



## 2-Gallon / 8-Gallon / 20-Gallon Electric Air Compressor

Owner's Manual



**! WARNING:** Read carefully and understand all ASSEMBLY AND OPERATION INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury or property damage.

Item #106693/ #53009 / #99306

**READ & SAVE THESE INSTRUCTIONS**

Thank you very much for choosing a NorthStar™ product!

For future reference, please complete the owner's record below:

Serial Number/Lot Date Code: \_\_\_\_\_

Purchase Date: \_\_\_\_\_

Save the receipt, warranty, and this manual. It is important that you read the entire manual to become familiar with this product before you begin using it.

This air compressor is designed for certain applications only. Northern Tool and Equipment is not responsible for issues arising from modification or improper use of this product such as an application for which it was not designed. We strongly recommend that this product not be modified and/or used for any application other than that for which it was designed.

For technical questions, please call **1-800-222-5381**.

## Table of Contents

Intended Use .....	4
Packaging Contents .....	4
Technical Specifications.....	4
Important Safety Information .....	4
Specific Operation Warnings .....	7
Grounding .....	9
Extension Cords .....	10
Main Parts.....	11
Reference 1: Air Filter – item#106693/#53009/#99306.....	12
Reference 2: Wheel Set – item#53009/#99306 .....	13
Before Each Use .....	13
Operating Instructions .....	14
After Each Use .....	16
Maintenance .....	17
Troubleshooting .....	18
Parts Diagram- Air Receiver Tank Model #53009 .....	19
Parts List - Model #53009.....	20
Parts Diagram- Pump Model #53009.....	21
Parts List - Model #53009.....	22
Parts Diagram- Air Receiver Tank Model #99306 .....	23
Parts List - Model #99306.....	24
Parts Diagram- Pump Model #99306.....	25
Parts List - Model #99306.....	26
Parts Diagram- Air Receiver Tank Model #106693 .....	27
Parts List - Model #106693.....	28
Parts Diagram- Pump Model #106693.....	29
Parts List - Model #106693.....	30
Replacement Parts .....	30
Limited Warranty .....	31

## Intended Use

The NorthStar 2-Gallon / 8-Gallon / 20-Gallon Electric Air Compressor provides compressed air used primarily for operating air tools and pressuring other objects that require high air pressure, such as tires. Do not use for low-pressure objects such as balloons, air mattresses, and sport balls, which can explode quickly and easily. Special precautions are necessary when used for cleaning to prevent flying debris hazards. It is not to be used to supply breathing air.

## Packaging Contents

- Air Compressor
- Air filter set (2) – #53009&#99306 ; Air filter (1) – #106693
- Owner's Manual
- Wheel set (2) – #53009&#99306 ; #106693 do not include wheels

## Technical Specifications

Property	Specification		
	Model #106693	Model #53009	Model #99306
Motor Voltage	115 Volts	115 Volts	115 Volts
Frequency	60 Hz	60 Hz	60 Hz
Motor Speed	1750 RPM	1750 RPM	1750 RPM
Amps	8A	12A	13.5A
Horsepower	1 HP	1.5 HP	2 HP
Max. Working Pressure	125 PSI	125 PSI	125 PSI
Volume Rating	1.6 CFM @125 PSI 2.4 CFM @90 PSI 3.6 CFM @40 PSI	3.1 CFM @125 PSI 4.0 CFM @90 PSI 5.4 CFM @40 PSI	4.5 CFM @125 PSI 5.4 CFM @90 PSI 6.7 CFM @40 PSI
Duty Cycle	70%	70%	70%
Noise Level (dB)	60	70	70
Receiver Capacity	2 gal.	8 gal.	20 gal.
Compressor Dimensions (Inch)	19.1(L)x15.4(W)x13.6(H)	15.7(L)x15.4(W)x34.3(H)	21.6(L)x21(W)x44.7(H)
Net Weight (Lb.)	44	90	141

## Important Safety Information

### ⚠️ WARNING

- Read and understand all instructions. Failure to follow all instructions may result in serious injury or property damage.
- The warnings, cautions, and instructions in this manual cannot cover all possible conditions or situations that could occur. Exercise common sense and caution when using this tool. Always be aware of the environment and ensure that the tool is used in a safe and responsible manner.
- Do not allow persons to operate or assemble the product until they have read this manual and have developed a thorough understanding of how it works.
- Do not modify this product in any way. Unauthorized modification may impair the function and/or safety and could affect the life of the product. There are specific applications for which the product was designed.

- Use the right tool for the job. DO NOT attempt to force small equipment to do the work of larger industrial equipment. There are certain applications for which this equipment was designed. This product will be safer and do a better job at the capacity for which it was intended. DO NOT use this equipment for a purpose for which it was not intended.
- Industrial or commercial applications must follow OSHA requirements.

### **⚠WARNING**

- This product may contain chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.
- 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 and other masonry products, and
  - 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 dust masks that are specially designed to filter out microscopic particles.
- Handling power cords on corded products may expose you to lead, a chemical known to the state of California to cause cancer and birth defects or other reproductive harm. Wash your hands after handling.

### **⚠WARNING**

#### **WORK AREA SAFETY**

- Inspect the work area before each use. Keep work area clean, dry, free of clutter, and well-lit. Cluttered, wet, or dark work areas can result in injury. Using the product in confined work areas may put you dangerously close to cutting tools and rotating parts.
- Do not use the compressor where there is a risk of causing a fire or an explosion; e.g., in the presence of flammable liquids, gases, or dust. The product can create sparks, which may ignite the flammable liquids, gases, or dust.
- Do not allow the compressor to come into contact with an electrical source. It is not insulated and contact will cause electrical shock.
- Keep children and bystanders away from the work area while operating the tool. Do not allow children to handle the product.
- Be aware of all power lines, electrical circuits, water pipes, and other mechanical hazards in your work area. Some of these hazards may be hidden from your view and may cause personal injury and/or property damage if contacted.

## **⚠WARNING**

### **PERSONAL SAFETY**

- Stay alert, watch what you are doing, and use common sense when operating the compressor. Do not use the tool while you are tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating the tool may result in serious personal injury.
- Dress properly. Do not wear loose clothing, dangling objects, or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry, or long hair can be caught in moving parts. Air vents on the tool often cover moving parts and should be avoided.
- Wear the proper personal protective equipment when necessary. Use ANSI Z87.1 compliant safety goggles (not safety glasses) with side shields, or when needed, a face shield. Use a dust mask in dusty work conditions. Also use non-skid safety shoes, hardhat, gloves, dust collection systems, and hearing protection when appropriate. This applies to all persons in the work area.
- Do not overreach. Keep proper footing and balance at all times.
- Remove keys or wrenches before connecting the tool to an air supply, power supply, or turning on the tool. A wrench or key that is left attached to a rotating part of the tool may cause personal injury.
- Secure the work with clamps or a vise instead of your hand when practical. This safety precaution allows for proper tool operation using both hands.

## **⚠CAUTION**

### **COMPRESSOR USE AND CARE**

- Do not force the compressor. Products are safer and do a better job when used in the manner for which they are designed. Plan your work, and use the correct product for the job.
- Check for damaged parts before each use. Carefully check that the product will operate properly and perform its intended function. Replace damaged or worn parts immediately. Never operate the product with a damaged part.
- Do not use a product with a malfunctioning switch. Any power tool that cannot be controlled with the power switch is dangerous and must be repaired by an authorized service representative before using.
- Disconnect the power/air supply from the product and place the switch in the locked or off position before making any adjustments, changing accessories, or storing the tool. Such preventive safety measures reduce the risk of starting the tool accidentally.
- Store the product when it is not in use. Store it in a dry, secure place out of the reach of children. Inspect the tool for good working condition prior to storage and before re-use.
- Use only accessories that are recommended by the manufacturer for use with your product. Accessories that may be suitable for one product may create a risk of injury when used with another tool. Never use an accessory that has a lower operating speed or operating pressure than the tool itself.
- Keep guards in place and in working order. Never operate the compressor without the guards in place.

- Do not leave the compressor running unattended.

