

Owner's Manual

1/2" Hammer Drill 80159



PRODUCT SPECIFICATIONS		
Rating:	120 V, 60 Hz, AC	
Amperes:	6.3 Amp	
Motor speed:	0-2800 RPM (no load)	
Chuck:	1/2" Keyed	
Maximum drilling capacity in metal:	3/8" (10 mm)	
Beats per minute:	0–44800	
TOLL FREE HELPLINE 1-800-458-2472		

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GENERAL SAFETY WARNINGS



CAUTION: Before using this tool or any of its accessories, read this manual and follow all Safety Rules and Operating Instructions.

This instruction manual includes the following:

- General Safety Rules
- Specific Safety Rules and Symbols
- Functional Description
- Assembly
- Operation
- Maintenance
- Accessories

EYE, EAR & LUNG PROTECTION



ALWAYS WEAR EYE PROTECTION THAT CONFORMS WITH CSA REQUIREMENTS or ANSI SAFETY STANDARD Z87.1

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 operation of a power tool.



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

GENERAL SAFETY WARNINGS



ALWAYS WEAR A DUST MASK DESIGNED FOR USE WHEN OPERATING A POWER TOOL IN A DUSTY ENVIRONMENT.



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

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

Your level of 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 dust masks that are specially designed to filter out microscopic particles.

ELECTRICAL SAFETY



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

This tool is wired at the factory for 110–120 V operation. It must be connected to a 110–120 V 15 A time delayed fuse or circuit breaker. To avoid shock or fire, replace power cord immediately if it is worn, cut or damaged in any way.

POWER TOOL SAFETY

GENERAL SAFETY RULES

WARNING: Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious personal injury.

WORK ARFA

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

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

Keep bystanders, children and visitors away while operating the tool. Distractions can cause you to lose control.

ELECTRICAL SAFETY

Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized plug only one way.

If the plug does not fit fully into the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not alter the plug in any way. Double insulation eliminates the need for the three-prong grounded power cord and grounded power supply system.

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

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

Do not abuse the cord. Never use the cord to carry the tool or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords increase the risk of electric shock.

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

PERSONAL SAFETY

Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use the tool while tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating power tools may result in serious personal injury.

Dress properly. Do not wear loose clothing or jewelry.

Contain long hair. Keep your hair, clothing and gloves away from moving parts. Loose clothing, jewelry or long hair can be caught in moving parts.

POWER TOOL SAFETY

PERSONAL SAFETY - cont'd

Avoid accidental starting. Be sure the switch is OFF before plugging in. Carrying tools with your finger on the switch or plugging in tools that have the switch ON invites accidents

Remove adjusting keys or wrenches before turning the tool ON. A wrench or key that is left attached to a rotating part of the tool may result in personal injury.

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

Use safety equipment. Always wear eye protection.

Dust mask, non-skid safety shoes, hard hat or hearing protection must be used for appropriate conditions.

TOOL USE AND CARE

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 is unstable and may lead to loss of control.

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

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

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

Store idle tools out of reach of children and other untrained persons. Tools are dangerous in the hands of untrained users.

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

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

Use only accessories that are recommended by the manufacturer for your model. Accessories that may be suitable for one tool may become hazardous when used on another tool.

SERVICE

Tool service must be performed only by qualified personnel. Service or maintenance performed by unqualified personnel could result in risk of injury.

When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual. Use of unauthorized parts or failure to follow Maintenance instructions may create a risk of electric shock or injury.

SPECIFIC SAFETY RULES

WARNING: Know your impact drill. Read the Owner's Manual carefully. 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.

WARNING: Never use the drill in "impact" mode unless a proper masonry bit is installed and you are drilling in concrete.

WARNING: Always use safety shield, hearing protection and dust mask when operating the drill in "impact" mode.

Wear eye protection. Use face or dust mask along with safety goggles if operation is dusty. Use hearing protection, particularly during extended periods of operation.

Do not wear gloves, neckties or loose clothing.

Do not drill material too small to be securely held.

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

Secure workpiece. Use clamps or a vice to hold the work when practical. 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 drilled

To avoid injury from accidental starting, always remove the plug from the power source before installing or removing a drill bit, accessory or attachment.

Do not install or use any drill bit that exceeds 7" (175 mm) in length or extends more than 6" (150 mm) beyond the chuck jaws. They can suddenly bend or break.

Before starting the operation, jog the drill switch to make sure the drill bit does not wobble or vibrate.

