Owner's Manual & Safety Instructions

Save This Manual Keep this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures. Write the product's serial number in the back of the manual near the assembly diagram (or month and year of purchase if product has no number). Keep this manual and the receipt in a safe and dry place for future reference. 21c

91062

drilmaster®

120 VOLT

3-1/4" Electric Planer

Visit our website at: http://www.harborfreight.com
Email our technical support at: productsupport@harborfreight.com

When unpacking, make sure that the product is intact and undamaged. If any parts are missing or broken, please call 1-888-866-5797 as soon as possible.

⚠WARNING

Read this material before using this product.
Failure to do so can result in serious injury.
SAVE THIS MANUAL.

SAFETY

SETUP

OPERATION

MAINTENANCE

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WARNING SYMBOLS AND DEFINITIONS	
⚠	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
⚠ DANGER	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
NOTICE CAUTION	Addresses practices not related to personal injury.

IMPORTANT SAFETY INFORMATION

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.

Work Area Safety

1. **Keep work area clean and well lit.**
   Cluttered or dark areas invite accidents.
2. **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.*
3. **Keep children and bystanders away while operating a power tool.**
   Distractions can cause you to lose control.

Electrical Safety

1. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with grounded power tools.** *Unmodified plugs and matching outlets will reduce risk of electric shock.*
2. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** *There is an increased risk of electric shock if your body is grounded.*
3. **Do not expose power tools to rain or wet conditions.** *Water entering a power tool will increase the risk of electric shock.*
4. **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.*
5. **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.*
6. **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.*

Personal Safety

1. **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.*
2. **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.*
3. **Prevent unintentional starting. Ensure the Trigger is in the off-position before connecting to power source, picking up or carrying the tool.** *Carrying power tools with your finger on the Trigger or energizing power tools that have the Trigger on invites accidents.*
4. **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.*
5. **Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*
6. **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.*
7. **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.*
8. **Only use safety equipment that has been approved by an appropriate standards agency.** *Unapproved safety equipment may not provide adequate protection. Eye protection must be ANSI-approved and breathing protection must be NIOSH-approved for the specific hazards in the work area.*

Power Tool Use and Care

1. **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.*
2. **Do not use the power tool if the Trigger does not turn it on and off.** *Any power tool that cannot be controlled with the Trigger is dangerous and must be repaired.*
3. **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing power tools.** *Such preventive safety measures reduce the risk of starting the power tool accidentally.*
4. **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.*

5. **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.*

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

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

Service

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

Planer Safety Warnings

1. **Wait for the cutter to stop before setting the tool down.** *An exposed rotating cutter may engage the surface leading to possible loss of control and serious injury.*

2. **Hold the power tool by insulated gripping surfaces only, because the cutter may contact its own cord.** *Cutting a "live" wire may make exposed metal parts of the power tool "live" and could give the operator an electric shock.*

3. **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.*

4. Before every use, confirm that both knives are properly aligned and both knives are secured fully. Then, start tool off of workpiece and allow tool to reach full speed. **If tool vibrates or becomes noisy SWITCH IT OFF IMMEDIATELY,** unplug it and allow it to come to a complete stop. Adjust and tighten knives to correct imbalance. If vibration or noise persists, do not use tool until inspected and repaired by a qualified technician.

5. Remove all foreign objects, such as nails or metal fragments, from the workpiece before planing.

6. Do not use to plane non-wood materials.

7. Knives are very sharp and are double-edged! Wear heavy-duty leather work gloves at all times when replacing, adjusting, or handling a knife.

8. Change both knives at once. Changing knives individually could result in imbalance.

9. Do not unclog dust chute with tool plugged in or blades moving. Do not insert your finger into the dust chute.

10. Connect dust chute to bag or dust collection system (not included) before use. Do not use without a dust bag or dust collection system.

11. Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.

12. Avoid unintentional starting. Prepare to begin work before turning on the tool.

13. Do not lay the tool down until it has come to a complete stop. Moving parts can grab the surface and pull the tool out of your control.

14. When using a handheld power tool, maintain a firm grip on the tool with both hands to resist starting torque.

15. Do not leave the tool unattended when it is plugged into an electrical outlet. Turn off the tool, and unplug it from its electrical outlet before leaving.

16. This product is not a toy. Keep it out of reach of children.

17. People with pacemakers should consult their physician(s) before use. Electromagnetic fields in close proximity to heart pacemaker could cause pacemaker interference or pacemaker failure. In addition, people with pacemakers should:
    • Avoid operating alone.
    • Do not use with Trigger locked on.
    • Properly maintain and inspect to avoid electrical shock.
    • Properly ground power cord. Ground Fault Circuit Interrupter (GFCI) should also be implemented – it prevents sustained electrical shock.

18. The warnings, precautions, and instructions discussed in this instruction manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

Vibration Safety

This tool vibrates during use.
Repeated or long-term exposure to vibration may cause temporary or permanent physical injury, particularly to the hands, arms and shoulders.
To reduce the risk of vibration-related injury:

1. Anyone using vibrating tools regularly or for an extended period should first be examined by a doctor and then have regular medical check-ups to ensure medical problems are not being caused or worsened from use. Pregnant women or people who have impaired blood circulation to the hand, past hand injuries, nervous system disorders, diabetes, or Raynaud's Disease should not use this tool.
   If you feel any symptoms related to vibration (such as tingling, numbness, and white or blue fingers), seek medical advice as soon as possible.
2. Do not smoke during use. Nicotine reduces the blood supply to the hands and fingers, increasing the risk of vibration-related injury.
3. Wear suitable gloves to reduce the vibration effects on the user.
4. Use tools with the lowest vibration when there is a choice.
5. Include vibration-free periods each day of work.
6. Grip tool as lightly as possible (while still keeping safe control of it). Let the tool do the work.
7. To reduce vibration, maintain the tool as explained in this manual. If any abnormal vibration occurs, stop use immediately.