## Specific Operation Warnings

### **⚠WARNING**

- Moisture in supply air when compressed will form into droplets as it leaves air compressor pump and enters receiver tank. When humidity is high or when a compressor is in continuous use for an extended period of time, a significant amount of moisture will collect in the tank. Part of the moisture will be discharged in the outlet air. When using a paint spray or sandblast gun, this water will be carried from the tank through the hose, and out of the gun as droplets mixed with the spray material. If this is not acceptable for your application, an external air dryer must be added to the system.
- The ideal operating temperatures is 40° and 100°F (4° and 37° C), the operating limitations is 15°F (-9°C) or above 125°F (52°C). If temperatures consistently drop below 32°F (0°C), install within a heated building. If this not possible, protect the safety/relief and drain valves from freezing.
- The supply air is passing through the compressor supply hoses and tools. These can be damaged or have a shortened life if unclean air is present or air filter is not clean and functioning properly.
- Do not allow debris to accumulate or block airflow.
- Do not place any objects against or on top of the unit, which can also block airflow or damage unit.
- Rotating hazard. Keep hands and feet away from rotating parts, tie up long hair, remove jewelry, and do not wear loose clothing.

#### **ELECTRIC SHOCK HAZARD.**

- Use only undamaged electrical cords.
- Do not touch bare wires or receptacles.
- Do not operate air compressor in wet weather or in wet conditions.
- Do not touch air compressor or cords if hands or feet are wet.
- Ensure that all cords are free of damage before connecting to the power supply.
- Ensure that you have a sufficient electrical supply for supporting the requirements of the motor.

### **⚠WARNING**

#### **HOT SURFACE AND FIRE HAZARD**

- The pump of the compressor will become very hot during and immediately after use. Do not touch any part of the pump of this compressor with bare hands other than the ON/OFF switch during and immediately after use.
- Allow the air compressor to cool before touching it.
- Provide access to adequate, clean, and unobstructed airflow for cooling and air supply.
- Do not allow debris to accumulate or block airflow.

- Do not operate with a tarp, blanket, or storage cover surrounding the machine, which blocks air flow. Only place a cover on the air compressor after it has thoroughly cooled down.

## **⚠️WARNING**

### **FLYING OBJECTS HAZARD**

- Always wear the proper protective equipment including ANSI Z87.1 compliant eye protection.
- Air-powered equipment and power tools are capable of propelling items (metal chips, fasteners, and particulates) at high speed into the air and could result in injury.
- Never point the air stream at any part of your body, or at another person or animal.
- When operating the air compressor, make sure all other people and animals maintain a safe distance.
- Do not move the air compressor when the air tank is under pressure.
- Never use the air hoses to pull or move the air compressor.
- For use on a hard, level surface capable of sustaining the weight of the compressor and any other tools and people in the work area.

## **⚠️WARNING**

### **EXPLOSION HAZARD**

- To prevent injury or property damage, only use high-pressure hoses, fittings, and couplings designed for use with air compressors.
- Never use this compressor to inflate small low-pressure objects, i.e., balloons/inflatables, small or low volume PSI tires. It is easy to over-pressurize them, causing them to rupture. Identify the inflation capacity of an object prior to filling it with air. Use a gauge to check the pressure regularly when inflating anything.
- Inspect all hoses, fittings and couplings for leaks and wear. When leaks and wear are detected, stop use immediately and replace those items before continuing use. Do not repair.
- Never leave pressurized air in the air tank when performing maintenance.
- Never leave the air compressor unattended with the power supply in use and the air hose connected.
- Improper care could lead to the air tank bursting or exploding.
- Drain air tank daily or after each use to prevent moisture buildup in the air tank.
- Rust can weaken the air tank and cause leaks or bursting. If rust is detected, replace tank immediately. Do not try to repair the air tank by welding, drilling or modifying it in any other way. These modifications can weaken the air tank and cause a hazardous condition.
- Never make adjustments to factory-set pressures.
- Never exceed manufacture's maximum-allowable pressure rating attachments.
- Because of extreme heat, do not use plastic pipe or lead tin solder joints for discharge line.



## ⚠️ WARNING

### EXPLOSION AND FIRE HAZARD

- Do not use the compressor in the presence of gasoline, solvents, flammable liquids, or flammable vapors. This compressor can produce sparks which can ignite flammable liquids and vapors, causing fire or explosion.
- Abrasive tools such as grinders, drills and other tools are capable of making sparks that can ignite flammable materials, liquids and vapors causing fire or explosion.
- Always operate the compressor at a safe distance away from flammable items. Use in well-ventilated areas.
- Do not exceed the maximum rated pressure.

## Grounding

### ⚠️ WARNING

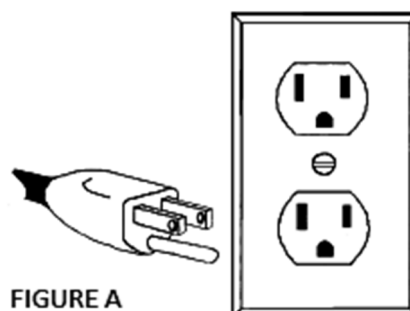
- This machine must be grounded while in use to protect the operator from electrical shock. This drill press is equipped with an electrical cord that has an equipment grounding conductor and a grounding plug. The plug **MUST** be plugged into a matching receptacle that is properly installed and grounded in accordance with ALL local codes and ordinances.
- **DO NOT MODIFY THE PROVIDED PLUG.** If it will not fit the receptacle, have the proper receptacle installed by a qualified electrician.
- **CHECK** with a qualified electrician or service person if you do not completely understand the grounding instructions, or if you are not sure the tool is properly grounded.

### Grounded Tools: Tools with 3-Prong Plugs

Tools marked with **Grounding Required** have a 3-wire cord and 3-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.)

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.

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.



## Double Insulated Tools: Tools with Two-Prong Plugs

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.)

Double insulated tools may be used in either of the 120 volt outlets shown in the following illustration.

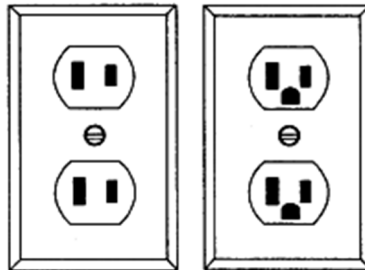


FIGURE B

## Extension Cords

### ⚠ WARNING

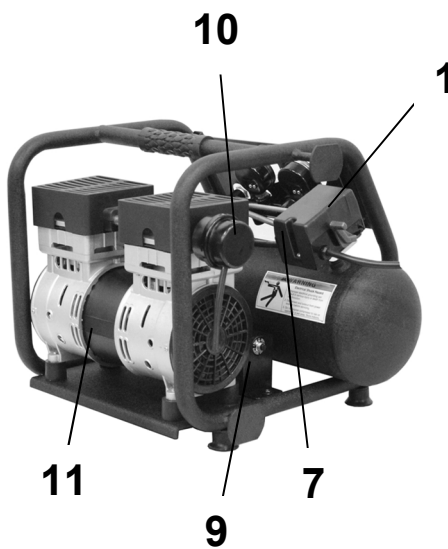
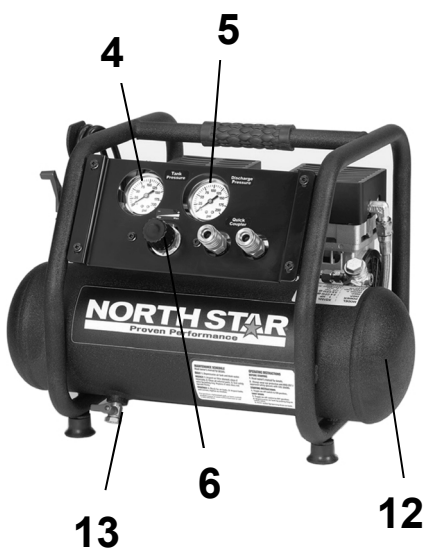
- USE A PROPER EXTENSION CORD. Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. An undersized cord will cause a drop in line voltage, resulting in loss of power and cause overheating.
- Be sure your extension cord is properly wired and in good condition. Always replace a damaged extension cord or have it repaired by a qualified person before using it. Protect your extension cords from sharp objects, excessive heat and damp or wet areas.
- Grounded tools require a 3-wire extension cord. Double Insulated tools can use either a 2- or 3-wire extension cord.
- 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.
- 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. Minimum extension cord wire size is shown in the following table:

Minimum Wire Size Of Extension Cords				
Nameplate AMPS	Cord Length			
	25'	50'	100'	150'
0-6	18 AWG	16 AWG	16 AWG	14 AWG
6-10	18 AWG	16 AWG	14 AWG	12 AWG
10-12	16 AWG	16 AWG	14 AWG	12 AWG
12-16	14 AWG	12 AWG	NOT RECOMMENDED	

- 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.
- 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.
- 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.

