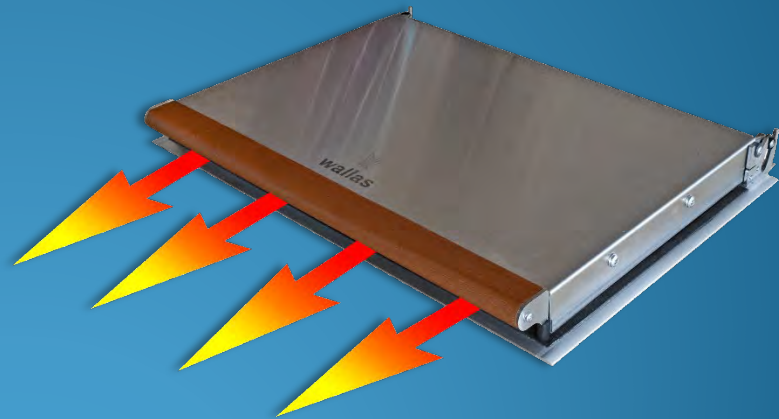




Forced air mobile diesel heating systems.



Installing a Wallas Nordic Dt stove/heater:

# Section 1: Location



- **Find a location for the stove/heater.**
  1. The stove should be mounted in a counter, higher than the fuel and within the 10' exhaust run limit.
  2. There needs to be at least 16 square inches of under counter ventilation for the combustion and heating fans.
  3. Counter can be made of laminates, composites, wood, stone, etc. Not compatible with Starboard<sup>®</sup>.
  4. Can be mounted parallel to keel or athwartships.



