

Please read and save these instructions. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage! Retain instructions for future reference.

Speedaire® Portable Air Compressor

Description

Speedaire one cylinder, low maintenance, oil-less portable air compressor is designed for home, farm, and medium duty industrial uses with a 50/50 duty cycle. The 2 HP pump and motor assembly on a 3 gallon capacity air tank is equipped with check valve, unloader valve, pressure switch, safety valve, air regulator, and a tank pressure gauge. Motor includes automatic thermal overload protection. UL listed.



Figure 1

Specifications

Motor HP	2
Cylinders	One
Air Delivery - SCFM @ 40 psi	4.5
Air Delivery - SCFM @ 90 psi	3.2
Maximum Air Pressure (psi)	135
Compressor RPM	1725
Tank Size (Gallons)	3
Voltage @ 60 Hz, 1-Phase	120
Amperage (Amps)	15
Overall Dimensions	
L W H Weight	
26" 8" 19" 39 lbs.	

Unpacking

After unpacking the unit, inspect carefully for any damage that may have occurred during transit. Check for loose, damaged or missing parts.

General Safety Information

1. Never touch the air compressor head during or immediately after operation.
2. Operate compressor in a well ventilated area that is free of gasoline, flammable paint or solvent vapors. If spraying a flammable material, provide ample ventilation.
3. Do not adjust, remove, or tamper with the safety valve or pressure switch. If safety valve or pressure switch replacement is necessary, a part with the same rating must be used.

▲ WARNING Never spray in a closed area. Motor and pressure switch may spark when operating, if sparks come in contact with vapors from gasoline, flammable paint or solvents, they may ignite causing fire or explosion.

▲ DANGER

Breathable Air Warning

This compressor/pump is not equipped and should not be used "as is" to supply breathing quality air. For any application of air for human consumption, the air compressor/pump will need to be fitted with suitable in-line safety and alarm equipment. This additional air to meet minimal specifications for Grade D breathing is described in Compressed Gas Association Commodity Specification G 7.1 - 1966, OSHA 29 CFR 1910.134 in the United States and/or Canadian Standards Association (CSA).

DISCLAIMER OF WARRANTIES

In the event the compressor is used for the purpose of breathing air application and proper in-line safety and alarm equipment is not simultaneously used, existing warranties shall be voided, and Dayton Electric Mfg. Co. disclaims any liability whatsoever for any loss, personal injury or damage.

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Speedaire® Portable Air Compressor

ENGLISH

General Safety Information (Continued)

- Never use a motor with a higher horsepower rating than the one supplied.
- Never drill into, weld or modify air tank.

▲ WARNING *Changing air tank will cause it to weaken. Tank may rupture or explode.*

- Do not repair a leaking tank, it must be replaced. Never replace air tank with a different model or larger tank.
- Never point any nozzle or sprayer toward a person or any part of the body.
- Always wear safety goggles or glasses when using air compressor.
- Check maximum pressure rating for air tools and accessories. Regulator outlet pressure must never exceed maximum pressure rating.

▲ CAUTION *Damage may occur to air tools and accessories if too much air pressure is applied.*

▲ WARNING *Always unplug air compressor prior to maintenance or repair. Never use air compressor outdoors when it is raining.*

▲ WARNING *Never directly inhale the compressed air produced by this unit. Compressed air contains toxic or irritating vapors which are harmful if inhaled.*

- Read labels and safety data for all materials you spray. Follow all safety precautions.
- Use a mask or respirator if there is a chance of inhaling toxic sprayed materials. Masks and respirators have limits and will only provide protection against some kinds and limited amounts of toxic material. Read mask and respirator instructions carefully. Consult a safety expert or industrial hygienist if you are not sure about the use of a certain mask or respirator.
- If the material you intend to spray contains trichloroethane and methylene chloride (read the label or the data sheet), do not use accessories that contain aluminum or galvanized parts. You must either change the material you intend to spray, or use only stainless steel spray equipment.