Do not use fly cutters or multiple-part hole cutters, as they can come apart or become unbalanced in use.

Make sure the spindle has come to a complete stop before touching the chuck or attempting to change the drill bit.

Always make sure the chuck is tight and the drill bit firmly tightened in the chuck before starting drill.

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 A 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.

MINIMUM GAUGE (AWG) EXTENSION CORDS (120 V use only)					
Amperage rating		Total length			
More than	Not more than	25' (7.5 m)	50' (15 m)	100' (30 m)	150' (45 m)
0	6	18	16	16	14
6	10	18	16	14	12
10	12	16	16	14	12
12	16	14	12	Not Ap	plicable

SYMBOLS

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

V	volts	
Α	amperes	
Hz	hertz	
W	watt	
kW	kilowatts	
μF	microfarads	
L	liters	
kg	kilograms	
Н	hours	
N/cm ²	newtons per square centimeter	
Pa	pascals	
Min	minutes	
S	seconds	
\sim	alternating current	
3	three-phase alternating current	
зм	three-phase alternating current with neutral	

	direct current	
n _。	no load speed	
$\overline{}$	alternating or direct current	
	class II construction	
	splash proof construction	
& &	watertight construction	
	protective earthing at earthing terminal, Class I tools	
/min	revolutions or reciprocations per minute	
Ø	diameter	
0	off position	
→	arrow	
\triangle	warning symbol	

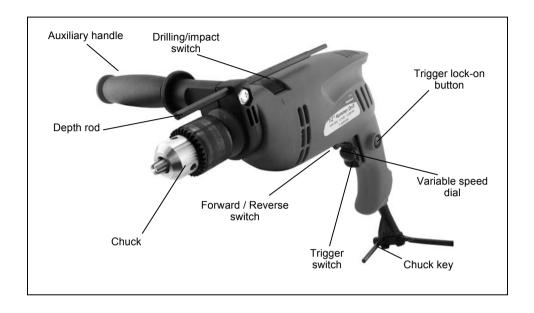
HOMOLOGUÉ

LISTED 61TN

E 213739

This symbol designates that this tool is listed with both Canadian and U.S. requirements by Underwriters Laboratories.

KNOW YOUR IMPACT DRILL



ACCESSORIES & CARTON CONTENTS

AVAILABLE ACCESSORIES

WARNING: Use only accessories recommended for this drill. Follow instructions that accompany accessories. Use of improper accessories may cause injury to the operator or damage to the drill.

Do not use any accessory unless you have completely read the instructions or Owner's Manual for that accessory.

- Drill bits
- Buffing wheels
- Sanding drums
- Hole saws
- Paint stirring accessories

WARNING: If any part is missing or damaged, do not plug the tool into the power source until the missing or damaged part is replaced.

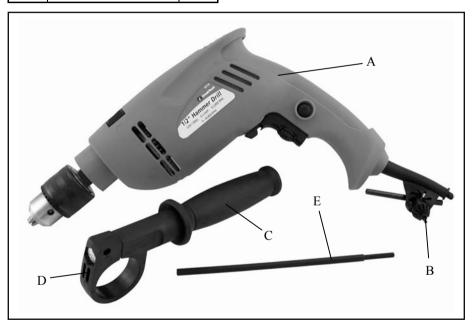
Carefully unpack the drill. Compare against the "IMPACT DRILL COMPONENTS" chart at on Page 11.

NOTE: See product diagram on Page 11.

WARNING: To avoid fire or toxic reaction, never use gasoline, naphtha, acetone, lacquer thinner or similar highly volatile solvents to clean the tool.

CARTON CONTENTS

DRILL COMPONENTS		
KEY	DESCRIPTION Q	
Α	Drill	1
В	Chuck key	1
С	Auxillary handle	1
D	Auxillary handle collar	1
Е	Depth rod	1
	Owner's manual	1



FORWARD / REVERSE SWITCH

The forward / reverse switch (1) is conveniently mounted above the trigger switch (Fig. 1). To make the drill rotate clockwise for drilling or driving screws, push the forward / reverse switch to the left. To make the drill rotate counter clockwise for removing screws, push the forward / reverse switch to the right.

NOTES:

- a) Never change position of the forward / reverse switch while chuck is turning.
- b) The trigger switch will NOT function with the forward / reverse switch in the middle position.



This drill is equipped with a variable speed ON / OFF trigger switch.

- Clockwise turning of dial increases speed of hammer drill (2) (Fig. 2).
 NOTE: Drill will turn at its slowest speed when the dial switch is turned counter clockwise.
- To stop the drill, release the trigger switch.

