

IMPORTANT:
Read Before Using



Operating/Safety Instructions

US40



DREMEL®



General Power Tool Safety Warnings

⚠ WARNING Read all safety warnings and all instructions. Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE

The term “power tool” in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

Work area safety

Keep work area clean and well lit. Cluttered or dark areas invite accidents.

Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. Power tools create sparks which may ignite the dust or fumes.

Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.

Electrical safety

Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools. Unmodified plugs and matching outlets will reduce risk of electric shock.

Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators. There is an increased risk of electric shock if your body is earthed or grounded.

Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.

Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords increase the risk of electric shock.

When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.

If operating a power tool in a damp location is unavoidable, use a Ground Fault Circuit Interrupter (GFCI) protected supply. Use of an GFCI reduces the risk of electric shock.

Personal safety

Stay alert, watch what you are doing and use common sense when operating a

power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.

Use personal protective equipment. Always wear eye protection. Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.

Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and / or battery pack, picking up or carrying the tool. Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.

Remove any adjusting key or wrench before turning the power tool on. A wrench or a key left attached to a rotating part of the power tool may result in personal injury.

Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used. Use of dust collection can reduce dust-related hazards.

Power tool use and care

Do not force the power tool. Use the correct power tool for your application. The correct power tool will do the job better and safer at the rate for which it was designed.

Do not use the power tool if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired.

Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.

Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.

Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

Keep cutting tools sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

Use the power tool, accessories and tool bits etc. in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

Service

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

Power Tool-Specific Safety Warnings

Safety Warnings Common for Grinding, Sanding, and Abrasive Cutting-Off Operations:

This power tool is intended to function as a grinder, sander, or cut-off tool. Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Operations such as polishing or wire brushing are not recommended to be performed with this power tool. Operations for which the power tool was not designed may create a hazard and cause personal injury.

Do not use accessories which are not specifically designed and recommended by the tool manufacturer. Just because the accessory can be attached to your power tool, it does not assure safe operation.

The rated speed of the accessory must be at least equal to the maximum speed marked on the power tool. Accessories running faster than their RATED SPEED can break and fly apart.

The outside diameter and the thickness of your accessory must be within the capacity rating of your power tool. Incorrectly sized accessories cannot be adequately guarded or controlled.

Threaded mounting of accessories must match the grinder spindle thread. For accessories mounted by flanges, the arbor hole of the accessory must fit the locating diameter of the flange. Accessories that do not match the mounting hardware of the power tool will run out of balance, vibrate excessively and may cause loss of control.

Do not use a damaged accessory. Before each use inspect the accessory such as abrasive wheels for chips and cracks, backing pad for cracks, tear or excess wear, wire brush for loose or cracked wires. If power tool or accessory is dropped, inspect for damage or install an undamaged accessory. After inspecting and installing an accessory, position yourself and bystanders away from the plane of the rotating accessory and run the power tool at maximum no-load speed for one minute. Damaged accessories will normally break apart during this test time.

Wear personal protective equipment. Depending on application, use face shield, safety goggles or safety glasses. As appropriate, wear dust mask, hearing protectors, gloves and workshop apron capable of stopping small abrasive or workpiece fragments. The eye protection must be capable of stopping flying debris generated by various operations. The dust mask or respirator must be capable of filtering particles generated by your operation. Prolonged exposure to high intensity noise may cause hearing loss.

Keep bystanders a safe distance away from work area. Anyone entering the work area must wear personal protective equipment. Fragments of workpiece or of a broken accessory may fly away and cause injury beyond immediate area of operation.

Hold the power tool by insulated gripping surfaces only, when performing an operation where the cutting accessory may contact hidden wiring or its own cord. Cutting accessory contacting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.

Position the cord clear of the spinning accessory. If you lose control, the cord may be cut or snagged and your hand or arm may be pulled into the spinning accessory.

Never lay the power tool down until the accessory has come to a complete stop. The spinning accessory may grab the surface and pull the power tool out of your control.

Do not run the power tool while carrying it at your side. Accidental contact with the spinning accessory could snag your clothing, pulling the accessory into your body.

Regularly clean the power tool's air vents. The motor's fan will draw the dust inside the housing and excessive accumulation of powdered metal may cause electrical hazards.

Do not operate the power tool near flammable materials. Sparks could ignite these materials.

Do not use accessories that require liquid coolants. Using water or other liquid coolants may result in electrocution or shock.

Kickback and Related Warnings

Kickback is a sudden reaction to a pinched or snagged rotating wheel, backing pad, brush or any other accessory. Pinching or snagging causes rapid stalling of the rotating accessory

which in turn causes the uncontrolled power tool to be forced in the direction opposite of the accessory's rotation at the point of the binding.

For example, if an abrasive wheel is snagged or pinched by the workpiece, the edge of the wheel that is entering into the pinch point can dig into the surface of the material causing the wheel to climb out or kickout. The wheel may either jump toward or away from the operator, depending on direction of the wheel's movement at the point of pinching. Abrasive wheels may also break under these conditions.

Kickback is the result of power tool misuse and/or incorrect operating procedures or conditions and can be avoided by taking proper precautions as given below.

Maintain a firm grip on the power tool and position your body and arm to allow you to resist kickback forces. Always use auxiliary handle, if provided, for maximum control over kickback or torque reaction during start-up. The operator can control torque reactions or kickback forces, if proper precautions are taken.

Never place your hand near the rotating accessory. Accessory may kickback over your hand.

Do not position your body in the area where power tool will move if kickback occurs. Kickback will propel the tool in direction opposite to the wheel's movement at the point of snagging.

Use special care when working corners, sharp edges etc. Avoid bouncing and snagging the accessory. Corners, sharp edges or bouncing have a tendency to snag the rotating accessory and cause loss of control or kickback.

Do not attach a saw chain woodcarving blade or toothed saw blade. Such blades create frequent kickback and loss of control.

