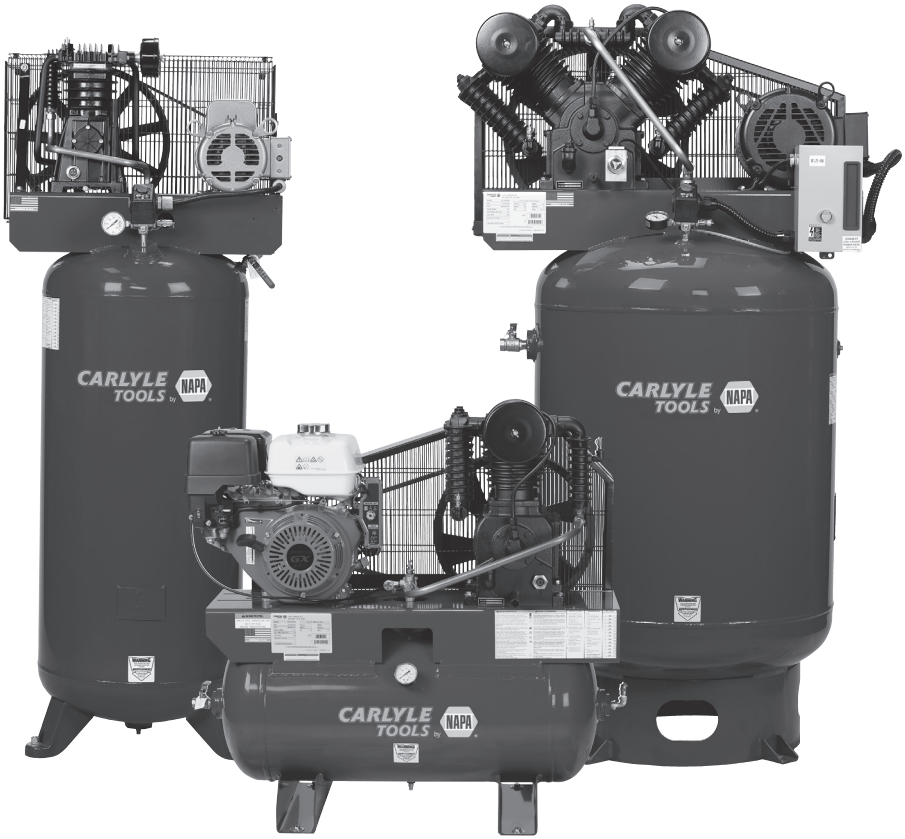
CARLYLE TOOLS by NAPA®

Air Compressors



PRODUCT SUPPORT

Please have the model and serial number of your machine available when you call.
Technical support is available Mon-Fri, 8a-5p EST: (866) 869-3114

⚠ WARNING

THIS PRODUCT CAN EXPOSE YOU TO CHEMICALS INCLUDING LEAD, WHICH IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. FORM MORE INFORMATION GO TO WWW.P65WARNINGS.CA.GOV 2024114400

Rev. 0122

Part# 2022209648

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SAFETY GUIDELINES – DEFINITIONS

Safety is a combination of common sense, staying alert and knowing how your compressor works. Read this manual to understand this compressor.

DANGER

means if safety information is not followed someone **will** be seriously injured or killed

WARNING

means if safety information is not followed someone **could** be seriously injured or killed

CAUTION

means if safety information is not followed someone **may** suffer moderate or minor injury

IMPORTANT SAFETY INSTRUCTIONS

Save these instructions

Improper operation or maintenance of this product could result in serious injury and property damage. Read and understand all warnings and operation instructions before using this compressor.

Before using the air compressor

Things you should know

Air compressors are utilized in a variety of air system applications. Because air compressors and other components (hoses, connectors, air tools, spray guns, etc.) make up a high pressure pumping system, the following safety precautions should be observed at all times.

Only persons familiar with these rules of safe operation should use the air compressor

1. Read the instruction manual carefully before attempting to assemble, disassemble or operate your system. Be thoroughly familiar with the controls and the proper use of the equipment.
2. Review and understand all safety instructions and operating procedures in this manual.
3. Review the maintenance methods for this compressor throughout this manual.

Inspect your work area

1. Keep work area clean.
2. Cluttered areas and benches invite accidents. Floors must not be slippery from wax or dust.

Inspect your compressor

1. To reduce the risk of injury from accidental starting, turn switch off and disconnect the power before checking it.
2. If any part is missing, bent or broken in any way or any electrical part does not work properly, keep the compressor off and disconnected.
3. Check hoses for weak or worn condition before each use, making certain all connections are secure. Do Not use if defect is found.

WARNING

Do not operate compressor if damaged during shipping, handling or use. Damage may result in bursting and cause injury or property damage.

DANGER

This compressor is NOT designed for and should not be used in breathing air applications.

When installing or moving the compressor

WARNING

This compressor is extremely top heavy. The compressor must be bolted to the floor with vibration pads before operating to prevent equipment damage, injury or death. DO NOT tighten bolts completely as this may cause stress to the tank welds. See **Illustration 1a**.

To reduce the risk of a dangerous environment

1. Keep work area well lit.
2. Operate compressor in a well-ventilated area free from flammable liquids and vapors.
3. Operate compressor in a ventilated area so that compressor may be properly cooled and the surrounding air temperature will not be more than 100°F (38°C).
4. Never use a compressor in a wet environment.
5. Protect material lines and air lines from damage or puncture. Keep hose and wires away from sharp objects, chemical spills, oil, solvents and wet floors.

WARNING

DO NOT secure compressor with toggle bolts into drywall. Drywall sheeting or plaster will not support the weight of the compressor and serious injury could result.

Always Shut Off Gas Valve before moving Gas Drive Compressors

6. A minimum clearance of 18 inches (46 cm) between the compressor and a wall is required because objects could obstruct airflow.
7. The compressor should be located where it can be directly wired to a circuit breaker. Based on design, certain compressors should be wired by a qualified electrician.
8. Never store flammable liquids or gases in the vicinity of an operating compressor.
9. DO NOT locate the compressor air inlet near steam, paint spray, sandblasting areas or any other source of contamination. The debris could damage the motor and pump.

WARNING

Never use plastic (PVC) pipe for compressed air. Serious injury or death could result.

CAUTION

Never use the shipping skid for mounting the compressor.

NOTICE

Electric Compressors are not suitable for outdoor installation.

NOTICE

Gasoline Compressors must be operated outdoors, sheltered from the weather.

WARNING

Never install a shut off valve between the compressor pump and tank. Personal injury and/or equipment damage could occur.

Before each use

Inspect your work area

1. Keep work area clean. Cluttered areas and benches invite accidents.
2. The floor must not be slippery from wax or dust.

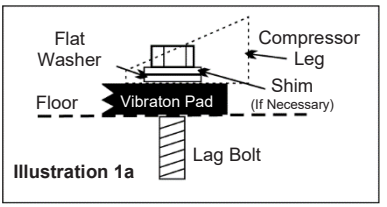


Illustration 1a

Inspect your compressor

1. To reduce the risk of injury from accidental starting, turn the switch off and disconnect power.
2. If any part is missing, bent or broken in any way, or any electrical part does not work properly, keep the compressor off and disconnect power. DO NOT use if defect is found.
3. Check hoses for weak or worn condition before each use, making certain all connections are secure. DO NOT use if a defect is found.

Follow the safety precautions for electrical connections

1. Follow all local electrical and safety codes, as well as the National Electric Code (NEC) and the Occupational Safety and Health Act (OSHA).
2. Wiring and fuses should follow electrical codes, current capacity and be properly grounded.
3. Protect wires from contact with sharp objects.

CAUTION

All electrical connections should be made by a qualified electrician.

Plan ahead to protect your eyes, hands, face and ears

Dress for safety

1. Wear safety glasses (meeting ANSI Z87.1 or in Canada CSA Z94.3-99) and use hearing protection when operating the unit. Everyday glasses are not safety glasses.
2. Wear shoes to prevent shock hazards.
3. Tie back long hair.

Pay attention to your hands

WARNING

Keep fingers away from running compressor. Fast moving and hot parts may cause injury and/or burns.

CAUTION

Be careful when touching the exterior of compressor, pump, motor and air lines; they may become hot enough to cause injury.

WARNING

Never operate the compressor without a belt guard. The compressor can start automatically without warning. Personal injury or property damage could occur from contact with moving parts.

CAUTION

The compressor may be hot even if the unit is stopped.

WARNING

Use of a mask or respirator per chemical manufacturers' instructions may be necessary if there is a chance of inhaling toxic fumes. Read mask and respirator instructions carefully. Consult a safety expert if you are not sure about the use of certain masks or respirators.

When operating

1. Do not exceed the pressure rating of any component of the system.
2. Release pressure within the system slowly to prevent flying dust and debris.
3. If the equipment starts to abnormally vibrate, STOP the compressor immediately and check for the cause.

WARNING

To avoid serious injury, never change the safety valve or pressure switch settings. Keep safety valve free from paint and other accumulations. See compressor specification decal for maximum operating pressure. Do not operate with the pressure switch set higher than the maximum operating pressure.

Spraying precautions

WARNING

Never point a spray gun at yourself or any other person or animal. Accidental discharge may result in serious injury.

Reduce the risk of dangerous environment

WARNING

Extreme caution should be taken when spraying flammable liquids, as the spark from a motor or pressure switch may cause a fire or explosion. Ample ventilation must be provided.

WARNING

Spray in a well ventilated area to keep fumes from collecting and causing serious injury and fire hazards.

1. DO NOT spray in the vicinity of open flames or other places where a spark can cause ignition. DO NOT smoke when spraying paint, insecticides or other flammable substances.

Be informed about the materials you use

1. When spraying with solvents or toxic chemicals, follow the instructions provided by the chemical manufacturer. Consult a safety expert if unsure about the use of masks or respirators.
2. If the material you intend to spray contains trichloroethane and methylene chloride, do not use accessories that contain aluminum or galvanized materials, as these chemicals can react with galvanized components, causing corrosion and weakening equipment. Use stainless steel accessories.

Perform these maintenance operations

1. Do regular maintenance; keep all nuts, bolts, and screws tight, to be sure equipment is in safe working condition.
2. Inspect tank yearly for rust, pin holes or any other imperfections that could cause it to become unsafe.

