



2 Gallon Oil Free Air Compressor

**Item# 22020
Owner's Manual**



**DO NOT RETURN TO
STORE**

**Questions? Problems?
Please call our customer help line:**

**(800) 232-1195 M-F 8-5 CST
Or by email:
partsandservice@greatlakestec.com**

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Technical Data

1/3 HP 2 Gal. Oil Free Air Compressor

Model Number:	22020
Volts:	120V~
Amperage:	2.6 A
Power Cord Type:	18 AWG, 6 ft. Length
Power Plug Type:	3-Prong Grounded
Pressure Switch Type:	ON/OFF Switch
Air Inlet:	1/4" - 18 NPT Female Thread
Fuse:	3A
Compressor Style:	Oil Free
Pump Style:	Single Cylinder
Maximum Air Pressure:	100 PSI
Air Flow:	0.6CFM@90PSI 1.0CFM@40PSI
Air Tank Capacity:	2 Gallons
Weight:	15.5 Lbs

Package Contents:

- 1-Air Compressor
- 1-Coil Air Hose 1/4" x 25'
- 1-Blow Gun
- 1-Female Universal Quick Connect 1/4"
- 1-Air Chuck
- 1-Thread Seal Tape
- 1-Blow Gun Tapered Nozzle
- 1-Blow Gun Adapter
- 1-Inflation Needle
- 1-Air-Flow Valve
- 1-Female Connector 1/4"

Rules for Safe Operation

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and the explanations with them, deserve your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

Symbol

Meaning



Safety Alert Symbol:

Indicates danger, warning, or caution, may be used in conjunction with other symbols or pictographs. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.

Note:

Advises you of information or instructions vital to the operation or maintenance of the equipment

IMPORTANT

Servicing requires extreme care and knowledge and should be performed only by a qualified service technician. For service, call our customer help line at (800) 232-1195 M-F 8-5 CST. When servicing, use only genuine PowerPro Technology™ replacement parts.



WARNING:

Do not attempt to operate this tool until you have read thoroughly and understand completely all instructions, safety rules, etc...contained in this manual. Failure to comply can result in accidents involving fire, electric shock, or serious personal injury. Save this operator's manual and review frequently for continuing safe operation and instructing others who may use this tool.

Safe operation of this power tool requires that you read and understand this operator's manual and all labels affixed to the tool. Safety is a combination of common sense, staying alert, and knowing how your tool works.

General Instructions for All Power Tools

READ AND UNDERSTAND ALL INSTRUCTIONS!!!

Failure to follow all instructions listed below may result in electrical shock, fire and/or serious personal injury.

WORK AREA

- Keep your work area clear and well lit. Cluttered work surfaces and dark areas invite accidents.
- Keep people not involved in the work, especially children away from the work area while operating a power tool. Distractions can cause you to lose control of the tool.
- Do not operate power tools in an unsafe environment such as explosive atmosphere, flammable liquids, gases and dust. A spark created by a power tool may ignite the fumes or dust.

ELECTRICAL SAFETY

- 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 plug. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
- Avoid body contact with grounded surfaces such as radiators, pipes, ranges and refrigerators. There is an increased risk of electrical shock if your body is grounded.
- Do not operate power tools in the rain or wet conditions. Water entering a power tool increases the risk of electrical shock.
- Do not stress the power cord. Never carry the power tool by the cord or disconnect the plug from the receptacle by yanking on the cord. Keep cord away from sharp edges, heat, solvents and oil. Replace damaged cord immediately. Damaged cords increase the risk of electrical shock.
- Use outdoor extension cords when operating the power tool outside. Outdoor power cords are marked “W-A” or “W” and are rated for outdoor use. These cords reduce the risk of electrical shock.

GROUNDING INSTRUCTIONS

- Your compressor has a grounded, three-prong plug. If using an extension cord, it must be a three-prong type. You must connect to a three-prong receptacle only. The third prong is for grounding; do not remove or disable the third prong, as this will create an unsafe condition.
- Common household current is 110-120 volts. As long as your compressor is rated from 110-120 volts, there will be no complications in using power from a household receptacle. Never try to plug a tool designed for 110-120 Volts into a 220-240 Volt receptacle. 220V plugs and outlets are shaped differently to prevent this.
- Only use rounded jacket extension cords, preferably listed by Underwriter’s Laboratories (UL)
- Make sure the cord is rated for outdoor use, even if your application is indoors. Outdoor use cords have the letters “WA” on the cord jacket.