- 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.
- Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

**Main Parts**



**1. Pressure Switch-Auto/Off switch:** In AUTO position, compressor shuts off automatically when tank pressure reaches maximum preset pressure. In OFF position, compressor will not operate. Switch should be in OFF position when connecting or disconnecting power cord from electrical outlet. NEVER attempt to adjust this pressure switch.

**2. Pressure Switch Unloader:** Vents discharge air to atmosphere in start/stop operation.

**3. Check Valve:** To seal off and maintain pressure after the top end pressure setting of pressure switch is reached. The check valve works in conjunction with the pressure switch unloader to provide a load-less start to the compressor system. A quick burst of air escaping from the pressure switch unloader after an electric unit reaches top end indicates the check valve is working properly. If the compressor has a mysterious leak after stopping that cannot be traced elsewhere, the check valve may require servicing/replacing.

**4. Air Tank Pressure Gauge:** This pressure gauge indicates the reserve air pressure in the air tank.

**5. Outlet Pressure Gauge:** The outlet pressure gauge indicates the air pressure available at the outlet side of the regulator. This pressure is controlled by the regulator and is always less or equal to the air tank pressure.

**6. Regulator:** The air coming from the air tank is controlled by the regulator knob. Turn the regulation knob clockwise to increase discharge pressure, and counter-clockwise to decrease discharge pressure. Follow tool operating instruction for recommended pressure range.

**7. ASME Safety Valve:** The valve is designed to prevent system failure by relieving pressure from the system when the compressed air reaches a predetermined level. The valve is preset by the manufacturer and must not be modified in anyway. To verify the valve is working properly, pull on the ring. Air pressure should escape. When the ring is released, it will reseal.

**8. Discharge Tube:** Carries compressed air from pump to check valve, and then to the storage tank. It becomes very hot during use and can cause severe burns. Don't touch.

**9. Motor Overload:** Motor has a protective breaker located on the pump. Excessive amperage draw will result in the breaker tripping to protect the motor and operator. Reset the breaker by pushing the black plastic stem back into the housing. Reset switch if it is tripped.

**10. Compressor Air Filter:** The air filter is designed to clean air coming into pump. To ensure the pump continuously receives a clean, cool and dry air supply, this filter must always be clean and ventilation opening free from obstructions.

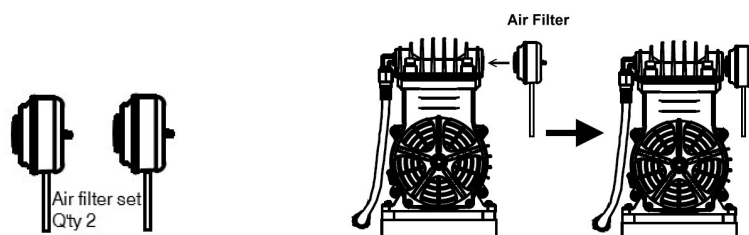
**11. Air Compressor Pump:** Oil-free and no need to fill oil.

**12. Air Receiver/Storage Tank:** 2 gallon, 8 gallon or 20 gallon ASME certified tank.

**13. Tank Drain Valve:** Used to remove moisture from air after compressor is shut off and air emptied from tank. Drain moisture daily after each use.

Reference	Subassembly
1	Air Filter Set
2	Wheel Set

**Reference 1: Air Filter – item#106693/#53009/#99306**



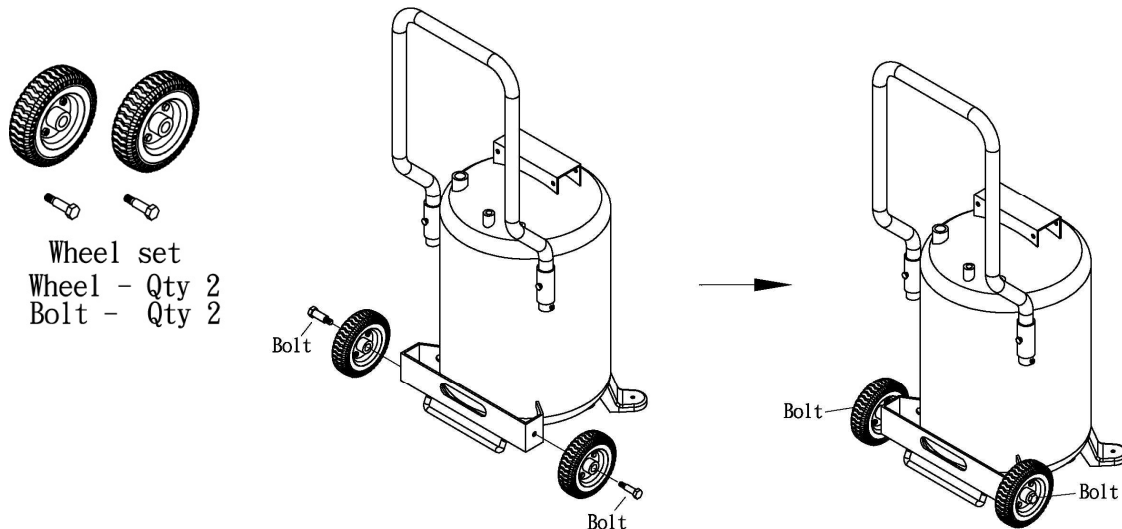
1. Air filters are attached in the package of the compressor.

2. Remove the plastic cap plugged in the inlet port on cylinder head to assemble the air filter.

### **⚠WARNING**

- The plastic cap plugged in the inlet port on cylinder head has to be removed before assembling air filters on otherwise the compressor will not produce air.

## **Reference 2: Wheel Set – item#53009/#99306**



1. Attach the tank wheels to the tank frame using the tank wheel bolts in the mounting structure.

## **Before Each Use**

### **⚠WARNING**

- Failure to follow safety rules may result in serious injury or death to the operator or bystanders.
  - Inspect all hoses, fittings and couplings for leaks and wear. When leaks and wear are detected, stop use immediately and replace those items before continuing use. Do not repair.
  - Never leave pressurized air in the air tank when performing maintenance.
- 
- Before starting the compressor, review the safety rules found above and throughout the manual.
  - Check to see that nuts and bolts are all snug. This must be done, as some fasteners may become loose in transit.
  - Check that compressor is on a strong, stable level base.
  - Check that air filter is clean.
  - Do not place any materials on or against the compressor unit. Obstacle materials will limit the cooling effect and could lead to premature failure.
  - Check the air compressor and piping systems for leakages and correct as required.

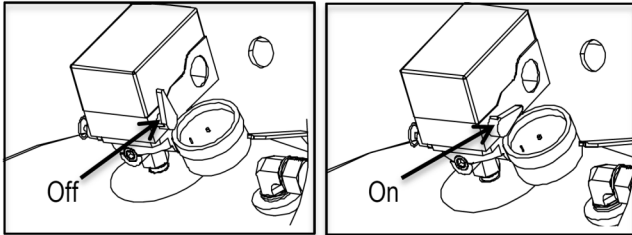
## Operating Instructions

### ⚠ CAUTION

#### BREAK IN PERIOD

Before initial use, open the drain valve and run the compressor without air tools attached and through open air for 20 minutes to break-in pump parts.

1. Verify that the pressure switch is in the OFF position.



2. Turn regulator counter clockwise to close.
3. Open the air receiver drain so that the air flow is permitted (for break-in period only).
4. Turn the pressure switch to the ON position to start the unit for no load operation. Allow the unit to operate for a minimum of twenty minutes in no load condition (for break-in period only).
5. After running the compressor for twenty minutes (break-in period), close the drain valve and allow the unit to reach maximum operating pressure. Ensure that the compressor shuts down at the preset maximum pressure and the head pressure is released through the pressure switch.

### ⚠ WARNING

#### HOT SURFACE AND FIRE HAZARD

- The pump of the compressor will become very hot during and immediately after use. Do not touch any part of the pump of this compressor with bare hands other than the ON/OFF switch during and immediately after use.
- Allow the air compressor to cool before touching it.
- Provide access to adequate, clean, and unobstructed airflow for cooling and air supply.
- Do not allow debris to accumulate or block airflow.
- Do not operate with a tarp, blanket, or storage cover surrounding the machine, which blocks air flow. Only place a cover on the air compressor after it has thoroughly cooled down.

