

# ***SUPER BOOST•ALL***® 12/24V

**Goodall**

*With Protect•All™*



**Goodall**®  
By VAN AIR  
We Start Engines™

**VAN AIR**®  
MOBILE POWER SOLUTIONS™

P/N 13-425  
START•ALL 450A•12V  
UPGRADE MANUAL  
Rev 3132020

# TABLE OF CONTENTS

|                                           |    |
|-------------------------------------------|----|
| SAFETY PRECAUTIONS AND INSTRUCTIONS ..... | 3  |
| INSTALLATION INSTRUCTIONS .....           | 5  |
| OPERATION.....                            | 6  |
| TROUBLESHOOTING .....                     | 6  |
| WIRING DIAGRAM .....                      | 7  |
| SPECIFICATIONS.....                       | 8  |
| PARTS BREAKDOWN .....                     | 9  |
| MAINTENANCE .....                         | 11 |
| WARRANTY .....                            | 12 |

# SAFETY PRECAUTIONS AND INSTRUCTIONS

## SIGNAL WORDS

Safety messages are provided throughout this manual to help prevent personal injury and equipment damage. All safety messages are introduced by a signal word indicating the hazard level.



Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury to the operator or bystanders.



Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to the operator or bystanders.



Indicates a potentially hazardous situation which, if not avoided, may result in moderate or minor injury to the operator or bystanders.



Indicates a situation which, if not avoided, may result in damage to the unit components.



This symbol, in combination with other safety and control symbols, points out important safety information that, if not followed, could endanger personal safety and/or damage to property.



## WARNING



### CARBON MONOXIDE

**Can cause severe nausea, fainting, or death.**

The exhaust system must be leakproof and routinely inspected.



## WARNING

### ACCIDENTAL STARTING



Accidental starting can cause severe injury or death.



## WARNING



### SULFURIC ACID IN BATTERIES

**Can cause severe injury or death.**

Wear protective goggles and clothing. Battery acid may cause blindness and burn skin.



## WARNING

Engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

# SAFETY PRECAUTIONS AND INSTRUCTIONS

## **WARNING**



**Read And Adhere To All Safety Warnings Before Operating Any Mechanical Equipment.**

## **DANGER**

**Explosive gases are produced during the boosting and charging process. The smallest spark can ignite these explosive gases. To avoid battery explosion and serious personal injury, follow these important safety precautions when boosting a battery:**

- **Always wear safety equipment such as goggles, gloves, ear plugs and head protection at all times when operating the unit.**
- **Keep flames, cigarettes, and other ignition sources away from the battery.**
- **Avoid contact with metal objects such as tools and jewelry that could cause sparks.**
- **Never lean over the battery during charging, testing, or boosting.**
- **Check the battery for low water level or frozen conditions. NEVER BOOST A FROZEN BATTERY; rupture or explosion could occur, causing serious personal injury.**
- **Vehicle owner's manual may indicate further precautions which also should be followed when attempting to boost a vehicle.**

## **POISON**

**Battery Acid Causes Severe Burns. Avoid Contact With Skin, Eyes, Or Clothing.**

## **CAUTION**

- **When unit is not in use, keep all switches and fuel valve turned OFF.**
- **Always keep cable clamps separate so they do not come in contact with each other. The clamps could short circuit, creating arcing or sparking, which may cause damage.**
- **Periodically inspect cables for cracking or abrasion; this may cause the copper to become exposed, which could cause sparking or arcing during operation.**

### **NOTE:**

Since there are many variations in the circumstances surrounding the installation, operation, and maintenance of this unit, we cannot possibly anticipate or provide advice or safety messages to cover every situation.

