



EPEQ INVERTER2000

Electrified Power Equipment.

EPEQ® Electrified Power Equipment®
2000W, 12VDC, 120VAC Inverter
Manual No. 090240



USER GUIDE

OPERATION MANUAL AND SERVICE PARTS LIST KEEP THE MANUAL WITH THE VEHICLE

NOTE: Read this manual before installing, operating or servicing this equipment. Failure to comply with the operation and maintenance instructions in this manual will VOID THE EQUIPMENT WARRANTY.

This publication contains the latest information available at the time of preparation. Every effort has been made to ensure accuracy. Vanair®, a Lincoln Electric Company reserves the right to make design change modifications or improvements without prior notification.

Making unauthorized modification to the system components WILL VOID THE WARRANTY! Always contact Vanair® before beginning any changes to the EPEQ® INVERTER2000.

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1.1 INTRODUCTION

Thank you for purchasing the EPEQ® INVERTER2000. With our state of the art, easy to use design, this product will offer you reliable service for providing AC power and 5V USB power for your truck, RV or trailer. The inverter can run many AC-powered appliances. The 5V USB @ 2.1A can charge many USB-powered devices. This manual will explain how to use this unit safely and effectively. Please read and follow these instructions and precautions carefully.

1.2 SAFETY

This section contains important safety information for the INVERTER2000 inverter. Before using the EPEQ® INVERTER2000, make sure the operator has read and understands the user manual, warnings and operation. This unit contains no user-serviceable parts. See Warranty section for handling product issues.



1.2.1 FIRE/CHEMICAL BURN HAZARD

Do not cover or obstruct any air vent openings or install in a compartment with zero clearance.



1.2.2 FAILURE TO FOLLOW INSTRUCTIONS CAN LEAD TO DEATH OR SERIOUS INJURY

- When working with electrical equipment or batteries, have someone nearby in case of emergency.
- Follow all the battery manufacturer's specific precautions when installing, using and/or servicing the battery connected to the inverter.
- Wear eye protection and gloves. Avoid touching eyes while using this unit.
- Keep fresh water and soap on hand in the event battery acid comes into contact with eyes. If this occurs, flush eyes right away with clean, fresh water for a minimum of 15 minutes and seek medical attention. Thoroughly wash hands and any affected areas of skin with soap and water.
- Batteries can produce explosive gases. **DO NOT** smoke or have an open flame, spark or potential short circuit near the battery.
- Keep the unit away from water, moist or damp conditions.
- Avoid dropping any metal tool or object on the inverter or battery. Doing so could create a spark or short circuit which goes through the battery or another electrical tool and may create an explosion.



1.2.3 SHOCK HAZARD. KEEP AWAY FROM CHILDREN

- Avoid moisture. Never expose the unit to snow, water, etc.
- This unit provides high voltage AC, treat the AC output socket the same as a regular wall socket in your home.



1.2.4 EXPLOSION HAZARD

- DO NOT use the unit in the vicinity of flammable fumes or gases (such as fuel tanks or large engines).
- DO NOT obstruct the ventilation openings. Always operate in an open area.
- Prolonged exposure to high heat or freezing temperatures will decrease the working life of the unit.



1.2.5 FCC INFORMATION

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with instructions, may cause harmful interference to radio communications. However, there is no guarantee

that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment OFF and ON, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiver antenna.
2. Increase the separation between the equipment and the receiver.
3. Connect the equipment into an outlet on a different electrical circuit from that which the receiver is connected.
4. Consult the radio/TV dealer or an experienced radio/TV technician for help.



1.2.6 LIMITATIONS ON USE

Vanair® Inverters are not intended for use with medical devices and lifesaving systems. Any such use is at the user's own risk.

1.3 PRODUCT DESCRIPTION

The EPEQ® INVERTER2000 package includes the following items:

- Owner's Manual
- EPEQ® INVERTER2000 Base Unit

1.4 INSTALLATION



WARNING

It is recommended that all wiring be done by a certified electrician or technician to ensure adherence to all applicable electrical safety wiring regulations and installation codes. Failure to follow these instructions can damage the unit and could also result in personal injury or loss of life.



CAUTION

The unit should be used or stored in an indoor area away from direct sunlight, heat, moisture or conductive contaminants.

When placing the unit, allow a minimum of three (3) inches clearance around the unit for optimal ventilation.