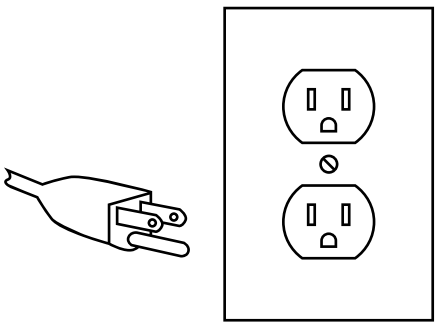
SAVE THESE INSTRUCTIONS.

Grounding

⚠WARNING

TO PREVENT ELECTRIC SHOCK AND DEATH FROM INCORRECT GROUNDING WIRE CONNECTION:
Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool.
Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

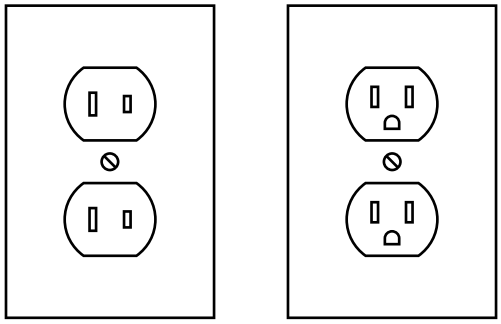
Grounded Tools: Tools with Three Prong Plugs



3-Prong Plug and Outlet

1. Tools marked with "Grounding Required" have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. **(See 3-Prong Plug and Outlet.)**
2. The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool's grounding system and must never be attached to an electrically "live" terminal. **(See 3-Prong Plug and Outlet.)**
3. The tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the preceding illustration. **(See 3-Prong Plug and Outlet.)**

Double Insulated Tools: Tools with Two Prong Plugs



Outlets for 2-Prong Plug

1. Tools marked "Double Insulated" do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association, and the National Electrical Code.
2. Double insulated tools may be used in either of the 120 volt outlets shown in the preceding illustration. **(See Outlets for 2-Prong Plug.)**

Extension Cords

1. ***Grounded*** tools require a three wire extension cord. ***Double Insulated*** tools can use either a two or three wire extension cord.
2. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. **(See Table A.)**
3. The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. **(See Table A.)**
4. When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required. **(See Table A.)**
5. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size. **(See Table A.)**
6. If you are using an extension cord outdoors, make sure it is marked with the suffix "W-A" ("W" in Canada) to indicate it is acceptable for outdoor use.
7. Make sure the extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
8. Protect the extension cords from sharp objects, excessive heat, and damp or wet areas.

TABLE A: RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS* (120/240 VOLT)

NAMEPLATE AMPERES (at full load)	EXTENSION CORD LENGTH				
	25´	50´	75´	100´	150´
0 – 2.0	18	18	18	18	16
2.1 – 3.4	18	18	18	16	14
3.5 – 5.0	18	18	16	14	12
5.1 – 7.0	18	16	14	12	12
7.1 – 12.0	18	14	12	10	-
12.1 – 16.0	14	12	10	-	-
16.1 – 20.0	12	10	-	-	-

*** Based on limiting the line voltage drop to five volts at 150% of the rated amperes.**

Symbology

⧈	Double Insulated
V	Volts
~	Alternating Current
A	Amperes
n_0 xxxx/min.	No Load Revolutions per Minute (RPM)

	WARNING marking concerning Risk of Eye Injury. Wear ANSI-approved safety goggles with side shields.
	Read the manual before set-up and/or use.
	WARNING marking concerning Risk of Fire. Do not cover ventilation ducts. Keep flammable objects away.
	WARNING marking concerning Risk of Electric Shock. Properly connect power cord to appropriate outlet.

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Specifications

Electrical Requirements	120VAC / 60Hz / 5.5A
Drum Speed	16,000 RPM
Cutting Speed	32,000 Cuts per minute (2-knife drum)
Max. Planing Width	3-1/4"
Max. Planing Depth	1/16" Per Pass (Adjustable)
Number of Blades	2

Setup - Before Use:

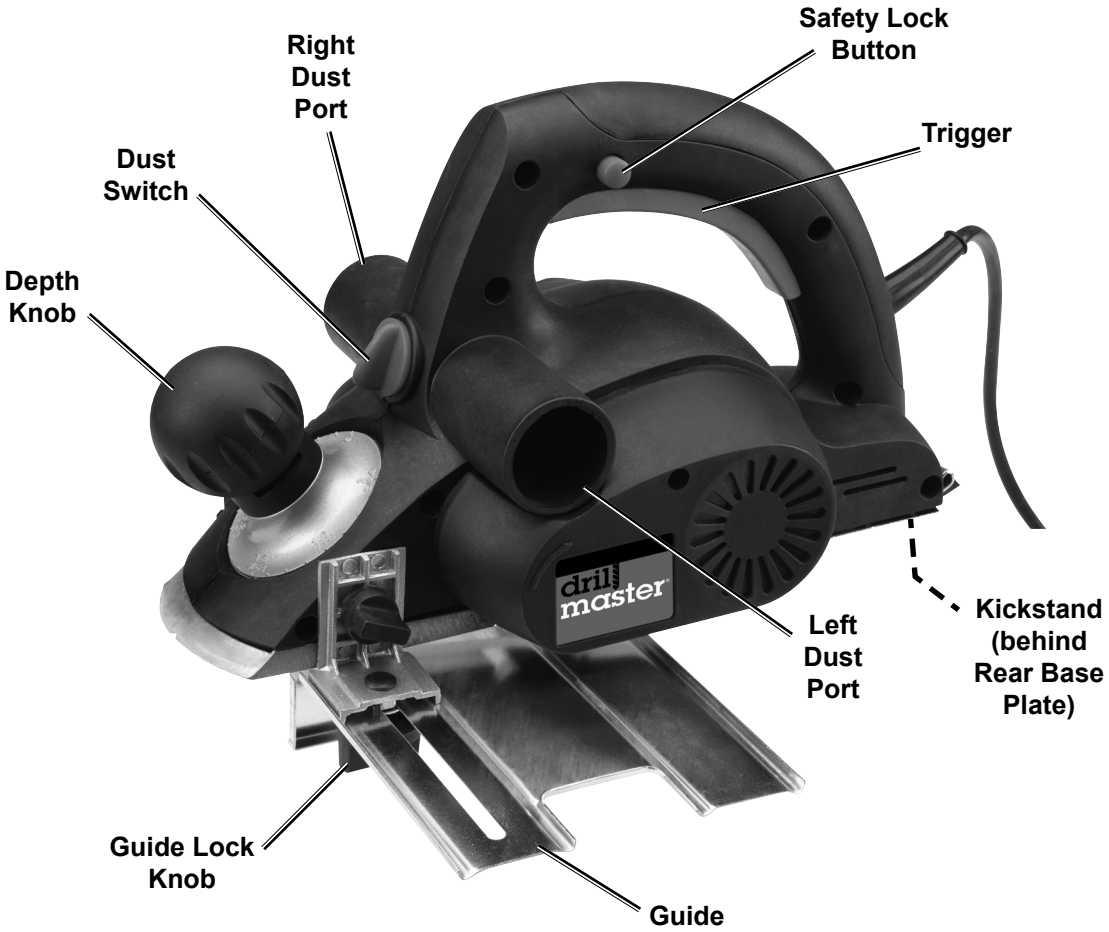
Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

⚠WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:
Make sure that the Trigger is in the off-position and unplug the tool from its electrical outlet before performing any procedure in this section.

Note: For additional information regarding the parts listed in the following pages, refer to *Parts List and Diagram* on page 18.

Functions



Read the ENTIRE IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Tool Set Up

⚠WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:
Make sure that the Trigger is in the off-position and unplug the tool from its electrical outlet before performing any procedure in this section.

Knife Installation and Adjustment

1. **WARNING! Before working on the Knives, wear ANSI-approved safety goggles and heavy-duty leather work gloves.**

2. **WARNING! TO PREVENT SERIOUS INJURY: Unplug Planer and allow Knives to cool completely if used recently.**

3. The Planer is equipped with two reversible Knives. Reverse or replace the Knives *as a set* in order to avoid an imbalance between the two Knife Holder assemblies.

4. Wearing heavy-duty leather work gloves, rotate the Knife Drum (36) until one Knife Holder (34) and Knife (57) are accessible through the gap between the Front and Rear Base Plates (30, 61) - see **Figure A.** Note that the heads of the Knife Holder Bolts (35) are facing the Front Base Plate (30).

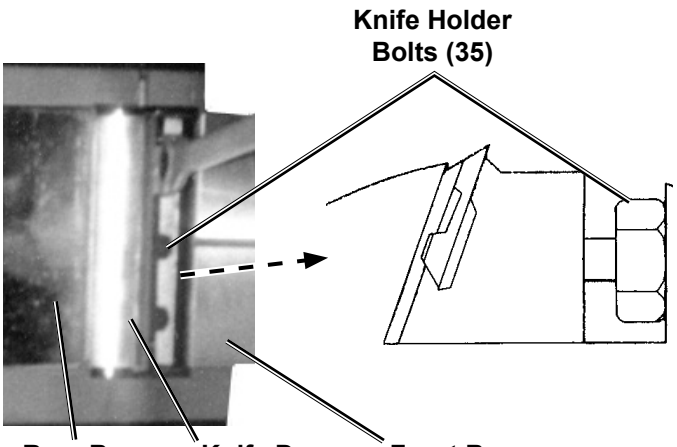


Figure A:

5. Using the supplied wrench, turn the Knife Holder Bolts in the direction shown in **Figure B** to loosen the Knife Holder from the Drum. The Bolts thread into the Knife Holder, thus releasing pressure on the Drum and allowing the Knife Holder to be removed.

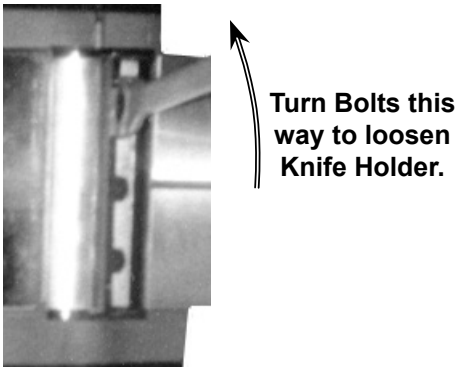


Figure B:

6. Use a piece of wood to slide the Knife lengthwise out of the Knife Drum.

7. Once the Knife has been removed, clean the Knife, the Press Blade Plate (31), Knife Holder, and the Knife Drum thoroughly. Carefully examine the Knife Holder for loose parts or signs of damage. Replace if damaged.

