



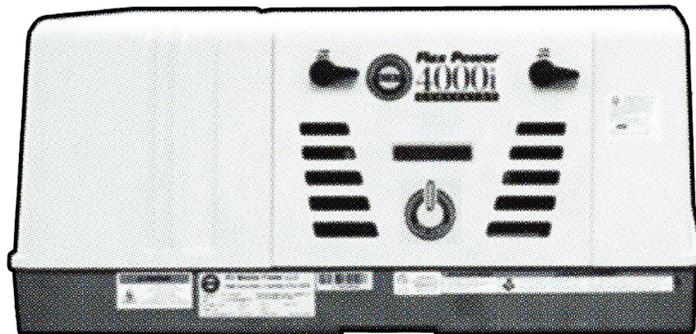
# INSTALLATION MANUAL

## *RVMP® Flex Power™*

### *4.0kW Dual Fuel Installed Generator*

For Models:

RVMP-OEM-4L1-RV401 and RVMP-AM-4L1-RV401



(Picture shown here is for reference only)



**Authorized for Installation ONLY in Recreational Vehicles Prepped by the RV Manufacturer  
With Fuel Lines and a Compartment for Permanent Generator Installs.**

**Do NOT Install in Any Other Application.**

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**Read this manual carefully before operation.  
This manual includes important guidance for safety operation.**

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## 1.0 SAFETY

Read and understand all instructions before installing or operating this product. Adhere to all safety labels. This manual provides general instructions. Many variables can change the circumstances of the instructions, i.e., the degree of difficulty, existing equipment, operation and ability of the individual performing the instructions. Failure to correctly follow the provided instructions may result in death, serious personal injury, severe product and/or property damage and may void portions of the warranty (See Owner's Manual for warranty info). We recommend that installation is performed by a qualified and experienced RV technician.

This manual cannot provide instructions for every possible scenario, but provides the general instructions, as necessary, for effectively installing and using the generator in most situations. If you have any questions, please contact us at:

**RV Mobile Power, LLC**  
Phone: (855) HAPPYRV  
Email: support@rvmp.co  
www.rvmp.co

### **⚠ FIRE SAFETY NOTICE**

Keep multi-class ABC fire extinguishers handy. Class A fires involve ordinary combustible materials such as wood and cloth. Class B fires involve combustible and flammable liquid fuels and gaseous fuels. Class C fires involve live electrical equipment.

### **⚠ WARNING**

The "WARNING" symbol above is a sign that a procedure has a safety risk involved and may cause death or serious personal injury if not performed safely and within the parameters set forth in this manual.

- **Failure to follow instructions provided in this manual may result in death, serious personal injury and/or severe product and property damage, including voiding all or portions of the warranty.**

- Do not operate equipment when mentally or physically fatigued or after consuming alcohol or drugs.
- Do not use starting fluids which can cause an explosion and may result in death, serious personal injury and/or severe product and property damage. Do not use evaporative starting fluids. They are highly explosive.
- Installing or maintaining a generator can cause severe personal injury. Wear personal protective equipment including safety glasses, hard hats, steel-toed shoes and protective clothing when working on equipment.
- Benzene, found in some fuels, and used engine oils have been identified by some state and federal authorities to cause cancer or reproductive toxicity. Do not ingest, breathe fumes or come into contact with gas or oil when checking, draining or adding gas and oil.
- Hot, moving and electrically-live parts can result in death, serious personal injury and/or severe product and property damage. Only trained and experienced personnel should make adjustments while the generator is running. Otherwise, adjustments should be made only when the generator is not running.
- Moving parts can catch on loose clothing items or jewelry. Do not wear loose clothing or jewelry near moving parts including shafts, fans, belts and pulleys.
- Moving parts can seriously injure body appendages, including fingers. Keep hands away from moving parts. Keep protective guards in place over fans, belts, pulleys and other moving parts.
- Improperly installed electrical connections may result in death, serious personal injury and/ or severe product and property damage. Electrical connections must be made by trained and experienced electricians in accordance with applicable codes.
- Back-feeding to shore power may result in death, serious personal injury and/or severe product and property damage. The generator must not be connected to shorepower or any other source of electrical power. An approved switching

device must be used to prevent interconnections and serious damage to the generator.

- Operating, servicing and maintaining and maintaining this equipment can expose you to chemicals, including engine exhaust, carbon monoxide, phthalates and lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. To minimize exposure, avoid breathing exhaust, do not idle the engine except as necessary, service your equipment in a well-ventilated area and wear gloves or wash your hands.
- Do not install generator on a watercraft or boat. Such an installation might violate U.S. Coast Guard regulations and may lead to damage, fire, injury, or death.

## **⚠ CAUTION**

The "CAUTION" symbol above is a sign that a procedure has a safety risk involved and may cause personal injury, product or property damage if not performed safely and within parameters set forth in this manual.

- Always wear eye protection when performing service, maintenance or installation procedures. Other safety equipment to consider would be hearing protection, gloves and possibly a full face shield, depending on the nature of the task.

## **2.0 INSTALLATION STANDARDS AND CODES**

This generator meets the standard for Safety for Engine Generator Sets for Recreational Vehicles, ANSI/RVIA EGS-1. It is highly recommended that this generator be installed by a trained and certified installer with experience in RV generators.

The generator must be installed according to the following standards, as well as any local, state and federal standards. Due to the ever changing nature of standards, it is the responsibility of the installer to have the current editions of these and other relevant standards.

National Fire Protection Association

470 Atlantic Avenue

Boston, MA 02210

- NFPA No. 70, Article 551 – Recreational Vehicles and RV Parks
- NFPA No. 58 – Liquefied Petroleum Gas Code
- NFPA No. 1192 – Fire & Life Safety
- NFPA No. 501C (ANSI A119.2) – Recreational Vehicles

California Administrative Code—Title 25, Chapter 3

State of California Documents Section

P.O. Box 1015

North Highlands, CA 95660

- CSA Electrical Bulletin 946 – Requirements for Internal Combustion Engine–Driven Electric Generators for Use in Recreational Vehicles

Other possibly applicable standards for consideration:

ANSI A119.2

ANSI/RVIA–EGS–1

FMVSS 301

Recreational Vehicle Industry Association

14650 Lee Road

Chantilly, VA 22021

CAN/CSA–Z240

Recreational Vehicles Bulletin 946

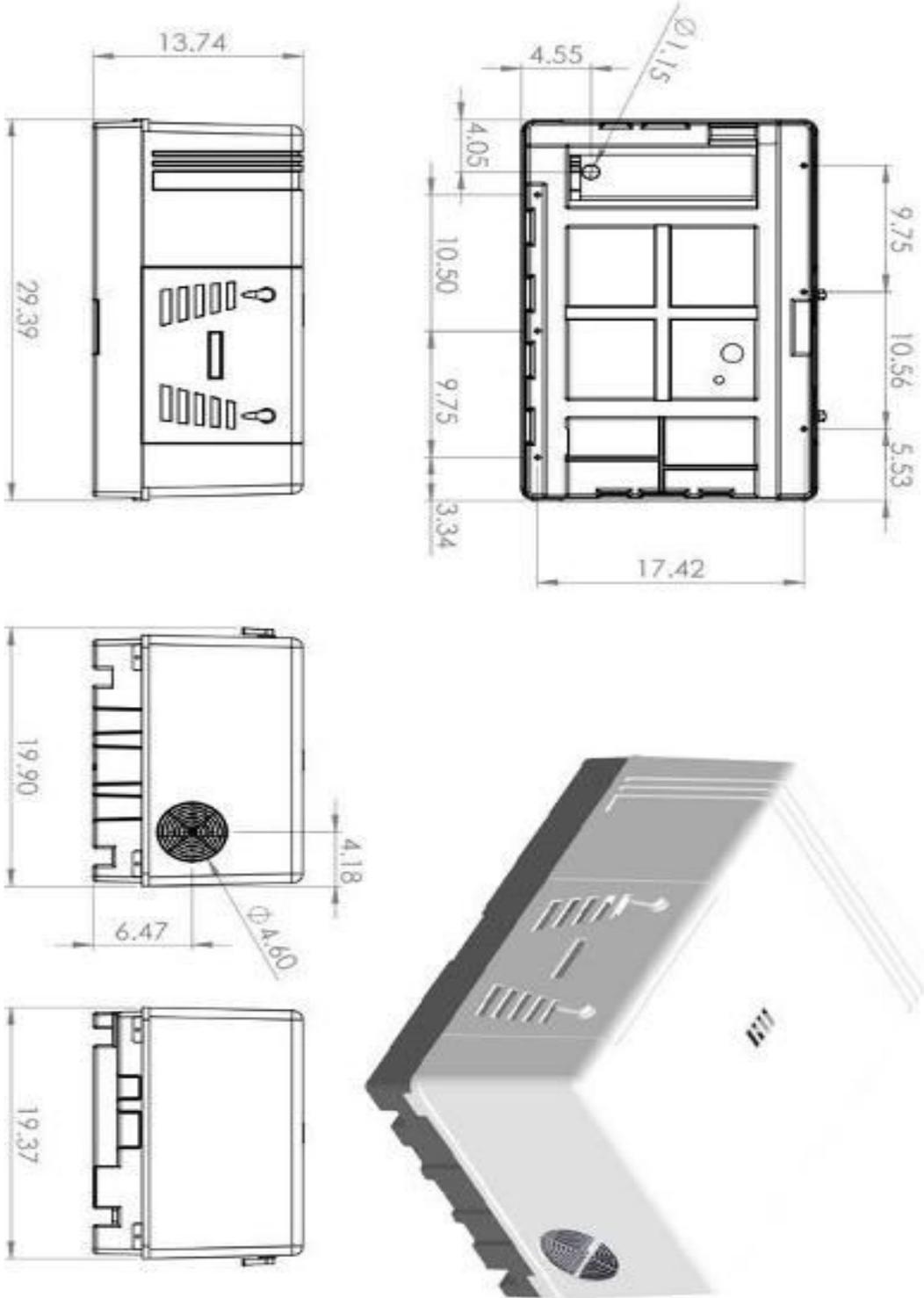
Canadian Standards Association

Housing and Construction Materials Section

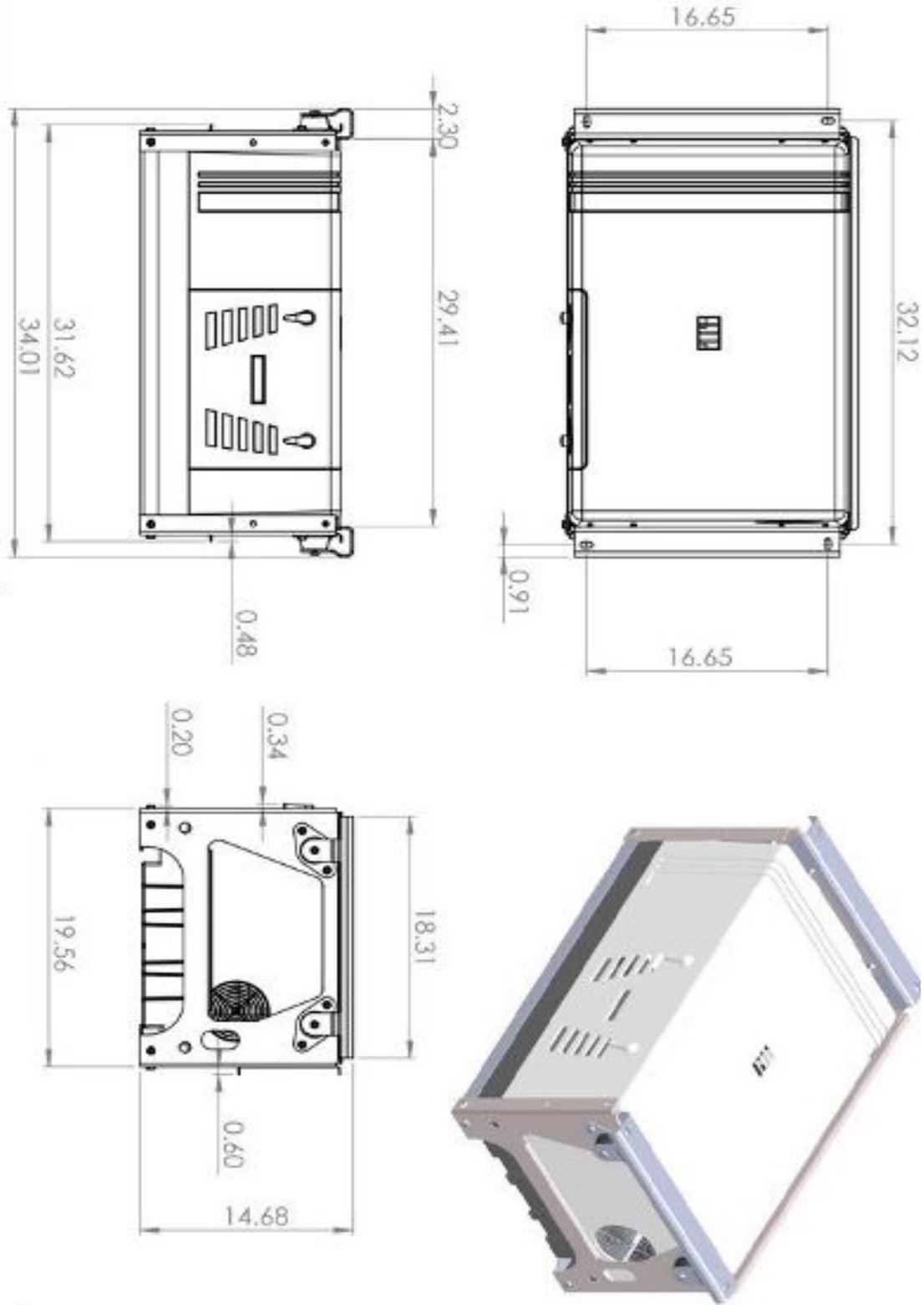
178 Rexdale Blvd.