Safety Warnings Specific for Grinding and Abrasive Cutting-Off Operations:

Use only wheel types that are recommended for your power tool and the specific guard designed for the selected wheel. Wheels for which the power tool was not designed cannot be adequately guarded and are unsafe.

The grinding surface of centre depressed wheels must be mounted below the plane of the guard lip. An improperly mounted wheel that projects through the plane of the guard lip cannot be adequately protected.

The guard must be securely attached to the power tool and positioned for maximum safety, so the least amount of wheel is exposed towards the operator. The guard helps to protect operator from broken wheel fragments, accidental contact with wheel, and sparks that could ignite clothing.

Wheels must be used only for recommended applications. For example: do not grind with the side of cut-off wheel. Abrasive cut-off wheels are intended for peripheral grinding, side forces applied to these wheels may cause them to shatter.

Always use undamaged wheel flanges that are of correct size and shape for your selected wheel. Proper wheel flanges support the wheel thus reducing the possibility of wheel breakage. Flanges for cut-off wheels may be different from grinding wheel flanges.

Do not use worn down wheels from larger power tools. Wheel intended for larger power tool is not suitable for the higher speed of a smaller tool and may burst.

Additional Safety Warnings Specific for Abrasive Cutting-Off Operations:

Do not “jam” the cut-off wheel or apply excessive pressure. Do not attempt to make an excessive depth of cut. Overstressing the wheel increases the loading and susceptibility to twisting or binding of the wheel in the cut and the possibility of kickback or wheel breakage.

Do not position your body in line with and behind the rotating wheel. When the wheel, at the point of operation, is moving away from your body, the possible kickback may propel the spinning wheel and the power tool directly at you.

When wheel is binding or when interrupting a cut for any reason, switch off the power tool and hold the power tool motionless until the wheel comes to a complete stop. Never attempt to remove the cut-off wheel from the cut while the wheel is in motion otherwise kickback may occur. Investigate and take corrective action to eliminate the cause of wheel binding.

Do not restart the cutting operation in the workpiece. Let the wheel reach full speed and carefully reenter the cut. The wheel may bind, walk up or kickback if the power tool is restarted in the workpiece.

Support panels or any oversized workpiece to minimize the risk of wheel pinching and kickback. Large workpieces tend to sag under their own weight. Supports must be placed under the workpiece near the line of cut and near the edge of the workpiece on both sides of the wheel.

Use extra caution when making a “pocket cut” into existing walls or other blind areas. The protruding wheel may cut gas or water pipes, electrical wiring or objects that can cause kickback.

Safety Warnings Specific for Sanding Operations:

Do not use excessively oversized sanding disc paper. Follow manufacturer’s recommendations, when selecting sanding paper. Larger sanding paper extending beyond the sanding pad presents a laceration hazard and may cause snagging, tearing of the disc or kickback.

Additional Safety Warnings

GFCI and personal protection devices like electrician’s rubber gloves and footwear will further enhance your personal safety.

Do not use AC only rated tools with a DC power supply. While the tool may appear to work, the electrical components of the AC rated tool are likely to fail and create a hazard to the operator.

Keep handles dry, clean and free from oil and grease. Slippery hands cannot safely control the power tool.

Use clamps or another practical way to secure and support the workpiece to a stable platform. Holding the work by hand

or against your body leaves it unstable and may lead to loss of control.

Develop a periodic maintenance schedule for your tool. When cleaning a tool be careful not to disassemble any portion of the tool since internal wires may be misplaced or pinched or safety guard return springs may be improperly mounted. Certain cleaning agents such as gasoline, carbon tetrachloride, ammonia, etc. may damage plastic parts.

Risk of injury to user. The power cord must only be serviced by a Dremel Service Facility.

Use only Dremel recommended accessories. Other accessories may not fit properly and lead to injury.

Do not use standard flat wheels for face grinding. Side forces applied to these wheels may cause them to shatter or burst.

Do not attempt to cut large stock or sheets of metal as this machine is not designed to be a dedicated cut-off machine.

Do not collect dust (wood or metal) in ordinary household vacuum cleaner. Lint and other fibers in household vacuums are easily combustible and may start a fire.

Do not vacuum and collect metal shavings/dust with wood sawdust. Metal shavings/dust becomes very hot during abrasive cutting and will ignite wood dust.

When connecting tool to dust collection and extraction systems, be sure these are connected and used according to tool and vacuum instructions. Proper use of dust collection can reduce dust related hazards.

When using tool with dust collection and extraction systems, empty the dust container before beginning work, frequently during work, after completion of work, and before storing the tool. Be extremely careful of dust disposal, materials in fine particle form may be explosive.

Do not throw dust on an open fire. Fine dust particles may burn explosively.

When performing sanding and surface preparation operations with tool connected to a dust collection and extraction system be aware of the materials creating the dust. Combustion from mixture of varnishes, lacquers, polyurethane, oil or water with dust particles can occur if there is a static discharge, electric spark, or excessive heat causing a fire in the dust collection and extraction system.

Do not use dust extraction for operations that include burning, smoking or smoldering items like hot ashes or sparks. Fire inside the vacuum tank or bag may occur. Dust may smolder and set vacuum on fire long after work is completed.

Do not use dust extraction with explosive dusts, varnish, polyurethane coatings, cleaners, or oil-based paints. Electric motors create sparks which may ignite the dust or fumes.

Do not use dust extraction when working on metal. Swarf from sanding, grinding or cutting metal may be hot and may spark which may melt plastic adaptors, vacuum hoses, and may cause a fire inside the vacuum tank or bag.

