

# CHICAGO

## Electric<sup>®</sup> Power Tools

# 1" SDS ROTARY HAMMER

**Model 47606**

## SET UP AND OPERATING INSTRUCTIONS



Diagrams within this manual may not be drawn proportionally.

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

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3491 Mission Oaks Blvd., Camarillo, CA 93011

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**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 07c, 07j

## Specifications

|   |                                  |
|---|----------------------------------|
| Chuck Capacity  | 1 Inch                           |
| Power   | 120 V, 60 Hz, 1.13 HP, 850 Watts |
| Amperage  | 6.8 Peak Amps, 4.6 Working Amps  |
| RPM   | 900                              |
| Blows per minute  | 3,200                            |
| Accessories: Break Point (Bull) Bit, Flat Head Chisel, Depth Rod, Lubricant, Masonry Drill Bits (10mm, 9/16", 7/8"), Extra Brushes, Blowmold Case |                                  |

## Save This Manual

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

## Safety Warnings and Precautions

**WARNING: When using tool, basic safety precautions should always be followed to reduce the risk of personal injury and damage to equipment.**

**Read all instructions before using this tool!**

1. **Keep work area clean.** Cluttered areas invite injuries.
2. **Observe work area conditions.** Do not use machines or power tools in damp or wet locations. Don't expose to rain. Keep work area well lighted. Do not use electrically powered tools in the presence of flammable gases or liquids.
3. **Keep children away.** Children must never be allowed in the work area. Do not let them handle machines, tools, or extension cords.
4. **Store idle equipment.** When not in use, tools must be stored in a dry location to inhibit rust. Always lock up tools and keep out of reach of children.
5. **Use the right tool for the job.** Do not attempt to force a small tool or attachment to do the work of a larger industrial tool. There are certain applications for which this tool was designed. It will do the job better and more safely at the rate for which it was intended. Do not modify this tool and do not use this tool for a purpose for which it was not intended.
6. **Dress properly.** Do not wear loose clothing or jewelry as they can be caught in moving parts. Protective, electrically nonconductive clothes and nonskid footwear are recommended when working. Wear restrictive hair covering to contain long hair.
7. **Use eye, face and ear protection.** Always wear ANSI approved impact safety goggles. Wear a full face shield if you are producing metal filings or wood chips. Wear an ANSI approved dust mask or respirator when working around metal, wood, and chemical dusts and mists.
8. **Do not overreach.** Keep proper footing and balance at all times. Do not reach over or across running machines.
9. **Maintain tools with care.** Keep tools sharp and clean for better and safer performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and, if

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damaged, have them repaired by an authorized technician. The handles must be kept clean, dry, and free from oil and grease at all times.

10. **Disconnect power.** Unplug tool when not in use.
11. **Remove adjusting keys and wrenches.** Check that keys and adjusting wrenches are removed from the tool or machine work surface before plugging it in.
12. **Avoid unintentional starting.** Be sure the switch is in the Off position when not in use and before plugging in. Do not carry any tool with your finger on the switch, whether it is plugged in or not.
13. **The Rotary Hammer must be switched off and unplugged before changing the Knob setting.** Attempting to change the Knob setting while the motor is engaged will result in abrupt bit rotation and can cause serious personal injury and/or property damage.
14. **Stay alert.** Watch what you are doing, use common sense. Do not operate any tool when you are tired.
15. **Take caution as some woods contain preservatives such as copper chromium arsenate (CCA) which can be toxic.** When drilling or chiseling these materials extra care should be taken to avoid inhalation and minimize skin contact.
16. **Check for damaged parts.** Before using any tool, any part that appears damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment and binding of moving parts; any broken parts or mounting fixtures; and any other condition that may affect proper operation. Any part that is damaged should be properly repaired or replaced by a qualified technician. Do not use the tool if any switch does not turn On and Off properly.
17. **Guard against electric shock.** Prevent body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerator enclosures.
18. **Replacement parts and accessories.** When servicing, use only identical replacement parts. Use of any other parts will void the warranty. Only use accessories intended for use with this tool. Approved accessories are available from Harbor Freight Tools.
19. **Do not operate tool if under the influence of alcohol or drugs.** Read warning labels on prescriptions to determine if your judgment or reflexes are impaired while taking drugs. If there is any doubt, do not operate the tool.
20. **Use proper size and type extension cord.** If an extension cord is required, it must be of the proper size and type to supply the correct current to the tool without heating up. Otherwise, the extension cord could melt and catch fire, or cause electrical damage to the tool. This tool requires use of an extension cord of **0 to 10 amps** capability (up to 50 feet), with wire size rated at **18 AWG**. Longer extension cords require larger size wire. If you are using the tool outdoors, use an extension cord rated for outdoor use (signified by "WA" on the jacket).
21. **Maintenance.** For your safety, maintenance should be performed regularly by a qualified technician.
22. **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contain chemicals known [to the State of California] to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