▲ WARNING *Trichloroethane and methylene chloride can also react with galvanized components causing corrosion and weakening of equipment parts.*

Installation

LOCATION OF AIR COMPRESSOR

Locate air compressor in a clean, dry, well ventilated area. Air filter must be kept clear of obstructions, which could reduce air delivery of the air compressor. The air compressor should be located at least 12" away from the wall or other obstructions that will interfere with air flow. Air compressor head and shroud are designed to allow proper cooling. If humidity is high, air filter can be installed to remove excessive moisture. Follow air filter instructions for proper installation.

EXTENSION CORD

To avoid voltage drop and power loss to the motor use extra air hose instead of an extension cord. If an extension cord must be used, be sure it is:

- A 3-wire extension cord that has a 3-blade grounding plug, and a 3-slot receptacle that will accept the plug on the product.
- In good condition.
- No longer than 50 feet.
- 12 gauge (AWG) or larger. Wire size increases as gauge number decreases. 10 AWG and 8 AWG may also be used. **(DO NOT USE A 14 OR 16 AWG.)**

▲ CAUTION *Compressor can be operated on a 15 amp circuit if:*

- Voltage supply to circuit is normal.**
- Circuit is not used to supply any other electrical needs (lights, appliances, etc.)**
- Extension cords comply with specifications in owners manual.**
- Circuit is equipped with 15 amp circuit breaker or 15 amp time delay fuse. Use a Type "T" time delay fuse.**

If any of the above conditions cannot be met, or if operation of the compressor repeatedly causes interruption of the power, it may be necessary to operate it from a 20 amp circuit. It is not necessary to change the cord set.

GROUNDING INSTRUCTIONS

▲ WARNING *Improper grounding can result in electrical shock. In the event of a short circuit, grounding reduces risk of shock by providing an escape wire for the electric current. Air compressor must be properly grounded.*

Model 5Z598C

Installation (Continued)

1. Air compressor is equipped with a cord having a ground wire with an appropriate grounding plug. Plug must be used with an outlet that has been installed and grounded in accordance with all local codes and ordinances. Outlet and plug must have the same configuration. DO NOT USE AN ADAPTER.
2. Do not modify the provided plug. If it does not fit the available outlet, the correct outlet should be installed by a qualified electrician.
3. Inspect plug and cord before each use. Do not use if there are signs of damage.

▲ WARNING *Risk of electrical shock. If repairing or replacing cord or plug, the grounding wire must be kept separate from the current-carrying wires. Never connect the grounding wire to a flat blade plug terminal. (The grounding wire has insulation with an outer surface that is green – with or without yellow stripes.)*

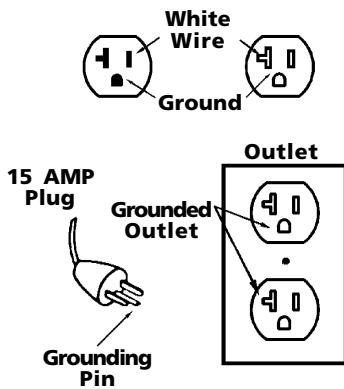


Figure 2

BREAK-IN PROCEDURES

This procedure is only required the first time the air compressor is put into service and when the check valve has to be replaced.

1. Set the pressure switch OFF/AUTO lever to the OFF position.
2. Plug power cord into the correct branch circuit receptacle.

3. Turn regulator clockwise, opening it fully, to prevent air pressure build-up in the tank.
4. Move the OFF/AUTO lever to AUTO. Compressor will start.
5. Run the compressor for 15 minutes. Make sure the regulator is open and there is no tank pressure buildup.
6. After 15 minutes, close the regulator by turning it counter-clockwise. Air tank will fill to cut-out pressure and then the motor will stop.

Operation

AIR COMPRESSOR PUMP

To compress air, the piston moves up and down in the cylinder. Air is drawn in through the air intake valves on the downstroke of the piston. Exhaust valve remains closed. On the upstroke of the piston, air is forced out through the exhaust valve, through the outlet tube, through the check valve and into the air tank. Working air is not available until the compressor has raised the air tank pressure above what is required at the air outlet.

CHECK VALVE

When the air compressor is operating, the check valve is "open", allowing compressed air to enter the air tank. When the air compressor reaches "cut-out" pressure, the check valve closes, allowing air pressure to remain inside the air tank.

