

CENTRAL PNEUMATIC®

**Professional**

# PALM ORBITAL WET SANDER

## 5 INCH

### Model 97053

## 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.

**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.**

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

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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 SAFETY RULES

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### **WARNING! Read all instructions**

**Failure to follow all instructions listed below may result in serious injury.**

The term “power tool” in all of the warnings listed below refers to your 5” Palm Orbital Wet Sander.

### **SAVE THESE INSTRUCTIONS**

1. **Work area safety**
  - a. Keep work area clean and well lit. *Cluttered or dark areas invite accidents.*
  - b. Do not operate the Sander in explosive atmospheres, such as in the presence of flammable liquids, gases or dust. *Power tools create sparks which may ignite the dust or fumes.*
  - c. **Keep children and bystanders away while operating a power tool. Distractions can cause you to lose control.**
2. **Personal safety**
  - a. Stay alert, watch what you are doing and use common sense when operating the Sander. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. *A moment of inattention while operating power tools may result in serious personal injury.*
  - b. Use safety equipment. Always wear eye protection. Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
  - c. Remove any adjusting key or wrench before turning the Sander on. *A wrench or a key left attached to a rotating part of the power tool may result in personal injury.*
  - d. Do not overreach. Keep proper footing and balance at all times. *This enables better control of the Sander in unexpected situations.*
  - e. Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts. *Loose clothes, jewelry or long hair can be caught in moving parts.*
3. **Power tool use and care**
  - a. Do not force the Sander. Use the correct power tool for your application. *The correct power tool will do the job better and safer at the rate for which it was designed.*
  - b. Do not use the Sander if the Valve Lever (1) does not turn it on and off. *Any power tool that cannot be controlled with the Valve Lever is dangerous and must be repaired.*
  - c. Disconnect the Sander from its compressed air supply source before making any adjustments, changing accessories, or storing the Sander.

*Such preventive safety measures reduce the risk of starting the power tool accidentally.*

- d. Store idle power tools out of the reach of children, and do not allow people unfamiliar with the Sander or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.
- e. Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the Sander's operation. If damaged, have the power tool repaired before use. *Many accidents are caused by poorly maintained power tools.*
- f. Use the Sander and its accessories in accordance with these instructions and in the manner intended for this particular type of power tool, taking into account the working conditions and the work to be performed. *Use of the Sander for operations different from those intended could result in a hazardous situation.*

#### 4. **Service**

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

### **VIBRATION HAZARD**

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.

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## SPECIFIC SAFETY RULES

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1. Maintain labels and nameplates on the Sander. These carry important safety information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. Stay within the maximum air pressure capacity (**90 PSI**). Never operate the Sander above 90 PSI.
3. Compressed air only. Use clean, dry, regulated, compressed air at 90 PSI. Never use oxygen, carbon dioxide, combustible gases, or any other bottled gas as a power source for this tool.
4. Remove adjusting wrenches. Check that adjusting wrenches are removed from the Sander and work surface before connecting to a compressed air supply source.
5. Avoid unintentional starting. Prepare to begin work before turning on the tool.
6. **CAUTION!** To avoid injury, keep hands and fingers away from the rotating Pad (38). If both hands are holding the Sander, your hands and fingers cannot be cut by the rotating Pad or Sanding Paper (not included).
7. Always use 5 inch diameter Sanding Paper with this tool. Sanding Paper that does not match the Pad (38) diameter of the Sander will run eccentrically, causing loss of control or may fly off the Sander.
8. The Pad (38) and Sanding Paper will become hot while sanding. Allow the Pad and Sanding Paper to completely cool before handling.
9. Do not lay the tool down until it has come to a complete stop. Moving parts can grab the surface and pull the tool out of your control.
10. When using a handheld power tool, maintain a firm grip on the tool with both hands to resist starting torque.
11. Do not leave the tool unattended when it is connected to its compressed air supply. Turn off the tool, and disconnect it from its air supply before leaving.
12. Disconnect air hose and release any built-up air pressure. Never service the Sander with the air hose attached. Always release any built-up air pressure in the tool (even after disconnecting the air hose).

13. Use clamps (not included) or other practical ways to secure and support the workpiece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.
14. This product is not a toy. Keep it out of reach of children.
15. **WARNING!** The brass components of this product contain lead, a chemical known to the State of California to cause birth defects (or other reproductive harm). (*California Health & Safety Code 25249.5, et seq.*)
16. 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.*)
17. 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.