Rexdale, Ontario, Canada M9W 1R3

### 3.0 GENERATOR DIMENSIONS (WITHOUT FRAME)



### 3.1 HANGING FRAME DIMENSIONS

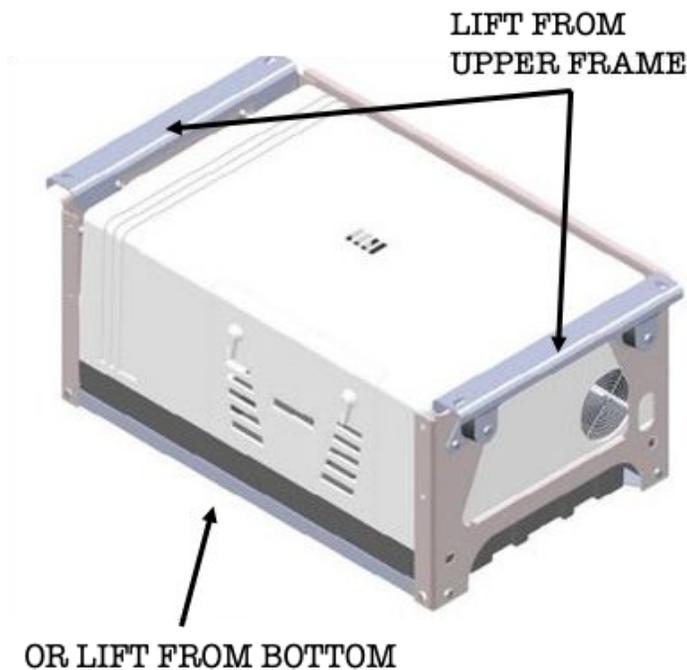


## 4.0 LIFTING AND HANDLING GENERATOR

When lifting a generator without a mounting frame, the generator should only be lifted from the bottom. The generator should never be lifted by the housing. A solid surface, a pair of forks, or a pair of straps can be placed underneath the generator to properly lift from the bottom. Care should be taken to ensure that the generator is held horizontally during handling and is not tipped which could spill oil. Care should also be taken to ensure that no fork or strap contacts the exhaust outlet on the bottom of the generator, as this contact during lifting/moving could bend or break connections in the muffler and exhaust system. Further care should be taken during handling to ensure that fuel/LP lines are not pinched or crushed.



When lifting a generator with a mounting frame, the generator can be lifted either by A) the upper frame where the mounting holes are located or (B) from the bottom.



## 5.0 LOCATION, MOUNTING, AND VENTILATION

This generator is designed to be installed into or onto a vehicle and must be securely mounted to the vehicle. It has to be installed in an area safe from road debris and must be guarded in such a way that the vehicle cannot be damaged by heat or vapors. The generator has to have exhaust, fuel, and electrical all installed correctly to safely function. A proper location must include all of the following:

- Enough space based on the generator dimensions shown above.
- Enough space to connect and disconnect fuel lines, a remote control wiring harness, and AC power output lines.
- Enough space to access the front control panel for starting/stopping the generator and performing all periodic maintenance.
- Separation from any flammable vapors or liquids, including fuel tanks and batteries, to prevent the generator from igniting these substances.
- Access to the bottom of the generator for draining oil, changing the oil filter, and installing exhaust.
- Ground clearance of at least 12 inches.

- Space above the generator and to the sides for adequate cooling air flow.

## **⚠ WARNING**

**Supporting structure must be strong enough to hold and secure the generator. Insufficient structure may cause damage to the vehicle or the generator may become detached from the vehicle causing serious damage, injury, or death.**

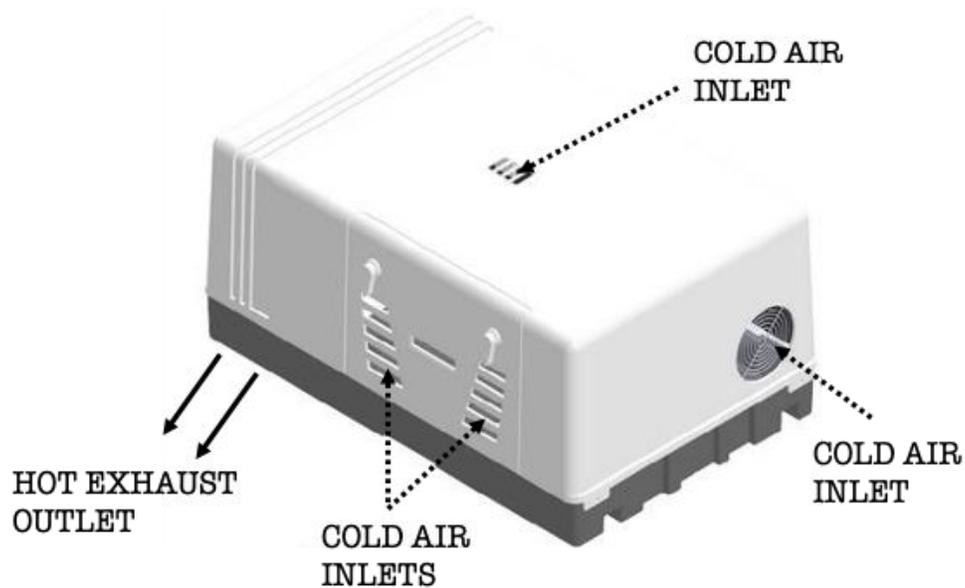
The generator weighs approximately 117lbs with oil and must be installed in a location that can support the weight of the generator, as well as the motion of the generator and the added forces of the generator when traveling (approx +/-1G Force vertical and +/-3G Force horizontal).

Mounting of the generator will be dependent on the design of the structure, but fasteners should not intrude into the generator more than required. If installed near wheels, install guarding to protect the generator from debris.

**When mounting on a floor**, secure the generator to the floor with bolts through the bottom housing. The generator must be installed in a vapor tight 26GA or greater enclosure to prevent both fire and vapors from getting into the vehicle. The entire compartment (except the floor) must be lined with vapor and fire resistive materials. All seams and openings in the barriers for wiring, mounting screws, etc must be sealed. Appropriate materials must be used (26 gauge steel or equivalent). See NFPA 1192 for more information. If the floor is of a combustible material, such as wood, the compartment and door must be lined with ¼ to ½ inch thick, 4 lb/ft<sup>3</sup> density fiberglass thermal insulation with aluminum foil facing at least 0.001 inch thick. Secure the insulation every 12 inches to the surfaces being protected by mechanical fasteners with washers at least 1 inch in diameter.

**When hanging below a floor**, use a hanging frame to hang the generator from above. Barriers to vapor and fire must be placed between the generator and the floor. A 26GA fire barrier must be installed to protect the floor. If the floor is plywood, steel must be used to reinforce the mechanical support for the generator. When hanging, the generator must not be in the approach or departure angles of the vehicle and must be above the axle line.

**Acoustic and/or thermal insulation** may be used but must be self-extinguishing at 200 degrees F and do not place these materials below the generator as they can absorb fuel and oil. All fuel and electrical lines must be properly protected when routing so that they cannot be cut on raw metal. Any and all openings must be sealed to prevent vapors from entering the vehicle.