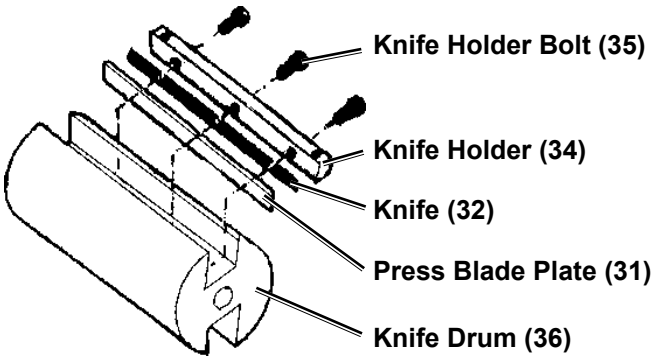


Figure C:

8. Use a piece of wood to slide the new or reversed Knife lengthwise into the Knife Drum, between the Press Blade Plate and the Knife Holder.

9. Place a straight edge or straight piece of wood along one of the side surfaces of the Front and Rear Base Plates. Slide the Knife against the straight edge or piece of wood so that it aligns evenly with both Base Plates. See **Figure D:**.

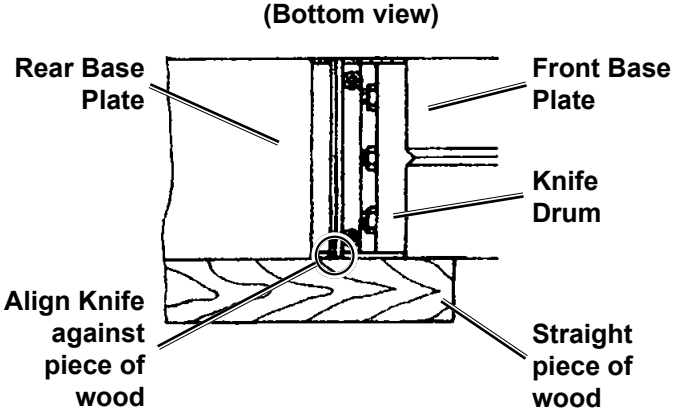


Figure D:

10. Turn the three Knife Holder Bolts in the direction shown in **Figure E:** to secure the Knife Holder assembly in place. **Only snug the Bolts for now.**

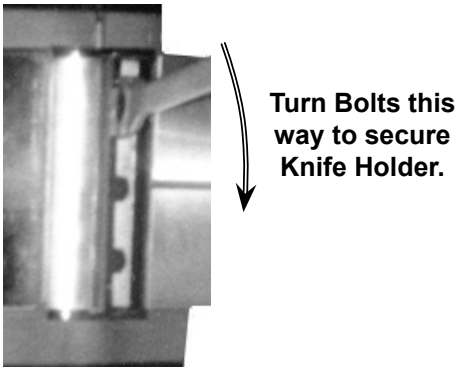


Figure E:

11. Adjust the Knife so that both ends are level:
    a. Set the Depth Knob to “0”.
    b. Have an assistant hold a straightedge (sold separately) against the bottom of the Rear Base Plate.
    c. Locate the Set Screws (33) on the Knife Holder. See **Figure F:**.

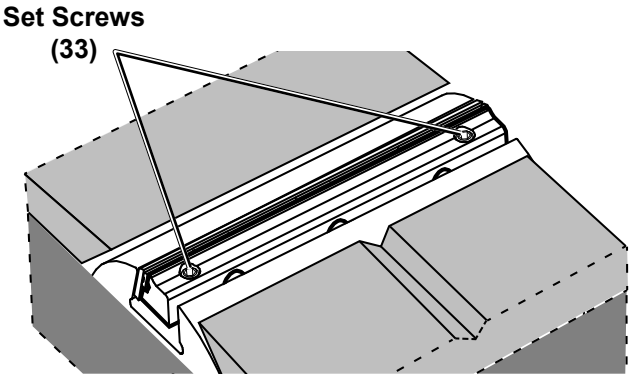


Figure F:

    d. Adjust one Set Screw until the Knife just touches the straightedge on that side - see **Figure G:**.

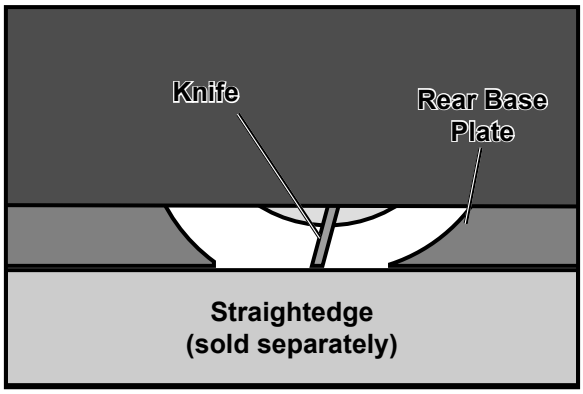


Figure G:

    e. Adjust the other Set Screw until the Knife just touches the straightedge on that side as well.

12. Turn the three Knife Holder Bolts firmly in the direction shown in **Figure E:** to secure the Knife in place.

13. Rotate the Knife Drum 180° and change/ replace and adjust the other Knife according to Steps 1 - 12, above.

14. **IMPORTANT!** Carefully double-check that the Knives and Knife Holders are secure and that both Knives are level before use.

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Depth Adjustment

The Planer may be adjusted to cut to a depth of **up to 1/16**" per pass along the workpiece.