### ⚠ WARNING

#### FLYING OBJECTS HAZARD

- Always wear the proper protective equipment including ANSI Z87.1 compliant eye protection.
- Air-powered equipment and power tools are capable of propelling items (metal chips, fasteners, and particulates) at high speed into the air and could result in injury.
- Never point the air stream at any part of your body, at another person, or an animal.

- When operating the air compressor, make sure all other people and animals maintain a safe distance.
- Do not move the air compressor when the air tank is under pressure.
- Never use the air hoses to pull or move the air compressor.
- For use on a hard, level surface capable of sustaining the weight of the compressor and any other tools and people in the work area.

6. Adjust regulator to desired pressure.

Note: This electric model is equipped with a pressure switch that automatically turns the motor off when the tank pressure reaches its preset level. Once air pressure in the tank drops to a preset low level, the pressure switch automatically turns the motor back on.

### **⚠WARNING**

#### **EXPLOSION HAZARD**

- To prevent injury or property damage, only use high-pressure hoses, fittings, and couplings designed for use with air compressors.
- Never use this compressor to inflate small low-pressure objects, i.e., balloons/inflatables, small or low volume PSI tires. It is easy to over-pressurize them, causing them to rupture. Identify the inflation capacity of an object prior to filling it with air. Use a gauge to check the pressure regularly when inflating anything.
- Inspect all hoses, fittings and couplings for leaks and wear. When leaks and wear are detected, stop use immediately and replace those items before continuing use. Do not repair.
- Never leave pressurized air in the air tank when performing maintenance.
- Never leave the air compressor unattended with the power supply in use and the air hose connected.
- Improper care could lead to the air tank bursting or exploding.
- Drain air tank daily or after each use to prevent moisture buildup in the air tank.
- Rust can weaken the air tank and cause leaks or bursting. If rust is detected, replace tank immediately. Do not try to repair the air tank by welding, drilling or modifying it in any other way. These modifications can weaken the air tank and cause a hazardous condition.
- Never make adjustments to factory-set pressures.
- Never exceed manufacture's maximum-allowable pressure rating attachments.
- Because of extreme heat, do not use plastic pipe or lead tin solder joints for discharge line.

### **⚠WARNING**

#### **EXPLOSION AND FIRE HAZARD**

- Do not use the compressor in the presence of gasoline, solvents, flammable liquids, or flammable vapors. This compressor can produce sparks which can ignite flammable liquids and vapors, causing fire or explosion.
- Abrasive tools such as grinders, drills and other tools are capable of making sparks that can ignite flammable materials, liquids and vapors causing fire or explosion.
- Always operate the compressor at a safe distance away from flammable items. Use in well-ventilated areas.
- Do not exceed the maximum rated pressure.

For Malfunction During Operation: Immediately turn off the compressor if any of the following conditions arise during operation:

- Excessive change in motor speed, slow or fast
- Overheating
- Excessive vibration
- Unusual noise
- Flame or smoke
- Air leakage

Pull ring on safety valve to immediately relieve pressure.

## After Each Use

### **⚠WARNING**

- Drain air tank daily or after each use to prevent moisture buildup in the air tank.
- Rust can weaken the air tank and cause leaks or bursting. If rust is detected, replace tank immediately. Do not try to repair the air tank by welding, drilling or modifying it in any other way. These modifications can weaken the air tank and cause a hazardous condition.
- Do not leave an operating machine unattended. Always shut the machine OFF and release the pressure before leaving the machine. NEVER disconnect the high-pressure outlet hose from the unit while the tank and airline are pressurized. A hazardous high pressure air stream will result as receiver tank is quickly emptied.

1. Move the pressure switch to the OFF position.
2. Turn regulator counter clockwise to close.
3. Operate tools briefly to release live pressure.
4. Disconnect all tools.
5. Drain air receiver tank by pulling safety relief valve.
6. After all storage air discharges, disconnect hoses.
7. Once the tank pressure gauge registers under 10 PSI, open the drain valve on the bottom of the tank to drain condensation moisture. .
8. Store the air compressor in a clean and dry location.



## Maintenance

### ⚠️ WARNING

- Always disconnect, lock out, and tag the main power supply and then release air pressure from the air tank before cleaning, adjusting, or servicing the compressor. Make sure all guards and shields are replaced before re-starting.

Maintain the product by adopting a program of conscientious repair and maintenance in accordance with the following recommended procedures. It is recommended that the general condition of any tool be examined before it is used. Keep your tool in good repair. Keep all cutting tools sharp and clean. Keep handles dry, clean, and free from oil and grease. The following chart is based on a normal operation schedule.

Maintenance Interval	Maintenance Point
Daily checklist	Inspect and drain receiver tank.
Weekly checklist	Inspect safety/relief valves. Inspect air filter.
Monthly	Clean and blow dust or dirt off pump fins and motor. Inspect air system for leaks.

**No Modifications.** Never modify or alter the compressor in any way. Modifications can create serious safety hazards and will void the warranty.

**Inspect and Drain Receiver Tank.** Drain water from the receiver tank daily. Water left in the tank can cause the tank to weaken and corrode, increasing the risk of tank rupture. Badly rusted receiver tanks must be replaced.

### ⚠️ WARNING

- Failure to replace a rusted air receiver tank will eventually result in tank rupture or explosion, which could cause substantial property damage, severe personal injury, or death. Never modify or repair a tank. Obtain replacement from service center.

**Inspect Safety Valve.** This valve should be inspected and tested on a weekly basis.

- Check the safety valve by pulling the rings. It is spring loaded and should not be stuck but come out about 1/4" and then snap back into position when released.
- Replace safety valves that do not operate freely with a valve of the same pressure rating.

### ⚠️ WARNING

- If the safety valve does not work properly, over-pressurization may occur causing air tank rupture or explosion. Occasionally pull the ring on the safety valve to make sure it operates freely.

**Inspect Air Filter.** Inspect the compressor's air filter on a weekly basis. A dirty air filter will not allow the air compressor to operate at full capacity.

- Clean air filter if dirty and restricted air flow.
- Replace the air filter every 12 months or 1000 hours.

Note: Do not operate with the air filter removed.

**Keep Compressor Clean.** Do not allow air intakes to become blocked. If dust or debris accumulates in the compressor, clean the compressor with a damp cloth or soft bristle brush.

Note: Do not spray compressor with a garden hose or pressure washer. Water may enter the compressor and cause damage to the motor and pump.

**Inspect Compressor for Air Leaks.** Inspect system for air leaks on a monthly basis. To test:

- Squirt soapy water around joints during compressor operation and watch for bubbles. Developing bubbles indicate a leak is present.
- Tighten fittings, if necessary.