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## SPECIFICATIONS

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Maximum Operating Pressure	90 PSI
Air Consumption	6.5 CFM
Maximum Orbits Per Minute	8000
Sanding Pad Size	5" Diameter
Sand Paper Attachment Method	Hook & Loop
Air Inlet Size	1/4"-18 NPT
Water Intake Tube Size	11.5 Ft. x 1/4" O.D.
Accessories	Sand Paper Discs: 2000 Grit / 1500 Grit / 1200 Grit / 800 Grit / (Qty. 1 Each)

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## UNPACKING

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When unpacking, check to make sure that the item is intact and undamaged. 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.

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## SET UP INSTRUCTIONS

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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.

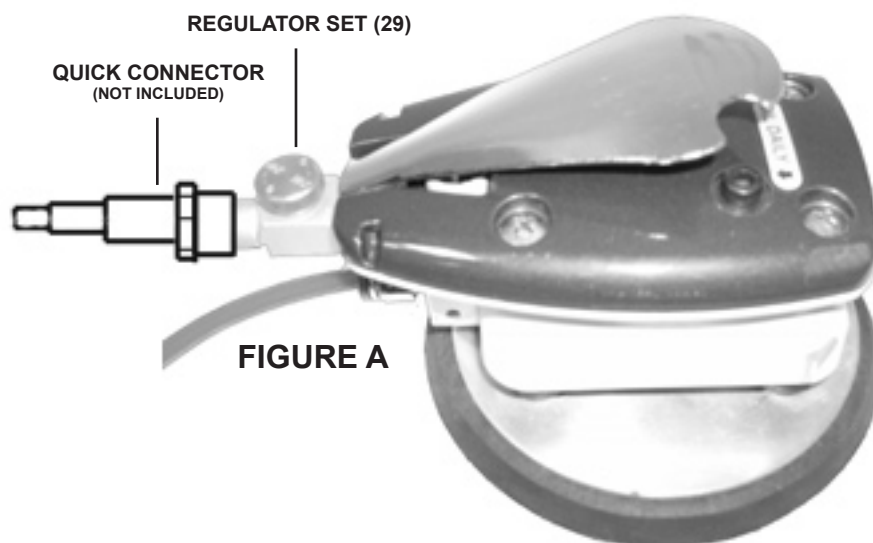
### **WARNING**

Risk of accidental starting; resulting in serious personal injury. Disconnect the Sander from its compressed air source before assembling, making pad replacement or making any adjustments to the tool.

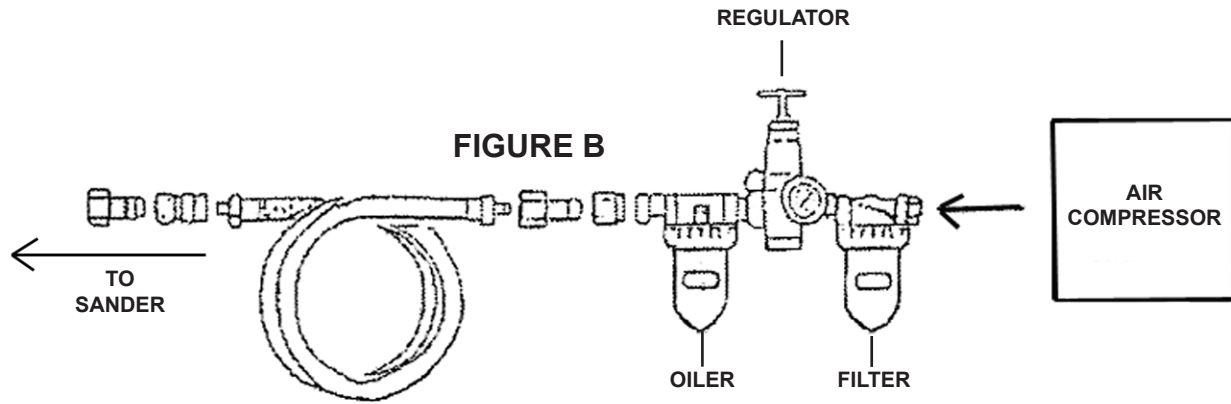
**Note:** For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

