

IF YOU HAVE ANY QUESTIONS OR COMMENTS ABOUT THIS, OR ANY DEWALT TOOL, CALL US TOLL FREE AT -800-4-DEWALT (1-800-433-9258).

Number from Nameplate	Date of Purchase
_____	_____
Save this information for future reference	

ON/OFF SWITCH
(SEALED FROM DUST)

SHROUD

CFS DISC

TOP CAP

CORDSET
STRAIN RELIEF

DUST COLLECTION
CANISTER

ADAPTER

SANDING PAD
(HOOK AND LOOP - DW421)
(PRESSURE SENSITIVE ADHESIVE (PSA) - DW422)

DeWalt...Built Jobsite Tough

DeWALT high performance industrial tools are made for America's toughest industrial and construction applications. The design of every tool in the line - from drills to sanders - is the result of rigorous use on jobsites and throughout industry. Each tool is produced with painstaking precision using advanced manufacturing techniques and intense quality control. Every tool is checked before it leaves the factory to make sure that it meets your standards for durability, reliability and power.

DeWALT Built Jobsite Tough...WE GUARANTEE IT.

FIG. 1

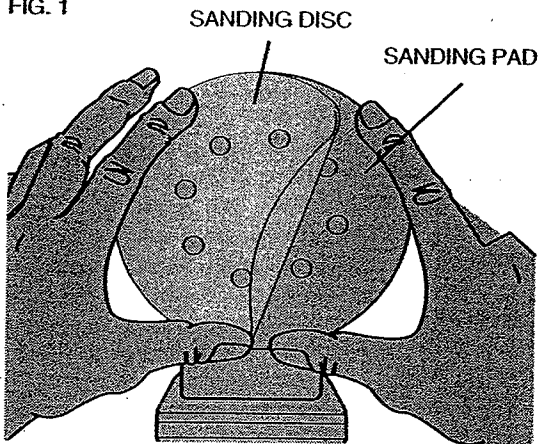
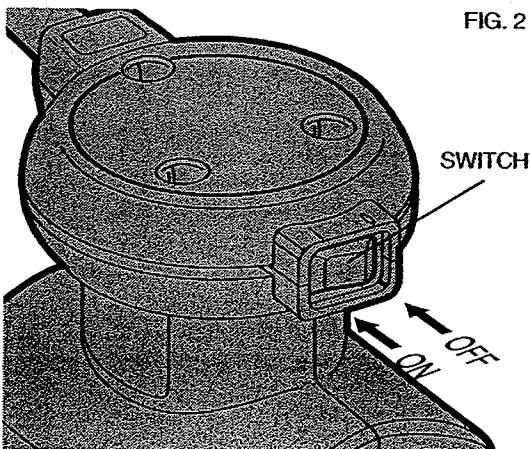


FIG. 2



Motor

Your DeWALT tool is powered by a DeWALT built motor. Be sure your power supply agrees with the nameplate marking. (Volts, 120 AC only). Voltage decrease of more than 10% will cause loss of power and overheating. All DeWALT tools are factory tested; if this tool does not operate, check the power supply.

Attaching Sanding Discs

Your sander is designed to use 5" sanding discs with the 8 hole dust extraction pattern.

Hook and Loop (DW421)

PSA - Pressure Sensitive Adhesive (DW422)

To attach paper to the sanding pad:

1. Turn off and unplug tool.
2. Turn the sander over so that the sanding pad is facing upward.
3. (DW422 only) Clean dust from vinyl pad face.
4. Hold the pad with one hand to keep it from rotating.
5. With the other hand, align the holes and place the disc directly on top of the pad. (see Figure 1).

Switch

To turn the unit on, depress the side of the dust protected switch that corresponds to the symbol "I". To turn the tool off, depress the side of the switch that corresponds to the symbol "O". See Figure 2.

Dust Collection Canister

Your sander comes equipped with a porous plastic canister to collect the dust generated during sanding. It was designed to be very durable and efficient yet easy to empty. To empty the dust collection canister:

1. TURN OFF AND UNPLUG TOOL.
2. Firmly pull the adapter and canister off together while holding the shroud. (Figure 3)
3. While holding the canister, remove the adapter. (Figure 4)
4. Gently empty the canister and shake out the adapter.

You may notice that all the dust will not come free from the canister. This will not affect sanding performance but will reduce its dust collection efficiency.

To thoroughly clean the canister, use one of two methods:

- a) Vacuum the canister with a shop vacuum, applying suction to the interior surface of the canister.
- b) Use dry compressed air. Direct the air from outside of canister to blow dust out of the canister pores.

CAUTION: Wear protective gloves and eye protection when using compressed air to avoid personal injury.

NOTE: We recommend that you do not wash the canister with soap and water.

NOTE: NEVER OPERATE THIS TOOL UNLESS THE DUST COLLECTION CANISTER IS IN PLACE.

FIG. 3

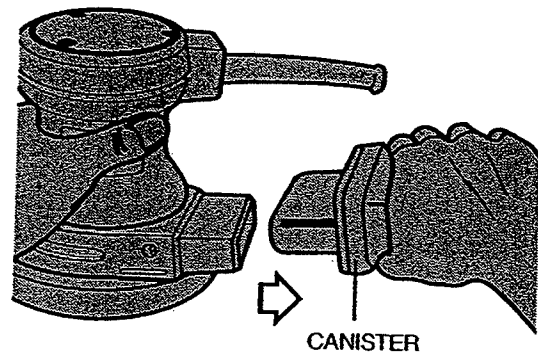
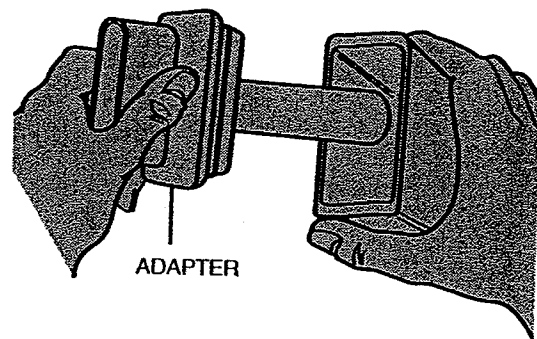


FIG. 4



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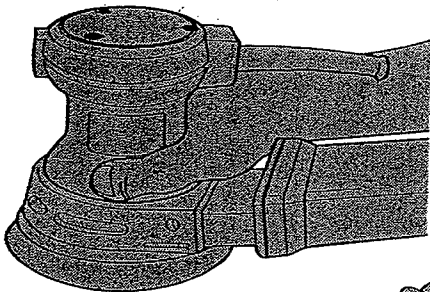


FIG. 5A

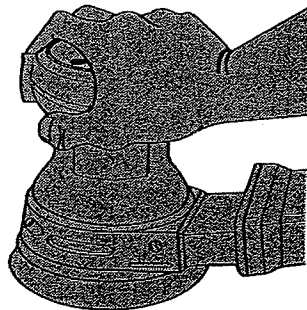
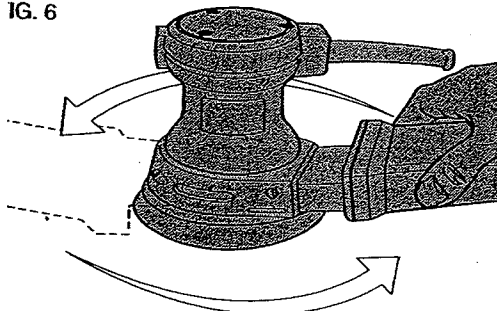


FIG. 5B

FIG. 6



Operation

To operate your sander, grasp it as shown in Figures 5A or 5B and turn it on. Move the unit in long, sweeping strokes along the surface being sanded, letting the sander do the work.