WARNING

NEVER attempt to repair or modify a tank! Welding, drilling or any other modification will weaken the tank, resulting in damage from rupture or explosion. To avoid injury, always replace worn, cracked or damaged tanks.

3. Clean electrical equipment with an approved cleaning agent, such as a dry, non-flammable cleaning solvent.
4. Drain tanks of moisture after each day's use. If unit will not be used for a while, it is best to leave the drain cock open until such time as it is to be used. This will allow moisture to completely drain out and help prevent corrosion of inside of tank.
5. Always disconnect from power source before working on or near a motor or its connected load. If power disconnect point is out-of-sight, secure it in the "OFF" position and tag it to prevent unexpected application of power.

WARNING

Disconnect power and depressurize system before servicing air compressor to avoid injury. Slightly open drain cock after shutting off compressor.

Daily

Check oil level at sight glass. Oil level should be 1/2 to slightly higher in the oil sight glass.

Drain moisture from tank.

Verify the pressure switch unloader is working by listening for a brief hissing sound when the compressor shuts off.

Visually check the compressor for loose parts, excessive noise or vibration. Tighten any necessary part.

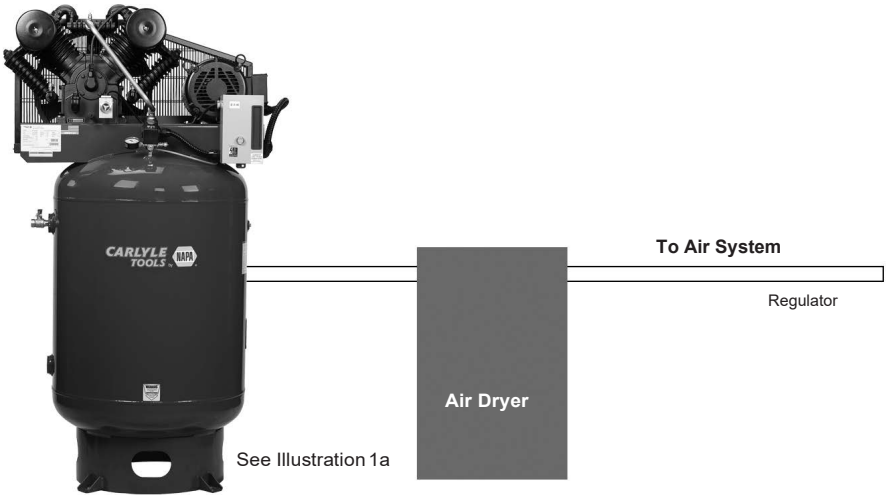
Monthly

(Make sure the main power is off.) Check the belts for tension. Belts should not move up and down when the compressor runs and when stopped, should not have more than 1/2 inch (13 mm) of play when depressed. Be careful not to over tighten belts during adjustment.

Remove and check air filter, replace if necessary.

Change oil every 3 months or 300 hours. A compressor grade 30 wt non-detergent oil should be used. Use 40 wt non-detergent for single stage.

TYPICAL COMPRESSOR INSTALLATION



GLOSSARY OF TERMS

Air Filter
Porous element contained within a metal or plastic housing attached to the compressor cylinder head which removes impurities from the intake air of the compressor.

Air Tank
Cylindrical component which contains the compressed air.

Check Valve
Device which prevents compressed air from flowing back from the air tank to the compressor pump.

Electric Motor
Device which provides the rotational force necessary to operate the compressor pump.

Pressure Gauge
Device which shows the tank or regulated pressure of the compressed air.

Pressure Switch
Device which automatically controls the on/off cycling of the compressor. It stops the compressor when the cut-off pressure in the tank is reached and starts the compressor when the air pressure drops below the cut-in pressure.

PSI (Pounds per Square Inch)
Measurement of the pressure exerted by the force of air. The actual psi is measured by a pressure gauge on the compressor.

Pump
Device which produces the compressed air with a reciprocating piston contained within a cylinder.

Safety Valve
Device which prevents air pressure in the air tank from rising over a predetermined limit.

Thermal Overload Switch
Device, integrated into the electric motor winding, which automatically “shuts off” the compressor if the temperature of the electric motor exceeds a predetermined limit.

WIRING

WARNING

ALL ELECTRICAL WIRING SHOULD BE DONE BY A QUALIFIED ELECTRICIAN.

General Information

Adequate wiring and motor protection should be provided for all stationary compressors. Wiring used for other machinery should not be used. A qualified electrician familiar with local electrical codes in your area should be used. Size supply wiring per NEC (National Electric Code) requirements.

WARNING

To reduce the risk of electrical hazards, fire hazards or damage to the compressor, use proper circuit protection. Your compressor is wired at the factory for operation using the voltage shown. Connect the compressor to a power source with the correct breaker size.

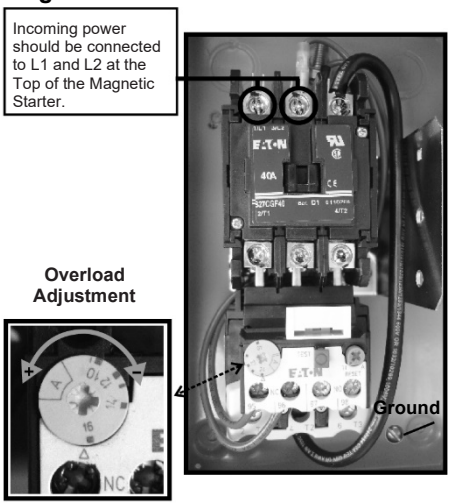
WARNING

Electrical connections must be properly grounded. Ground connections should be connected at the grounding screw.

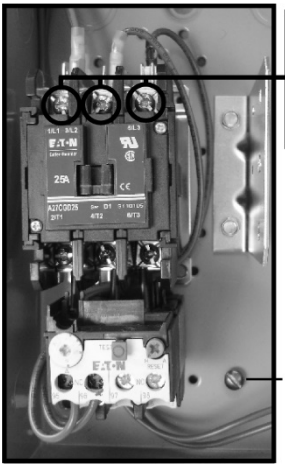
CAUTION

Overheating, short circuiting and fire damage will result from inadequate wiring.

Single Phase



Three Phase

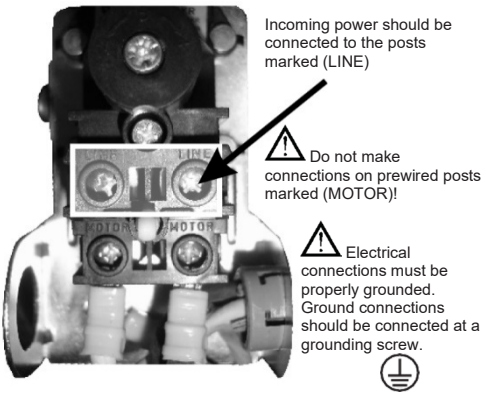


DO NOT MAKE CONNECTIONS AT THE PRESSURE SWITCH
(Units with Magnetic Starters)

Duplex

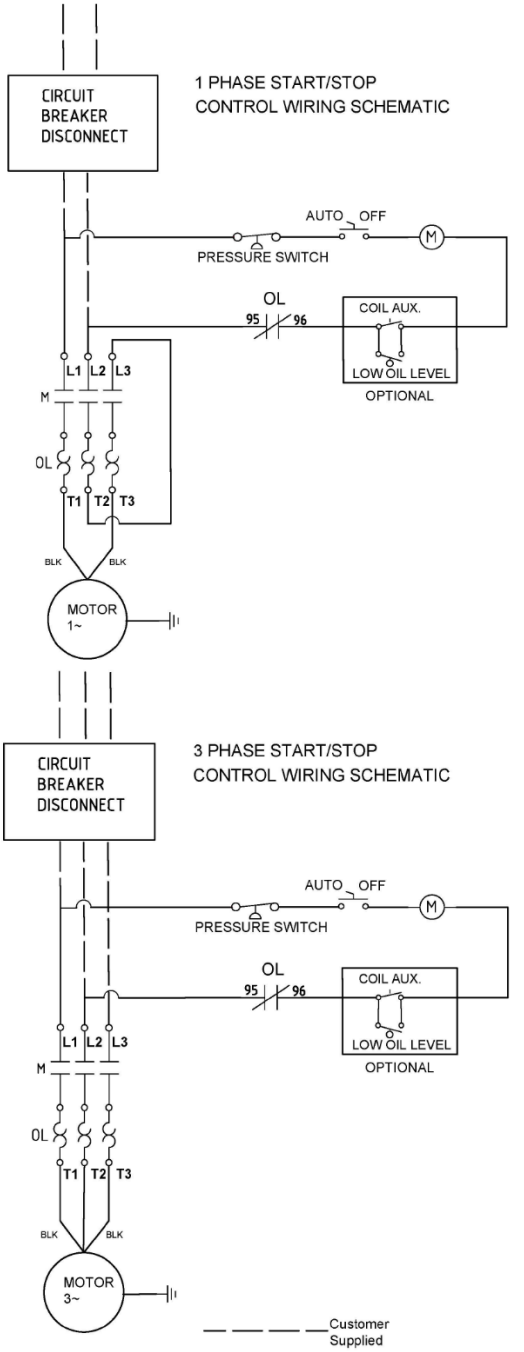
Power should be brought into the left-hand starter. Do not bring power to both starters.