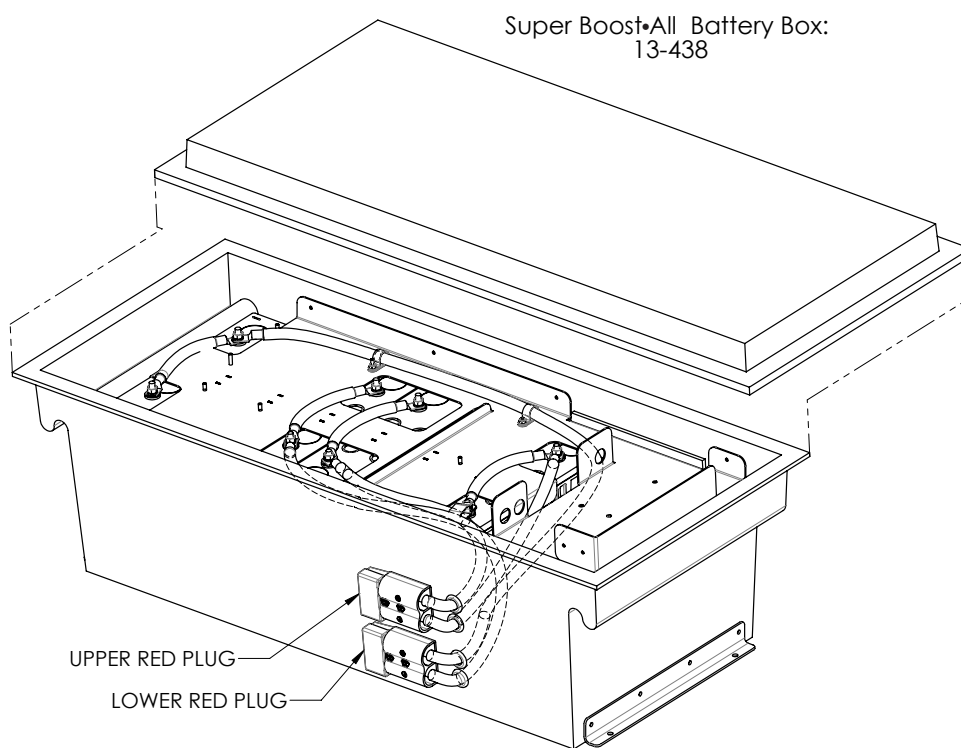
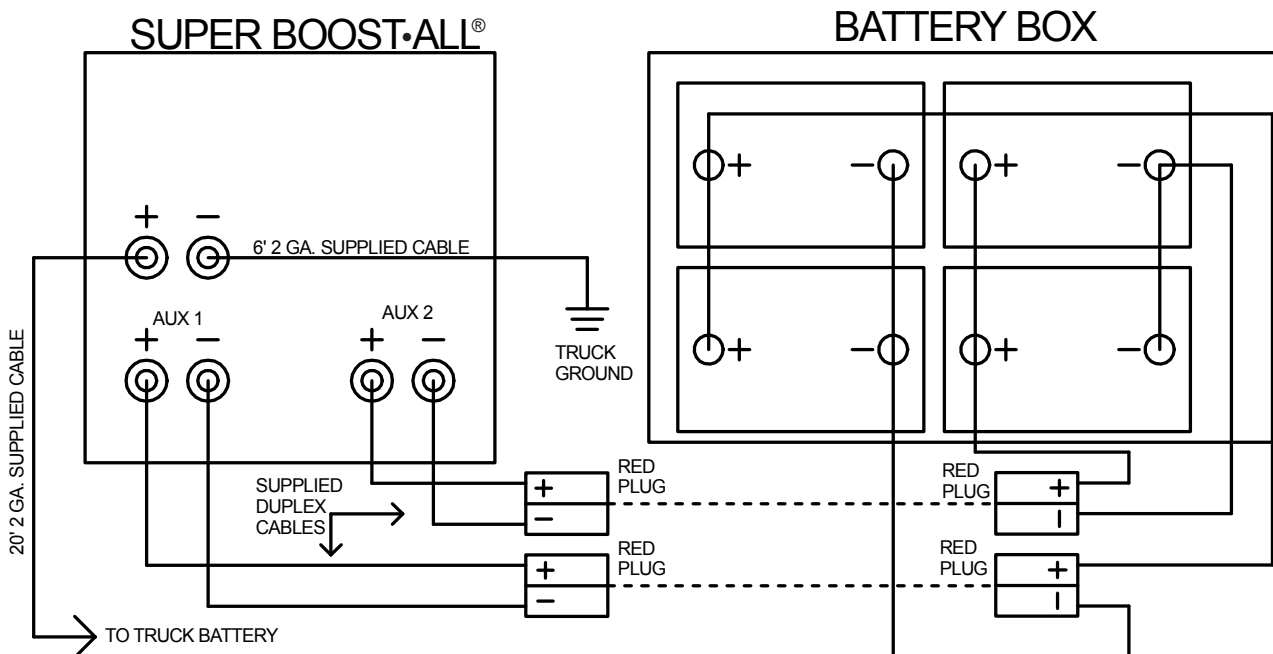
# INSTALLATION INSTRUCTIONS