UNLOADER VALVE

The unloader valve located on the side of the pressure switch, is designed to automatically release compressed air from the compressor head and the outlet tube when the air compressor reaches "cut-out" pressure or is shut off. Motor will not be able to start if the air is not released. The pressure release valve allows the motor to restart freely. After the motor stops running air will escape from the unloader valve. No air should be heard leaking when the motor is running.

PRESSURE SWITCH

The pressure switch automatically starts the motor when the air tank pressure drops below the factory set "cut-in" pressure. When the air tank pressure reaches the factory set "cut-out" pressure the pressure switch automatically stops the motor.

SAFETY VALVE

If the pressure switch does not shut off the air compressor at its cut-out pressure setting, the safety valve will protect against high pressure by "popping off" at its preset pressure.

REGULATOR

Air pressure coming from the air tank is controlled by the regulator knob. Turn the knob clockwise to increase pressure and counter-clockwise to decrease pressure. To avoid minor readjustments after making a change in pressure setting, always approach the desired pressure from a lower pressure. When reducing from a higher to a lower setting, reduce to a pressure lower than what is desired, then raise the pressure to the desired setting. The outlet regulated air pressure may need to be adjusted while operating, depending on the air requirements of the accessory.

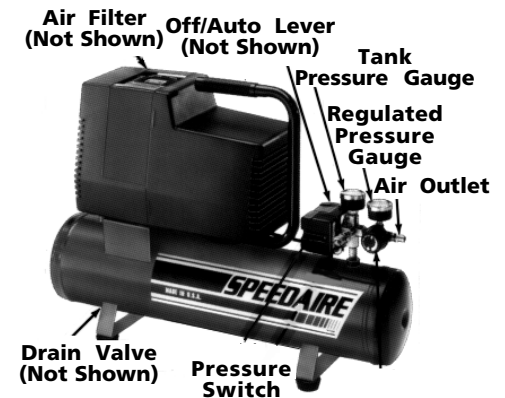


Figure 3

Speedaire® Portable Air Compressor

Operation (Continued)

OUTLET PRESSURE GAUGE

The outlet pressure gauge indicates the air pressure available at the outlet side of the regulator. Pressure is controlled by the regulator and is always equal to or less than the tank pressure. See "Operating Procedures."

TANK PRESSURE GAUGE

The reserve air pressure in the tank is indicated by the tank pressure gauge.

OPERATING PROCEDURES

STARTING

1. Before attaching air hose or accessories, make sure the OFF/AUTO lever is set to OFF and the air regulator is closed. (Turn counterclockwise to close.)
2. Attach hose and accessories.

▲ WARNING *Incorrect use can cause bursting, fire or explosion hazards. Carefully follow steps 3, 5, and 6 each time the compressor is used.*

3. Check manufacturer's maximum pressure rating for air tools and accessories. Regulator outlet pressure must never exceed the maximum pressure rating.
4. Turn OFF/AUTO lever to AUTO and allow tank pressure to build. Motor will stop when tank pressure reaches "cut-out" pressure.
5. Open regulator by turning it clockwise. Adjust the regulator to the correct pressure setting. Compressor is now ready for use.
6. Always operate air compressor in well-ventilated areas (free of gasoline, flammable paint or solvent vapors). Do not operate the compressor near a spray area.

STOPPING

1. Set the OFF/AUTO lever to OFF.
2. Turn the regulator counterclockwise and set the outlet pressure to zero.
3. Remove air tool or accessory.
4. Open regulator and allow air to slowly bleed from the tank. Close regulator when tank pressure is approximately 20 psi.
5. Drain water from air tank.

▲ WARNING *Water will condense in air tank. If not drained, water will corrode and weaken air tank causing a risk of air tank rupture.*

With tank pressure at approximately 20 psi, open the drain valve and tip the outfit allowing all moisture to drain.

NOTE: If drain valve is plugged, release all air pressure. Remove valve, clean, then reinstall valve.

6. After water has been drained, close drain valve. Air compressor can now be stored.

Maintenance

▲ WARNING *Unit cycles automatically when power is on. When performing maintenance, you may be exposed to voltage sources, compressed air or moving parts. Before performing any maintenance or repair, unplug the power cord and bleed off all air pressure.*

AIR FILTER INSPECTION

NOTE: Keep the air filter clean at all times. Do not operate the compressor with the air filter removed. A dirty filter will not allow the compressor to operate at full capacity. Before using the compressor, check the air filter to be sure it is clean. To remove and clean (wash in mild detergent) or replace the foam air filter, compress the rear slotted end of each of the two pins holding filter in place and pull pin

forward releasing the filter itself. To reinstall a clean filter, place in position and push retaining pins into holes securing filter.