1.4.1 UNDERSTANDING THE UNIT FEATURES

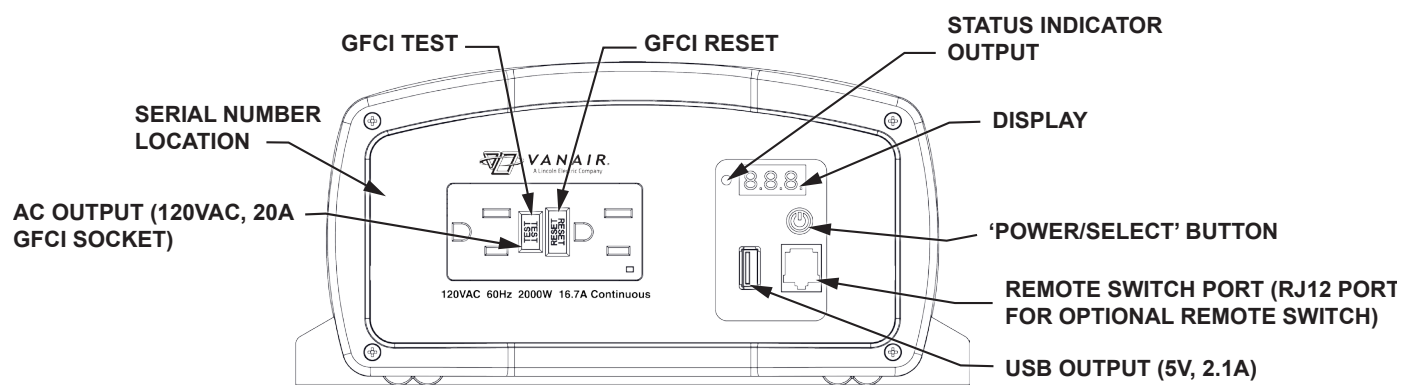


Figure 1-1: AC Output Front Panel

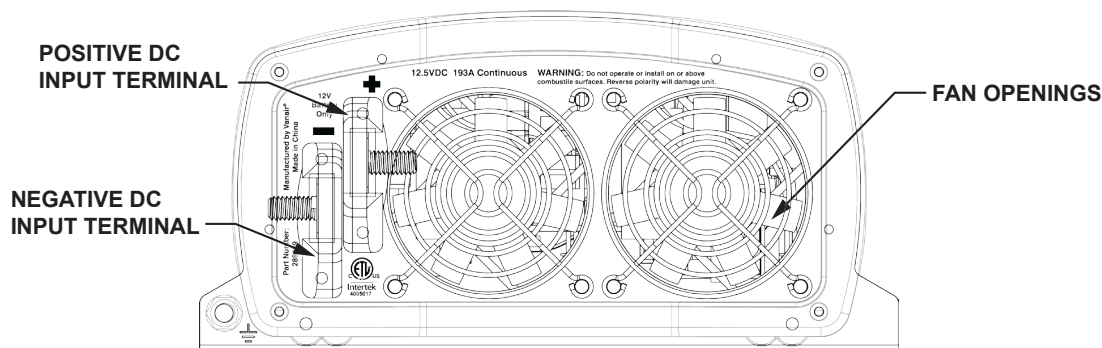
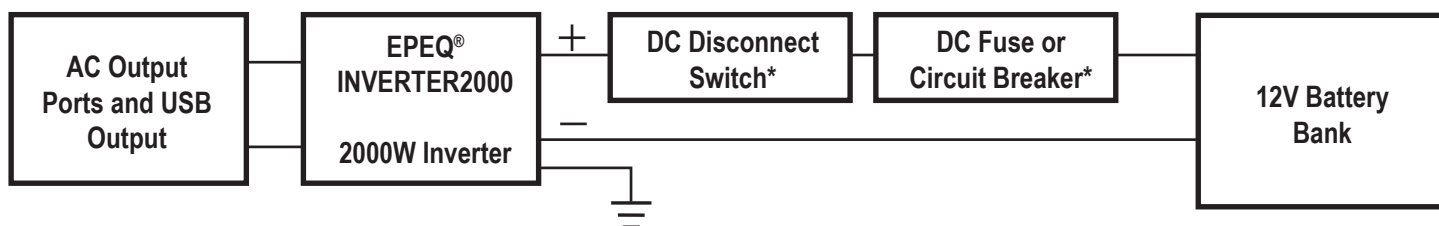


Figure 1-2: DC Input Back Panel

1.4.2 PREPARING FOR INSTALLATION

Typical wiring block diagram of the inverter.



