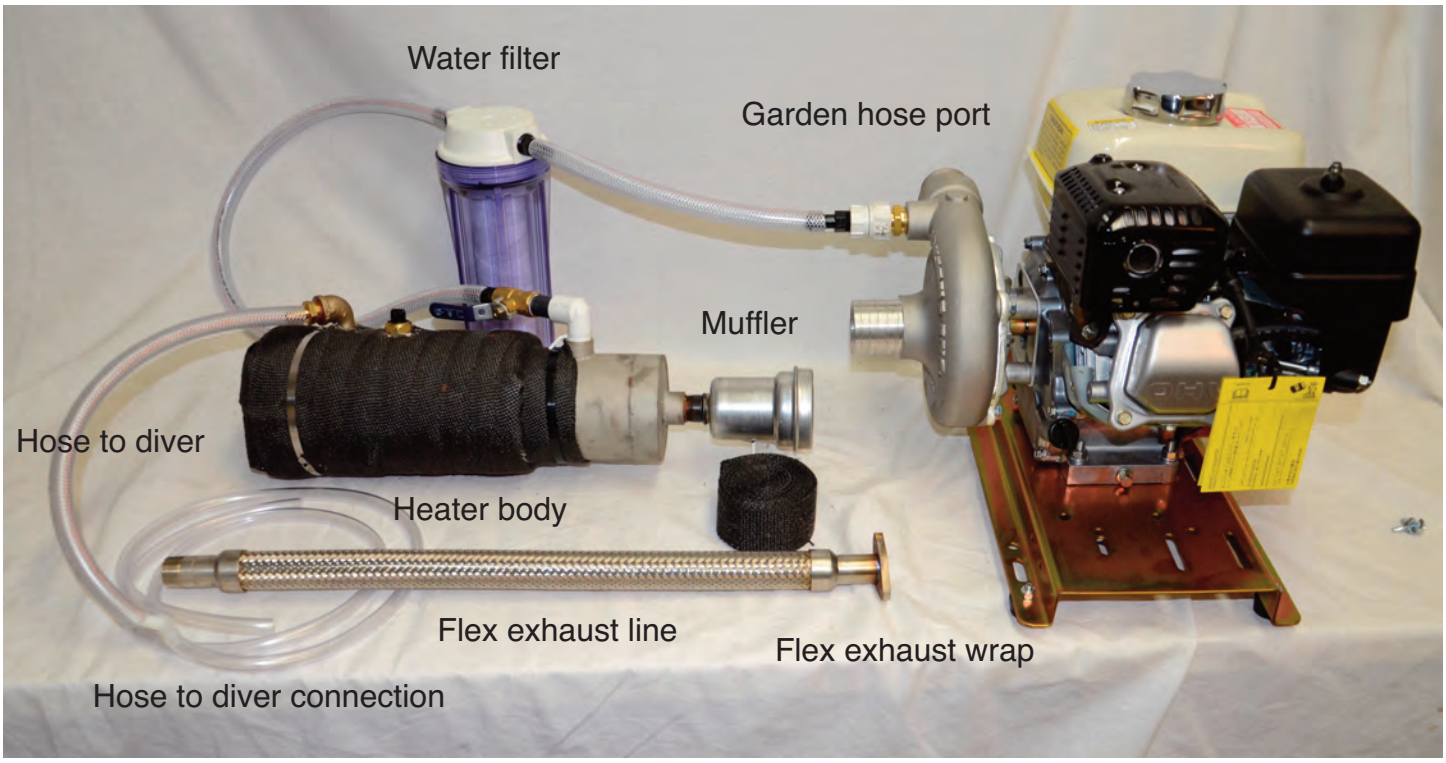
Safety Instructions and Using the GRDD Wet Suit Heater for the Honda GX200

Caution : Please read all instructions before attempting to use

This device uses hot exhaust gas to heat water to be delivered to the diver. It is inherently dangerous. Exhaust parts will be hot and can cause serious injury. Proper insulating of all the components reduces the chances of anyone getting injured.
Insulating the flex line with the insulation provided will reduce the temperature of the surface and will reduce the danger to the users of the heater.
Any damage to the insulation must be repaired or replaced before any further use of the heater.

Only use this suit heater on its intended engine.