**When positioned within a closed compartment,** the compartment must be vented with fresh air and there must be a minimum of 40in<sup>2</sup> of fresh air vented into the compartment in order to keep the generator cool. Preferably the compartment vents are positioned away from the exhaust opening at the bottom of the generator (the opening which also holds the muffler). These compartment vents cannot be restricted and if a mesh or grill is used, it must be properly sized depending on the vent openings. The higher the location of the vent is preferable, so that road debris and or dirt is not pulled into the compartment. Unless the compartment vents line up with the generator cold air inlets, add an additional 1.5 inches of space in front of the generator cold air inlets to ensure proper ingress of cold air.

## 6.0 EXHAUST

### **⚠ WARNING**

**EXHAUST GAS IS HOT AND DEADLY.** Never inhale exhaust gas. Always route exhaust pipes outside of the vehicle and terminate the tailpipe at the appropriate location. Use only approved materials for exhaust pipe and always use proper clamps and hangers and ensure that there are no leaks. Never mount the exhaust where it could be damaged or punctured.

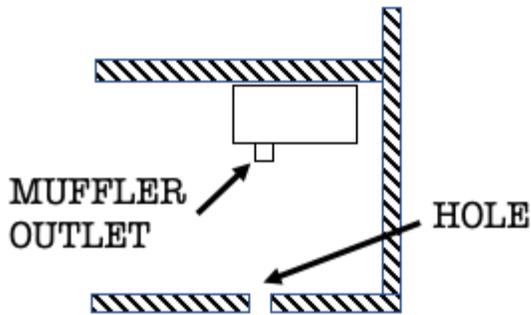
### **⚠ WARNING**

**DO NOT MODIFY MUFFLER.** Modification or alteration to the muffler will void the US Forest Service approval of the muffler. A fire can be started when using a generator without a proper spark arresting exhaust system. The person making any modification or knowingly using a modified muffler is liable for any warranty, injury, or damage caused by a modified muffler.

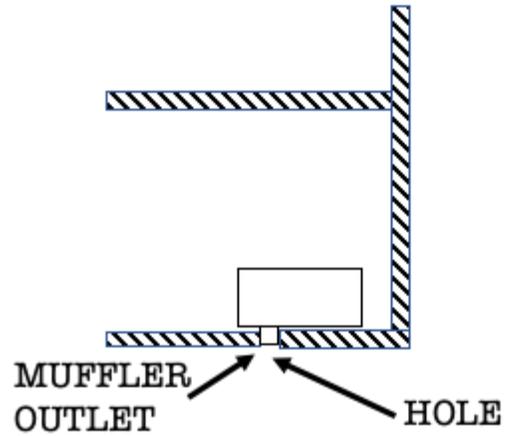
When installing the exhaust system, use rigid 18 gauge steel or greater with 1.25" OD (muffler outlet is 1.13" OD):

1. Cut a hole (if necessary) into the floor beneath the outlet of the muffler, located on the bottom side of the generator.

### HANGING INSTALL

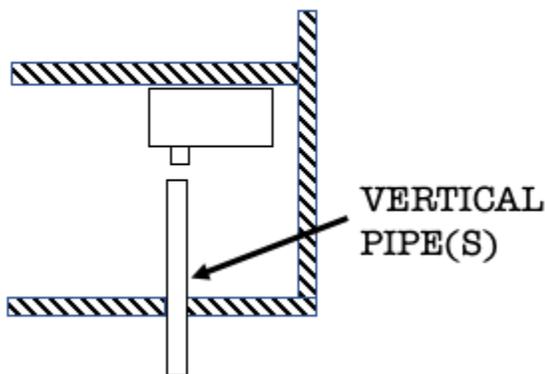


### FLOOR INSTALL

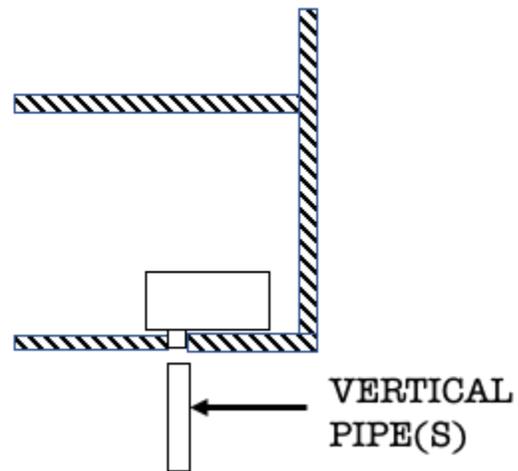


2. Connect one or more vertical pipes to the outlet of the muffler, running downward vertically through the hole. Use only proper U-bolt exhaust clamps to connect to the muffler outlet and any additional pipes.

### HANGING INSTALL

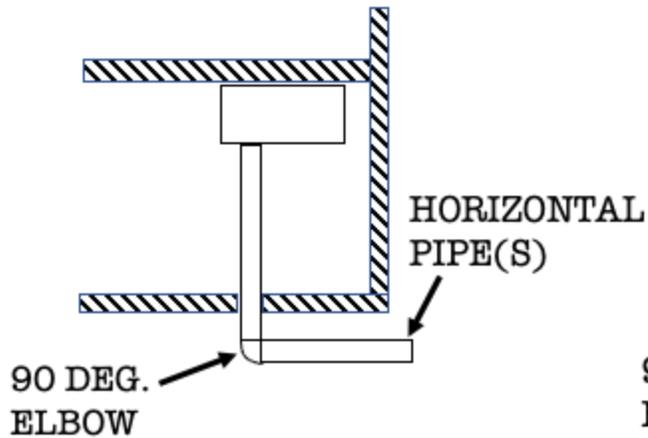


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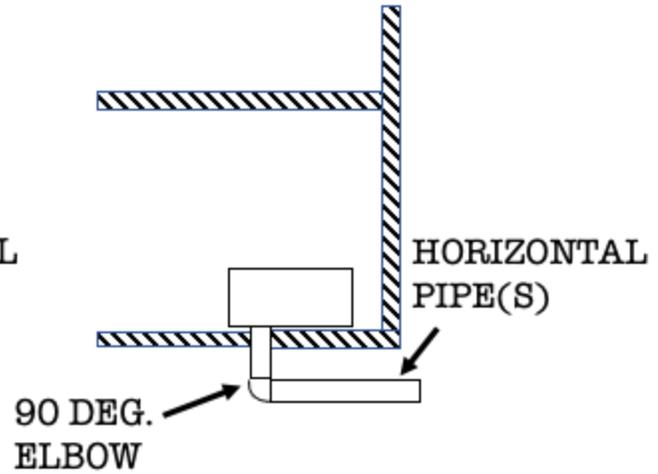


3. Connect a 90 degree elbow pipe to the vertical pipe(s), again using proper U-bolt exhaust clamps only.
4. Connect a series of horizontal pipes to route the exhaust to the nearest periphery of the vehicle, again using proper U-bolt exhaust clamps only. Ensure that the tail pipe extends beyond the body perimeter of the vehicle.