⚠ WARNING Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

Symbols

IMPORTANT: Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

Symbol	Name	Designation/Explanation
V	Volts	Voltage (potential)
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watt	Power
kg	Kilograms	Weight
min	Minutes	Time
s	Seconds	Time
Ø	Diameter	Size of drill bits, grinding wheels, etc.
n_0	No load speed	Rotational speed, at no load
n	Rated speed	Maximum attainable speed
.../min	Revolutions or reciprocation per minute	Revolutions, strokes, surface speed, orbits etc. per minute
0	Off position	Zero speed, zero torque...
1, 2, 3, ... I, II, III,	Selector settings	Speed, torque or position settings. Higher number means greater speed
	Infinitely variable selector with off	Speed is increasing from 0 setting
	Arrow	Action in the direction of arrow
	Alternating current	Type or a characteristic of current
	Direct current	Type or a characteristic of current
	Alternating or direct current	Type or a characteristic of current
	Class II construction	Designates Double Insulated Construction tools.
	Earthing terminal	Grounding terminal
	Warning symbol	Alerts user to warning messages
	Li-ion RBRC seal	Designates Li-ion battery recycling program
	Ni-Cad RBRC seal	Designates Ni-Cad battery recycling program
	Read manual symbol	Alerts user to read manual
	Wear eye protection symbol	Alerts user to wear eye protection

Symbols (continued)

IMPORTANT: Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.



This symbol designates that this tool is listed by Underwriters Laboratories.



This symbol designates that this component is recognized by Underwriters Laboratories.



This symbol designates that this tool is listed by Underwriters Laboratories, to United States and Canadian Standards.



This symbol designates that this tool is listed by the Canadian Standards Association.



This symbol designates that this tool is listed by the Canadian Standards Association, to United States and Canadian Standards.



This symbol designates that this tool is listed by the Intertek Testing Services, to United States and Canadian Standards.



This symbol designates that this tool complies to NOM Mexican Standards.

Functional Description and Specifications

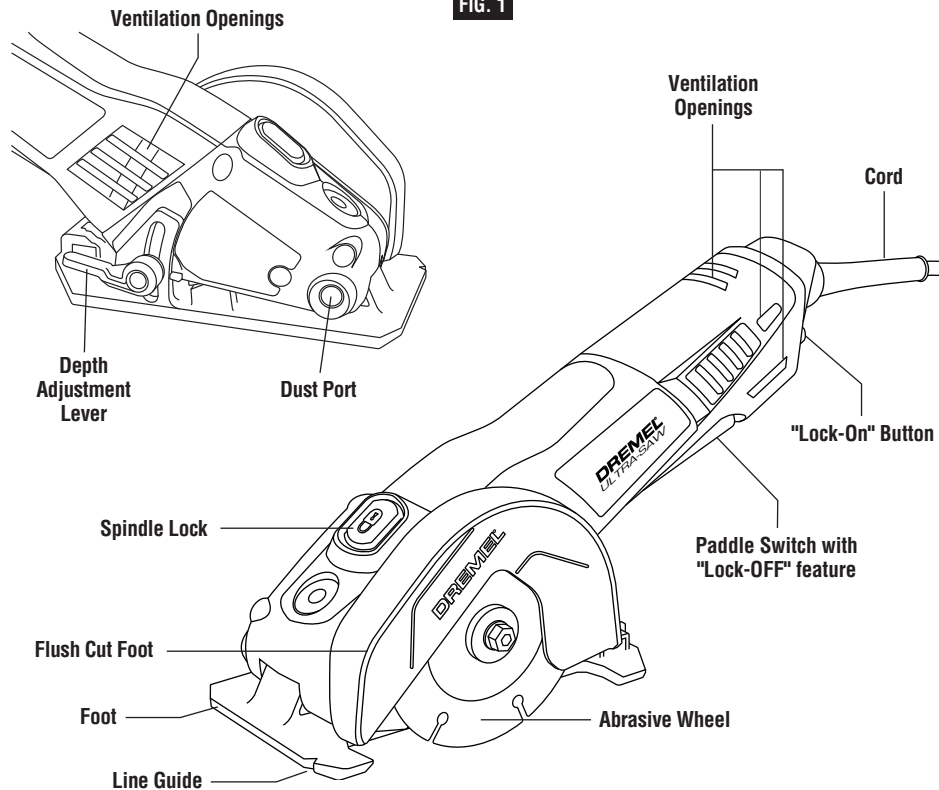
⚠ WARNING Disconnect the plug from the power source before making any assembly, adjustments or changing accessories. Such preventive safety measures reduce the risk of starting the tool accidentally.

US40 Dremel® Ultra-Saw

INTENDED USE

This Dremel US40 tool is intended for cuts in wood, plastic, metal, drywall, fiberboard and tile using the applicable Ultra-Saw accessories.

FIG. 1



Model number	US40
* Rated speed	n 13,000/min
* Max. abrasive wheel diameter	4" (102 mm)
Amperage rating	7.5 A
Wheel arbor	.433" (11 mm)
Max. cutting depth	3/4" (21.5 mm)
Voltage rating	120V ~ 60Hz

* Accessory speed rating must be equal to or greater than the tool's speed rating. Do not exceed the recommended wheel diameter.

NOTE: For tool specifications refer to the nameplate on your tool.

Assembly

⚠ WARNING Disconnect the plug from the power source before making any assembly, adjustments or changing accessories. Such preventive safety measures reduce the risk of starting the tool accidentally.