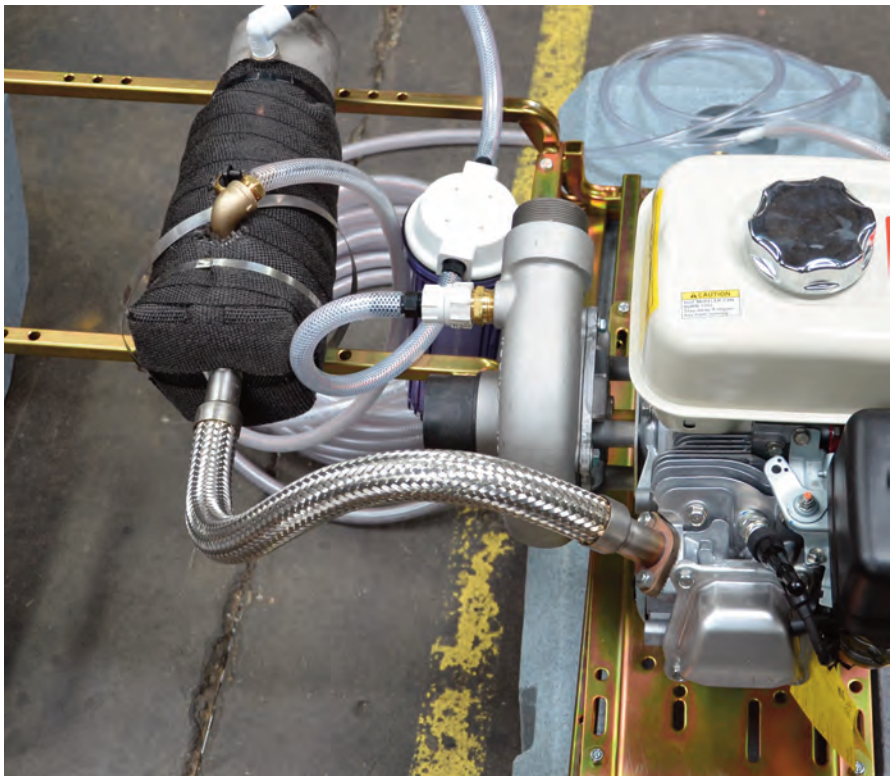
Route exhaust flex line out of the working area if possible. Once installed carefully insulate using 2" automotive header wrap.
Do not alter or connect anything to the factory installed temperature release valve (it is installed in the center ½" port on top of the heater). If this valve is ever damaged it must be replaced before any continued use of the heater.
Only install the heater in a horizontal position with the 3 - ½" ports facing up.
Once again your are dealing with very high temperature and if any exhaust tubing is exposed this is a extreme hazards.
Before starting your engine be sure that the water valve is in the on position. Never run the engine



