



- b) **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.
- c) **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.
- d) **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.
- e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f) **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.
- g) **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.

4) POWER TOOL USE AND CARE

- a) **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.
- b) **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.
- c) **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.
- d) **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.
- e) **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.
- f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g) **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.

5) SERVICE

- a) **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.

Additional Safety Instructions for Sanders

- **Accessories must be rated for at least the speed recommended on the tool warning label.** Wheels and other accessories running over rated speed can fly apart and cause injury. Accessory ratings must be above listed minimum wheel speed as shown on tool nameplate.
- **Hold power tools by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.
- **Always wear eye protection and a respirator when sanding.**
- **Sanding of lead-based paint is not recommended.** See **Precautions To Take When Sanding Paint** for additional information before sanding paint.
- **Do not operate the unit without the dust collection bag.**
- **Clean your tool out periodically.**
- **Empty dust bag frequently, especially when sanding resin coated surfaces such as polyurethane, varnish, shellac, etc.** Dispose of coated dust particles according to the finish manufacturer's guidelines, or place in a metal can with a tight-fitting metal lid. Remove coated dust particles from the premises daily. The accumulation of fine sanding dust particles may self ignite and cause fire.
- **Replace a worn or damaged belt when it causes high tool rpm.** High tool rpm caused by a worn out belt may result in separation of sanding pad from the sander, possibly causing personal injury. For instructions on replacing the belt, see **Replacing the Sanding Pad and the Belt under Maintenance.**
- **Air vents often cover moving parts and should be avoided.** Loose clothes, jewelry or long hair can be caught in moving parts.
- **An extension cord must have adequate wire size (AWG or American Wire Gauge) for safety.** The smaller the gauge number of the wire, the greater the capacity of the cable, that is 16 gauge has more capacity than 18 gauge. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. When using more than one extension to make up the total length, be sure each individual extension contains at least the minimum wire size. The following table shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.

		Minimum Gauge for Cord Sets			
		Volts	Total Length of Cord in Feet (meters)		
Ampere Rating	120V	25 (7.6)	50 (15.2)	100 (30.5)	150 (45.7)
	240V	50 (15.2)	100 (30.5)	200 (61.0)	300 (91.4)
More Than	Not More Than	AWG			
0	6	18	16	16	14
6	10	18	16	14	12
10	12	16	16	14	12
12	16	14	12	Not Recommended	

▲ WARNING: ALWAYS use safety glasses. Everyday eyeglasses are NOT safety glasses. Also use face or dust mask if cutting operation is dusty. ALWAYS WEAR CERTIFIED SAFETY EQUIPMENT:

- ANSI Z87.1 eye protection (CAN/CSA Z94.3),
- ANSI S12.6 (S3.19) hearing protection,
- NIOSH/OSHA/MSHA respiratory protection.

▲ WARNING: Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California 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.

- **Avoid prolonged contact with dust from power sanding, sawing, grinding, drilling, and other construction activities. Wear protective clothing and wash exposed areas with soap and water.** Allowing dust to get into your mouth, eyes, or lay on the skin may promote absorption of harmful chemicals.

▲ WARNING: Use of this tool can generate and/or disperse dust, which may cause serious and permanent respiratory or other injury. Always use NIOSH/OSHA approved respiratory protection appropriate for the dust exposure. Direct particles away from face and body.

may or may not need this warning, depends on tool:

▲ WARNING: Always wear proper personal hearing protection that conforms to ANSI S12.6 (S3.19) during use. Under some conditions and duration of use, noise from this product may contribute to hearing loss.

- The label on your tool may include the following symbols. The symbols and their definitions are as follows:

V.....volts	A.....amperes
Hz.....hertz	W.....watts
minminutes	~ or AC.....alternating current
=== or DC.....direct current	⊘ or AC/DC.....alternating or direct current

**DWE6420, DWE6421, DWE6423
Random Orbit Palm Sanders**

The following are trademarks for one or more DEWALT power tools: the yellow and black color scheme, the "D" shaped air intake grill, the array of pyramids on the handgrip, the kit box configuration, and the array of lozenge-shaped humps on the surface of the tool.

Definitions: Safety Guidelines

The definitions below describe the level of severity for each signal word. Please read the manual and pay attention to these symbols.

▲ DANGER: Indicates an imminently hazardous situation which, if not avoided, will result in **death or serious injury**.

▲ WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in **death or serious injury**.

