

CENTRAL MACHINERY®

BENCH GRINDER

Model 37822, 37823,
39797, 39798,

SET UP AND OPERATING INSTRUCTIONS

Distributed exclusively by Harbor Freight Tools®.

3491 Mission Oaks Blvd., Camarillo, CA 93011

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.**

Copyright© 1998 by Harbor Freight Tools®. All rights reserved. No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools. Diagrams within this manual may not be drawn proportionally. Due to continuing improvements, actual product may differ slightly from the product described herein. Tools required for assembly and service may not be included.

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

Manual Revised 09d

CONTENTS		INSTRUCTIONS FOR PUTTING INTO USE	
IMPORTANT SAFETY INFORMATION	3	ASSEMBLY.....	9
GENERAL TOOL SAFETY WARNINGS.....	3	OPERATING INSTRUCTIONS	11
GROUNDING INSTRUCTIONS	5	WORK PIECE AND WORK AREA SET UP	11
110-120 V~ GROUNDED TOOLS: TOOLS WITH THREE PRONG PLUGS.....	5	GENERAL OPERATING INSTRUCTIONS	11
GRINDER SAFETY WARNINGS.....	6	MAINTENANCE AND SERVICING	12
SPECIFICATIONS.....	8	CLEANING, MAINTENANCE, AND LUBRICATION	12
ALL MODELS.....	8	TROUBLESHOOTING.....	13
MODEL 37822	8	PARTS LIST	14
MODEL 37823	8	ASSEMBLY DIAGRAM.....	15
MODEL 39797	8	LIMITED 1 YEAR / 90 DAY WARRANTY	16
MODEL 39798	8		
UNPACKING	8		

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 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.

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.

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS (120 VOLT)				
NAMEPLATE AMPERES (at full load)	EXTENSION CORD LENGTH			
	25'	50'	100'	150'
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	Do not use.	
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, 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 grinding operation is dusty. Everyday eye-

glasses only have impact resistant lenses, they are NOT safety glasses.

12. **DON'T OVERREACH.** Keep proper footing and balance at all times.
13. **MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for best and safest performance. Follow instructions for lubricating and changing accessories.
14. **DISCONNECT TOOLS** before servicing; when changing accessories, such as blades, bits, cutters, and the like.
15. **REDUCE THE RISK OF UNINTENTIONAL STARTING.** Make sure switch is in off position before plugging in.
16. **USE RECOMMENDED ACCESSORIES.** Consult the owner's manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.
17. **NEVER STAND ON TOOL.** Serious injury could occur if the tool is tipped or if the grinding tool is unintentionally contacted.
18. **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.
19. **DIRECTION OF FEED.** Feed work into a blade or cutter against the

direction of rotation of the blade or cutter only.

20. NEVER LEAVE TOOL RUNNING UNATTENDED. TURN POWER OFF.

GROUNDING INSTRUCTIONS

⚠ WARNING

**TO PREVENT
ELECTRIC SHOCK**



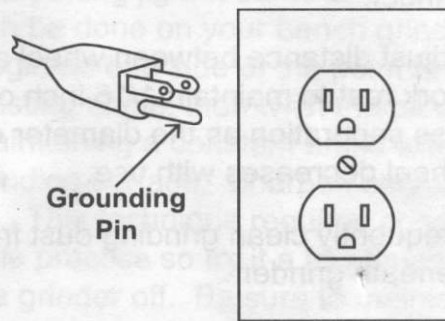
**AND DEATH FROM
INCORRECT GROUNDING
WIRE CONNECTION
READ AND FOLLOW THESE
INSTRUCTIONS:**

110-120 V~ Grounded Tools: Tools with Three Prong Plugs

1. In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.
2. Do not modify the plug provided – if it will not fit the outlet, have the proper outlet installed by a qualified electrician.
3. Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the

equipment-grounding conductor to a live terminal.

4. Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.
5. Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug.
6. Repair or replace damaged or worn cord immediately.