ALL GROUNDED, CORD-CONNECTED TOOLS:

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electrical shock. Tools equipped with an electric cord having an equipment-grounding conductor must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided in any way. If the plug does not fit the outlet, have the proper outlet installed by a qualified electrician.

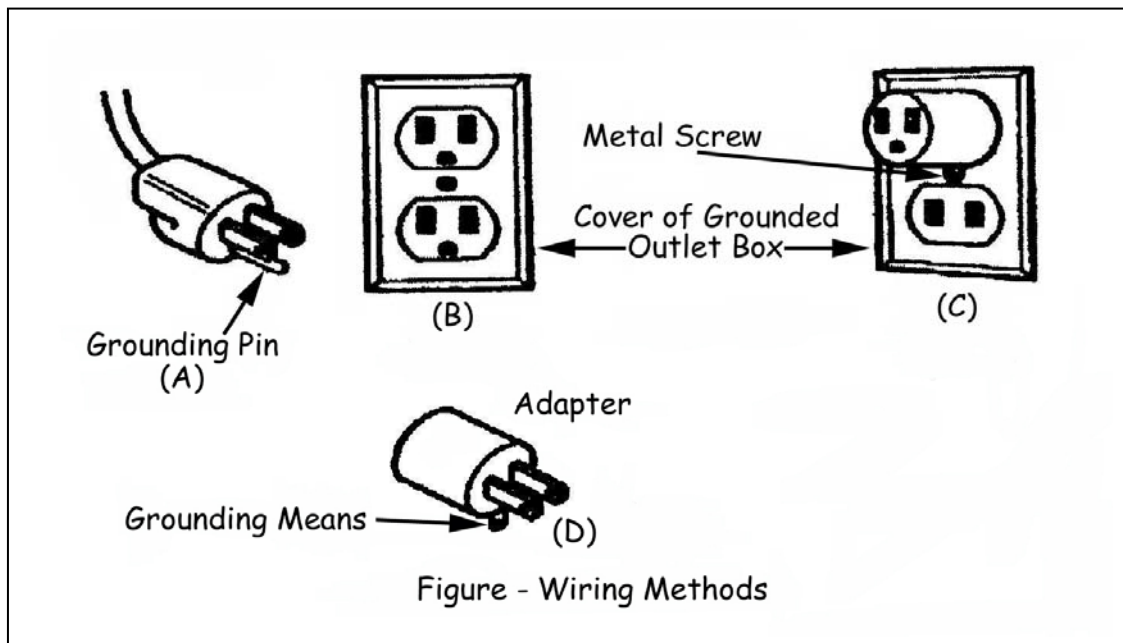
The use of any Extension Cord will cause some loss of power. To keep this to a minimum and to prevent overheating and motor burn out; use the table below to determine the **minimum** wire size (A.W.G.) Extension Cord.

Use only 3-wire extension cords that have 3-prong grounding plugs, and 3-pole receptacles that accept the tool's plug.

AMERICAN WIRE GAUGE RATING CHART								
EXTENSION CORD LENGTH (FEET)	25	50	75	100	125	150	175	200
AMPS	AWG (wire gauge)							
0 to 10.0	18	18	16	16	14	14	12	12
10.1 to 13.0	16	16	14	14	14	12	12	12
13.1 to 15	14	12	12	12	12	12	12	NA
15.1 to 18	14	12	12	12	12	12	NA	NA

Use only UL approved extension cord.

Repair or replace cords as soon as damage occurs. Never use a damaged cord.



Tools with three wire grounding plugs (that look like the plug illustrated in Sketch A in Figure) are intended for use on a circuit that has an outlet that look like the one illustrated in Sketch A in Figure. A temporary adapter, which looks like the one illustrated in Sketches B and C, may be used to connect this plug to a 2-pole receptacle as shown in Sketch B if a properly grounded outlet is not available. The temporary adapter should be used only until a properly grounded outlet can be installed by a qualified electrician. The green-colored rigid ear, lug, etc. extending

from the adapter must be connected to a permanent ground such as a properly grounded outlet box.

