

Assembly Instructions for Installation of Under-Floor Mounting Kits 403-2689 (KV) and 541-0661 (KVD) for Recreational Vehicle Generator Sets

GENERAL INFORMATION

This instruction is for use by qualified service personnel only. Review the entire instructions before starting installation.

⚠WARNING *Incorrect installation, service, or parts replacement can result in severe personal injury, death, and/or equipment damage. Service personnel must be trained and experienced to perform electrical and mechanical component installations.*

These kits are designed for under-floor mounting of generator sets in recreational vehicles only.

⚠WARNING *This kit must not be installed in commercial vehicles. In such applications, the kit may fail to secure the generator set, resulting in severe personal injury, death, and/or equipment damage.*

The location, mounting, and enclosure of a genset must be such that mounting is secure, engine exhaust and fuel vapors are prevented from entering the vehicle, rain and road debris are prevented from entering the genset, and ready access is afforded for operating the genset and performing periodic maintenance. See the genset Installation Manual for important details.

⚠WARNING *EXHAUST GAS AND FIRE ARE DEADLY! There must be a vapor-tight and fire-resistant barrier of approved materials between the genset and the vehicle interior.*

With an under-floor mounting kit, special support brackets are used to suspend the generator set from the underside of the coach (for KV generator sets, see Figure 1; for KVD generator sets, see Figure 2). The support brackets are to be fastened to support members that are built into the coach framework. The generator set is mounted near the exterior of the

coach and access should be provided through a door located in the exterior of the coach.

The recreational vehicle must be constructed to support the weight of the generator set. **It is the responsibility of the vehicle manufacturer and the installer to provide a structurally-sound frame and to provide hardware for attaching this kit to the vehicle.** Use the hardware supplied with this kit and follow specific recommendations for any hardware or components not supplied in this kit.

The support structure must be designed to support the weight of the generator set in a dynamic environment. Each unique application should be evaluated and designed to provide an adequate generator set support structure. See *Specifications* in the genset Installation Manual for the weight of the specific genset model being installed.

⚠WARNING *A weak supporting structure can lead to severe personal injury or death if the genset falls from the vehicle. Design the structure carefully, follow these instructions, use specified hardware, and tighten all screws and nuts to the recommended torque settings.*

Carefully follow these important design parameters when developing the support structure and installing the under-floor housing.

- The dynamic conditions imposed on the under-floor kit should not exceed cyclic vertical forces of ± 350 lbs and cyclic horizontal forces of ± 150 lbs.
- Mounting surfaces of vehicle support structure should be designed in such a way that mounting fasteners, when properly torqued, do not cause compressive yielding of (embedding into) the mounting surface.
- A plywood or particle board floor must be reinforced with steel.

- All fasteners used in an under-floor housing kit must be properly torqued. See recommended torque settings.

It is the responsibility of the vehicle manufacturer and the installer to provide a structurally-sound frame and provide mounting hardware to attach this kit.

Follow specific recommendations for installation of parts and hardware when installing this kit. Use hardened flat washers (supplied in kit) on all mounting hardware.

Install this kit in accordance with UL and all applicable code requirements.

Throughout the Installation section, refer to the KV or KVD Installation Manual.

INSTALLATION

During installation, refer to Figure 1 or Figure 2 and carefully follow these steps.

1. Park the recreational vehicle on a level surface. Put the vehicle in park position, lock the brakes, and remove the ignition key. Make sure no one moves the vehicle while performing this procedure.
2. Disconnect shore power (public utility power) from the vehicle.

⚠ WARNING *Electric shock can cause severe personal injury or death. Check voltage at the vehicle junction box to be sure power has been disconnected before proceeding with this installation.*