125 V~ 3-Prong Plug and Outlet
(for up to 125 V~ and up to 15 A)

7. This tool is intended for use on a circuit that has an outlet that looks like the one illustrated above in **125 V~ 3-Prong Plug and Outlet**. The tool has a grounding plug that looks like the plug illustrated above in **125 V~ 3-Prong Plug and Outlet**.
8. The outlet must be properly installed and grounded in accordance with all codes and ordinances.
9. Do not use an adapter to connect this tool to a different outlet.

Grinder Safety Warnings

For Your Own Safety Read Instruction Manual Before Operating Grinder

1. Wear eye protection.
2. Use grinding wheel suitable for speed of grinder.
3. Replace cracked wheel immediately.
4. Always use guards and eye shields.
5. Do not overtighten wheel nut.
6. Use only flanges furnished with the grinder.
7. Adjust distance between wheel and work rest to maintain 1/16 inch or less separation as the diameter of the wheel decreases with use.
8. Frequently clean grinding dust from beneath grinder.
9. Wear a full face shield over ANSI-approved safety goggles during use.
10. Do not grind with side of wheel unless wheel is specifically designed for that type of grinding.
11. **DO NOT OPERATE WITH ANY GUARD DISABLED, DAMAGED, OR REMOVED.**
12. The use of accessories or attachments not recommended by the manufacturer may result in a risk of injury to persons.
13. When servicing use only identical replacement parts.
14. 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.
15. Industrial applications must follow OSHA guidelines.
16. Maintain labels and nameplates on the tool. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
17. Avoid unintentional starting. Prepare to begin work before turning on the tool.
18. 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.
19. **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 lumberYour 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.*)

20. **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.*)
21. 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.**

SPECIFICATIONS

All Models



Motor No Load Speed	3450 RPM
Arbor Size	5/8" with 1/2" Adapter
Base Size	5" x 7"
Mounting Holes	2 x 3/8"
Work Light Bulb	40 W Household type

MODEL 37822

Electrical Input	120 V~ / 60 Hz / 1/2 HP
Wheel Size	6" x 3/4" x 1/2"
Work Light Bulb	40 W Household type

MODEL 37823

Electrical Input	120 V~ / 60 Hz / 3/4 HP
Wheel Size	8" x 3/4" x 5/8"
Work Light Bulb	40 W Household type

MODEL 39797

Electrical Input	120 V~ / 60 Hz / 1/2 HP
Wheel Size	6" x 3/4" x 1/2"

MODEL 39798

Electrical Input	120 V~ / 60 Hz / 3/4 HP
Wheel Size	8" x 3/4" x 5/8"

UNPACKING

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.

INSTRUCTIONS FOR PUTTING INTO USE



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

WARNING

**TO PREVENT
SERIOUS INJURY**

**FROM ACCIDENTAL
OPERATION:**

Turn the tool off and unplug it
before assembling or making
any adjustments to the tool.

Note: For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

Assembly

1. Installing Tool Rests -

- a. Turn the Grinder off and unplug it.

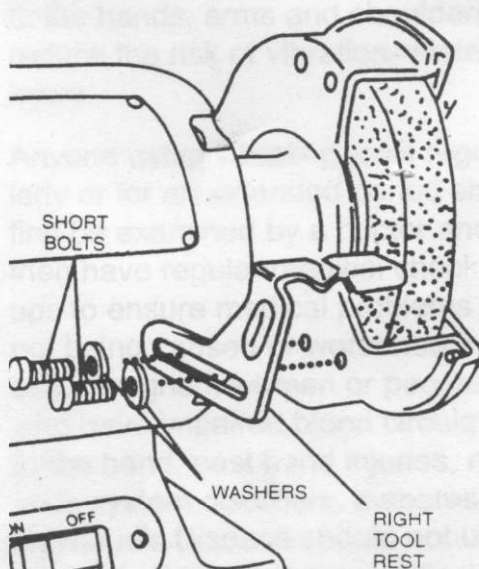


FIGURE 1

- b. Install adjustable rests (22 and 35) to the wheel guards (7 and 27) as

shown in Figure 1. Use bolts and washers to secure them in place as shown in Figure 1.