NOTE: Wire support screen supplied in the replacement parts kits, to be positioned behind the foam filter, is not required on the 3/4 HP model.

LUBRICATION

Compressor does not require any lubrication. All metal bearings are permanently lubricated and the compression cylinder/piston/ring area is specifically designed to require no lubrication.

SAFETY VALVE - INSPECTION

▲ WARNING *If safety valve does not work properly, over-pressurization may occur, causing air tank rupture or an explosion. Occasionally pull ring on safety valve to make certain safety valve operates freely. If the valve is stuck or does not operate smoothly, replace with the same type of valve.*

MOTOR

Motor has an automatic reset thermal overload protector. If motor overheats for any reason, overload protector will shut off motor. Motor must be allowed to cool down before restarting. Compressor will automatically re-start after motor cools:

Low voltage may cause:

1. Overload protector to frequently shut off the motor.
2. Motor not to get up to full power or speed.
3. Fuses to blow out when starting the motor.
4. Lights to dim and remain dim when motor is started and running.

Model 5Z598C

LIMITED WARRANTY

DAYTON ONE-YEAR LIMITED WARRANTY. Speedaire® Permanently Lubricated Portable Air Compressor, Models covered in this manual, are warranted by Dayton Electric Mfg. Co. (Dayton) to the original user against defects in workmanship or materials under normal use for one year after date of purchase. Any part which is determined to be defective in material or workmanship and returned to an authorized service location, as Dayton designates, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at Dayton's option. For limited warranty claim procedures, see PROMPT DISPOSITION below. This limited warranty gives purchasers specific legal rights, which vary from jurisdiction to jurisdiction.

LIMITATION OF LIABILITY. To the extent allowable under applicable law, Dayton's liability for consequential and incidental damages is expressly disclaimed. Dayton's liability in all events is limited to and shall not exceed the purchase price paid.

WARRANTY DISCLAIMER. Dayton has made a diligent effort to provide product information and illustrate the products in this literature accurately; however, such information and illustrations are for the sole purpose of identification, and do not express or imply a warranty that the products are MERCHANTABLE, or FIT FOR A PARTICULAR PURPOSE, or that the products will necessarily conform to the illustrations or descriptions. Except as provided below, no warranty or affirmation of fact, expressed or implied, other than as stated in the "LIMITED WARRANTY" above is made or authorized by Dayton.

PRODUCT SUITABILITY. Many jurisdictions have codes and regulations governing sales, construction, installation, and/or use of products for certain purposes, which may vary from those in neighboring areas. While Dayton attempts to assure that its products comply with such codes, it cannot guarantee compliance, and cannot be responsible for how the product is installed or used. Before purchase and use of a product, review the product applications, and all applicable national and local codes and regulations, and be sure that the product, installation, and use will comply with them.

Certain aspects of disclaimers are not applicable to consumer products; e.g., (a) some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you; (b) also, some jurisdictions do not allow a limitation on how long an implied warranty last, consequently the above limitation may not apply to you; and (c) by law, during the period of the Limited Warranty, any implied warranties of implied merchantability or fitness for a particular purpose applicable to consumer products purchased by consumers, may not be excluded or otherwise disclaimed.

PROMPT DISPOSITION. Dayton will make a good faith effort for prompt correction or other adjustment with respect to any product, which proves to be defective within limited warranty. For any product believed to be defective within limited warranty, first write or call dealer from whom the product was purchased. Dealer will give additional directions. If unable to solve satisfactorily, write to Dayton at address below, giving dealer's name, address, date, and number of dealer's invoice, and describing the nature of the defect. Title and risk of loss pass to buyer on delivery to common carrier. If product was damaged in transit to you, file claim with carrier.

Manufactured for Dayton Electric Mfg. Co., 5959 W. Howard St., Niles, Illinois 60714 U.S.A.