NOTE: Pushing down on the tool while sanding actually slows the removal rate and produces an inferior quality surface.

NOTE: Be sure to check your work often, this sander is capable of removing material rapidly, especially with coarse paper.

The random orbital action of your sander allows you to sand with the grain or at any angle across it for most sanding jobs. To produce the best finish possible, start with coarse grit sandpaper and change gradually to finer and finer paper. Vacuum and wipe surface with a tack cloth between grit steps.

Your sander is designed to sand into small or confined areas. Its small size and light weight make it ideal for overhead work. The dust canister and shroud rotate 360 degrees for full work visibility and operator comfort. (Figure 6)

The rate at which the dust collection canister fills up will vary with the type of material being sanded and the coarseness of the sandpaper. For best results, empty the canister frequently.

When sanding painted surfaces, (see page 6 for additional precautions when sanding paint) you may find that the sandpaper loads up and clogs with paint. A heat gun will work much better to remove paint before sanding. FOLLOW ALL SAFETY INSTRUCTIONS IN HEAT GUN INSTRUCTION MANUAL.

NOTE: (DW422 ONLY)

When using PSA sanding discs, it is necessary to remove the disc soon after operation. PSA papers, if left on during tool storage, sometimes become difficult to remove. To aid in the removal of old PSA paper, sand for a few minutes to soften adhesive backing prior to changing disc.

5

Precautions To Take When Sanding Paint

1. Sanding of lead based paint is **NOT RECOMMENDED** due to the difficulty of controlling the contaminated dust. The greatest danger of lead poisoning is to children and pregnant women.

Since it is difficult to identify whether or not a paint contains lead without a chemical analysis, we recommend the following precautions when sanding any paint:

PERSONAL SAFETY

- a. No children or pregnant women should enter the work area where the paint sanding is being done until all clean up is completed.
- b. A dust mask or respirator should be worn by all persons entering the work area. The filter should be replaced daily or whenever the wearer has difficulty breathing.

NOTE: Only those dust masks suitable for working with lead paint dust and fumes should be used. Ordinary painting masks do not offer this protection. See your local hardware dealer for the proper N.I.O.S.H. approved mask.

- c. **NO EATING, DRINKING or SMOKING** should be done in the work area to prevent ingesting contaminated paint particles. Workers should wash and clean up **BEFORE** eating, drinking or

smoking. Articles of food, drink, or smoking should not be left in the work area where dust would settle on them.

ENVIRONMENTAL SAFETY

- a. Paint should be removed in such a manner as to minimize the amount of dust generated.
- b. Areas where paint removal is occurring should be sealed with plastic sheeting of 4 mils thickness.
- c. Sanding should be done in a manner to reduce tracking of paint dust outside the work area.

CLEANING AND DISPOSAL

- a. All surfaces in the work area should be vacuumed and thoroughly cleaned daily for the duration of the sanding project. Vacuum filter bags should be changed frequently.
- b. Plastic drop cloths should be gathered up and disposed of along with any dust chips or other removal debris. They should be placed in sealed refuse receptacles and disposed of through regular trash pick-up procedures.
During clean up, children and pregnant women should be kept away from the immediate work area.
- c. All toys, washable furniture and utensils used by children should be washed thoroughly before being used again.

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FIG. 7

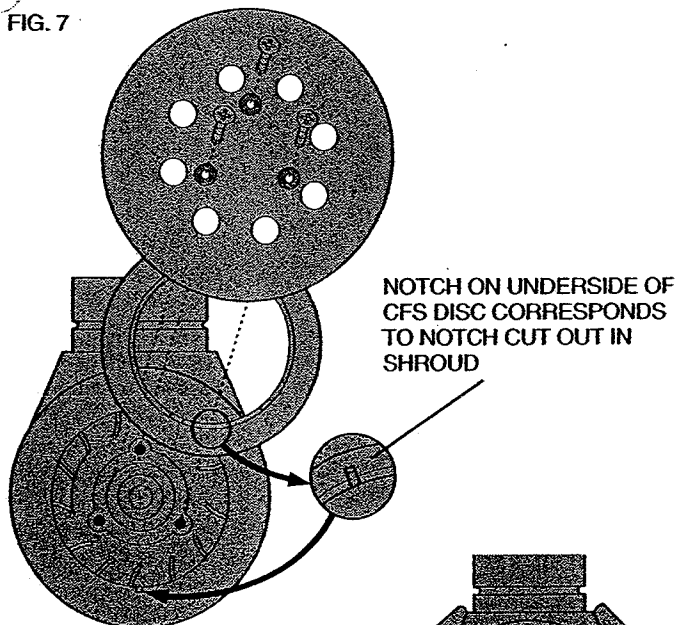
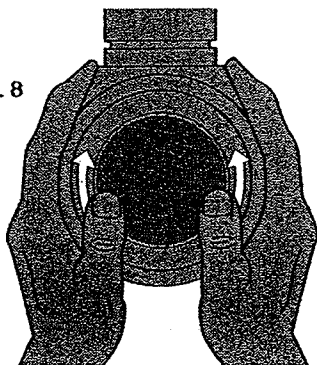


FIG. 8



Tool Care

1. Keep your machine as clean as possible by wiping with a clean cloth and blowing through it with air after every 5 hours of use.
2. As part of CFS (Controlled Finishing System), your sander is equipped with a replaceable disc which is located between the pad and the shroud. It is designed to increase the dust collection efficiency and control the pad speed while the unit is off the work. The disc is designed to be a consumable part and will occasionally need to be replaced. Replacement will be necessary if you notice the pad speed increasing very dramatically when the unit is lifted from the work surface. To replace your CFS disc: (See Figure 7)
 - a. **TURN OFF AND UNPLUG TOOL.**
 - b. Remove 3 phillips head screws from the bottom of the pad.
 - c. Remove the pad.
 - d. Snap out worn disc.
 - e. Snap in new disc, aligning notch in disc with cut out in shroud shown in Figure 7.
 - f. Press in new disc around the edges with two hands to ensure tightness. (See Figure 8)
 - g. Replace the pad and the 3 phillips screws.
3. Don't use harsh chemicals or solvents to clean the tool. These chemicals could seriously damage the engineering polymers used to construct your sander.
4. Avoid overloading your sander. Overloading will result in a considerable reduction in speed and finish quality of your work. The unit may also become hot. In this event, run sander at a no load condition for a minute or two.
5. If you typically wrap the cord around the tool when you store it, leave a generous loop of cord such that the strain relief does not bend. This helps prevent premature cord failure.

7

Brush Replacement

TURN OFF AND UNPLUG THE SANDER

To replace the tool's brushes, remove the three screws located in the top cap, as shown in Figure 9.

Lift off the top cap. Observe the brush holders, as shown in Figure 10 and the wires leading from the brushes to the motor field.