▲ CAUTION: Indicates a potentially hazardous situation which, if not avoided, may result in **minor or moderate injury**.

NOTICE: Indicates a practice **not related to personal injury** which, if not avoided, may result in **property damage**.

▲ WARNING: To reduce the risk of injury, read the instruction manual.

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.

1) WORK AREA SAFETY

- a) **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b) **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.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2) ELECTRICAL SAFETY

- a) **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.
- b) **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.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **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.
- e) **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.
- f) **If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply.** Use of a GFCI reduces the risk of electric shock.

3) PERSONAL SAFETY

- a) **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.

- Ⓜ.....Class I Construction (grounded)
- Ⓜ.....Class II Construction (double insulated)
- .../minper minute
- IPM.....impacts per minute
- SPM.....strokes per minute
- no.....no load speed
- n.....rated speed
- Ⓜ.....earthing terminal
- ⚠.....safety alert symbol
- BPM.....beats per minute
- RPM.....revolutions per minute
- sfpm.....surface feet per minute

SAVE THESE INSTRUCTIONS FOR FUTURE USE

Motor

Be sure your power supply agrees with the nameplate marking. Voltage decrease of more than 10% will cause loss of power and overheating. DEWALT tools are factory tested; if this tool does not operate, check power supply.

COMPONENTS (FIG. 1)

⚠ WARNING: Never modify the power tool or any part of it. Damage or personal injury could result.

- A. On/Off switch
- B. Speed control dial (DWE6423)
- C. Dust extraction outlet
- D. Dust bag
- E. Dust bag collar
- F. Sanding pad
- G. Strain relief

ASSEMBLY AND ADJUSTMENTS

⚠ WARNING: To reduce the risk of injury, turn unit off and disconnect it from power source before installing and removing accessories, before adjusting or when making repairs. An accidental start-up can cause injury.

Attaching Sanding Discs (Fig. 2)

Your sander is designed to use 5" (125 mm) sanding discs (H) with an 8-hole dust extraction pattern. Sanding discs for the DWE6421 and DWE6423 attach with hook and loop. Sanding discs for the DWE6420 attach using pressure sensitive adhesive (PSA).

REQUIRED SANDPAPERS			
Model Sander	Disc Size	Attachment Method	Hole Pattern
DWE6420	5"	PSA	8 Holes
DWE6421	5"	Hook & Loop	8 Holes
DWE6423	5"	Hook & Loop	8 Holes

TO ATTACH SANDING DISC TO THE SANDING PAD (FIG. 2)

1. Turn the sander over so that the sanding pad (F) is facing upward.
2. Clean the dust from the sanding pad (F) face.
3. Hold the pad with one hand to keep it from rotating.
4. With the other hand, align the holes and place the disc (H) directly on top of the pad.

NOTE: These sanders are not to be used in drywall applications. Using a sanding screen (e.g., screen used for sanding drywall) directly on the hook and loop pad will not hold and will damage the hooks on the pad. The hooks on the pad will wear very rapidly if left in contact with the work surface while the tool is operating.

Switch (Fig. 3)

To turn the unit on, depress the side of the dust-protected switch (A) that corresponds to the symbol "I". To turn the tool off, depress the side of the switch that corresponds to the symbol "O".

Speed Control Dial (Fig. 1)

DWE6423

The speed control dial (B), shown in Figure 1, allows you to increase or decrease speed from 8,000–12,000 Orbits Per Minute. The optimal speed setting for each application is very much dependent on personal preference. Generally, you will want to use a higher setting on harder materials and a lower setting on softer materials. Material removal rate increases as speed increases.

Dust Extraction (Fig. 4, 5)

Your sander has two dust extraction methods: a built-in outlet (C) which allows either the supplied dust bag (D) or a shop vacuum system to be connected; and a dust skirt (M, Fig. 5). The built-in outlet utilizes the DEWALT AirLock connection making it compatible with the DEWALT dust extractor.

TO ATTACH THE DUST BAG

1. While holding the sander, fit the dust bag collar (E) to the outlet (C) as shown in Figure 4.
2. Turn the collar (E) clockwise to lock the dust bag (D) in place.

TO EMPTY THE DUST BAG

1. While holding the sander, turn the collar (E) counterclockwise to unlock the dust bag (D).
2. Remove dust bag from the sander and gently shake or tap the dust bag to empty.
3. Reattach the dust bag back onto the outlet and lock into place by turning the dust bag collar clockwise.