Speedaire® Portable Air Compressor

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Troubleshooting Chart

▲ WARNING *Performing repairs may expose voltage sources, moving parts, or compressed air sources. Personal injury may occur. Prior to attempting any repairs unplug the power cord and bleed off air pressure.*

Symptom	Possible Causes	Corrective Action
Excessive tank pressure – safety valve pops off	<ol style="list-style-type: none"> 1. Pressure switch does not shut off motor when compressor reaches "cut-out" pressure 2. Pressure switch "cut-out" too high 	<ol style="list-style-type: none"> 1. Move the pressure switch lever to the OFF position. If the outfit doesn't shut off, and the electrical contacts are welded together, replace the pressure switch. If the contacts are good, check to see if the pin in the bottom of the pressure release valve is stuck. If it does not move freely, replace the valve. 2. Return the outfit to a Service Center to check and adjust, or replace switch.
Air leaks at fittings	Fittings are not tight enough	Tighten fittings where air can be heard escaping. Check fittings with soapy water solution. DO NOT OVER-TIGHTEN
Air leaks at check valve	Defective or dirty check valve	Defective check valve results in a constant air leak at the pressure release valve when there is pressure in the tank and the compressor is shut off. Remove and clean or replace check valve. DO NOT OVER-TIGHTEN
Air leaks at pressure switch release valve	<ol style="list-style-type: none"> 1. Defective pressure switch valve 2. Defective check valve 	<ol style="list-style-type: none"> 1. Remove and replace the release valve 2. A defective CHECK valve results in a constant air leak at the pressure release valve when there is pressure in the tank and the compressor is shutoff. Remove and clean or replace check valve. DO NOT OVER-TIGHTEN
Air leaks from air tank	Defective air tank	Air tank must be replaced. Do not repair the leak ▲ WARNING DO NOT DRILL INTO, WELD, OR OTHERWISE MODIFY AIR TANK OR IT WILL WEAKEN
Regulator knob – continuous air leak Regulator will not shut-off air outlet	Dirty or damaged regulator internal parts	Clean or replace regulator
Pressure reading on the regulated pressure gauge drops when an accessory is used	It is normal for "some" pressure drop to occur	If there is an excessive amount of pressure drop when the accessory is used, adjust the regulator NOTE: Adjust the regulated pressure under flow conditions (while accessory is being used)

Model 5Z598C

Troubleshooting Chart (Continued)

Symptom	Possible Causes	Corrective Action
Air leak from safety valve	Possible defect in safety valve	Operate safety valve manually by pulling on ring. If valve still leaks, it should be replaced
Compressor is not supplying enough air to operate accessories	<ol style="list-style-type: none"> 1. Prolonged excessive use of air 2. Compressor is not large enough for air requirement 3. Restricted air intake filter 4. Hole in hose 5. Check valve restricted 6. Air leaks 	<ol style="list-style-type: none"> 1. Decrease amount of air usage 2. Check the accessory air requirement. If it is higher than the SCFM or pressure supplied by your air compressor, you need a larger compressor 3. Clean or replace air intake filter. Do not operate the air compressor in a paint spray area 4. Check and replace if required 5. Remove and clean or replace 6. Tighten fittings (See Air Leaks Section of Troubleshooting Chart)
Motor will not run	<ol style="list-style-type: none"> 1. Motor overload protection switch has tripped 2. Tank pressure exceeds pressure switch "cut-in" pressure 3. Wrong gauge wire or length of extension cord 4. Check valve stuck open 5. Loose electrical connections 6. Paint spray on internal motor parts 7. Possible defective motor 8. Fuse blown, circuit breaker tripped 9. Pressure release valve on pressure switch has not unloaded head pressure 	<ol style="list-style-type: none"> 1. Let motor cool off and overload switch will automatically reset 2. Motor will start automatically when tank pressure drops below "cut-in" pressure of pressure switch 3. Check for proper gauge wire and cord length 4. Remove and clean or replace 5. Check wiring connection inside pressure switch and terminal box area 6. Have checked at Service Center. Do not operate the compressor in the paint spray area. See flammable vapor warning on page 2 7. Have checked at local Service Center 8. <ol style="list-style-type: none"> a. Check fuse box for blown fuse and replace if necessary. Re-set circuit breaker. Do not use a fuse or circuit breaker with higher rating than that specified for your particular branch circuit b. Check for proper fuse; only "Fusetron" Type T fuses are acceptable c. Check for low voltage conditions and/or proper extension cord d. Disconnect the other electrical appliances from circuit or operate the compressor on its own branch circuit 9. Bleed the line by pushing the lever on the pressure switch to the OFF position; if the valve does not open, replace it