Note: There is a left and a right tool rest. Refer to Figure 1 to be certain that you install them correctly.

- c. The tool rests should be adjusted to within 1/16" of the grinding wheel. To adjust this distance, move Adjustable Rests (22 and 35) by loosening bolts and moving them to the proper position.

2. Installing Spark Guards -



FIGURE 2

- a. Select spark guards (17 and 18), washer and bolt. Install the right spark guard to the wheel guard as shown in Figure 2.
- b. Adjust the spark guard to within 1/16" of the grinding wheel. Repeat for left side.

Note: There is a left and right spark guard. Refer to Figure 2 to be certain that you install them correctly.

3. Installing Bracket to Eye Shield -

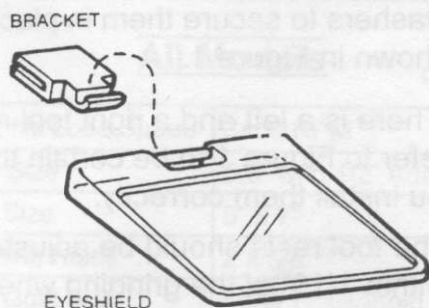
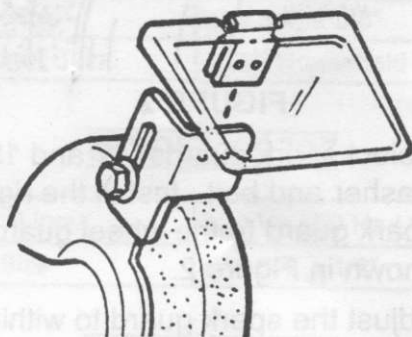


FIGURE 3

- a. Select one flat bracket and one eye shield. Assemble as shown in Figure 3.
- b. Repeat for left eye shield.

4. Installing Eye Shield to Grinder -

- a. For installation of the right eye shield (19), make sure that the holes in the eye shield bracket face downward.



- b. Push eye shield bracket onto mounting bracket until it locks into place as shown in Figure 4.
- c. Repeat for left eye shield.

OPERATING INSTRUCTIONS



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

Work Piece and Work Area Set Up

1. Designate a work area that is clean and well-lit. The work area must not allow access by children or pets to prevent distraction and injury.
2. Route the power cord along a safe route to reach the work area without creating a tripping hazard or exposing the power cord to possible damage.
3. There must not be objects, such as utility lines, nearby that will present a hazard while working.

General Operating Instructions



**TO PREVENT
SERIOUS INJURY:
DO NOT OPERATE WITH ANY
GUARD DISABLED,
DAMAGED, OR REMOVED.**

1. **Sharpening Scissors -**
If possible take the scissors apart to make the sharpening operation easier and safer. Remove material only from the outside surface and work from the heavy end of the blade toward the tip.
2. **Sharpening Screwdrivers -**
The end of a properly sharpened screwdriver will be a perfect rectangle, absolutely flat and perpendicular to the center line of the shank. The two sides and two faces will taper

outward from the edge of the shank of the screwdriver. They should be flat with intersecting faces perpendicular. Hold each face of the screwdriver against the wheel to true it up, then ease the end straight into the stone to grind it true.

3. **Sharpening Knives -**
Remove metal from both faces of most knives, working from the heavy end of the blade toward the tip.
4. **Sharpening Twist Drill Bits -**
Drill bits are best sharpened on a sharpening jig but some sharpening can be done on your bench grinder. Begin on one side of the point at the existing angle, then twist the bit while maintaining a constant angle with the grinding surface. Sharpen only the tip. This technique requires considerable practice so try it a few times with the grinder off. Be sure to maintain the original cutting edge angle as this is important to maintaining the efficiency of your bits.
5. To prevent accidents, turn off the tool and disconnect its power supply after use. Clean, then store the tool indoors out of children's reach.