You may notice that all the dust will not come free from the bag. This will not affect sanding performance but will reduce the sander's dust collection efficiency. To restore your sander's dust collection efficiency, depress the spring inside the dust bag when you are emptying it and tap it on the side of the trash can or dust receptacle.

⚠ CAUTION: Never operate these tools unless the dust collector is in place. Sanding dust exhaust may create a breathing hazard.

OPERATION (FIG. 6)

⚠ WARNING: To reduce the risk of injury, turn unit off and disconnect it from power source before installing and removing accessories, before adjusting or when making repairs. An accidental start-up can cause injury.

NOTICE: These sanders are not to be used in drywall applications.

NOTICE: 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.

NOTICE: If you wrap the cord around the tool when you store it, leave a generous loop of cord such that the strain relief (G) does not bend. This helps prevent premature cord failure.

To operate your sander, grasp it as shown in Figures 6A or 6B and turn it on. Move the unit in long, sweeping strokes along the surface being sanded, letting the sander 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.

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 rate at which the dust collection bag fills up will vary with the type of material being sanded and the coarseness of the sandpaper. For best results, empty the bag frequently. When sanding painted surfaces, (see the following 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 (DWE6420 ONLY): When using PSA sanding discs, remove the disc soon after operation. PSA paper, if the disc is left on during tool storage, sometimes becomes difficult to remove. To aid in the removal of old PSA paper, sand for a few minutes to soften the adhesive backing prior to changing disc.

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

1. No children or pregnant women should enter the work area where the paint sanding is being done until all clean up is completed.