For Replacement Parts, Call 1-800-323-0620

24 hours a day - 365 days a year

Please provide following information:

- Model number
- Serial number (if any)
- Part description and numbers as shown in parts list

Address parts correspondence to:

Grainger Parts
 P.O. Box 3074
 1657 Shermer Road
 Northbrook, IL 60065-3074 U.S.A.

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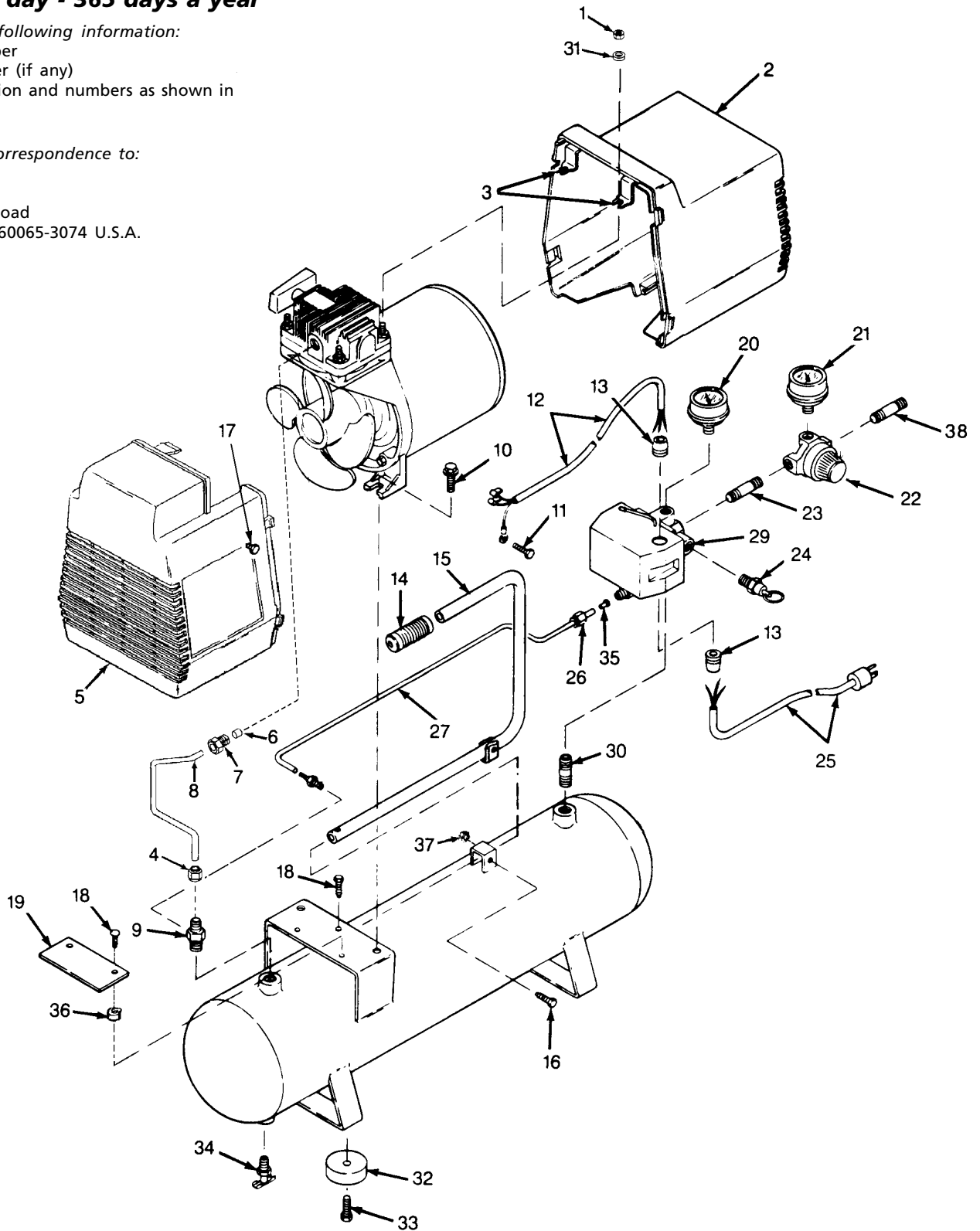