Pull the wires from the motor field and then lift and hold out of the way one of the brush springs. Remove the old brush from the brush holder and discard the brush/wire assembly. Still holding the brush spring out of the way, insert the new brush, release the spring against the back of the brush and plug the wire into the motor field. Repeat the procedure for the second brush. Replace the top cap and tighten the three screws that hold it in place. (Always replace both brushes.)

Lubrication

Self lubricating bearings are used in the tool and periodic relubrication is not required. However, it is recommended that, once a year, you take or send the tool to a service center for a thorough cleaning and inspection.

Application Notes

SANDPAPER

GRIT TYPES

Natural Abrasives

Flint is the softest (Mohs' Scale 7)* of the common natural abrasives. It has a tan color and is very inexpensive.

Garnet paper is harder than flint (Mohs' Scale 7.5) and is easily identified by its bright orange color. Even though it is not the hardest, the way the abrasive fractures gives you a good cutting edge for woodworking.

* Mohs' Scale is the mineral hardness scale. It rates diamond at 15, the hardest, and talc at 1.

Emery, even though harder than garnet (Mohs' Scale 9), has blunt edges making it a poor sanding abrasive. Its primary use is for polishing metal.

Manufactured Abrasives

White Aluminum Oxide (AlO) is extremely hard (Mohs' Scale 12) and durable which makes it a great abrasive for use with the Random Orbit Sander. "White" describes the particular way the abrasive is manufactured not its color. This abrasive is widely available and comes in a variety of colors due to the increasing use of dyes. Stearate lubricants on the paper also enhance performance by reducing heat and the rate at which the paper clogs.

Silicon Carbide (SiC) is the hardest abrasive (Mohs' Scale 13) commonly available next to industrial diamond but is not as tough as Aluminum Oxide abrasives. This abrasive easily fractures and provides sharp faces to the work throughout the life of the sanding paper. This "self-sharpening" feature makes SiC an outstanding abrasive for material removal but limits its life.

OPEN COAT VERSUS CLOSED COAT

Abrasives are applied to the paper with glue. When the grit is large (say 60 or 80 grit) the percent of coverage is usually reduced to 60% to 70% of the backing paper surface. This increases the life of the paper by reducing the rate at which the paper clogs. This is called an open coat and almost the only way you can buy sandpaper in heavier grits. With finer grits the grit is applied at rates of 90% or more and are labeled closed coat. Since the dust particle is much smaller the tendency of the paper to load up and clog is greatly reduced. Which is better for your application? The answer is probably the one that is available at the store.

GRIT SIZES

There are several grading systems used. The system most popular

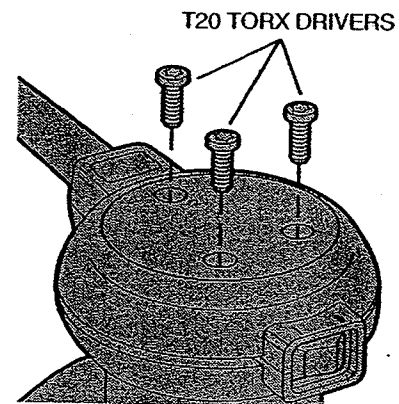


FIG. 9

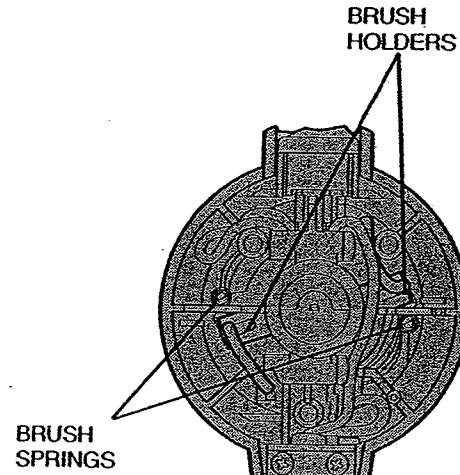


FIG. 10

8

today is sieve size. The number on the back of your sandpaper disc refers to the screen size the particle can pass through. 120 grit paper for example will sift through a screen with 120 holes per linear inch. Every square inch of screen has 14,400 holes (120 x 120). The higher the number the finer the particle size. Common sizes are from 36 to 600 with the recent introduction of grit sizes up to 1200.

PAPER AND FILM: THE BACKING

Paper: The material most commonly used to carry the abrasive is paper. Paper is graded by weight. "A" weight paper which is the most prevalent is the lightest paper used and gives good durability and flexibility in most sanding applications. Other paper weights that are available are C, D, E, and F weight. The disadvantage of paper is its low mechanical stiffness. Since the paper fiber gives during sanding, the abrasive doesn't stand up and some of the cutting edges do not engage the work. The advantage is cost.

Film: Film backed sanding discs address the disadvantage of paper. The film is mechanically stiffer than paper. Film is also more expensive but when all other things are held constant improves the cutting performance of the abrasive.

Cloth and Vulcanized Fiber: These backings are typically hard to find and are used in specialty applications. Most sandpaper you will use will have the paper or film backing.

HOOK & LOOP AND PSA: What holds the sanding disk to the pad.

Hook & Loop: The sanding disk as backed with a fabric nap (loops) that interlocks with a grid of posts (hooks) on the sander's pad. The advantages are paper reusability and cooler interface between pad and work.

PSA: Pressure Sensitive Adhesive is applied to the back of the sanding disc and adheres to the sanding pad (Not the same pad that carries hook & loop paper). The advantage is cost. The major

disadvantage is the tendency of PSA backed papers to adhere permanently to the pad if left on after sanding. Why does this happen? The main culprit is heat. During sanding the pad and paper heat up. This causes the adhesive to flow into all the ridges on the vinyl pad and form a tight bond. If you remove the paper soon after you are sanding you don't allow the adhesive to set. If you leave it on a couple of days the adhesive sets and has more strength than the paper carrier, causing the paper to tear and leaving you with a difficult clean up job. One more disadvantage: If you do small sanding jobs and don't use up the paper you cannot reuse it and tend to waste more paper.

SANDING

THE BASIC RULES: Which ones to break and which ones not to.

Always start with the coarsest grit first. Don't break this rule. The scratches get smaller as the grit number gets larger and the quality of the finish generally improves. When you change grits be particular about cleaning the surface that you are finishing. An 80 grit particle floating on your work under your 220 grit paper will leave 80 grit scratches. The best way to avoid this is to vacuum the work and then carefully wipe down the work with a tack rag.

Always sand with the grain. This rule applies with orbital only tools. The random orbit sander action is equally applied across the grain and with the grain. Since the scratch mark is small and random in all directions, the ability of the eye to see a scratch is greatly reduced.

Always wear a mask to avoid breathing the dust. NEVER BREAK THIS RULE. We have engineered the tool to collect a lot of the dust created in the sanding process but the tool does not capture it all. To improve the capture rate use a vacuum but ALWAYS wear a dust mask.

SOME OTHER HINTS FOR A BETTER FINISH

A random orbit sander is much more aggressive than other similarly sized orbital tools so you may want to consider the next finer grit when

you start to sand your project.

Since the random orbit action makes a short scratch, you may find that a project doesn't require as many grit steps. A lot of professional cabinet makers only use 80, 120, and 150 grit on their work with satisfactory results. If in doubt about how the finish will take to your sanded surface, wipe the surface with some paint thinner. Defects will show up darker than the surrounding wood.

