

# drillmaster®

## BENCH TOP CUT-OFF SAW

**Model 42307**

### 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.**

Manual Revised 10g

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## SAVE THIS MANUAL

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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.

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## IMPORTANT SAFETY INFORMATION

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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.

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## General Tool Safety Warnings

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**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.

1. KEEP GUARDS IN PLACE and in working order.
2. REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
3. KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.
4. DON'T USE IN DANGEROUS ENVIRONMENT. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.
5. KEEP CHILDREN AWAY. All visitors should be kept safe distance from work area.
6. MAKE WORKSHOP KID PROOF with padlocks, master switches, or by removing starter keys.

7. **DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was designed.
8. **USE RIGHT TOOL.** Don't force tool or attachment to do a job for which it was not designed.

| <b>RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS (120 VOLT)</b> |                              |            |                    |             |
|--|------------------------------|------------|--------------------|-------------|
| <b>NAMEPLATE AMPERES (at full load)</b>                              | <b>EXTENSION CORD LENGTH</b> |            |                    |             |
|  | <b>25'</b>                   | <b>50'</b> | <b>100'</b>        | <b>150'</b> |
| 0 – 6  | 18                           | 16         | 16                 | 14          |
| 6.1 – 10   | 18                           | 16         | 14                 | 12          |
| 10.1 – 12  | 16                           | 16         | 14                 | 12          |
| 12.1 – 16  | 14                           | 12         | <b>Do not use.</b> |             |

**TABLE A**

9. **USE PROPER EXTENSION CORD.** Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating. Table A shows the correct size to use depending on cord length and nameplate ampere rating. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord.
10. **WEAR PROPER APPAREL.** Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry which may get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.
11. **ALWAYS USE SAFETY GLASSES.** Also use face or dust mask if cutting operation is dusty. Everyday eye-


- glasses only have impact resistant lenses, they are NOT safety glasses.
12. **SECURE WORK.** Use clamps or a vise to hold work when practical. It's safer than using your hand and it frees both hands to operate tool.
13. **DON'T OVERREACH.** Keep proper footing and balance at all times.
14. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
15. **DISCONNECT TOOLS** before servicing; when changing accessories, such as blades, bits, cutters, and the like.
16. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in off position before plugging in.
17. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
18. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the cutting tool is unintentionally contacted.
19. **CHECK DAMAGED PARTS.** Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function – check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard

or other part that is damaged should be properly repaired or replaced.

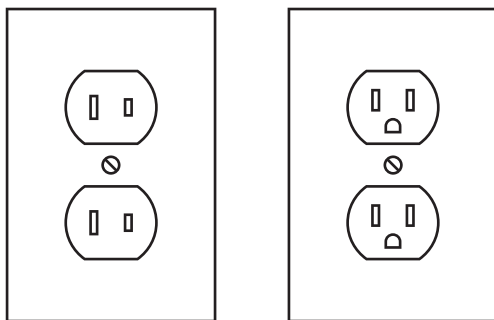
20. DIRECTION OF FEED. Feed work into a blade or cutter against the direction of rotation of the blade or cutter only.
21. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF. Don't leave tool until it comes to a complete stop.

## **GROUNDING INSTRUCTIONS**

**▲WARNING** TO PREVENT ELECTRIC SHOCK AND DEATH FROM INCORRECT GROUNDING WIRE CONNECTION READ AND FOLLOW THESE INSTRUCTIONS:



### **110-120 V~ Double Insulated Tools: Tools with Two Prong Plugs**



**Outlets for 2-Prong Plug**

1. To reduce the risk of electric shock, double insulated equipment has 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 the

proper outlet. Do not change the plug in any way.

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.)**

## **Miter Saw Safety Warnings**

### **For Your Own Safety Read Instruction Manual Before Operating Miter Saw**

1. Wear eye protection.
2. Keep hands out of path of saw blade.
3. Do not operate saw without guards in place.
4. Do not perform any operation free-hand.
5. Never reach around saw blade.
6. Turn off tool and wait for saw blade to stop before moving workpiece or changing settings.
7. Disconnect power before changing blade or servicing.
8. Return all guards to original position if any are moved during blade replacement. Check all guards for proper operation after service.
9. **DO NOT OPERATE WITH ANY GUARD DISABLED, DAMAGED, OR REMOVED. Moving guards must move freely and close instantly.**
10. The use of accessories or attachments not recommended by the manufacturer may result in a risk of injury to persons.
11. When servicing use only identical replacement parts.