1. Install battery box and Super Boost•All® where desired.
2. Connect truck (+) and ground to Super Boost•All for charging. Use supplied 2 gauge cables.
3. Connect supplied 1/0 duplex cables to rear of Super Boost•All.
4. Connect red plugs from the Super Boost•All to the battery box.



## NOTICE

The selector plug on the Super Boost•All® should remain in 12V mode when not in use. This allows for charging of the batteries in the battery box.



Battery Cable Installation Guide  
For Super Boost•All 13-435 Application.

# **WARNING**



**Before operating, read and be familiar with operator's guide.  
Follow all safety instructions:**

## **OPERATING INSTRUCTIONS**

Read Owner's Manual before operating. Failure to do so can result in damage to unit and vehicle or lead to serious injury or death.

**Note:** Determine voltage of vehicle to be started; 12 volt or 24 volt.

1. On the Super Boost All®, Disconnect all plugs at the **RED** Power Plug and **GRAY** voltage selector plugs; voltmeter will read 0 volts.
2. Attach the **RED** booster cable clamp to the **POSITIVE (+)** post of the vehicle battery, connect the **BLACK** clamp to the **NEGATIVE (-)** post, then **VERIFY POLARITY**.
3. Connect the **RED** booster cable plug into the **RED** Power Plug.
4. Connect the **GRAY** selector plug into the **GRAY** plug marked 12 Volt or 24 Volt depending on vehicle voltage.
5. Start the vehicle.
6. After the vehicle starts, disconnect the **RED** Power Plug.
7. Disconnect the **BLACK** booster clamp, then the **RED** clamp from the vehicle battery.
8. When finished, to keep both banks of auxiliary batteries charge, connect the **GRAY** selector plug connector into the 12 Volt plug and cap the 24 Volt plug. Store cables.

### **CAUTION**

Always keep cable clamps separate so they do not come in contact with each other. The clamps could short circuit, creating arcing or sparking, which may cause damage.

