

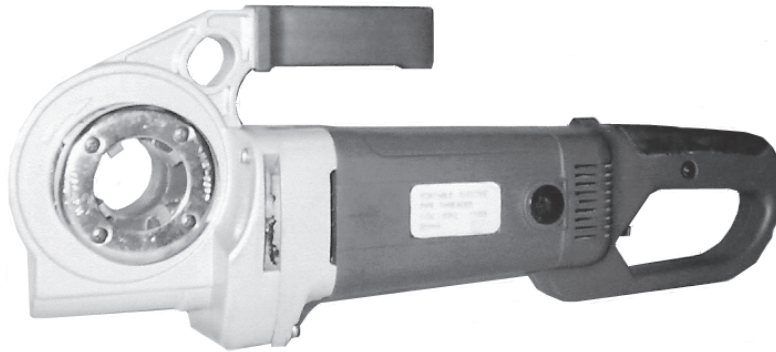
CENTRAL MACHINERY

®

ELECTRIC PORTABLE PIPE THREADER

Model 93880

ASSEMBLY AND OPERATING INSTRUCTIONS



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



3491 Mission Oaks Blvd., Camarillo, CA 93011
Visit our Web site at: <http://www.harborfreight.com>

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

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

PRODUCT SPECIFICATIONS

Motor	110 VAC / 60 Hz / 1700 W / 20 RPM @ the Die (Reversible) 20.6 AMP (Start-No Load) / 6.6 AMP (Run-No Load) Accessible Motor Brushes
Power Cord	10' Long, 2-Prong Plug
Threading Capacity	Die (Part #54): 1/2" 3/4" 1" 1 1/4"

SAVE THIS MANUAL

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

GENERAL SAFETY RULES



WARNING!

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

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust.** Power tools create sparks which may ignite the dust or fumes.
3. **Keep bystanders, children, and visitors away while operating a power tool.** Distractions can cause you to lose control. Protect others in the work area from debris such as chips and sparks. Provide barriers or shields as needed.

ELECTRICAL SAFETY

4. **Grounded tools must be plugged into an outlet properly installed and**

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

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

PERSONAL SAFETY

10. **Stay alert. Watch what you are doing, and use common sense when operating this product. Do not use the Pipe Threader while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating this product may result in serious personal injury.
11. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
12. **Avoid accidental starting.** Make sure the Power Cord remains unplugged from its electrical outlet until this product is completely assembled, filled with water, and ready to use.
13. **Do not overreach. Keep proper footing and balance at all times.** Proper

footing and balance enables better control of this product in unexpected situations.

14. **Use safety equipment. Wear eye protection when assembling this product.** Nonskid safety shoes must be used for appropriate conditions.


TOOL USE AND CARE




15. **Disconnect the Power Cord Plug from the power source before making any adjustments, changing accessories, or storing the Pipe Threader.** Such preventive safety measures reduce the risk of starting the unit accidentally.
16. **Store idle equipment out of reach of children and other untrained persons.** Electrically powered products are dangerous in the hands of untrained users.
17. **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect this product's operation. If damaged, have the Pipe Threader serviced before using.** Many accidents are caused by poorly maintained equipment.

SERVICE

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

SPECIFIC SAFETY RULES

1. **Maintain labels and nameplates on the Pipe Threader.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2.  **Wear ANSI-approved safety impact eye goggles and heavy duty work gloves when using the Pipe Threader.** Using personal safety devices reduce the risk for injury. Safety impact eye goggles and heavy duty work gloves are available from Harbor Freight Tools.

3. **Maintain a safe environment.** Keep the area well lit. Make sure there is adequate surrounding space. Always keep the area free of obstructions, grease, oil, trash, and other debris. Do not use an electrically powered product in areas near flammable chemicals, dusts, and vapors.
4. **Never leave the Pipe Threader unattended when it is plugged into an electrical outlet.** Turn off the Pipe Threader and unplug the tool before leaving.
5. **Carefully inspect the condition of the Pipe Threader before use, and check the tool continually during use.** If any damage is noted, stop immediately and repair or replace the Pipe Threader.
6.  **Avoid electrical shock.** Make sure the Pipe Threader is unplugged from its electrical outlet prior to performing any inspection, maintenance, or cleaning procedures. Do not use the Pipe Threader in the rain or in wet conditions.
7. **Use the right product for the job.** There are certain applications for which this product was designed. Do not use small tools, equipment, or accessories to do the work of larger industrial tools, equipment, or accessories. Do not use this product for a purpose for which it was not intended.
8. **Do not allow children or other unauthorized people to handle or play with this product.**
9. **Industrial applications must follow OSHA requirements.**
10. **Always secure the pipe being threaded with the Pipe Clamp assembly (56, 57, 58). See Figure G on page 10.**
11.  **WARNING!** People with pacemakers should consult their physician(s) before using this product. Operation of electrical equipment in close proximity to a heart pacemaker could cause interference or failure of the pacemaker.
12.  **WARNING!** The warnings and cautions discussed in this 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.

SAVE THESE INSTRUCTIONS

GROUNDING

WARNING!