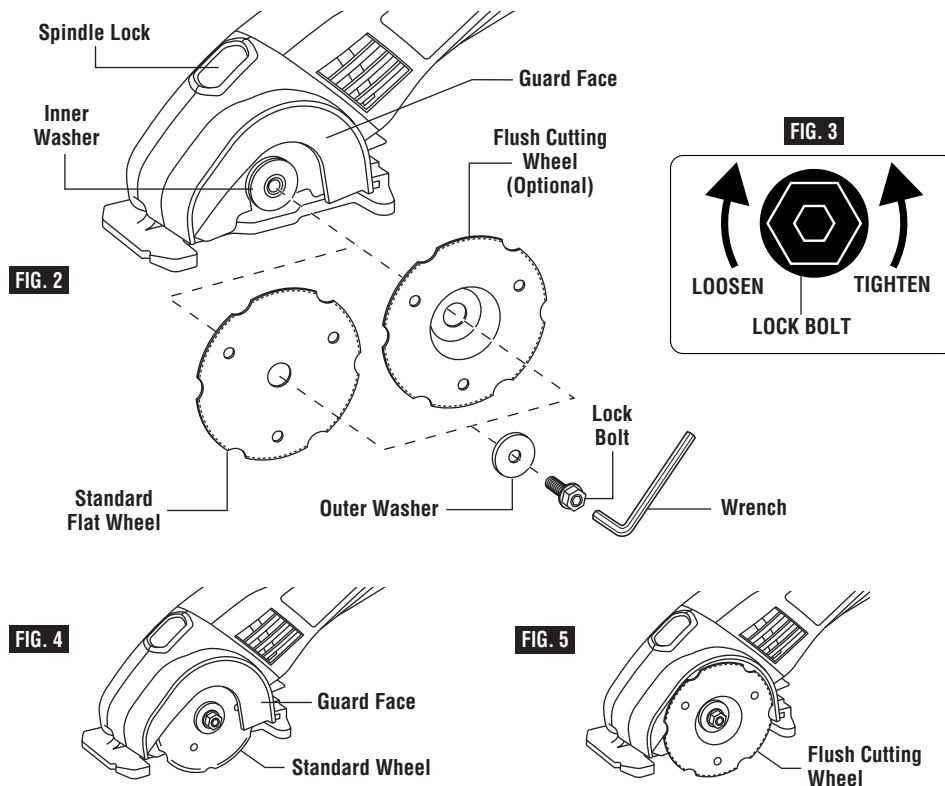
The Lock Bolt which attaches the cutting wheel to the tool should be turned CLOCKWISE to be loosened and COUNTERCLOCKWISE to be tightened (Fig. 3). This bolt is reverse threaded compared to standard threaded fasteners.

The Dremel Ultra-Saw features two cutting wheel positions - one position using a standard flat wheel for all your typical straight and plunge cuts (Fig. 4), and a second optional wheel position for making flush cuts along flooring or against a wall (Fig. 5).

⚠ WARNING Do not attempt to mount two cutting wheels onto the tool at the same time.

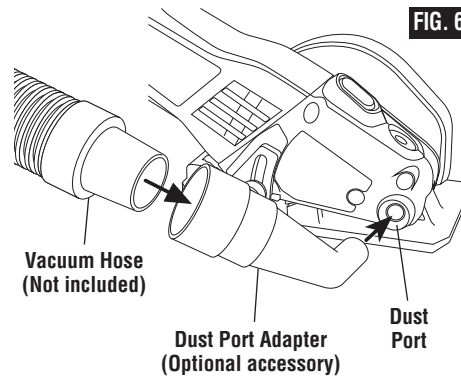
CUTTING WHEEL ASSEMBLY

1. Turn LOCK BOLT with wrench provided clockwise and remove LOCK BOLT and OUTER WASHER (Fig. 2). If the shaft moves while attempting to loosen the lock bolt press the spindle lock (Fig. 2).
2. **Standard Flat Wheel Assembly:** Slide flat wheel behind the guard face and mount it against the INNER WASHER on the shaft (Fig. 4).
- Flush Cutting Wheel Assembly:** Place flush cutting wheel against the INNER WASHER on the spindle shaft. (Fig. 5).
3. Reinstall OUTER WASHER and tighten lock bolt finger tight.
4. Press spindle lock to lock shaft and tighten LOCK BOLT counter-clockwise until tight with the wrench provided.



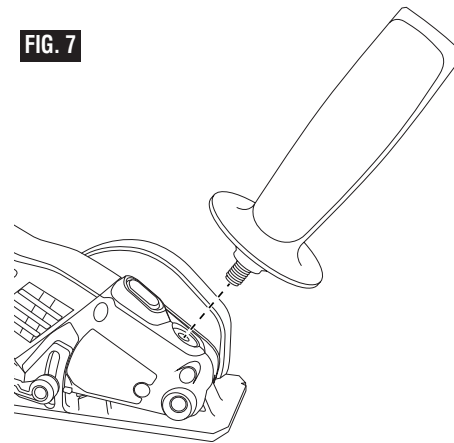
DUST EXTRACTION (Optional accessory)

Your tool is equipped with a dust port for dust extraction. To use this feature, insert dust port adapter into dust port, attach vacuum hose into the adapter, then connect the opposite end of the hose to a shop vacuum cleaner (Fig. 6).



SIDE HANDLE

The side handle is used to control and balance the tool during operations. The handle must be threaded into the front housing (Fig. 7). Alternatively, the body of the tool can be grasped with both hands for control.



Introduction

Thank you for purchasing the Dremel US40.

This tool was designed to tackle a wide variety of projects in and around the home. The Dremel US40 completes tasks quicker and more efficiently than a series of other tools that would be needed to complete a job or project. This tool is also compact, ergonomic, and cuts virtually all common materials.

After using your new Dremel US40 you'll find that it is the right size tool to get projects done at just a fraction of the size of a traditional circular saw. With a full line of accessories the tool cuts through virtually any common material in the home- wood, plastic, metal, drywall and tile. The tool also features two cutting wheel positions, one position using a standard flat

wheel for all your typical straight cuts and a second position for making flush cuts along flooring or against a wall.

In addition to versatility, the Dremel US40 provides excellent line of sight for confident, precise cuts so you will get accurate cuts the first attempt and avoid wasting time or material.

INTENDED USE

This Dremel US40 tool is intended for straight cuts in wood, plastic, metal, drywall, fiberboard, and tile using the applicable accessories recommended by Dremel.

