NYCL Company®
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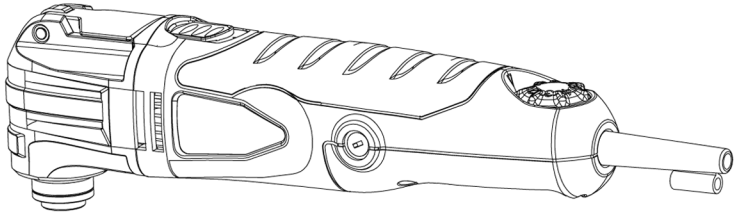
FastCraft®

Multi Tool

JD2545U-K

Instruction Manual



PRODUCT SPECIFICATIONS	
Sales territory	North America
Voltage:	120 V, 60 Hz AC
Power:	2.4 A (5.0 Amp Peak)
Variable speed:	11,000 – 20,000 RPM (no load)
Oscillating angle:	3.2°
Weight:	3.70 lbs (1.68 kg)

GENERAL SAFETY WARNINGS

WARNING: Before using this tool or any of its accessories, read this manual and follow all Safety Rules and Operating Instructions. The important precautions, safeguards and instructions appearing in this manual are not meant to cover all possible situations. It must be understood that common sense and caution are factors which cannot be built into the product.

EYE, EAR & LUNG PROTECTION

ALWAYS WEAR EYE PROTECTION.

FLYING DEBRIS can cause permanent eye damage. Prescription eyeglasses ARE NOT a replacement for proper eye protection.

WARNING: Non-compliant eyewear can cause serious injury if broken during the operation of a power tool.

WARNING: Use hearing protection, particularly during extended periods of operation of the tool, or if the operation is noisy.

WEAR A DUST MASK THAT IS DESIGNED TO BE USED WHEN OPERATING A POWER TOOL IN A DUSTY ENVIRONMENT.

WARNING: Dust that is created by power sanding, sawing, grinding, drilling, and other construction activities may contain chemicals that are known to cause cancer, birth defects, or other genetic abnormalities. These chemicals include:
Lead from lead-based paints
Crystalline silica from bricks, cement, and other masonry products
Arsenic and chromium from chemically treated lumber

The level of risk from exposure to these chemicals varies, according to how often this type of work is performed. In order to reduce exposure to these chemicals, work in a well-ventilated area, and use approved safety equipment, such as a dust mask that is specifically designed to filter out microscopic particles.

ELECTRICAL SAFETY

WARNING: To avoid electrical hazards, fire hazards or damage to the tool, use proper circuit protection.

To avoid shock or fire, replace power cord immediately if it is worn, cut or amaged in any way.

POWER TOOL SAFETY

⚠ **WARNING: Read all safety warnings and 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.

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 residual current device (RCD) protected supply. Use of a ground fault circuit interrupter (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 SAFETY

PERSONAL SAFETY – cont'd

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.

Hold power tool 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.

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.

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.

EXTENSION CORD SAFETY

⚠ **WARNING: Keep the extension cord clear of the working area.** Position the cord so it will not get caught on the workpiece, tools or any other obstructions while you are working with the power tool.

Make sure any extension cord used with this tool is in good condition. When using an extension cord, be sure to use one of heavy enough gauge to carry the current the tool will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.

The table at right shows the correct size to use according to cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number the heavier the cord.

Be sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it. Protect your extension cord from sharp objects, excessive heat and damp or wet areas.

Use a separate electrical circuit for your power tools. This circuit must not be less than 14 gauge wire and should be protected with either a 15 AMP time delayed fuse or circuit breaker. Before connecting the power tool to the power source, make sure the switch is in the OFF position and the power source is the same as indicated on the nameplate. Running at lower voltage will damage the motor.

⚠ **WARNING: Repair or replace damaged or worn extension cords immediately.**

Select the appropriate extension cord gauge and length using the chart below.

When operating a power tool outdoors, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock.

⚠ **WARNING: Keep the extension cord clear of the working area. Position the cord so it will not get caught on the workpiece, tools or any other obstructions while you are working with the power tool.**

SYMBOLS

⚠ WARNING: Some of the following symbols may appear on the jigsaw. Study these symbols and learn their meaning. Proper interpretation of these symbols will allow for more efficient and safer operation of this tool.