Improperly connecting the grounding wire can result in the risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

GROUNDED TOOLS: TOOLS WITH THREE PRONG PLUGS

1. Tools marked with “Grounding Required” have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. **(See Figure A.)**
2. The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool’s grounding system and must never be attached to an electrically “live” terminal. **(See Figure A.)**
3. Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration. **(See Figure A.)**

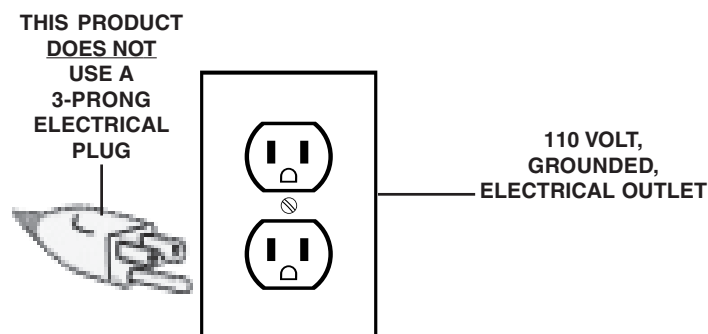
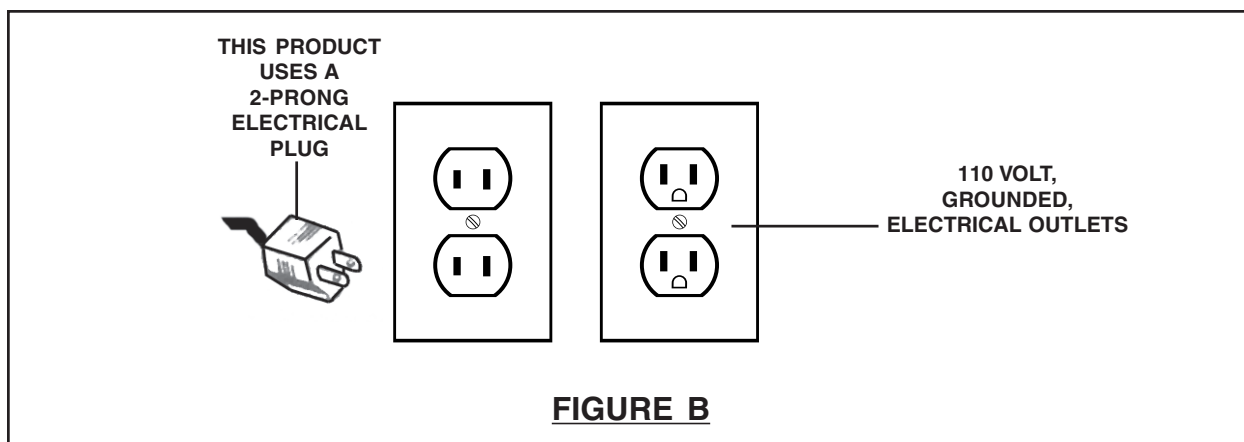


FIGURE A

DOUBLE INSULATED TOOLS: TOOLS WITH TWO PRONG PLUGS

4. Tools marked "Double Insulated" do not require grounding. They have a special double insulation system which satisfies OSHA requirements and complies with the applicable standards of Underwriters Laboratories, Inc., the Canadian Standard Association, and the National Electrical Code. **(See Figure B.)**
5. Double insulated tools may be used in either of the 120 volt outlets shown in the following illustration. **(See Figure B.)**



EXTENSION CORDS

1. **Grounded** tools require a three wire extension cord. **Double Insulated** tools can use either a two or three wire extension cord.
2. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. **(See Figure C, next page.)**
3. The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. **(See Figure C.)**
4. When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required. **(See Figure C.)**
5. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size. **(See Figure C.)**

6. If you are using an extension cord outdoors, make sure it is marked with the suffix "W-A" ("W" in Canada) to indicate it is acceptable for outdoor use.
7. Make sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
8. Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS* - (120 VOLT)					
NAMEPLATE AMPERES (At Full Load)	EXTENSION CORD LENGTH				
	25 Feet	50 Feet	75 Feet	100 Feet	150 Feet
0 – 2.0	18	18	18	18	16
2.1 – 3.4	18	18	18	16	14
3.5 – 5.0	18	18	16	14	12
5.1 – 7.0	18	16	14	12	12
7.1 – 12.0	18	14	12	10	-
12.1 – 16.0	14	12	10	-	-
16.1 – 20.0	12	10	-	-	-

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

SYMBOLOLOGY







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

FIGURE D

UNPACKING

When unpacking, check to make sure all the parts shown on the **Parts List on page 14** are included. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

ASSEMBLY AND OPERATING INSTRUCTIONS

NOTE:

For additional information regarding the parts listed in the following pages, refer to the **Assembly Diagrams on pages 15 and 16.**