12. 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.
13. Industrial applications must follow OSHA guidelines.
14. Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
15. Avoid unintentional starting. Prepare to begin work before turning on the tool.
16. 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.
17. **WARNING:** Some dust created by power sanding, sawing, grinding, drilling, and other construction activities, contains 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.*)
18. **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.*)
19. 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 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. 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.**

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## SPECIFICATIONS

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|               |                                 |
|---------------|---------------------------------|
| Arbor         | 3/8"                            |
| Blade         | 2" HSS                          |
| Power Source  | 120 V~, 60 Hz, .9 A             |
| Max. RPM      | 7800                            |
| Cutting Depth | 3/4"                            |
| Miter Gauge   | 0° - 45°                        |
| Base          | 5-1/2" L X 5" W                 |
| Overall       | 9" Length X 5-1/2" W X 6-3/4" H |

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## UNPACKING

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When unpacking, make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at 1-800-444-3353 as soon as possible.

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## ASSEMBLY

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Your Mini Cut-Off Saw will require some assembly. Information on installation is included below for your reference. For assistance with assembly please refer to the illustration in the operation section as well as the Assembly diagram and the Parts List near the end of this manual.

It is important that you read the entire manual to become familiar with the unit **BEFORE** you use it. Be sure that you have all parts described in the Parts List.

The Mini Cut-Off Saw can be mounted to your table or workbench with four (4) 1/8" Bolts (not included). Insert a Bolt through the hole in each corner and tighten it into place with a Nut (not included). The mounting surface must be flat, level and capable of supporting the weight of the Saw combined with the materials to be cut. The Saw can also be mounted by securing the top of the Clamp (24) into its slot (See Assembly Diagram) and tightening the bottom of the clamp to the desired work surface.

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## Installing the Cutting Blade

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1. With the tool OFF and Unplugged, slide the Blade Guard (21) up and off of the Saw.
2. Insert the HSS Saw Blade (18) onto the Arbor (16). Slide on the Washer (19) and then tighten on the Screw (20). Slide the Blade Guard (21) back on.

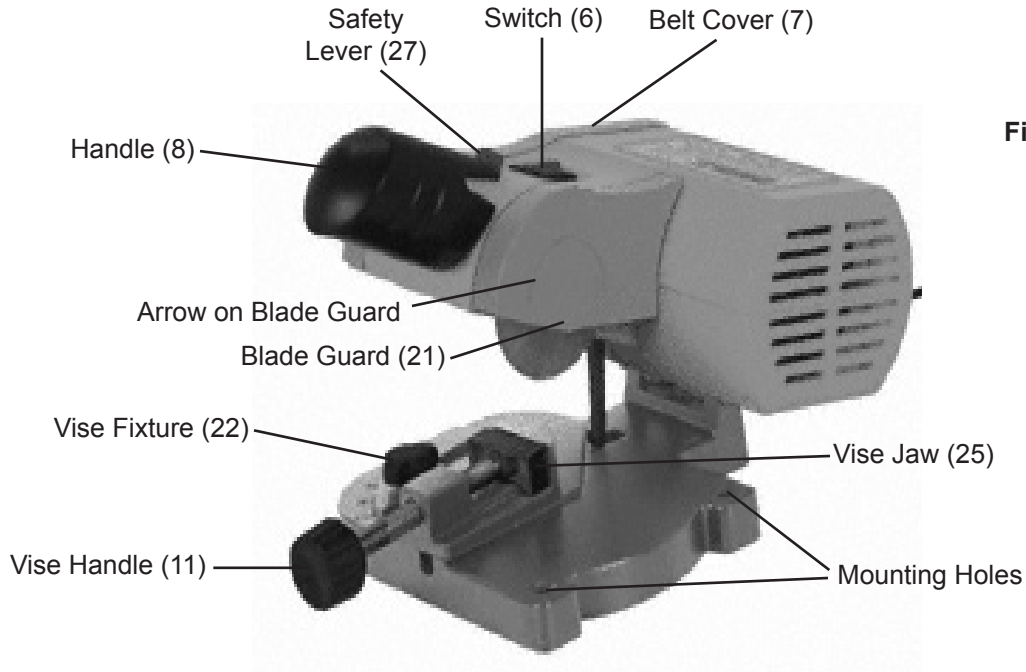
**WARNING!** Mount the blade so that its arrow matches the arrow on the Blade Guard (21).