## **TROUBLESHOOTING THE 13-425 SUPER BOOST•ALL®**

**1. Problem:** The unit is hooked up properly and is killing my truck battery.

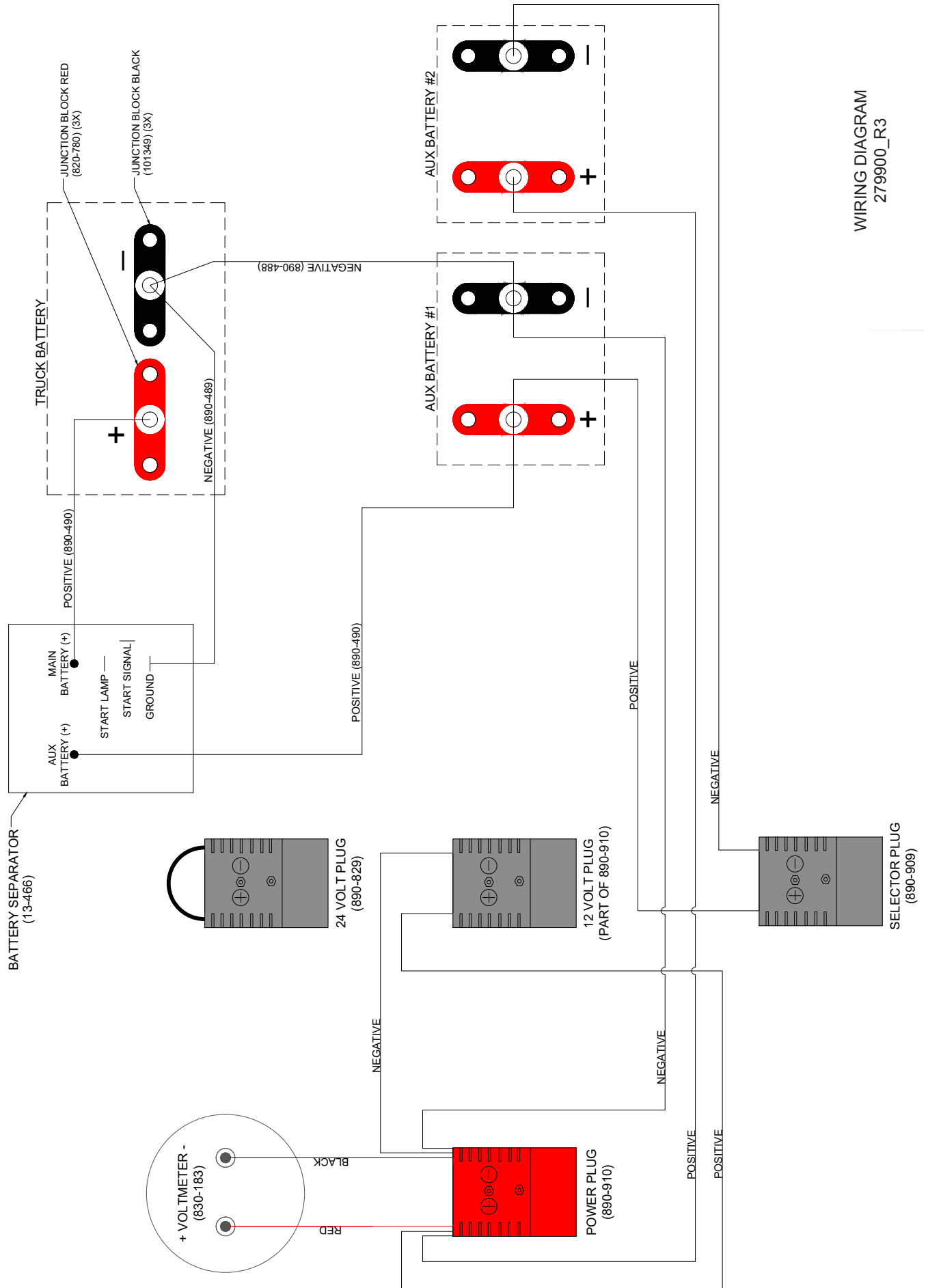
**Solution:** With the truck ignition switch "OFF", check for voltage drop between the "Truck Battery" (+) post and the "Auxiliary Batteries" (+) post. The reading should be approximately 12.8 volts. When the truck is running, the reading should be very little (approximately 0.1 - 0.2 volts).

\* If there is low resistance continuity between the "Truck Battery" (+) post and the "Auxiliary Batteries" (+) post when the truck ignition switch is "Off", the Battery Isolator (P/N 13-466) is bad.

**2. Problem:** The unit is hooked up properly but is not charging my auxiliary batteries.

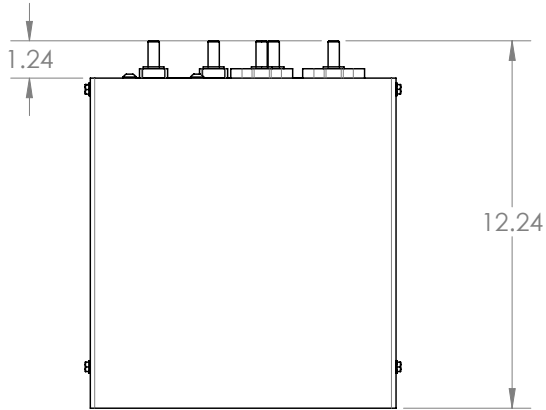
**Solution:** Perform the same voltage test as described in Problem 1 to ensure that the Battery Isolator is functioning properly.

\* If a current flow of greater than 200 amps is passed through the Battery Isolator at any time, the circuit will open. This is essential to protect the electrical system of the truck. Therefore, it is important to use an appropriate amount of auxiliary batteries (2-4), and keep them at an acceptable charge level and working condition to ensure that they will not produce a load of greater than or equal to 200 amps at charging voltage.