Operating Instructions

⚠ WARNING Hold the tool with both hands while starting the tool, since torque from the motor can cause the tool to twist.

Start the tool before applying to work and let the tool come to full speed before contacting the workpiece. Lift the tool from the work before releasing the switch. DO NOT turn the switch "ON" and "OFF" while the tool is under load; this will greatly decrease the switch life.

PADDLE SWITCH WITH "LOCK-OFF" FEATURE

The Paddle switch enables the operator to control the switch functions of "Lock-OFF", and "ON/OFF".

TO UNLOCK SWITCH AND TURN TOOL "ON": Push "Lock-OFF" switch release lever forward to unlock paddle switch, then squeeze paddle switch (Fig. 8).

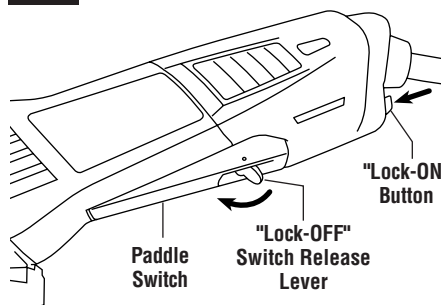
TO SWITCH TOOL "OFF": Release pressure on paddle lever. The switch is spring loaded and will return to "OFF" position automatically (Fig. 8).

"LOCK-ON" BUTTON

The "Lock-ON" feature, incorporated into the paddle switch, is a convenience for long operations.

TO LOCK SWITCH "ON": After paddle switch has been activated push "Lock-ON" button at

FIG. 8



rear of tool completely in and release paddle switch (Fig. 7).

TO SWITCH TOOL "OFF": Squeeze and release paddle switch (Fig. 8).

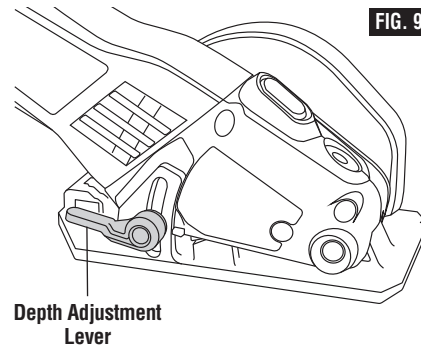
In order to try to avoid recoil (a situation where the wheel wants to skip out of the material) it is recommended to make cuts in the same direction as the rotation of the wheel.

⚠ WARNING It is important to read and understand the section in this manual called "Kickback and Related Warnings"

DEPTH ADJUSTMENT

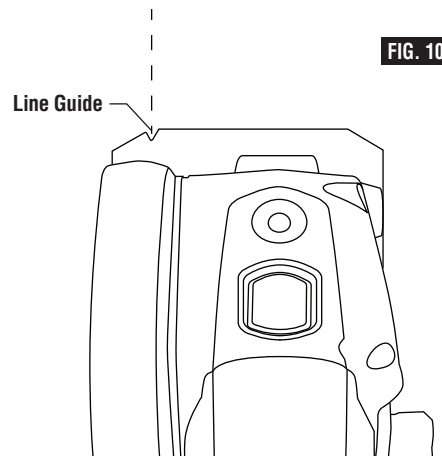
Disconnect plug from power source. Loosen the depth adjustment lever located on the right side of the tool. The foot is spring loaded and will lower automatically (Fig. 9).

Tighten lever counter clockwise at the depth setting desired. Check desired depth (Fig. 9).



LINE GUIDE

The cutting guide notch will give an approximate line of cut (Fig. 10). Make sample cuts in scrap lumber to verify actual line of cut.



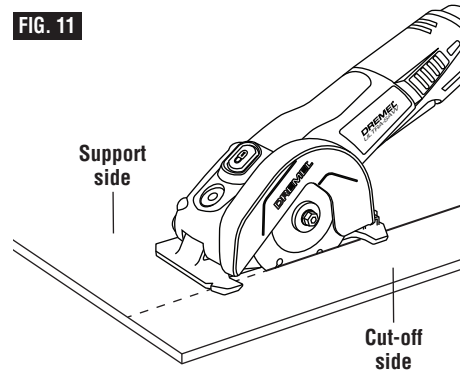
GENERAL CUT OFFS

Maintain a firm grip and operate the switch with a decisive action. Never force the tool. Use a light and continuous pressure (Fig. 11).

⚠ WARNING After completing a cut and the switch has been released, be aware of the necessary time it takes for the wheel to come to a complete stop during coast down. Do NOT set the tool down until the accessory has come to a complete stop. A spinning blade contacting a hard surface will cause the tool to walk back and may injure you. Contact with clothing may cause the blade to snag and cut you.

1. Make sure material being cut is secured in a vise or fixture before attempting to cut.
2. Keep your body positioned to either side of the wheel, but not in line with the wheel. It is important to support the tool properly and to position your body such as to minimize body exposure from possible wheel binding and recoil.

FIG. 11



3. Grip the tool firmly while cutting and always be ready and able to manage the cut.
4. Avoid jamming, twisting or pinching the wheel with the workpiece or otherwise applying excessive side pressure to the wheel.

CUTTING TILE

Make sure material being cut is secured in a vise or fixture before attempting to cut.

Turn the tool on and wait for the wheel to reach full speed. For cuts that extend to the edge of a tile, cut all the way through edge(s) along your cut line.

Score the tile first along your cut line, making multiple passes to progressively cut through the tile.

This tool does not use wheels designed for face-grinding. If your cut requires a smooth, finished edge, use an appropriate tile finishing tool to refine the tile edge.

CUTTING METAL

It is possible to perform limited cutting on small stock such as copper pipe, conduit, rebar, threaded rod, coated wire shelving, HVAC, aluminum sheet, gutter, and fascia.