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## Replacing the Timing Belt

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1. Slide the Belt Cover (7) up to remove it from the Saw. This will expose the Timing Belt (5) and the Driving Pulleys (12 and 4).
2. Slide the one end of the Timing Belt (5) over the Driving Pulley (4). Once this side is in place, slide the other end of the Timing Belt (5) over the Driving Pulley (12).
3. Make certain that the Timing Belt (5) is centered on both Driving Pulleys (12 & 4). Replace the Belt Cover (7) by sliding it back down into place.



**Figure 1**

## OPERATION

When operating your Mini Cut-Off Saw, it will be helpful to refer to Figure 1 as well as to the Parts List and Assembly Diagram near the end of this manual.

### Setting the Vise

1. The Miter Gauge on the Vise (9) can be set from 0°- 45°. Loosen the Vise Fixture (22) and slide the Gauge to the desired angle. Tighten the Vise Fixture into place.
2. The Vise Jaw (25) can be adjusted for the work piece with the Vise Handle (11). Turning the Vise Handle (11) clockwise will tighten the Vise Jaw(s) onto the workpiece. Turning the Vise Handle counterclockwise will loosen the Vise Jaw.

### Cutting

1. Place the material to be cut in the Vise (9) as described above.
2. The Mini Cut-Off Saw has a Safety Lever (27) which must be released to lower the Blade. Pushing down on the Safety Lever (27) will release the Safety Lever, allowing you to push down on the Handle (8) to begin cutting.
3. Turn the Saw "ON" by pressing down on the red Switch (6) on the side marked with **—**. To turn the Saw "Off", press down on the end of the Switch (6) marked **O**.
4. With the Saw at full speed, move it slowly forward to complete the cut.
5. When the cut is complete, pull up on the Handle (8). The Safety Lever (27) will engage. Turn the Saw "Off".
6. Store out of reach of children.



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## MAINTENANCE AND SERVICING

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

### **⚠️ WARNING**

#### **TO PREVENT SERIOUS INJURY**

##### **FROM ACCIDENTAL OPERATION:**

Turn the Power Switch of the tool to its “OFF” position and unplug the tool from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.

##### **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.

every work session remove sawdust from the motor vents. Prevent wood, dust and debris from accumulating in the working area. Keep the Saw Blade (18) clean and sharp. A sharp blade will minimize stalling and kick-back.

3. **⚠️ WARNING!** If the supply cord of this power tool is damaged, it must be replaced only by a qualified service technician.

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### **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, cracked or broken parts, damaged electrical wiring, and any other condition that may affect its safe operation.
2. **AFTER USE:** Remove all sawdust that has accumulated around the Blade Guard (21), the Motor (1) and the Motor Housing (36). Regularly clean the work surface with a vacuum cleaner or a dry brush. At the end of