### Assembly

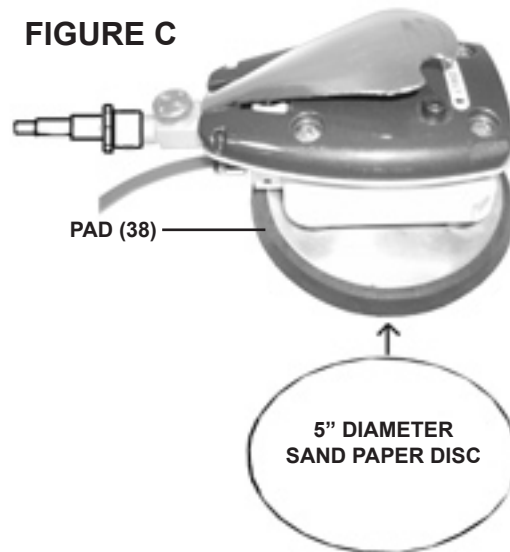
1. Prior to using the Sander, the Sander must have a female Quick Connector (not included) connected to the tool's Regulator Set (29). To do so, wrap about 3" of Pipe Thread Seal Tape (not included) around the threads of the Regulator Set. Then firmly screw on the Quick Connector. **(See Figure A.)**



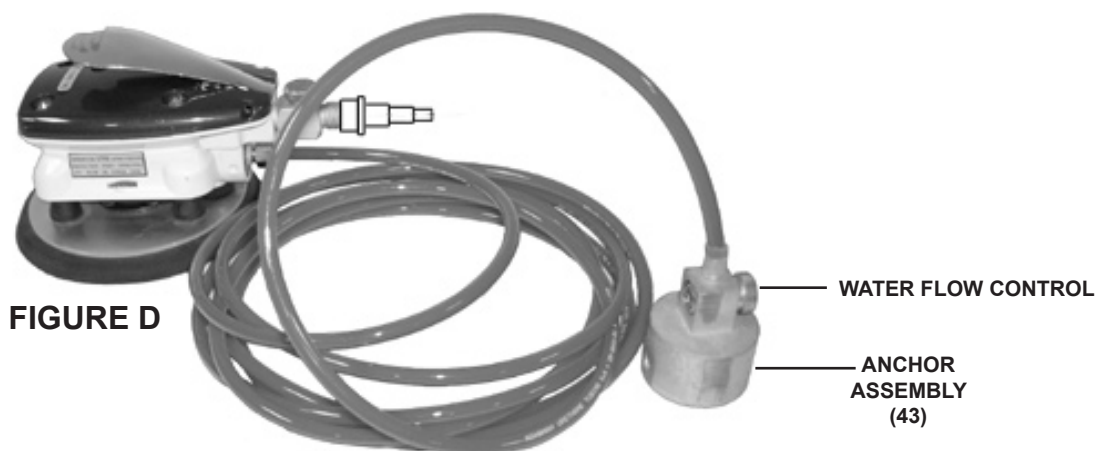
2. For best tool performance, you should incorporate an oiler, regulator, and in-line water filter as shown in the illustration on the next page. **(See Figure B, next page.)**