For Models Without Magnetic Starter



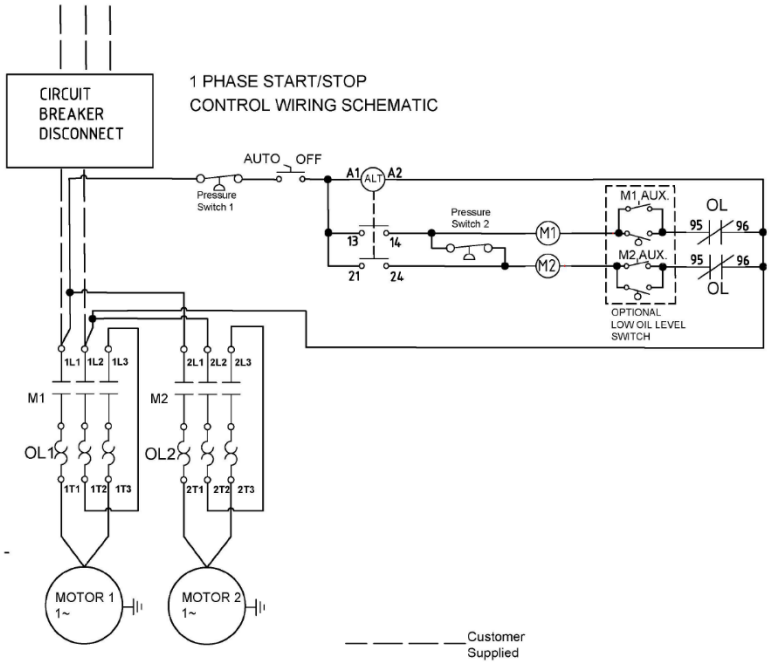
WIRING

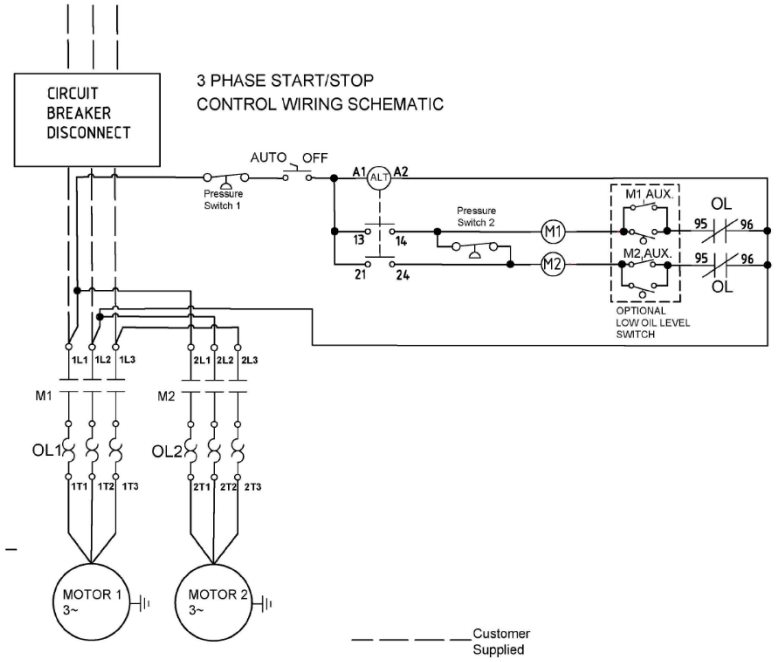
Single and Three Phase with Mag Starter



WIRING

Single and Three Phase Duplex





STARTING THE COMPRESSOR

Prior to actually running the compressor, check the following items:

Crankcase oil - Make sure the sight glass shows 1/2 full or slightly above.

Make sure all rags, tools, oil, etc. are away from the unit.

Open the air system to free it of any pressure.

Switch the compressor on for a few revolutions to make sure the rotation is correct. Correct rotation is clockwise when facing the sight glass on the pump.

Operate the compressor for a few minutes unloaded (air system open) then allow the compressor to pump up. Make sure the electrical pressure switch properly switches off the compressor according to the setting desired. 175 psi for Two Stage and 135 psi for Single Stage.

CAUTION

Make sure the pressure in the tank does not exceed its rating: Single Stage units at 135 psi, Two Stage units at 175 psi.

If the pressure gauge indicates a pressure that is higher than these maximum pressures, shut off compressor immediately and call your distributor.

Gas Drive Models

PLEASE REFER TO YOUR ENGINE OPERATION MANUAL FOR PROPER STARTING INSTRUCTIONS.

GASOLINE DRIVEN COMPRESSORS ARE EQUIPPED WITH A COLD START VALVE FOR LOADLESS STARTS.

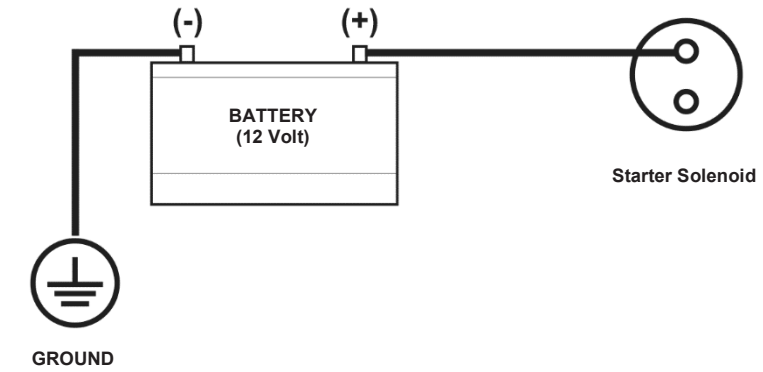
NOTE: IN SOME INSTANCES, IT STILL MAY BE NECESSARY LIFT THE TOGGLE ON THE UNLOADER/PILOT VALVE TO RELIEVE THE HEAD PRESSURE. See Page 11.

Battery Connection Instructions for Electric Start Engines

NOTE: Make sure to follow instructions carefully to avoid a short and possible damage to the starter solenoid and/or battery.

1. Connect the positive (+) terminal on the battery to the starter solenoid.
2. Connect the negative (-) terminal on the battery to an engine mounting bolt or other acceptable ground connection.

Always connect the positive (+) battery cable to the starter solenoid before connecting the negative (-) battery cable. NUMBER 2 WIRE OR LARGER IS REQUIRED.

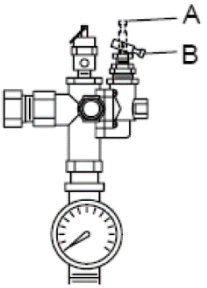


Cold Start Procedure (Gasoline Engine Units)

WARNING

DO NOT OPERATE GASOLINE ENGINE UNITS IN AN ENCLOSED AREA.

- Release any remaining tank pressure by slowly opening the manual drain valve.
- Turn on the engine gasoline supply.
- Put the choke in the “On” position.
- Close the service valve and put Unloader lever in the “unload” (A) position for Briggs and Stratton and Honda engine driven models, or the “load” (B) position for Kohler engine models.
- Start the engine, release the choke, and allow the engine to warm up for two to three minutes.
- Return the unloader lever to the “load” (B) position on Briggs and Stratton and Honda driven models.



NOTE: Turn the gasoline supply off when the compressor is not being used.

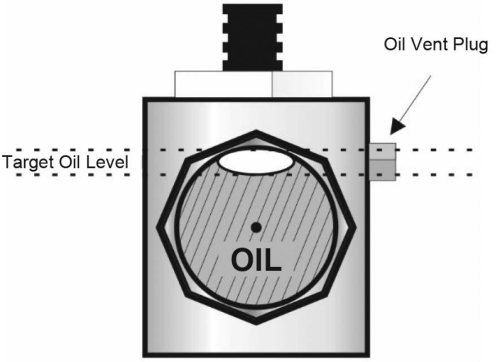
COMPRESSOR FEATURES

Low Oil Level Switch - Premier Models

The function of the low oil level switch is to keep the air compressor from starting if the oil level drops beyond a certain point.

For compressors outfitted with the low oil level switch, the oil should appear in the top 1/3 of the oil sight glass.

When changing or adding oil, it is important to remove the Oil Vent Plug to allow for the oil to flow completely into the switch.



TROUBLESHOOTING GUIDE

Low discharge pressure	1. Compressor too small for application	1. Reduce air demand or use a compressor with more air capacity.
	2. Air leaks	2. Listen for air leaks. Apply a soap solution to all fittings and connections. Bubbles will form at points of leakage. Tighten or replace fittings or connections.
	3. Restricted intake air	3. Clean or replace air filter.
	4. Blown gasket(s)	4. Replace necessary gaskets.
	5. Broken or misaligned valves	5. Remove head and inspect for broken or misaligned valves. Replace valves, if necessary.
		⚠ CAUTION Install a new head gasket each time head is removed.
Excessive noise “knocking”	1. Loose drive pulley or flywheel	1. Tighten drive pulley or flywheel bolt.
	2. Low on oil	2. Check for proper oil level. Low or dirty oil may cause bearing damage.
	3. Worn connecting rod or connecting rod bearing	3. Replace connecting rod and/or connecting rod bearings.
	4. Noisy check valve	4. Replace check valve.
		⚠ DANGER Do not remove check valve with air pressure in tank.
Excessive oil carryover	1. Worn piston rings	1. Replace with new piston rings.
	2. Restricted intake air	2. Clean or replace air filter.
	3. Too much oil in compressor	3. Drain oil to proper oil level.
	4. Incorrect oil viscosity	4. Use a quality non-detergent 30 or 40 wt oil specified for each model (Page 4).
Water in tank and/or discharge line	1. Normal amount of water will increase as humidity in the air increases.	1. Drain tank at least once per day.
		2. Add an inline filter to reduce moisture in the air line.
Will not run or motor hums	1. Low voltage	1. Check voltage with volt meter across both legs of incoming power. Check reset button on motor.
	2. Malfunctioning pressure switch	2. Repair or replace pressure switch.
	3. Malfunctioning check valve	3. Replace check valve or pressure switch.
		⚠ DANGER Do not remove check valve with air pressure in tank.

TROUBLESHOOTING GUIDE (Continued)

Breaker or reset repeatedly trips	1. Incorrect breaker size	1. Make sure the breaker is sized properly. See page 6 in this manual.
	2. Low voltage	2. Check voltage with volt meter across both legs of incoming power.
	3. Malfunctioning motor	3. Replace motor.
	4. Loose electrical connections	4. Check all electrical connections.
	5. Malfunctioning pressure switch	5. Adjust or replace pressure switch.
	6. Malfunctioning check valve	6. Replace check valve. **⚠ DANGER** Do not remove check valve with air pressure in tank.
Tank does not hold pressure when not running and shut off valve is closed	1. Malfunctioning check valve	1. Replace check valve. **⚠ DANGER** Do not remove check valve with air pressure in tank.
	2. Loose fittings or connections	2. Tighten or replace fittings or connections.
	3. Crack or pin hole in tank	3. Replace tank. Do not attempt to repair tank.
Pressure switch unloader constantly leaking air	1. Malfunctioning check valve	1. Replace check valve if unloader bleeds constantly. **⚠ DANGER** Do not remove check valve with air pressure in tank.
Pressure switch not unloading	1. Malfunctioning pressure switch	1. Replace pressure switch if it does not release air pressure briefly when unit shuts off. **⚠ DANGER** Do not remove pressure switch with air pressure in tank.
Excessive vibration	1. Improper installation	1. Make sure unit is mounted on a level surface with vibration pads.
	2. Loose belts	2. Replace belts. Align and tighten properly.
	3. Misaligned flywheel or drive pulley	3. Align flywheel and drive pulley.
Overheating	1. Compressor too small for application	1. Reduce air demand or use a compressor with more air capacity.
	2. Cooling surfaces dirty	2. Clean all cooling surfaces of dirt and dust.
	3. Improper cooling	3. Install compressor in an area with adequate cool dry air.