## **PLEASE READ THE FOLLOWING CAREFULLY**

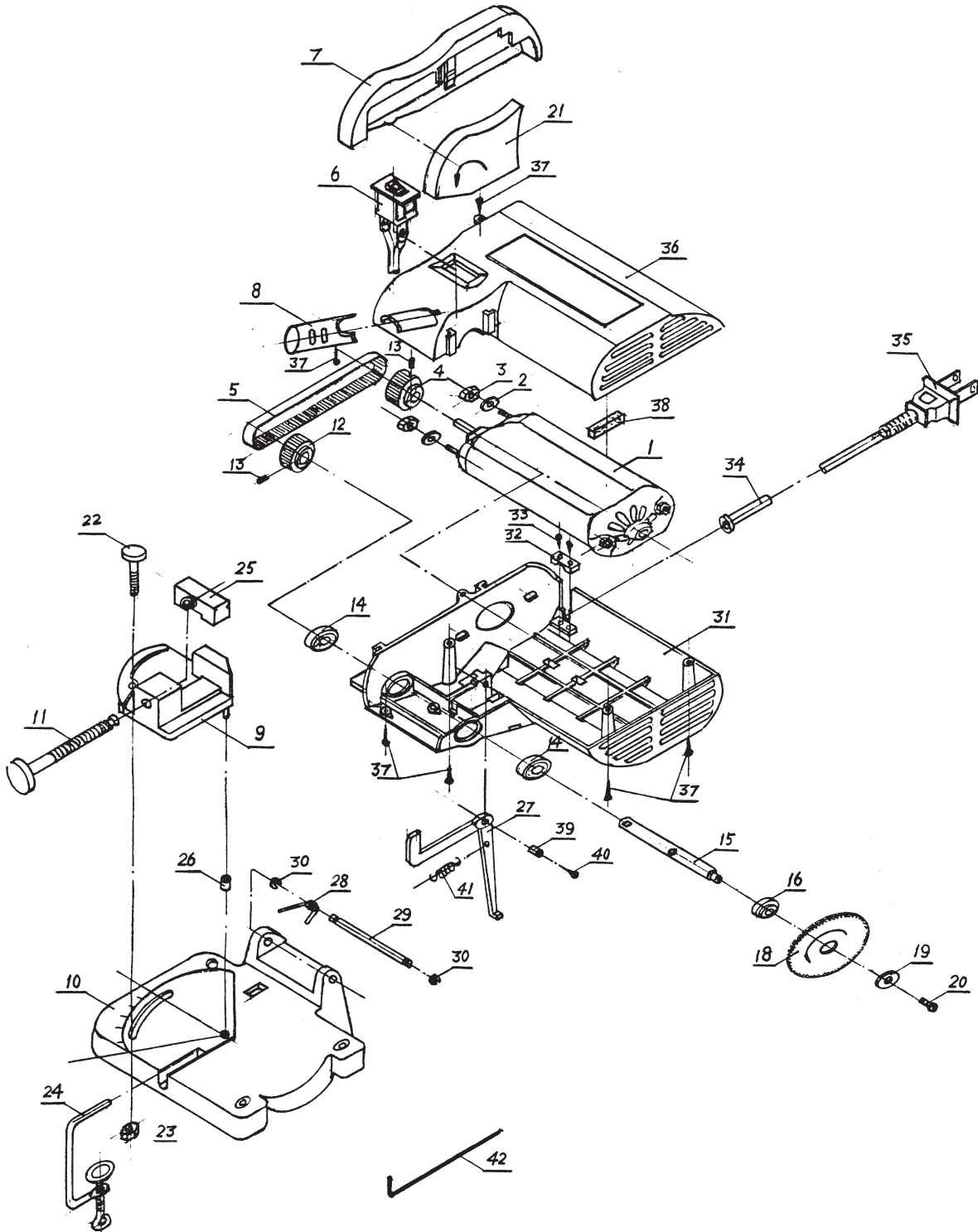
THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE 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**

| <b>Part</b> | <b>Description</b> | <b>Qty.</b> |
|-------------|--------------------|-------------|
| 1           | Motor              | 1           |
| 2           | Washer             | 4           |
| 3           | Locking Nut        | 2           |
| 4           | Driving Pulley     | 1           |
| 5           | Timing Belt        | 1           |
| 6           | Switch             | 1           |
| 7           | Belt Cover         | 1           |
| 8           | Handle             | 1           |
| 9           | Vise               | 1           |
| 10          | Base               | 1           |
| 11          | Vise Handle        | 1           |
| 12          | Driving Pulley     | 1           |
| 13          | Screw              | 1           |
| 14          | Bearing            | 1           |
| 15          | Spindle            | 1           |
| 16          | Arbor              | 1           |
| 18          | HSS Saw Blade      | 1           |
| 19          | Washer             | 1           |
| 20          | Screw              | 1           |
| 21          | Blade Guard        | 1           |
| 22          | Vise Fixture       | 1           |

| <b>Part</b> | <b>Description</b> | <b>Qty.</b> |
|-------------|--------------------|-------------|
| 23          | Nut                | 1           |
| 24          | Clamp              | 1           |
| 25          | Vise Jaw           | 1           |
| 26          | Spacer             | 1           |
| 27          | Safety Lever       | 1           |
| 28          | Spring             | 1           |
| 29          | Pin                | 1           |
| 30          | Ring               | 2           |
| 31          | Motor Housing A    | 1           |
| 32          | Cord Clamp         | 1           |
| 33          | Screw              | 2           |
| 34          | Cord Cover         | 1           |
| 35          | Cord with Plug     | 1           |
| 36          | Motor Housing B    | 1           |
| 37          | Screw              | 6           |
| 38          | Vibration Absorber | 1           |
| 39          | Busing             | 1           |
| 40          | Screw              | 1           |
| 41          | Spring             | 1           |
| 42          | Hex Wrench         | 1           |

# ASSEMBLY DIAGRAM



**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.

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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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