- To **increase** the depth of cut, turn the Depth Knob *clockwise*.
- To **decrease** the depth of cut, turn the Depth Knob *counterclockwise*.
- Return the Depth Knob to read “0” on the Dial (23) when finished cutting.

NOTE: For a rough-cut workpiece use a deeper cut, but do not exceed 1/16". Once the workpiece is planed smooth, make a number of shallower cuts to acquire the desired depth.

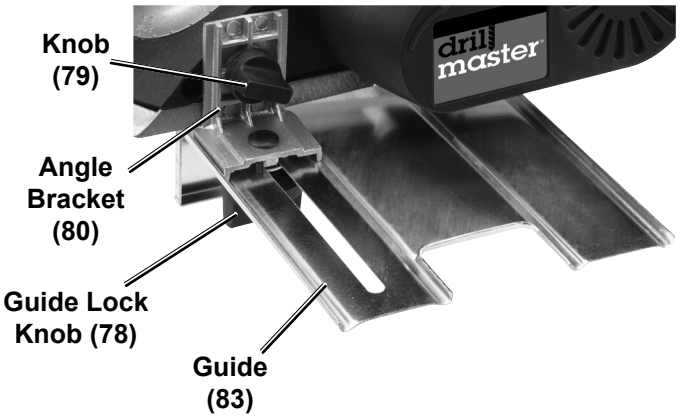
Guide Adjustment

The Guide controls the width of the cut from the edge of the workpiece.

1. Insert the Knob (79) through the upper hole in the Angle Bracket (80) and thread it into the hole in the Left Housing. See **Figure H:**.
2. Loosen the Guide Lock Knob (78) and slide the Guide to the desired setting.
3. **IMPORTANT:** Retighten the Guide Lock Knob after adjustment.

Note: The markings on the Guide are intended as general guidelines only. For accurate measurements, use a measuring tool to verify the position of the Guide after tightening.

Figure H:



Dust Switch

The Dust Switch determines which Dust Port the dust blows out of.

1. Move the Switch towards the desired Dust Port.
2. Connect the supplied Dust Bag (77) or a different dust collection system (not included) to the Dust Port that the exhaust is being directed to.

Note: Do not position the Switch between settings or the dust will come out of both ports.

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Workpiece and Work Area Set Up

1. Designate a work area that is clean and well lit. The work area must not allow access by children or pets to prevent distraction and injury.
2. Route the power cord along a safe route to reach the work area without creating a tripping hazard or exposing the power cord to possible damage. The power cord must reach the work area with enough extra length to allow free movement while working.
3. Secure loose workpieces using a vise or clamps (not included) to prevent movement while working.
4. There must not be objects, such as utility lines, nearby that will present a hazard while working.

General Operating Instructions

1. Make sure that the Trigger is in the off position, then plug in the tool.
2. Rotate the Kickstand up behind the Rear Base Plate.
3. While standing to the side of the workpiece, hold the Planer firmly with one hand on the handle portion of the Housing and the other hand on the Depth Knob. **Do not turn the Depth Knob during use.**
4. Set the Planer's Front Base Plate on the front edge of the workpiece. Then, depress the Safety Lock Button and squeeze the Trigger to start the Planer.

WARNING! Confirm that both Knives are properly aligned and that both Knives are secured fully. Start tool off of workpiece and allow tool to reach full speed.

- If tool vibrates or becomes noisy SWITCH IT OFF IMMEDIATELY, unplug it and allow it to come to a complete stop. Adjust and tighten the Knives to correct imbalance.
- If vibration or noise persists, do not use tool until inspected and repaired by a qualified technician.

IMPORTANT: Do not start to move the Planer across the workpiece until the Knives are spinning at full speed.

5. While placing pressure on the Front Base Plate to control the depth of cut and the Guide (if used) to control the width of cut, feed the Planer slowly until the Rear Base Plate contacts the workpiece. Then, transfer pressure to the Rear Base Plate, and continue planing slowly to the end of the cut. *Do not pull the Planer back over the surface already cut.*
6. If necessary, repeat Step #4, using progressively deeper cuts until you near the desired depth.
7. Adjust the Depth Adjustment Knob to make a light cut for the final pass to help give the workpiece a cleaner finish.

NOTE: The Planer's motor may stall if the tool is improperly used. If the motor begins to stall, reduce the feed speed at which you are making the cut and/or reduce the depth of the cut.

8. When finished planing, carefully lift the planer from the workpiece and release the Trigger. Wait until the Planer's Knife Drum comes to a complete stop, then rotate the Kickstand down. Set the Planer down so it is supported by the Adjustable Base Plate and the Kickstand. Then unplug the Planer and turn the Depth Adjustment Knob to the "0" setting.
9. Clean, then store the tool indoors out of children's reach.

Rabbeting

Rabbeting is creating a step on the edge of a workpiece. Rabbeting is typically used in door and window jambs. When rabbeting, the Rabbet Depth Gauge will contact the unplaned portion of the workpiece and help prevent planing too deeply.

1. Carefully set the Rabbet Depth Gauge (85) to the desired rabbet depth. Use a straightedge (sold separately) to adjust the Rabbet Depth Gauge to the desired distance from the Rear Base Plate (61), see **Figure I**. Tighten the Rabbet Depth Gauge Knob (86) securely after adjustment. The maximum rabbet distance is 5/16".