### ⚠ WARNING

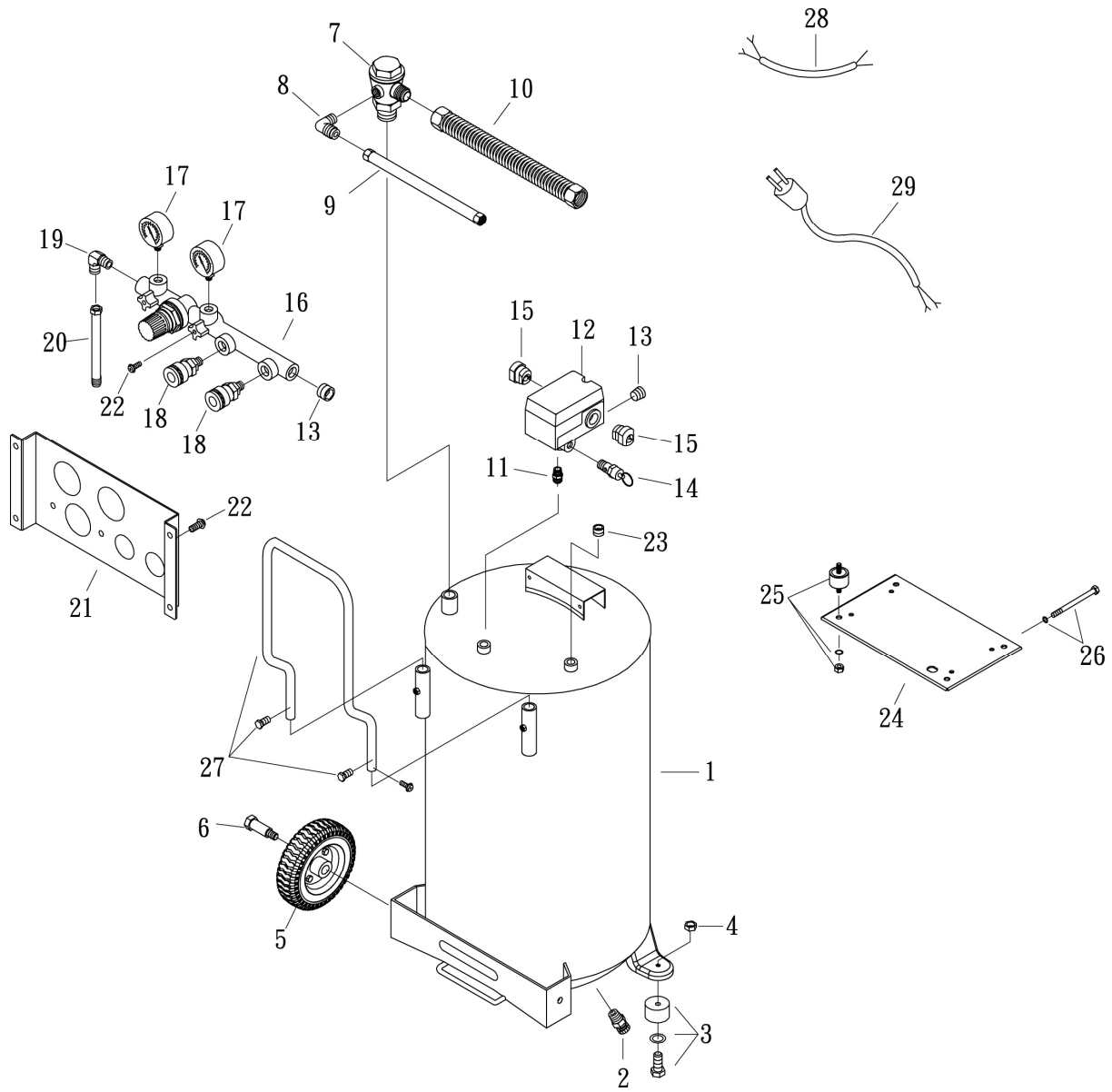
- If a part needs replacement, only use parts that meet the manufacturer's part number specifications. Replacement parts that do not meet specifications may result in a safety hazard or poor operation of the compressor. Major service, including installation or replacement of parts, should be made by a qualified electrical service technician.

## Troubleshooting

Use the table below to troubleshoot problems before contacting service personnel or your local dealer. If the problem continues after troubleshooting, call your local dealer for assistance.

Failure	Possible Cause	Corrective Action
Compressor won't start	Loose electrical connection	Check wiring connection
	Fuse blew	Replace fuse
Compressor runs continuously and air flow lower than normal	Malfunction in valves	Check inlet and exhaust valves
	Loose tube or fittings	Tighten fittings
	Restricted air filter	Clean or replace filter
	Dirty or defective check valve	Remove and clean or replace check valve
	Excessive air usage	Decrease air usage
Excessive moisture in discharge	Excessive water in air tank	Drain tank, tilt tank to drain. Drain tank more frequently.
	High ambient temperature and / or humidity	Move compressor to area with less humidity, or use airline filter.
Compressor runs continuously causing pressure relief valve to open	Defect pressure switch or improper adjustment	Check for proper adjustment and if problem persists replace pressure switch
	Defective pressure relief valve	Replace valve
Excessive noise	Loose valves	Inspect valve for damage
	Loose piping	Tighten as required
	Foreign material on piston	Clean piston
Compressor over heated	Undersized unit for air requirements	Contact your compressor distributor
	Air leaks in the system	Fix leaks
	Restricted air filter	Clean or replace filter
	Worn or damage on valve	Clean or replace valves
Compressor will not unload when stopped	Pressure switch unloading valve may be dirty or faulty	Clean, repair or replace pressure switch
	Check valve may be dirty or faulty	Clean, repair or replace check valve

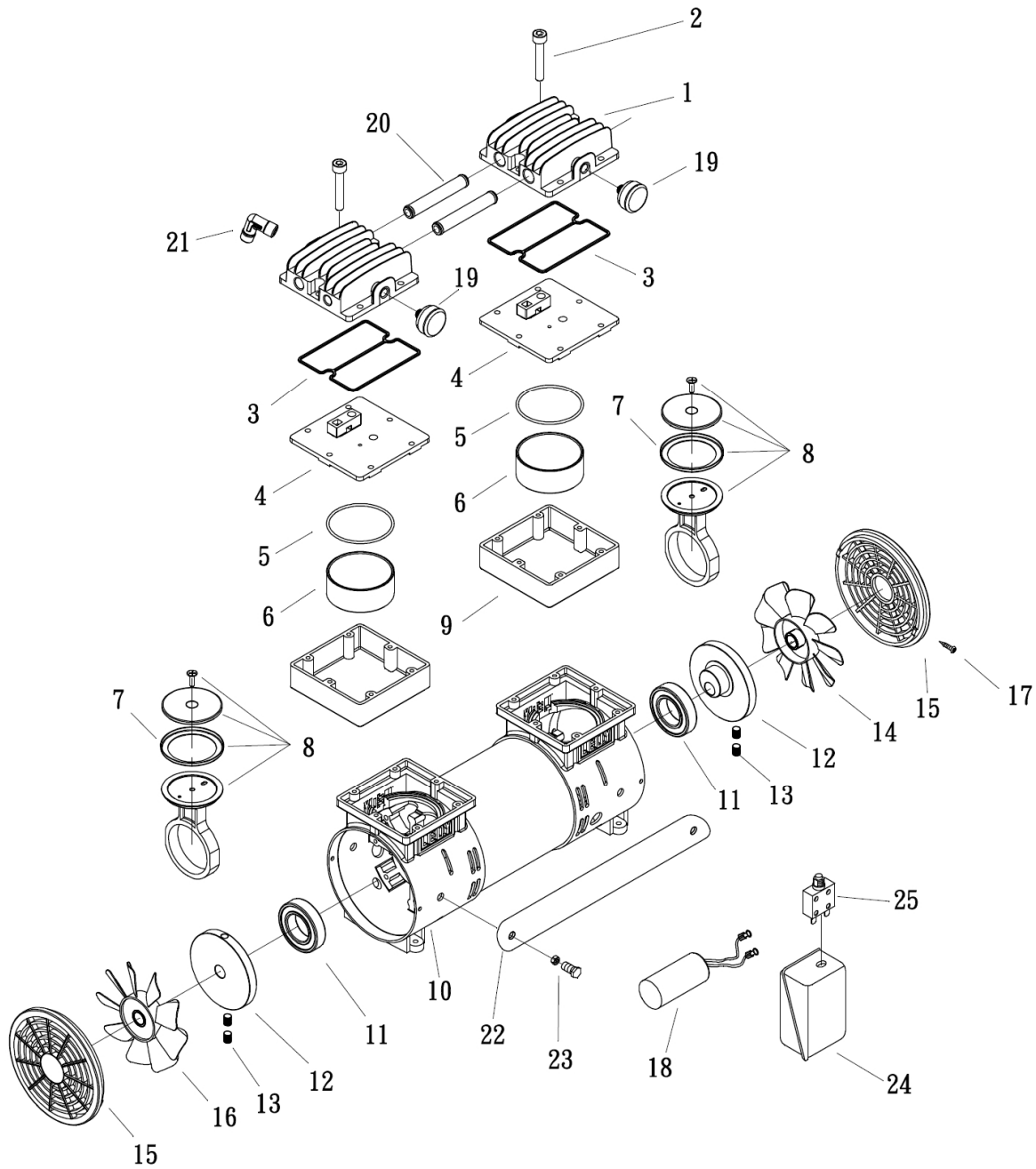
# Parts Diagram- Air Receiver Tank Model #53009



## Parts List - Model #53009

Reference	Part Number	Part Description	Quantity
1	3401A213B	Air tank	1
2	2405012	Drain valve	1
3	3433013-A	Rubber pad set	2
4	2B20-FM08	Hexagon head nut	2
5	2402042B	Tank wheel	2
6	2418005	Tank wheel bolt	2
7	2414025	Check valve	1
8	2N06-01T02H	Unloading elbow	1
9	3B2-02*170F	Unloading tube set	1
10	2T02-04*0400	Exhaust soft tube	1
11	2N01-001	Nipple	1
12	2E21-AA256BP	Pressure switch	1
13	2B14-ST02E	Plug	3
14	2406021A	Pressure relief valve	1
15	2E04-010	Strain relief bushing	2
16	2408027	Regulator	1
17	2D12-20V20011	Pressure gauge	2
18	07MSO1/4M-B	Quick coupler	2
19	2N06-02T02F	Exhaust elbow	1
20	2T06-025	Soft tube	1
21	3420114	Panel	1
22	2B00-FM05*010WB	Hexagon head bolt	6
23	2B14-ST01E	Plug	1
24	3403173	Base	1
25	3439042-A	Vibration absorber set	4
26	3B01-M06*075V	Hexagon bolt set	2
27	3432081A-A	Handle Set	1
28	2E02-2030512Y1B	Cable	1
29	2E01-012	Power cable	1