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

Your 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 those dust masks that are specially designed to filter out microscopic particles. (California Health & Safety Code § 25249.5, *et seq.*)

23. The warnings, cautions, 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.

**Note** Performance of this tool (if powered by line voltage) may vary depending on variations in local line voltage. Extension cord usage may also affect tool performance.

## Unpacking

When unpacking, check to make sure the parts listed on page 8 are included. If any parts are missing or broken, please call Harbor Freight Tools at the number on the cover of this manual as soon as possible.

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## VIBRATION HAZARD

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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 medical or physical 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. To reduce vibration, maintain the tool as explained in this manual. If any abnormal vibration occurs, stop use immediately.

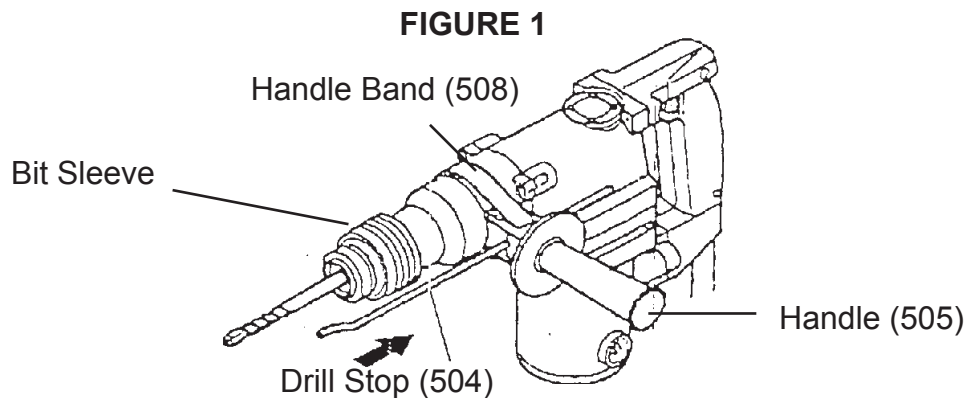
## Assembly

Refer to Figure 1.

1. Fit the **Handle Band (508)** over the front of the housing above the Bit Sleeve and screw the **Handle (506)** clockwise to secure. At this point do not fully tighten.
2. Rotate the **Handle (506)** around the tool until it rests on a flat spot on the housing, on the side you prefer.

**Note:** The **Drill Stop (504)** is used as a guide when doing repetitive drilling (not chiseling) at the same depth.

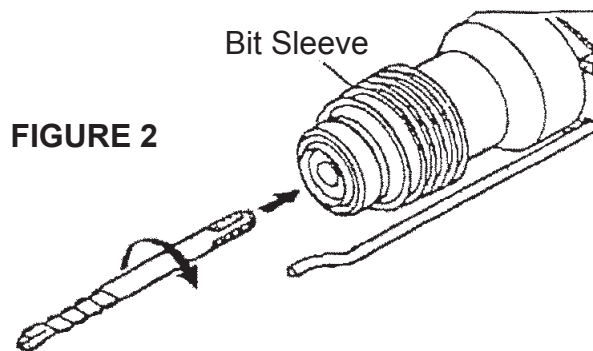
3. With the **Handle (505)** still loose, insert the **Drill Stop (504)** into the hole at the Handle base. Fully tighten the **Handle (505)** clockwise. If you wish to reposition the **Handle (505)** or the **Drill Stop (504)**, loosen the **Handle (505)** by turning it counterclockwise.



