

**CHICAGO**  
**Electric® Power Tools**

**18 GAUGE**  
**ELECTRIC METAL SHEAR**  
**Model 92148**

**ASSEMBLY AND OPERATION INSTRUCTIONS**



Due to continuing improvements, actual product may differ slightly from the product described herein.



3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: <http://www.harborfreight.com>

**TO PREVENT SERIOUS INJURY, READ AND UNDERSTAND  
ALL WARNINGS AND INSTRUCTIONS BEFORE USE.**

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**For technical questions or replacement parts, please call 1-800-444-3353.**

Rev 12I

## Specifications

Cutting Capacity	Metal, Aluminum, and Plastic up to 18 gauge	Dimensions	3" W x 11-3/4" L x 5-1/2" H
Electrical Rating	120 V~ / 60 Hz / 3.5 A	Net Weight	5.8 lb.



### SAVE THIS MANUAL

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Keep this manual and invoice in a safe and dry place for future reference.

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### GENERAL SAFETY RULES

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 **WARNING!**

**READ AND UNDERSTAND ALL INSTRUCTIONS**  
Failure to follow all instructions listed below may result in electric shock, fire, and/or serious injury.  
**SAVE THESE INSTRUCTIONS**

### WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents. Make sure there is adequate surrounding workspace.
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 bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.

### ELECTRICAL SAFETY

4. **Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.

5. **Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.** Double insulation  eliminates the need for the three wire grounded power cord and grounded power supply system.
6. **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.
7. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
8. **Do not abuse the Power Cord. Never use the Power Cord to carry the tools or pull the Plug from an outlet. Keep the Power Cord away from heat, oil, sharp edges, or moving parts. Replace damaged Power Cords immediately.** Damaged Power Cords increase the risk of electric shock.
9. **When operating a power tool outside, use an outdoor extension cord marked “W-A” or “W”.** These extension cords are rated for outdoor use, and reduce the risk of electric shock.

### PERSONAL SAFETY

10. **Stay alert. Watch what you are doing, and use common sense when operating a power tool. Do not use a power 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.
11. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
12. **Avoid accidental starting. Be sure the Power Switch is off before plugging in.** Carrying power tools with your finger on the Power Switch, or plugging in power tools with the Power Switch on, invites accidents.
13. **Remove adjusting keys or wrenches before turning the power tool on.** A wrench or a key that is left attached to a rotating part of the power tool may result in personal injury.
14. **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.
15. **Use safety equipment. Always wear eye protection.** Dust mask, nonskid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.
16. **Use clamps (not included) or other practical ways 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.

17. **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 is designed.
18. **Do not use the power tool if the Power Switch does not turn it on or off.** Any tool that cannot be controlled with the Power Switch is dangerous and must be replaced.
19. **Disconnect the Power Cord 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.
20. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
21. **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools with a sharp cutting edge are less likely to bind and are easier to control. Do not use a damaged tool. Tag damaged tools “Do not use” until repaired.
22. **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.
23. **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

24. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
25. **When servicing a tool, use only identical replacement parts. Follow instructions in the “*Inspection, Maintenance, And Cleaning*” section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

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## **SPECIFIC SAFETY RULES**

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1. **Maintain labels and nameplates on the tool.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. **Always wear ANSI-approved safety impact eye goggles and heavy leather work gloves when using the tool.** Using personal safety devices reduce the risk for injury. Safety impact eye goggles and heavy work gloves are available from Harbor Freight Tools.
3. **Maintain a safe working environment.** Keep the work area well lit. Make sure there is adequate surrounding work space. Always keep the work area free of obstructions, grease, oil, trash, and other debris. Do not use a power tool in areas

near flammable chemicals, dusts, and vapors. Do not use this product in a damp or wet location.