When cutting, work with moderate feed, adapted to the material being cut. Do not exert side pressure onto the cutting wheel, tilt or oscillate the tool.

When cutting profiles and square bar, it is best to start at the smallest cross section. Always follow precautions for kickback.

Do not apply side pressure to cutting wheel to reduce wheel speed. The tool should always be used so that sparks are directed away from user.

After each use, remove the wheel and clean the inside and outside of the guard with compressed air. Preventive maintenance of the guard will reduce the probability of an accident.

PLUNGE OR INTERIOR CUTS

The size and versatility of the Dremel US40 make it an excellent option for making plunge or interior cuts into a workpiece such as flooring, paneling, or siding.

1. Mark the surface to be cut with the desired cut lines
2. Loosen the Depth Adjustment Lever so that the spring loaded foot releases and goes to the zero depth setting. Leave the Depth Adjustment Lever loose during this cut.
3. Rest the Foot of the tool on the workpieces and Align the tool's wheel with the cut line (Fig. 12).
4. While holding the tool firmly, Press the Paddle Switch and allow the tool's wheel to come up to full speed.
5. Slowly plunge/lower the tool and wheel into the workpiece (Fig. 13).
6. Guide the tool forward and complete the cut
7. Release the Paddle Switch and allow the tool to come to a complete stop.
8. Remove the tool from the workpiece.
9. Repeat steps 3-8 as required to complete your cuts.

FIG. 12

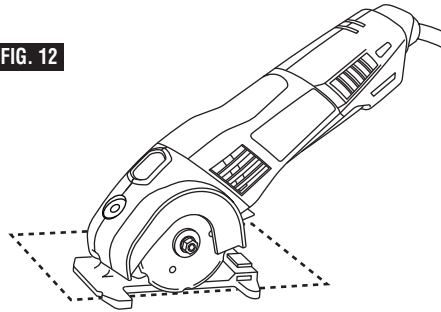
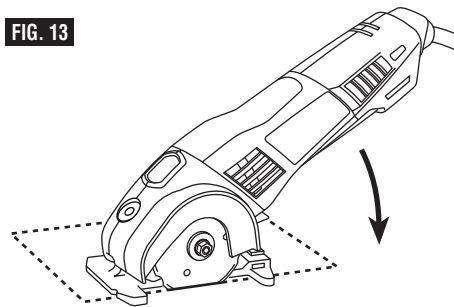


FIG. 13

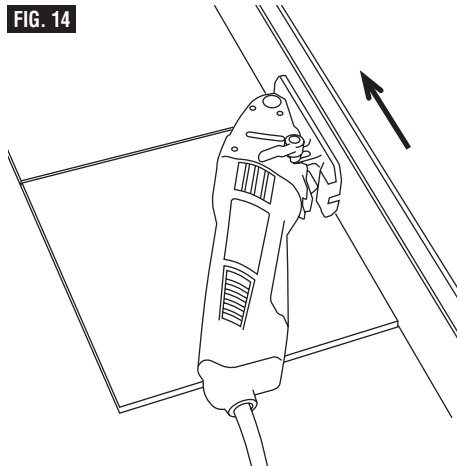


FLUSH CUTTING

First, consider the desired height of the flush cut. For flooring installation, add up the thickness of your flooring adhesive, the flooring itself, and any underlayments or other material that will add to the thickness of the finished floor (Fig. 14).

1. Install the flush cutting wheel on the tool as described in "Flush Cutting Wheel Assembly", page 10.
2. Adjust the depth of the wheel to the desired depth setting.
3. Turn the tool on it's side so that the flush cut foot rests against the flooring.
4. Firmly grip the tool. Turn tool on and allow it to come to full speed before entering workpiece.
5. Complete your cut and remove the tool from the workpiece before turning the tool off.

FIG. 14



CUTTING LARGE SHEETS

When making cuts longer than 2 feet in material such as plywood, tool may become hot as well as burn the material. To avoid this, let the tool rest in between cutting.

Large sheets and long boards sag or bend, depending on support. If you attempt to cut without leveling and properly supporting the piece, the wheel will tend to bind, causing KICK-BACK and extra load on the motor (Fig. 15).

Support the panel or board close to the cut, as

shown in (Fig. 16). Be sure to set the depth of the cut so that you cut through the sheet or board only and not the table or work bench. The two-by-fours used to raise and support the work should be positioned so that the broadest sides support the work and rest on the table or bench. Do not support the work with the narrow sides as this is an unsteady arrangement. If the sheet or board to be cut is too large for a table or work bench, use the supporting two-by-fours on the floor and secure.

FIG. 15

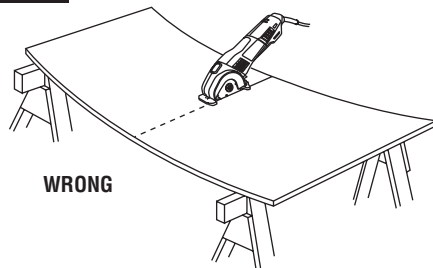
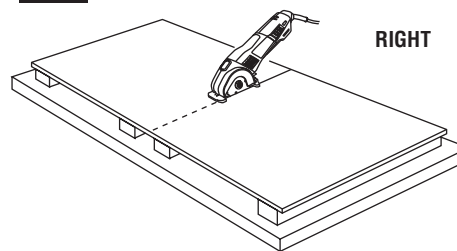


FIG. 16

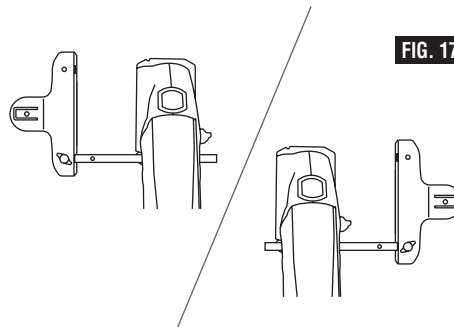


EDGE GUIDE

(Optional attachment)

The straight edge guide is used for cuts parallel to the edge of the work, and can be used from either side of the foot plate for cutting on the left or right side of the material.