V	Volts
A	Amperes
Hz	Hertz
W	Watts
kW	Kilowatts
μF	Microfarads
L	Liters
kg	Kilograms
H	Hours
N/cm^2	Newtons per square centimeter
Pa	Pascals
OPM	Oscillations per minute
Min	Minutes
S	Seconds
~ or a.c.	Alternating current
3~	Three-phase alternating current
3N~	Three-phase alternating current with neutral

⎓	Direct current
n_o	No load speed
⎓~	Alternating or direct current
⧈	Class II construction
	Splash-proof construction
	Watertight construction
⏚	Protective grounding at grounding terminal, Class I tools
.../min	Revolutions or reciprocations per minute
Ø	Diameter
0	Off position
→	Arrow
⚠	Warning symbol
	Wear your safety glasses

c ETL US LISTED
Intertek
3042597
JD2545U-K

This symbol designates that this tool is listed with U.S. requirements by Underwriters Laboratories. Conforms to UL Std. 60745-1, 60745-2-4. Certified to CAN/CSA Std.C22.2 No.60745-1 , 60745-2-4

SPECIFIC SAFETY RULES

⚠ WARNING: Know your oscillating tool. Do not plug the tool into the power source until you have read and understand this Instruction Manual. Learn the tool's applications and limitations, as well as the specific potential hazards related to this tool. Following this rule will reduce the risk of electric shock, fire, or serious injury.

Always wear eye protection. Any power tool can throw foreign objects into your eyes and cause permanent eye damage. ALWAYS wear safety goggles (not glasses). Everyday glasses have only impact resistant lenses. They ARE NOT safety glasses.

Always keep hands out of the path of the saw blade. Avoid awkward hand positions where a sudden slip could cause your hand to move into the path of the saw blade.

Secure workpiece. Use clamps or a vice to hold the workpiece. It is safer than using your hand and it frees both hands to operate the tool.

Make sure there are no nails or foreign objects in the part of the workpiece to be cut or sanded.

To avoid injury from accidental starting, always remove the plug from the power source before installing or removing an accessory.

Never use dull blades in the tool. They will cut slower, leave rough cuts and break easily due to added pressure and excessive heat. They will also overload the motor and cause premature failure of the tool.

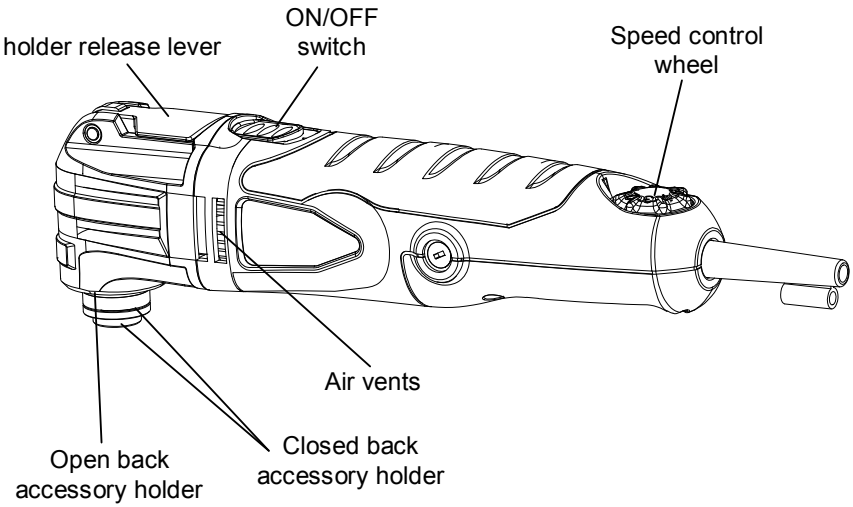
Never use damaged or bent blades. They will be brittle and break easily possibly causing injury to the operator.

Never touch a saw blade immediately after using the tool. The blade will be extremely hot and will burn your hand.