Careful inspection of the work prior to the finishing operation may reveal dents. Try to correct these problems by raising the dent (a hot iron and wet rag will do this) or carefully sand a large area around the dent. If you vigorously sand the dent, your flat board may look more like a salad bowl.

When you have done all you can do with your random orbit sander and need to hand sand, use a small block of wood for a sanding block. Your hand makes a poor sanding block and your work will show it. Also, hand sand with the grain.

When you are satisfied with the sanding job and you have finished sanding with your finest grit, raise the grain by dampening the wood with a wet rag. When the wood has dried and you are ready to apply the finish, resand lightly to take off the wood fibers raised by the water. Vac and tack the surfaces and immediately apply the first coat of finish before the wood gets dirty.

WOOD: Some important characteristics of wood

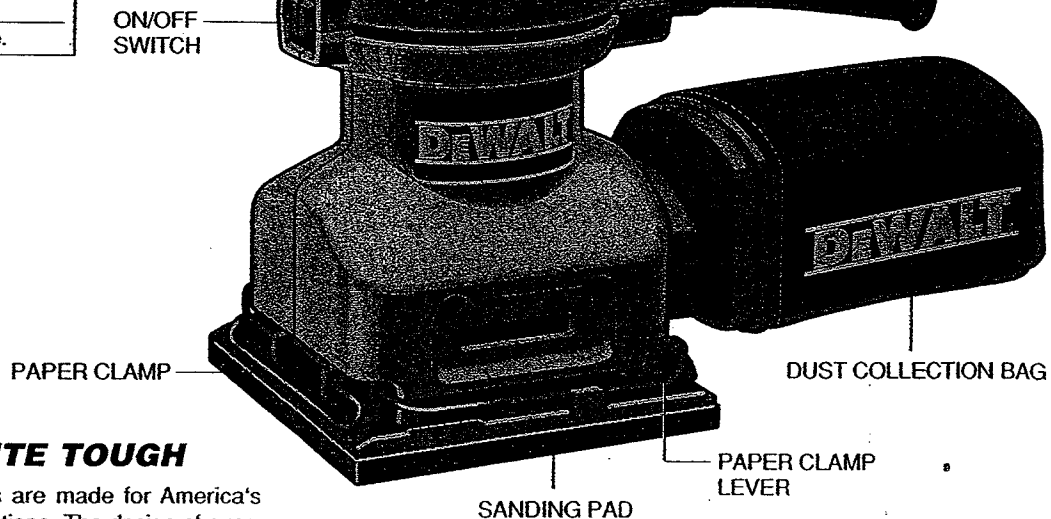
Hard grain and soft grain

Wood has hard grain and soft grain. Hard grain is typically the product of summer growth and soft grain the product of spring. All sanders will remove more soft grain than hard grain and since the random orbit sander is more aggressive, it will remove it that much more quickly. Extended sanding on a piece of fir for example, will produce a noticeably uneven finish. This is a good reason to correct flaws before sanding.

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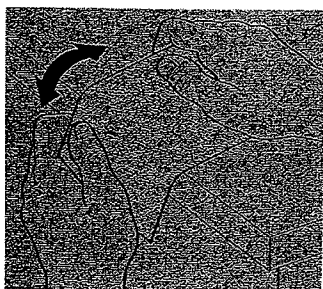


FIG. 1

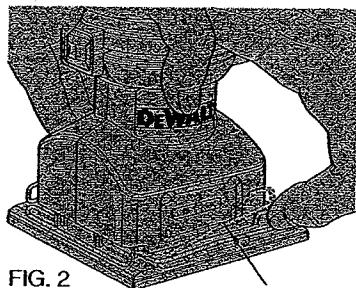


FIG. 2

CLAMP LEVER

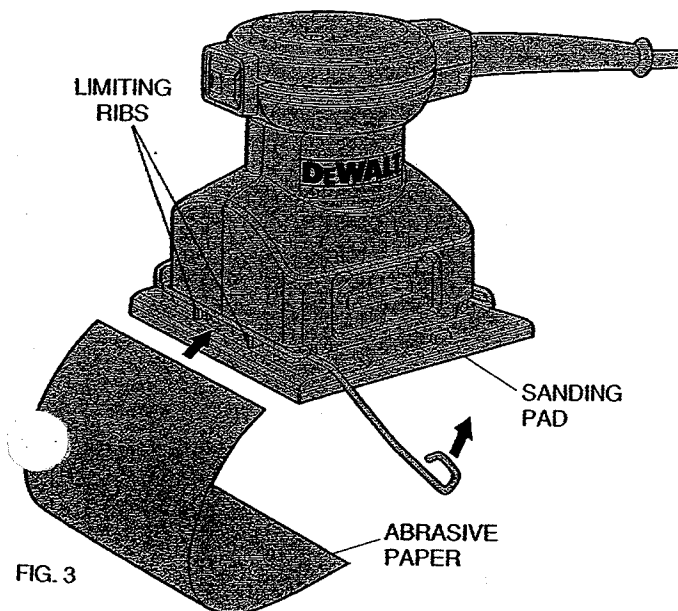


FIG. 3

Attaching Abrasive Paper

Your sander is designed to use 1/4 sized sanding sheets. This size paper can be made by:

- Cutting full sized (9" x 11") sandpaper into 1/4 sheets of 4 1/2" x 5 1/2".
- Cutting 1/2 sheet sandpaper into two 4 1/2" x 5 1/2" sheets.

Pre-cut 4 1/2" x 5 1/2" sandpaper is available at extra cost.

For normal operations, assemble the abrasive paper to your unit as follows.

- Soften the stiff sandpaper by pulling it over the 90° edge of a table or other straight edge, as shown in Figure 1. Concentrate on softening the edges to be clamped.
- Release clamp by pulling up on clamp lever and disengaging it from the tab on the base plate. (See Fig. 2)
- Insert the 4 1/2" edge of the abrasive paper under the front paper clamp, as shown in Figure 3 until it hits the paper limiting ribs shown in the figure. Close the front paper clamp and hook it into the lock position behind the tab on the base plate.
- Stretch paper over sanding pad and insert under the opposite clamp in the same way.
- If you are using the dust extraction feature, perforate the sandpaper with the provided paper punch as instructed on page 4.

Caution: When using perforated paper be sure to raise the dust door (Figure 7), and install the dust collection bag to insure maximum effectiveness. Conversely, when not using the dust extraction feature, be sure to close the dust door, shown in Figure 7.

Switch

To turn the unit on, depress the side of the dust protected switch that corresponds to the symbol "I". To turn the tool off, depress the side of the switch that corresponds to the symbol "O". See Figure 4.

Paper Punch

A paper punch is provided with your sander to let you perforate regular sandpaper to make dust collection possible.

To perforate your sandpaper, install the sandpaper on the tool as instructed in this manual. With the sander turned off and unplugged, place the paper punch on the paper so that the tabs at the edges of the punch are against any two adjacent sides of the sanding pad, as shown in Figure 5. Press the punch against the pad so that the 8 points penetrate the paper, as shown in Figure 6. (Press the punch to the pad as far as it will go.) Remove the paper punch and the paper is ready.

An alternate method of perforating the paper is to fasten the punch down to a suitable work surface and press the sander (with the paper attached) down on the punch. Two holes are provided in the punch for its purpose. Use #8 flat head screws.