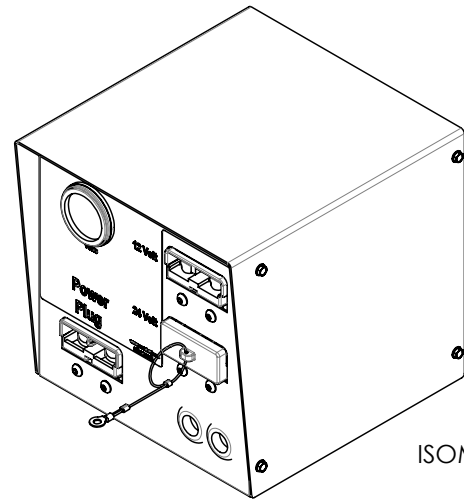


WIRING DIAGRAM  
279900\_R3

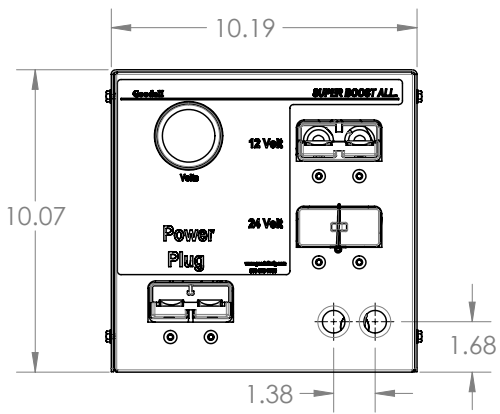
# 13-425 SPECIFICATIONS



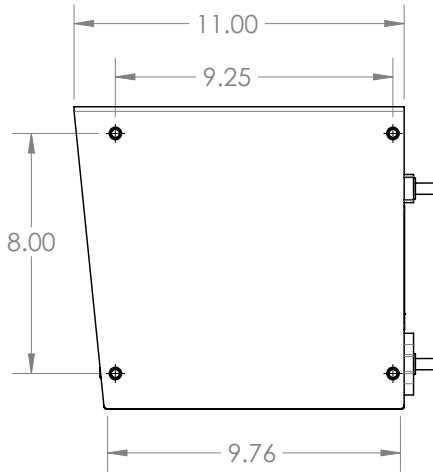
TOP VIEW



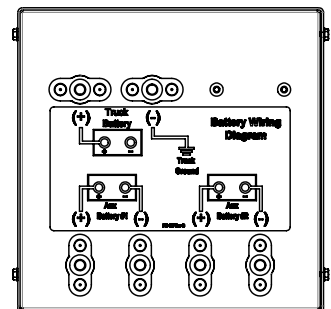
ISOMETRIC



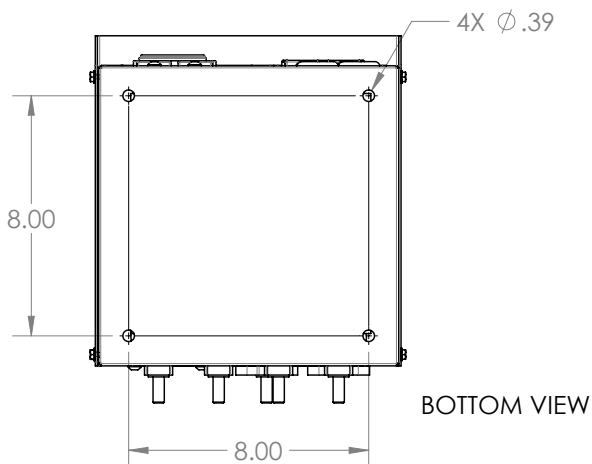
FRONT VIEW



RIGHT SIDE VIEW

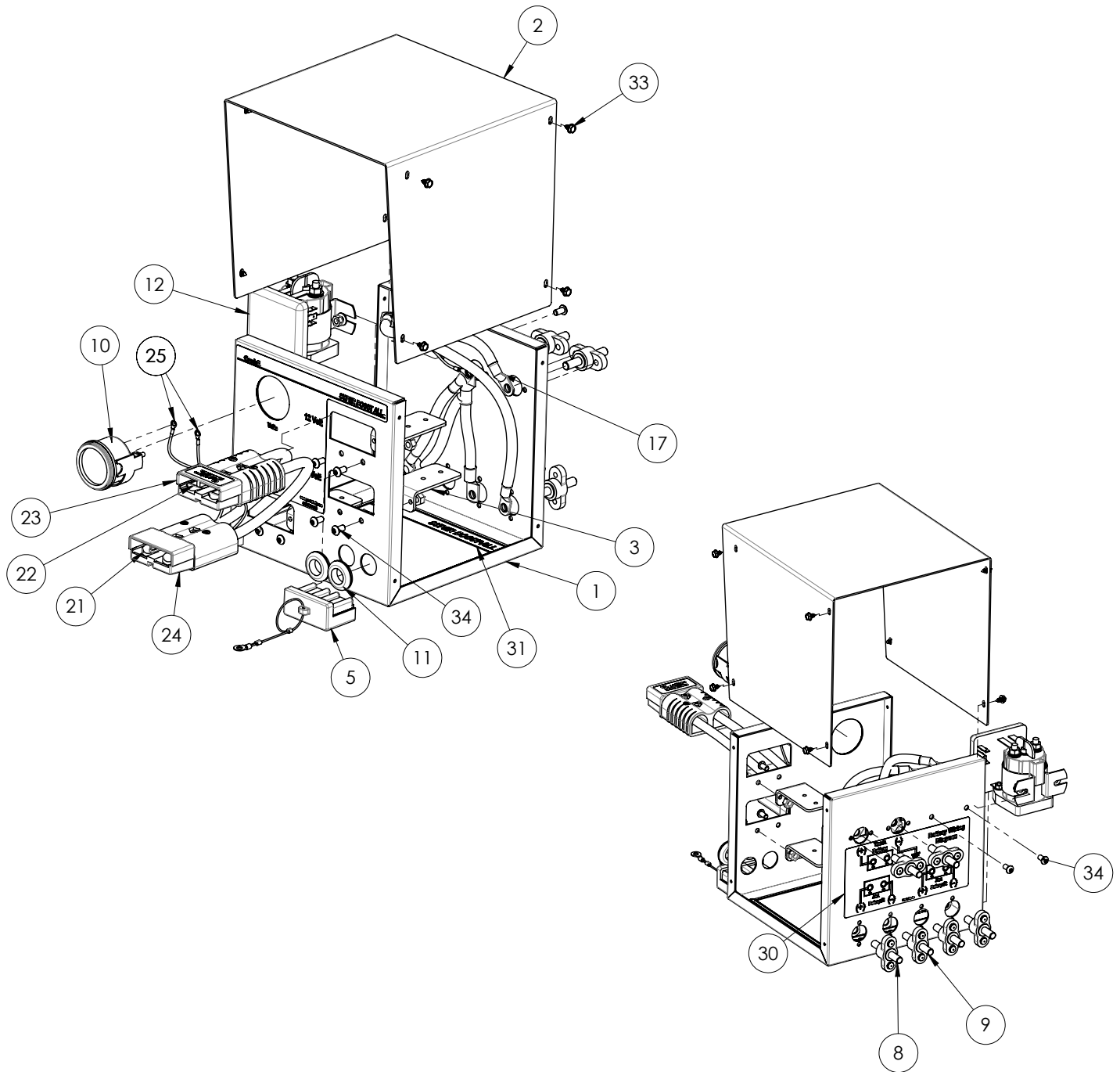


REAR VIEW



BOTTOM VIEW

# PARTS BREAKDOWN



# PARTS LIST

| ITEM NO. | PART NO. | DESCRIPTION                                       | QTY |
|----------|----------|---------------------------------------------------|-----|
| 1        | 100-903  | WRAP CONTROL BOX SUPER BOOST                      | 1   |
| 2        | 100-904  | COVER - BOX, CONTROL                              | 1   |
| 3        | 100-905  | BRACKET - MOUNTING, PLUG                          | 3   |
| 4        | 650-300  | NUT, 3/8" - 16 HEX                                | 6   |
| 5        | 880-424  | CAP, WEATHER LARGE RIGID W/LANYARD                | 1   |
| 6        | 820-729  | RING, 12 GA. 1/4"                                 | 1   |
| 7        | 70-203   | RIVET, 3/16 X 3/8" DIA HEAD                       | 12  |
| 8        | 820-780  | BLOCK - JUNCTION                                  | 3   |
| 9        | 101349   | BLOCK - JUNCTION                                  | 3   |
| 10       | 830-183  | METER, VOLT 0-36VDC                               | 1   |
| 11       | 680-093  | GROMMET, 3/4 ID X 1 3/8" OD                       | 2   |
| 12       | 13-466   | ISOLATER - BATTERY, 200 AMP                       | 1   |
| 13       | 650-439  | WASHER #12, FLAT                                  | 2   |
| 14       | 820-336  | TERMINAL, 2 GA. 3/8" HOLE                         | 4   |
| 15       | 820-791  | TERM FM INSULATED P/O 16-14                       | 1   |
