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Instruction Sheet A309b 2-86

Assembly Instructions for Installation of Exhaust Accessory Kits #542-0469, #542-0470 and #542-0482 for Underfloor Mount Emerald RV Generator Sets

GENERAL INFORMATION

Plan each individual exhaust system carefully. A proper installation is not only vapor-tight, but usually quieter and safer, too. Certain states have ordinances regarding the type and usage of exhaust muffler/spark arrestors on internal combustion engines or engine driven equipment (such as generator sets) when used in a recreational vehicle. The equipment supplied meets all Federal, State, and local codes. Be sure your installation of this equipment meets these codes. Failure to provide and maintain a spark arrestor can be in violation of the law.

For safe and proper generator set operation, all exhaust shields and components must be properly installed to maintain compartment temperature rise.

MUFFLER RECOMMENDATIONS

Onan supplied muffler/spark arrestors are forest service approved and meet code requirements. Use only Onan approved mufflers. Liability for damage or injury and warranty expenses due to use of unapproved mufflers becomes the responsibility of the installer.

EXHAUST SYSTEM GUIDELINES

The exhaust system must be no closer than 3 inches (76 mm) from combustible material (wood, felt, cotton, organic fibers, etc.) or be so located, insulated, or shielded that it does not raise the temperature of any combustible material more than 117°F (65°C) above the ambient air inlet temperature.

▲WARNING *Exhaust gases present the hazard of severe personal injury or death. Do not terminate exhaust gas under vehicle. Do not terminate exhaust system directly under any vent, window, or opening which can be opened and which is not permanently sealed from the vehicle living space. Keep all openings closed when the generator set is running.*

The exhaust system must extend a minimum of 1 inch (25 mm) beyond the perimeter of the vehicle. If the generator set tailpipe is on the same side of the coach as

the compartment, try to terminate the tailpipe aft of the air intake to reduce possibility of exhaust recirculation.

Use automotive type tailpipe hangers for hanging the exhaust system from vehicle under carriage. Hanger must be vertically positioned directly above the exhaust pipe.

Position the muffler so that the clean-out plug is pointing toward the road.

▲CAUTION *Excessive exhaust back pressure can cause engine damage. If tailpipe deflector is used, be sure it is large enough to prevent excessive back pressure.*

▲CAUTION *Water vapor can cause engine damage. Do not connect the electric generating set exhaust to the vehicle exhaust system. Water vapor from one engine can damage the other engine.*

EXHAUST SYSTEM INSTALLATION

Refer to the proper kit illustration for the following instructions:

1. Attach elbow exhaust tube to generator set exhaust pipe using exhaust gasket (do not use sealer on gasket), two 5/16 inch lock washers, and two 5/16-18 x 1.00 hex head capscrews.
2. Attach muffler inlet to exhaust tube using muffler clamp (marked 1-1/4), as follows:
 - A. Hang muffler clamp on exhaust tube.
 - B. Slide muffler inlet 1-1/2 inches (38 mm) minimum over exhaust tube.
 - C. Hold the muffler in position and fasten muffler clamp over muffler inlet.
 - D. Tighten muffler clamp until it indents the exhaust tubes.

3. Secure muffler bracket to blower housing using two 1/4 inch lock washers and two 1/4-20 x .62 hex head capscrews.

TAILPIPE RECOMMENDATIONS

An exhaust tailpipe is NOT supplied because of variation in length requirements between motor home manufacturers. After muffler is installed and prior to installing exhaust tailpipe, refer to the following recommendations for additional tips and safety considerations.

Use 1-3/8 inch I.D. 18 gauge rigid steel tubing for tailpipe.

▲WARNING *Exhaust gases present the hazard of severe personal injury or death. Do NOT use flexible exhaust tailpipe since it may leak or break due to road shock or vibration. Exhaust gases present the hazard of severe personal injury or death. Do NOT terminate exhaust system under the vehicle. Direct exhaust gases away from any window, door or compartment openings.*

Use U-bolt type automotive muffler clamp* and shock mounted hangers* for supporting the exhaust system. If tailpipe extends beyond 1-1/2 feet (457 mm) from muffler, attach an automotive tailpipe hanger* for additional support. The exhaust system should be supported at, or near, the perimeter of the vehicle.

▲CAUTION *Angular mounting could result in exhaust system damage because excessive vibration transfer to the vehicle is caused by angular mounting. Mount muffler and tailpipe hanger brackets directly above the component being supported and NOT at an angle. Do not twist rubber sections of hangers.*

For installation of the battery B+ rubber boot cover and remote wiring harness also included in this kit, refer to the Installation Manual for instructions.