1.4.3 12V BATTERY BANK

- The use of a deep cycle battery is highly recommended for inverter application.
- For battery sizing, you need to identify what you wish to operate, and for how long. See more on Battery Runtime in **Section 1.5.6**.

1.4.4 DC FUSE OR CIRCUIT BREAKER

- DC-rated fuse/DC-rated circuit breaker connected along the DC positive line is required.
 - ◇ **2000W Model 300A DC**
- Based on the size of your 12V Battery Bank, determine the overall short circuit current rating of the battery bank from the battery manufacturer. The fuse or circuit breaker chosen has to be able to withstand a short circuit current that may be generated by the battery bank.
- Typically an ANL/Class-T fuse and holder is used for the battery bank capacity lower/over 500Ah respectively.

- For Marine application, the over-current protective device needs to be installed within 7 in (17.8 cm) from the battery positive terminals.

1.4.5 DC DISCONNECT SWITCH

- Use a 12V or higher rated DC Disconnect Switch with the same or higher rating as the selected DC fuse or circuit breaker. Use ignition protected switches when required by local codes.
- The purpose of this switch is to disconnect the positive in between the unit and the battery bank during service, maintenance, or troubleshooting.

1.4.6 DC INPUT CABLE SIZE

- All DC cables require insulated, multi-strand, low resistance cable.
- The DC cables must be copper and must be rated for 220°F (105°C) minimum.
- Minimum wire size: AWG #2/0 ≤ 5 ft.



CAUTION

The use of thinner gauge or longer cable may cause the inverter to shut down under heavy load conditions. It may also melt the cable insulation and catch fire, resulting in death or serious injury.

The choice of cable size should also match the rating of the DC fuse being used.

IMPORTANT: The recommended cable length is limited to 5 ft or less. This is due to a known voltage drop between the battery and the unit. For longer cables, a proportionally thicker gauge wire is required to compensate for additional voltage drop over a longer distance.

1.4.7 CHASSIS GROUNDING CABLE SIZE

IMPORTANT: The chassis of the unit has to be grounded through the corresponding screw/stud terminal located near the negative (-) Black DC terminal. Use that screw for AC grounds.

- For Recreational Vehicle or Caravan applications, the unit has to be grounded to the vehicle chassis with a minimum AWG #8 copper conductor.



WARNING

ELECTRIC SHOCK HAZARD

The unit 'Power/Select' Button does not disconnect the DC power from the battery. Disconnect the DC power from the battery using a DC-Disconnect Switch or disconnect the DC positive input cable from the battery before working on any AC load/circuit plugged into the unit. Failure to follow these instructions can result in death or serious injury.

1.4.8 INSTALLATION

- Choose an appropriate mounting location.
- For indoor use, the orientation of the unit can be mounted in any direction **except** in the vertical position with the DC Input panel facing downward.
- Use the mounting dimensions below to mark the positions of the mounting screws. (See “*Figure 1-3: Mounting Dimensions*”).
- Drill four (4) mounting holes, place the inverter in position, fasten the inverter to the mounting surface.

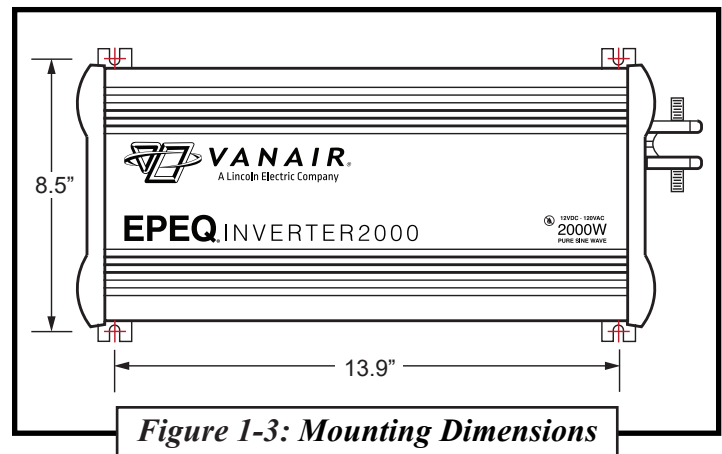


Figure 1-3: Mounting Dimensions

IMPORTANT: The tightening torque for the DC wiring terminals is 9-10 ft-lb (12-13 Nm).