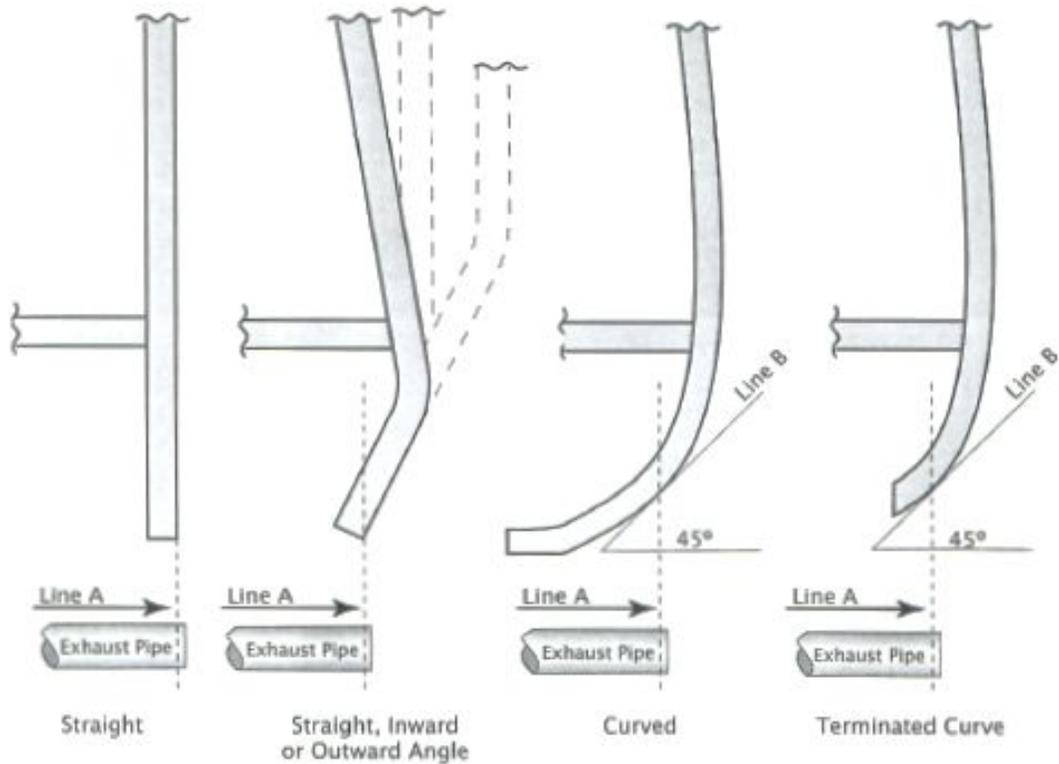
### HANGING INSTALL



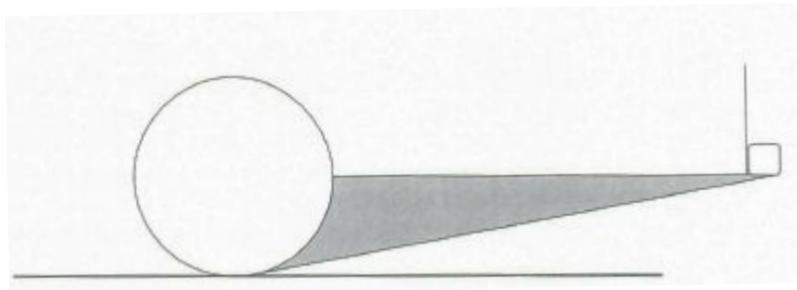
### FLOOR INSTALL



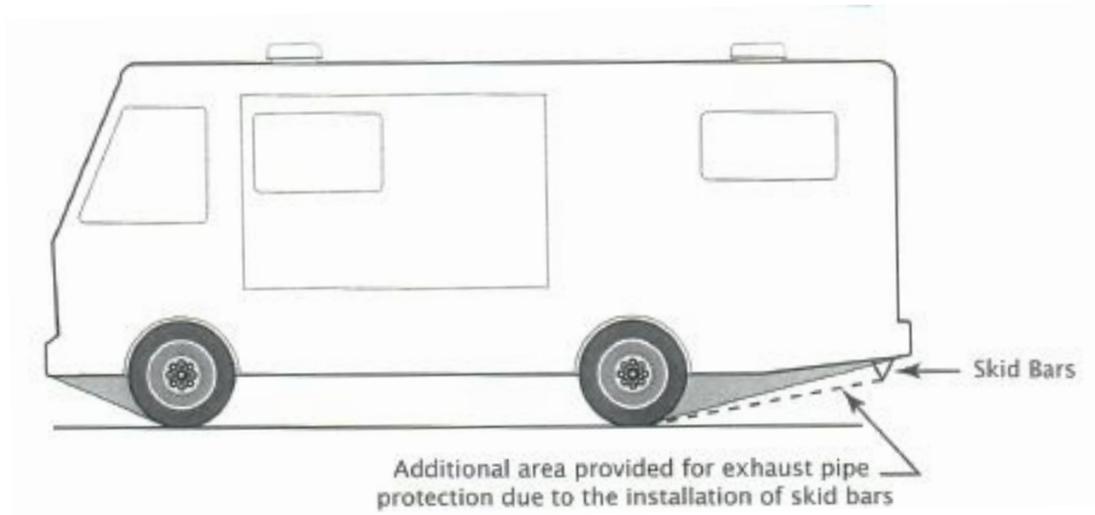
5. Ensure that the tail pipe extends far enough away so that exhaust gas cannot be trapped beneath the vehicle, at least 1 inch beyond the perimeter of the vehicle. See the figure below for measuring the body perimeter of curved vehicles, as well as NFPA 1192 Section 6.4.3 for more details. "Line A" provides a line beyond which the exhaust termination opening must extend to satisfy the standard and this is determined by drawing a vertical line through the tangent point determined by "Line B." Whereas "Line B" is determined by projecting a 45 degree angle from the horizontal plane created by the ground to where it is tangent to the vehicle wall surface.



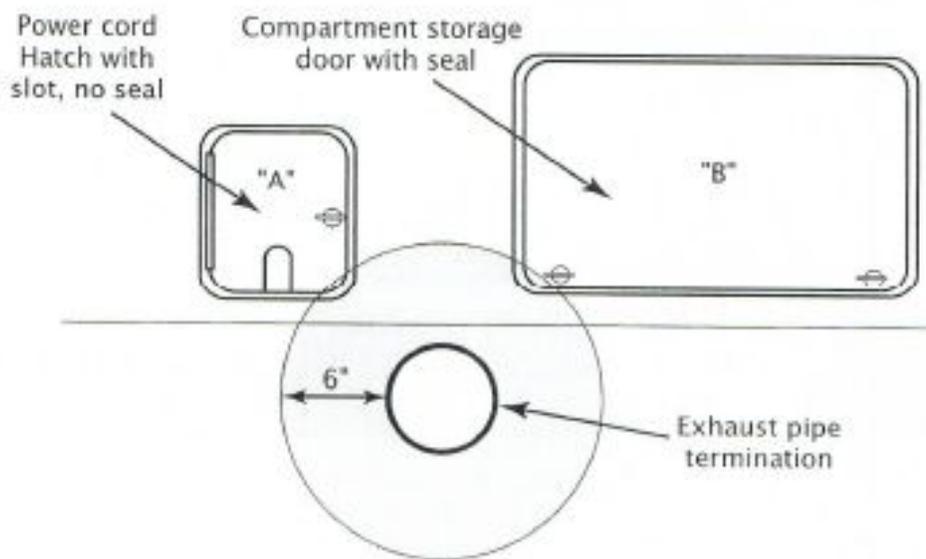
6. Ensure adequate road clearance so that the exhaust cannot be damaged by road bumps or deflation of tires. The road clearance for areas that are not found between the wheels of the vehicle can be measured by establishing a front and rear wheel departure line, which is a straight line from the front and rear tire-road interface to the front and rear bumper respectively. See Figure below. All exhaust pipes should be placed as high above this line as possible.