MAINTENANCE AND SERVICING



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.

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**, wipe external surfaces of the tool with clean cloth.
3. **Care of Grinding Wheels -**
As a result of normal use, grinding wheels may become cracked,

grooved, rounded, chipped, out of true or loaded with foreign material. Cracked wheels should be replaced immediately.

4. **Wheel Replacement -**

If you must replace a wheel be sure to obtain one with a safe rated speed at least as high as the rated RPM of this grinder. Be sure tool is switched off and unplugged before attempting repairs.

5. **Bulb Replacement -**

Allow bulb to cool completely before replacing it. Replace it only with a 40 W or less household bulb.

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

Troubleshooting

Problem	Possible Causes	Likely Solutions
Tool will not start.	<ol style="list-style-type: none"> 1. Cord not connected. 2. No power at outlet. 3. Tool's thermal reset breaker tripped (if equipped). 4. Internal damage or wear. (Carbon brushes or switch, for example.) 	<ol style="list-style-type: none"> 1. Check that cord is plugged in. 2. Check power at outlet. If outlet is unpowered, turn off tool and check circuit breaker. If breaker is tripped, make sure circuit is right capacity for tool and circuit has no other loads. 3. Turn off tool and allow to cool. Press reset button on tool. 4. Have technician service tool.
Tool operates slowly.	Power being reduced by long or small diameter extension cord.	Eliminate use of extension cord. If an extension cord is needed, use one with the proper diameter for its length and load. See <i>Extension Cords</i> in <i>GROUNDING</i> section.
Performance decreases over time.	Carbon brushes worn or damaged.	Have qualified technician replace brushes.
Excessive noise or rattling.	Internal damage or wear. (Carbon brushes or bearings, for example.)	Have technician service tool.
Overheating.	<ol style="list-style-type: none"> 1. Forcing machine to work too fast. 2. Blocked motor housing vents. 3. Motor being strained by long or small diameter extension cord. 	<ol style="list-style-type: none"> 1. Allow machine to work at its own rate. 2. Wear ANSI-approved safety goggles and NIOSH-approved dust mask/respirator while blowing dust out of motor using compressed air. 3. Eliminate use of extension cord. If an extension cord is needed, use one with the proper diameter for its length and load. See <i>Extension Cords</i> in <i>GROUNDING</i> section.



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

PLEASE READ THE FOLLOWING CAREFULLY

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

PARTS LIST

Note: Specify grinder model number when ordering parts.