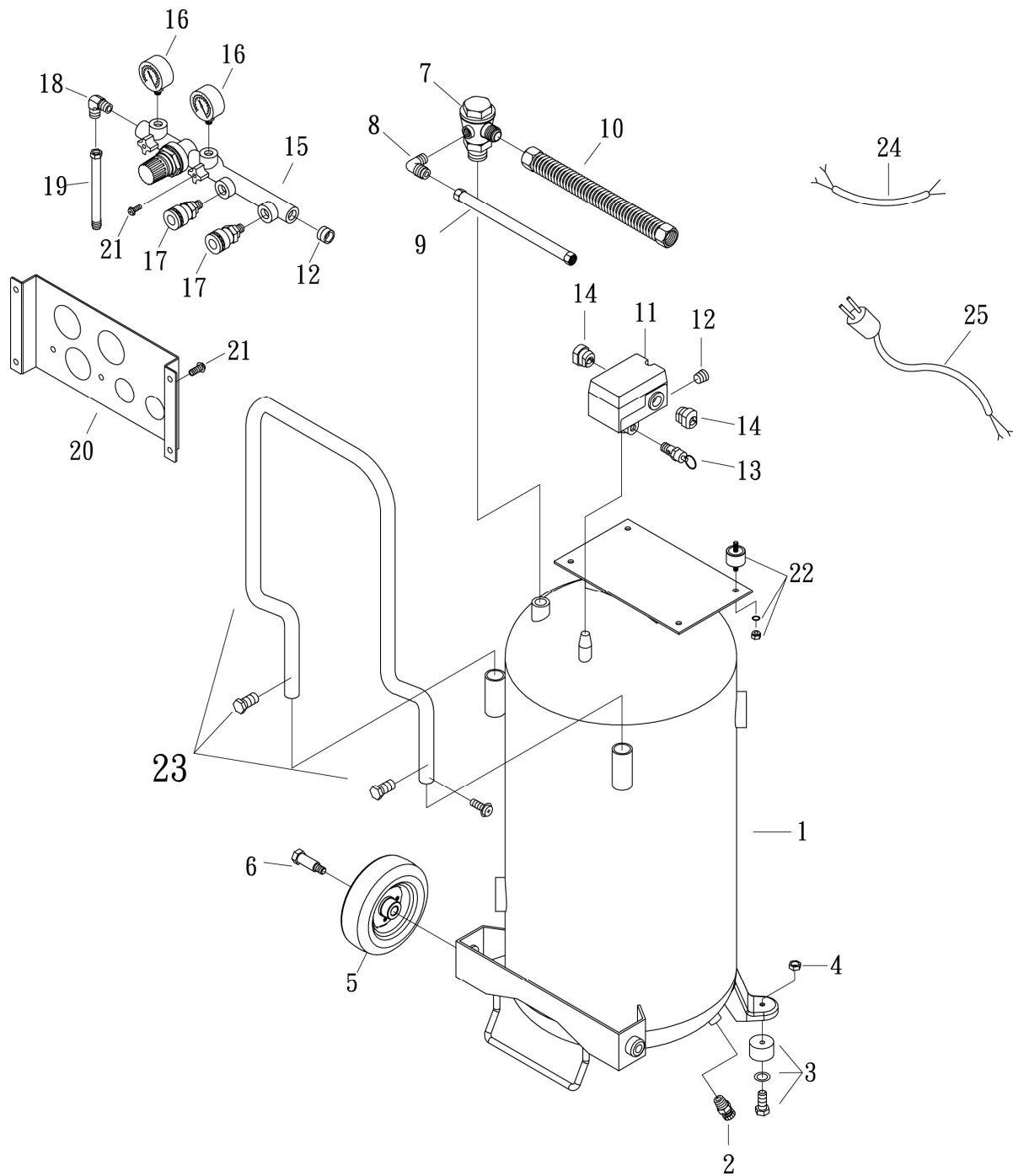
# Parts Diagram- Pump Model #53009



## Parts List - Model #53009

Reference	Part Number	Part Description	Quantity
1	3101-WE11	Cylinder head	2
2	2B01-M06*065	Hexagon socket set bolt	12
3	2G01-WE11	Cylinder head seal	2
4	3B13-WE11	In. & ex. valve assembly	2
5	2G03-WE11	Valve seat seal	2
6	3201-WE11	Cylinder	2
7	2214-WE06	Piston ring plate	2
8	3B3-WE11	Piston rod set	2
9	3201H-WE11	Cylinder support	2
10	3B8-WE1100	Motor set	1
11	2N35-WE11ROD	Bearing	2
12	3304-WE11	Crankshaft & balancer	1
13	2B07-SM08*16	Set screw	4
14	2336-WE11L	Cooling fan (L)	1
15	3309-WE11	Front cover	2
16	2336-WE11R	Cooling fan (R)	1
17	2B17-FW01*03B	Screw	4
18	2E27-090F2545	Running capacitor	1
19	2140036	Air filter	2
20	2N01-WE11	Nipple	2
21	2N06-04T04H	Exhaust elbow	1
22	3417025	Capacitor seat	1
23	3B00-FM10*016VW	Hexagon bolt set	2
24	2E23-216	Capacitor box	1
25	2E25-15A	Thermal protector	1