1. **⚠ CAUTION!** Always make sure the Pipe Threader is disconnected from its electrical outlet prior to assembling the tool, changing accessories, or performing service to the product.
2. **Wear ANSI-approved safety impact eye goggles and heavy duty work gloves when using the Pipe Threader.** Using personal safety devices reduce the risk for injury.
3. Select the size of the pipe to be threaded (1/2", 3/4", 1", or 1-1/4" diameters).
4. Select the appropriate Die (54, 54A, 54B, or 54C) to be used. **NOTE:** The Dies are intended for use on standard schedule 40 and schedule 80 steel pipe. **(See Figure E.)**
5. Insert the Die (54, 54A, 54B, 54C) into the Worm Gear (5) of the Pipe Threader. The Die fits into the Worm Gear only one way. Make sure the Die is secured in place before proceeding. The Die is pressure fitted so once it is inserted properly, it may require light tapping with a wooden mallet to remove the Die. **(See Figure E.)**
6. Make sure the accessory Oil Can (59) is filled with Thread Cutting Oil (not included) and ready to be used during the threading operation.

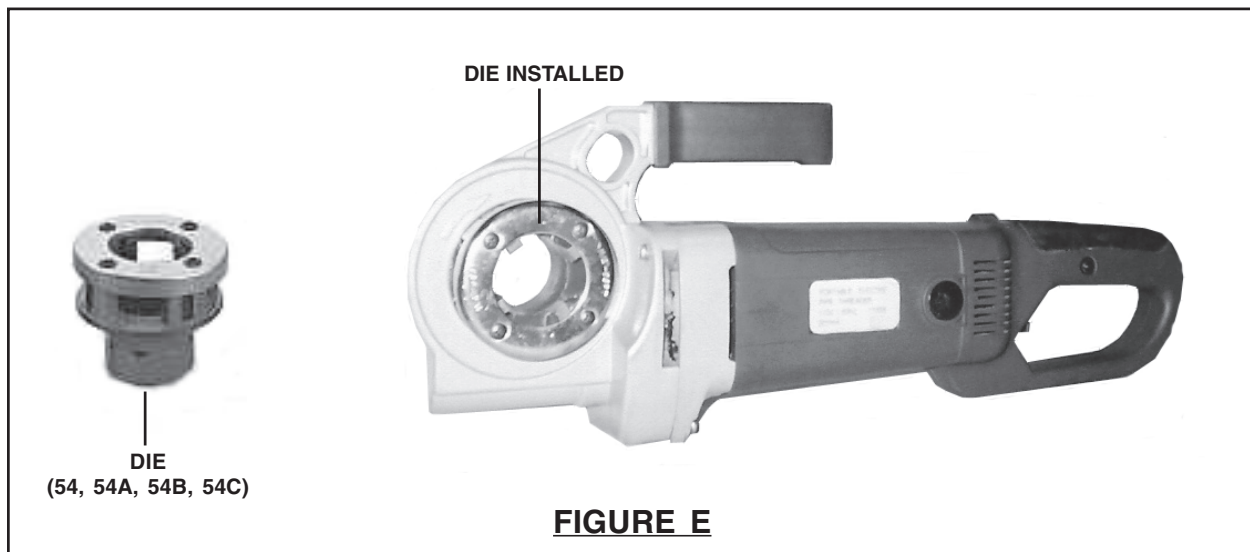
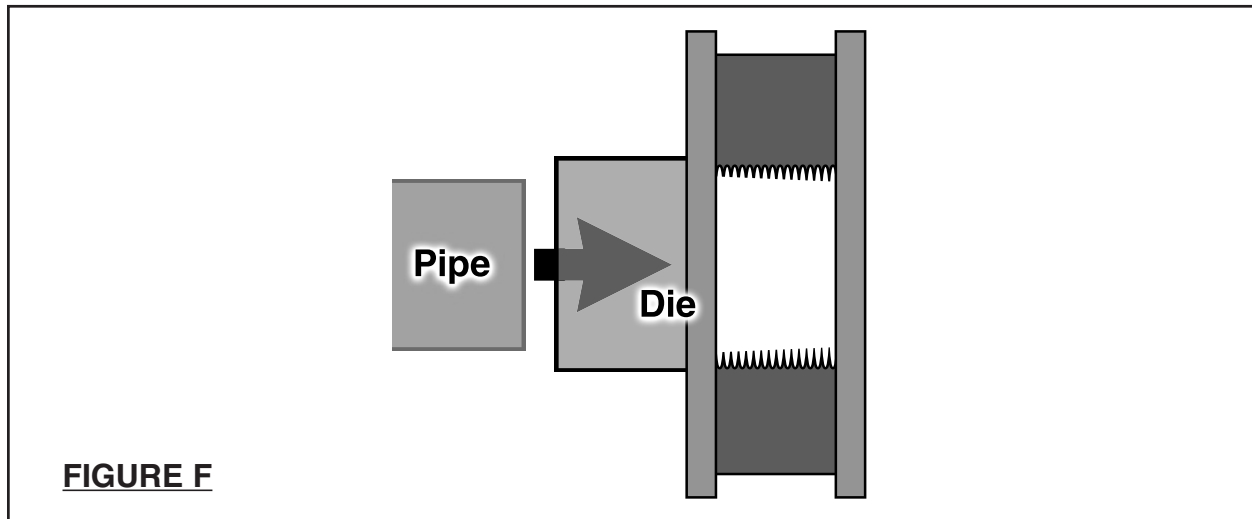
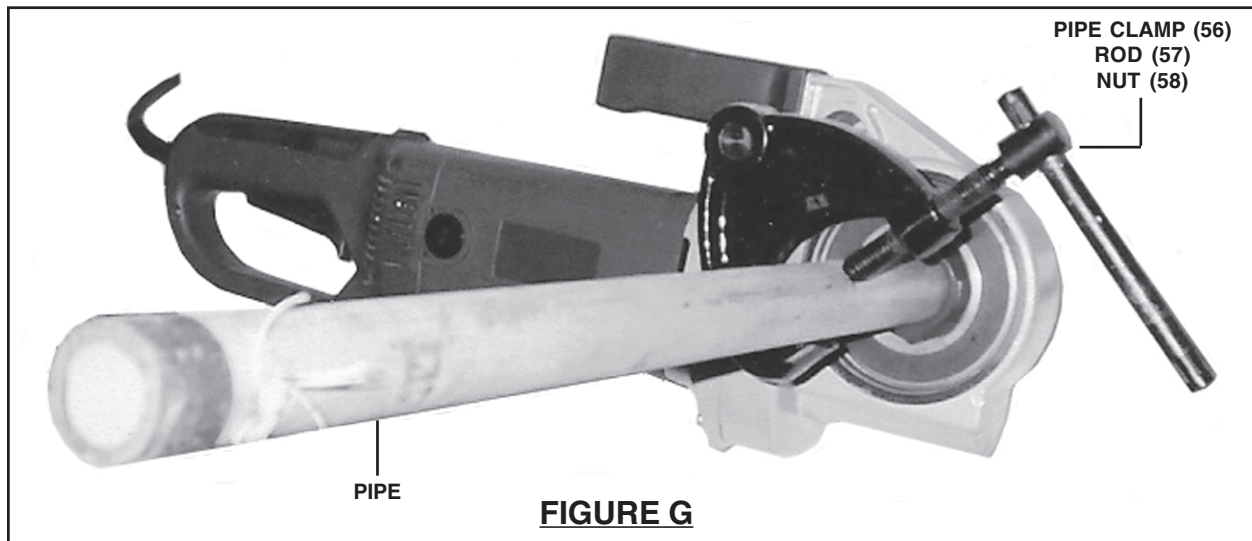


