

# 12V Heaters: The Health and Safety Rules and Regulations

When it comes to using supplemental heaters in a vehicle, one of the most popular options is the 12V electric heater. This is especially true of recreational vehicle owners who have the benefit of a factory installed ducted propane heater, yet choose to use an alternative form of heat. Conventional ducted propane furnace heaters offer such benefits as convenience and familiarity as well as having the ability to provide uniform heat throughout the RV. However, they tend to cost a great deal to operate over time and take up a considerable amount of space in the RV. In addition, when traveling with multiple individuals, having the ability to create different temperature zones is a plus, something that isn't possible with a ducted propane furnace. In these cases, using a 12V heater in place of or in addition to the factory installed ducted heating system, making a smaller, easier to use. All but the smallest Recreational Vehicles come equipped with a built-in ducted propane furnace. Yet a growing minority rarely use this furnace, opting for alternate forms of heat. This article will attempt to explain the reasons for these alternate heating systems, and assist the reader in deciding whether to acquire one of these options.

## 12V Heaters

12V heaters are small external heating devices that use the accessory power outlet to access the vehicle's battery to produce heat. These heaters are equipped with a power adapter that is hardwired into the power supply cord. One of the key benefits of using 12V heaters as a supplemental heat source for your car or recreational vehicle is its small size. While they are small and easy to store, they can easily produce enough heat to keep the cabin of a car warm enough during an emergency situation for many hours, even in the most inclement of conditions.

12V heaters are generally just smaller electric space heaters and work on the same principle. The heating unit is simple and consists of a heating element, a fan for heat dispersal and a power source. The heating element converts electricity to heat, which the fan then blows out of the unit and into the car.

While 12V Auto Heaters are often referred to as battery heaters, they are not battery heaters in the truest sense, since they require the use of an external power source in order to operate. They rely on the use of a vehicle's battery in order to supply the necessary flow of electricity to produce heat. Most are designed to operate while the vehicle is running in order to prevent the depletion of the vehicle's battery. However, this is not a requirement for their operation, which is why they are ideal for use in an emergency kit.

## Advantages of 12V Heaters:

All 12V heaters provide clean and efficient heat. This means that they do not burn fuel and don't produce harmful by-products. This means that they are perfect for heating small, enclosed spaces where ventilation can be a problem. They are also safe to use around small children and seniors and can be used in the presence of oxygen since there is no open flame.

In addition, they are powered by the stored energy in your car battery, so they don't have any additional operating costs. This makes them very cost effective.

### **Safety and Health Concerns:**

Using 12V heaters in your vehicle or other situation requires you to be extremely diligent in order to ensure safety. Many of these heaters do not have an internal control to prevent overheating, which may cause burns if they come into contact with your skin. They can also cause a fire if they come into contact with fabrics located inside the vehicle as well as with clothing. In order to ensure that the risk of burns and fire are minimized, it is important to ensure that the heater is placed in an area where there is no accidental contact with skin or fabric.

Any 12V heater used for RVs or for more regular operation should be equipped with an automatic shut off feature that turns the heater off in the event it is overturned. This will help minimize the risk of fire in the event the heater is bumped or accidentally overturned during operation. In addition, 12V heaters can be equipped with an internal temperature control that will prevent the unit from overheating, also reducing the risk of burns, electrical shock and fire. In most cases, consumers should look for 12V heaters that are outfitted with external thermostats that allow them to control the level of heat the unit produces.

Last but not least, 12V heater should be equipped with fans to disburse heat rather than rely strictly on the use of radiant heat to prevent overheating of the heater elements located inside the unit. Some less expensive units save money on construction by leaving out the blower mechanism that is necessary to ensure that the heat produced is made available to the consumer, choosing instead to rely on radiant heat only. In order to compensate for this, many consumers unintentionally overheat the heater in an effort to produce more heat simply because the 12V heater unit they are using does not adequately disperse the heat it is producing. This inefficiency can cause the unit to overheat and potentially cause burns, electric shock and/or fire. 12V heaters equipped with fans will blow heat away from the heater element, making more heat available to the consumer as well as drawing cooler air through the back of the unit, helping to regulate the temperature of the heating element and reducing the risk of burns or fire.

The key to operating a 12V heater safely is to minimize the risk of overheating the unit. These heaters are not designed to be the primary source of heat in a commuter vehicle or recreational vehicle and should not be used in this manner. By following these safety tips, 12V heaters can be used to provide supplemental heat on a temporary basis in a safe manner.