4. **When starting a handheld power tool, always maintain a firm grip on the tool with both hands to resist starting torque.**
5. **Always keep the extension cord away from moving parts on the tool.**
6. **Avoid unintentional starting.** Make sure you are prepared to begin work before turning on the tool.
7. **Do not force the tool.** This tool will do the work better and safer at the speed and capacity for which it was designed.
8. **Never lay the tool down until the motor has come to a complete stop.** The tool may create unforeseen risk while the motor cycles down.
9. **Never 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.
10. **Always unplug the tool from its electrical outlet before performing and inspection, maintenance, or cleaning procedures.**
11. **WARNING!** People with pacemakers should consult their physician(s) before using this product. Electromagnetic fields in close proximity to a heart pacemaker could cause interference to or failure of the pacemaker.

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## **GROUNDING**

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 **WARNING!**

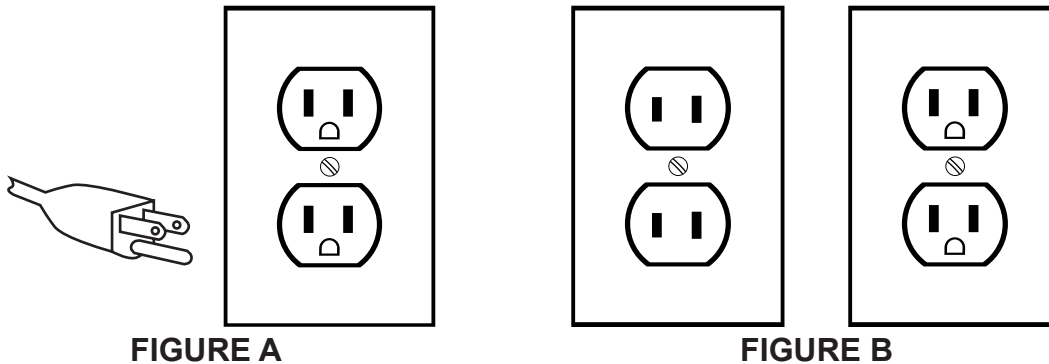
**Improperly connecting the grounding wire can result in the risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool. Never remove the grounding prong from the plug. Do not use 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**

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 Figure A.)**

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 Figure A.)**
3. Your 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 following illustration. **(See Figure A.)**



### **DOUBLE INSULATED TOOLS: TOOLS WITH TWO PRONG PLUGS**

4. 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. **(See Figure B.)**
5. Double insulated tools may be used in either of the 120 volt outlets shown in the preceding illustration. **(See Figure B.)**

### **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 Figure C, next page.)**
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 Figure C.)**
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 Figure C.)**

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 Figure C.**)
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 your 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 your extension cords from sharp objects, excessive heat, and damp or wet areas.

<b>RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS*</b> <b>(120 OR 240 VOLT)</b>					
<b>NAMEPLATE AMPERES (At Full Load)</b>	<b>EXTENSION CORD LENGTH</b>				
	<b>25 Feet</b>	<b>50 Feet</b>	<b>75 Feet</b>	<b>100 Feet</b>	<b>150 Feet</b>
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	-	-	-

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

### **SYMBOLOLOGY**

	Double Insulated
	Canadian Standards Association
	Underwriters Laboratories, Inc.
V~	Volts Alternating Current
A	Amperes
n <sub>0</sub> xxxx/min.	No Load Revolutions per Minute (RPM)

# Unpacking

When unpacking, check to make sure the following parts are included.

*Electric Shear*  
*Hex Key*

*(2) Spare Electric Brushes*  
*Owner's Manual*

If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual.

## Operation

1. Following all safety requirements already listed, plug the Power Cord (54) into a circuit-breaker protected 120 V~, 60 Hz power outlet.

**WARNING: Do not turn on the tool until you have read this entire manual, and follow all safety information, notes, cautions and warnings provided.**

2. To turn on the tool, slide the Power Switch (38) forward to the ON position. The Upper Shear Blade (12) will begin to move up and down at high speed.

**NOTE:** It is a good idea to make a few practice cuts on scrap material before cutting your work piece.

3. To cut material, fit the Tool Rest (1) over the edge of the material, and move the tool slowly forward along the desired cut line of the material. As the Upper Shear Blade (12) moves up and down against the Lower Shear Blade (2), the material will be cut.