FIG. 4

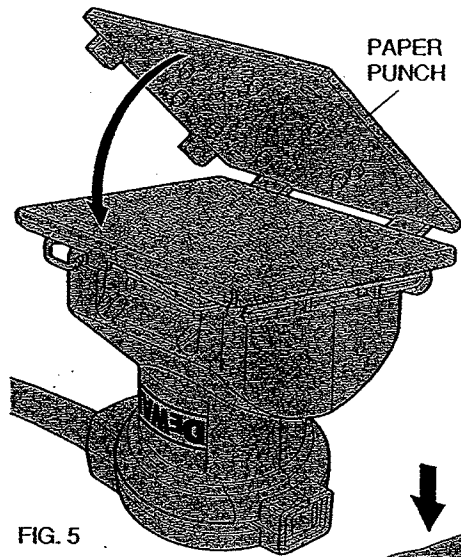
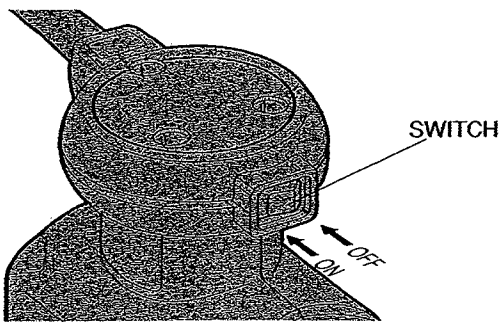


FIG. 5

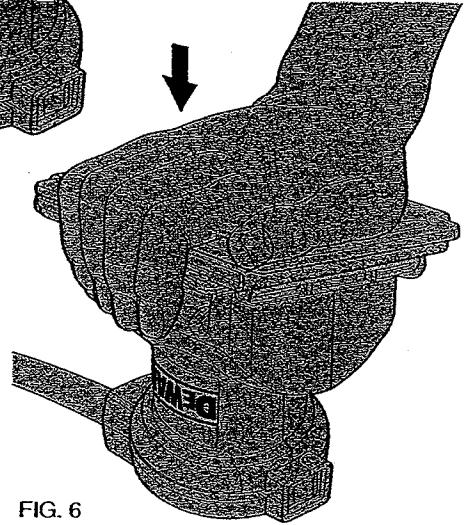


FIG. 6

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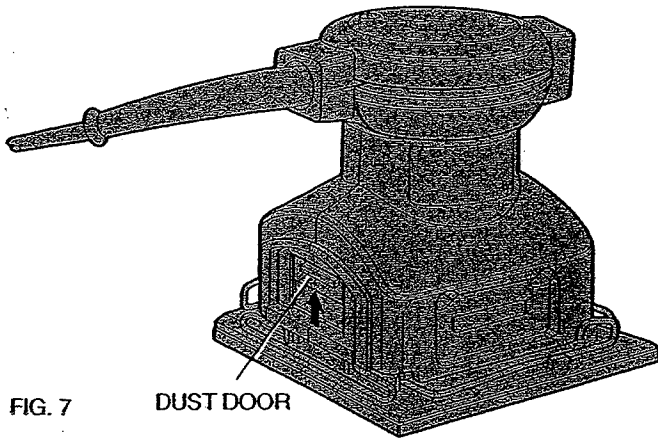


FIG. 7

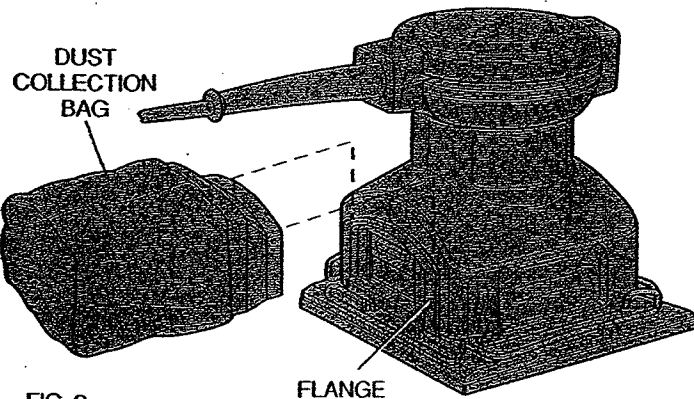


FIG. 8

Dust Collection Bag

DUST COLLECTION BAG: NEVER OPERATE THIS TOOL WITH PERFORATED PAPER UNLESS THE DUST COLLECTION BAG IS IN PLACE, OR THE DUST DOOR IS CLOSED.

To use the dust collecting system, raise the dust door by sliding it up into the housing, as shown in Figure 7. Lower the plastic end of the collection bag over the flange around the dust door and push it down as far as it will go, as shown in Figure 8.

To empty the dust collection bag, simply lift it up, off of the sander and empty over a trash receptacle.

Operation

To operate your sander, grasp it as shown in Figure 9 and turn it on. Move it in long, sweeping strokes along the surface being sanded, letting it do the work. Pushing down on the tool while sanding actually slows the removal rate and produces an inferior quality surface. Be sure to check your work often, this sander is capable of removing material rapidly, especially with coarse paper.

Your sander is designed to sand flush on three sides (four sides without the dust collection bag) for sanding in corners, and its small size and light weight make it ideal for overhead work.

The orbital action of your sander allows you to sand with the grain or at any angle across it for most sanding jobs. On the final sanding steps, as discussed below, a better finish will result if you sand only with the grain.

To produce the best finish possible, start with coarse grit sandpaper and change gradually to finer and finer paper. A final sanding with a piece of well worn fine sandpaper will produce a really professional looking finish that in many cases will need no hand sanding at all.

The rate at which the dust collection bag will fill up will vary with the type of material being sanded and the coarseness of the sandpaper. For best results, empty the bag frequently and check the dust door opening for clogging.

When sanding painted surfaces, you may find that the sandpaper clogs and clogs with paint. A heat gun will work much better to remove paint before sanding. FOLLOW ALL SAFETY INSTRUCTIONS IN HEAT GUN INSTRUCTION MANUAL.

Precautions To Take When Sanding Paint

1. Sanding of lead based paint is NOT RECOMMENDED due to the difficulty of controlling the contaminated dust. The greatest danger of lead poisoning is to children and pregnant women.
2. Since it is difficult to identify whether or not a paint contains lead without a chemical analysis, we recommend the following precautions when sanding any paint:

PERSONAL SAFETY

- a. No children or pregnant women should enter the work area where the paint sanding is being done until all clean up is completed.
- b. A dust mask or respirator should be worn by all persons entering the work area. The filter should be replaced daily or whenever the wearer has difficulty breathing.

NOTE: Only those dust masks suitable for working with lead paint dust and fumes should be used. Ordinary painting masks do not offer this protection. See your local hardware dealer for the proper N.I.O.S.H. approved mask.

- c. NO EATING, DRINKING or SMOKING should be done in the work area to prevent ingesting contaminated paint particles. Workers should wash and clean up BEFORE eating, drinking or smoking. Articles of food, drink, or smoking should not be left in the work area where dust would settle on them.

CLEANING AND DISPOSAL

- a. All surfaces in the work area should be vacuumed and thoroughly cleaned daily for the duration of the sanding project. Vacuum filter bags should be changed frequently.
- b. Plastic drop cloths should be gathered up and disposed of along with any dust chips or other removal debris. They should be placed in sealed refuse receptacles and disposed of through regular trash pick-up procedures.