Only use accessories designed for use with this tool.

SAVE THESE INSTRUCTIONS FOR REFERENCE

KNOW YOUR OSCILLATING-TOOL



ASSEMBLY AND OPERATING

NOTE: The drawings in the assembly and operating section of this manual may differ slightly from the tool you purchased.

INSTALLING ACCESSORIES

All accessories are installed on this oscillating tool in a similar manner. For the purposes of describing the accessory installation, the triangular sanding pad and the metal cutting blade have been illustrated.

⚠ **DANGER:** Always remove the plug from the power source before installing or removing accessories or sandpaper. Failing to remove the plug from the power source may result in the tool accidentally being start ed and causing serious injury to the operato r.

This oscillating tool has been designed for use with either open back or closed back accessories. No tools are required to install open back accessories. A 5mm hex key is required for installing closed back accessories.

Installing open back accessories

2. Lift the tool less accessory holder release lever (4) up and toward the front of the tool as far as it will go (5) (Fig. 2).

NOTE: This will open the tool less blade holder (6) to accept the accessory.

3. Insert the accessory mount (7) into the opened accessory holder.

4. Align the accessory mounting slots and holes with the accessory mounting teeth (8) in the accessory mount.

NOTE: The slots and holes in the accessory must be engaged with the matching teeth on the accessory holder to allow the accessory to be secured within the accessory holder.

5. Move the tool less accessory release lever back to it's original position (4) to clamp the accessory into the accessory holder.

NOTE: Check to make sure the accessory mounting pins are still aligned with the slots and holes in the accessory mount.

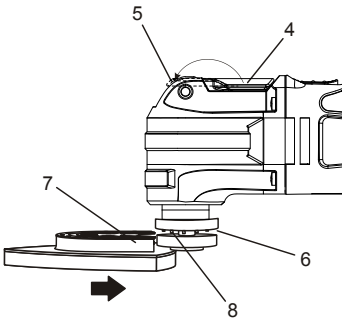


Fig. 2

Installing closed back accessories

The closed back blade mounting system allows the use of closed back accessories with this oscillating tool. For convenience, either closed back or open back accessories may be used. For illustrative purposes, an open back blade is shown.

ASSEMBLY AND OPERATING

NOTES:
a) Place the sandpaper so the holes in the sandpaper line up with the matching holes in the hook & loop pad.
b) Press the sandpaper firmly onto the hook & loop pad.