**WARNING: The edge of sheet metal is very sharp. Always wear protective gloves when handling sheet metal.**

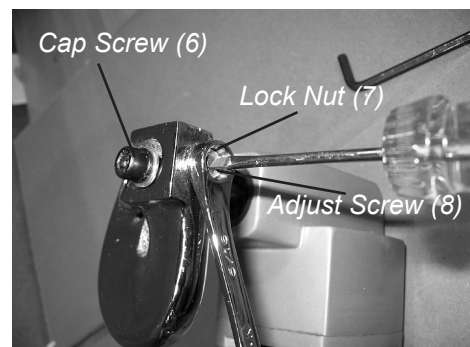
**CAUTION:** Do not cut across a welded seam as this might damage the blades.

4. To stop cutting, slide the Power Switch (38) back to the OFF position. Unplug the tool.

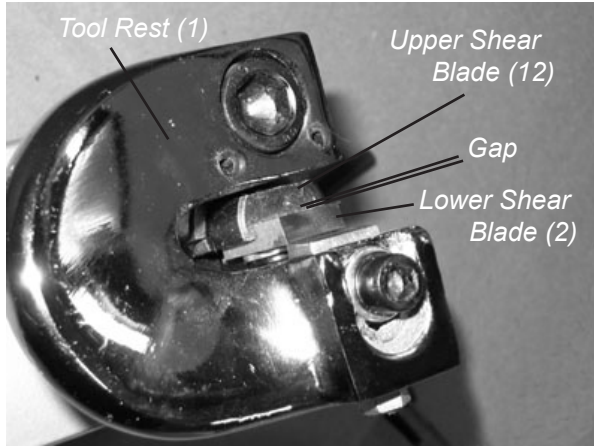
### Adjusting the cutting blades.

*If the tool is operating properly, but is not cutting satisfactorily, you may have to adjust the blades.*

1. Before attempting adjustment, unplug the tool.
2. Using a probe through the motor vents in the side of the Cover (48), turn the fan until the cutting blades are open to the maximum amount. You can measure the gap between the blades using an automotive feeler gauge (not included).
3. To determine the best spacing, use the formula:  $Distance\ in\ mm\ (L) = 0.2 \times thickness\ of\ thin\ steel\ plate\ in\ mm.$  (This is the same as the gap being equal to the material thickness divided by 5.) For example, a thin steel plate which is 1 mm thick should be cut with a shear blade setting of .2 mm. This assumes a hardness of the material at 390N/mm. For softer material, reduce the gap. For harder material, increase the gap.







4. Loosen the Socket Head Screw (6) that holds the Upper Shear Blade (12) in place. Adjust the Upper Shear Blade until the space between the upper and lower cutting edge is between 0.1 mm and 0.6 mm. Then tighten the Socket Head Screw (6) to fix the Upper Shear Blade (12) in position.

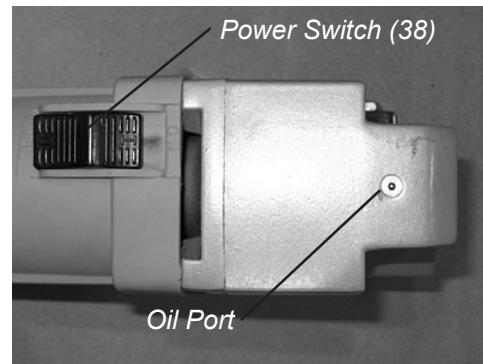
## Maintenance

**Check the condition of this tool every time before using it.**

1. Before each use, plug in the tool, and turn it on to run freely for one minute.

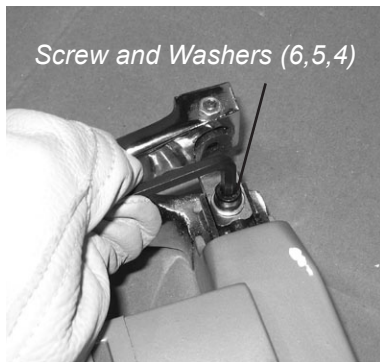
2. After the tool has run for one minute, turn it off, and put 3-4 drops of light machine oil in the oil port on the head of the tool. (See picture at right.)