3. Attach the **5" diameter** Sand Paper Disc to the Sander's Pad (38) by pressing it onto the pad. (See Figure C.)

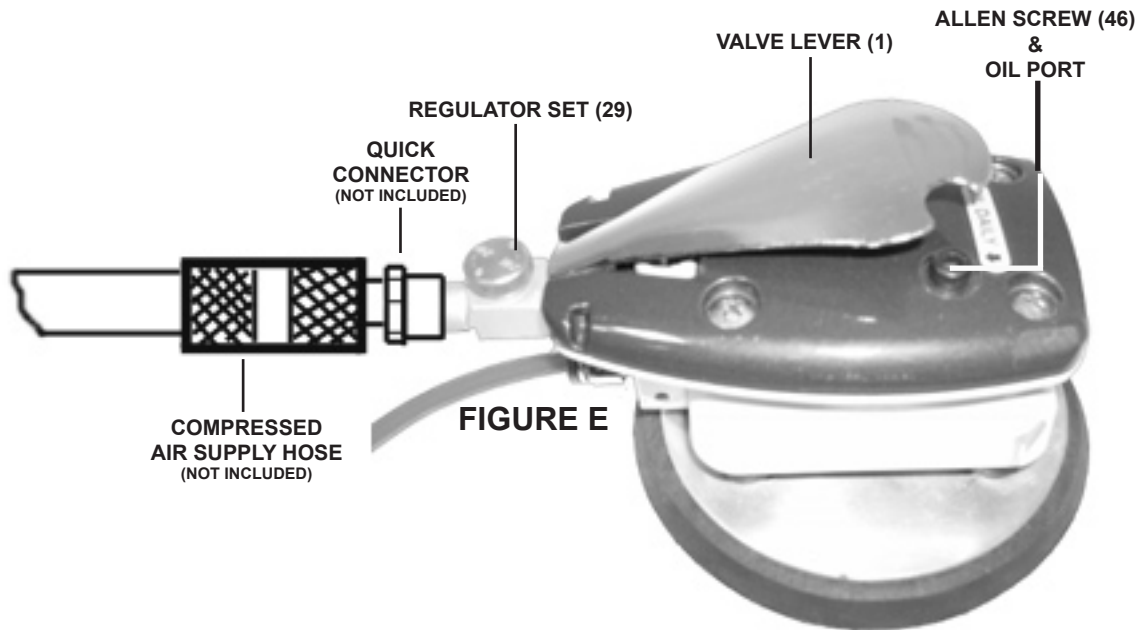


4. Place the Sander's Anchor (43) Assembly in a container filled with cold, clean water. **CAUTION!** Use only cold, clean water. Never run the Wet Sander without a water source. (See Figure D.)





5. Connect a compressed air supply hose (not included) to the previously installed Quick Connector. Then turn on the air compressor, and set its regulator to **90 PSI. Do not exceed 90 PSI. (See Figure E.)**




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## OPERATING INSTRUCTIONS

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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.

1.  **CAUTION!** Prior to using the Sander, make sure to wear ANSI-approved safety impact goggles, dust mask or respirator, and heavy duty work gloves.
2. **IMPORTANT:** On a **DAILY** basis, make sure to top off the Sander's Oil Port with pneumatic tool oil. To do so, disconnect the tool from its compressed air supply source and release all remaining air pressure from the tool by pressing the Valve Lever (1). Use the provided Allen Wrench (49) to unscrew and remove the Allen Screw (46) located at the top of the tool. Then replace the Allen Screw (do not over-tighten). **(See Figure E.)**
3. Use clamps (not included) or other practical ways to secure and support the workpiece to a stable platform. Holding the work by hand or against your body is unstable and may lead to loss of control.
4. Grip the Sander firmly. Then squeeze the Valve Lever (1) and allow the Pad (38) to move in its orbital motion to its fullest speed. To adjust the speed (orbits per minute) of the Sander, rotate the Regulator Set (29). **(See Figure E.)**

5. To adjust the water flow rate of the Sander, turn the Water Flow Control located on the Anchor Assembly (43). **(See Figure D.)**
6. Sand the workpiece evenly with gentle, broad, sweeping strokes in a criss-cross pattern.
7. During the sanding process, it may become necessary to occasionally stop the Sander, disconnect the tool from its compressed air supply source, remove any remaining compressed air from the tool by squeezing its Valve Lever (1), and replace the worn Sand Paper Disc with a new Disc. **(See Figure E.)**
8. Once the sanding is completed, release pressure on the Valve Lever (1) to stop the Sander. Remove the Anchor Assembly (43) from its container of water. Restart the Sander to empty the tool of any remaining water. Turn off the air compressor. Disconnect the Sander from its air supply hose. Then squeeze the Valve Lever once again to release any remaining compressed air from the tool. **(See Figures D and E.)**
9. Make sure to store the Sander in a clean, dry, safe location out of reach of children and other unauthorized people.