NOTE: Drilling at a slow drilling speed for an extended period of time may cause the drill motor to overheat. If the drill gets hot, stop drilling and allow it to cool for at least 15 minutes.



Fig. 1

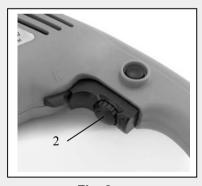


Fig. 2

TRIGGER SWITCH LOCK

The trigger switch lock-on feature allows the trigger switch to be locked in the ON position at full speed when continuous operation for extended periods of time is required (Fig. 3).

To lock the trigger switch in the ON position, pull back on the trigger switch to start the drill and push the trigger switch lock button (3) into the drill handle. Release the trigger switch while holding the trigger switch lock button into the drill handle. The drill will continue to run. To release the trigger switch lock button, pull trigger switch back and then release the trigger.

DRILL / IMPACT SWITCH

The drill / impact switch (4) changes the drilling mode between conventional drilling and impact for drilling concrete (Fig. 4). To operate the drill in drill mode, push the drill / impact switch to the right. To operate the drill in impact mode, push the drill / impact switch to the left.

A WARNINGS:

- a) Always use face shield, hearing protection and a dust mask when drilling in concrete.
- b) Always use carbide tipped masonry bits when drilling in masonry. Any other type of bit could break and possibly cause serious injury.

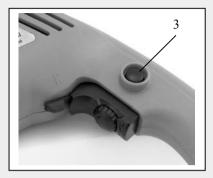


Fig. 3

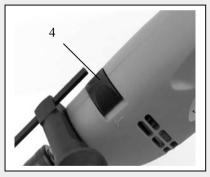


Fig. 4

INSTALLING AUXILIARY HANDLE

Install auxiliary handle for two handed operation of the drill (Fig. 5). This is particularly important for impact drilling in concrete.

- 1. Turn the auxiliary handle (1) counter clockwise to open mounting collar (2).
- Slide auxiliary handle collar over the chuck and fully onto the drill housing (3).
- 3. Rotate auxiliary handle to a comfortable position.

NOTE: The auxiliary handle must be horizontal when using the depth rod.

 Turn the auxiliary handle clockwise to tighten mounting collar onto the drill housing.

NOTE: Do not over tighten the auxiliary handle or you will break the mounting collar.

INSTALLING DEPTH ROD

The depth rod is used as a gauge to control the depth of the drilled hole.

- Turn the auxiliary handle (1) counter clockwise to open mounting collar (2) (Fig. 6).
- 2. Insert hexagonal end of depth rod (3) into the matching hole in the auxiliary handle mounting collar (4).

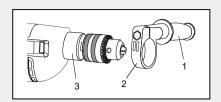


Fig. 5

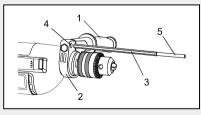


Fig. 6

INSTALLING DEPTH ROD - cont'd

 Position the depth rod so the tip of the round end (5) will contact the workpiece when the drill reaches the appropriate depth.

NOTE: Auxiliary handle must be placed in the horizontal position to allow depth rod to be inserted into the mounting collar. Tighten the auxiliary handle

INSTALLING BITS

WARNING: Never hold the chuck body with one hand and use the drill power to rotate the drill body to loosen or tighten bits. You may severely injure your hand.

- Remove drill plug from the power source.
- Rotate chuck collar (1) to open or close the jaws (2) to a point where the opening is slightly larger than the bit size you intend to use (Fig. 7). Raise the front of your drill slightly to prevent the bit from falling out of the chuck jaws.
- 3. Insert the drill bit into the chuck the full length of the jaws.
- Insert chuck key (3) into one of three holes in the chuck body. Rotate chuck key clockwise until drill bit is held firmly in place by the chuck jaws.
 NOTE: Do not use a wrench on the chuck key or you may damage the key or chuck.

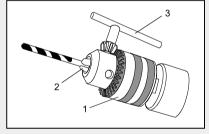


Fig. 7

INSTALLING BITS - cont'd

WARNING: Do not insert drill bit into chuck and tighten as shown in Fig. 8. Drill bit MUST be properly inserted with all three chuck jaws holding the bit centered in the chuck. Failure to properly insert drill bit could cause the drill bit to be thrown from the chuck resulting in possible serious injury or damage to the chuck.