7. Install skid bars to provide additional protected area for exhaust pipe (if necessary).



8. Ensure that no unsealed air passage into the vehicle is located within 6 inches of the exhaust pipe termination. This includes but is not limited to: 1) power cord hatches that have an air passage to interior, 2) windows, 3) city water fill that has a communicable air passage, 4) storage compartment doors where the compartment is not sealed to the interior and 5) entry doors. However, unventilated compartment doors that are sealed with sealing materials (gaskets, foam tape, or equivalent) are not considered openings, and therefore are exempt from this requirement. See figure below. "Door A" requires the entire compartment to be sealed vapor-tight to the interior of the vehicle. "Door B" does not require the compartment to be sealed vapor-tight to the interior of the vehicle.



9. The exhaust may terminate beneath a slide out only if the slide out is at least 36 inches vertically

away from the exhaust, measured from the exhaust to the bottom of the slide out. However, the exhaust termination cannot be placed below a slide out that is less than 36 inches vertically from the exhaust termination.

10. Support the exhaust pipe at least every 3 feet with proper exhaust hangers and ensure a slight downward slope in the horizontal pipes ( $\frac{1}{4}$  inch for every 3 feet) to allow drainage out of the end of the exhaust pipe. Place an exhaust hanger as close to the exhaust pipe termination as possible.
11. Seal any holes created for the vertical pipe(s).
12. Do not route exhaust near fuel lines or other combustible materials.
13. Do not leave exhaust termination upturned to collect moisture.
14. Do not use flexible exhaust pipe.
15. Do not connect the generator exhaust to the exhaust for the vehicle or any other exhaust.

### **Exhaust Recirculation Test**

It is recommended to check that the generator is not recirculating the exhaust gases or the hot air off the engine after installation. After the generator has been completely installed, in an outdoor space without wind and relative temperature, run the generator for an hour with all of the doors and cabinets shut and the exhaust vented as designed. Place a medium load demand (15–25Amp) during this time. Using a thermocouple measure the air at the inlet fan on the side of the generator. The temperature should level out within the hour. If the temperature does not level out, but instead continues to increase and increase, check to see if the exhaust is correctly vented away or there is enough inlet air being brought in.

## **7.0 PROPANE CONNECTIONS**

### **⚠ WARNING**

**Propane gas (LP gas) can cause asphyxiation, and is highly flammable and combustible. Propane gas can cause injury, damage, or death if improperly handled. Never handle around fire, sparks, or any other ignition source. Never route any propane lines near electrical wiring or heat producing components. Always keep fire prevention equipment on hand when working with propane. Be aware**

of and trained on the various dangers of working with propane gas. Correct procedure is laid out in NFPA 58, Sect. 1.6. It is recommended that all work on the propane system is done by experienced and qualified personnel.

## **⚠ WARNING**

Over pressurization of the propane system can cause damage to the equipment and will hinder the ability to seal the system. This can cause leaks and potentially asphyxiation, fire, damage, and death. If the fuel system is improperly sized, flameout can be caused, leading to leaking of propane and fire, asphyxiation, damage, and death. The system must be properly designed to prevent this. Improper testing of fuel system can lead to ignition of propane, causing fire, damage, and death. A person properly trained to adjust the system is required if the propane system needs any modification.

The propane system should be plumbed in seamless steel piping with flared ends. Use the following sizes according to length for determining proper pipe size.

PIPE SIZE	MAX LENGTH
3/8" ID	3 FT
1/2" ID	15 FT

Flexible hoses should only be used at the generator and at the propane tank to make connections. Use only low permeation fuel hoses rated for propane. **Attach the flexible hose to the generator propane inlet using a 1/2" female 45 degree flare fitting (generator attachment is a male 1/2" 45 degree flare fitting).**

Do not combine or split the generator fuel line with a propane fuel supply line that is already supplying another appliance, as the generator will starve out the rest of the system, due to its large draw with large demands. The propane system needs to be designed to properly supply the appliances and generator

under normal operations and conditions, which may demand split systems.

The generator demands a gas pressure range of 9–13 in (229–330mm) water column. Pressure must not exceed this range or could cause damage. Use only with tanks having a manual shutoff valve as well as a two stage pressure regulator.

The propane system must be installed using the Standard for Storage and Handling of Liquified Petroleum Gases (NFPA No. 58) as a governing document. The system should be thoroughly checked for leaks after installation and only with approved methods such as soapy water. Every part of the fuel system and all connections should be tested in this manner.

Although properly set up when installed, the propane system may need to be adjusted due to elevation, temperature, and fuel sources.

## **7.1 GASOLINE FUEL CONNECTIONS**

### **⚠ WARNING**

Gasoline vapors can cause asphyxiation or death. Gasoline is highly flammable and combustible and can cause injury, damage, or death if improperly handled. Never handle around fire, sparks, or any other ignition source. Never route any gasoline lines near electrical wiring or heat producing equipment. Always keep fire prevention equipment on hand when working with gasoline. Be aware of and trained on the various dangers of working with gasoline. It is recommended that all work on the gasoline system is done by experienced and qualified personnel.

## **⚠ WARNING**

Gasoline system over pressurization can cause damage to both equipment and the ability to seal the system. This can cause leaks, fire, damage, and death. Do not connect the generator gas line into vehicle gas lines, as the system can starve or flood the generator, potentially causing damage. If connecting to a vehicle gasoline tank, use a separate drawtube. Connect according to vehicle recommendations and connect at a level higher than the vehicle so as to not run the vehicle out of fuel during operations. Proper fuel line pressure should not exceed 1.5 psi under any circumstances.

This generator is intended for RVs that already have fuel lines ran to the compartment for the generator. RVMP recommends that only trained and experienced installers extend or install any type of fuel line. For fuel lines, the gasoline system should only use ¼ inch ID stainless or low carbon steel tubing (AISI 1008–1010) with double flared fittings to make any long connections. The tubing must allow 150 psi operating pressure and have corrosion resistance equal to or better than hot-dipped zinc galvanized steel.

When connecting to a gasoline tank, connect from the top, to prevent siphoning if a line is damaged. Maximum fuel pump lift is 36 inches, therefore only install with less than 36 inches of lift from lowest fuel level to the generator to ensure adequate pressure to draw fuel. Run fuel lines away from rough edges, heated areas, and electrical lines/connections and properly secure to prevent vibration damage and pinching of the lines.

