





# Waste Oil Heater Plans

## FREQUENTLY ASKED QUESTIONS

**Question:** I hear a lot of waste oils have a high content of water in them. Will this affect the performance of the heater?

**Answer:** The heater plans include a design which acts as a water separator within the fuel tank. Small amounts of emulsified or dissolved water being feed to the burner will not affect its operation. The heater unit is very tolerant of dirty or wet fuel.

**Question:** How big of a building with this unit heat?

**Answer:** The amount of input energy required to heat any building is widely dependant on ambient outdoor temperatures and efficiency of the buildings insulation. To get an idea of this heaters capacity, the average free-standing wood stove produces about 65,000 btu's of heat.

**Question:** How hot does the outside of the heater get?

**Answer:** Exhaust temperatures of the unit vary upon the fuel settings but are normally between 400 and 650 degrees Fahrenheit. Unlike a wood stove, the outside of the heater unit has no exposed hot surfaces to burn your hand on. All heating surfaces are contained within the unit.

**Question:** Are there any special parts on this that will be either hard to find or expensive?

**Answer:** No. Most of the parts are common hardware items that can be salvaged from appliances or purchased from a local hardware store. The unit requires an exhaust stack rated for wood-stove use and a pump for which there are many options.

**Question:** Are there any filters to change and how often do I need to change them?

**Answer:** The heater does not require the fuel to be filtered. However, an intake screen on the fuel suction is recommended to keep any sticks, twigs or dead bugs out of the pump.

**Question:** Can this heater be hooked up to a thermostat?

**Answer:** Yes. With the installation of proper oil furnace heating controls, you could easily hook this up to a thermostat.

**Question:** Can the unit be left unattended?

**Answer:** Without knowing your exact installation, I can not make a recommendation on this subject. However, while I would personally never leave a wood stove unattended for more than a few minutes at a time, I leave my shop heater run all by itself for hours. During normal operation of this heater, you can not see the flame inside. It is completely enclosed inside a combustion chamber made from a pressure tank.

**Question:** How long will the unit run on a single tank of fuel?

**Answer:** That would very depending on what size of fuel tank you decide to use and how cold it is outside. My 50 gallon tank usually lasts about 4 days in 10 degree temperatures but my shop is so poorly insulated you can feel the cold air blowing right through it. Some of the photos included in the plans show the pitiful lack of insulation in my building.

**Question:** Can this unit be adapted to heat water?

**Answer:** The part of the heater that actually produces the flame could be easily adapted to heat water but these plans show how to use it for heating air only. If you're asking this question, you could probably figure it out yourself.

**Question:** Do I need a vertical Bridgeport type mill or a lathe or any other type of special machine like that?

**Answer:** Only basic tools are required to build this heater. You will need a Mig or Tig welder and you need to be able to cut squares and circles from steel. You will want an angle grinder and cut-off wheels. A torch or plasma cutter would be real nice too but are not required.

**Question:** How much will it really cost to build this thing?

**Answer:** My workshop is on a farm and we have all kinds of junk laying around. I spent about \$100 for various things like the 55-gallon drum, old propane tank, and some pipe fittings. I found the big fan on top in a forced air furnace and already had the fuel tank. How much you spend will greatly depend on how much you already have or can find free. This unit was designed with parts from common appliances I find thrown out on a regular basis.

***Technical Support is Included and provided by the author of the plans***

Online: [www.murphymachines.com](http://www.murphymachines.com)  
Email: [information@murphymachines.com](mailto:information@murphymachines.com)  
Phone: (586)995-0101

By Mail: **Murphy's Machines**  
**P.O. Box 49**  
**Almont, MI 48003**