1.4.9 CHASSIS GROUNDING CONNECTION



DANGER

This unit requires it to be grounded properly to the chassis. Never operate the Inverter without it being properly grounded. Failure to do so will result in death or serious injury.

- Connect the grounding cable ring terminal to the chassis ground screw or stud terminal. (See “*Figure 1-2: DC Input Back Panel*”.)
- Connect the other side of the cable to the common grounding point.

1.4.10 DC INPUT CONNECTION



CAUTION

Reversing the DC input terminal will damage the unit and it cannot be repaired. Damage caused by reversing the polarity of the connection is NOT covered by the Warranty.

- Connect the negative (-) Black DC input cable between the inverter DC negative (-) terminal and the battery negative (-) terminal.
- Make sure the DC Disconnect Switch is in the OFF position.
- Connect a positive (+) Red DC input cable between the inverter DC positive (+) terminal and one terminal of the DC Disconnect Switch.
- Connect another DC input cable between the other terminals of the Disconnect Switch to one side of the fuse holder.
- Connect another DC input cable between the other terminal of the fuse holder and the positive (+)

battery terminal.

- Install the selected fuse to the fuse holder.
- Turn ON Disconnect Switch.

NOTICE

During Battery (Inverter) Mode, AC output is limited to a total of 16.7 A for the 2000W model.

1.4.11 REMOTE SWITCH CONNECTION (OPTIONAL)

Insert the Remote Switch optional accessory (INVERTER,EPEQ® 12V REMOTE SWITCH - Part no. 289504) to the RJ12 “REMOTE SWITCH PORT” located at the Front AC Panel of the Inverter. (See “*Figure 1-1: AC Output Front Panel*”.)

1.4.12 TEST THE INVERTER CONNECTION

- Turn the unit ON by pressing and holding the ‘Power/Select’ Button on the main unit for about a second until a beeping sound occurs. The “status’ indicator turns on green, indicating the inverter is ON. Check the digital display showing measured battery voltage and output power alternatively. Both AC and 5V USB are now available. (See “*Figure 1-1: AC Output Front Panel*”.)
- Plug a small AC load like a 40W-100W table lamp or small appliance into the Inverter’s AC outlet to verify if power is available. The test AC load should work when the unit is successfully installed and functioning properly. If no power is available, check for any potential error code on the display or refer to the troubleshooting section.

1.4.13 TEST THE GFCI MONTHLY

- Use the following instruction to perform a monthly test of the AC Output GFCI Socket is functioning properly.
- Turn unit ON and plug a small AC load (such as a 40W-100W lamp or small appliance) to the Output GFCI Socket.
- Check that the AC load is turned ON.
- Press the 'TEST' button and observe a clicking sound. Check that the AC load is now powered OFF.
- Press 'RESET' button and check that the load has turned back ON again.

1.5 UNIT OPERATION



WARNING

Please double check the location of the AC input port location inside the wiring compartment. Misconnecting the AC output port inside the same compartment will blow the unit and may catch fire. Before making any AC Input connection, please be sure the AC Input Source is NOT energized and the DC disconnect switch is OFF.

Understanding the Display Function:

LED Display	Display Description
LS0	Display shows Load Sense setting. ('LS0' indicates load sense function is disabled.)
12.5	Display shows measured battery voltage. (12.5V as shown.)
0.80	Display shows total output AC power in kW. (800W as shown.)
E01	Display shows error or warning code. See Section 1.5.4 "Understanding the Error Code" for details.
Status Indicator	Status Description
Green	Unit operation is normal.
Orange	Warning is detected. The unit will shutdown at any time. See Section 1.5.4 "Understanding the Error Code" and Section 1.7 "Troubleshooting" for details.
Red	Error is detected and the unit has shutdown. See Section 1.5.4 "Understanding the Error Code" and Section 1.7 "Troubleshooting" for details.

1.5.1 TURNING THE UNIT ON AND OFF

- Press and hold the 'Power/Select' Button for 1 second until a beep is heard.
- The display will then show the measured battery voltage and output power in kW alternatively. Status LED will turn green. 5V USB and AC output becomes available.
- Press the 'Power/Select' Button to turn the unit OFF.