3. Also apply a small amount of oil into the space between the Arbor (13) and the Shaft Sleeve (15).



### To remove or replace the blades:

1. Unplug this tool before attempting any maintenance.  
 2. Remove the Screw and Washers (6,5,4) holding the Upper Shear Blade (12) & remove it as shown in the photo below left, using the included Hex Key.



3. Remove the Screw and Washers (6,5,4) holding the Lower Shear Blade (12) & remove it as in photo below right.

4. To reinstall sharpened blades or new blades, first reinstall the Lower Shear Blade (2) and tighten it. Then install the Upper Shear Blade (12) but leave it just loose enough to slide.

5. The Upper Shear Blade (12) has an Adjusting Screw (8) and Screw (6) that are used to adjust the blade's position. The Screw (6) should be loosened with a wrench. Then the Lock Nut (7) should be loosened and held using a box-end wrench (not included) and the Adjusting Screw (8) can be adjusted. The Upper Shear Blade (12) should be

### Adjusting The Upper Shear Blade (12)

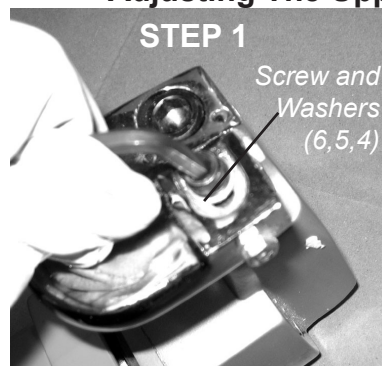
adjusted for different material types or thicknesses.

For sheet steel the formula is:

$$\text{Gap} = \text{Steel Thickness} / 5$$

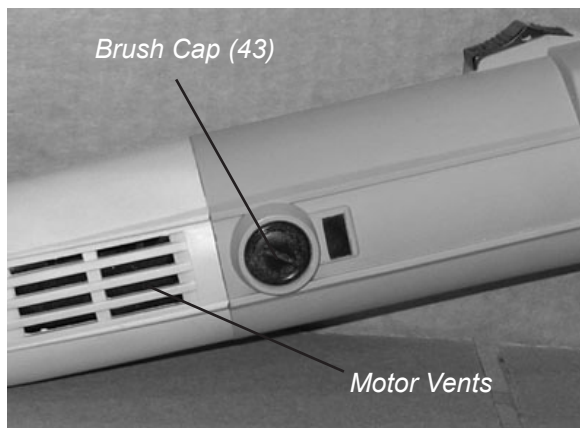
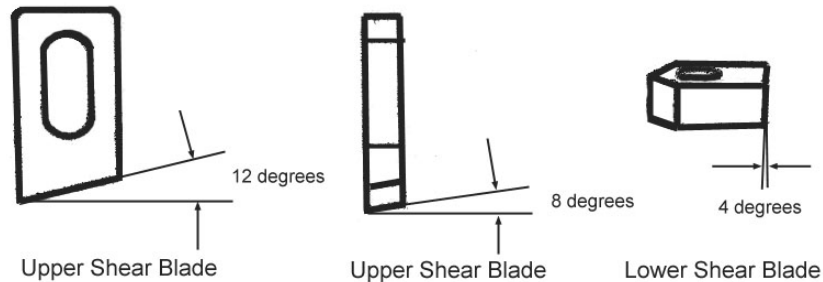
(as discussed in item 3, page 7)

The gap will be slightly smaller for rubbery or soft materials. The gap should be slightly larger for hard materials.



When the two blades line up with the proper gap, tighten and hold the Adjusting Screw (8) while you tighten the Lock Nut (7). Then, tighten the Screw (6).

6. Check that the blades will operate properly before use. The machine should always be tested on scrap material before use on final work material.
7. If you sharpen the blades, maintain the original dimensions of a 12 degree angle on the Upper Shear Blade (12) with a 8 degree angle across its thickness. Maintain a 4 degree angle on the butt of the Lower Shear Blade (2) as shown in the illustration below.