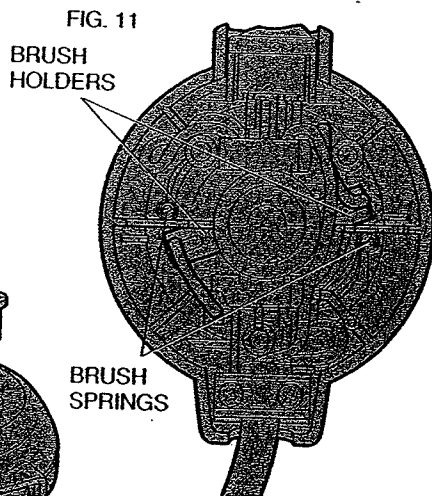
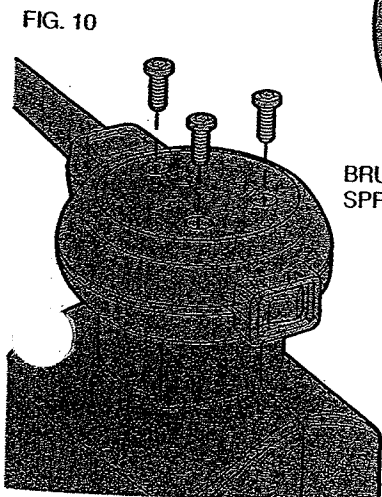
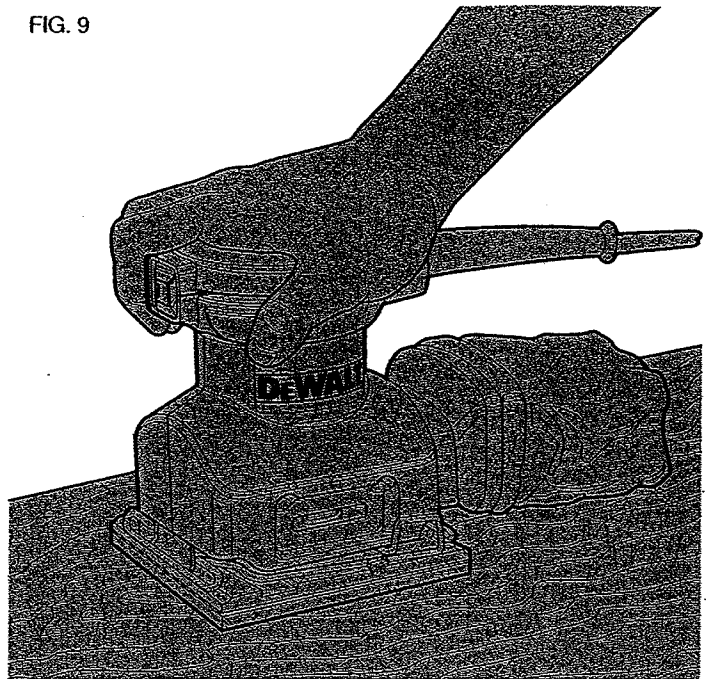


FIG. 9



ENVIRONMENTAL SAFETY

- a. Paint should be removed in such a manner as to minimize the amount of dust generated.
- b. Areas where paint removal is occurring should be sealed with plastic sheeting of 4 mils thickness.
- c. Sanding should be done in a manner to reduce tracking of paint dust outside the work area.

During clean up, children and pregnant women should be kept away from the immediate work area.

- c. All toys, washable furniture and utensils used by children should be washed thoroughly before being used again.

Tool Care

Keep your machine as clean as possible by wiping with a clean cloth and blowing through it with air after every 5 hours of use.

Don't use harsh chemicals or solvents to clean the tool. These chemicals could seriously damage the plastic.

Avoid overloading your sander. Overloading will result in a considerable reduction in speed and efficiency and the unit will become hot. In this event, run sander at a "no load" condition for a minute or two.

Brush Replacement

TURN OFF AND UNPLUG THE SANDER

To replace the tool's brushes, remove the three screws located in the top cap, as shown in Figure 10.

Lift off the top cap. Observe the brush holders, as shown in Figure 11 and the wires leading from the brushes to the motor field.

Pull the wires from the motor field and then lift and hold out of the way one of the brush springs. Remove the old brush from the brush holder and discard the brush/wire assembly. Still holding the brush spring out of the way, insert the new brush, release the spring against the back of the brush and plug the wire into the motor field. Repeat the procedure for the second brush.

Replace the top cap and tighten the three screws that hold it in place. (Always replace both brushes.)

Accessories

Recommended accessories for use with your tool are available at extra cost from your local DeWalt certified service center. **CAUTION:** The use of any non-recommended accessory may be hazardous.

A complete listing of service centers is included on the owner's registration card packed with your tool.

If you need any assistance in locating any accessory, please contact DeWalt Industrial Tool Company, P.O. Box 158, 626 Hanover Pike, Lampstead, MD 21074 or call 1-800-4-DeWALT (1-800-433-9258).

Just Extraction Hose Adaptor (DW4111)

Slides over flange at rear of tool, as shown in Figure 12. Accepts a variety of vacuum hoses for dust extraction.

3" Circular Platen (DW4112)

Includes 6" dia. round sanding pad for sanding irregular shapes where extra flexibility may be desired.

To install the circular platen, remove the four screws in the bottom of the sanding pad and remove the pad and the rectangular platen. Replace with the circular platen and the 6" diameter sanding pad using the same four screws.

Accepts 6" dia. adhesive backed sanding discs only.

NOTE: Recommended accessories for this tool are listed in this manual. The use of any other accessories may be hazardous.

Lubrication

Self lubricating bearings are used in the tool and periodic relubrication is not required. However, it is recommended that, once a year, you take or send the tool to a service center for a thorough cleaning and inspection.

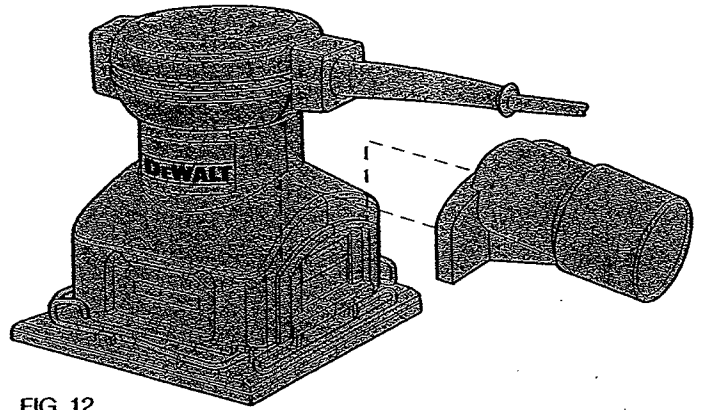


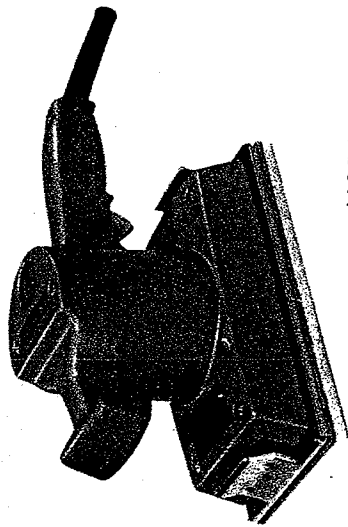
FIG. 12

Important

To assure product SAFETY and RELIABILITY, repairs, maintenance and adjustment (excluding service described in this manual) should be performed by DeWalt certified service centers or other qualified service organizations. These service organizations service DeWalt tools always using DeWalt replacement parts.