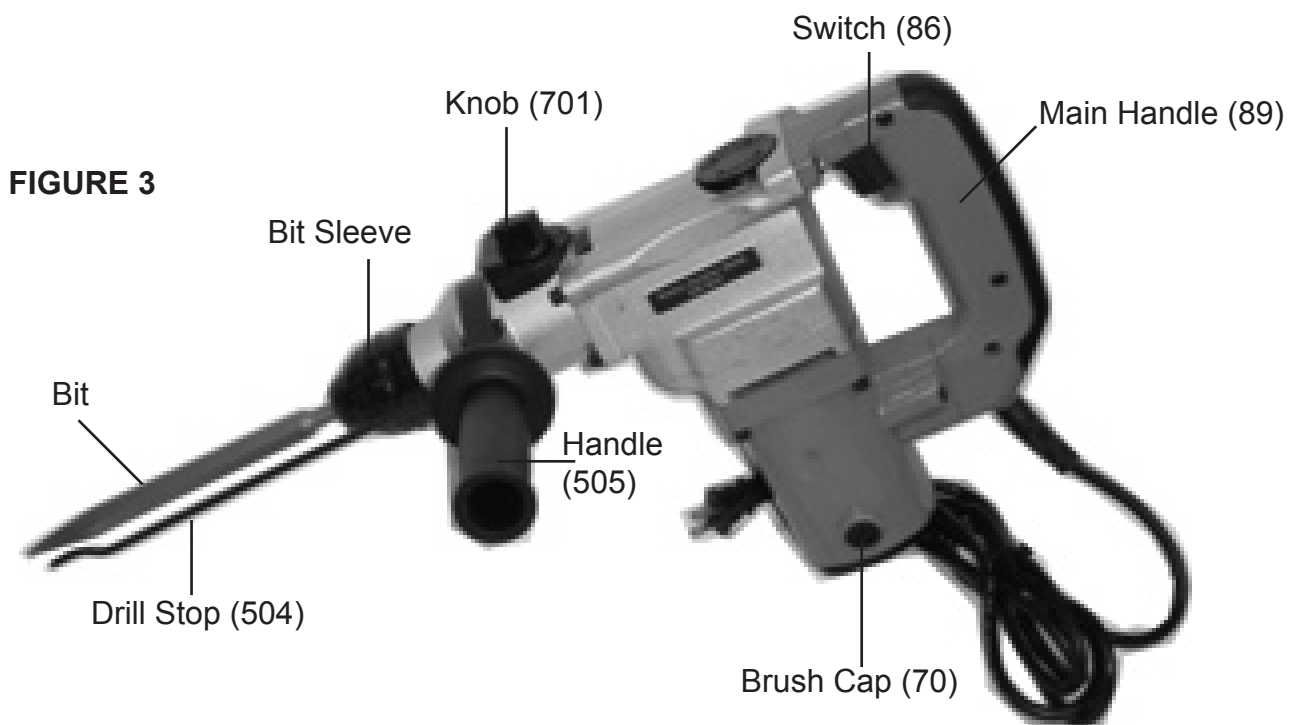
### Inserting and removing bits.

1. Make sure the Rotary Hammer is not plugged in.
2. To insert a bit, pull back and retract the Bit Sleeve (see FIGURE 2) and insert the bit. Slide the two notches on the bit into the notched receptacle and then release the Bit Sleeve. Put on gloves and then tug on the bit forcefully, making sure it is in the Bit Sleeve firmly.
3. When removing a bit, make sure the bit has had a chance to cool. Wear gloves and grip the bit with one hand, and pull back on the Bit Sleeve, retracting it away from the bit. Pull out the bit.

**Note** For safe, optimal performance, keeps bits and chisels properly sharpened. Never use a dull, cracked, or chipped bit.



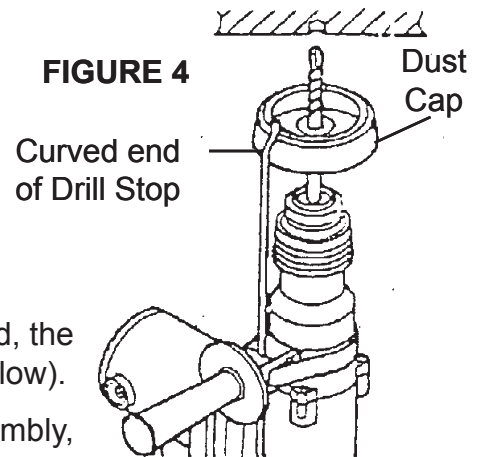
**Note:** Break Point (Bull) Bits and cold chisels are to be used when the Selector Switch is in the hammering position only. Using these bits/chisels with the Selector Switch in the hammer/drill position will result in unexpected tool performance.