FIGURE E

7. Insert the pipe into the **rear** of the Die (54, 54A, 54B, 54C). Make sure the inside diameter of the Die matches the outside diameter of the pipe. (See Figure F.)

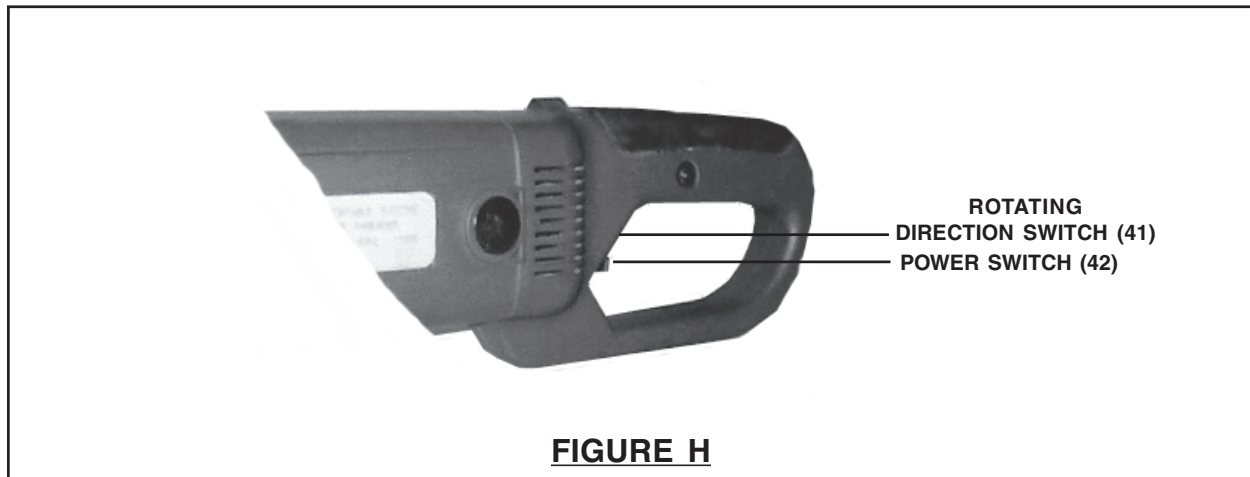


8. **⚠ CAUTION!** Always use the Pipe Clamp assembly (56, 57, 58) to secure and support the pipe during the threading operation. Make sure the Pipe Clamp assembly (56, 57, 58) is securely clamping the pipe and that the pipe is well supported while the threads are being cut. (See Figure G.) Also, the pipe will need enough clearance to proceed through the die unimpeded.