PERSONAL SAFETY

- Dress appropriately. Do not wear loose clothing or jewelry. Keep long hair in place and contained. Keep clothing, hair and gloves away from moving parts. Loose clothing, jewelry and hair can be snagged in moving parts.
- Use common sense, stay alert and watch what you are doing while operating a power tool. Do not use tools while under the influence of alcohol, medication, or drugs. Keep focused on the work at hand while using a power tool to prevent personal injury.
- Make sure the power switch is in the “OFF” position before plugging it into the receptacle. This will prevent accidental starting. Carrying tools with your finger on the switch or plugging in the tools with the switch in the “ON” position invites accidents.
- Remove adjusting tools such as wrenches or keys before turning the tool on. A wrench or key left attached to a rotating part will fly off and may cause personal injury.
- Do not overreach while operating a power tool. Keep proper footing and balance at all times. Good balance and solid footing enables better control in unexpected situations.
- Always wear appropriate safety equipment. Always wear eye protection while operating a power tool. Use appropriate dust respirators, hearing protection, hard-hat, face shield or safety shoes as dictated by the work and tool.

TOOL USE AND CARE

- Secure the work piece with clamps or other practical methods to provide a secure work platform. Holding the work by hand or against your body is not secure and may lead to loss of control.
- Use the correct tool for the work. The proper tool will do the work faster and safer.
- Do not use the tool if the “ON/OFF” switch is not working. Operating a tool that cannot be controlled by you is dangerous and must be repaired before use.
- Always disconnect the power cord from the electrical outlet before storing the tool, making adjustments or adding/replacing accessories. This simple prevention will reduce the risk of accidental starting the tool.
- Store the tool in a secure place out of reach of children. A secure storage location will prevent the unauthorized use by untrained users.
- Properly maintain tools. Keep all cutting tools sharp and clean. Remove contaminants from the tool and keep clean. Check for broken parts or binding of moving parts before use. If damaged, have the tool serviced before use. Prevent accidents caused by poorly maintained tools.
- Use only accessories recommended for your model. Accessories suitable for one tool may become hazardous when used on another tool.

SERVICE

- Tool service, mechanical and/or electrical is to be performed only by qualified repair personnel. Service performed by unqualified personnel may result in a risk of injury.
- When servicing a tool, use only identical replacement parts. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electrical shock or injury.

NOTE: if any parts are damaged or missing, do not attempt to plug in the power cord and turn the switch on until the damaged or missing parts are obtained and are installed correctly.

Specific Safety Rules and Precautions

1. **CAUTION! Your Warranty is voided if:** You drop the Air Compressor. Always lift the Air Compressor using its Handle.
2. Do not expose to a high-dust environment. Dusty conditions may increase wear on the Compressor.
3. **DANGER! This Air Compressor is NOT designed for and should not be used to supply breathing air.**
4. **DANGER!** Never attempt to repair or modify the Air Tank (53). Welding, drilling, or any other modification will weaken the Tank resulting in damage from rupture or explosion. Always replace worn, cracked, or damaged Tanks.
5. **WARNING!** Use only air hose with minimum rating of 150 PSI.
6. Make sure all tools and equipment used with the Air Compressor are rated to the appropriate capacity. Do not use any tool or equipment that operates above 100 PSI.
7. Drain the Air Compressor every day. Do not allow excessive moisture to build up inside the Air Compressor's Tank. Do not open the Drain Valve (54) with more than 10 PSI of air pressure in the Tank. Do not unscrew the Drain Valve so that more than four threads are showing.
8. Do not alter or remove the Safety Valve (25).
9. Make sure the Air Compressor is located on a flat, level, sturdy surface capable of supporting the weight of the Compressor, operator(s), and any additional tools and equipment.
10. Do not move or transport the Compressor if the Air Tank (53) is under pressure.
11. Industrial applications must follow OSHA guidelines.
12. Never stand on the Air Compressor. Serious injury could result if the Compressor is tipped.
13. Never leave the Air Compressor unattended when it is plugged in and running. Turn off the Compressor, and unplug the unit before leaving.
14. Do not allow children and other unauthorized people to handle or play with the Air Compressor.
15. Do not modify the factory set pressure shutoff or startup switches. This tool will do the work better and safer at the speed and capacity for which it was designed.
16. Avoid body contact with oils and lubricants used in the Compressor. If swallowed, seek medical treatment immediately. For skin contact, immediately wash with soap and water. For eye contact, immediately flush eyes with clean water.
17. 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.
18. **WARNING!** The warnings and precautions 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.