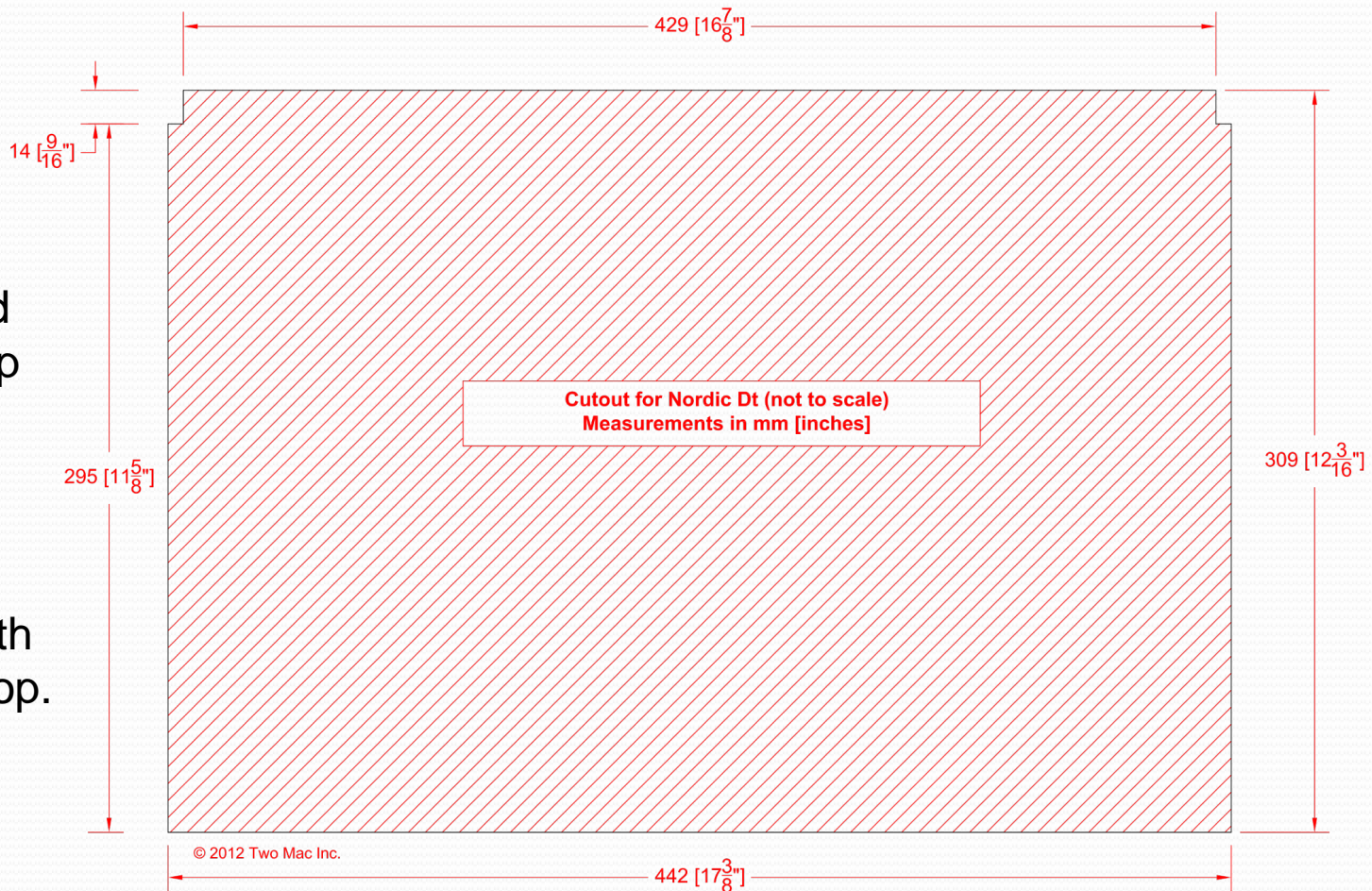
# Section 1: Location



- **Cut out countertop:**

Total device footprint with lid up is 14.5" deep by 19" wide, including potholders.

Allow 8" of depth below countertop.



# Safety note:

- Every boat or vehicle equipped with any kind of petroleum fueled engine or device should also be equipped with a CO (carbon monoxide) detector.



1. Detector should be capable of independent function.
2. Detector should be tested for correct operation regularly, replaced on schedule.

# Section 2: Exhaust Outlet

- **Find a place for the exhaust through hull or house.**
  1. Within 10' exhaust run limits.
  2. Not facing the direction of travel.
  3. Aft of the widest point of the beam.
  4. Not on back of house to prevent "station wagon" effect.
  5. Allowing for 12" loop or rise inside the hull or house.
  6. 14" or more above the waterline.
  7. Aluminum boats should use a through hull isolation kit.
  8. For fittings in deck or roof, contact Wallas supplier.
    - See Figure 1.





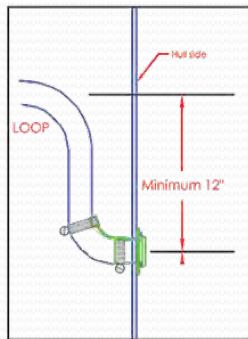
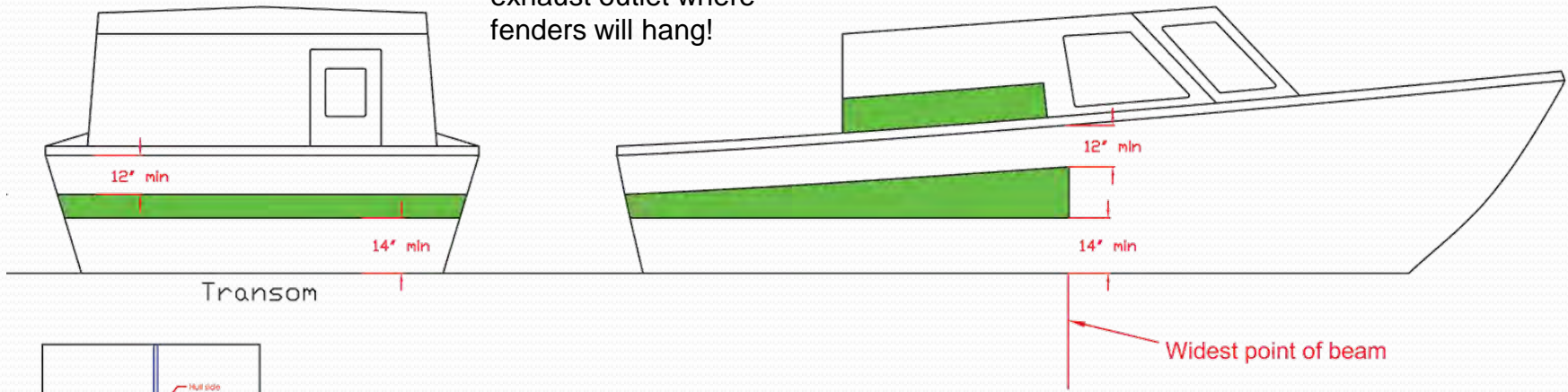
# Figure 1: Exhaust locations

