power and speed dial.
3. Switch the On/Off button to the ON position.
4. Adjust the speed dial to the appropriate speed.
5. Test the accessory on a small portion to ensure that the speed is set to the proper speed.

NOTE: For the majority of applications, the rotary tool should be set to the maximum speed.

High Speed Uses:

High speeds are generally used for carving, cutting, drilling, routing, snapping, and cutting dadoes or rabbets in wood. Hardwoods, metals, and glass require high-speed operation.

WARNING: Do not use grinding wheels over 1" diameter. The high speed may cause a larger grinding wheel to fly apart or cause personal injury.

CAUTION: Protect your eyes while working with power tools. Always wear protective eye wear when operating this tool.

Low Speed Uses:

Certain materials such as plastics require slow speed to prevent melting. Slow speeds are usually used for polishing, and delicate projects.

NOTE: Incoming voltage affects the speed of the tool greatly. Decreases in voltage, may cause the speed of the rotary tool to drop.

Stand Setup:

CAUTION: Keep your workplace clean at all times to prevent injury.

1. 1. Take the stand base and place on a table edge with the tightening screw at the bottom.
2. 2. Tighten the stand and screw in the stand.
3. 3. Twist the stand clockwise to loosen the stand to adjust the height. Twist stand counter-clockwise to tighten.
4. 4. Hook the back of the rotary tool to the stand.

Maintenance

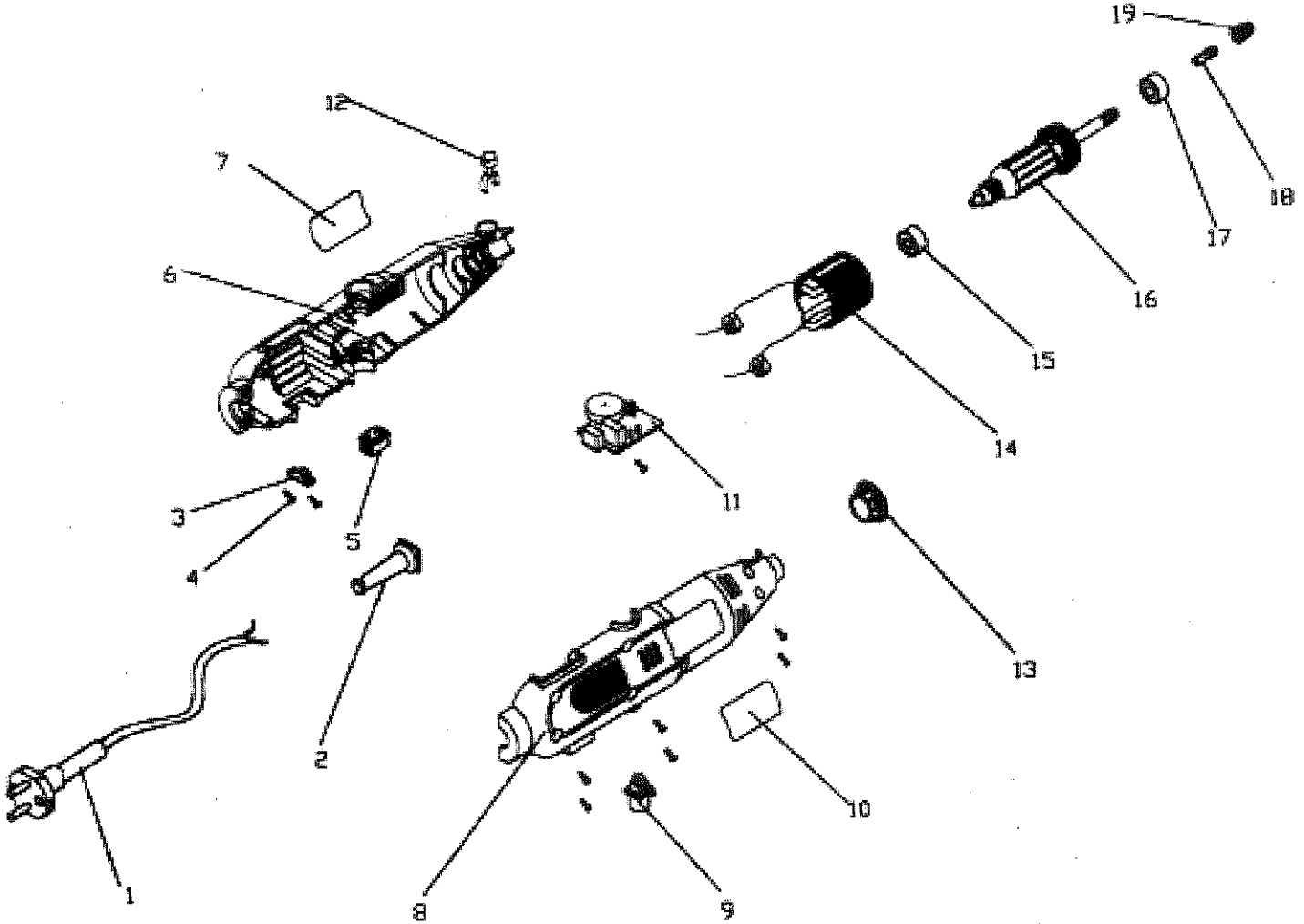
- To keep the rotary tool working efficiently, examine the carbon brushes every two to six months. Always unplug the power cord before examining the power tool.
- Warning, do not allow any brake fluids, gasoline, petroleum based products, oil, or etc. to come in contact with plastic parts. These items contain chemicals that can damage, weaken, or destroy the housing of the rotary tool.
- Regularly inspect the mounting screws to ensure that they are properly tightened.
- The motor is the "heart" of the rotary tool. Exercise precaution to ensure that the motor does not get damaged and/or wet with oil or water.
- Clear debris inside the tool regularly. This can be done the most effectively with compressed dry air.
- Avoid accidental starting. Make sure that the On/Off switch is set to off before plugging in the power tool.

Specifications

Model: KL1811UL
Voltage: 110 V
Cycle: 60 Hz
Power: 130W
RPM: 8,000-30,000
Net Weight: 1.10 lb.

KL1811UL
ROTARY TOOL PARTS LIST

#	DESCRIPTION
1	Power Cord
2	Wire Cover
3	Cable Clamp
4	Mounting Screws
5	On/Off Switch
6	Left Housing
7	Label
8	Right Housing
9	Carbon Brush
10	Label
11	Circuit Board
12	Stop Pin
13	Nut
14	Starter
15	Bearing
16	Motor
17	Bearing
18	Collet
19	Collet Nut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