Assembly Instructions

CAUTION! Always make sure the Compressor's Power Switch (45) is in its "OFF" position prior to performing any service, maintenance, or cleaning of the Compressor.

1. Handle is shipped partially attached. Remove screw (46) and position handle as shown in figure A. Re-install screw (46) and tighten securely.
2. Install air-flow valve in pressure regulator (24). Note: Use sealing tape or silicon thread compound on air-flow valve threads to prevent air leaking. Connect the 1/4" female connector to the air-flow valve. Remember to use the sealing tape.

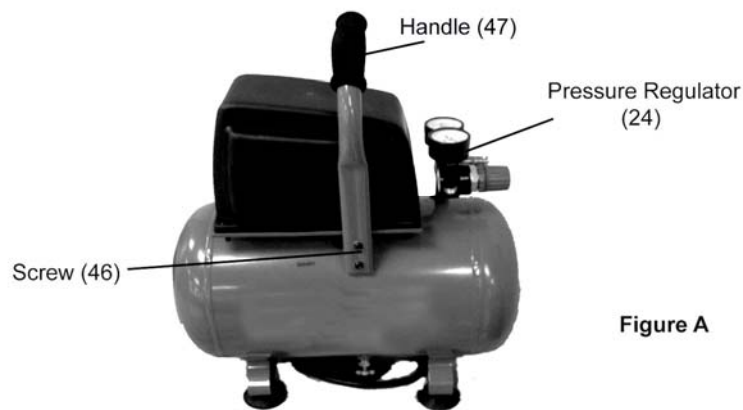


Figure A

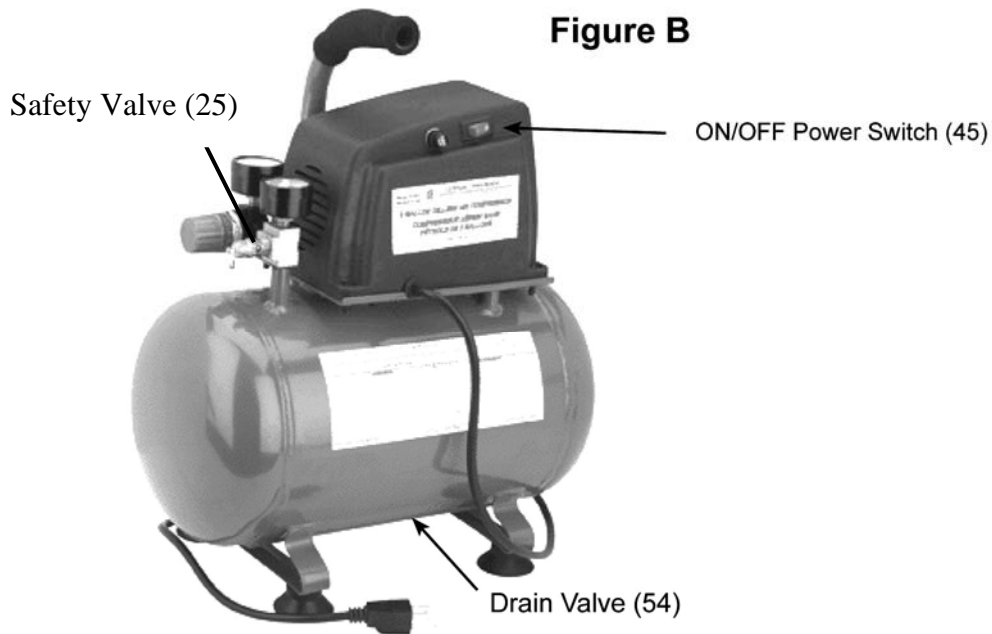
HOSE CONNECTION

1. Attach an air hose to the compressor's air outlet (air-flow valve) with the 1/4" female connector already attached. Connect the air hose to the air inlet of the tool. Use sealing tape for best air tight connections.