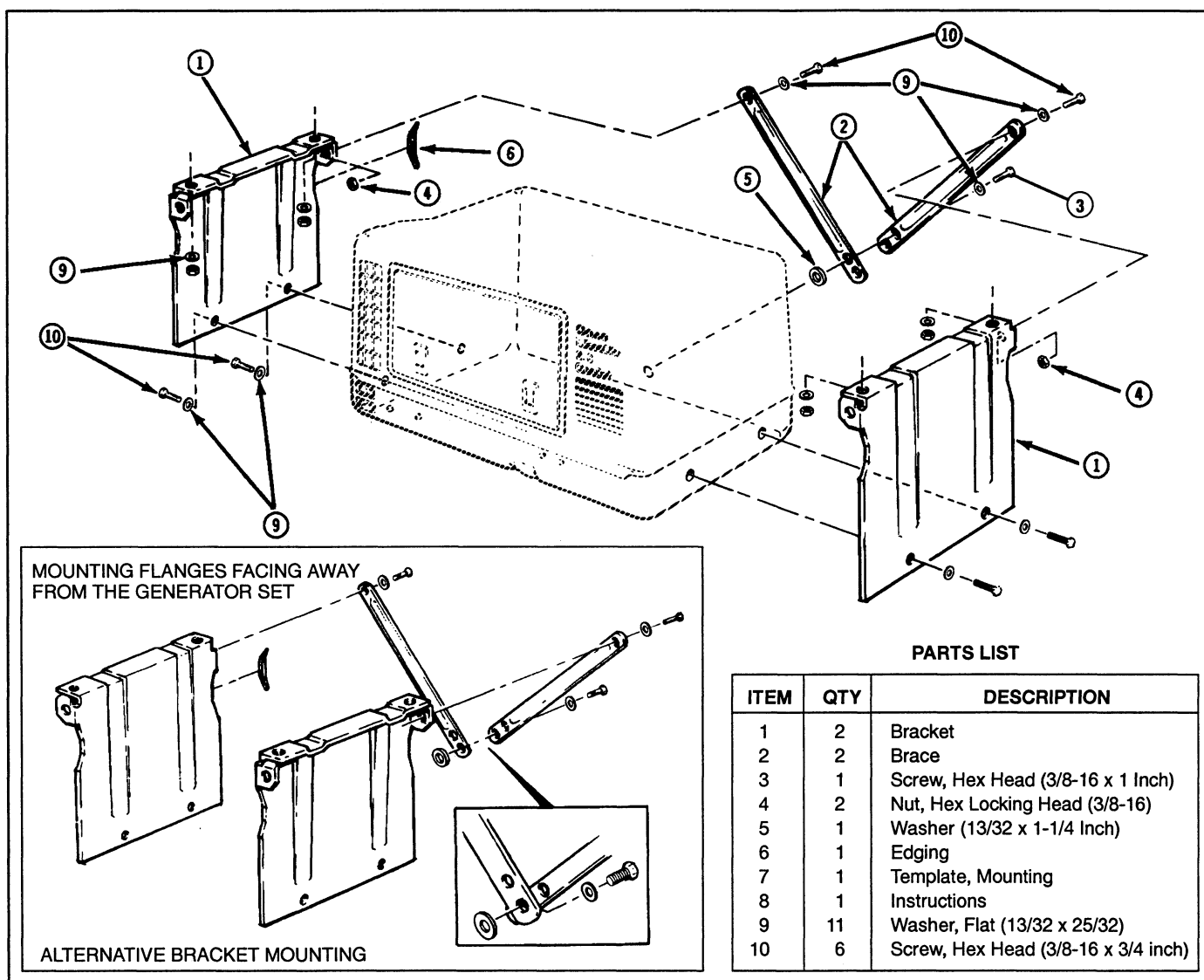


FIGURE 1. KV UNDER-FLOOR HOUSING (KIT 403-2689)