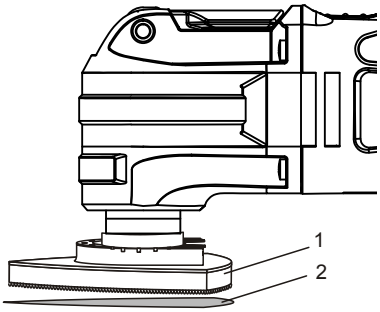


Fig. 4

3. To remove the sandpaper, simply peel the sandpaper away from the hook & loop pad (Fig. 5).

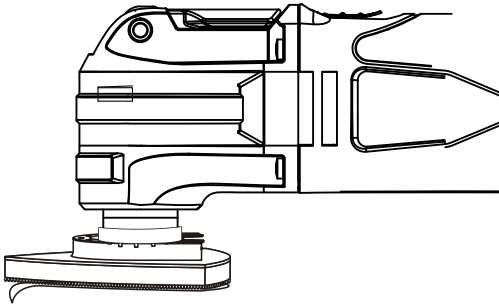


Fig. 5

Fig. 3

INSTALLING SANDPAPER

1. Install the hook & loop sanding pad (1) onto the tool (Fig. 4).

2. Firmly press the sandpaper (2) onto the hook & loop pad.

ON/OFF SWITCH

1. To turn the tool ON, slide the ON/OFF switch (1) toward the front of the tool (Fig. 6).

2. To turn the tool OFF, slide the ON/OFF switch toward the rear of the tool.

ON/OFF SWITCH – cont'd

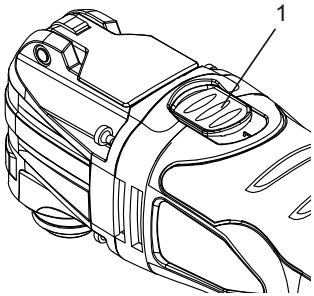


Fig. 6

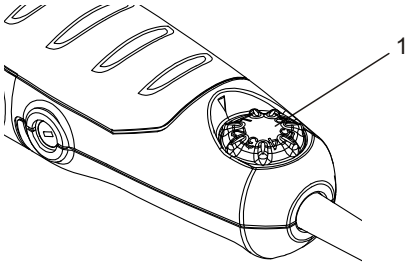


Fig. 7

SPEED CONTROL WHEEL

The speed of the tool can be adjusted to run the tool at speeds varying between 10,000 OPM and 22,000 OPM by rotating the speed control wheel (1) located toward the rear of the tool housing (Fig. 7).

1. To increase the speed, rotate the speed control wheel to the right.

2. To decrease the speed, rotate the speed control wheel to the left.

NOTE: Speed #1 is the lowest speed. "MAX" is the highest speed.

The optimal speed setting will vary depending upon the type of accessory being used, the surface being worked and the complexity of the project. For general recommendations, see the chart on the following page.

Project	Accessory	Speed
Balsa wood	Wood blade	Low
Drywall	Half circle blade	Maximum
Restoring windows	Half circle blade	Medium
Door jamb	Wood blade	Maximum
Door casing	Wood blade	Med / max
Wood dowels	Wood blade	Maximum
Floor vent	Wood blade	Med / max
PVC pipe	Wood blade	Medium
Glued flooring	Scraper	Medium
Sanding	Sander	Med / max

ASSEMBLY AND OPERATING

⚠ WARNING

For safety reasons, the operator must read the sections of this Owner's Manual entitled "GENERAL SAFETY WARNINGS", "POWER TOOL SAFETY", "SPECIFIC SAFETY RULES" and "SYMBOLS" before using this oscillating tool.

Verify the following every time the oscillating tool is used:

1. **Safety glasses, safety goggles, or face shield are being worn.**
2. **Hearing protection is being worn.**
3. **The blade or sandpaper is in good condition.**
4. **The accessory is properly tightened onto the accessory holder of the tool.**

Failure to observe these safety rules will significantly increase the risk of injury.

FLUSH CUTTING A DOOR JAMB AND CASING FOR INSTALLING FLOORING

The oscillating tool can be used to flush cut a door jamb and casing to allow space for the new flooring to fit neatly under the door jamb and casing. For the purpose of demonstrating the procedure, floor tile is being used.

1. Install the end cutting saw blade for wood in the tool (Fig. 1 & 2 on Pages 9 & 10).

NOTE: The blade should be centered on the tool housing and NOT installed in the 90° position.

2. Place a scrap piece of floor tile (1) on the floor about 1/2" (12.5 mm) from the door jamb (2) (Fig. 8).

NOTE: Make sure the "good" side of the tile is facing upward to provide a smooth surface for the blade to follow.

3. Place the tool with the saw blade (3) lightly touching the surface of the tile and the cutting teeth NOT touching the surface to be cut.

4. Set the speed to the fastest speed (Fig. 7 on Page 11).

5. Turn the tool ON (Fig. 6 on Pages 10 & 11).

6. When the tool reaches its maximum set speed, carefully plunge the blade into the door jamb while sliding the blade along the floor tile.

NOTE: Hold the tool tightly and do not put too much forward pressure on the saw blade when cutting, as this will cause the tool to vibrate excessively.

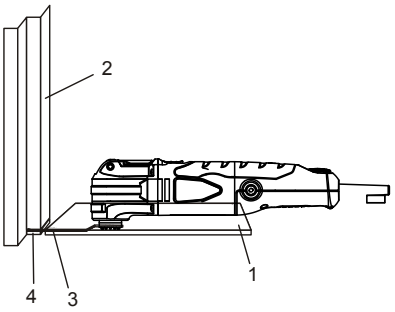


Fig. 8

7. Continue to make several plunge cuts until the bottom of the door jamb and casing are completely cut off and the loose pieces (4) can be easily removed.