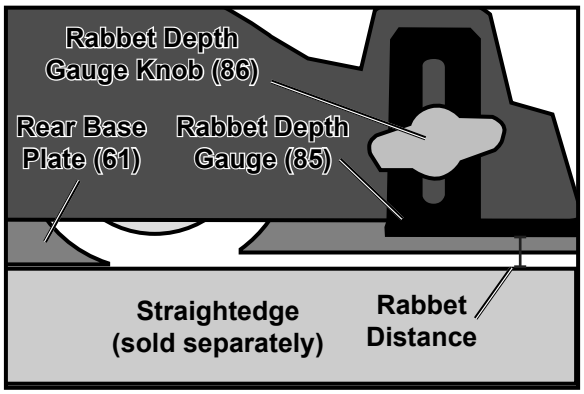


Figure I: Setting the Rabbet Depth

2. Set the Fence to determine the width of the rabbet cut.

3. Follow the General Operating Instructions on page 12, with the Rabbet Depth Gauge positioned over the unplaned portion of the board. Plane the board using multiple passes, if needed. The Rabbet Gauge presses against the unplaned portion of the board and helps the planer cut only to the specified depth.

Chamfering Edges

Note: This technique takes requires experience to accomplish properly. Practice on a piece of scrap wood before attempting to chamfer a workpiece.

This planer has a groove in the Adjustable Base Plate for cutting a 45° angle along a corner, called a chamfer.

1. Place the groove on the corner edge to be cut. Hold the Planer at a 45° angle and seat the corner of the workpiece securely into the groove.

2. Follow the General Operating Instructions on page 12. Keep the corner securely seated in the groove from the beginning all the way through the cut.

Procedures not specifically explained in this manual must be performed only by a qualified technician.

⚠WARNING

TO PREVENT SERIOUS INJURY FROM ACCIDENTAL OPERATION:
Make sure that the Trigger is in the off-position and unplug the tool from its electrical outlet before performing any procedure in this section.

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:
Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

Cleaning, Maintenance, and Lubrication

1. **BEFORE EACH USE,** inspect the general condition of the tool. Check for:
   - loose hardware,
   - misalignment or binding of moving parts,
   - damaged cord/electrical wiring,
   - cracked or broken parts, and
   - any other condition that may affect its safe operation.
2. **AFTER USE,** wipe external surfaces of the tool with clean cloth.
3. For knife changing instructions see *Knife Installation and Adjustment on page 9*.
4. **⚠WARNING! TO PREVENT SERIOUS INJURY: If the supply cord of this power tool is damaged, it must be replaced only by a qualified service technician.**

Replacing the Belt

Before beginning, turn the Depth Adjustment Knob to the “0” setting.

1. Remove the Screws (3) that attach the Belt Cover (2) to the Planer, then remove the Belt Cover. See **Figure J**.

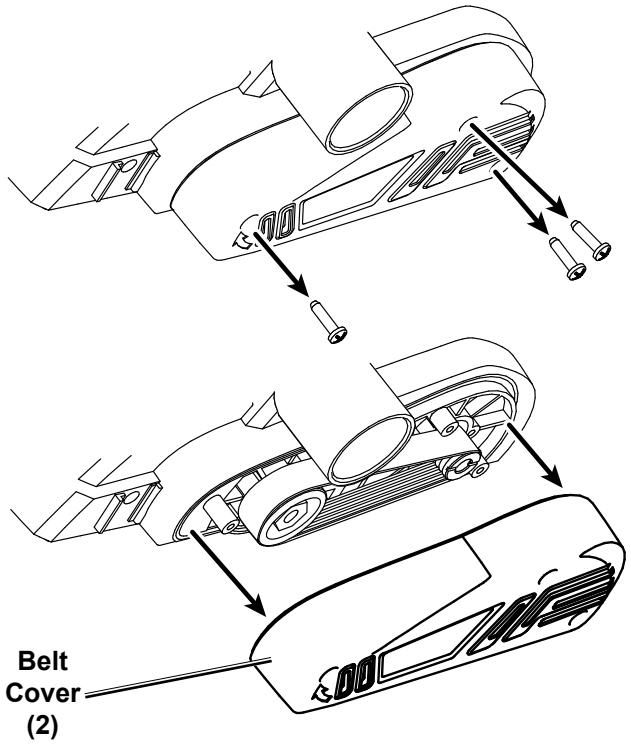


Figure J:

2. Remove the worn or broken Belt (9) from the Large and Small Pulleys (14 and 4). Use a screwdriver or similar tool to stretch the Belt slightly to remove it. See **Figure K**.

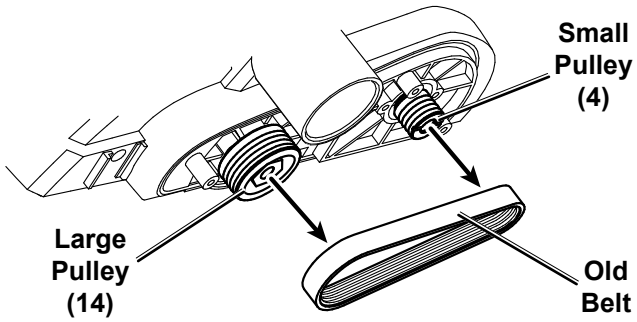


Figure K:

3. Clean the Pulleys and the area around them.

4. Place the new Belt around the Large Pulley, making sure that the Belt is centered on the Pulley. See **Figure L**.

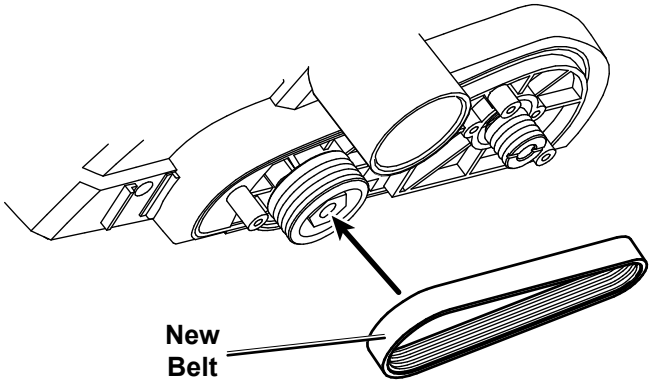


Figure L:

5. Use a screwdriver or similar tool to stretch the Belt all the way over the Small Pulley. See **Figure M**.

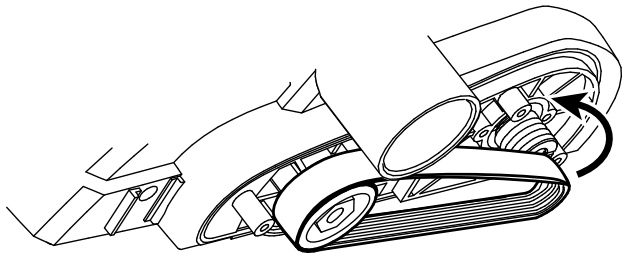


Figure M:

6. **IMPORTANT:** Center the belt on both pulleys so that all the ridges on the inside of the Belt are aligned with all the grooves on both Pulleys. See **Figure N**.

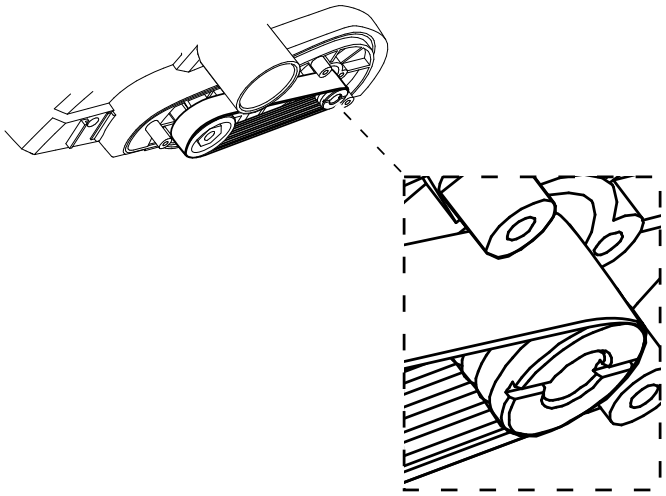


Figure N:

7. Replace the Belt Cover. See **Figure O**.

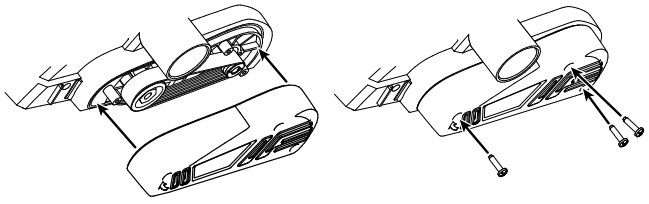


Figure O:

Troubleshooting

Problem	Possible Causes	Likely Solutions
Tool will not start.	1. Cord not connected. 2. No power at outlet. 3. Tool's thermal reset breaker tripped (if equipped). 4. Internal damage or wear. (Carbon brushes or Trigger, for example.)	1. Check that cord is plugged in. 2. Check power at outlet. If outlet is unpowered, turn off tool and check circuit breaker. If breaker is tripped, make sure circuit is right capacity for tool and circuit has no other loads. 3. Turn off tool and allow to cool. Press reset button on tool. 4. Have technician service tool.
Tool operates slowly.	1. Forcing tool to work too fast. 2. Extension cord too long or cord diameter too small.	1. Allow tool to work at its own rate. 2. Eliminate use of extension cord. If an extension cord is needed, use one with the proper diameter for its length and load. See *Extension Cords* in *Grounding* section on page 6.
Performance decreases over time.	1. Carbon brushes worn or damaged. 2. Blade dull or damaged.	1. Have qualified technician replace brushes. 2. Keep blades sharp. Replace as needed.
Excessive noise or rattling.	Internal damage or wear. (Carbon brushes or bearings, for example.)	Have technician service tool.
Overheating.	1. Forcing tool to work too fast. 2. Blade dull or damaged. 3. Blocked motor housing vents. 4. Motor being strained by long or small diameter extension cord.	1. Allow tool to work at its own rate. 2. Keep blades sharp. Replace as needed. 3. Wear ANSI-approved safety goggles and NIOSH-approved dust mask/respirator while blowing dust out of motor using compressed air. 4. Eliminate use of extension cord. If an extension cord is needed, use one with the proper diameter for its length and load. See *Extension Cords* in *Grounding* section on page 6.

