

CHICAGO

Electric[®] Power Tools

1/2" ELECTRIC IMPACT WRENCH WITH CASE

Model 45252

SET UP AND OPERATING INSTRUCTIONS



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



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

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

Revised Manual 09I

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.

IMPORTANT SAFETY INFORMATION

In this manual, on the labeling, and all other information provided with this product:



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

DANGER indicates a hazardous

situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a

hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION, used with the safety

alert symbol, indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

CAUTION

CAUTION, without the safety alert symbol, is used to address practices not related to personal injury.

General Power Tool Safety Warnings



WARNING Read all safety warnings and instructions.

Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

1. **Work area safety**
 - a. **Keep work area clean and well lit.**
Cluttered or dark areas invite accidents.
 - b. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** *Power tools create sparks which may ignite the dust or fumes.*
 - c. **Keep children and bystanders away while operating a power tool.**
Distractions can cause you to lose control.
2. **Electrical safety**
 - a. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter**

plugs with grounded power tools. *Unmodified plugs and matching outlets will reduce risk of electric shock.*

- b. **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.*
 - c. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
 - d. **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts.** *Damaged or entangled cords increase the risk of electric shock.*
 - e. **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** *Use of a cord suitable for outdoor use reduces the risk of electric shock.*
 - f. **If operating a power tool in a damp location is unavoidable, use a Ground Fault Circuit Interrupter (GFCI) protected supply.** *Use of a GFCI reduces the risk of electric shock.*
3. **Personal safety**
- a. **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** *A moment of inattention while operating power tools may result in serious personal injury.*
 - b. **Use personal protective equipment. Always wear eye protection.**
- Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.*
- c. **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** *Carrying power tools with your finger on the switch or energizing power tools that have the switch on invites accidents.*
 - d. **Remove any adjusting key or wrench before turning the power tool on.** *A wrench or a key left attached to a rotating part of the power tool may result in personal injury.*
 - e. **Do not overreach. Keep proper footing and balance at all times.** *This enables better control of the power tool in unexpected situations.*
 - f. **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** *Loose clothes, jewelry or long hair can be caught in moving parts.*
 - g. **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** *Use of these devices can reduce dust-related hazards.*
 - h. **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-ap-*

proved for the specific hazards in the work area.

4. **Power tool use and care**

- a. **Do not force the power tool. Use the correct power tool for your application.** *The correct power tool will do the job better and safer at the rate for which it was designed.*
- b. **Do not use the power tool if the switch does not turn it on and off.** *Any power tool that cannot be controlled with the switch is dangerous and must be repaired.*
- c. **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** *Such preventive safety measures reduce the risk of starting the power tool accidentally.*
- d. **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e. **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** *Many accidents are caused by poorly maintained power tools.*
- f. **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.

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

5. **Service**

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

Impact Wrench Safety Warnings

- 1. Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
- 2. Avoid unintentional starting. Prepare to begin work before turning on the tool.
- 3. 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.
- 4. When using a handheld power tool, maintain a firm grip on the tool with both hands to resist starting torque.
- 5. 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.
- 6. This product is not a toy. Keep it out of reach of children.

7. 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 power switch locked on.
 - Properly maintain and inspect to avoid electrical shock.
 - Any power cord must be properly grounded. Ground Fault Circuit Interrupter (GFCI) should also be implemented – it prevents sustained electrical shock.
 8. **WARNING:** Handling the cord on this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. Wash hands after handling. (California Health & Safety Code § 25249.5, et seq.)
 9. 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.
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 between different processes.
 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.

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:



SAVE THESE INSTRUCTIONS.

GROUNDING

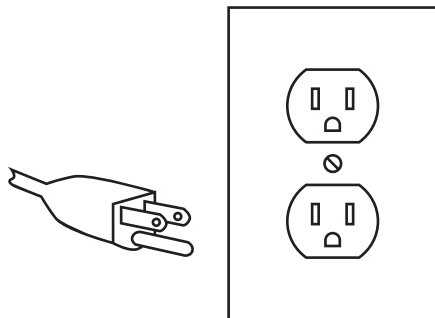
⚠️ WARNING TO PREVENT ELECTRIC SHOCK



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



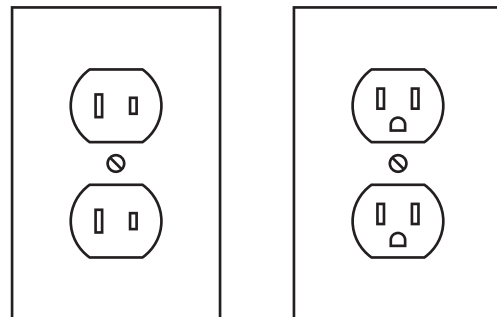
3-Prong Plug and Outlet

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. (See **Outlets for 2-Prong Plug.**)

- 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

- Grounded** tools require a three wire extension cord. **Double Insulated** tools can use either a two or three wire extension cord.
- 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.)**
- 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.)**
- 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.)**
- 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.)**
- 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.
- Make sure the extension cord is properly wired and in good electrical con-






dition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.