Follow the same basic procedure for installing carpet, using a thicker spacer that is the same thickness of the carpet being installed.

CUTTING A HOLE IN WOOD FLOORING TO INSTALL A HEATING VENT

The oscillating tool can be used to cut a hole in wood flooring for installing a heating vent.

1. Install the plunge cutting saw blade for wood in the tool (Fig. 1 & 2 on Pages 9 & 10).

NOTE: The blade should be centered on the tool housing and NOT installed in the 90° position.

2. Place the floor vent on the floor and use a soft lead pencil to trace the required rectangular hole (1) on the flooring (Fig. 10).

3. Place the saw blade (2) near the floor surface in the middle of one of the cutting lines.

4. Set the tool speed at a medium speed (Fig. 8 on Page 12).

5. Turn the tool ON (Fig. 6 on Pages 11 & 12).

NOTE: The tool and blade should be at a 45° angle to the floor to allow the corner of the blade to plunge cut into the flooring.

6. While holding the tool tightly, slowly plunge the corner of the blade into the flooring until it cuts through the flooring. Once the plunge cut is complete, set the tool to its highest speed and complete the cut to the corner of the rectangle.

7. Turn the saw OFF, remove it from the cut and proceed to cut in the opposite direction to complete the cut for the first side of the rectangle.

8. Repeat steps #4, #5 & #6 to cut the remaining three sides of the rectangle.

9. When all cuts are complete, use a flat blade screw driver to carefully pry the cut-out from the floor.

NOTE: Do **NOT** use the saw blade to pry the cut-out from the floor. You will break the blade. If the cut-out is not easy to pry from the floor, check to make sure each line is cut completely into the corner of the rectangle.

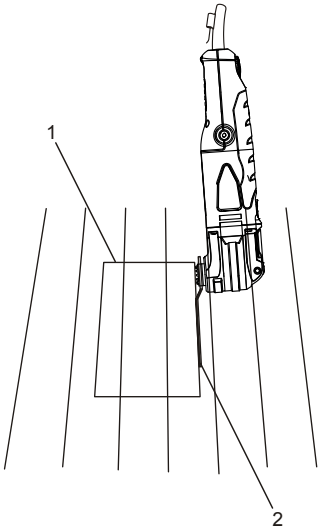


Fig. 9

CUTTING A HOLE IN DRYWALL FOR INSTALLING AN ELECTRICAL OUTLET BOX

The oscillating tool can be used to cut a hole in drywall for installing an electrical outlet box.

1. Install the half circle saw blade for wood & drywall in the tool (Fig. 1 & 2 on Pages 9 & 10).

NOTE: The blade should be centered on the tool housing and NOT installed in the 90° position.

2. Place the outlet box on the drywall and use a soft lead pencil to trace the required rectangular hole (1) on the drywall (Fig. 10).

CUTTING A HOLE IN DRYWALL FOR INSTALLING AN ELECTRICAL OUTLET BOX – cont'd

3. Place the corner edge of the saw blade (2) near the drywall in the middle of one of the cutting lines.

4. Set the speed to the highest speed (Fig. 7 on Page 11).

5. Turn the tool ON (Fig. 6 on Pages 10 & 11).

6. When the tool reaches its maximum speed, carefully plunge the blade into the drywall until it cuts through the drywall. Complete the cut to the corner of the rectangle.

NOTE: Hold the tool tightly and do not put too much pressure on the saw blade when cutting.

7. Turn the saw OFF, remove it from the cut and proceed to cut in the opposite direction to complete the cut for the first side of the rectangle.

8. Repeat steps #4, #5 & #6 to cut the remaining three sides of the rectangle.

9. When all cuts are complete, use a flat blade screw driver to carefully pry the cut-out from the drywall.

NOTE: Do **NOT** use the saw blade to pry the cut-out from the drywall. You will break the blade. If the cut-out is not easy to pry from the drywall, check to make sure each line is cut completely into the corner of the rectangle.