REMOVING BITS

- Remove the drill plug from the power source
- Insert chuck key into one of three holes in the chuck body. Rotate chuck key counter clockwise until the chuck jaws release the drill bit.
 NOTE: Do not use a wrench on the chuck key or you may damage the key or chuck.
- Remove the drill bit.

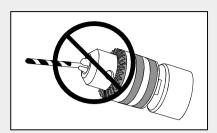


Fig. 8

WARNING: Have you read "GENERAL SAFETY WARNINGS", "POWER TOOL SAFETY", "SPECIFIC SAFETY RULES", EXTENSION CORD SAFETY" and "SYMBOLS" on pages 3, 4, 5, 6, 7, 8 & 9 of this Manual? If not, please do it now before you operate this drill. Your safety depends on it!

Every time you use the drill you should verify the following:

- 1. Chuck is tight.
- 2. Workpiece is properly secured.
- 3. Safety glasses are being worn.

Failure to adhere to these safety rules can greatly increase the chances of injury.

DRILLING

When drilling in smooth hard surfaces such as metal, use a center punch to mark the desired hole location. This will prevent the drill bit from slipping off center as the hole is started.

NOTES:

- a) Use slower drilling speeds when drilling larger holes.
- b) Use masonry bit with drill in impact mode ONLY when drilling in concrete.

The workpiece to be drilled should be secured in a vise or with clamps to keep it from turning as the drill bit rotates (Fig. 9).

- Check drill bit to make sure it is firmly locked into the drill chuck and the forward / reverse switch is in the forward position.
- Hold the drill firmly with both hands whenever possible. Use one hand to grasp the handle and switch and the other to grasp the body of the drill.
 NOTE: Make sure the hand placed on the body of the drill does not cover the air vents. Covering these air vents will reduce the motor cooling and possibly lead to overheating the motor.
- While holding the drill firmly, place the point of the drill bit at the point to be drilled. Depress the switch trigger to start the drill
- Move the drill bit into the workpiece applying only enough pressure to keep the bit cutting. Do not force the drill bit or apply sideways pressure to elongate the hole.

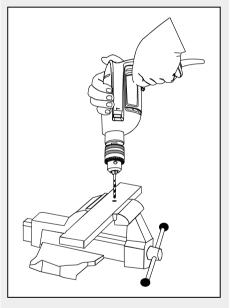


Fig. 9

DRILLING - cont'd

WARNING: Be prepared for binding and bit breakthrough. When these situations occur, the drill bit has the tendency to grab the workpiece. This action will kick the drill opposite to the direction of drill bit rotation and could cause loss of control when breaking through material as you complete drilling the hole. If you are not prepared, this loss of control can result in possible serious injury.

When drilling metals, use a light oil on the drill bit to keep it from overheating. The oil will prolong the life of the drill bit and improve the drill cutting action. If the bit jams in the workpiece or if the drill stalls, release the trigger switch immediately. Remove the bit from the workpiece and determine the reason for jamming.

DRILLING IN CONCRETE

MARNING: Always use a face shield when drilling in concrete.

Always use the impact mode and **slower** drill speeds for faster drilling in concrete. Always use carbide tipped masonry bits.

CHUCK REMOVAL

The drill chuck must be removed in order to use some accessories. To remove the chuck:

Unplug the drill from the power source.

CHUCK REMOVAL - cont'd

- 2. Insert a 5/16" or larger hex key (1) into the chuck (2) and tighten the chuck jaws securely. Make sure each of the three chuck jaws (3) is seated on a flat surface of the hex key (Fig. 10).
- Tap the hex key sharply with a mallet (4) in a clockwise direction. This action will loosen the screw in the chuck for easy removal.
- 4. Open chuck jaws and remove hex key.
- 5. Open chuck jaws as far as possible using the chuck key.
- Remove the chuck screw using a #2
 Philips® screwdriver (Fig. 11).

 NOTE: Turn screw CLOCKWISE to remove it. This screw has a left hand thread.
- Insert hex key into chuck and tighten jaws of chuck securely (Fig. 12). Tap the hex key sharply with a mallet in a COUNTER CLOCKWISE direction. This will loosen the chuck on the spindle. The chuck can now be unscrewed and removed from the spindle by hand.