## Powerboat exhaust locating



= good places for Wallas through hull fittings

Note: Avoid placing exhaust outlet where fenders will hang!



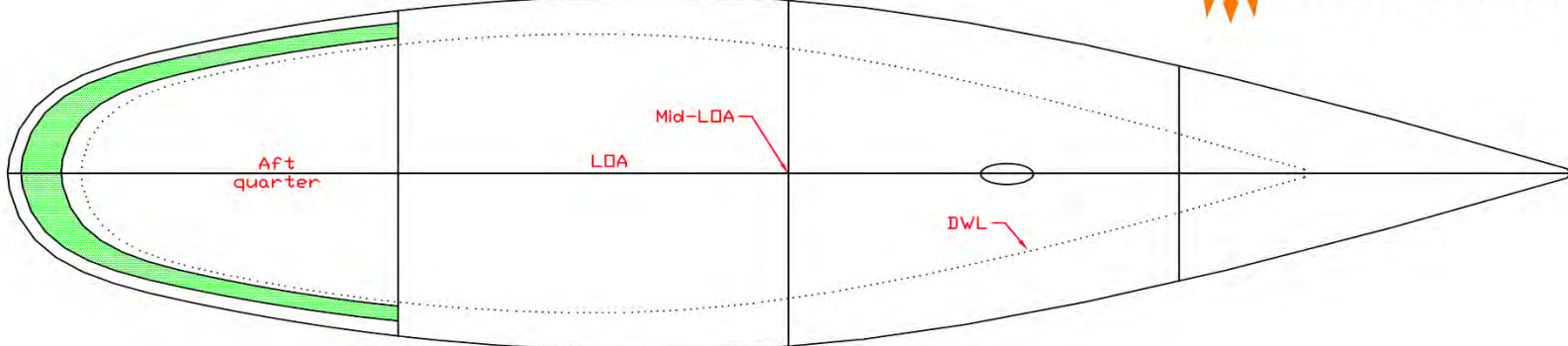
The 12" minimum noted above comes from the need to form a 12" loop above the through hull fitting, below the underside of the deck.

The 14" minimum above the w/l is a guideline, less important than keeping the 12" loop in the exhaust run.

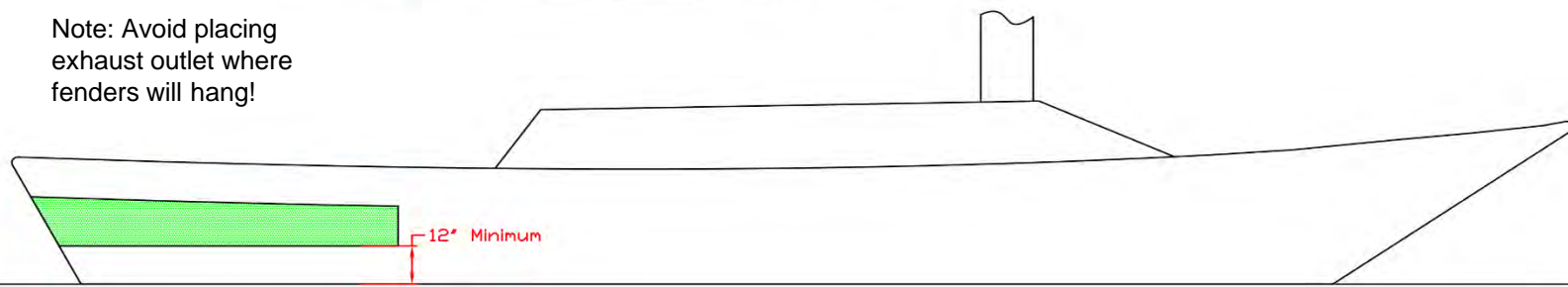
For fast boats (> 20 kt), contact us about preventing blowback.