PUMP SPECIFICATIONS

Pump Model	Pump P/N	Cyl. No.	Stages
PAT24	4116091136	2	1
PAT38	4116091337	2	1
PAT49	1609402496	2	2
C1	1312202800	2	2
C2	1312202700	4	2

Pump Model	Cyl. Diam in. (mm)		Stroke in. (mm)	Max rpm	Oil Cap. Qt. (L)	Displacement @ max RPM	
	1st Stg	2nd Stg				CFM	L/M
PAT24	2.48 (63)	N/A	1.50 (38)	1400	0.56 (0.53)	11.71	331.59
PAT38	2.48 (63)	N/A	2.36 (60)	1400	0.91 (0.86)	18.49	523.58
PAT49	3.74 (95)	1.97 (50)	2.48 (63)	1400	0.91 (0.86)	20.40	578.00
C1	4.13 (105)	2.16 (55)	3.5 (89)	1000	1.31 (1.24)	27.13	768.33
C2	4.13 (105)	2.16 (55)	3.5 (89)	900	1.50 (1.42)	48.84	1382.99

Pump Model	Bolt Torque Ft.-Lbs. (NM)				
	Conrod	Head	Cylinder	Bearing Housing	Flywheel
PAT24	N/A	18-20 (24-27)	18-20 (24-27)	5-7 (7-10)	18-20 (24-27)
PAT38	N/A	18-20 (24-27)	18-20 (24-27)	5-7 (7-10)	18-20 (24-27)
PAT49	N/A	18-20 (24-27)	18-20 (24-27)	5-7 (7-10)	18-20 (24-27)
C1	34-37 (46-50)	34-37 (46-50)	19-27 (26-37)	14-19 (19-26)	47-57 (64-77)
C2	34-37 (46-50)	34-37 (46-50)	19-27 (26-37)	14-19 (19-26)	47-57 (64-77)

TANK SPECIFICATIONS

Volume		Max Pressure		Discharge Conn.
Gal.	Liter	PSI	Bar	NPT
60V	228	170	11.7	1/2"
80V	300	200	13.8	3/4"
80H	300	200	13.8	3/4"
80V	300	200	13.8	3/4"
30H	114	200	13.8	3/4"
120V	456	200	13.8	3/4"
120H	456	200	13.8	3/4"
120D	456	200	13.8	3/4"
200D	760	200	13.8	3/4"

WARNING

Oil and moisture residue must be drained from the air receiver daily or after each use. Accumulations of oil residue in the receiver can be ignited by embers of carbon created by the heat of compression - causing an explosion, damage to property and injury to personnel.

WARNING

Do not open a manual tank drain valve on any air tank containing more than 30 PSIG of air pressure!

WARNING

Never attempt to relieve an air tank by removing a pipe plug or any other system component!

Manually Draining an Air Tank:

Step 1) Disconnect and lockout the compressor from the power source (electric models) or disconnect the spark plug wire from the spark plug (gas engine models).

Step 2) Tank(s) subjected to freezing temperatures may contain ice. Store the compressor in a heated area before attempting to drain moisture from the tank(s). Reduce the air pressure in the tank to 30 PSIG by pulling the pressure relief valve ring.

Step 3) Slowly open the drain valve and allow the moisture and air mixture to drain from the tank.

Step 4) Once the moisture has been completely drained, close the drain valve.

Recommended Air Tank Inspection Intervals

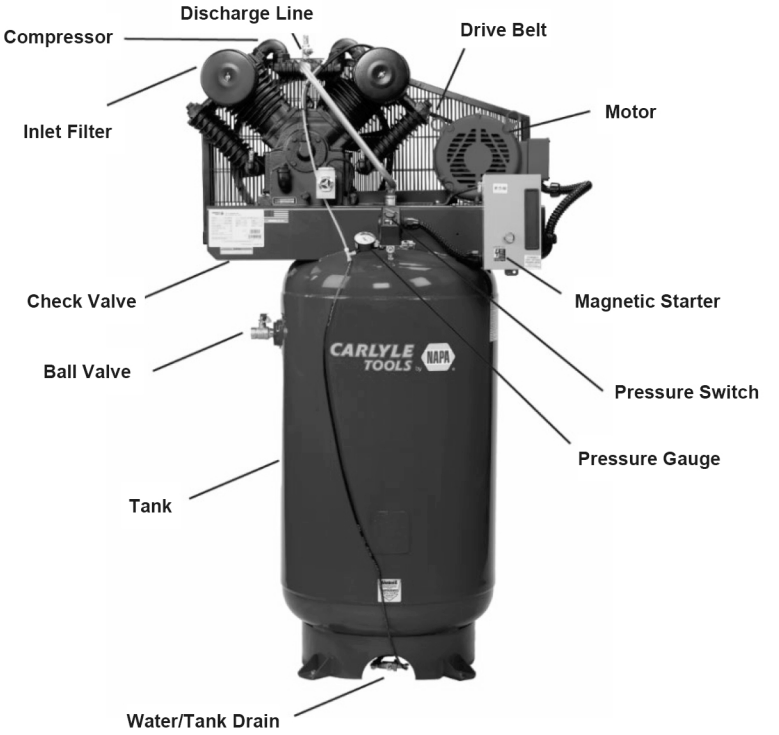
Volume		Max Pressure		Discharge Conn.	Visually Inspect	Hydrostatically Inspect
Gal.	Liter	PSI	Bar	NPT		
60V	228	170	11.7	1/2"	Annually	10 Years
80V	300	200	13.8	3/4"	Annually	10 Years
80H	300	200	13.8	3/4"	Annually	10 Years
80V	300	200	13.8	3/4"	Annually	10 Years
30H	114	200	13.8	3/4"	Annually	10 Years
120V	456	200	13.8	3/4"	Annually	10 Years
120H	456	200	13.8	3/4"	Annually	10 Years
120D	456	200	13.8	3/4"	Annually	10 Years
200D	760	200	13.8	3/4"	Annually	10 Years

The factory recommends that all air tanks be inspected at scheduled intervals. Refer to **Recommended Air Tank Inspection Intervals Table** for relative information.

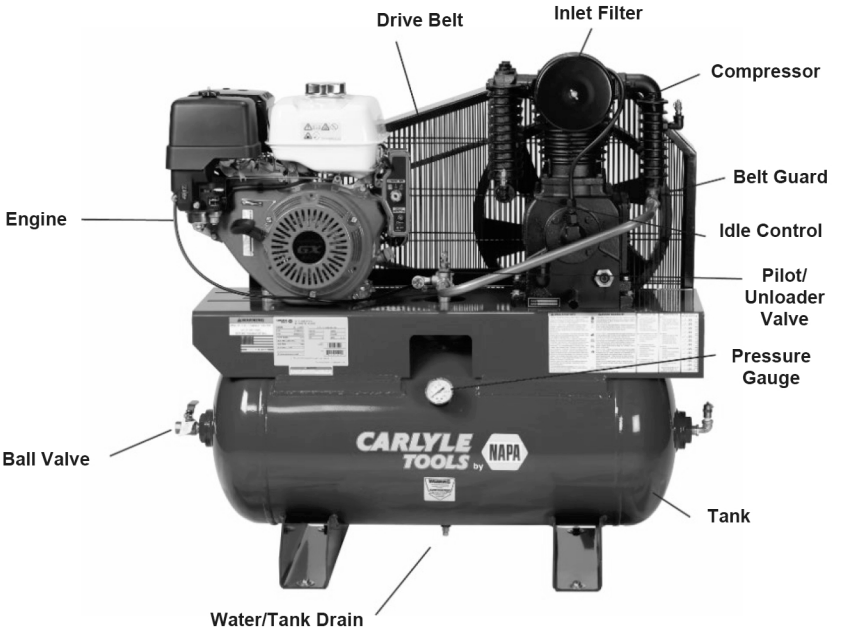
Refer to federal, state or provincial, or local codes for mandatory air tank maintenance information.

PART IDENTIFICATION

Electric



Gas Drive



Single Stage

Part #	8090303432	8090303424
Model	89-4256VAT	89-4276VAT
Pump NAPA Part #	4116091331 -	4116091333 -
Motor/Engine NAPA Part #	1312100388 1312100388	1312100390 82-3500MA
Tank	2023106783	2023106783
Check Valve NAPA Part #	1312101343 -	1312101343 -
Pressure Switch NAPA Part #	1312100455 82-775	1312100455 82-775
Safety Valve NAPA Part #	1312100005 82-949	1312100005 82-949
Pressure Gauge NAPA Part #	1312100006 1312100006	1312100006 1312100006
Discharge Line NAPA Part #	1312101151 -	1312101047 -
Discharge Compression Nut	2024903707	2024903707
Ball Valve NAPA Part #	1312100162 1312100162	1312100162 1312100162
Inlet Filter NAPA Part #	2236112735 -	2236112735 -
Tank Drain NAPA Part #	1312100360 1312100360	1312100360 1312100360
Belt Guard NAPA Part #	2236115371 / 2236115372 - / -	2236115371 / 2236115372 - / -
Drive Pulley NAPA Part #	1312100439 -	1312101070 -
Drive Pulley Bushing	2014706741	1312100448
Drive Belt NAPA Part #	1312101067 -	2024200316 -
Magnetic Starter (230V)	N/A	N/A
Magnetic Starter (460V)	N/A	N/A
Low Oil Level Switch	N/A	N/A
Auto Tank Drain	N/A	N/A