9. Make sure the pipe end and threads of the Die (54, 54A, 54B, 54C) are sufficiently oiled at all times. Otherwise, the life of the Die Blades (55, 55A, 55B, 55C) will be shortened and the threads will be rough.
10. Located in front of the Power Switch (42) is a Rotation Direction Switch (41) which determines the direction of the threading operation. Turn the Rotating Direction Switch (41) to its **right** position for a **clockwise** rotation. (See Figure H.)

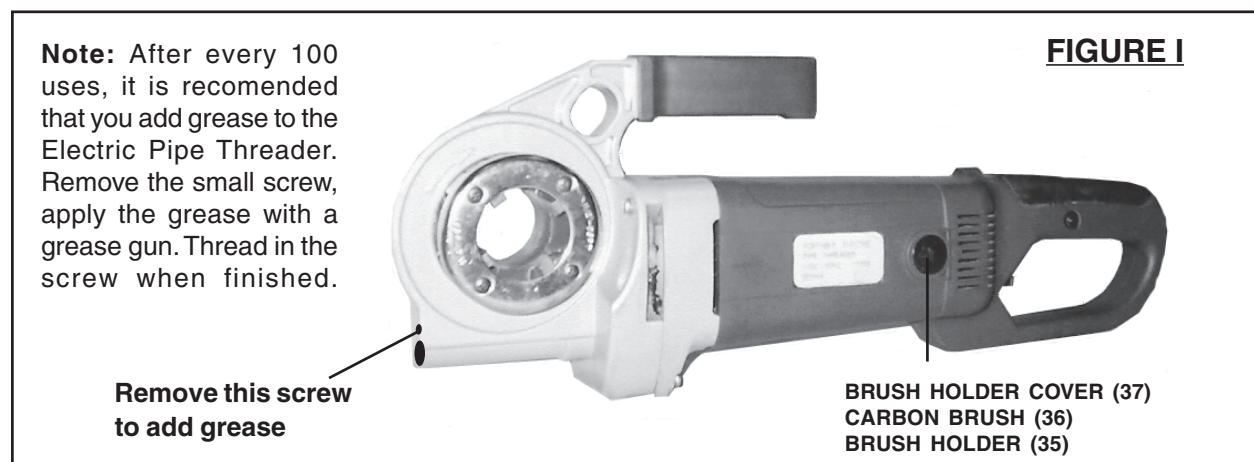
11. Connect the Power Cord Plug (49) into the nearest 110 volt, grounded, electrical outlet.
12. While holding the Handle (40, 46) with one hand, press the Power Switch (42) in and pull up on it to turn on the Pipe Threader. Apply pressure until the Die (54, 54A, 54B, 54C) engages the pipe, cutting two to three threads. **(See Figure H.)**



13. From this point, the Die (54, 54A, 54B, 54C) will automatically be drawn over the pipe and a standard taper thread will be cut.
14. Stop threading when the end of the Die (54, 54A, 54B, 54C) is flush with the end of the pipe. At this point, the correct size has been reached to produce the proper joint. To continue beyond this point would make a straight or running thread.
15. To stop threading, release the Power Switch (42) to stop the Pipe Threader. *Allow the Pipe Threader to completely stop.* Then turn the Rotating Direction Switch (41) to the **left** position for a **counterclockwise** rotation of the Die (54, 54A, 54B, 54C). Pull in and up on the Power Switch to turn on the Pipe Threader and disengage the Die from the pipe. When fully disengaged, release the Power Switch to turn off the Pipe Threader. **(See Figure H.)**
16. Make sure not to damage the newly cut threads when removing the pipe from the Pipe Threader.
CAUTION: Freshly cut threads may be hot, may have sharp edges, or may have sharp metal turnings still attached. Clean the pipe and allow to cool before use.
17. **IMPORTANT:** Clean any oil spill or splatter that is on the ground. At the end of each job, always clean the Pipe Threader and store the tool in a clean, dry, safe location out of reach of children and other unauthorized people.