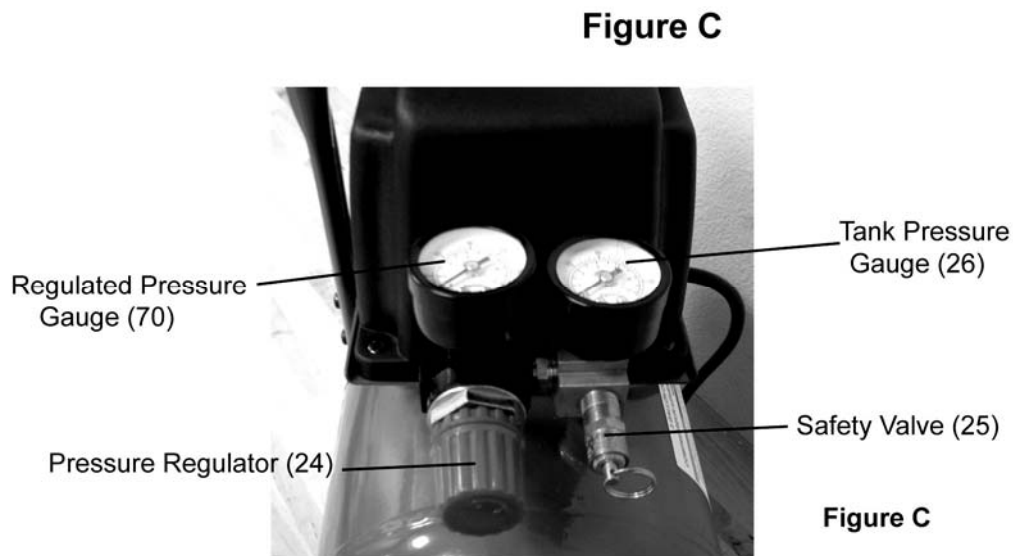
Operating Instructions

To Start The Compressor:

1. Check to make sure the Air Tank's Drain Valve (54), located at the bottom of the Air Tank (53), is fully closed. Pull on the Safety Valve (25) to verify that it is not stuck. (**See Figure B and C**)



2. Plug the Power Cord (35) into the nearest 120 volt, grounded, electrical outlet.
3. Push in the “ON” side of the ON/OFF Power Switch (45) to turn the compressor on. (See **Figure B.**)



To Adjust The Air Regulator:

1. With the supplied air-flow valve attached to the Pressure Regulator (24) and the valve handle in the “OFF” position (handle perpendicular to the outlet pipe), turn the compressor on. When the maximum air pressure, 100 PSI, is reached as indicated by the Tank Pressure Gauge (26), the motor will stop.
2. Turn the Pressure Regulator (24) knob to adjust Pressure Regulator (24). Turn the Pressure Regulator (24) knob counterclockwise to decrease the PSI, turn it clockwise to increase the PSI. When the Regulated Pressure Gauge (70) shows the pressure that you want to limit the compressor to, the Pressure Regulator (24) is set. (See **Figure C.**)
3. Between the Pressure Regulator knob and valve body, a narrow ring acts as a lock-ring for

the knob. Rotate the ring in a counterclockwise direction and tighten it against the knob to secure the setting. (See Figure C).

4. Attach hose to air-flow valve, then tool to hose, turn on air-flow valve to supply air pressure shown on gauge (70) to tool.

NOTE: When the maximum air pressure, 100 PSI, is reached as indicated by the Tank Pressure Gauge (26), the motor will stop. The Compressor will automatically restart when the air pressure drops below 85 PSI. (See Figure C.)

To Stop The Compressor:

1. Push the ON/OFF Power Switch (45) to its “OFF” position.
2. Turn air-flow valve to off (handle perpendicular to outlet pipe). Press trigger on tool to relieve air pressure in hose. Disconnect hose from air-flow valve
3. Relieve the Air Tank pressure and remove moisture by opening the Tank Drain Valve (54). Turn the valve slowly counter-clockwise until the pressure is relieved. Then, retighten the Drain Valve (54). (See Figure B.)
4. Allow the Air Compressor to completely cool. Then store the unit in a clean, dry, safe location out of reach of children.

Inspection, Maintenance, and Cleaning

1. **WARNING!** Make sure the ON/OFF Power Switch (45) of the Air Compressor is in its “OFF” position, the unit is unplugged from its electrical outlet, and air is drained from the Tank (53) before performing any inspection, maintenance, or cleaning procedures or leaving it unattended.
2. Before each use, inspect the general condition of the Air Compressor. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, damaged electrical wiring, loose air fittings, and any other condition that may affect the safe operation of the Compressor. If abnormal noise or vibration occurs, have the problem corrected before further use. **Do not use damaged equipment.**
3. Daily, purge the Air Tank (53) of all air and moisture to prevent corrosion. To do so, slowly and carefully unscrew (no more than four threads) the Tank Drain Valve (54) until the compressed air and condensation begins to be released from the Tanks. Allow sufficient time for all of the air and condensation to escape from the Tanks. Then, firmly re-tighten the Drain Valve.
4. **CAUTION!** All maintenance, service, or repairs not mentioned in this manual must only be performed by a qualified service technician.
5. To replace the Fuse (43), unscrew the fuse and replace with a 250V, 3A fuse.