Two Stage

Part #	8090303556	8090303481
Model	89-346VAT	89-348NVAT
Pump NAPA Part #	1609402496 -	1312100706 1312100706
Motor/Engine NAPA Part #	2023000811 -	2023000868 82-5000MA
Tank	2023106749	2023106779
Check Valve NAPA Part #	2023913311 -	1312100169 1312100169
Pressure Switch NAPA Part #	2023738400 82-777	2023738467 -
Safety Valve NAPA Part #	9710533300 82-951	9710533300 82-951
Pressure Gauge NAPA Part #	2025065900 82-516	2025018507 82-516
Discharge Line NAPA Part #	2023206102 -	1312101636 -
Discharge Compression Nut	2024904722	0607110140
Ball Valve NAPA Part #	1312100162 1312100162	1312100163 1312100163
Inlet Filter NAPA Part #	1129707745 -	1312100881 1312100881
Tank Drain NAPA Part #	1312100360 1312100360	1312100360 1312100360
Belt Guard NAPA Part #	2021115700 -	1312100982 -
Drive Pulley NAPA Part #	1312100443 -	1312100714 1312100714
Drive Pulley Bushing	1312100449	1312100445
Drive Belt NAPA Part #	2024200328 -	2024200423 -
Magnetic Starter (230V)	N/A	N/A
Magnetic Starter (460V)	N/A	N/A
Low Oil Level Switch	N/A	N/A
Auto Tank Drain	N/A	N/A

Premier

Part #	8090303440	8090303457	8090303499	8090303507	8090303515	8090303523	8090303531	8090303549
Model	89-309HBTP	89-309VBTP	89-348VBTP	89-378VBTP	89-378VATP	89-348VATP	89-368VBTP	89-368VATP
Pump NAPA Part #	1312202700 82-3011	1312202700 82-3011	1312202800 82-3049	1312202700 82-3011	1312202700 82-3011	1312202800 82-3049	1312202800 82-3049	1312202800 82-3049
Motor/ Engine NAPA Part #	1312101600 82-1000MB	1312101600 82-1000MB	1312101602 82-5000MB	2023000928 -	2023000966 82-7500MA	2023000868 82-5000MA	1312101601 82-7525MB	1312100400 82-7525MA
Tank	2023106776	2023106777	2023106780	2023106780	2023106780	2023106780	2023106779	2023106779
Check Valve NAPA Part #	1312100172 82-P7510	1312100172 82-P7510	1312100171 82-P7575	1312100172 82-P7510	1312100172 82-P7510	1312100171 82-P7575	1312100169 1312100169	1312100169 1312100169
Pressure Switch NAPA Part #	1312100570 82-780	1312100570 82-780	1312100570 82-780	1312100570 82-780	1312100570 82-780	1312100570 82-780	1312100570 82-780	1312100570 82-780
Safety Valve NAPA Part #	9710533300 82-951	9710533300 82-951	9710533300 82-951	9710533300 82-951	9710533300 82-951	9710533300 82-951	9710533300 82-951	9710533300 82-951
Pressure Gauge NAPA Part #	1312100378 82-513	1312100845 82-516	1312100845 82-516	1312100845 82-516	1312100845 82-516	1312100845 82-516	2025018507 82-516	2025018507 82-516
Discharge Line NAPA Part #	1312100717 1312100717	1312100717 1312100717	1312100719 1312100719	1312100717 1312100717	1312100717 1312100717	1312100719 1312100719	1312101636 -	1312101636 -
Discharge Compression Nut	2024904730	2024904730	2014706649	2024904730	2024904730	2014706649	2014706649	2014706649
Ball Valve NAPA Part #	1312100163 1312100163	1312100163 1312100163	1312100163 1312100163	1312100163 1312100163	1312100163 1312100163	1312100163 1312100163	1312100163 1312100163	1312100163 1312100163
Inlet Filter NAPA Part #	1312100881 1312100881	1312100881 1312100881	1312100881 1312100881	1312100881 1312100881	1312100881 1312100881	1312100881 1312100881	1312100881 1312100881	1312100881 1312100881
Tank Drain NAPA Part #	1312100360 1312100360	1312100360 1312100360	1312100360 1312100360	1312100360 1312100360	1312100360 1312100360	1312100360 1312100360	1312100360 1312100360	1312100360 1312100360
Belt Guard NAPA Part #	1312204400 1312204400	1312204400 1312204400	1312204400 82-052	1312204400 82-052	1312204400 82-052	1312204400 82-052	1312100982 -	1312100982 -
Drive Pulley NAPA Part #	1312100713 1312100713	1312100713 1312100713	1312100714 1312100714	1312101819 -	1312101819 -	1312100714 1312100714	1312100938 -	1312100938 -
Drive Pulley Bushing	1312100446	1312100446	1312100445	1312100446	1312100446	1312100445	1312100445	1312100445
Drive Belt NAPA Part #	1312100723 82-035	1312100723 82-035	1312100724 82-034	1312100724 82-034	1312100724 82-034	1312100724 82-034	1312100939 -	1312100939 -
Magnetic Starter (230V)	1312101281	1312101281	1312101276	1312101278	1312101282	2023738481	1312101278	1312101282
Magnetic Starter (460V)								
Low Oil Level Switch	1312101285	1312101285	1312101285	1312101285	1312101285	1312101285	1312101285	1312101285
Auto Tank Drain	1312100110 1312100110	1312100110 1312100110	1312100110 1312100110	1312100110 1312100110	1312100110 1312100110	1312100110 1312100110	1312100110 1312100110	1312100110 1312100110

Duplex Premier

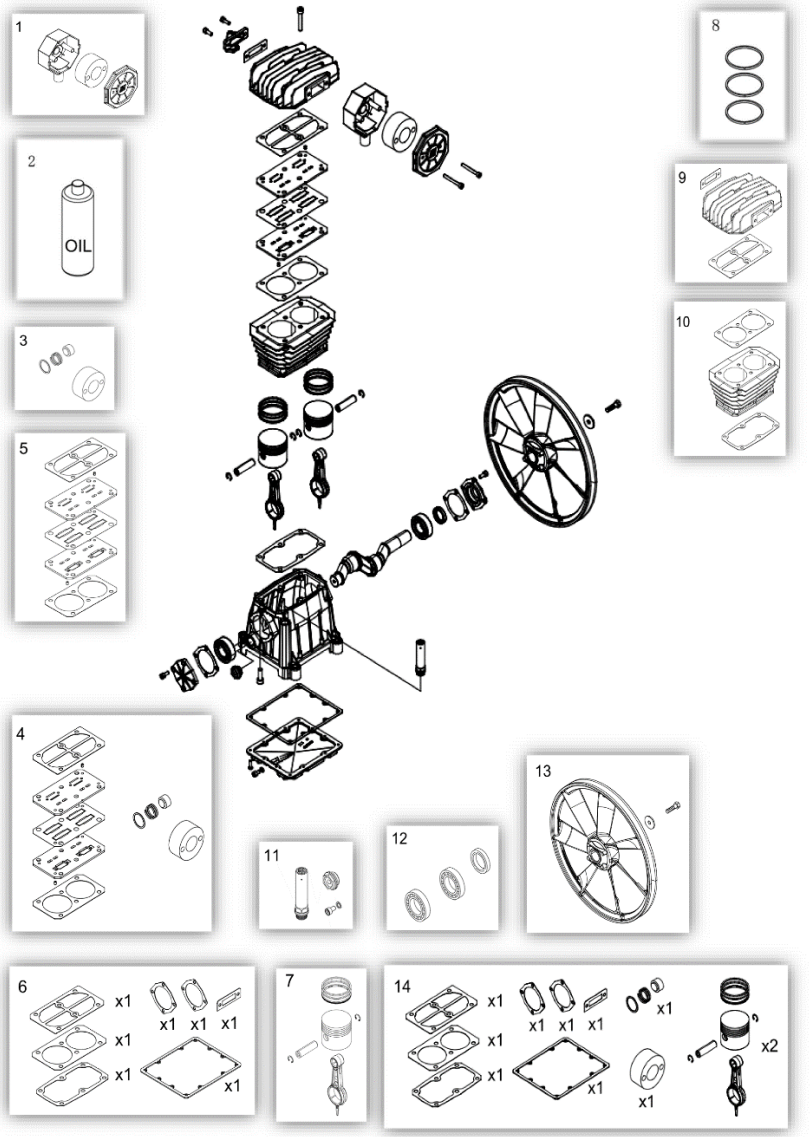
Part #	8090303564	8090303572	8090303580	8090303598
Model	89-2349HATP	89-2379HATP	89-2379HBTP	89-2309HBTP
Pump NAPA Part #	1312202800 82-3049	1312202700 82-3011	1312202700 82-3011	1312202700 82-3011
Motor/Engine NAPA Part #	2023000868 82-5000MA	2023000966 82-7500MA	2023000928 -	1312101600 82-1000MB
Tank	2023106781	2023106781	2023106781	2023106781
Check Valve NAPA Part #	1312100171/1312100009 82-P7575 /-	1312100172/1312100009 82-P7510 /-	1312100172/1312100009 82-P7510 /-	1312100172/1312100009 82-P7510 /-
Pressure Switch NAPA Part #	1312100570 82-780	1312100570 82-780	1312100570 82-780	1312100570 82-780
Safety Valve NAPA Part #	9710533300 82-951	9710533300 82-951	9710533300 82-951	9710533300 82-951
Pressure Gauge NAPA Part #	1312100845 82-516	1312100845 82-516	1312100845 82-516	1312100845 82-516
Discharge Line NAPA Part #	1312100719/1312100716 1312100719/1312100716	1312100717 1312100717	1312100717 1312100717	1312100717 1312100717
Discharge Compression Nut	2014706649	2024904730	2024904730	2024904730
Ball Valve NAPA Part #	1312100163 1312100163	1312100163 1312100163	1312100163 1312100163	1312100163 1312100163
Inlet Filter NAPA Part #	1312100881 1312100881	1312100881 1312100881	1312100881 1312100881	1312100881 1312100881
Tank Drain NAPA Part #	1312100360 1312100360	1312100360 1312100360	1312100360 1312100360	1312100360 1312100360
Belt Guard NAPA Part #	1312204400 82-052	1312204400/1312204300 82-052 / 82-051	1312204400/1312204300 82-052 / 82-051	1312204400/1312204300 82-052 / 82-051
Drive Pulley NAPA Part #	1312100714 1312100714	1312101819 -	1312101819 -	1312100713 1312100713
Drive Pulley Bushing	1312100445	1312100446	1312100446	1312100446
Drive Belt NAPA Part #	1312100724 82-034	1312100724 82-034	1312100724 82-034	1312100723 82-035
Magnetic Starter (230V)	1312101187	1312101187	1312101187	1312101187
Magnetic Starter (460V)				
Low Oil Level Switch	1312101285	1312101285	1312101285	1312101285
Auto Tank Drain	1312100110 1312100110	1312100110 1312100110	1312100110 1312100110	1312100110 1312100110