INSPECTION, MAINTENANCE, AND CLEANING

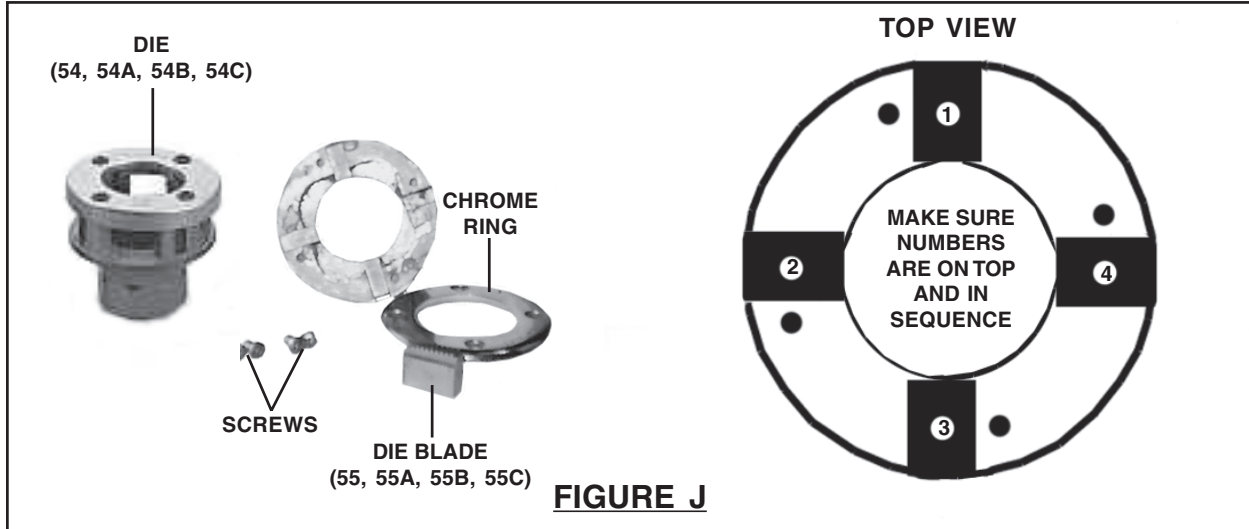
1. **⚠ WARNING!** Make sure the Pipe Threader is disconnected from its electrical outlet prior to performing any inspection, maintenance, or cleaning procedures.
2. **Before each use**, inspect the general condition of the Pipe Threader. Check for cracked or broken parts, damaged electrical wiring, damaged Die Blades, and any other condition that may affect safe operation. If abnormal noise or vibration occurs, have the problem corrected before further use.
Do not use damaged equipment.
3. **To replace the Motor Carbon Brushes:** It may become necessary at sometime to replace or clean the two Carbon Brushes (36) when the Motor performance decreases, or stops working completely. **The Carbon Brushes are located on each side of the Motor Housing (33).** To replace the Carbon Brushes, remove the two Brush Holder Covers (37). Then, remove the two Carbon Brushes from the two Brush Holders (35). If either Carbon Brush is worn down more than halfway, replace *both* Carbon Brushes. If the Carbon Brushes are just dirty, however, they may be cleaned by rubbing them with a pencil eraser. When reusing Carbon Brushes, reinstall the brushes in the same orientation as previously to prevent excess wear. When installing the Carbon Brushes, make sure the carbon portion of the Carbon Brushes contact the Motor's Rotor (27) and that the springs face away from the Motor. Also, make sure the springs operate freely. After replacement or cleaning, replace the two Brush Holder Covers.
NOTE: New Carbon Brushes tend to arc or spark when first used until they wear and conform to the Motor's Rotor. **(See Figure I.)**



4. **To replace the Die Blades:** Worn Die Blades (55, 55A, 55B, 55C) can result in poor thread quality. When replacing Die Blades, make sure the size of the new Die Blades correspond to the size of the Die (1/2", 3/4", 1", or 1-1/4"). To replace the Die Blades, remove the four Screws on the Die. Remove the Chrome Ring from the Die. Then, remove each of the *four* Die Blades. Once removed, insert

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four new Die Blades into the Die. **NOTE: When inserting the Die Blades, make sure the cutting edges of the Die Blades face inward. Also, make sure the number on each Die Blade is at the *top* and in *sequence*.** Once the Die Blades are properly inserted, replace the Chrome Ring and four Screws. (See Figure J.)



5. **To clean:** Use a mild detergent or mild solvent to clean the exterior of the Pipe Threader and its Dies. Do not immerse the Pipe Threader in liquid.
6. **When storing,** make sure to store the Pipe Threader in a clean, dry, safe location out of reach of children and other unauthorized people.
7. **⚠ CAUTION!** All maintenance, service, or repairs not mentioned in this manual must only be performed by a qualified service technician.

TROUBLESHOOTING

Problem	Possible Solution
Pipe Threader does not turn on.	<ol style="list-style-type: none"> 1. Make sure the Power Switch is in its "ON" position. (See page 11.) 2. Make sure the tool is connected to a working 120 volt, grounded, electrical outlet. (See pages 6 and 7.) 3. Check Power Cord for damage. 4. Unplug Power Cord. Then remove Carbon Brushes and check for wear and excessive debris. (See page 12.) 5. Have a qualified service technician check the tool for damage and/or defects.
Pipe Threader does not turn off.	<ol style="list-style-type: none"> 1. Unplug the tool from its electrical outlet, and have a qualified service technician check for damage and/or defects.
Pipe threads are rough and/or irregular.	<ol style="list-style-type: none"> 1. Make sure to keep the pipe and Die well oiled throughout the threading process. 2. Check the Die Blades for wear. If necessary, replace the Die Blades. (See page 13.)
Rotating Direction Switch not working properly.	<ol style="list-style-type: none"> 1. Have a qualified service technician check the tool for damage and/or defects.
Difficulty in removing Die from Pipe Threader.	<ol style="list-style-type: none"> 1. Use a wooden mallet to extract the Die.

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 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 RISKS 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.