1.5.2 REMOTE ON/OFF SWITCH (OPTIONAL)

- You can turn the unit ON and OFF remotely with the optional ON/OFF Remote Switch (INVERTER,EPEQ® 12V REMOTE SWITCH - Part no. 289504). It is a momentary-on switch connected in parallel to the 'Power/Select' Button on the unit. The switch shares the same function as the 'Power/Select' Button on the unit.

1.5.3 UNDERSTANDING THE LOAD SENSE FUNCTION

The unit Load Sense function reduces power consumption in order to conserve power draw from the DC source. When the Load Sense function is enabled ('LS1'), the AC output of the unit switches ON once every few seconds to monitor any potential AC load connected to the unit. If the connected load is > 10W, the AC output remains ON continuously until the AC load is reduced to below 3W. It will then resume back to ON/OFF function until it senses the load connected is > 10W again. For instructions on setting the Load Sense function, see **Section 1.6**.

NOTE: 'LS1' is recommended by Vanair®, a Lincoln Electric Company.

1.5.4 UNDERSTANDING THE ERROR CODE

Code	Condition	Corrective Action
E01	Input battery voltage is too low and the unit has shut down.	Recharge the source battery immediately and restart the unit. See 'E05' below.
E02	Input battery voltage is too high and unit has shut down.	Check the battery voltage or determine if any external charge is connected to the battery bank.
E03	AC output is overloaded or short-circuited and unit has shut down.	Check the load connected to the output. Reduce connected AC load and restart the unit.
E04	Internal temperature is too high and the unit has shut down.	Turn unit off and wait for unit to cool for 15 minutes before restarting. Check that fans and air vents are working and unobstructed by debris.
E05	Input battery voltage is low and a warning occurs.	Recharge battery as the unit will shut down shortly. Check the DC wires gauge and length against excessive voltage drop triggering the 'E05' and then the 'E01' in advance of what would be using thicker gauge and/or shorter wire lengths.
E06	AC output load connected has sensed high and is close to shutdown limit.	Reduce the AC load.
E07	Internal temperature is high and is close to shutdown limit.	Reduce the load and check if ventilation system of the unit is blocked.

1.5.5 AC LOAD ON POWER INVERTER

Although the EPEQ® INVERTER2000 can provide high surge power up to two times (4000W) the rated nominal rating, some high surge loads such as medium/high surge electric motors, among other inductive ones, may still trigger the inverter protection system ('E06') even though the normal load falls within the power rating of the inverter. A higher power inverter may be required for such loads. (i.e. with an oversizing factor of at least three (3) in relation to the normal power/current rating).

1.5.6 ESTIMATED RUNTIME ON LOAD

Following runtimes are estimates for reference only at ambient temperatures. It is based on using different battery bank sizes. Actual times may vary. (See tables below.)

AC Load	Estimated Runtime on Different 12V Battery Bank Sizes				
	60Ah	120Ah	180Ah	240Ah	300Ah
50W	11 hr	22 hr	33 hr	44 hr	55 hr
100W	5 hr	11.5 hr	17 hr	23 hr	29 hr
200W	2.5 hr	5 hr	8 hr	11 hr	13.5
500W	49 min	2 hr	3 hr	4 hr	5hr
1000W	15 min	49 min	1.5 hr	2 hr	2.5 hr
1500W	8 min	27 min	49 min	1 hr	1.5 hr
2000W	N.R.	15 min	34 min	49 min	1 hr
NOTE: N.R. = Not recommended					

Following runtimes are an estimate based on the typical load using a 12V,120Ah battery bank for reference. Actual runtime may vary.

Load	Consumption	Estimated Runtime
Cordless Phone	5W	180 hr
Clock/Radio	8W	135 hr
Table Lamp (with incandescent bulb)	40W/60W	27 hr/18 hr
Freezer (8.8 cu ft)	80W	15 hr
20" LCD TV	100W	11.5 hr
Refrigerator (18 cu ft)	120W	9 hr
Sump Pump (1/2 hp)	350W	3 hr
Microwave (mid-size)	1000W	49 min
Coffee Maker	1200W	37 min

1.6 FEATURE SETTING

To understand more about the unit features, read the following section and follow the instructions to make changes to the desired setting.

Default Factory Setting: 'LS0' = Load Sense feature is disabled.