Part #	8090303606	8090303614	8090303622	
Model	89-2309HBT46P	89-2300HBTP	89-2300HBT46P	
Pump NAPA Part #	1312202700 82-3011	1312202700 82-3011	1312202700 82-3011	
Motor/Engine NAPA Part #	1312101600 82-1000MB	1312101600 82-1000MB	1312101600 82-1000MB	
Tank	2023106781	2023106782	2023106782	
Check Valve NAPA Part #	1312100172/1312100009 82-P7510 /-	1312100172/1312100009 82-P7510 /-	1312100172/1312100009 82-P7510 /-	
Pressure Switch NAPA Part #	1312100570 82-780	1312100570 82-780	1312100570 82-780	
Safety Valve NAPA Part #	9710533300 82-951	9710533300 82-951	9710533300 82-951	
Pressure Gauge NAPA Part #	1312100845 82-516	1312100845 82-516	1312100845 82-516	
Discharge Line NAPA Part #	1312100717 1312100717	1312100717 1312100717	1312100717 1312100717	
Discharge Compression Nut	2024904730	2024904730	2024904730	
Ball Valve NAPA Part #	1312100163 1312100163	1312100163 1312100163	1312100163 1312100163	
Inlet Filter NAPA Part #	1312100881 1312100881	1312100881 1312100881	1312100881 1312100881	
Tank Drain NAPA Part #	1312100360 1312100360	1312100360 1312100360	1312100360 1312100360	
Belt Guard NAPA Part #	1312204400/1312204300 82-052 / 82-051	1312204400/1312204300 82-052 / 82-051	1312204400/1312204300 82-052 / 82-051	
Drive Pulley NAPA Part #	1312100713 1312100713	1312100713 1312100713	1312100713 1312100713	
Drive Pulley Bushing	1312100446	1312100446	1312100446	
Drive Belt NAPA Part #	1312100723 82-035	1312100723 82-035	1312100723 82-035	
Magnetic Starter (230V)	1312101192	1312101187	1312101192	
Magnetic Starter (460V)				
Low Oil Level Switch	1312101285	1312101285	1312101285	
Auto Tank Drain	1312100110 1312100110	1312100110 1312100110	1312100110 1312100110	

Gas

Part #	8090303465	8090303473
Model	89-1633GT	89-1333GTH
Pump NAPA Part #	1312202700 82-3011	1312202800 82-3049
Motor/Engine NAPA Part #	1312100731 82-022	1312100224 -
Tank	2023106778	2023106778
Check Valve NAPA Part #	1312100497 -	1312100497 -
Pressure Switch NAPA Part #	N/A	N/A
Safety Valve NAPA Part #	9710533300 82-951	9710533300 82-951
Pressure Gauge NAPA Part #	1312100378 82-513	1312100378 82-513
Discharge Line NAPA Part #	1312100720 -	1312100716 1312100716
Discharge Compression Nut	1312100371	1312100371
Ball Valve NAPA Part #	1312100162 1312100162	1312100162 1312100162
Inlet Filter NAPA Part #	1312100881 1312100881	1312100881 1312100881
Tank Drain NAPA Part #	1312100360 1312100360	1312100360 1312100360
Belt Guard NAPA Part #	1312204300 82-051	1312204300 82-051
Drive Pulley NAPA Part #	1312100711 1312100711	1312100711 1312100711
Drive Pulley Bushing	2024222605	2024222605
Drive Belt NAPA Part #	2024200435 -	1312100721 82-033
Magnetic Starter (230V)	N/A	N/A
Magnetic Starter (460V)	N/A	N/A
Low Oil Level Switch	N/A	N/A
Auto Tank Drain	N/A	N/A

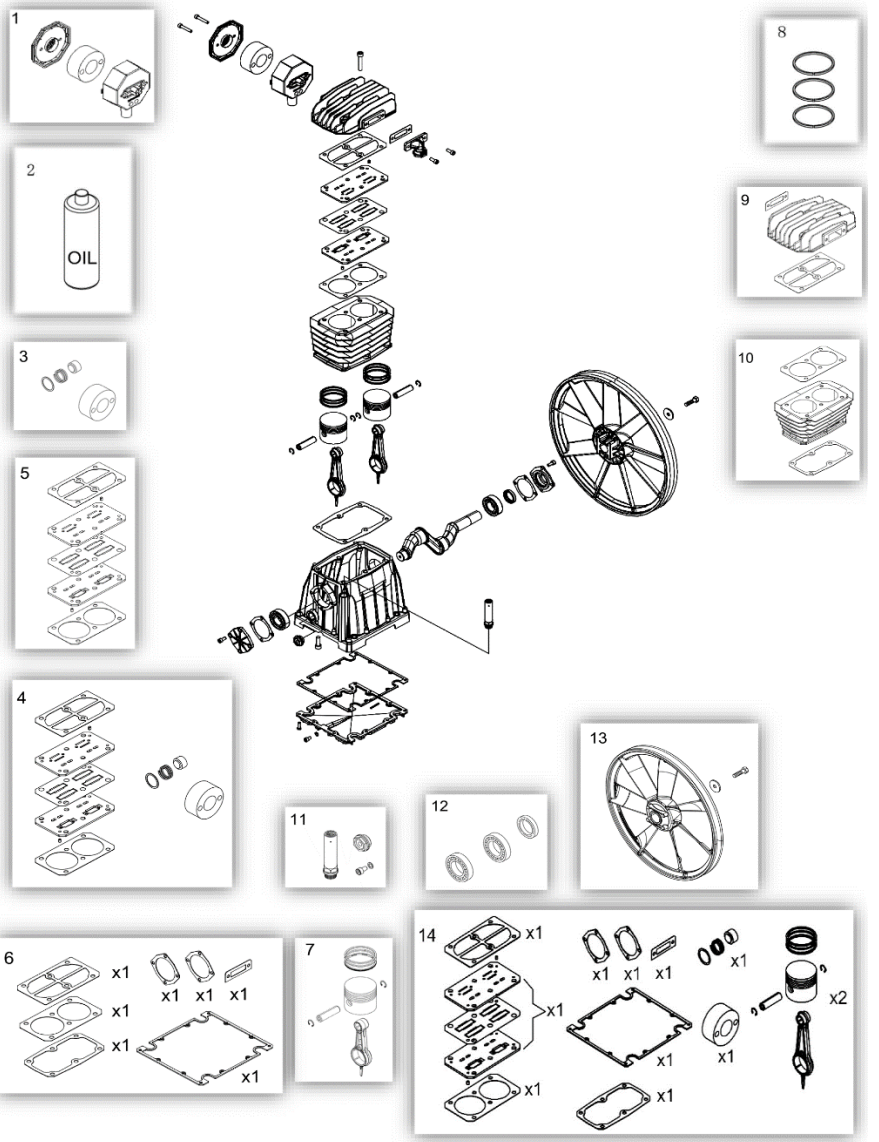
Compressor Pump 4116091336 (PAT24)



Item Number	Description	Part Numbers
Regular Maintenance Parts and Kits		
1	Complete Air filter including filter element	2236112735
2	Oil Atlair 150	1630054300
Preventive Maintenance Kits		
3	e-kit PAT24	1129706362
4	Performance Kit PAT24	1129706367
5	Valve Plate Kit	2236112518
6	Gasket Kit	1129706287
7	Piston Kit	2236111619

Item Number	Description	Part Numbers
Preventive Maintenance Kits (Continued)		
8	Piston Rings Kit	1129705098
Repairing Kits and Parts		
9	Head Kit	2901325044
10	Cylinder Kit	2236112434
11	Oil Kit	1129706370
12	Bearing Kit	1129706373
13	Flywheel Kit	1129707385
14	Heavy-Duty Kit PAT24	1129706372

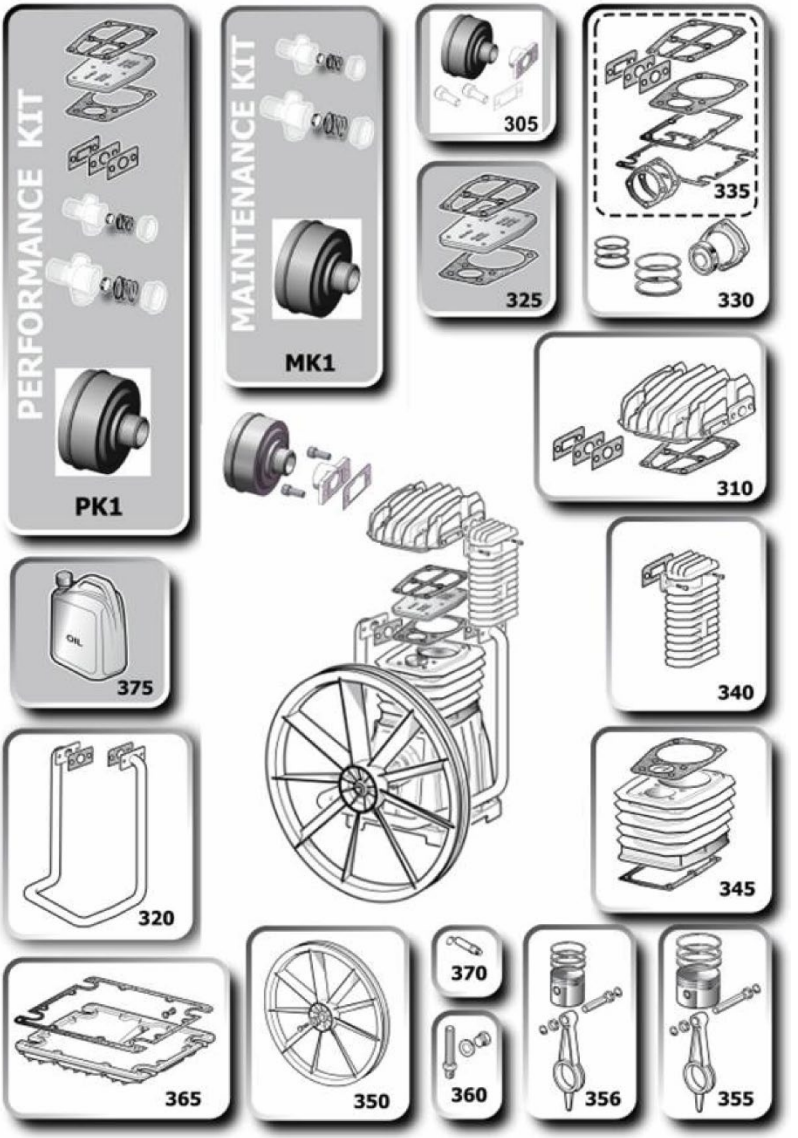
Compressor Pump 4116091337 (PAT38)