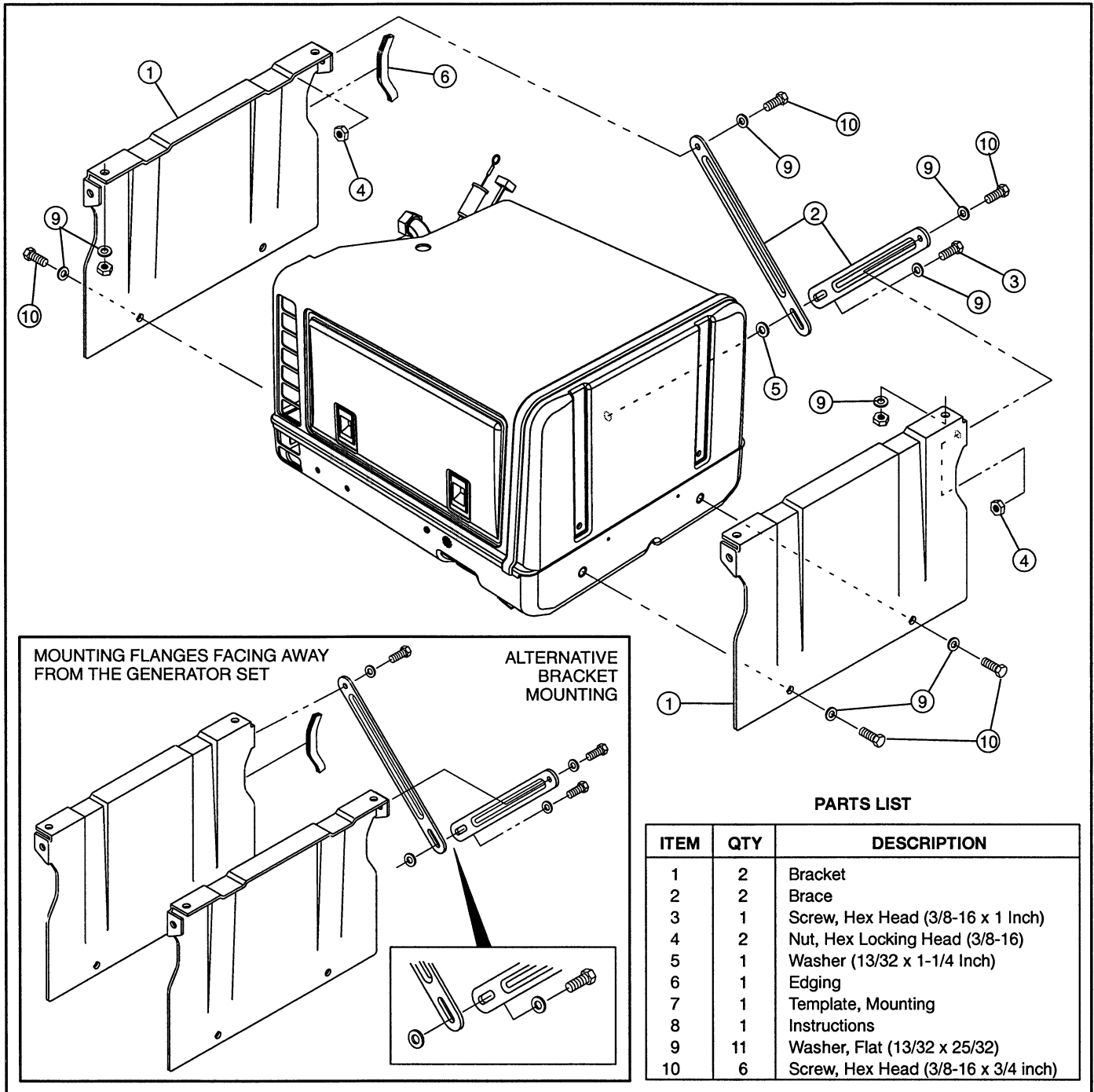


FIGURE 2. KVD UNDER-FLOOR HOUSING (KIT 541-0661)

- If the area above the compartment is made of a wood product, install a vapor-tight, fire-resistant barrier equivalent to 26-gauge (0.02-inch) galvanized metal above the genset (see Figure 3).

⚠️WARNING *Dropping the generator set can cause severe personal injury or death. Make sure no one moves the vehicle during installation and keep hands and feet clear during installation. Follow the installation instructions carefully.*

- The support brackets can be installed with the top mounting flanges facing away from the generator set or in toward the generator set. Refer to the enclosed template for compartment size requirements when determining the best support bracket orientation for this installation.
- Use the mounting template (Item 7) to determine support bracket mounting hole size and location. Mark and drill holes for mounting the support brackets to the vehicle support structure.