NOTE: When using the straight edge guide on the left side or right side of the tool, position guide as shown (Fig. 17).

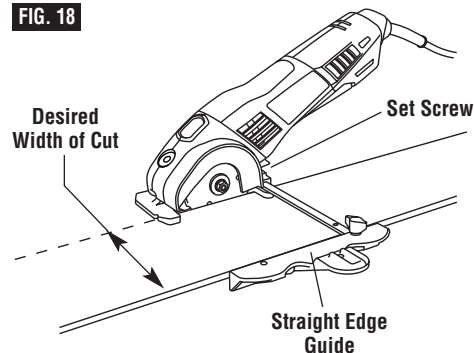


RIP CUTS

(Optional attachment)

Rip cuts are easy to do with a straight edge guide (Fig. 18). Straight edge guide is available as an accessory. To attach, insert straight edge guide, insert fence through slots in foot to desired width as shown and secure with the set screw.

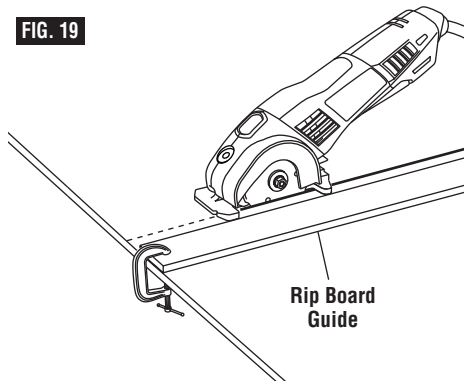
FIG. 18



RIP BOARD GUIDE

When rip cutting large sheets, the straight edge guide may not allow the desired width of cut. Clamp or nail a straight piece of 1" (25 mm) lumber to the sheet as a guide (Fig. 19). Use the left side of the foot against the board guide.

FIG. 19

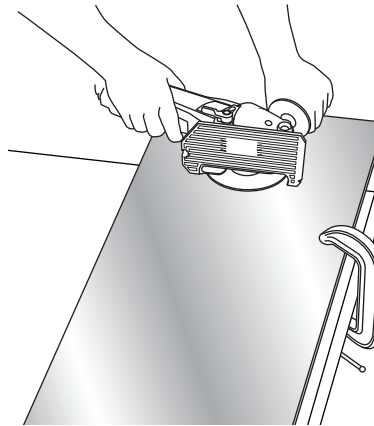


SURFACE PREPARATION (for use with blades such as US400 & US410)

Make sure material being prepped is secured in a vise or fixture before attempting to surface.

1. Allow the tool to reach full speed before touching the tool to the work surface.
2. Apply minimum pressure to the work surface, allowing the tool to operate at high speed. Surface finishing rate is greatest when the tool operates at high speed.
3. Continuously move the tool in a forward and back motion to avoid creating gouges in the work surface.
4. Remove the tool from work surface before turning tool off. Allow the tool to stop rotating before laying it down.

FIG. 20



Maintenance Information

Service

⚠ WARNING **NO USER SERVICEABLE PARTS INSIDE.** Preventive maintenance performed by unauthorized personnel may result in misplacing of internal wires and components which could cause serious hazard. We recommend that all tool service be performed by a Dremel Service Facility.

CARBON BRUSHES

The brushes and commutator in your tool have been engineered for many hours of dependable service. To maintain peak efficiency of the motor, we recommend that the brushes be serviced by a Dremel Service Facility.

Cleaning

⚠ WARNING To avoid accidents always disconnect the tool from the power supply before cleaning or performing any maintenance. The tool may be cleaned most effectively with compressed dry air. **Always wear safety goggles when cleaning tools with compressed air.**

Ventilation openings and switch levers must be kept clean and free of foreign matter. Do not attempt to clean by inserting pointed objects through openings.

⚠ CAUTION **Certain cleaning agents and solvents damage plastic parts.** Some of these are: gasoline, carbon tetrachloride, chlorinated cleaning solvents, ammonia and household detergents that contain ammonia.

Extension Cords

⚠ WARNING If an extension cord is necessary, a cord with adequate size conductors that is capable of carrying the current necessary for your tool must be used. This will prevent excessive voltage drop, loss of power or overheating. Grounded tools must use 3-wire extension cords that have 3-prong plugs and receptacles.

NOTE: The smaller the gauge number, the heavier the cord.

RECOMMENDED SIZES OF EXTENSION CORDS 120 VOLT ALTERNATING CURRENT TOOLS

Tool's Ampere Rating	Cord Size in A.W.G.				Wire Sizes in mm ²			
	Cord Length in Feet				Cord Length in Meters			
	25	50	100	150	15	30	60	120
3-6	18	16	16	14	0.75	0.75	1.5	2.5
6-8	18	16	14	12	0.75	1.0	2.5	4.0
8-10	18	16	14	12	0.75	1.0	2.5	4.0
10-12	16	16	14	12	1.0	2.5	4.0	—
12-16	14	12	—	—	—	—	—	—

Dremel US40 Accessories

⚠ WARNING Use only Dremel US40, high-performance accessories. Other accessories are not designed for this tool and may lead to personal injury or property damage.



Metal Surface Prep Blade US400

Non-woven abrasive wheel for heavy rust removal and paint removal from metal.



Concrete Surface Prep Blade US410

Diamond Embedded wheel for thinset removal and paint removal from concrete and brick.



Wood Carbide Wheel US500

Abrasive cutting wheel with carbide grit which is intended to cut wood and other soft materials.



Metal Cut-off Wheel US510

Reinforced Type 1A (ISO 41) Abrasive cut-off wheel which is intended to cut a variety of materials such as metal and plastic.