Setting the Load Sense Function:

The Load Sense feature allows you to reduce the no-load current draw when no AC load is detected. To enable/disable the Load Sense function, press and hold the 'Power/Select' Button for 5 seconds to enter Load Sense select mode. The display shows a current setting ('LS0' = Load sense is disabled. 'LS1' = Load Sense is enabled). Press the 'Power/Select' Button once to change the setting. The unit will automatically exit the select mode after 5 seconds.

1.7 TROUBLESHOOTING

To troubleshoot the unit, please note the error code displayed on the main unit and review the "Understanding the Error Codes" in **Section 1.5.4**. For common troubleshooting scenarios, including potential causes and solutions, see table below.

NOTE*: All GFCI's contain a lockout feature that will prevent RESET if there is no power being supplied to it. Therefore make sure the inverter is powered on before attempting to reset its GFCI outlet.

Problem	Possible Cause	Solution
No AC output. All the LEDs and the display are OFF.	The unit is turned OFF.	Turn the unit ON. (Press and hold 'Power/Select' Button for 1 second until it beeps.
	No power coming into the unit.	Check if the DC fuse or the DC disconnect switch is blown or in the OFF position.
No AC output status.	Check error code on the display.	Verify the error condition and make the correction.
	Unit's GFCI outlet is tripped.	Check load for a ground fault or neutral Ground bonding on the load side, and reset the GFCI*.
AC output is: a.) turning ON and OFF every few seconds. OR b.) just ON within a few seconds.	Load Sense function is enabled and: a.) the load being connected is less than the minimum needed for the Load Sense to detect <10W. OR b.) a load >= 10W was just plugged in.	Just keep it that way if you want the Load Sense feature (also referred to as Power Safe) enabled. Otherwise, disable the Load Sense feature by changing the unit setting or increase the AC load to more than 10W.

1.8 SPECIFICATIONS

NOTE: Specifications are subject to change without notice.

EPEQ® INVERTER2000 Specifications	
AC Output Power	2000W
AC Output Current	16.6A
AC Surge Power (Peak)	4000W
AC Output Voltage	120VAC, 60Hz
AC Output Waveform	Pure Sine Wave
Nominal DC Input Voltage	12.5VDC
No Load Battery Draw	~1.2ADC ('LS0' setting) ~0.2ADC ('LS1' setting)
DC Input Voltage Operating Range	10.5 - 15.5VDC
Under-Voltage Warning Alarm	11.0/12.1VDC
Under-Voltage Warning Recovery*	11.3/12.3VDC
Under-Voltage Shutdown	10.5/11.8VDC
Under-Voltage Shutdown Recovery**	12/12.6VDC
Over-Voltage Shutdown	15.5VDC
Over-Voltage Shutdown Recovery**	15VDC
USB Output	5V, 2.1A (charging), 750 mA
Safety and Environmental	
Conformance	Conforms to UL 458 Certified to CSA C22.2 no. 107.1
Agency Markings	cETLus
Operating Temperature	32°F to 104°F (0°C to 40°C)
Storage Temperature	-4°F TO 140°F (-20°C to 60°C)
Relative Humidity	5-90% non-condensing
Operating Altitude	Up to 9,843 ft (3000 m) above sea level
Weight and Dimensions	
Weight	11.7 lb (5.3 kg)
Dimensions	16.7 x 9.25 x 4.5 in (42.4 x 23.49 x 11.4 cm)

NOTE*: The under-voltage alarm ('E05') is an audible warning but does not shut the unit down. The corresponding recovery voltage threshold is resetting the alarm condition, silencing the beeper if enabled, and returning the display as per normal operation.

NOTE:** The automatic over/under-voltage shutdown recovery for resuming normal operation, can take place only within 30 seconds after the corresponding 'E02/E01' alarm was triggered. After that, the unit must be turned on manually by pressing the 'Power/Select' Button.

EPEQ® ELECTRIFIED POWER
EQUIPMENT®

EXCLUDES
ELIMENT® BATTERY



VANAIR® VANTAGE
WARRANTY

This limited warranty supersedes all previous Vanair® warranties and is exclusive with no other guarantees or warranties expressed or implied.

LIMITED WARRANTY—Subject to the expressed terms and conditions set forth below, Vanair®, a Lincoln Electric Company ("Vanair"), of Michigan City, Indiana (USA), warrants to the original retail purchaser of new Vanair® equipment that such equipment is free from defects in materials and workmanship when shipped by Vanair®.