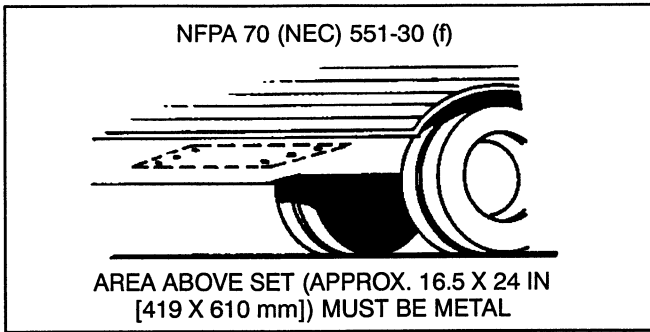


FIGURE 3. UNDER-FLOOR MOUNTING KIT WITH METAL CEILING (NOT SUPPLIED WITH KIT)

6. Assemble the support braces (Item 2) to the support brackets (Item 1) by aligning the single mounting hole end of the brace with the rear support bracket mounting hole (refer to Figure 1 or Figure 2). Face the support brace strengthening rib away from the generator set. Install a 3/8-16 x 3/4 inch bolt (Item 10) and hardened flat washer (Item 9) through the support brace and support bracket. Secure the braces to the brackets using a 3/8 inch hex nut (Item 4) and tighten finger tight.
7. Bolt the support brackets to the vehicle support structure with 3/8 inch bolts, grade 5 or better (required to allow adequate mounting torque) and the enclosed hardened flat washers (Item 9). See Figure 1 or Figure 2. Torque the mounting bolts to 35 ft-lbs (47 N•m). (Support bracket mounting bolts and nuts are not included due to variations in vehicle support structure designs.)

⚠WARNING *Exhaust gas is poisonous and presents the hazard of severe personal injury or death. To prevent exhaust gases from entering the vehicle coach, seal the bolt holes with a silicone/rubber-based sealant.*

8. **For kit 403–2689:** When the support bracket flanges are mounted facing toward the generator set, position support braces by aligning the upper hole in each brace. When the support brackets are installed with the mounting flanges facing away from the generator set, align the bottom set of holes. See Figure 1.

For kit 541–0661: When the support bracket flanges are mounted facing toward the generator set, position support braces by aligning the top of the slot in each brace. When support brackets are installed with the mounting flanges facing away from the generator set, al-

ign the bottom of the slot in each brace. See Figure 2.

9. Temporarily install the 3/8-16 x 1 inch bolt (Item 3) into the aligned support brace holes/slots to hold the braces in position. Torque the mounting bolts (Item 10) securing the braces to the brackets (see Step 6) to 35 ft-lbs (47 N•m). Remove the 3/8-16 x 1 inch bolt and save it for later use.
10. Install protective edging (Item 6) on the support bracket where electrical and fuel connections will exit the generator set. See Figure 1 or Figure 2.
11. Make sure the generator is adequately supported and raise the generator set so that electrical and fuel connections can be made. See Electrical Connections and Fuel Systems sections of the Installation Manual.
12. Before raising the generator set into position, make sure the set has adequate clearance to prevent damage to the fuel line, electrical connections, and other components.
13. Raise the generator set into position and install two 3/8-16 x 3/4 inch bolts (Item 10) and hardened flat washers (Item 9) through each side of the support bracket and into the generator set base. An adjustment might have to be made by slightly raising or lowering the set to line up the mounting holes. Torque the side mounting bolts to 35 ft-lbs (47 N•m).
14. Place the large (13/32 x 1-1/4 inch) washer (Item 5) between the back of the generator set base and the support braces. Secure the support braces to the generator set using the 3/8-16 x 1 inch bolt (Item 3) and a hardened flat washer (Item 9). Torque the brace mounting bolt to 35 ft-lbs (47 N•m). See Figure 1 or Figure 2.
15. Install the exhaust system. See the Exhaust System section of the Installation Manual.

⚠WARNING *Exhaust gas is poisonous and presents the hazard of severe personal injury or death. Follow the procedures and Warnings contained in the Installation Manual Exhaust System section. Check exhaust system audibly and visually with the set running and repair any leaks immediately.*

16. Reconnect the generator set starting battery negative (-) ground cable.
17. Close the access door (if used). The generator set should now be ready for operation. Refer to the generator set Installation Manual for Initial Starting and Checks.