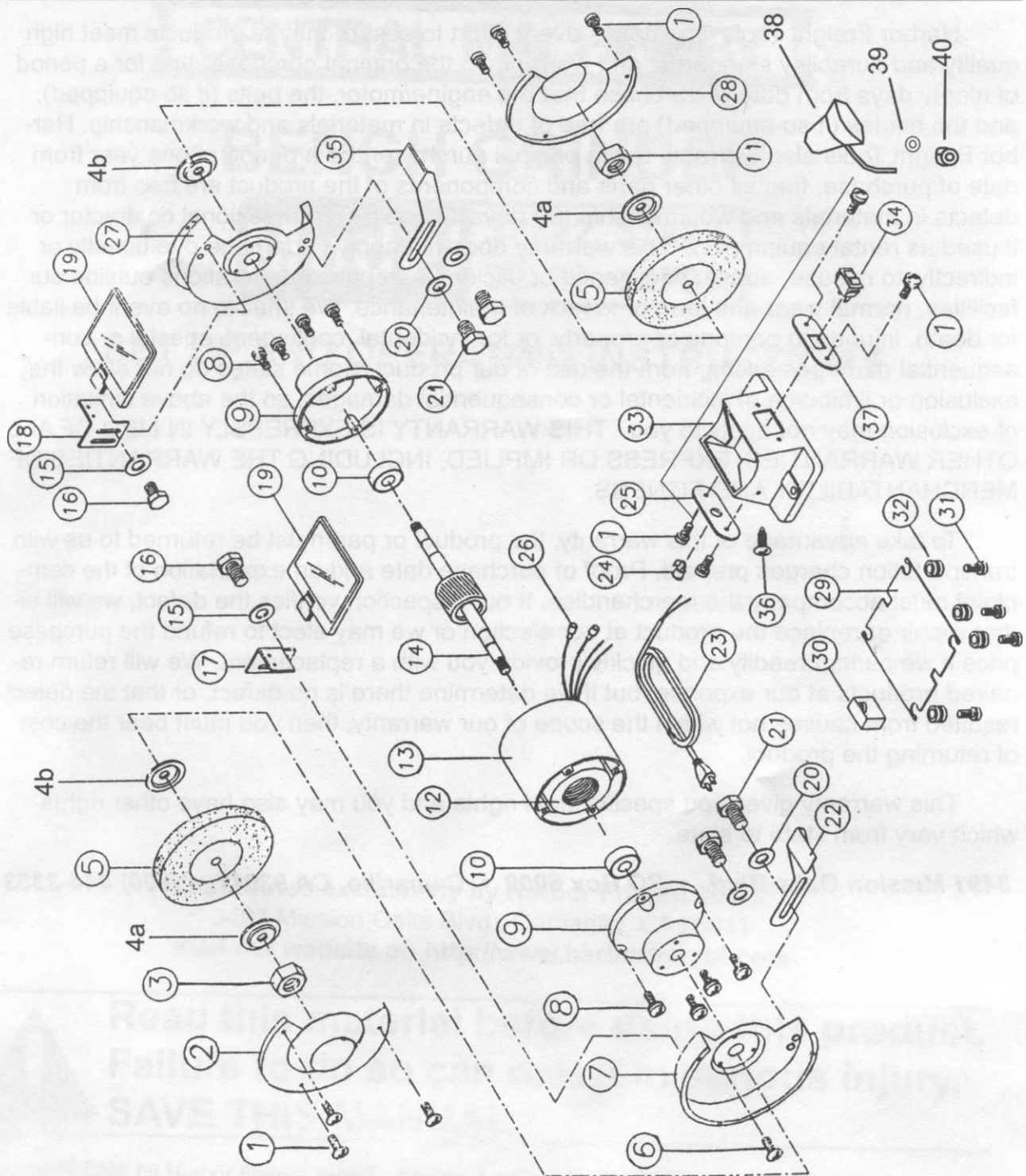
Part	Description
1	Screw
2	Left Cover
3	Nut
4a	Outer Flange
4b	Inner Flange
5*	Grinding Wheel
6	Screw
7	Left Wheel Guard
8	Screw
9	Motor End Bell
10	Ball Bearing
11	Nut
12	Motor Stator
13	Motor Case
14	Motor Rotor
15	Washer
16	Bolt
17	Left Spark Guard
18	Right Spark Guard
19	Eye Shield
20	Washer
21	Bolt

Part	Description
22	Left Adjustable Rest
23	Wire
24	Strain Relief
25	Plate
26	Terminals
27	Right Wheel Guard
28	Right Cover
29	Base Plate
30	Condenser
31	Screw
32	Pad
33	Base
34	Switch
35	Right Adjustable Rest
36	Screw
37	Mounting Plate
38**	Lamp
39**	Washer
40**	Nut

* Specify grit when ordering.

** Items 37822 or 37823 only.

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.

LIMITED 1 YEAR / 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 for a period of ninety days from date of purchase that the engine/motor, the belts (if so equipped), and the blades (if so equipped) are free of defects in materials and workmanship. Harbor Freight Tools also warrants to the original purchaser, for a period of one year from date of purchase, that all other parts and components of the product are free from defects in materials and workmanship (90 days if used by a professional contractor or if used as rental equipment). This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, 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.

3491 Mission Oaks Blvd. • PO Box 6009 • Camarillo, CA 93011 • (800) 444-3353