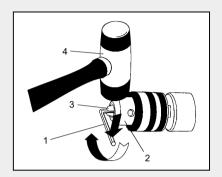


Fig. 10



Fig. 11

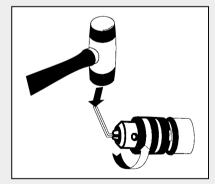


Fig. 12

RETIGHTENING LOOSE CHUCK

After installing the chuck once it has been removed, the chuck may become loose on the spindle and develop a wobble. Also, the chuck screw may become loose causing the chuck jaws to bind and prevent them from closing. To tighten the chuck, follow these steps:

- 1. Insert hex key into chuck and tighten chuck securely.
- Tap hex key sharply with a mallet in a CLOCKWISE direction (Fig. 10 on Page 20). This will tighten the chuck on the spindle.
- 3. Open chuck jaws and remove the hex key.
- 4. Tighten the chuck screw using a #2 Philips® screwdriver.

NOTE: Turn screw COUNTER-CLOCKWISE to tighten it. This screw has a left hand thread.

MAINTENANCE

WARNING: When servicing, use only identical replacement parts. 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 at any time allow brake fluids, gasoline, petroleumbased products, penetrating oils, etc. to come into contact with plastic parts. They contain chemicals that can damage, weaken or destroy plastic.

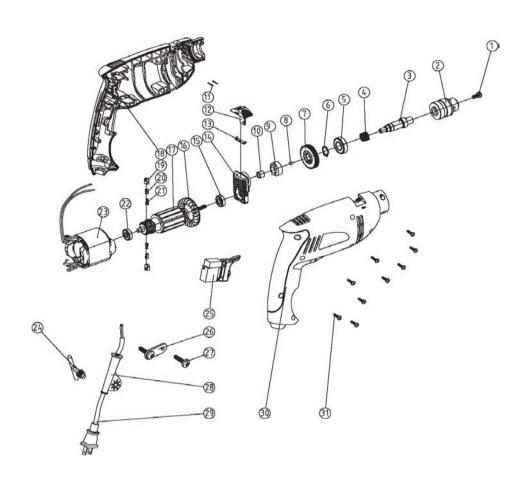
DO NOT abuse power tools. Abusive practices can damage the tool as well as the workpiece.

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.

PARTS DIAGRAM - MODEL 80159



PARTS LIST - MODEL 80159



A WARNING: When servicing, use only GreatNeck replacement parts. Use of any other parts may create a safety hazard or cause damage to the tool.

Any attempt to repair or replace electrical parts on this power tool may create a safety hazard unless repair is performed by a qualified technician.

Always order by PART NUMBER, not by key number.

Key #	Part #	Part Name	Quantity
1	80159-1	Screw	1
2	80159-2	Chuck	1
3	80159-3	Shaft	1
4	80159-4	Impact spring	1
5	80159-5	Bearing 6002LB	1
6	80159-6	Retaining Ring	1
7	80159-7	Big Gear	1
8	80159-8	Impact ball	1
9	80159-9	Impact Disc	1
10	80159-10	Needle Bearing	1
11	80159-11	Pin	2
12	80159-12	Conversion Button	1
13	80159-13	Leaf Spring	1
14	80159-14	Bearing seat	1
15	80159-15	Bearing 608	1
16	80159-16	Fan	1
17	80159-17	Rotor	1
18	80159-18	Left Housing	1
19	80159-19	Brush Holder Support	2
20	80159-20	Brush Holder	2
21	80159-21	Carbon Brush	2
22	80159-22	Bearing 607	1
23	80159-23	Stator	1
24	80159-24	Chuck Key	1
25	80159-25	Switch	1
26	80159-26	Cord Clamp	1
27	80159-27	Tapping Screw	2
28	80159-28	Cord Guard	1
29	80159-29	AC Cord and Plug	1
30	80159-30	Right Housing	1
31	80159-31	Tapping Screw	9

WARRANTY

ONE YEAR LIMITED WARRANTY

For one year from the date of purchase of this GreatNeck® product you find any defect in material or workmanship, through normal usage, either return it to the place of purchase, or send it to GreatNeck® Tools LLC. for repair or replacement at our discretion. In order to obtain this service send your tool and proof of purchase, transportation pre-paid, to GreatNeck® Tools LLC Q.A. Dept, 3580 E. Raines Rd. #3, Memphis, TN 38118. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

This product is not guaranteed if used for industrial or commercial purposes.

Distributed by GreatNeck Tools LLC, Mineola, NY 11501 Rev 1/11

Customer Service: 1-866-458-2472 www.greatnecktools.com

ALWAYS WEAR SAFETY GOGGLES

GREATNECK TOOLS, LLC MINEOLA, NY 11501 MADE IN CHINA