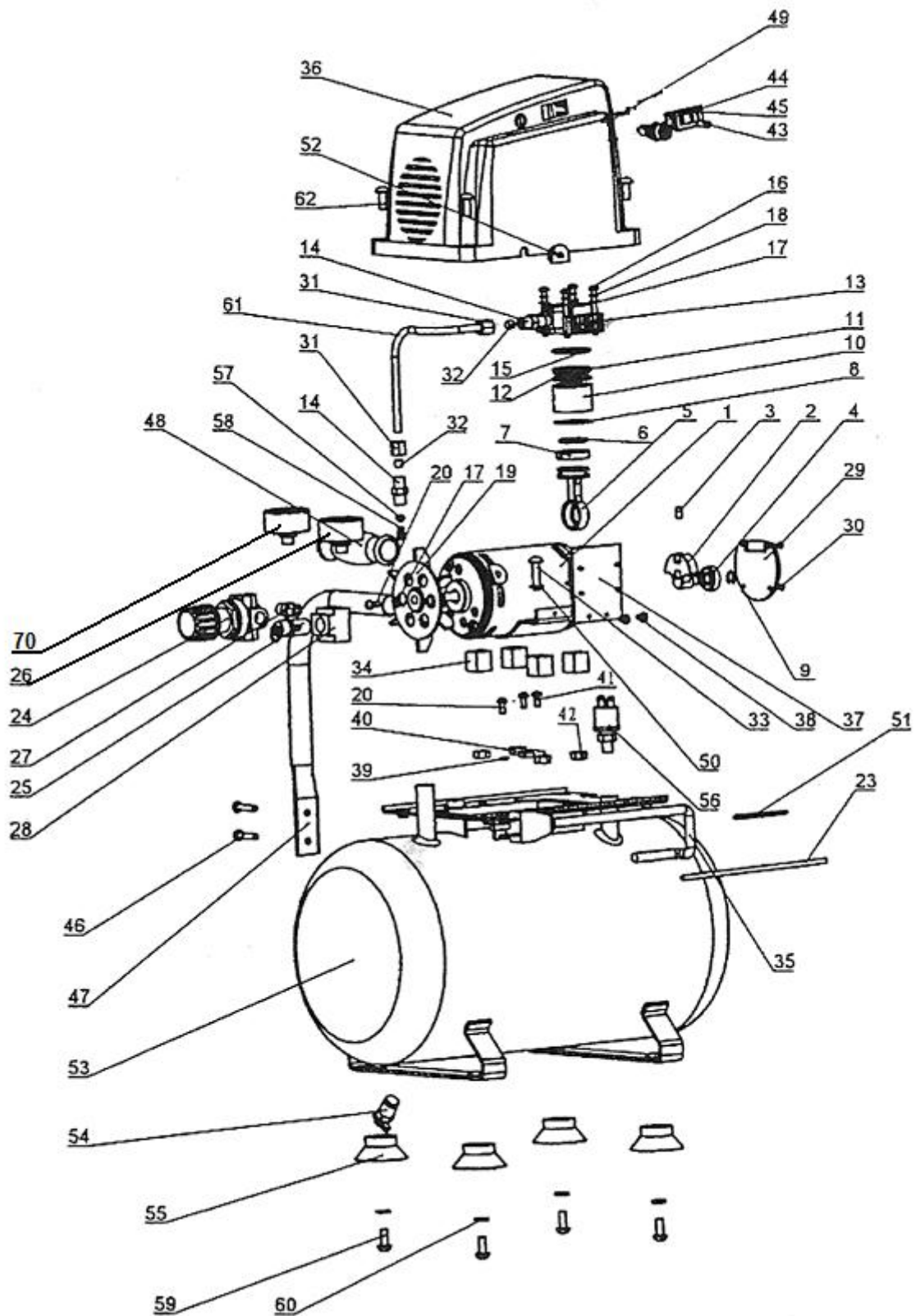
Troubleshooting

Problem	Cause	Solution
Compressor will not start.	Blown fuse.	Replace fuse.
	Loose electrical connections.	Make sure compressor is plugged into a working, 120 volt, grounded, electrical outlet.
Low pressure.	Defective pressure switch (56).	Have a qualified service technician replace pressure switch (56).
	Air leak in safety valve.	Replace safety valve.
	Drain valve not fully closed.	Close drain valve.
Safety valve releasing.	Defective safety valve.	Replace safety valve.
Pressure switch will not turn off compressor at 100PSI.	Defective pressure switch.	Immediately unplug compressor from its electrical outlet. Do not operate compressor until a qualified service technician can replace pressure switch.

Part List

Part #	Description	Qty	Part #	Description	Qty
1	Motor	1	36	Motor Cover	1
2	Crank	1	37	Circuit Board	1
3	Screw	1	38	Screw (M4 x 8)	2
4	Bearing (608-2RS)	1	39	Washer	1
5	Connecting Rod	1	40	Wire Clip	1
6	Silica Gel Ring (21.2 x 2.5)	1	41	Screw (M4 x 15)	2
7	Piston Ring	1	42	Nut	4
8	Paper Pad	1	43	Fuse (3 Amp)	1
9	Hoop	1	44	Fuse Box	1
10	Cylinder	1	45	Power Switch	1
11	Cylinder Washer	1	46	Screw (M5 x 16)	2
12	Silica Gel Ring (31 x 2)	1	47	Handle	1
13	Cylinder Head	1	48	Handle Soft Grip	1
14	Connector	2	49	Cords	1
15	Silica Gel Ring (31.5 x 1.8)	1	50	Flat Washer	1
16	Screw (M4 x 40)	4	51	Zip Tie	1
17	Flat Washer	5	52	Rubber Sheath	1
18	Spring Washer	5	53	Air Tank	1
19	Fan	1	54	Drain Valve	1
20	Screw (M4 x 10)	1	55	Rubber Foot	4
23	Tube	1	56	Pressure switch	1
24	Pressure Regulator	1	57	Ball	1
25	Safety Valve	1	58	Spring	1
26	Tank Pressure Gauge	1	59	Screw (M6 x 15)	4
27	Two-Way Valve	1	60	Flat Washer	6
29	Muffler Board	1	61	Copper Tube	1
30	Screw (M3 x 6)	4	62	Screw (M6 x 20)	4
31	Copper Connector Rod	2	70	Regulated Pressure Gauge	1
32	Copper Hoop	2	71	Air Flow Valve	1
33	Screw (M6 x 25)	4	72	Female Nipple ¼"	1
34	Damping Pad	1			
35	Power Cord	1			

Parts Diagram



WARRANTY STATEMENT FOR POWERPRO TECHNOLOGY™ PRODUCTS