**Connect the fuel system to the generator with a ¼ inch barb fitting. When connecting hoses, use only lubricants without soap such as WD40.** Soap can be caught in the carburetor of the engine if used and possibly cause in-operation. For connections at the generator or the fuel tank, use ¼ inch ID (SAE 30–R7) low permeation flexible hose with stainless steel ear clamps only. The hoses in the generator meet US and California standards for gasoline evaporative emissions in that they are low permeation. If making

a connection to the generator with fuel hoses, they need to meet the standards for low permeation and evaporative emissions required in California.

## **7.2 GASOLINE VAPOR CONNECTIONS**

When using the generator with a gasoline system, an evaporative system is required to meet some local/regional regulations including CARB and EPA. The generator has been tested and configured to comply with evaporative system configuration as provided at sale. Due to the specific nature of this configuration and the customer's install, it is recommended to contact the proper governing bodies for the specific regulations of this type installation. It is the responsibility of the RV equipment manufacturer OEM to complete the installation of the evaporative fuel system exactly as specified in the CARB and EPA certification for the RVMP generator products. Use only with approved carbon canisters from Delphi: Part Number 17208238 (3.1L, 196g working capacity) and Part Number 17208262 (3.3L, 233.8g working capacity).

This generator is intended for RVs that already have evaporative lines ran to the compartment for the generator, connecting to a carbon canister already installed by the RV equipment manufacturer OEM. RVMP recommends that only trained and experienced installers extend or install any type of evaporative line. For evaporative lines, the system should only use 5/16 inch ID stainless or low carbon steel tubing (AISI 1008-1010) with double flared fittings to make any long connections. The tubing must allow 150 psi operating pressure and have corrosion resistance equal to or better than hot-dipped zinc galvanized steel.

Connect the evaporative system to the generator with a 5/16 inch barb fitting. When connecting hoses, use only lubricants without soap such as WD40. Soap can be caught in the carburetor of the engine if used and possibly cause in-operation. For connections at the generator or the carbon canister, use 5/16 inch ID (SAE 30-R7) low permeation flexible hose with stainless steel ear clamps only. The hoses in the generator meet US and California standards for gasoline evaporative emissions in that they are low permeation. If making a connection to the generator with fuel hoses, they need to meet the standards for low permeation and evaporative emissions required in California.

## 8.0 ELECTRICAL CONNECTIONS

### **⚠ WARNING**

**ELECTROCUTION DANGER!** A generator has high voltages that can cause a severe shock or death. Be aware of what is being touched inside a generator, remove anything that can cause accidental touching, and always work on insulated table and floor to reduce risk of electrical shock when working on the generator.

### **⚠ WARNING**

Incorrect wiring can lead to damage, fire, injury, or death. Be aware of connections inside and outside the generator. Do not make connections to the battery until ready to start the generator, to prevent accidental starting or shorting. Incorrect wiring in battery storage can lead to damage, fire, injury, or death. Venting of battery area is necessary to vent off explosive gasses.

### **⚠ WARNING**

Never connect the generator to a vehicle that can also receive shore power (utility) without a proper transfer switch or power switching / management system. Backfeed to shore power (utility) can

cause electrocution or damage to equipment. Any vehicle with provisions for connecting to shore power must have an approved device to keep the generator and utility from being interconnected.

All electrical work should be performed by an experienced and qualified electrician. Be sure that all electrical work conforms to the National Electrical Code (NEC) with properly sized conductors, connections, and junction boxes.

### AC Power Output

A set of AC conductors exit the bottom side of the generator, with the colors and polarity detailed in the chart below.

<u>Wire Color</u>	<u>Polarity</u>
Black	Hot (+)
White	Neutral (-)
Green	Ground

These AC conductors are connected through a 30 Amp breaker to protect the generator. **If the RV is not capable of accepting shore power, connect these AC conductors to an AC distribution panel** which would contain a plurality of breakers for distributing AC power to a plurality of AC appliances on the RV. **Alternatively, if the RV is capable of accepting shore power, these AC conductors must connect to a transfer switch capable of switching between shore power and generator power. A transfer switch must be used with any RV that accepts shore power or backfeeding into the generator can occur and will void any warranty and severely damage the generator.**

The AC conductors are approximately 120 inches long. If these conductors are not long enough to reach the transfer switch or AC distribution panel, then the AC conductors should be routed to a proper junction box where longer conductors can connect to the existing generator conductors and complete the run to the

transfer switch or AC distribution panel.

## 8.1 BATTERY CONNECTIONS AND GROUNDING

### ⚠ WARNING

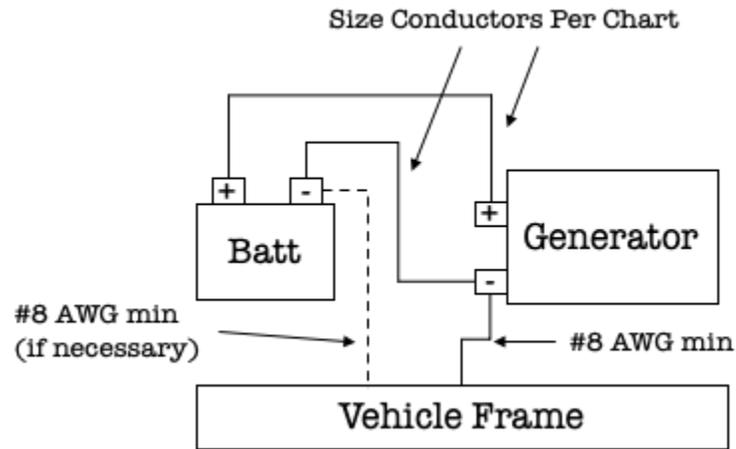
**Never connect the generator to the battery until ready to start the generator. Never route battery electrical lines with or near fuel lines. Routing battery cables with fuel lines can ignite vapors or fuel and can cause fire and serious personal injury or death.**

The generator requires 12V DC power to start and a minimum of 450 CCA is necessary to perform starting at 0 degrees Fahrenheit. Battery(s) must be installed in a proper battery compartment that is vented properly. See ANSI/RVIA LV Section 2–3 for battery compartment venting and proper installation.

Using a single continuous run of positive and negative conductors from the battery to the generator is highly recommended. Size the battery conductors based on the chart provided below. The conductors must be properly sized or the wires could heat up, causing an electrical short or fire. Battery wires should be routed away from any fuel lines. If there is any break in the battery conductors, it must be kept free from corrosion and weather.

<u>Total Cable Length (Distance from battery to generator and back to battery)</u>	<u>Cable Size (AWG)</u>
0 to 45 Feet (0 to 13.7 meters)	2
46 to 60 Feet (14 to 18.3 meters)	0
61 to 80 Feet (18.6 to 24.4 meters)	00

Use proper battery terminal eyelets to connect a positive conduction line and a negative conduction line to the battery, size these conductors based on the table above. Additionally, route a ground conductor from the generator negative DC terminal to the vehicle frame, using a minimum size of #8 AWG. Depending on location, precise install situation, and corresponding NEC, it may also be necessary to route a ground conductor from the negative terminal of the battery to the vehicle frame (again preferably using a minimum of #8 AWG). Be sure to check all connections with a licensed electrician before starting the generator.