Follow all safety precautions whenever diagnosing or servicing the tool.
Disconnect power supply before service.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

Parts List

Part	Description
1	Brand Label
2	Belt Cover
3	Screw
4	Small Pulley
5	Bearing
6	Screw
7	Washer
8	Ring (a)
9	Belt
10	Left Housing
11	Screw
12	Bearing
13	Nut
14	Large Pulley
15	Screw
16	Washer
17	Ring (b)
18	Depth Adjustment Stopper
19	Depth Adjustment Knob Top
20	Depth Adjustment Knob Shaft
21	Depth Adjustment Knob Bottom
22	Depth Adjustment Knob Stem
23	Cutting Depth Dial
24	Washer
25	Spring Washer
26	Spring
27	Copper Tube
28	Bushing
29	Spring
30	Adjustable Base Plate
31	Press Blade Plate
32	Knife
33	Set Screw
34	Knife Holder
35	Knife Holder Bolt
36	Knife Drum
37	Bearing
38	Screw St4.2x55
39	Stator
40	Rotor
41	Power Cord Strain Relief
42	Power Cord
43	Safety Lock Button

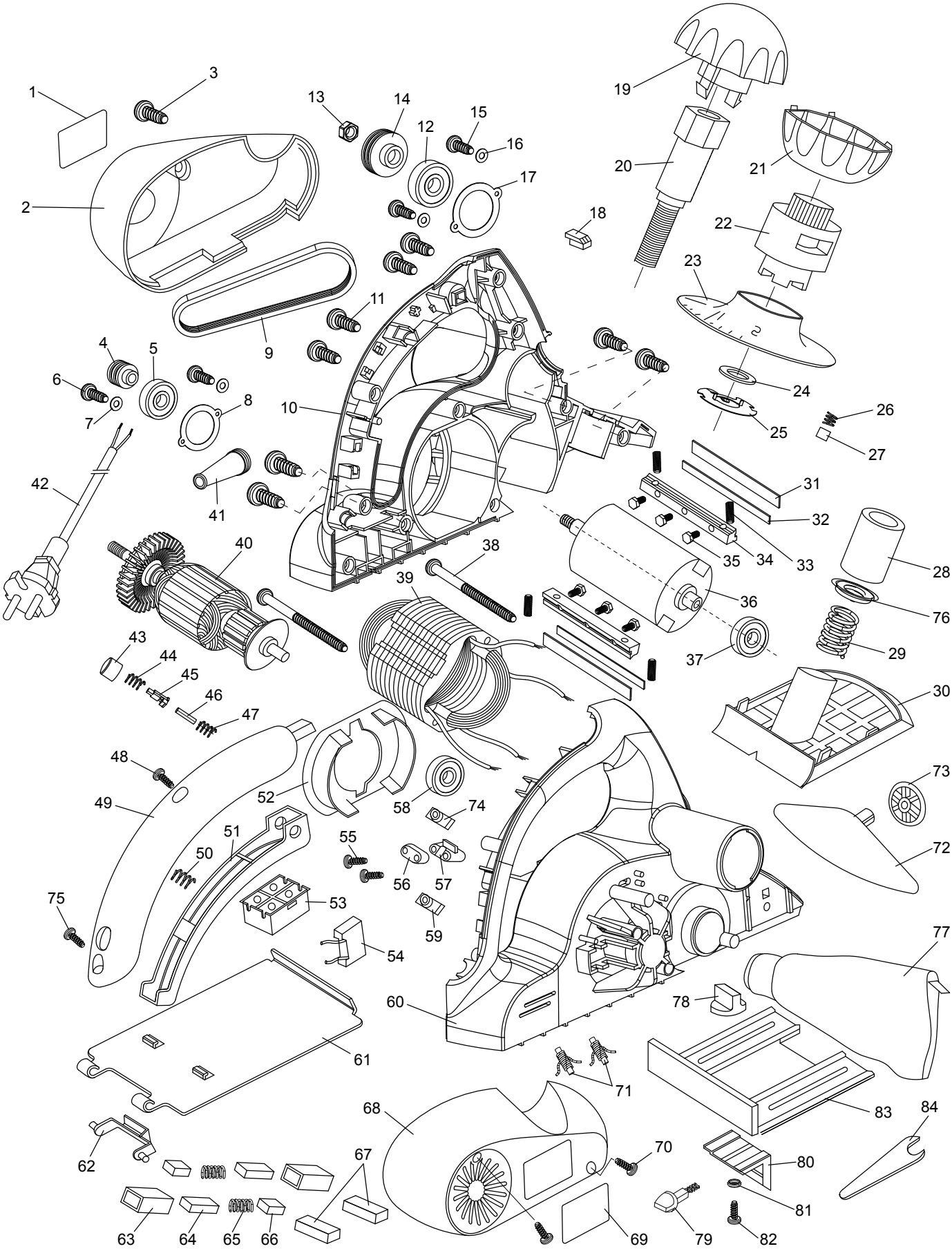
Part	Description
44	Switch Spring (2)
45	Button Connector
46	Pin Ø2.5
47	Switch Spring (3)
48	Screw St4x13
49	Handle Cover
50	Trigger Spring (1)
51	Trigger
52	Air Reflector
53	Switch
54	Capacitor
55	Screw
56	Cable Clamp Top
57	Cable Clamp Base
58	Bearing
59	Screw Dome (a)
60	Right Housing
61	Rear Base Plate
62	Kickstand
63	Carbon Brush Support
64	Carbon Brush Holder
65	Spring
66	Capacitor
67	Carbon Brush Support Pressure Pad
68	Right Cover
69	Warning Label
70	Screw St4x15
71	Inductor
72	Exhaust Deflector
73	Dust Switch
74	Screw Dome (b)
75	Screw St4x13
76	Adjustment Rin
77	Dust Bag
78	Guide Lock Knob
79	Knob
80	Angle Bracket
81	Washer
82	Screw
83	Guide
84	Wrench
85	Rabbet Depth Gauge (not shown)
86	Rabbet Depth Gauge Knob (not shown)

Record Product's Serial Number Here:_____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts. Specify UPC 193175326997 when ordering parts.

Assembly Diagram



Limited 90 Day Warranty

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

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

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