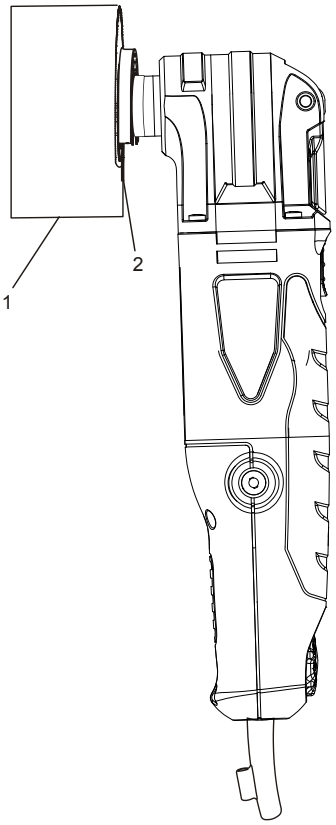


Fig. 10

USING THE DETAIL SANDER ATTACHMENT

1. Install the sanding pad on the oscillating tool (Fig. 1 & 2 on Pages 9 & 10)

2. Install the sandpaper on the sanding pad (Fig. 4 on Page 10).

3. Set the speed control wheel between #5 and MAX (Fig. 7 on Page 11).

4. Turn the switch ON (Fig. 6 on Pages 10 & 11).

This tool is designed for detail sanding on small surface areas. Place the sandpaper surface of the sanding pad on the workpiece to be sanded. Keep the tool moving to avoid gouging the surface. Use coarse sandpaper and lower speeds when sanding rough surfaces and for removing previous finishes. Use fine sandpaper and higher speeds to produce the smoothest surface.

USING THE SCRAPER BLADE

1. Install the scraper blade on the oscillating tool (Fig. 1 & 2 on Pages 9 & 10).

2. Set the speed control wheel to #4 (Fig. 7 on Page 11).

3. Turn the switch ON (Fig. 6 on Pages 10 & 11).

When using the scraper blade to scrape old finishes or glue from a workpiece, place the under side of the blade flat on the workpiece surface and then lift upward on the rear of the tool to allow the blade to form a very slight angle with the workpiece surface. Feed the blade slowly into the material that is to be removed. Do not force the tool as slower travel speeds will produce better cutting action and reduce the risk of gouging the workpiece.

When using the scraper blade to cut carpet, place a scrap workpiece under the carpet where the cut is being made. Set the speed to #6, turn the tool so the scraper blade is at right angles (perpendicular) to the carpet and then feed the blade into the carpet.

MAINTENANCE

GENERAL

⚠ WARNING: When servicing, use only identical replacement parts. The use of any other part may create a hazard or cause product damage.

DO NOT use solvents when cleaning plastic parts. Plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use a clean cloth to remove dirt, dust, oil, grease etc.

⚠ WARNING: Do not allow brake fluids, gasoline, petroleum-based products, penetrating oils, etc. to come into contact with plastic parts. They contain chemicals that can damage, weaken or destroy plastic.

DO NOT abuse power tools. Abusive practices can damage the tool and the workpiece.

⚠ WARNING: DO NOT attempt to modify tools or create accessories. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious injury. It will also void the warranty.

LUBRICATION

All of the bearings in this tool are lubricated with a sufficient amount of high-grade lubricant for the life of the unit under normal conditions. Therefore, no further lubrication is required.

REPLACING THE CARBON MOTOR BRUSHES

The carbon motor brushes will wear down and require replacing. The time intervals between replacements will vary depending upon the torques being achieved and the hours of use. It is recommended that the brushes be checked after each 10 hours of use. When the length of the carbon brush reaches 1/4" (6.35 mm), the brushes should be replaced.

⚠ WARNING: Make sure the oscillating tool is unplugged from the power source.

Removing worn motor brushes

1. Remove any accessory that has been installed on the tool.
2. Lay the tool on its left side on a towel or on corrugated (Fig. 11).
3. Remove 5 screws (1) from the right hand side of the handle (2) using a #2 ⊕ screwdriver.

NOTE: The two screws at the rear of the handle (3) are shorter than the other three. These must be replaced in the same position when replacing the handle screws.