Black & Decker (U.S.) Inc. industrial tool service centers are certified for servicing DeWalt industrial tools.

Finishing Sander



MODEL 505

IMPORTANT

Please make certain that the person who is to use this equipment carefully reads and understands these instructions before starting operations.

The Model and Serial No. plate is located on the main housing of the tool. Record these numbers in the spaces below and retain for future reference.

Model No. _____

Type _____

Serial No. _____

Part No. 696402-2911

Instruction
manual

UNIVERSAL

Naturally, in all sanding operations, best results will be obtained if you select the proper size and type of abrasives. Only garnet, aluminum oxide and silicon carbide are recommended for use with finishing sanders. Flint paper is not satisfactory for machine sanding, due to its weak structure.

Before starting to work, make sure you have the right abrasive for the material on which the sander is to be used. Make sure you use the correct size abrasive paper or cloth. Cut, do not tear, the abrasive sheets to size.

ATTACHING STIKIT™ ABRASIVE

Stikit™ abrasives (ten yard rolls) and a convenient dispenser are available from your Porter-Cable distributor (see accessory listing in this manual).

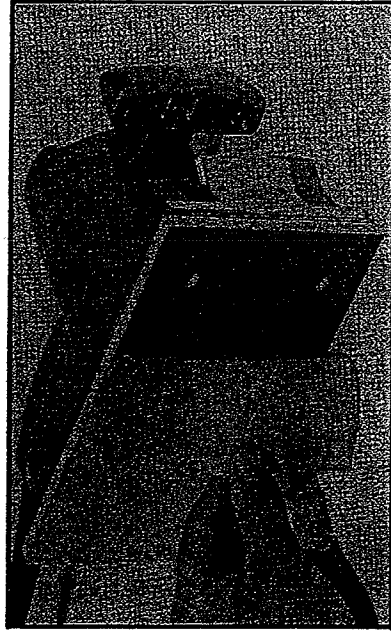


Fig. 1

To install Stikit™ abrasive: cut a 9" long piece of abrasive from roll, align abrasive with sander pad and press in place as shown in Fig. 1. To remove: lift one corner of abrasive with fingernail and peel off.

ATTACHING CONVENTIONAL ABRASIVE

1. Press front clip toward base and slip one end of abrasive sheet under clamp, as shown in Fig. 2.

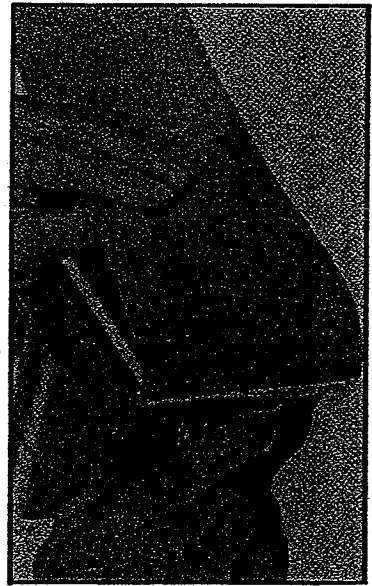


Fig. 2

2. Stretch abrasive sheet tight over pad, as shown in Fig. 3, and bend up over pad edge.

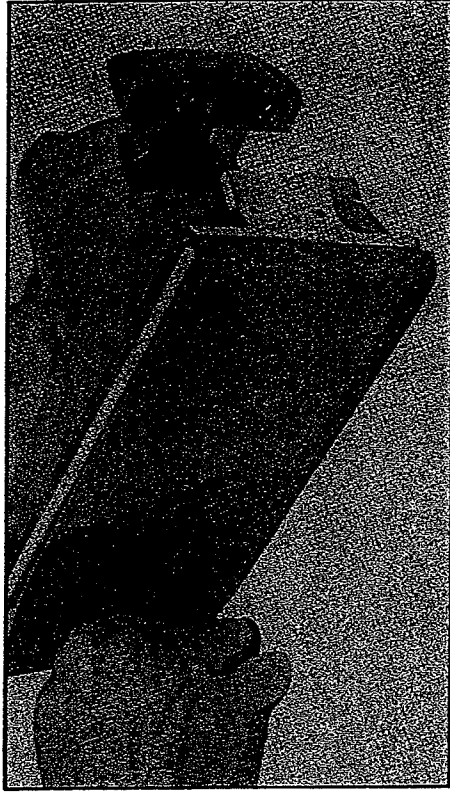


Fig. 3

3. Press rear clip toward base and slip free end of abrasive sheet under clamp as shown in Fig. 4.

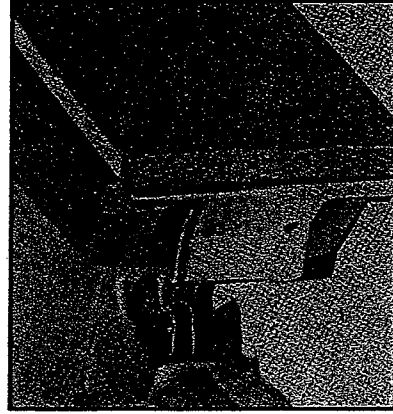


Fig. 4

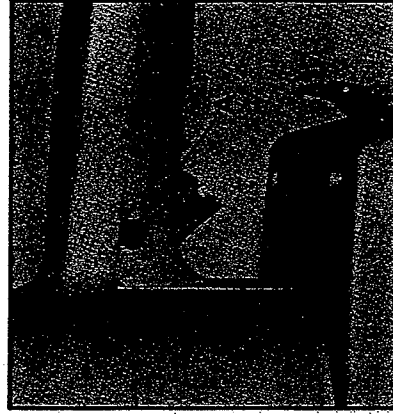


Fig. 5

OPERATING SWITCH

This sander is equipped with a trigger type switch having a locking button (A) Fig. 5, on the left side of the handle. The motor is started by depressing the trigger. It is stopped by releasing the trigger. If it is desired to keep the motor running without holding your finger on the trigger, depress the trigger, push in on the locking button and, while holding button in, release trigger. To release locking button, depress trigger and release.

CAUTION: Make sure switch is off before inserting cord plug into power circuit outlet.

HOW TO USE YOUR SANDER STARTING TO WORK

This finishing sander has been designed for one or two hand operations. Because it is vibration free and perfectly balanced, it can be easily guided over the work surface. The normal weight of the machine is sufficient for efficient sanding. Do not put additional pressure on the machine. This would only slow down the speed of the pad, reducing the sanding efficiency and put an additional burden on the motor. In addition, it might cause the sander to jump on the work. Always start the machine before placing it on the work surface. Once started, set it down on the work surface evenly and move it slowly back and forth in wide, overlapping arcs. When you are through sanding, lift it off the work before stopping the motor.