* - Included in Kit #542-0470 and #542-0482.

▲WARNING

EXHAUST GAS IS DEADLY!

Exhaust gases contain carbon monoxide, an odorless and colorless gas. Carbon monoxide is poisonous and can cause unconsciousness and death. Symptoms of carbon monoxide poisoning can include:

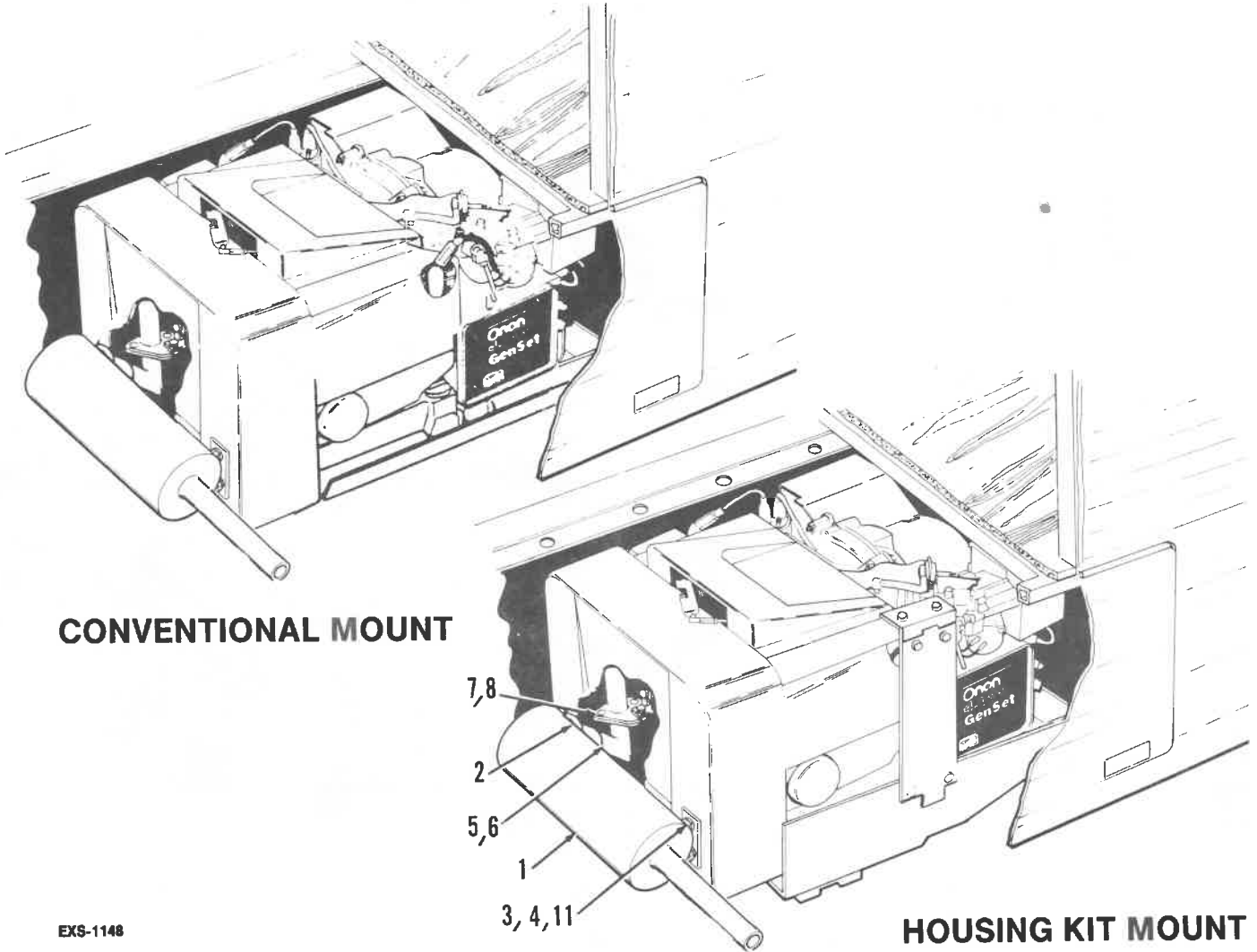
- **Dizziness**
- **Nausea**
- **Headache**
- **Weakness and Sleepiness**
- **Throbbing in Temples**
- **Muscular Twitching**
- **Vomiting**
- **Inability to Think Coherently**

IF YOU OR ANYONE ELSE EXPERIENCE ANY OF THESE SYMPTOMS, GET OUT INTO THE FRESH AIR IMMEDIATELY. If symptoms persist, seek medical attention. Shut down the unit and do not operate until it has been inspected and repaired.