### **Replacing Carbon Brushes.**

After considerable use, your Electric Metal Shear may not run as well as usual. If it starts or runs slowly, makes a grinding noise or will not run at all, the problem may be worn Carbon Brushes. An extra set of Carbon Brushes is included with your tool for replacement as needed.

1. Unplug your tool before beginning work.
2. To examine the condition of the brushes, unscrew each Brush Cap (43), and remove each Brush (42).

**NOTE:** Record the position of each carbon brush as you remove it, so you can replace them in exactly the same way.

Carbon brushes wear into the armature. If they are replaced in a different orientation, they will have to undergo additional wear before they again fit properly.

3. If the Carbon Brushes (42) are severely worn (less than 1/8" carbon remaining) they should be replaced. Also, if either brush is cracked or chipped both brushes must be replaced. If they are glazed, but more than 1/8" in length, the glaze can be removed with a pencil eraser, and the brushes reused. If they are in good condition and more than 1/8" remains, replace the original brushes in the exact configuration they were removed.
4. To replace a Carbon Brush (42), insert it into the Brush Holder (41) carbon end first, with the spring end to the outside. Replace the Brush Cap (43) and tighten it by turning clockwise.

**NOTE:** When replacing Carbon Brushes (42), do not replace only one brush. Always replace both carbon brushes at the same time.

5. After replacing the Carbon Brushes (42), let the tool run for 2 minutes before using it. This will allow the Carbon Brushes (42) to wear into the Armature.

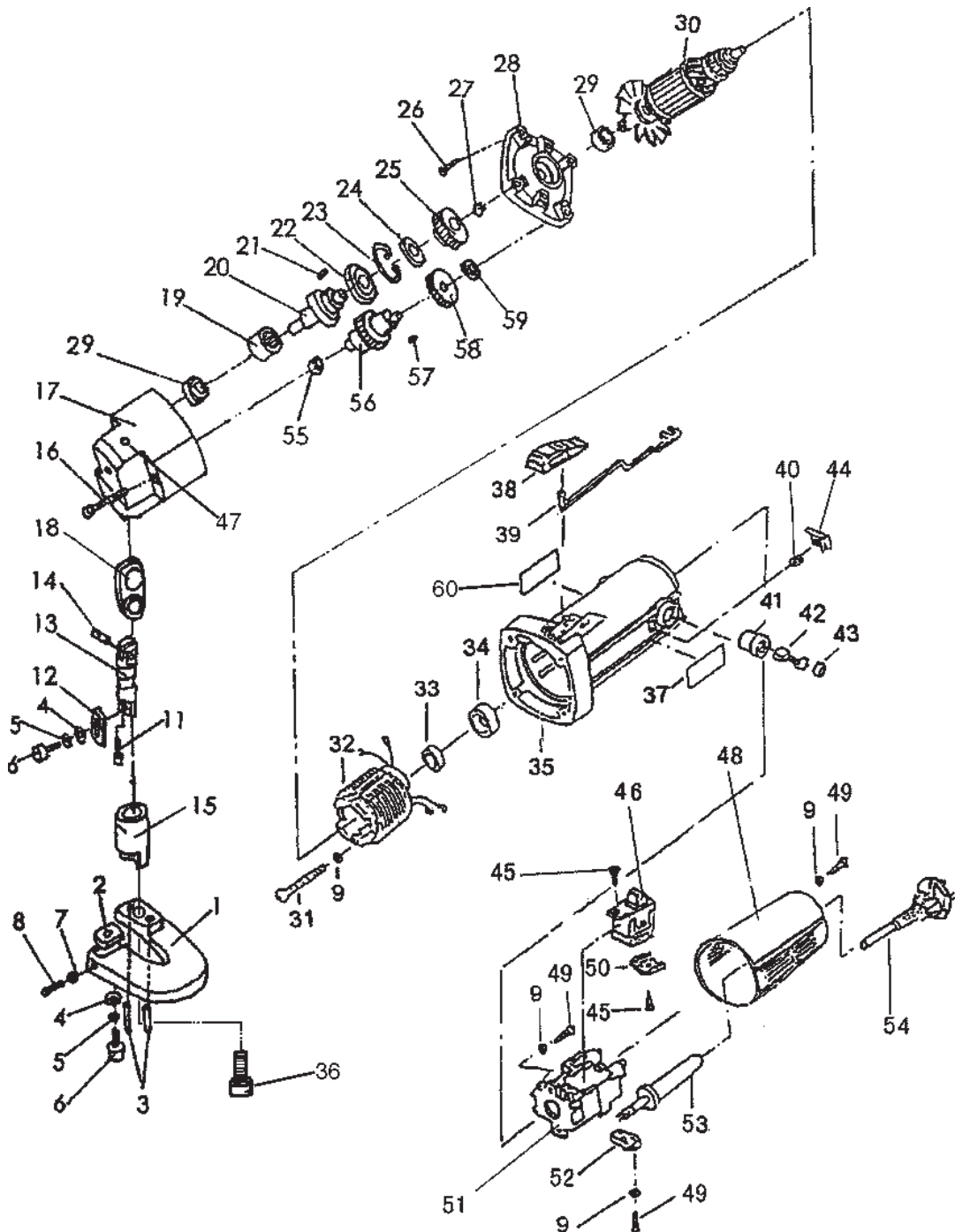
**Caution:** During use, do not obstruct the motor vents in the Cover (48). Obstruction may cause the motor to overheat during use, possibly damaging the tool.