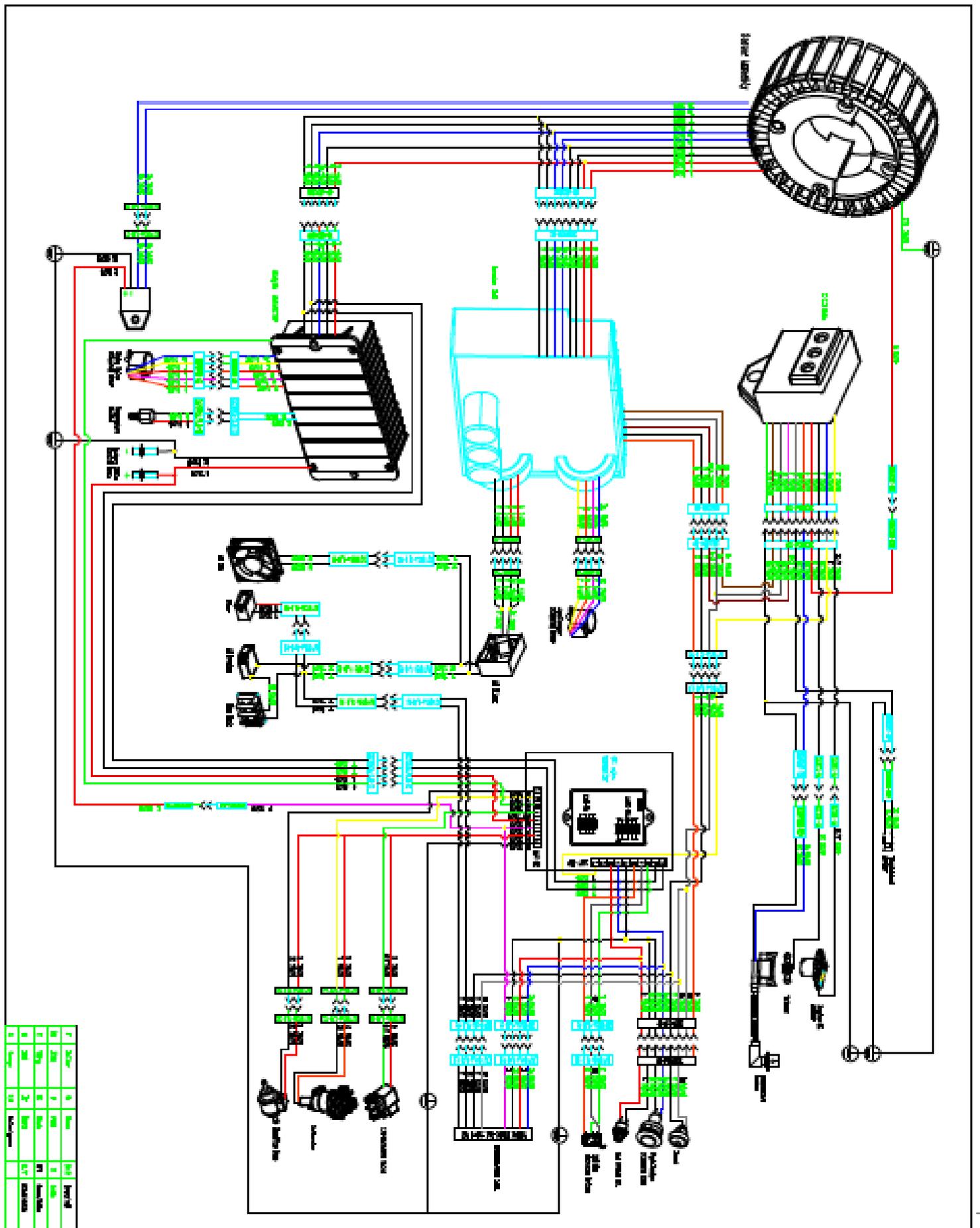


## 8.2 WIRING DIAGRAM

A full wiring diagram is provided on the sheet below. However, due to the high level of detail provided, some particulars may be difficult to read in this view. Therefore, an electronic version is accessible here with the code provided below.

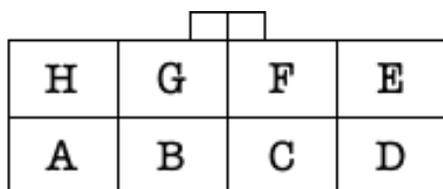
Scan QR Code to view Wiring Diagram:





## 8.3 ELECTRICAL WIRING FOR REMOTE CONTROL FUNCTIONS

The generator is provided with an electrical connector that is designed to connect with the pre-wiring in most RVs for controlling the generator with a remote control. Many include a remote control panel that allows control of various functions of the generator from inside the RV. In many cases, this connector will easily connect to the corresponding connector on the remote control panel, but if not, below is a chart of the corresponding pin functions for each pin on the connector.



**VIEW LOOKING INTO CONNECTOR END**

Location	Color	Function	Uses	Connection to make function
A	Pink	12VDC	12VDC - Light, Timer	D
B	Red	Prime	Prime Gasoline	D
C	Blue	Start/Stop	Starting and Stopping Generator	D
D	Black	Ground	Ground	N/A
E	White	Reset +	Reset Overload Condition	F
F	Gray	Reset -	Reset Overload Condition	E

## Functional Descriptions:

Prime Gasoline – Used to prime the gasoline fuel pump to fill carb before starting

Start/Stop – Works just like the Start/Stop switch on the generator. Used to trigger remote/auto start functions.

Reset – This resets the generator after an overload condition is detected and the generator shuts down for safety.

## 9.0 INSTALL CHECKLIST AND STARTUP

CHECK ALL OF THESE ITEMS BEFORE STARTUP:

### INSTALLATION

- o Properly Sized Enclosure / Clearance
- o Bolted Securely in Location
- o Vents Properly Sized
- o Easy Access to Controls
- o Hoses / Wires Held Fast
- o Hoses / Wires Not Touching
- o No Routing Near Sharp Edges

### EXHAUST

- o Vented at Least 1 inch Away From Exterior of Vehicle
- o Vented Away From Any Openings
- o Each Section is Properly Clamped
- o Properly Supported At Least Every 3 Feet
- o Proper Pipe Material

### FUELS

- o Fuel Lines Proper Material
- o Proper Regulation of Fuel Pressure

- o Proper Location of Fuel Lines on Fuel Tanks
- o Evaporative system properly installed, if needed
- o System inspected and tested for leaks

## ELECTRICAL

- o National Electrical Code Followed for Each Step
- o Connections All Secure
- o Wiring Properly Sized for Battery
- o Wiring properly sized for AC Power Output Lines
- o Ground Connection(s) to Generator Secure
- o Transfer Switch Used When RV is Equipped to Accept Shore Power
- o Remote Controls Installed Correctly, if Used

## **GENERATOR STARTUP**

1. Battery connection is secured to generator.
2. Switch breaker on generator to OFF.
3. Open fuel connection and make sure switch is on the correct type of fuel desired to burn in generator.
4. Prime gasoline system using priming button (if using gasoline).
5. Press Start button.
6. Allow generator to run for 30 seconds to warm up.
7. Switch breaker on the generator to ON.

If everything is running correctly and outputting power, test for recirculation as stated in exhaust Section 6.0.



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v2.0.1

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