Never sleep in vehicle with the generator set running unless the vehicle interior is equipped with an operating carbon monoxide detector. Protection against carbon monoxide inhalation also includes proper exhaust system installation and visual and audible inspection of the complete exhaust system at the start of each generator set operation.

1-RV

Emerald I and Emerald III Underfloor Installation Accessory Kit #542-0469

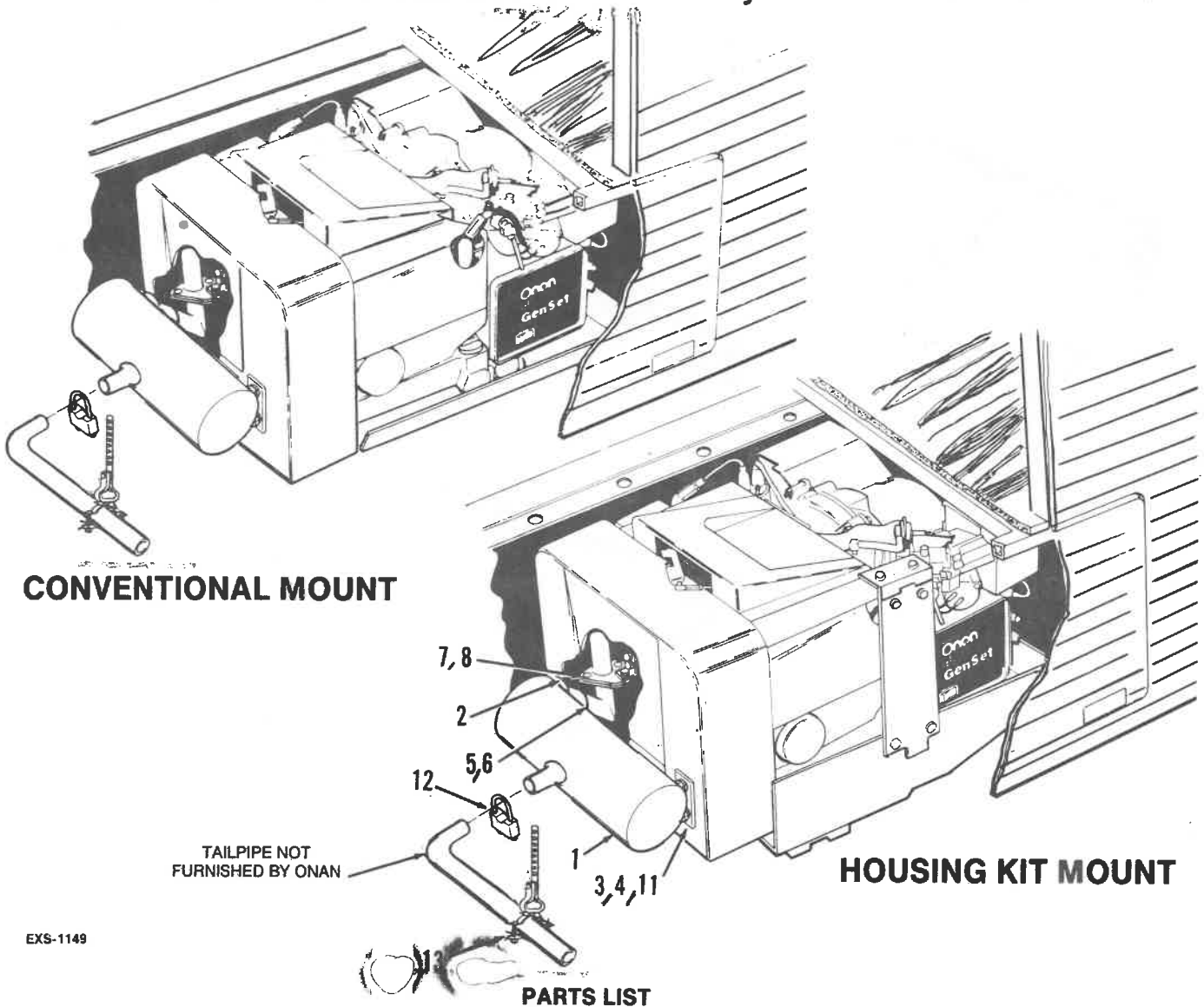


EXS-1148

PARTS LIST

Item	Qty.	Description
1	1	Muffler - Spark Arsr
2	1	Clamp - Muffler (Marked 1-1/4)
3	2	Screw - HHC (1/4-20 x .62)
4	2	Washer - Lock 1/4
5	1	Gasket - Exhaust
6	1	Tube - Exhaust
7	2	Screw - HHC (5/16-18 x 1.00)
8	2	Washer - Lock (5/16)
9	1	Wiring Harness - Remote
10	1	Insulator - Terminal
11	2	Washer (Muffler)
12	1	Instructions