- Protect the extension cords from sharp objects, excessive heat, and damp or wet areas.

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	-	-	-

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

Symbology

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

SPECIFICATIONS

Motor	120 V~, 60 Hz, 7 A; 2100 RPM
Power	2400 BPM: 240 ft-lb Torque
Drive	1/2"



UNPACKING

When unpacking, check to make sure the impact wrench is intact and in working order. If anything is missing or broken, please call Harbor Freight Tools at the number on the cover of this manual.

OPERATING PROCEDURES

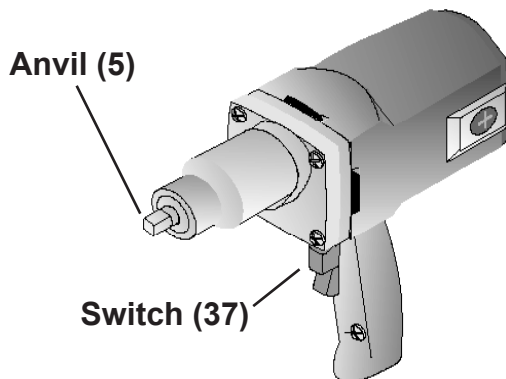


Figure 1 — Operation

1. Only use sockets designed for impact wrench use.
2. Do not use sockets with drives smaller than 1/2". You may use impact socket adapters to use impact sockets with drives greater than 1/2".
3. Only use socket extensions designed for impact use.
4. Pressing the top of the Switch (37) up will cause the Anvil (5) to move in a counterclockwise direction. This will commonly loosen the fastener.

5. Pressing the bottom of the Rocker Switch down will cause the Anvil to move in a clockwise direction. This will commonly tighten the fastener.

"Breaking Loose" Fasteners

Note: This procedure is used when a fastener becomes "frozen", typically due to corrosion. This procedure assumes that the threads are standard (clockwise to tighten, counter clockwise to loosen). If the threads are reversed, you must reverse the switch directions contained herein.

1. Spray silicon or another appropriate lubricant on the fastener and allow it to sit for 15-30 minutes.
2. Rapidly press the Switch (37) up and then down. This will cause the Anvil (5) change direction rapidly and loosen the bolt.

MAINTENANCE

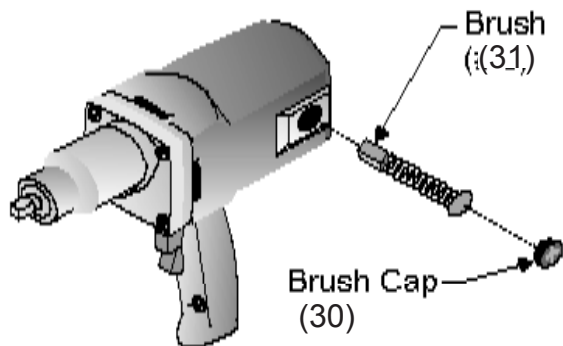


Figure 2 — Brush Replacement

Brushes

Note: Both Brushes (31) must be replaced at the same time.

1. The Brushes must be changed when less than 3/8" remains or when performance noticeably degrades.
2. Remove the Brush Cap (30) using a large, flat-head screwdriver.
3. Remove the Brush and replace.
4. Replace the Brush Cap.

Lubrication

Note: The following procedures should only be attempted by a qualified technician. The instructions are only

provided for their reference. Refer to the Parts Diagram for numbered call-outs.

1. The gears must be lubricated after every 30 hours of continuous use or 50 hours of intermittent use.
2. Open the Gear Case (1) by removing the four Screws (2).
3. Liberally apply a high temperature grease (standard automotive wheel grease is sufficient) to the Thrust Washer (4), the back of the Anvil (5), Impactor (6), Spring (#8), and Gears (11 & 24).
4. Replace the Anvil and Gear Case.

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.

PARTS LIST

Part	Description	Q'ty	Part	Description	Q'ty
1	Gear Case	1	22	Spindle	1
2	Screw	4	23	Needle Bearing	2
3	Bearing and Seal	1	24	Gear and Pinion	1
4	Thrust Washer	1	25	Fan Baffle	1
5	Anvil Assembly	1	26	Screw	1
6	Impactor	1	27	Field	1
7	Seal Ball	23	28	Rubber Clip	1
8	Spring	1	29	Type Plate	1
9	Steel Ball	2	30	Brush Cap	2
10	Drive Spindle	1	31	Brush Assembly	2
11	Gear	1	32	Brush Holder	2
12	Washer	3	33	Field Case	1
13	Impact Washer	1	34	Rating Plate	1
14	Bearing	1	35	Screw	2
15	Gasket	1	36	Handle Cover	1
16	Gear Case Cover	1	37	Switch	1
17	O-ring	1	38	Screw	2
18	Ball Bearing	1	39	Cord Clamp	1
19	Bearing Retainer	1	40	Switch Support	1
20	Armature	1	41	Cord Sheath	1
21	Ball Bearing	1	42	Cord	1

Notes:

Part #1 includes Part #3.