Figure 4 - Replacement Parts Illustration for Air Compressor

Replacement Parts List for Compressor Pump

Reference Number	Description	Part Number	Qty.
1	Locknut	SS-655-ZN	2
2	Rear shroud (includes two #3)	CAC-4300	1
3	Rear shroud bracket	CAC-1121	2
4	3/8" Nut sleeve assembly	SSP-7813	1
5	Front shroud	AC-0078	1
6	O-ring	SSG-3105	1
7	Tubing nut 3/8"	SSP-7821-1	1
8	Outlet tube	AC-0127	1
9	Check valve	AC-0325-1	1
10	Hex screw (torque to 45 in./lbs.)	SSF-928	2
11	8 - 32 x .375/.344 Ground screw	SUDL-9-1	1
12	Motor cord	CAC-4215-1	1
13	Strain relief	SSW-7367	2
14	Handle grip	CAC-1244	1
15	Handle	CAC-1243	1
16	5/16" - 18 UNC screw	SSF-999-1	1
17	10 - 9 x .50 screw	SSF-3156	1
18	12 - 14 x 3/4" screw	SSF-1000	3
19	Plate	AC-0155	1
20	Tank pressure gauge	GA-370	1
21	Regulator pressure gauge	GA-369	1
22	Air regulator assembly	CAC-4296-1	1
23	1/4" - 18 NPT Nipple	SS-1286	1
24	150 psig Safety valve	TIA-4150	1
25	Line cord	SUDL-403-1	1
26	Sleeve nut of 1/4" O.D. tube	SSP-7811	1
27	Pressure relief tube	CAC-1245	1
29	Pressure switch	AC-0745	1
30	1/4" 18 NPT x 1 1/2" Nipple	SS-2071	1
31	Washer	SSN-60-ZN	2
32	Rubber foot	SST-5314-1	4
33	Screw	91895680	4
34	Drain valve	AC-0430	1
35	Insert tube insert	SSP-9013	1
36	Nylon spacer	SSN-62	2
37	Locknut	SSF-8150	1
38	1/4" NPT adapter	H-2099	1