Item Number	Description	Part Numbers
Regular Maintenance Parts and Kits		
1	Complete Air filter including filter element	2236112735
2	Oil	2901160600
Preventive Maintenance Kits		
3	500h e-kit PAT38	1129706368
4	1000h Performance Kit PAT38	1129706371
5	Valve Plate Kit	2236112518
6	Gasket Kit	1129706288
7	Piston Kit	2236111620

Item Number	Description	Part Numbers
Preventive Maintenance Kits (Continued)		
8	Piston Rings Kit	1129705098
Repairing Kits and Parts		
9	Head Kit	1129706482
10	Cylinder Kit	2236112435
11	Oil Kit	1129706370
12	Bearing Kit	1129706373
13	Flywheel Kit	1129706483
14	2000h Heavy-Duty Kit PAT38	1129706369

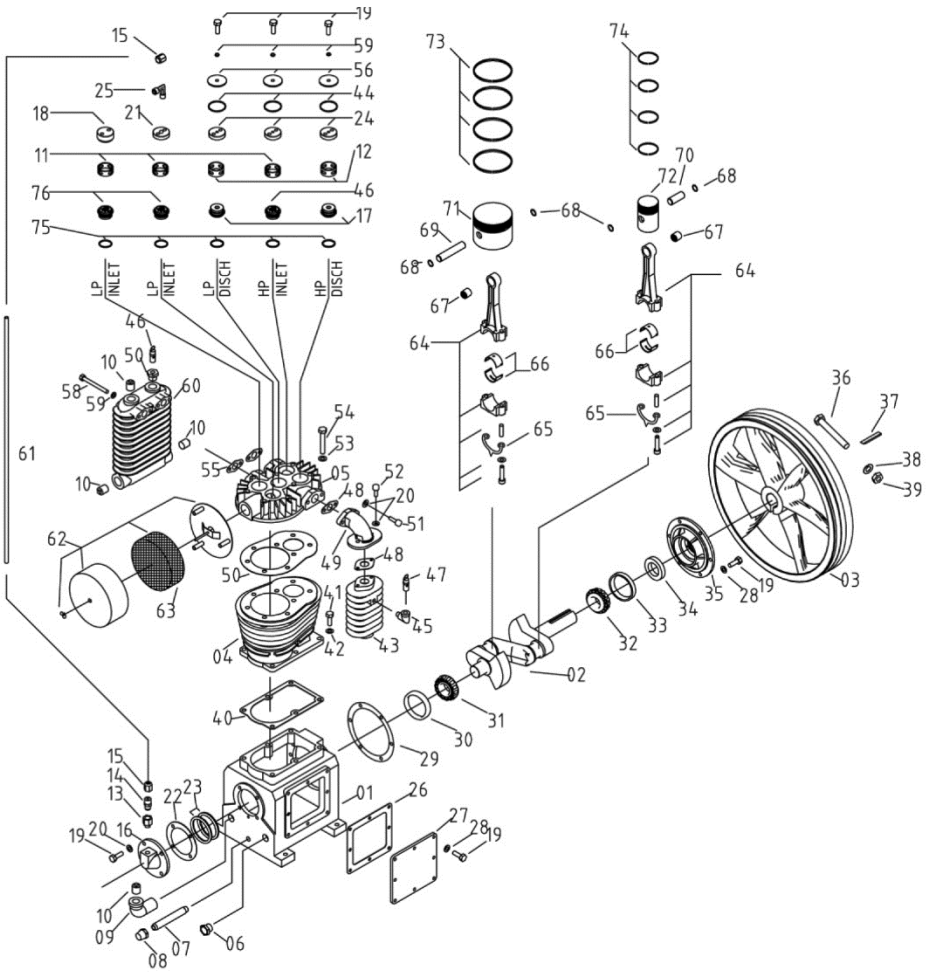
PAT49 (1609402496)



Item Number	Description	Part Numbers
305	Filter Element	1129708298
310	Cylinder Head Kit	2901320419
320	Intercooler Kit	2901320421
325	Valve Plate Kit	2236113917
330	Bearing and Ring Overhaul Kit	2901320420
335	Gasket Kit	8973037937
340	Aftercooler Kit	2236112794
345	Cylinder Asembly	2236113914
350	Flywheel Kit	2901325050

Item Number	Description	Part Numbers
355	Conrod-Piston Assembly - LP	1129704957
356	Conrod-Piston Assembly - HP	1129704958
360	Oil Level Kit	2901325049
365	Crankcase Bottom Kit	2236112438
370	100 PSI Safety Valve Kit	1127190235
375	Oil	6215716300
MK1	Maintenance Kit	8973037941
PK1	Performance Kit	8973037939

CA1 (1312202800/1312100706)

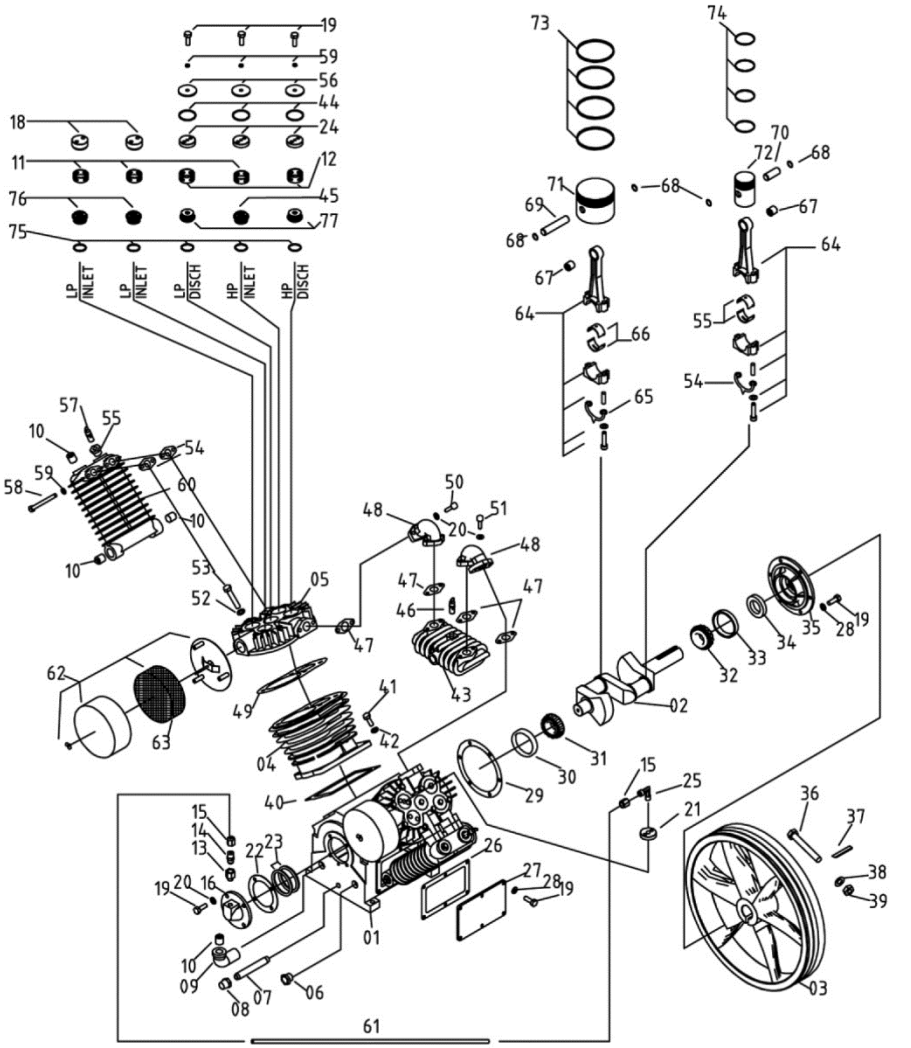


CA1 (1312202800) (Continued)

Item	Description	Qty	Part #
1	Crankcase	1	1312100876
2	Crank Shaft	1	1312100932
3	Fly Wheel	1	1312100884
4	Cylinder	1	1312100880
5	Head	1	1312100878
6	Oil Sight Glass	1	1312100903
7	Oil Drain Pipe	1	1312100859
8	Oil Drain Pipe Cap	1	1312100861
9	Oil Fill Elbow	1	1312100933
10	Plug	4	1312100866
11	Spacer - Inlet Valve	2	1312100893
12	Spacer Discharge Valve	3	1312100894
13	Breather Body	1	1312100934
14	Copper Connector	1	1312100860
15	Copper Nut	2	1312100856
16	Cover-Centrifugal Unloader	1	1312100899
17	Valve Assy HP/LP Discharge	2	1312100892
18	Retainer Inlet Valve	1	1312100898
19	Capscrew-Hex M8x25	21	0147132503
20	Lockwasher 8	8	0333222500
21	Retainer Inlet Valve	1	1312100895
22	Gasket Rear Cap	1	1312100920
23.1	Shim 0.20 Brg. Adj.	1	1312100930
23.2	Shim 0.10 Brg. Adj.	2	1312100929
24	Retainer Discharge Valve	3	1312100896
25	Copper Elbow	1	1312100857
26	Gasket Side Cover	1	1312100916
27	Cover Crankcase Side	1	1312100858
28	Copper Gasket	14	1312100921
29	Gasket Front Cap	1	1312100915
30	Bearing Cap Rear	1	1312100909
31	Bearing Cone Rear	1	1312100908
32	Bearing Cone Front	1	1312100906
33	Bearing Cap Front	1	1312100907
34	Seal-Shaft	1	1312100911
35	Cap Front	1	1312100868
36	Capscrew-Hex M16x120	1	0147149203
37	Key Fly Wheel C1	1	1312100928
38	Lockwasher 16	1	0333224300
39	Nut - Hex M16	1	0261111403
40	Gasket - Cylinder to Crankcase	1	1312100914