Part #4: When assembling, make sure bevel side is towards the ears of the anvil.

Part #10 includes the following parts: 6, 7, 8, 9, and 11.

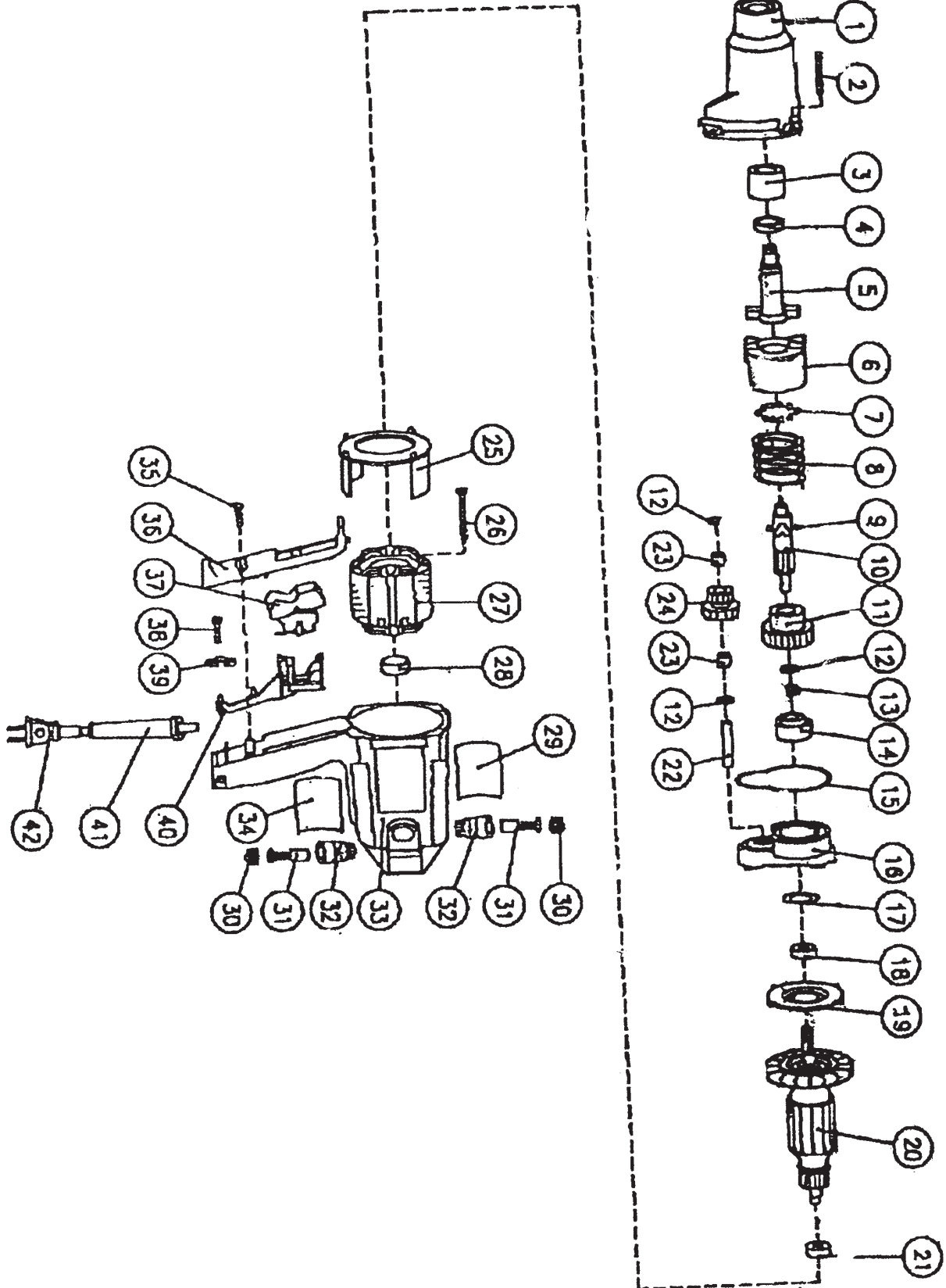
Part #16 includes the following parts: 14, 17, and 22.

Part #20 includes the following parts: 18, 19, and 21.

Part #24 includes Part #23.

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

PARTS 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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