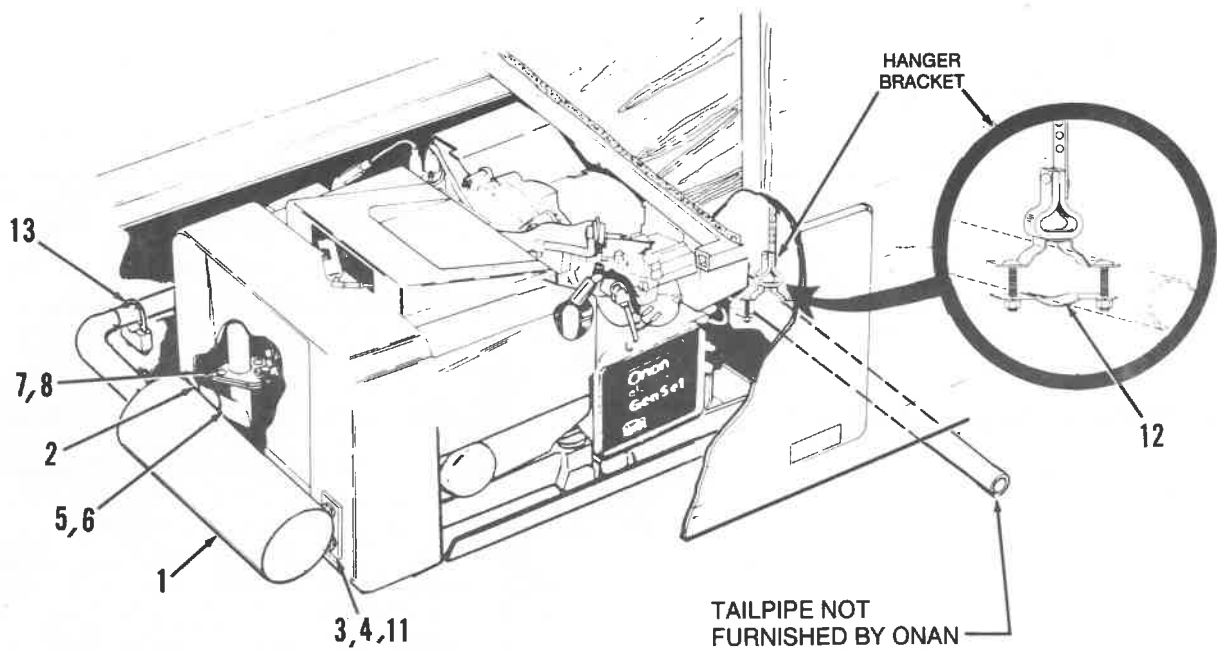
Emerald I and Emerald III Underfloor Installation Accessory Kit #542-0470



EXS-1149

Item	Qty.	Description
1	1	Muffler - Spark Arsr
2	1	Clamp - Muffler (Marked 1-1/4)
3	2	Screw - HHC (1/4-20 x .62)
4	2	Washer - Lock 1/4
5	1	Gasket - Exhaust
6	1	Tube - Exhaust
7	2	Screw - HHC (5/16-18 x 1.00)
8	2	Washer - Lock (5/16)
9	1	Wiring Harness - Remote
10	1	Insulator - Terminal
11	2	Washer (Muffler)
12	1	Clamp - Muffler (Marked 1-3/8)
13	1	Hanger Exhaust
14	1	Instructions

Emerald I and Emerald III Underfloor Installation Accessory Kit #542-0482



EXS-1150

PARTS LIST

Item	Qty.	Description
1	1	Muffler - Spark Arsr
2	1	Clamp - Muffler (Marked 1-1/4)
3	2	Screw - HHC (1/4-20 x .62)
4	2	Washer - Lock 1/4
5	1	Gasket - Exhaust
6	1	Tube - Exhaust
7	2	Screw - HHC (5/16-18 x 1.00)
8	2	Washer - Lock (5/16)
9	1	Wiring Harness - Remote
10	1	Insulator - Terminal
11	2	Washer (Muffler)
12	1	Hanger - Exhaust
13	1	Clamp - Muffler (Marked 1-3/8)
14	1	Instructions