For Replacement Parts, Call 1-800-323-0620

24 hours a day - 365 days a year

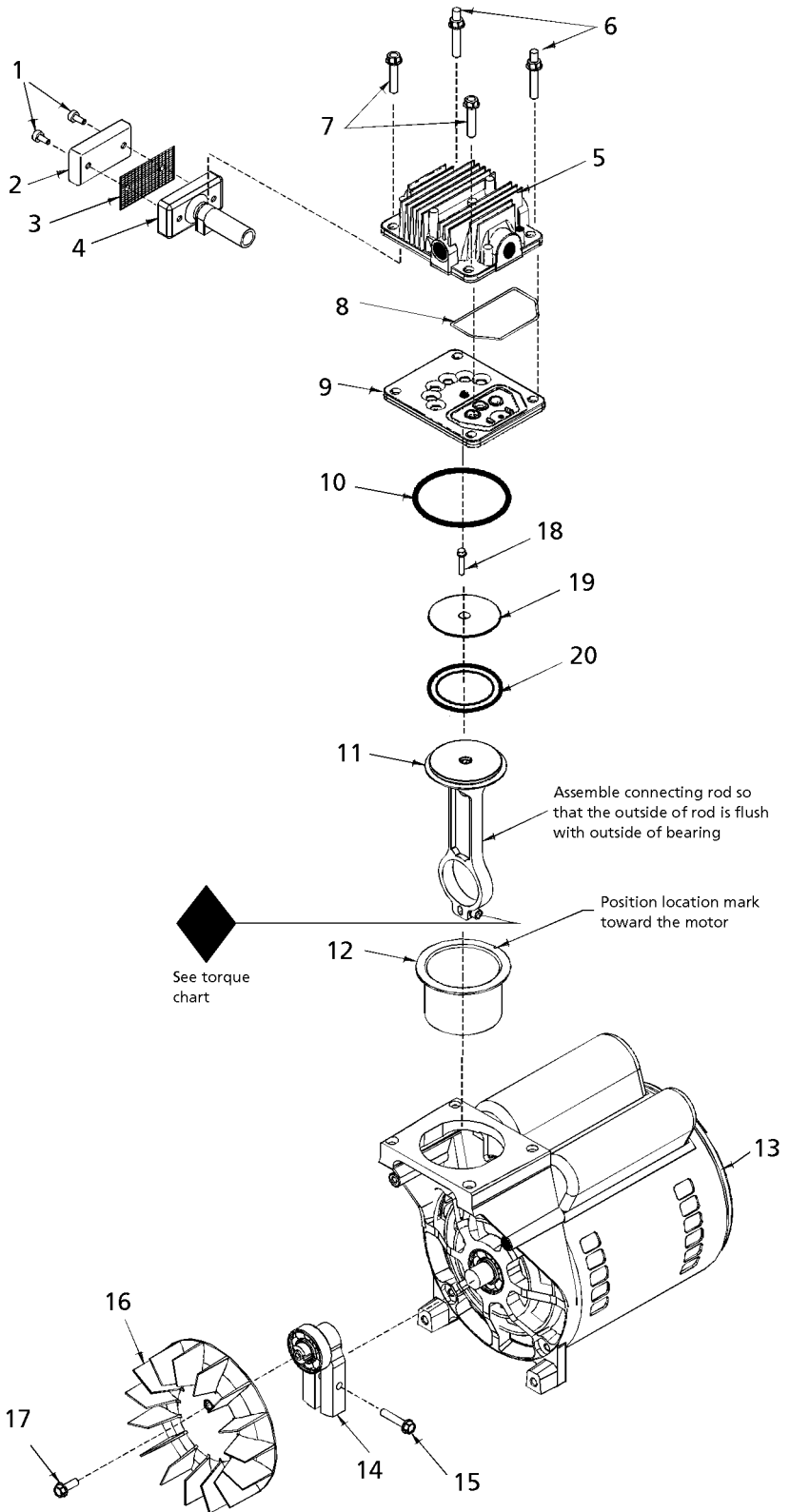
Please provide following information:

- Model number
- Serial number (if any)
- Part description and numbers as shown in parts list

Address parts correspondence to:

Grainger Parts
 P.O. Box 3074
 1657 Shermer Road
 Northbrook, IL 60065-3074 U.S.A.

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Key #	Torque
6	7 to 10 ft. lbs.
7	7 to 10 ft. lbs.
15	100 to 120 in. lbs.
17	100 to 120 in. lbs.
18	51 to 59 in. lbs.
◆	42 to 48 in. lbs.
Torque wrench must be used	

Figure 5 - Replacement Parts Illustration for Pump

Replacement Parts List for Compressor Pump

Reference Number	Description	Part Number	Qty.
1	● Air filter fastener	----	2
2	● Air filter	DAC-143	1
3	● Muffler screen	----	2
4	● Intake muffler	----	1
5	Head	AC-0037	1
6	1/4" - 20 x 1 1/4" Stud	SSF-589	2
7	1/4" - 20 x 1 1/4" Screw	SSF-927	2
8	▲ ■ O-ring	ACG-45	1
9	Valve plate assembly (includes valves, restrictors and screws)	AC-0032	1
10	▲ ■ O-ring	SSG-8156	1
11	▲ Connecting rod assembly	----	1
12	▲ ■ Cylinder sleeve	----	1
13	Motor	M0-3025-2	1
14	Eccentric flywheel bearing assembly	AC-0140	1
15	1/4" - 20 unc - 2A Screw	SSF-615	1
16	Fan	AC-0108	1
17	1/4" - 20 unc x .75 Screw	SSF-586	1
18	■ 10 - 24 x .75 T75 Torx Screw	SSF-3158-1	1
19	■ Rod cap	----	1
20	■ Compression ring	----	1

Kits

Description	Part Number
● Air filter kit	K-4977
▲ Piston/cylinder kit	KK-4835
■ Cylinder sleeve/compression ring	K-0058