For warranty claims received by Vanair® within the applicable warranty periods described below, Vanair® will repair or replace any warranted equipment, parts or components that fail due to defects in material or workmanship or refund the purchase price for the equipment, at Vanair's discretion. Vanair® is not responsible for time or labor to gain access to the machine to perform work. **WARRANTY WILL BE VOID IF GENUINE VANAIR® PARTS AND FLUIDS ARE NOT USED.**

Vanair® must be notified in writing within thirty (30) days of any such defect or failure. **All warranty or returns must be pre-authorized in writing prior to performing warranty work.** Call Vanair® for process and forms. Vanair® will provide instructions on the warranty claim procedures to be followed.

Warranty will commence upon receipt of the Warranty Registration Card. If the Warranty Registration Card is not received within six (6) months of shipment from Vanair®, the warranty commencement date shall be thirty (30) days from the date of shipment from Vanair®. Records of warranty adherence are the responsibility of the end user.

1. Inverters: 1 Year Parts / 1 Year Labor
2. Converters: 1 Year Parts / 1 Year Labor
3. Chargers: 1 Year Parts / 1 Year Labor
4. Electric Motors: 1 Year Parts / 1 Year Labor
5. EPEQ® Lithium Welder: 1 Year Parts / 1 Year Labor
6. Alternators: 1 Year Parts / 1 Year Labor
7. Compressor Air End:
 - Rotary Screw: Lifetime with Vanair® Authorized Service Kits and Lubricants : 3 Years Labor
 - Reciprocating: 3 Years Parts / 1 Year Labor
 - Scroll: 1 Year Parts / 1 Year Labor
8. Hydraulic Pumps/Motors: 2 Years Parts / 1 Year Labor
9. 1 Year Parts/Labor on the following:
 - All electronics and controls including, but not limited to:
 - (i) I/O Boards
 - (ii) Modules
 - (iii) Panel Boxes
 - (iv) Instrumentation
 - (v) Clutches
 - (vi) Solenoids
 - (vii) Running Gear/Trailers
 - (viii) Cooler Cores and Fans
 - (ix) Battery Management Systems and Controllers

This Limited Warranty shall not apply to:

1. Consumable components, such as: shaft seals, valves, belts, filters, capacitors, contactors, relays, brushes, wire or parts that fail due to normal wear and use.
2. Items furnished by Vanair®, but manufactured by others, such as engines and trade accessories (these items are covered by the manufacturer's warranty, if any).
3. Equipment that has been modified by any party other than Vanair® or equipment which has not been used and maintained in accordance with Vanair's specifications.

4. Equipment which has been improperly installed and/or improperly operated, based upon Vanair's specifications for the equipment or industry standards.
5. Equipment installed by non-authorized or third party personnel. Vanair® products are intended for purchase and use by commercial/industrial users and persons trained and experienced in the use and maintenance of industrial equipment.

In the event of a warranty claim covered by this Limited Warranty, the exclusive remedies shall be, at Vanair's sole discretion: (i) repair; or (ii) replacement; (iii) where authorized in writing by Vanair® in appropriate cases, the reasonable cost of repair or replacement at an authorized Vanair® service facility; or (iv) payment of (or credit for) the purchase price (less reasonable depreciation based upon actual use) upon return of the equipment at the warranty claimant's risk and expense. Vanair® will pay standard ground freight for any warranty item shipped to and from Vanair® or (Vanair® designated facility) within the first year of the applicable warranty period. Any additional expedited freight cost is the responsibility of the purchaser.

TO THE GREAT EXTENT PERMITTED BY APPLICABLE LAW, THE REMEDIES PROVIDED HEREIN ARE THE SOLE AND EXCLUSIVE REMEDIES APPLICABLE TO THE VANAIR® EQUIPMENT. IN NO EVENT SHALL VANAIR® BECOME LIABLE FOR DIRECT, INDIRECT, SPECIAL, PUNITIVE, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOSS OF PROFIT OR LOST BUSINESS OPPORTUNITY), WHETHER BASED ON CONTRACT, TORT OR ANY OTHER LEGAL THEORY. IN NO EVENT SHALL VANAIR® BECOME OBLIGATED TO PAY MORE ON ANY WARRANTY CLAIM THAN THE PURCHASE PRICE ACTUALLY PAID BY THE ORIGINAL RETAIL PURCHASER.