## Operation

**Note:** Make sure unit is not plugged in.

**Note:** If you wish, you may attach a **Dust Cap** for overhead drilling applications. To do so, after you install a bit, before you tighten the Bit Sleeve, slide the **Dust Cap** over the bit and adjust the **Drill Stop** so that the curve on the end of the **Drill Stop** secures the **Dust Cap**. Tighten the Handle. See FIGURE 4.



**Note:** Do not plug in the Rotary Hammer until the bit is loaded, the Drill Stop is set, and the Knob selection is complete ( See Below).

1. Following the method on page 4, number 3, under assembly, adjust the **Drill Stop** to the desired length.

**Note:** The **Drill Stop** will only work when the **Handle** is on either side or the top of the Rotary Hammer. The body of the Hammer will interfere with the **Drill Stop** if the **Handle** is positioned on the bottom of the Hammer.

**Warning:** When setting the Knob, the Rotary Hammer must be switched off and be unplugged. Attempting to change the Knob setting while the motor is engaged will result in abrupt bit rotation and can cause serious personal injury and/or property damage. See setting the Knob below.

2. Set the **Knob** to either hammer/drill or hammer. See FIGURE 3 on page 5.  
**Hammer Setting:** To hammer, turn the **Knob** so the “T” setting is lined up with the mark on the housing.  
**Hammer/Drilling:** To hammer/drill, set the **Knob** so the “IT” setting is lined up with the mark on the housing.

**Note:** When setting the Knob make sure it positively clicks into the desired position. If Knob does not click into place, it could slip out of position resulting in unexpected tool performance.

3. Install the desired bit or chisel. Only when hammer/drilling use the **Drill Stop**.
4. If hammer/drilling, make sure the **Drill Stop** and **Dust Cap**, if needed, are installed properly.
5. The **Handle** should be rotated to the proper position for the application.
6. While keeping you finger off of the **Switch**, plug in the unit.
7. When you are ready to begin, make sure you have a firm grip on both the **Main Handle** and the **Handle**. Always operate the Rotary Hammer with both hands, holding it securely. The Rotary Hammer puts out extreme torque and will kick back and act with great force.
8. Turn on the **Switch** and allow the Rotary Hammer to run without a load for approximately one minute as the unit self-lubricates. Release the **Switch**, stopping the Hammer. Position the chisel or bit on the workpiece and start the Hammer again.
9. After using the Rotary Hammer, release the **Switch** to turn off the unit.

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

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## Troubleshooting and Maintenance

**Note:** Other than changing or cleaning the carbon brushes, all internal repairs should be done by a qualified service technician.

| Problem   | Cause  | Action   |
|---|--|--|
| Motor doesn't rotate when switched on.                | <ol style="list-style-type: none"> <li>1. Disrupted power</li> <li>2. Poor switch contact</li> <li>3. Armature or field coil burnt</li> <li>4. Broken Stator Coil</li> <li>5. Worn carbon brushes</li> </ol> | <ol style="list-style-type: none"> <li>1. Check Power Supply</li> <li>2. Repair switch</li> <li>3. Change coil</li> <li>4. Replace Stator coil</li> <li>5. Replace carbon brushes</li> </ol> |
| Abnormal motor noise, rotates slowly, does not rotate | Overload due to excessive drilling depth or pressure   | Reduce drill depth or pressure/decrease force  |
| Partial short circuit                                 | Short circuit or open circuit armature   | Repair or change armature  |
| Low main voltage                                      | Main power voltage too low   | Adjust main power voltage  |
| Overheated gearbox                                    | <ol style="list-style-type: none"> <li>1. Overload, dull bit</li> <li>2. Damp coils</li> <li>3. Incorrect fitting</li> <li>4. Decrease in voltage</li> </ol>   | <ol style="list-style-type: none"> <li>1. Reduce load, sharpen or replace bit</li> <li>2. Dry coils</li> <li>3. Repair/change armature</li> <li>4. Adjust voltage</li> </ol>                 |
| Sparking  | <ol style="list-style-type: none"> <li>1. Short circuit or break at armature</li> <li>2. Surface of armature dirty or rough</li> </ol>   | <ol style="list-style-type: none"> <li>1. Repair armature</li> <li>2. Clean armature</li> </ol>  |

**Note:** Rotary Hammer must be unplugged before performing service and maintenance.

### **General maintenance:**

1. Clean the work surface with a dry brush or clean cloth. Keep moving parts lightly greased. Always keep motor and vent areas free of dust and debris.
2. Grease the tool after 50 working hours, or more frequently with increased use.
3. Remove drill bits or chisels for storage.