Mount Suit Heater to the Dredge

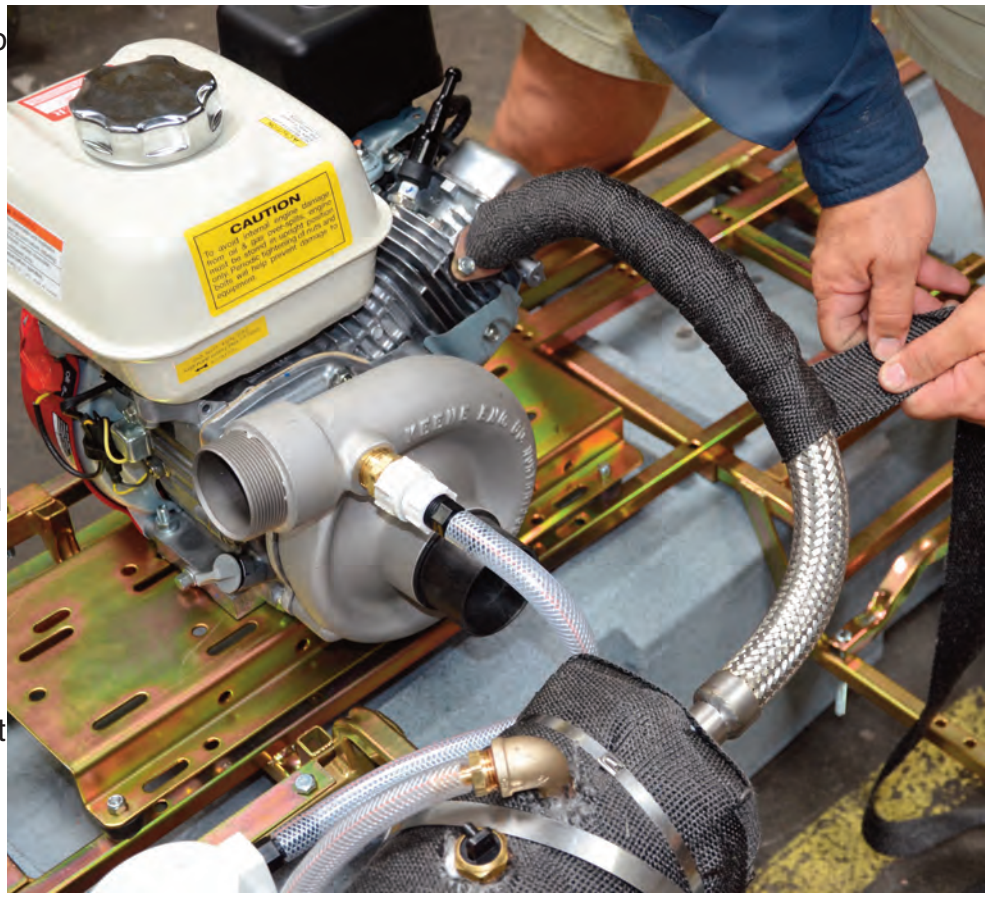
Mount the Suit header to the dredge within reach of the exhaust flex line. The hot exhaust gas will go into the ¾" port that has been insulated and is at the end nearest the ½" port that has the temperature relief valve installed in it. For dredges that have two engines, between the engines raised enough to fit the flex line, works well depending on your dredge set-up. With a single engine, mounting next to the engine works well. Do not strap the heater down until the flex line has been molded and attached.

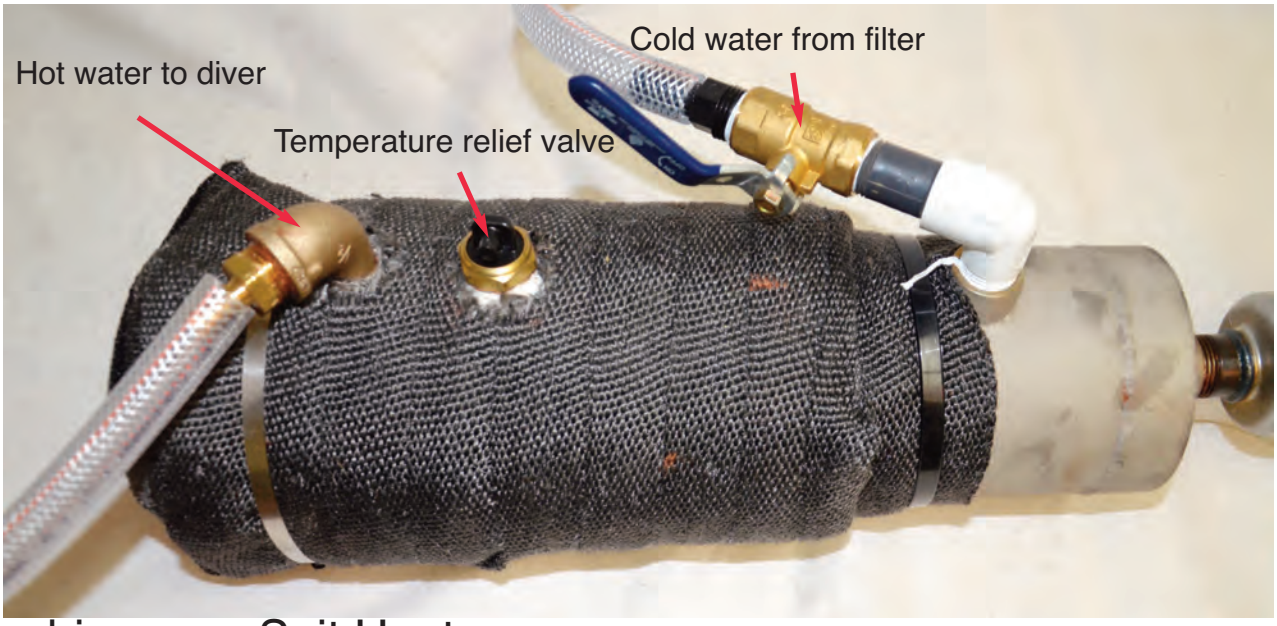
Only Mount the heater in a horizontal position, with the three ports facing up. The simplest way to mount the heat body is a few hose clamps to the dredge frame