## Parts List

Part	Description	Q'ty	Part	Description	Q'ty
1	Tool Rest	1	31	Socket Head Screw m4 X 58	2
2	Lower Shear Blade (Fixed)	1	32	Stator	1
3	Spring Pin m4 x 30	2	33	Ball Bearing 626-2RS	1
4	Plain Washer m6	2	34	Rubber Washer	1
5	Spring Washer m6	2	35	Housing	1
6	Socket Head Screw m6 x 12	2	36	Socket Head Screw m12 x 30	1
7	Lock Nut m5	1	37	Nameplate	1
8	Adjusting Flat Head Screw m5 x 16	1	38	Power Switch	1
9	Spring Washer m4	6	39	Drawbar	1
10	Plain Washer m4	4	40	Nut m4	2
11	Lock Screw m4 x 15	1	41	Brush Holder	2
12	Upper Shear Blade	1	42	Carbon Brush	2
13	Arbor	1	43	Brush Cap	2
14	Straight Pin m8 x 18	1	44	Support	2
15	Shaft Sleeve	1	45	Screw ST 3.9 x 9.5	2
16	Socket Head Screw m5 x 50	2	46	Switch	1
17	Gear Cover	1	47	Oil Port	1
18	Connecting Bar	1	48	Cover	1
19	Needle Bearing K121610	1	49	Screw ST3.9 x 16	6
20	Eccentric Shaft	1	50	Switch Cover	1
21	Straight Key 4 x 8	1	51	Switch Holder	1
22	Ball Bearing 6201-2Z	1	52	Strain Relief	1
23	Clip Ring	1	53	Cord Holder	1
24	Bearing	1	54	Power Cord	1
25	Gear	1	55	Needle Bearing HK071109	1
26	Self Threading Screw ST3.9 x 19	4	56	Stem Gear	1
27	Clip Ring	1	57	Straight Key	1
28	Intermediate Cover	1	58	Gear	1
29	Ball Bearing 628-2Z	2	59	Ball Bearing 607-2Z	1
30	Armature	1	60	Description Plate	1

**NOTE:** Some parts are listed and shown for illustration purposes only and are not available individually as replacement parts.

# Assembly Drawing



**PLEASE READ THE FOLLOWING CAREFULLY**

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER NOR 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.



**CHICAGO**  
**Electric<sup>®</sup>Power Tools**

**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 ninety 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, 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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