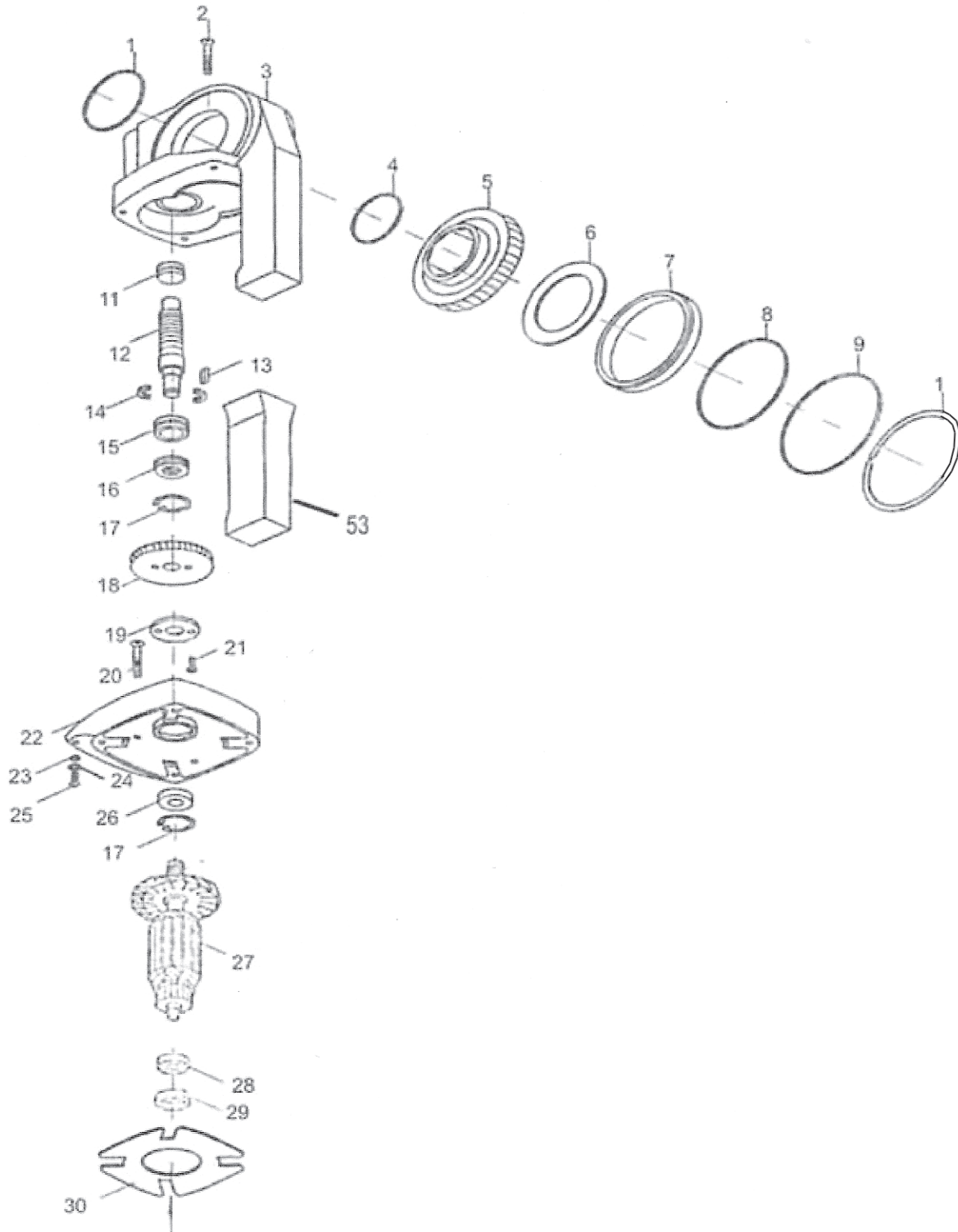
PARTS LIST

Part #	Description	Part #	Description
1	Seal Ring (65)	33	Housing
2	Cross Screw (ST5x65)	34	Rating Plate
3	Worm Speed Reducer Gearbox	35	Brush Holder
4	Steel Wire Shield (55)	36	Carbon Brush
5	Worm Gear	37	Brush Holder Cover
6	Worm Gear Cover	38	Reinforcing Ring Gasket
7	Bearing Bushing	39	Capacitor
8	Seal Ring (100)	40	Left Handle
9	Seal Ring (112)	41	Rotating Direction Switch
10	Snap Ring (112)	42	Power Switch
11	Needle Bearing (RNA4900A)	43	Cross Screw (ST4x25)
12	Worm Gear	44	Soft Grip
13	Equatorial Bond	45	Cross Screw (ST4x18)
14	Woodruff Key	46	Right Handle
15	Needle Bearing (RNA4902A)	47	Copper Spring
16	Plane Bearing (S1102)	48	Coil Ring
17	Seeger Circlip Ring (28)	49	Power Cord
18	Large Gear	50	Cable Hold-Down Plate
19	Closing	51	Cross Screw (ST4x14)
20	Cross Screw (ST5x40)	52	Cable Protector
21	Cross Sunk Bolt (M4x14)	53	Soft Cover
22	Middle Closing	54	1/2" Threading Die
23	Flat Washer (5)	54A	3/4" Threading Die
24	Spring Washer (5)	54B	1" Threading Die
25	Cross Screw (M5x22)	54C	1-1/4" Threading Die
26	Bearing (6001)	55	1/2" Blade Set
27	Rotor	55A	3/4" Blade Set
28	Bearing (629)	55B	1" Blade Set
29	Bearing Bushing	55C	1-1/4" Blade Set
30	Wind Shield	56	Pipe Clamp
31	Cross Screw (ST4x80)	57	Rod
32	Stator	58	Nut
-----	-----	59	Oil Can