THIS LIMITED WARRANTY IS MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND/OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY OTHER WARRANTY OR GUARANTY ARISING BY OPERATION OF LAW. ANY WARRANTY NOT EXPRESSLY PROVIDED HEREIN, IMPLIED WARRANTY, GUARANTY AND ANY REPRESENTATION REGARDING THE PERFORMANCE OF THE EQUIPMENT, AND ANY REMEDY FOR BREACH OF CONTRACT, IN TORT, OR ANY OTHER LEGAL THEORY WHICH, BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION, OPERATION OF LAW, CUSTOM OF TRADE, OR COURSE OF DEALING ARE EXCLUDED AND DISCLAIMED BY VANAIR®.

Some states in the United States of America do not allow limitations of how long an implied warranty lasts, or the exclusion of incidental, indirect, special or consequential damages, and as such, the above limitations and exclusions may not apply to you. This warranty provides specific legal rights. Other rights may be available to you, but may vary from state to state.

In Canada, legislation in some provinces provides for certain additional warranties or remedies other than as stated herein, and to the extent that they may not be saved, the limitations and exclusions set out forth above may not apply. This Limited Warranty provides specific legal rights, and other rights may be available, but may vary from province to province.

**ALL WARRANTY OR
RETURNS MUST BE
PRE-AUTHORIZED PRIOR
TO PERFORMING
ANY WARRANTY WORK.**

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EFFECTIVE: MAY 20, 2022

VANAIR®
A Lincoln Electric Company

Warranty Claims Procedure

WARRANTIED VANAIR® PARTS

This process must be used by owners of Vanair® equipment in situations where a warrantied item needs repair or replacement under the terms of the purchase **warranty**. Do not return items to Vanair® without prior authorization from the Vanair® Warranty Administrator.

PROCEDURE:

Customers needing assistance in troubleshooting a system and/or returning parts, please follow the steps below.

1. Locate the machine's serial number(s) "**Figure 1-1: AC Output Front Panel**".
2. Make a list of the symptoms/condition/malfunctions noticed along with any applicable temperature and pressure readings, and also the number of operational hours available:
3. Note that the above information will also need to be included on the Return Material Authorization Form; this form is necessary for warranty processing if the warranty claim is deemed valid by the service case review.
4. Contact the Vanair® Service Department by phone (1-844-VANSERV or 1-219-879-5100) to speak with a Service Technician.
5. Vanair® Service will troubleshoot the problem based on the information provided by the customer, and attempt to return the unit to service as quickly as possible.
6. If the unit cannot be returned to service, and Vanair® determines this matter is a warranty issue, the Service Technician will assign an RMA (Return Material Authorization) number that will provide for the return of the item to Vanair® for analysis and a final determination as to the item's warranty status.
7. Warranty Claims are solicited via a **Return Material Authorization (RMA)** form. This form can be requested directly from the Vanair® Service Department.
 - Once a blank RMA form has been obtained, follow the instructions given on the form to fill in the information needed. This form is used for the purpose of requesting a warranty case.

- All of the field information (except for the bottom section block fields which includes Disposition of Goods, Notifications and Additional Notes) will be required.

IMPORTANT NOTES:

- If the part is not returned by the customer to the Vanair® Service Department within 30 days, the issued RMA will expire and become void. Any claims will be denied under this RMA number, and a new RMA number must be requested.
- All labor claims or invoices must be approved by the Vanair® Warranty Administrator prior to starting repair work along with the cost of the repair. All paper work associated with the returned item and warranty repair cost must reference the RMA number issued against the part, and be forwarded to Vanair® within 30 days of the completion of work.
- The RMA number must appear on the outside of the package where it can be seen before being returned.

IMPORTANT

Before sending a warranty part to a customer, Vanair® will need a P.O. or credit card number to cover the initial cost of the part and shipping.

After the part is analyzed and it is deemed to be covered under warranty, Vanair® will issue a credit back to the customer. All parts eligible for warranty must have the RMA number on the order at the time of purchase.

No items can be returned "freight collect". Freight costs will be addressed at the time the claim is closed. The customer pays any additional costs for warranty parts delivered using expedited services (i.e., Overnight, Next Day, Second Day, Priority, etc.).

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