## Figure 1S: Sailboat exhaust outlet locations



Note: Avoid placing exhaust outlet where fenders will hang!



Green shaded area represents ideal locations for Wallas exhaust through hull fittings on monohull sailboats. Through hull routings must include a 12" vertical drop in the last 14 inches of the flexible exhaust run, to form a preventive loop to eliminate the possibility of water entering the system and becoming entrained.

Exhaust perforation can alternatively be made on top of house, providing a covered or elevated covered fitting is installed.

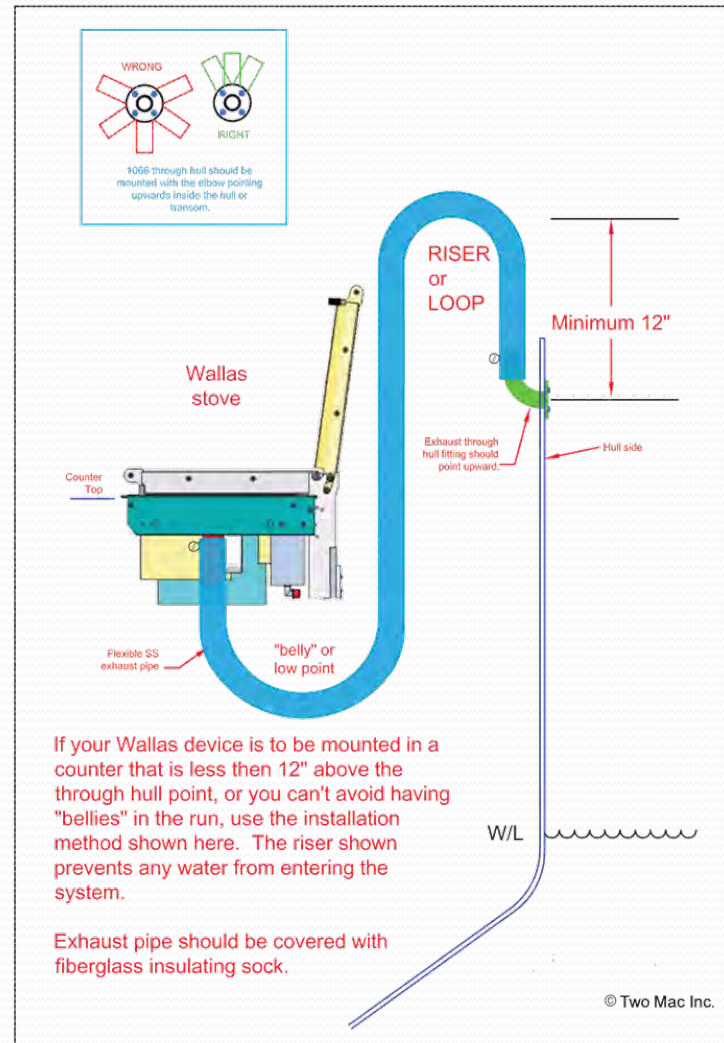
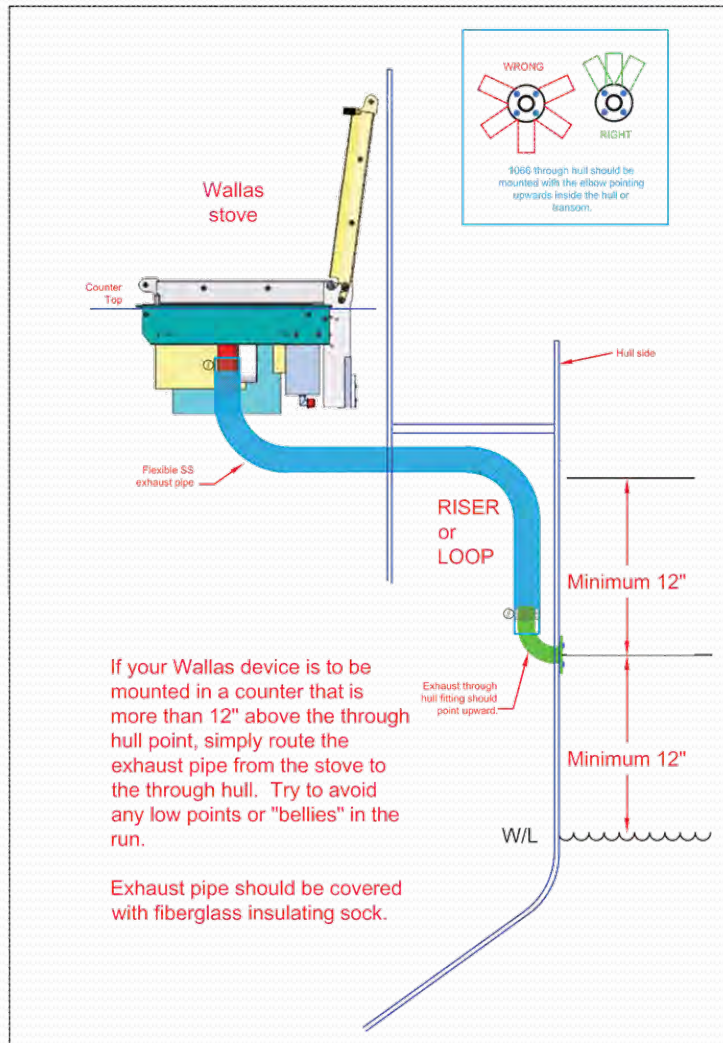
# Section 3: Exhaust System