# Parts Diagram- Air Receiver Tank Model #99306

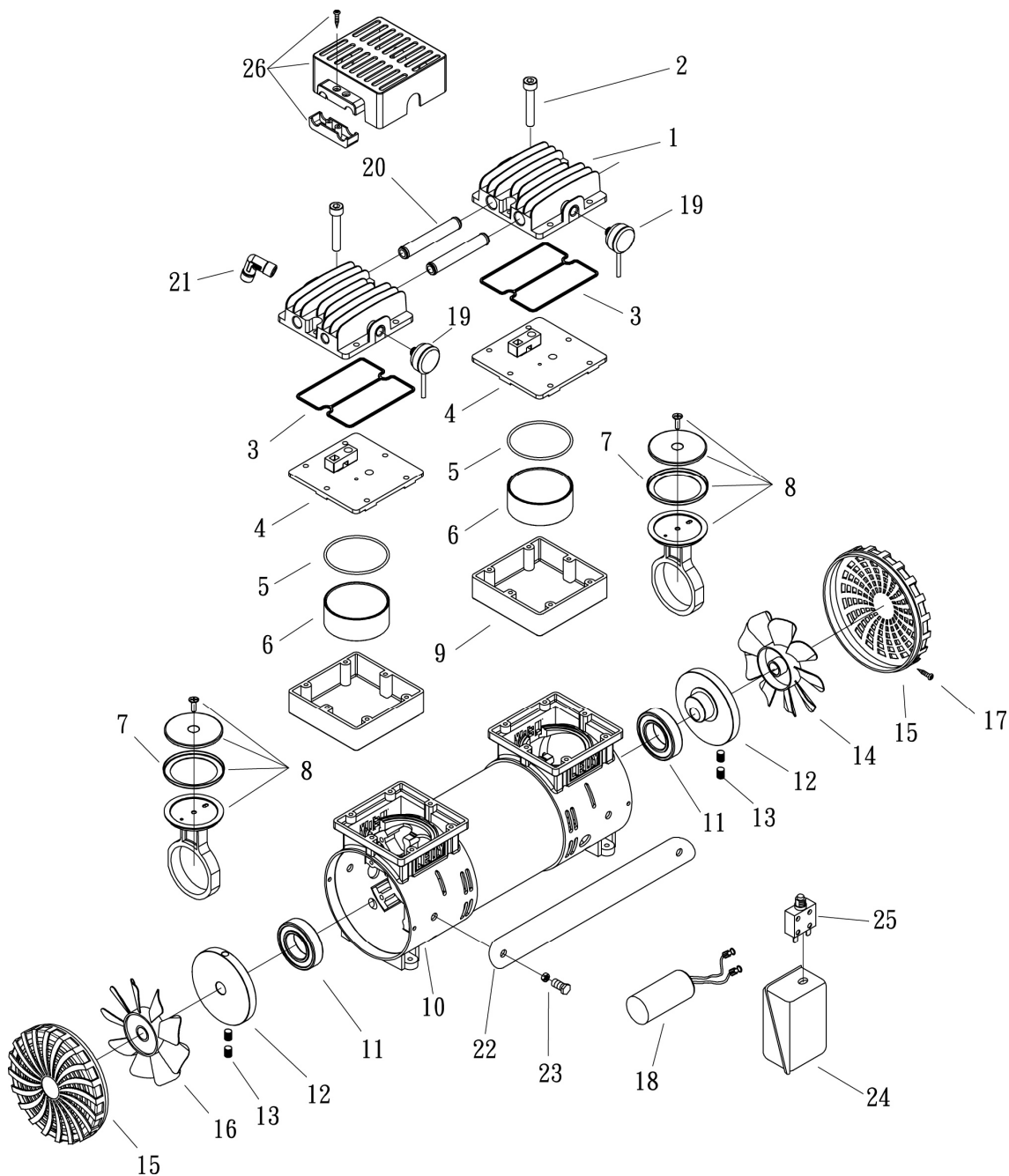


## Parts List - Model #99306

Reference	Part Number	Part Description	Quantity
1	3401A230	Air tank	1
2	2405012	Drain valve	1
3	3433013-A	Rubber pad set	2
4	2B20-FM08	Hexagon head nut	2
5	2402032B	Tank wheel	2
6	2418005	Tank wheel bolt	2
7	2414025T	Check valve	1
8	2N06-01T02H	Unloading elbow	1
9	3B2-02*150F	Unloading tube set	1
10	2T02-04*0400	Exhaust soft tube	1
11	2E21-AA256BP	Pressure switch	1
12	2B14-ST02E	Plug	3
13	2406021A	Pressure relief valve	1
14	2E04-010	Strain relief bushing	2
15	2408027	Regulator	1
16	2D12-20V200I1	Pressure gauge	2
17	07MSO1/4M-B	Quick coupler	2
18	2N06-02T02F	Exhaust elbow	1
19	2T06-025	Soft tube	1
20	3420114	Panel	1
21	2B00-FM05*010WB	Hexagon head bolt	6
22	3439042-A	Vibration absorber set	4
23	3432081A-A	Grip set	1
24	2E02-2030512Y1B	Cable	1
25	2E01-012	Power cable	1



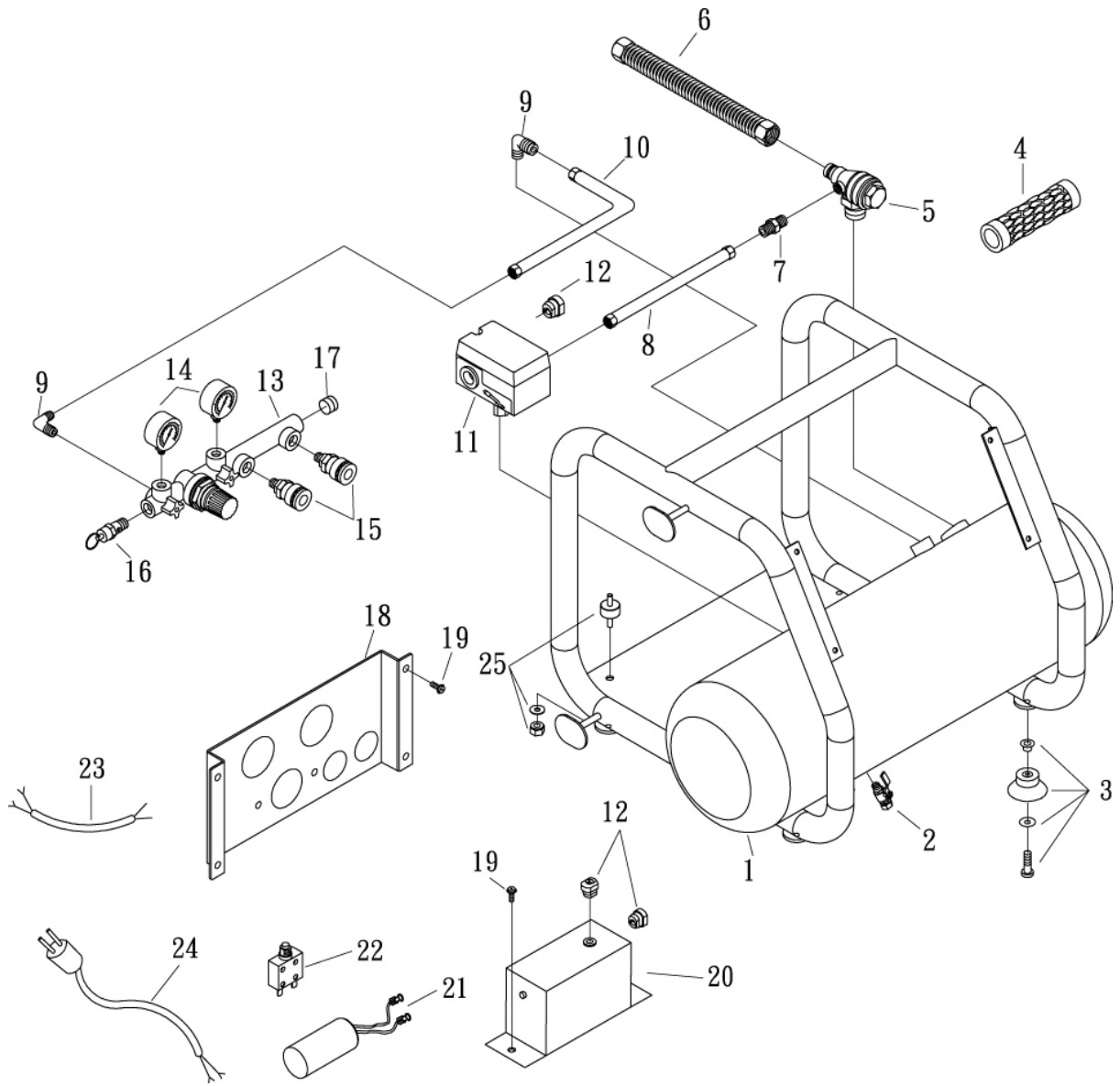
# Parts Diagram- Pump Model #99306



## Parts List - Model #99306

Reference	Part Number	Part Description	Quantity
1	3101-WE11	Cylinder head	2
2	2B01-M06*065	Hexagon socket set bolt	12
3	2G01-WE11	Cylinder head seal	2
4	3B13-WE15	In.& Ex. valve assembly	2
5	2G03-WE15	Valve seat seal	2
6	3201-WE15	Cylinder	2
7	2214-WE15	Piston ring plate	2
8	3B3-WE15	Piston rod set	2
9	3201H-WE15	Cylinder support	2
10	3B8-WE1500	Motor set	1
11	2N35-WE15ROD	Bearing	2
12	3304-WE15	Crankshaft & balancer	1
13	2B07-SM08*16	Set screw	4
14	2336-WE11L	Cooling fan(L)	1
15	3309-WE15	Front cover	2
16	2336-WE11R	Cooling fan( R)	1
17	2B17-FW01*03B	Screw	4
18	2E27-090F2545	Running capacitor	1
19	2140036A	Air filter	2
20	2N01-WE11	Nipple	2
21	2N06-04T04H	Exhaust elbow	1
22	3417025	Capacitor seat	1
23	3B00-FM10*016VW	Hexagon bolt set	2
24	2E23-216	Capacitor box	1
25	2E25-15A	Thermal protector	1
26	3428-WE15A	Cover set	2