FIG. 1

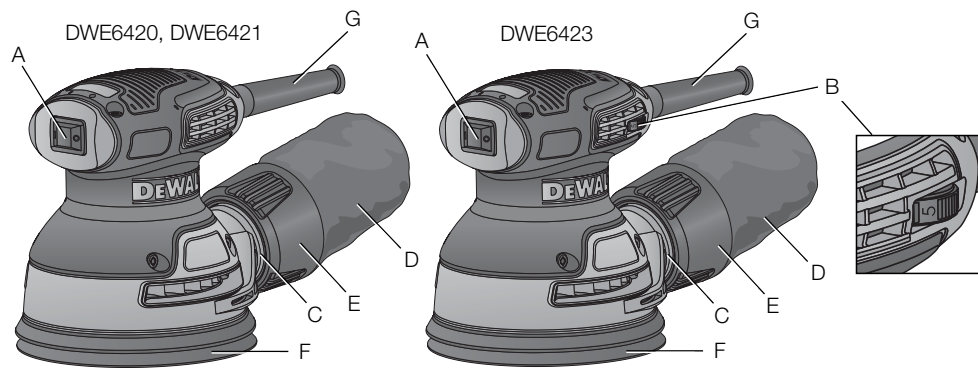


FIG. 2

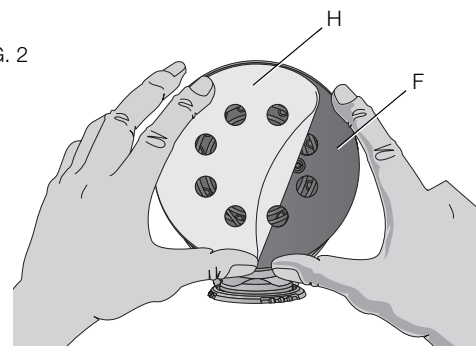


FIG. 3

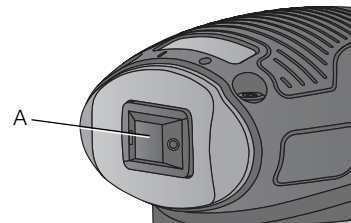


FIG. 4

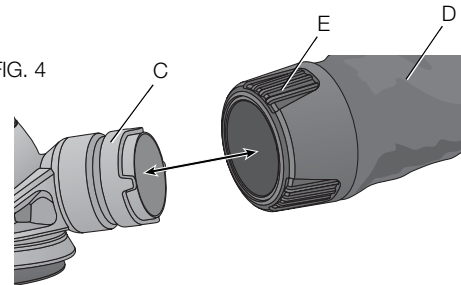


FIG. 5

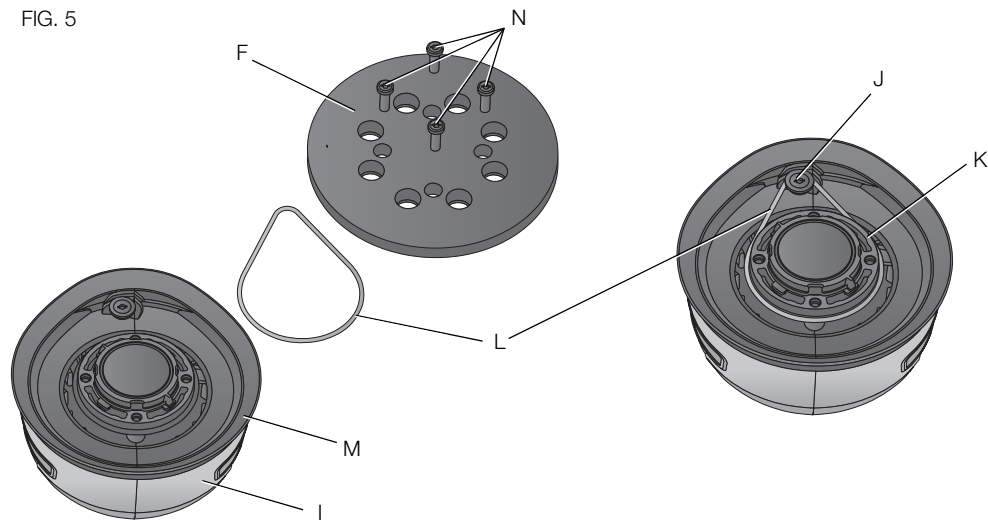


FIG. 6A

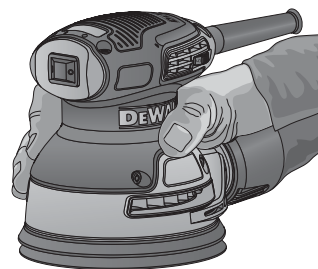
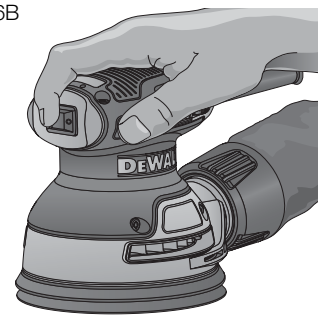


FIG. 6B



2. 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. See your local hardware store for the proper NIOSH-approved dust mask.
3. 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

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

CLEANING AND DISPOSAL

1. 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.
2. 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.
3. All toys, washable furniture and utensils used by children should be washed thoroughly before being used again.

MAINTENANCE

⚠ WARNING: To reduce the risk of injury, turn unit off and disconnect it from power source before installing and removing accessories, before adjusting or when making repairs. An accidental start-up can cause injury.

Replacing the Sanding Pad and the Belt (Fig. 5)

Your sander is equipped with a replaceable belt (L) which is located between the pad (F) and the sander body (I). It is designed to control the pad speed while the unit is off the work surface. The belt and the sanding pad (F) are designed to be consumable parts and will occasionally need to be replaced. The sanding pad needs replacement when signs of wear become evident. Replacement of the belt is necessary when the pad speed increases very dramatically when the unit is lifted from the work surface. These parts are available at extra cost from your local dealer or authorized DEWALT service center.

1. Holding the platen firmly, remove the four screws (N) from the bottom of the pad.
2. Remove the pad (F).
3. Replace worn or damaged belt (L) by wrapping it around the shoulder screw (J) and bearing retainer (K) as shown in Figure 5.
4. Reinstall pad (replace with new pad if necessary). Replace the four screws (N). Be careful not to over-tighten screws.

Cleaning

⚠ WARNING: Blow dirt and dust out of all air vents with clean, dry air at least once a week. To minimize the risk of eye injury, always wear ANSI Z87.1 approved eye protection when performing this.

⚠ WARNING: Never use solvents or other harsh chemicals for cleaning the non-metallic parts of the tool. These chemicals may weaken the plastic materials used in these parts. Use a cloth dampened only with water and mild soap. Never let any liquid get inside the tool; never immerse any part of the tool into a liquid.

Accessories

⚠ WARNING: Since accessories, other than those offered by DEWALT, have not been tested with this product, use of such accessories with this tool could be hazardous. To reduce the risk of injury, only DEWALT recommended accessories should be used with this product.

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.