NOTE:

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

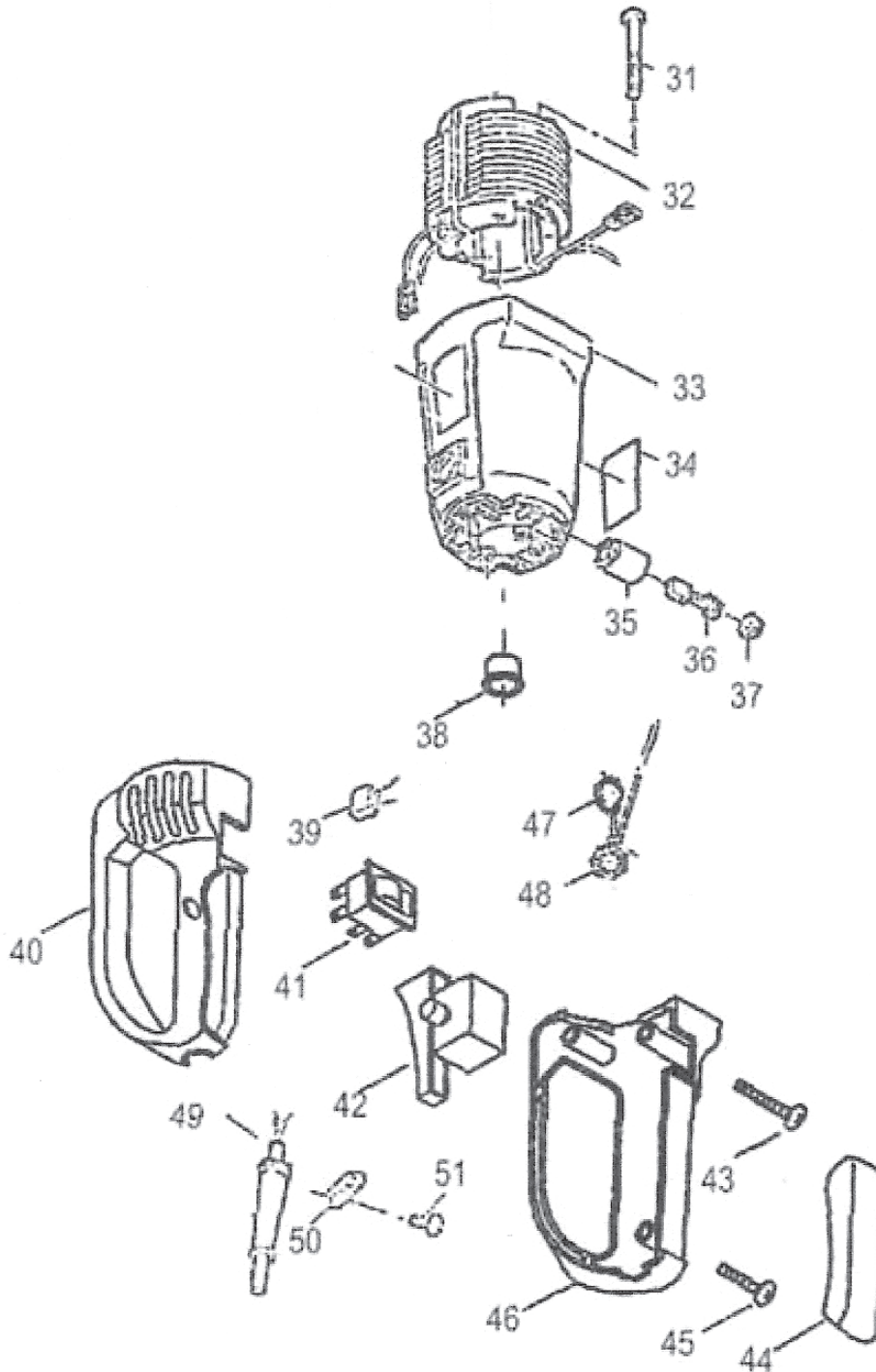
ASSEMBLY DIAGRAM



NOTE:

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

ASSEMBLY DIAGRAM (CONT.)



NOTE:

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



CENTRAL MACHINERY®

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 for a period of ninety days from date of purchase that the motor, the belts, and the blades are free of defects in materials and workmanship. This warranty does not apply to damage due directly or indirectly to misuse, abuse, negligence or accidents; repairs or alterations outside our facilities; or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you.

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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