**Masonry Cut-off Wheel
US520**

Reinforced Type 1A (ISO 41) Abrasive cut-off wheel which is intended to make score cuts in masonry and stone.



**Diamond Tile Wheel
US540**

Diamond Type 1A (ISO 41) abrasive wheel which is intended to make cuts in hard materials such as porcelain and tile, and make score cuts in brick and concrete.



**Wood Flush Cut
Carbide Wheel
US600**

Offset Type 27A (ISO 42) abrasive cutting wheel with carbide grit which is intended for flush cutting of wood and other soft materials.

Material		Cutting				
		US500	US510	US520	US540	US600
		Wood/Plastic Wheel	Metal Cutting Wheel	Masonry Cutting Wheel	Diamond Tile Wheel	Wood/Plastic Flush Cut
Wood	Plywood	X				X
	Pine	X				X
	Poplar	X				X
	Oak	X				X
	Composite (OSB, fiberboard)	X				X
	Laminate flooring	X				X
Drywall	Drywall	X				X
Metal	Copper Pipe		X			
	Conduit		X			
	Coated Wire Shelving		X			
	HVAC		X			
	Aluminum sheet, gutter, fascia		X			
	Galvanized sheet metal		X			
Plastic	Threaded rod		X			
	Plexiglass (sheet plastic)	X	X			X
	Vinyl siding, gutter	X	X			X
Tile	PVC pipe	X	X			X
	Tile Wall Tile				X	
Masonry	Floor Tile				X	
	Brick Fascia			X	X	
	Cement board			X	X	
	Pavers			X		
Other	Fiberglass	X				X

Surface Prep			
Application		US400	US410
		Metal Surface Prep	Concrete Surface Prep
Rust Removal	Metal	X	
	Metal	X	
Paint Removal	Concrete		X
	Masonry		X
	Brick		X
Thinset Removal	Subflooring		X
	Cement Board		X
Flooring Prep	Cement		X

Trouble Shooting



WARNING

Read instruction manual first! Remove plug from the power source before making adjustments or assembling the wheel.

PROBLEM	TROUBLE: TOOL WILL NOT START
	1. Power cord is not plugged in. 2. Power source fuse or circuit breaker tripped. 3. Cord damaged. 4. Burned out switch. 5. Paddle switch does not turn tool on.
REMEDY	1. Plug tool in. 2. Replace fuse or reset tripped circuit breaker. 3. Inspect cord for damage. If damaged, have cord replaced by a Dremel Service Facility. 4. Have switch replaced by a Dremel Service Facility. 5. Lock-Off feature not activated.
PROBLEM	TROUBLE: WHEEL DOES NOT COME UP TO SPEED
	1. Extension cord too light or too long. 2. Low house voltage.
REMEDY	1. Replace with adequate cord. 2. Contact your electric company.
PROBLEM	TROUBLE: EXCESSIVE VIBRATION
	1. Wheel out of balance. 2. Workpiece not clamped or supported properly.
REMEDY	1. Discard wheel and use different wheel. 2. Clamp or support workpiece as shown on pages 14 and 15.
PROBLEM	TROUBLE: CUT BINDS, BURNS, STALLS MOTOR WHEN RIPPING
	1. Dull wheel. 2. Warped board. 3. Wheel binds. 4. Improper workpiece support.
REMEDY	1. Discard wheel and use a different wheel. Or clean debris from carbide grit with a wire brush. 2. Make sure concave or hollow side is facing "DOWN" feed slowly, see (page 14). 3. Assemble wheel and tighten Lock Bolt per "Assembly Instructions", see (page 10). Or only attempt to make straight cuts. 4. Clamp or support workpiece as shown on pages 14 and 15.
PROBLEM	TROUBLE: WHEEL MARKS FLOORING WHILE FLUSH CUTTING
	1. Bent or warped wheel.
REMEDY	1. Discard wheel and use different wheel.

Dremel® Limited Warranty

Your Dremel product is warranted against defective material or workmanship for a period of two years from date of purchase. In the event of a failure of a product to conform to this written warranty, please take the following action:

1. DO NOT return your product to the place of purchase.
2. Carefully package the product by itself, with no other items, and return it, freight prepaid, along with:
 - A. A copy of your dated proof of purchase (please keep a copy for yourself).
 - B. A written statement about the nature of the problem.
 - C. Your name, address and phone number

We recommend that the package be insured against loss or in transit damage for which we cannot be responsible.

This warranty applies only to the original registered purchaser. DAMAGE TO THE PRODUCT RESULTING FROM TAMPERING, ACCIDENT, ABUSE, NEGLIGENCE, UNAUTHORIZED REPAIRS OR ALTERATIONS, UNAPPROVED ATTACHMENTS OR OTHER CAUSES UNRELATED TO PROBLEMS WITH MATERIAL OR WORKMANSHIP ARE NOT COVERED BY THIS WARRANTY.

No employee, agent, dealer or other person is authorized to give any warranties on behalf of Dremel. If Dremel inspection shows that the problem was caused by problems with material or workmanship within the limitations of the warranty, Dremel will repair or replace the product free of charge and return product prepaid. Repairs made necessary by normal wear or abuse, or repair for product outside the warranty period, if they can be made, will be charged at regular factory prices.

DREMEL MAKES NO OTHER WARRANTY OF ANY KIND WHATEVER, EXPRESSED OR IMPLIED, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE ABOVE MENTIONED OBLIGATION ARE HEREBY DISCLAIMED BY DREMEL AND EXCLUDED FROM THIS LIMITED WARRANTY.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state. The obligation of the warrantor is solely to repair or replace the product. The warrantor is not liable for any incidental or consequential damages due to any such alleged defect. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusion may not apply to you.

For prices and warranty fulfillment in the continental United States, contact your local Dremel distributor.