### **Changing Carbon Brushes:**

1. Using a screwdriver, remove the **Brush Cap (70)**. See FIGURE 3 on page 5.
2. Be careful, the **Brush Holder (68)** may spring out. If it does not spring out easily, gently use the tip of the screwdriver to remove it. Examine the **Brush (69)**; the surface should be smooth and clean. If scratch marks appear, or it is broken, replace immediately with an approved replacement brush from Harbor Freight Tools.
3. If the **Brush (69)** isn't damaged, but only dirty, clean it off with a pencil eraser. Gently rub it until the dirt is removed. Remove the eraser dust from the **Brush (69)** when you are through cleaning it.
4. Gently reinstall the **Brush (69)** into the **Brush Holder (68)** and screw the **Brush Cap (70)** back on the unit and tighten.



## Parts List

| Part | Description          |
|------|----------------------|
| 1    | O-ring               |
| 2    | Steel Ball           |
| 3    | Cylinder             |
| 4    | Flat Pin             |
| 5    | Striker              |
| 6    | O-ring               |
| 706  | Spring               |
| 7    | Cone Gear            |
| 7D   | Steel Retaining Ring |
| 511  | Oil Bearing          |
| 8    | Piston               |
| 9    | Piston Pin           |
| 10   | Connecting Rod       |
| 11   | Needle Bearing       |
| 12   | O-ring               |
| 13   | O-ring               |
| 14   | Oil Seal Cap         |
| 16   | Nameplate            |
| 18   | Bolt                 |
| 19*  | Spring Washer        |
| 20   | Cylinder Case        |
| 21   | Cylinder Cap         |
| 22   | Oil Seal             |
| 23   | Washer               |
| 24   | Ball Bearing         |
| 25   | Urethane Ring        |
| 26   | Plastic Duct         |
| 27   | Front Cap            |
| 28   | O-ring               |
| 29   | Slider               |
| 30   | Steel Ball           |
| 31   | Guard Ring Sleeve    |
| 32   | O-ring               |
| 33   | O-ring               |
| 34   | Second Striker       |

| Part | Description      |
|------|------------------|
| 35   | Spring           |
| 36   | Label            |
| 37   | Small Cone Gear  |
| 38   | Oil Seal         |
| 39   | Bearing          |
| 40   | Washer           |
| 41   | Pull Board       |
| 42   | Clutch Washer    |
| 43   | Second Gear      |
| 44   | Dish Form Spring |
| 45   | Specialty Nut    |
| 46   | Bearing          |
| 47   | Crankcase        |
| 48   | Crankshaft       |
| 49   | Steel Ball       |
| 303  | Lifting Post     |
| 50   | Bearing          |
| 52   | Bearing Cap      |
| 53   | Spring Washer    |
| 54   | Bolt             |
| 55   | First Gear       |
| 56   | Needle Bearing   |
| 57*  | Gear Case        |
| 58*  | Bearing          |
| 60*  | Rotor            |
| 61*  | Tap Bolt         |
| 63   | Inductor         |
| 64*  | Down Lead Spring |
| 65*  | Bearing          |
| 66*  | Washer           |
| 67*  | Bolt             |
| 68*  | Brush Holder     |
| 69*  | Brush            |
| 70*  | Brush Cap        |
| 301  | Retainer Ring    |

| Part  | Description      |
|-------|------------------|
| 302   | Switch Handle    |
| 71*   | Air Baffle       |
| 72*   | Stator           |
| 74*   | Motor Casing     |
| 75*   | Bolt             |
| 76*   | Bottom Cap       |
| 77*   | Tap Bolt         |
| 78    | Tap Bolt         |
| 79    | Handle Cap       |
| 80    | Handle Buff      |
| 85    | Capacitor        |
| 86    | Switch           |
| 89    | Main Handle      |
| 90    | Washer           |
| 91    | Bolt             |
| 92    | Tap Bolt         |
| 93**  | Cable            |
| 97    | Cable Clamp      |
| 98**  | Cable Sheath     |
| 701   | Knob             |
| 702   | Spring           |
| 703   | Steel Ball       |
| 704   | Retainer Ring    |
| 705   | Knob Seat        |
| 501   | Dust Cap         |
| 503   | Packing Carton   |
| 504   | Drill Stop       |
| 505   | Handle           |
| 506   | Chuck Ring       |
| 507   | Handle Clip      |
| 508   | Handle Band      |
| 509   | Square Toes Bolt |
| 100*  | Motor Assembly   |
| 101** | Cable Assembly   |

Replacement parts with asterisk are not available individually. You must purchase either the #100 Motor Assembly or the #101 Cable Assembly.