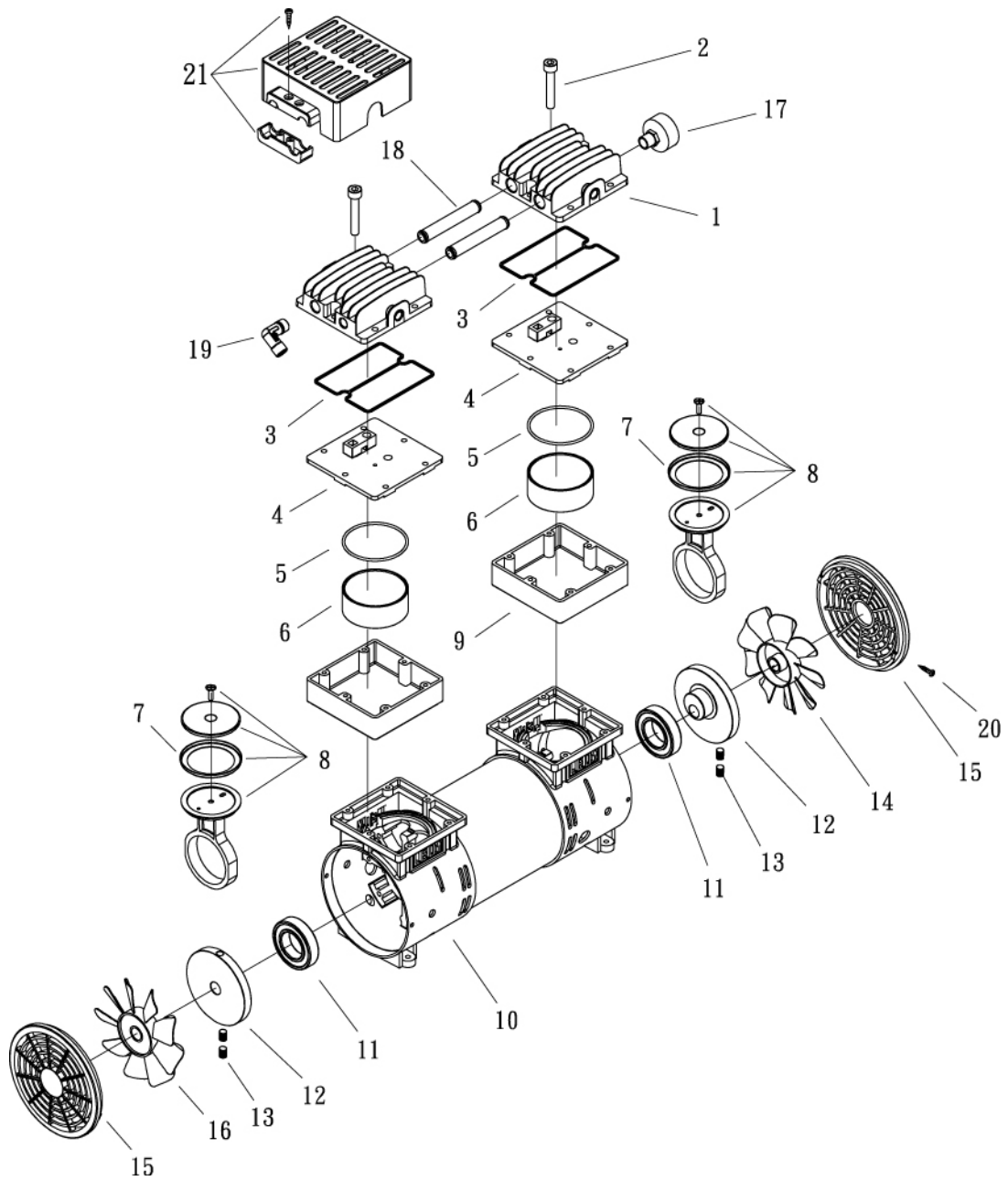
# Parts Diagram- Air Receiver Tank Model #106693



## Parts List - Model #106693

Reference	Part Number	Part Description	Quantity
1	3401X106	Air tank	1
2	2413037	Ball valve	1
3	3433011-A	Rubber pad set	4
4	2432110	Grip set	1
5	2414036R	Check valve	1
6	2T02-03*0220	Soft tube	1
7	2N01-01T02HS	Nipple	1
8	3B2-02*280F	Unloading tube	1
9	2N06-02T025H	Exhaust elbow	2
10	3B2-025*170N	Tube set	1
11	2E21-CA256BP	Pressure switch	1
12	2E04-010	Strain relief bushing	5
13	2408027	Regulator	1
14	2D12-20V200I1	Pressure gauge	2
15	07MSO1/4M-B	Quick coupler	2
16	2406016A	Pressure relief valve	1
17	2B14-ST02E	Plug	1
18	3420136	Panel	1
19	2B00-FM05*010WB	Hexagon head bolt	8
20	2E23-218	Capacitor box	1
21	2E27-060F2545	Running capacitor	1
22	2E25-10A	Thermal protector	1
23	2E02-1230432Y1B	Cable	1
24	2E01-039S	Power cable	1
25	3439WE06-A	Feet block set	4

# Parts Diagram- Pump Model #106693



## Parts List - Model #106693

Reference	Part Number	Part Description	Quantity
1	3101-WE06	Cylinder head	2
2	3B01-M05*050W	Hexagon socket set bolt	12
3	2G01-WE06	Cylinder head seal	2
4	3B13-WE06	In.& Ex. valve assembly	2
5	2G03-WE06	Valve seat seal	2
6	3201-WE08	Cylinder	2
7	2214-WE06	Piston ring plate	2
8	3B3-WE08	Piston rod set	2
9	3201H-WE08	Cylinder support	2
10	3B8-WE0802	Motor set	1
11	2N35-WE06ROD	Bearing	2
12	3304-WE08	Crankshaft & balancer	1
13	2B07-SM08*16	Set screw	4
14	2336-WE06L	Cooling fan(L)	1
15	3309-WE06	Front cover	2
16	2336-WE06R	Cooling fan(R)	1
17	2140-OTS02	Air filter	1
18	2N01-WE06	Nipple	2
19	2N06-02T03H	Exhaust elbow	1
20	2B17-FW01*03B	Plug	4
21	3428-WE06A	Cover set	2

## Replacement Parts

- For replacement parts and technical questions, please call Customer Service at **1-800-222-5381**.
- Not all product components are available for replacement. The illustrations provided are a convenient reference to the location and position of parts in the assembly sequence.
- When ordering parts, the following information will be required: item description, item model number, item serial number/item lot date code, and the replacement part reference number.
- The distributor reserves the rights to make design changes and improvements to product lines and manuals without notice.

## Limited Warranty

Northern Tool and Equipment Company, Inc. ("We" or "Us") warrants to the original purchaser only ("You" or "Your") that the NorthStar product purchased will be free from material defects in both materials and workmanship, normal wear and tear excepted, for a period of four years from date of purchase. The foregoing warranty is valid only if the installation and use of the product is strictly in accordance with product instructions. There are no other warranties, express or implied, including the warranty of merchantability or fitness for a particular purpose. If the product does not comply with this limited warranty, Your sole and exclusive remedy is that We will, at our sole option and within a commercially reasonable time, either replace the product or product component without charge to You or refund the purchase price (less shipping). This limited warranty is not transferable.

### Limitations on the Warranty

This limited warranty does not cover: (a) normal wear and tear; (b) damage through abuse, neglect, misuse, or as a result of any accident or in any other manner; (c) damage from misapplication, overloading, or improper installation; (d) improper maintenance and repair; and (e) product alteration in any manner by anyone other than Us, with the sole exception of alterations made pursuant to product instructions and in a workmanlike manner.

### Obligations of Purchaser

You must retain Your product purchase receipt to verify date of purchase and that You are the original purchaser. To make a warranty claim, contact Us at 1-800-222-5381, identify the product by make and model number, and follow the claim instructions that will be provided. The product and the purchase receipt must be provided to Us in order to process Your warranty claim. Any returned product that is replaced or refunded by Us becomes our property. You will be responsible for return shipping costs or costs related to Your return visit to a retail store.

### Remedy Limits

Product replacement or a refund of the purchase price is Your sole remedy under this limited warranty or any other warranty related to the product. We shall not be liable for: service or labor charges or damage to Your property incurred in removing or replacing the product; any damages, including, without limitation, damages to tangible personal property or personal injury, related to Your improper use, installation, or maintenance of the product or product component; or any indirect, incidental or consequential damages of any kind for any reason.

### Assumption of Risk

You acknowledge and agree that any use of the product for any purpose other than the specified use(s) stated in the product instructions is at Your own risk.

### Governing Law

This limited warranty gives You specific legal rights, and You also may have other rights which vary from state to state. Some states do not allow limitations or exclusions on implied warranties or incidental or consequential damages, so the above limitations may not apply to You. This limited warranty is governed by the laws of the State of Minnesota, without regard to rules pertaining to conflicts of law. The state courts located in Dakota County, Minnesota shall have exclusive jurisdiction for any disputes relating to this warranty.



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