Item	Description	Qty	Part #
41	Capscrew-Hex M10x30	6	0147136303
42	Copper Gasket 10	6	1312100923
43	Aftercooler	1	1312100875
44	Gasket Valve Cover	3	1312100919
45	Elbow - Street	2	1312100865
46	Valve Assy HP Inlet	1	1312100891
47	Safety Valve 250 psi	1	1312100862
48	Gasket Aftercooler	2	1312100918
49	Elbow Aftercooler	1	1312100873
50	Gasket - Cylinder Head	1	1312100913
51	Capscrew - Skt HD M8x30	2	0211132603
52	Capscrew - Skt HD M8x25	2	0211132503
53	Lockwasher 12	8	0333223600
54	Capscrew-Hex M12x70	8	0147140903
55	Gasket Intercooler	2	1312100927
56	Cover Valve	3	1312100897
57	Safety Valve 75 psi	1	1312100889
58	Capscrew-Hex M8x90	4	0147133803
59	Copper Gasket B8	7	1312100924
60	Intercooler	1	1312100871
61	Aluminum Tube 10x380	1	1312100863
62	Filter Inlet Assembly	1	1312100881
63	Filter Replacement Element	1	FE001
64	Connecting Rod	2	1312100869
65	Dipper-Oil	2	1312100870
66	Insert Half	4	1312100905
67	Bearing- Wrist Pin Needle	2	1312100910
68	Snap Ring - Internal	4	1312100867
69	Wrist Pin LP Piston	1	1312100901
70	Wrist Pin HP Piston	1	1312100902
71	Piston-LP	1	1312100887
72	Piston-HP	1	1312100888
73	Piston Ring Set- LP	1	1312100885
74	Piston Ring Set- HP	1	1312100886
75	Copper Gasket - Valve Seat	5	1312100922
76	Valve Assembly-LP Inlet	2	1312100890
77	Bushing 3/4 x 1-1/4"	1	1312100334
	Gasket Set		1312100925
	Head Rebuild Kit		1312100780
	Overhaul Kit		1312100775

CA2 (1312202700)



CA2 (1312202700) (Continued)

Item	Description	Qty	Part #
1	Crankcase	1	1312100877
2	Crank Shaft	1	1312100931
3	Fly Wheel	1	1312100883
4	Cylinder	1	1312100880
5	Head (Left)	1	1312100878
	Head (Right)	1	1312100879
6	Oil Sight Glass	1	1312100903
7	Oil Drain Pipe	1	1312100859
8	Oil Drain Pipe Cap	1	1312100861
9	Oil Fill Elbow	1	1312100933
10	Plug	4	1312100866
11	Spacer - Inlet Valve	2	1312100893
12	Spacer Discharge Valve	3	1312100894
13	Breather Body	1	1312100934
14	Copper Connector	1	1312100860
15	Copper Nut	2	1312100856
16	Cover-Centrifugal Unloader	1	1312100899
18	Retainer Inlet Valve	4	1312100898
19	Capscrew-Hex M8x25	28	0147132503
20	Lockwasher 8	8	0333222500
21	Retainer Inlet Valve	2	1312100895
22	Gasket Rear Cap	1	1312100920
23.1	Shim 0.20 Brg. Adj.	1	1312100930
23.2	Shim 0.10 Brg. Adj.	2	1312100929
24	Retainer Discharge Valve	4	1312100896
25	Copper Elbow	1	1312100857
26	Gasket Side Cover	2	1312100917
27	Cover Crankcase Side	2	1312100904
28	Copper Gasket	26	1312100921
29	Gasket Front Cap	1	1312100915
30	Bearing Cap Rear	1	1312100909
31	Bearing Cone Rear	1	1312100908
32	Bearing Cone Front	1	1312100906
33	Bearing Cap Front	1	1312100907
34	Seal-Shaft	1	1312100911
35	Cap Front	1	1312100868
36	Capscrew-Hex M16x120	1	0147149203
37	Key Fly Wheel C1	1	1312100928
38	Lockwasher 16	1	0333224300
39	Nut - Hex M16	1	0261111403
40	Gasket - Cylinder to Crankcase	1	1312100914
41	Capscrew-Hex M10x30	12	0147136303
42	Copper Gasket 10	12	1312100923

Item	Description	Qty	Part #
43	Aftercooler	1	1312100874
44	Gasket Valve Cover	6	1312100919
45	Valve Assy HP Inlet	2	1312100891
46	Safety Valve 250 psi	1	1312100862
47	Gasket Aftercooler	4	1312100918
48	Elbow Aftercooler	2	1312100872
49	Gasket - Cylinder Head	2	1312100913
50	Capscrew - Skt HD M8x30	4	0211132603
51	Capscrew - Skt HD M8x25	4	0211132503
52	Lockwasher 12	16	0333223600
53	Capscrew-Hex M12x70	16	0147140903
54	Gasket Intercooler	4	1312100927
55	Reducing Bushing	2	1312100864
56	Cover Valve	6	1312100897
57	Safety Valve 75 psi	2	1312100889
58	Capscrew-Hex M8x90	8	0147140903
59	Copper Gasket B8	14	1312100924
60	Intercooler	2	1312100871
61	Aluminum Tube 10x380	1	1312100863
62	Filter Inlet Assembly	2	1312100881
63	Filter Replacement Element	2	FE001
64	Connecting Rod	4	1312100869
65	Dipper-Oil	4	1312100870
66	Insert Half	8	1312100905
67	Bearing- Wrist Pin Needle	4	1312100910
68	Snap Ring - Internal	8	1312100867
69	Wrist Pin LP Piston	2	1312100901
70	Wrist Pin HP Piston	2	1312100902
71	Piston-LP	2	1312100887
72	Piston-HP	2	1312100888
73	Piston Ring Set- LP	2	1312100885
74	Piston Ring Set- HP	2	1312100886
75	Copper Gasket - Valve Seat	10	1312100922
76	Valve Assembly-LP Inlet	4	1312100890
77	Valve Assembly HP/LP	4	1312100334
	Gasket Set	1	1312100926
	Head Rebuild Kit		1312100781
	Overhaul Kit		1312100776

WARRANTY STATEMENT

The Company warrants that the Equipment manufactured by it and delivered hereunder shall be free from defects in material and workmanship for a period of twelve (12) months from the date of initial start-up, or eighteen (18) months from the date of shipment from the manufacturer, whichever occurs first. The foregoing warranty period shall apply to all Equipment, except for the following: (A) All two stage reciprocating stationary models are warranted for the earlier of twenty-four (24) months from the date of initial operation or thirty (30) months from date of shipment from the manufacturer. (B) Replacement parts will be warranted for three (3) months from the date of shipment from the manufacturer. Should the failure to conform to this warranty be reported in writing to the Company within said period, the Company shall, at its option, correct such non-conformity by suitable repair to such Equipment, or furnish a replacement part F.O.B point of shipment, provided that the Purchaser has installed, maintained, and operated such Equipment in accordance with good industry practices, and has complied with specific recommendations of the Company. Accessories and equipment furnished by the Company, but manufactured by others, shall carry whatever warranty the manufacturer conveyed to the Company and which can be passed on to the Purchaser. The Company shall not be liable for any repairs, replacements, or adjustments to the Equipment, or any costs of labor performed by the Purchaser without the Company's prior written approval.

The Company makes no performance warranty unless specifically stated within its proposal, and the effects of corrosion, erosion, and normal wear and tear are specifically excluded from the Company's warranty. In the event performance warranties are expressly included, the Company's obligation shall be to correct in the manner and for the period of time provided above.

THE COMPANY MAKES NO OTHER WARRANTY OR REPRESENTATION OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED. THIS WARRANTY SUPERSEDES ALL PREVIOUS WARRANTY STATEMENTS.

Correction by the Company of non-conformities, whether patent or latent, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of the Company and its distributors for such non-conformities with respect to, or arising out of such Equipment.

LIMITATION OF LIABILITY

THE REMEDIES OF THE PURCHASER SET FORTH HEREIN ARE EXCLUSIVE, AND THE TOTAL LIABILITY OF THE COMPANY, ITS DISTRIBUTORS AND SUPPLIERS WITH RESPECT TO CONTRACT OR THE EQUIPMENT AND SERVICES FURNISHED IN CONNECTION WITH THE PERFORMANCE OR BREACH THEREOF, OR FROM THE MANUFACTURE, SALE, DELIVERY, INSTALLATION, REPAIR OR TECHNICAL DIRECTION COVERED OR FURNISHED UNDER CONTRACT, WHETHER BASED ON CONTRACT, WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE, SHALL NOT EXCEED THE PURCHASE PRICE OF THE EQUIPMENT UPON WHICH SUCH LIABILITY IS BASED.

THE COMPANY, ITS DISTRIBUTORS AND ITS SUPPLIERS SHALL IN NO EVENT BE LIABLE TO THE PURCHASER, ANY SUCCESSORS IN INTEREST, OR ANY BENEFICIARY OR ASSIGNEE OF THE CONTRACT FOR ANY CONSEQUENTIAL, INCIDENTAL, INDIRECT, SPECIAL OR PUNITIVE DAMAGES ARISING OUT OF THIS CONTRACT OR ANY BREACH THEREOF, OR ANY DEFECT IN, OR FAILURE OF, OR MALFUNCTION OF THE EQUIPMENT, WHETHER OR NOT BASED ON LOSS OF USE, LOST PROFITS OR REVENUE, INTEREST, LOST GOODWILL, WORK STOPPAGE, IMPAIRMENT OF OTHER GOODS, LOSS BY REASON OF SHUTDOWN OR NON-OPERATION, COST OF PURCHASE OF REPLACEMENT POWER, OR CLAIMS OF PURCHASER OR CUSTOMERS OF PURCHASER FOR SERVICE INTERRUPTION, WHETHER OR NOT SUCH LOSS OR DAMAGE IS BASED ON CONTRACT, WARRANTY, NEGLIGENCE, INDEMNITY, STRICT LIABILITY OR OTHERWISE.

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