4. Carefully lift off the right hand half of the handle.

NOTE: Make sure you note the positioning of the speed control wheel and all the wires. They must be placed in exactly the same position when reassembling the handle.

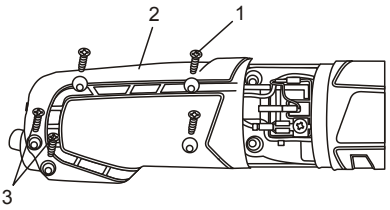


Fig. 11

REPLACING THE CARBON MOTOR BRUSHES - cont'd

5. Use a small slot screwdriver to lift the end of the coil spring (4) upward and place it on top of the spade connector (5) (Fig. 12).

6. Use small needle nose pliers to pull the braided wire spade connector (6) from the spade terminal (7).

7. Carefully grasp the braided copper brush wire (8) and lift the carbon brush (9) from the brush holder (10).

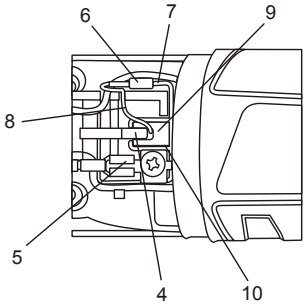


Fig. 12

Installing new motor brushes

8. Once the old carbon brush has been removed, use a SOFT DRY brush to carefully remove all cutting dust from the brush holder and install the new carbon brush in the reverse order that was used to remove the worn carbon brush.

9. Reinstall the new carbon brush in reverse order of paragraphs 5, 6 & 7.

NOTES:
a) Make sure the braided brush wire is routed EXACTLY the same as the original.
b) Make sure the end of the coil spring is placed on top of the carbon brush (Fig. 12).

10. Replace the right hand half of the handle.

NOTES:
a) Make sure the speed control wheel and all wires are placed in exactly the same position as they were when the right hand handle was removed.
b) Do NOT replace the handle screws until the second motor brush has been replaced.

11. Grasp the reassembled handle and turn the tool onto its right side and remove the left half of the handle.

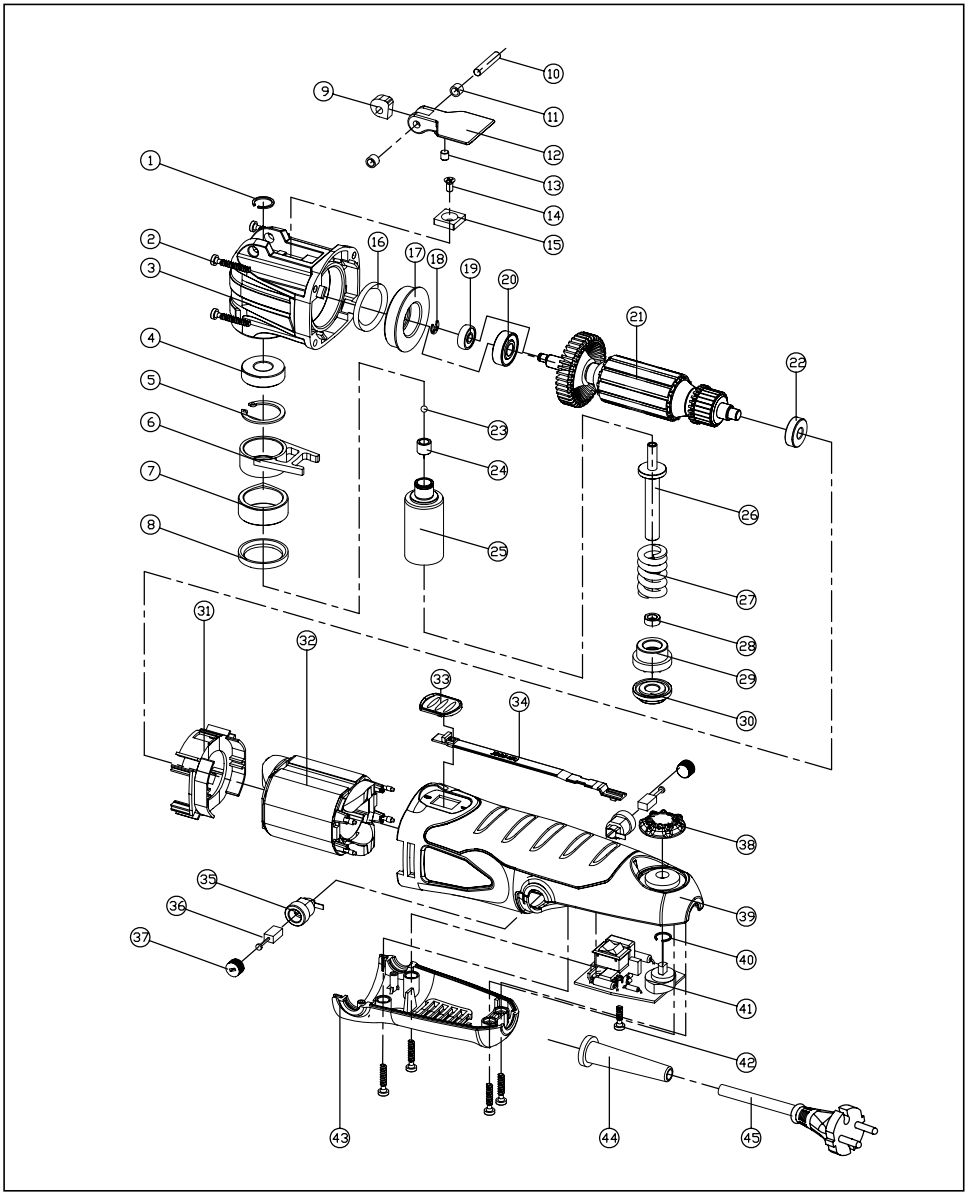
12. Remove and replace the second carbon motor brush using the same procedures noted above.