| 16       | 820-717  | RINGER, TERM 14 GA. X 3/8"                        | 1   |
| 17       | 820-139  | TERMINAL, 2 GA. 5/16"                             | 2   |
| 18       | 800-051  | CABLE - 2GA. BLACK SINGLE                         | 8   |
| 19       | 820-187  | TERMINAL, LUG 1/0 X 3/8" EYE                      | 2   |
| 20       | 70-409   | CABLE, 1/0 GA. BLACK                              | 1   |
| 21       | 820-405  | CONTACT, 1/0 FOR 350 PLUG                         | 2   |
| 22       | 820-408  | CONTACT, 4/0 USED WITH 350 PLUG                   | 2   |
| 23       | 810-409  | CONNECTOR - ANDERSON, 350 AMP GREY                | 1   |
| 24       | 71-406   | PLUG, RED (600)                                   | 1   |
| 25       | 820-769  | TERMINAL #10 RING 18 GA.                          | 2   |
| 26       | 800-629  | WIRE - 18 GA. BLACK                               | 1   |
| 27       | 800-649  | WIRE - 18 GA. RED                                 | 1   |
| 28       | 800-642  | WIRE - 16 GA. BLACK AUTOMOTIVE                    | 2   |
| 29       | 279020   | DECAL, SUPER BOOST•ALL®, FRONT                    | 1   |
| 30       | 279085   | DECAL, BATTERY WIRING DIAGRAM<br>SUPER BOOST•ALL® | 1   |
| 31       | 278914   | DECAL, SUPER BOOST•ALL®<br>OPERATING INSTRUCTIONS | 1   |
| 32       | 650-304  | NUT, 1/4" - 20 HEX                                | 2   |
| 33       | 650-234  | SCREW, #10 X 3/8" HHSM                            | 8   |
| 34       | 650-203  | SCREW - BUTTON, 1/4 - 20 X .50 STAINLESS          | 8   |
| 35       | 71-212   | BOOT, STARTING CABLE - RED                        | 3   |
| 36       | 880-102  | BOOT, BATTERY LUG - BLACK                         | 3   |

[illegible]

START•ALL®  
BOOST•ALL®  
SUPER BOOST•ALL®  
CAP•START®



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