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## MAINTENANCE AND SERVICING

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### **▲WARNING**

**Risk of serious personal injury from accidental starting. Disconnect the Sander from its compressed air supply before performing any inspection, maintenance, or cleaning procedures.**

**Damaged equipment can fail, causing serious personal injury. Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.**

1. **BEFORE EACH USE**, inspect the general condition of the Sander. Check for loose parts, misalignment or binding of moving parts, cracked or broken parts, damaged hose, and any other condition that may affect its safe operation.
2. **DAILY**, top off the Sander's Oil Port with pneumatic tool oil. To do so, disconnect the tool from its compressed air supply source and release all remaining air pressure from the tool by pressing the Valve Lever (1). Use the provided Allen Wrench (49) to unscrew and remove the Allen Screw (46) located at the top of the tool. Then replace the Allen Screw. **(See Figure E.)**
3. **DAILY**, check the Strainer (44) in the Anchor Assembly (43) for excess dirt and debris. If necessary, clean Strainer. **(See Assy. Diagram.)**

4. **AFTER USE**, clean external surfaces of the tool with a clean, moist cloth.
5. **CAUTION!** All maintenance, service, and repairs not mentioned in this manual must only be performed by a qualified service technician.

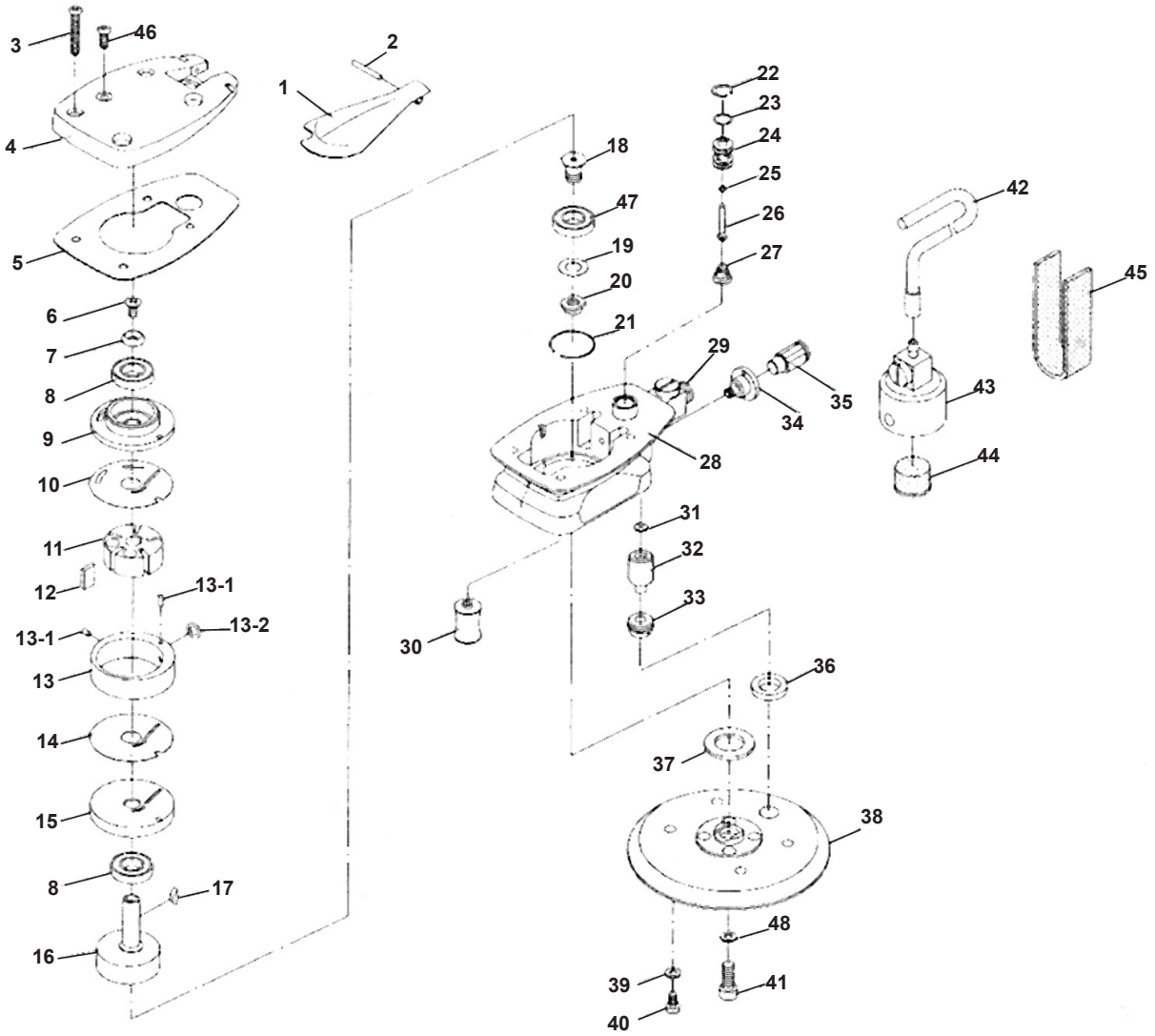
## TROUBLESHOOTING

<b>Problem</b>	<b>Possible Causes</b>	<b>Possible Solutions</b>
Sander will not start.	<ol style="list-style-type: none"> <li>1. No compressed air supply.</li> <li>2. Insufficient pressure on the Valve Lever.</li> <li>3. Air pressure too low.</li> <li>4. Regulator (or tool) set too low</li> </ol>	<ol style="list-style-type: none"> <li>1. Connect Sander to a compressed air supply.</li> <li>2. Press harder on Valve Lever.</li> <li>3. Set air compressor regulator to 90 PSI.</li> <li>4. Adjust regulator setting.</li> </ol>
Sand Paper Disc not orbiting, or orbiting slowly.	<ol style="list-style-type: none"> <li>1. Air pressure too low.</li> <li>2. Insufficient compressed air supply.</li> <li>3. Regulator Set adjusted too low.</li> <li>4. Leaks in Air Hose.</li> </ol>	<ol style="list-style-type: none"> <li>1. Squeeze harder on the Valve Lever.</li> <li>2. Set air compressor regulator to 90 PSI.</li> <li>3. Adjust Regulator Set for a higher orbital speed.</li> <li>4. Check Air Hose for leaks.</li> </ol>