\* #100 Motor only sold as a replacement assembly.

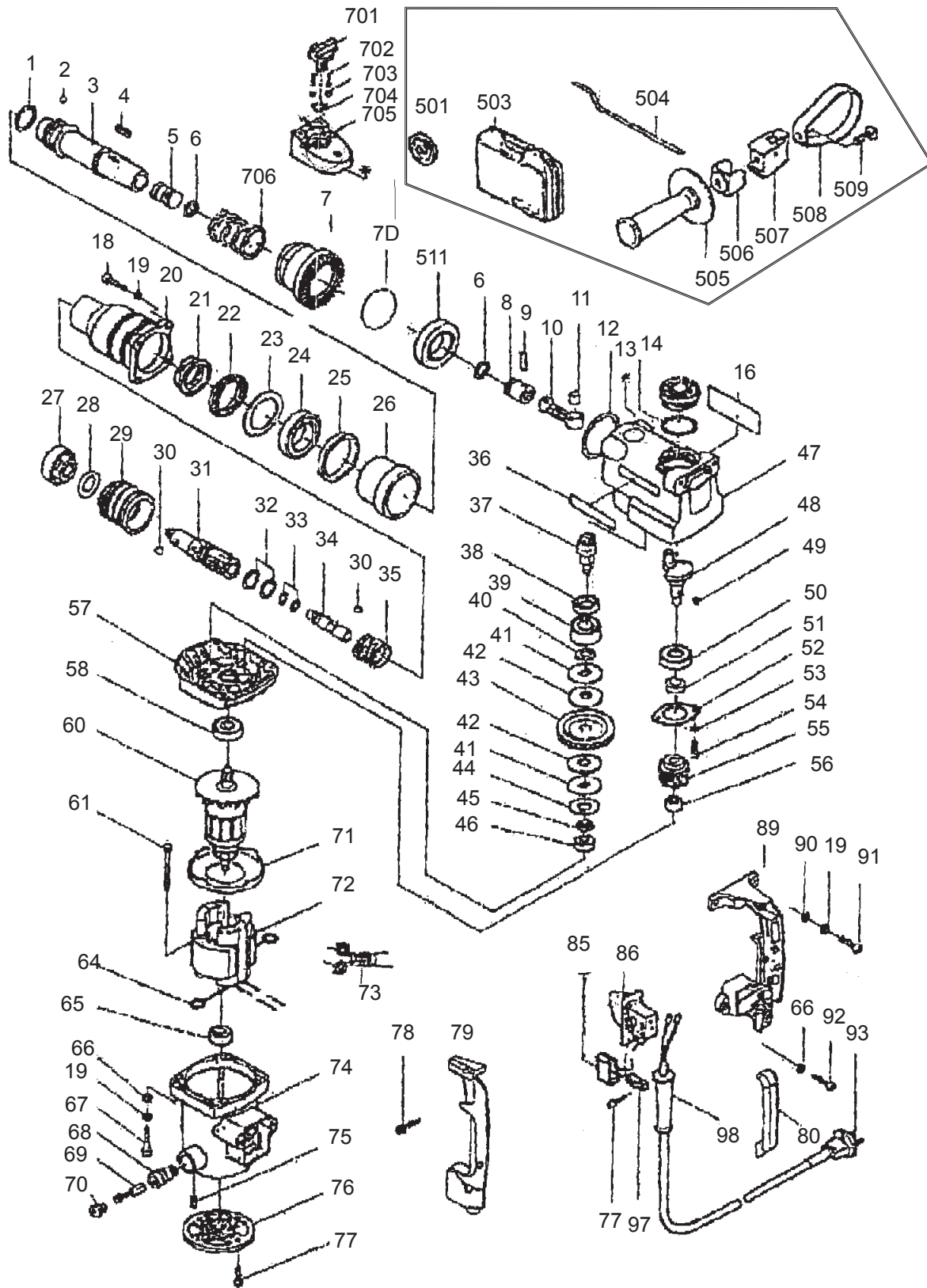
\*\* #101 Cable only sold as a replacement assembly.

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# 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.

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

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## LIMITED 90 DAY WARRANTY

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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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