**(844) VAN - SERV**

**SERVICE@VANAIR.COM**

**PARTS@VANAIR.COM**

**10896 W. 300 N.  
MICHIGAN CITY, IN 46360**

**(800) 526-8817**

**VANAIR.COM**

**EFFECTIVE: APRIL 11, 2019**

Vanair products are warranted to the original purchaser against failure due to defective material and/or workmanship for a period of one (1) year from the date of purchase, except for gasoline engines, hydraulic motors and flow control valve, which are warranted solely by the manufacturer of such items.

This warranty does not cover any product worn out or altered, used for a purpose other than for which it is intended or used in a manner inconsistent with any instruction regarding its use. The exclusive remedy for any product found to be defective under this warranty is limited to the repair, consequential or incidental damages, including labor charges.

In order to qualify for this warranty, **all returns must receive prior authorization from the factory and be returned directly to the Vanair factory (or authorized service center) postage or freight prepaid.** Vanair will make final determination of defects. No agent, employee, or representative of Vanair has any authority to bind to any affirmation, representation or warranty concerning Vanair products, except as stated herein.

Many issues can be solved by calling the Vanair Service Department. **Before calling, please have the model number and serial number for the unit available.** The Service Department can be reached by calling 844-826-7378 (844-VAN-SERV).

The warranty card included with your purchase must be completed and returned to Vanair to remain eligible for warranty consideration. Please have your serial number available when calling Vanair.

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.



**VANAIR®**  
MOBILE POWER SOLUTIONS™