Mounting the Flex Exhaust Line

The flex exhaust line is hand moldable. Carefully bend it into the shape needed to fit your mounting situation. Starting at one end, overbend it a little at a time until it stays in the shape needed. When properly molded there should be no pressure on the exhaust mounting bolts. Excess pressure may damage your engine. Once the line is molded, screw it into the heater body using high temperature anti-seize paste. Install your exhaust gasket and bolt the flange to your exhaust port. Using the 2" automotive header wrap carefully wrap the flex line from the cylinder flange to the heater body. There is enough wrap provided to overlap the wrap by half down the full length of the flex line. Use the provided metal tie wraps to lock the wrap to the flex line. This insulation and the insulation on the body of the heater is important for two reasons. It will help protect users from the hot metal and it will increase the hot water available to your diver.





Plumbing your Suit Heater

The “hot side” is the insulated side that includes the temperature release valve. A brass ½” Street elbow with a barb fitting has been inserted into the “hot out” port. Be sure to tighten this fitting once the heater is mounted to orient the barb toward the dive area. The 30’ x 3/8” ID water hose slides onto this fitting and carries water to the diver. Do not clamp this hose to the 3/8” brass fitting. This will allow the hose to fall off if it gets too hot. If any “hot side” fittings are replaced use only brass or galvanized. Be sure to use anti-seize paste.

The “cold side” is the uninsulated end of the heater where your muffler should be installed. Locate a place between the heater and the garden hose port on your engine to mount the provided water filter. Be sure to leave room to service the filter cartridge. Install a 1/2“ male npt x ½” barb to each side of the filter hosing. Once the filter is mounted plumb to your garden hose port on your engine. The fittings provided are mostly plastic and can be replaced with plastic or metal fittings. If using replacement metal fitting, be sure to use anti-seize paste. Start at the heater ½” “cold in” port. Install the plastic ½” street elbow, then the ½” close nipple, then the ½” ball valve, then a ½” male npt x ½” barb, cut and install a piece of ½” vinyl tubing between the filter “out” port and the barb. Next, connect the garden hose fitting to your engine port, then a ½” male npt x ½” barb, then cut and install a piece of ½” vinyl tubing between the barb and the barb on the filter “in” port.

Fitting the Diver with Water Ports

Your diver should always wear a set of garments under their wet suit. Generally synthetic long underwear work best. Use a tee to split the water line so flow water to at least 2 locations between the wet suit and the under garments. This helps spread the water within the wet suit and helps protects the diver from any temperature fluctuations.

Operating the Suit Heater

-With the ball valve open, start the engine. Confirm that water is flowing out the diver’s hose. After about 3 minutes slowly reduced the flow until the water temperature at the diver is comfortable. The temperature of the body of water you are working in will be an important factor in the output temperature and volume. Start with a temperature at the diver’s end of the hose of 95 degree F. Slowly adjust the water flow to increase or decrease the diver’s water temperature to the working conditions. Never increase the temperature of the water at the diver’s end of the hose above 100 degrees F.

Filter Maintenance

The filter housing has a clear plastic case. This allows you to monitor the filter, which should be cleaned daily and more often in murky water.

Tips

Carry an instant read thermometer to help set the water temperatures.
Do what you can to keep the outside of the heater and the flex line dry. This will increase the heat available to the diver. If you are working in the rain and cannot cover the engine and heater, use heavy duty aluminum foil to cover the heater body and the flex line.
Use anti-seize paste on all metal connections, especially if being used in salt water.
If you are not getting enough hot water to the diver, first recheck that all parts are insulated starting at the exhaust flange through to the heater body. Second, check the temperature of the uninsulated end of the heater body. If that end and the exhaust coming from the muffler is cool, increase the speed of that engine and reduce the speed of the second engine to maintain the proper water flow through the sluice box. If the exhaust from the muffler is still coming out cool, you are getting all the heat your engine has to offer. Slowly reducing the water flow will increase the temperature of the water. Do not turn the water off at any time the engine is running.
If you have any further questions do not hesitate to contact us at GRDD Inc. rll831@hotmail.com
Bob Lessin, President.