WORKING PROCEDURE

The action of the Porter-Cable Finishing Sander causes thousands of tiny abrasive grits to move in circular orbits against the work at high speed. Each grain moves in the same direction at a constant speed so the cutting action is uniform over the entire pad surface. Crossing and re-crossing of the abrasive grits from all directions quickly levels surface irregularities to a fine, uniform smoothness. Start the work with an abrasive grit just coarse enough to remove the high spots and excessive roughness. Follow with a second sanding using a grit one or two grades finer. Continue with successively finer grits until the desired finish is obtained. **DO NOT GO FROM A COARSE GRIT TO A VERY FINE GRIT IN ONE STEP.**

By so doing, it will be impossible to remove swirl marks that might have been made by the coarse grit abrasive. Use the finest grits practical for the roughing operation and then finish by using successively finer grits.

REQUIREMENTS FOR FINE FINISHING

In general, the coarser grits remove the most material in the shortest time. The fine grits produce a smoother finish. By selecting the proper type of abrasive, the finest finish can be produced.

SPECIAL TYPES OF SANDING

Ordinarily, open coat abrasives are used for finish sanding. The most effective sanding performance will be obtained if abrasive papers specifically manufactured for finishing sanders are used. A wide range of grit sizes is available to cover every sanding need. Polishing and smoothing metal, plastic, painted and some other surfaces require a lubricant such as water, water soluble oil or other non-flammable liquid.

CAUTION: DO NOT USE INFLAMMABLE LIQUIDS SUCH AS BENZENE, NAPHTHA OR GASOLINE AS LUBRICANTS WITH ANY ELECTRIC SANDER.

In selecting the abrasive for use with lubricants, be sure to get a waterproof paper or cloth backing, usually called "wet-or-dry" abrasive sheet. **SPONGE THE LIQUID ONTO THE SURFACE LEAVING A VERY LIGHT FILM. DO NOT FLUSH IT ON.**

REMOVING PAINT AND VARNISH

Your sander will do a good job of removing old paint and varnish if two precautions are taken. First, be sure to use a coarse, open coat abrasive to avoid the usual clogging of the abrasive surfaces. Second, keep the machine moving over new areas to avoid heating and softening the material being removed. Try to work the entire surface down at the same time by working in wide, overlapping arcs. Do not concentrate on small areas. If liquid removers or heaters are used to speed the work, be sure the surface is cool and dry and the excess material has been scraped away with a putty knife or other suitable scraping tool before applying the sander.

CABINETS AND DOORS

The orbital motion of the Porter-Cable Finishing Sander is ideally suited for finishing doors, cabinet fronts and other installations where wood grain is often perpendicular to that of a joining piece. Since the motion is circular, the machine may be moved in any direction and crossed from one part to the other without regard to direction of grain. A uniform and smooth finish will result on both parts. The same procedure may be used when evening joints in all types of cabinet work. The sander may be worked on both sides and in all directions to obtain a smooth matching joint. By properly changing from coarser to finer grit abrasives, an excellent finish will result.

WALLBOARD AND TAPED JOINTS

For smoothing taped joints, nail concealing and patching work, the orbital motion of your finishing sander is excellent. The plaster patch material is first made as smooth as possible with the trowel, allowing a light, feathered edge to extend unevenly in all directions away from the work. When fully dry, the excess plaster can be quickly worked down with the sander and a fine grit, open coat abrasive. Do not allow the edges of the pad to dig into the soft plaster. Keep the machine level and working evenly. Use an overlapping circular movement and work in all directions while smoothing and feathered edge down to the level of the surrounding surface. Be careful not to abrade into the paper covering the wallboard.

MAINTENANCE BRUSH INSPECTION AND LUBRICATION

Brushes should be checked after approximately 100 hours use depending on the load the machine has been subjected. To inspect and replace the brushes it is necessary to dismantle the tool. This operation should always be handled by the nearest Porter-Cable Authorized Service Center and we suggest lubrication be inspected during brush inspection.

The bearings in your machine are sealed bearings which are lubricated at the time of assembly with sufficient lubricant to last their lives. Further lubrication of the bearings is not required.

FAILURE TO START

Should your machine fail to start, we suggest that you make the following checks: Check the power circuit to make sure the prongs on the cord plug are making good contact in the outlet. Check fuse box for blown fuses. Operate switch several times in rapid succession. If these checks do not reveal the cause of failure to start, we suggest that you send your tool to your nearest Authorized Porter-Cable Service Station with a letter explaining what you have experienced with your machine. We cannot guarantee repairs made or attempted by anyone other than Authorized Service Agencies.

GENERAL CARE AND CLEANING

Be careful not to drop or bump the machine. It may throw parts out of line, causing improper movement, overheating or excessive wear. If the machine should be damaged, send it at once to your nearest Authorized Porter-Cable Service Station for inspection. The motor depends on clean, cool air for efficient and cool operation. Keep the air ports free of dust and grit. Blow them out frequently if the machine is used regularly. Use a small brush to clean all areas around the machine. After working on plaster, metals or other materials having abrasive properties, it is recommended that the dust be blown from all parts of the machine to prevent it from working into the bearings and motor parts to cause failure.

WARNING: Wear safety glasses when using compressed air to blow dust and grit from sander.

SERVICE AND REPAIRS

All quality tools will eventually require servicing or replacement of parts due to wear from normal use. These operations, including brush inspection and replacement, should ONLY be performed by either an AUTHORIZED PORTER-CABLE SERVICE STATION or a PORTER-CABLE SERVICE CENTER. All repairs made by these agencies are fully guaranteed against defective material and workmanship. We can not guarantee repairs made or attempted by anyone other than these agencies.

Should you have any questions about your tool, feel free to write us at any time. In any communications, please give all information shown on the nameplate of your tool (model number, type, serial number, etc.).

ACCESSORIES

The testing of this tool has been accomplished with the following accessories. For safest operation, it is recommended that only these accessories be used with this product.

WARNING - Since accessories other than those listed have not been tested with this product, use of such accessories could be hazardous.

GRIT ABRASIVES

Abrasives supplied in ten yard rolls (4½" wide), ten rolls per carton.

	Extra Fine	Fine	Medium
Grit	220	180	120
P.C. No.	13622-10	13618-10	13620-10
			13600-10
			13608-10

13599 - Dispenser (dispenses two rolls of abrasive)
13598 - Replacement Pad

Stikit™ is a Registered Trademark of Minnesota Mining and Manufacturing Corp.

PORTER-CABLE LIMITED ONE YEAR WARRANTY

Porter-Cable warrants its Professional Power Tools for a period of one year from the date of original purchase. We will repair or replace at our option, any part or parts of the product and accessories covered under this warranty which examination proves to be defective in workmanship or material during the warranty period. For repair or replacement return the complete tool or accessory, transportation prepaid, to your nearest Porter-Cable Service Center or Authorized Service Station as listed under "TOOLS-ELECTRIC" in the Yellow Pages of your telephone directory. Proof of purchase may be required. This warranty does not apply to repair or replacement required due to misuse, abuse, normal wear and tear or repairs attempted or made by other than our Service Centers or Authorized Service Stations.

To obtain information on warranty performance please write to: PORTER-CABLE CORPORATION, 4825 Highway 45 North, P.O. Box 2466, Jackson, Tennessee 38302-2466; Attention: Product Service. The foregoing obligation is Porter-Cable's sole liability under this or any implied warranty and under no circumstances shall Porter-Cable be liable for any incidental or consequential damages. Some states do not allow limitations on how long an implied warranty lasts on the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

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