13. Once the second motor brush has been replaced, reposition the left half of the handle, making sure the speed control wheel and all wires are placed in exactly the same position as they were when the left half of the handle was removed.

14. Replace the left half of the handle, making sure it fits properly and that all six screws are fully tightened in place.

NOTE: Make sure the two shorter screws are installed in the rear of the handle where the power cord enters the handle.

EXPLODED VIEW



PARTS LIST

No.	Code	Description	Qty
1	4100020006	Shaft ring	1
2	4030010114	Screw ST3.9×19	8
3	2020050069	Gear housing	1
4	4010010055	Ball bearing 6001-2Z	1
5	4100010003	Inner ring 28	1
6	2040250021	Fork	1
7	4010020042	Needle bearing 2512	1
8	3140020116	Oil seal	1
9	2060030002	Prejudicial block	1
10	2040160178	Pin	1
11	2040310038	Bearing Ⅰ	2
12	2020230003	Speed lever	1
13	2010170028	Magnetic-iron	1
14	4020020019	Screw M2.9×6	1
15	2010200031	Square washer	1
16	3140020049	Ring	1
17	2040310039	Bearing support	1
18	4100050001	E-ring 4	1
19	4010050002	Ball Bear 625	1
20	4010010036	Ball bearing 608-2Z	1
21	1010210008	Rotor	1
22	4010010034	Ball bearing 607-2Z	1
23	4080040001	Ball	1
24	2010080114	Bearing Ⅱ	1
25	2040290078	Output shaft	1
26	2040290079	Spring shaft	1
27	2050060212	Spring	1
28	2010080115	Bearing Ⅲ	1
29	2040250022	Connected block	1
30	2040210042	Press plate	1

PARTS LIST

No.	Code	Description	Qty
31	3150050068	Baffle	1
32	1020210008	Stator	1
33	3120010068	Level knob	1
34	3120110054	Switch level	1
35	1230030011	Brush holder support	2
36	1230010109	Carbon brush assy	2
37	3150140027	Brush cap	2
38	3120060042	Timing knob	1
39	3011210007	Motor housing	1
40	4100020032	Shaft ring Ⅱ	1
41	1130010224	PCB	1
42	4030010026	Screw ST2.9×9	1
43	3160020024	Handle cover	1
44	3140010074	Cord guard	1
45	1190010006	Power cord	1