Water flow low or non-existent.	<ol style="list-style-type: none"> <li>1. Water Flow Control improperly set.</li> <li>2. Clogged Strainer.</li> <li>3. No water in supply tank.</li> </ol>	<ol style="list-style-type: none"> <li>1. Adjust Water Flow Control for increased water flow.</li> <li>2. Remove Strainer and clean.</li> <li>3. Fill supply tank.</li> </ol>
Sander does not remove residue from the workpiece, even after repeated brief attempts.	<ol style="list-style-type: none"> <li>1. Sand Paper Disc too fine.</li> <li>2. Using wrong tool for the job at hand.</li> </ol>	<ol style="list-style-type: none"> <li>1. Use a more coarse Sand Paper Disk.</li> <li>2. Do not continue sanding to avoid damaging workpiece surface. Use another method to remove residue.</li> </ol>

## PARTS LIST

Part	Description	Qty.	Part	Description	Qty.
1	Valve Lever	1	25	O-Ring (4 x 7)	1
2	Spring Pin (3 x 32)	1	26	Valve Pin	1
3	Screw (M5 x 35)	4	27	Valve Spring	1
4	Top Cover	1	28	Body	1
5	Body Packing	1	29	Regulator Set	1 Set
6	Screw (M5 x 10)	1	30	Support	4
7	Conical Washer (M5)	1	31	Check Valve	1
8	Bearing (6000ZZ)	2	32	W-Nozzle Body	1
9	U-Bearing Case	1	33	Nut (M16)	1
10	U-Side Plate	1	34	Silencer	1
11	Rotor	1	35	W-Hose Joint	1
12	Vane	5	36	W-Seal	1
13	Cylinder Set	1	37	Waterproof Seal	1 Set
13-1	Spring Pin (3 x 5)	3	38	Foam Pad	1
13-2	O-Ring (P7)	1			
14	L-Side Plate	1	39	Washer (M5)	4
15	L-Bearing Case	1	40	Screw (M5 x 6)	4
16	Shaft with Head	1	41	Cap Screw (5 x 15)	1
17	H/R Key (3 x 13)	1	42	W-Hose (4mm)	1
18	Pad Retainer	1	43	Anchor Assembly	1 Set
19	Shim	1	44	Strainer	1
20	Retainer Nut	1	45	Binder	1
21	Snap Ring	1	46	Allen Screw (M5 x 10)	1
22	Snap Ring (IR12)	1	47	Bearing (60002RS)	1
23	O-Ring (P8)	2	48	Washer (M5)	1
24	Valve Pin Sleeve	1	49	Allen Wrench	1

# ASSEMBLY DIAGRAM



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## LIMITED 1 YEAR 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 one year 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, 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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**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.

### **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.