PowerPro Technology™ air compressors are warranted (to the original purchaser) to be free from defects in materials and workmanship for a period of one (1) year from the date of original purchase. Air compressors used for commercial or for rental have a warranty period of 90 days from date of original purchase. Please fill out the enclosed warranty card (if applicable) and mail it to Power Pro Technology along with a copy of the receipt. The information is required to process warranty claims.

PowerPro Technology™ will repair or replace, at its discretion, any part that is proven to be defective in materials or workmanship under normal use during the one (1) year warranty period. Warranty repairs or replacements will be made without charge for parts or labor. Parts replaced during warranty repairs will be considered as part of the original product and will have the same warranty period as the original product.

TO EXERCISE WARRANTY COVERAGE:

Do not return to retailer! For warranty and technical support call the toll-free Customer Service Number: (800) 232-1195 and you will be informed of the nearest authorized service center or where to ship the unit for repair. We will prearrange the repair with the repair center should that be the procedure for this particular compressor.

WARRANTY COVERAGE:

This warranty is conveyed to the original purchaser and is not transferable.

Warranty does not extend to air compressors damaged or affected by accidents, neglect, misuse, unauthorized alterations, use in applications beyond product design and any other modification or abuse.

PowerPro Technology™ is not liable for any indirect, incidental or consequential damages from the sale or use of this product. Any implied warranties are limited to one (1) year as stated in this written limited warranty. Some states do not allow limitation on the length of an implied warranty. Some states do not allow the exclusion or limitation of incidental or consequential damages. This warranty gives you the specific legal right, and you may have other rights that vary by state.