- **Make the exhaust run. See the descriptions in figure 2.**
  1. Exhaust can run to a point higher, lower or at the same level as the stove.
  2. Always have a 12" loop or rise at the hull side, so any water that enters the fitting runs right back out.
    - a) Prevent water from entering exhaust outlet and remaining in the exhaust pipe (prevents running or system will run poorly).
    - b) Prevent water from entering stove (system failure).
  3. Do not allow exhaust hose to lean against soft plastics, fuel line, electronics or wiring.





# Figure 2: Exhaust routings



## Section 4: Fuel connections

- **Make fuel connection.**

1.



If using a Wallas supplied day tank, just connect the parts, shorten the fuel line from the filter end as appropriate to the installation, and attach the tank appropriately to prevent it moving.

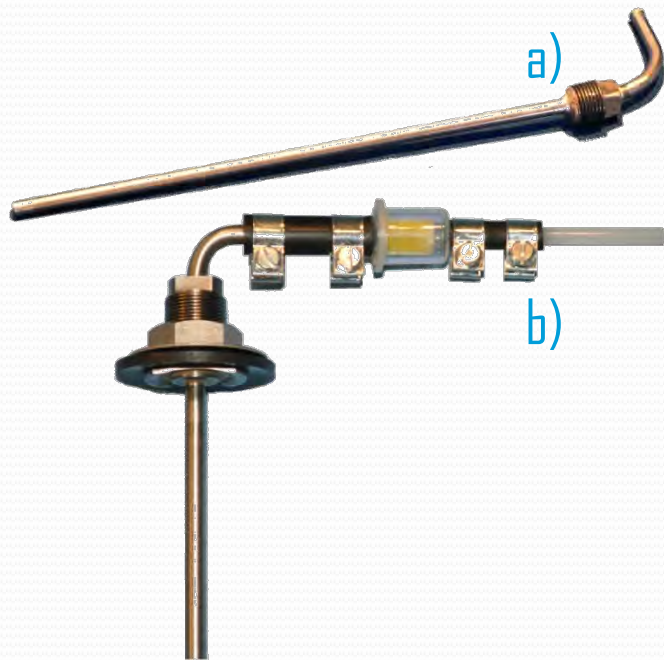
2.

If using a dedicated day tank from others, verify it is a top of tank pickup, use a Wallas filter and fuel line only. If the tank pickup ends in a ¼" hose barb, this will make connections easy.



## Section 4: Fuel connections

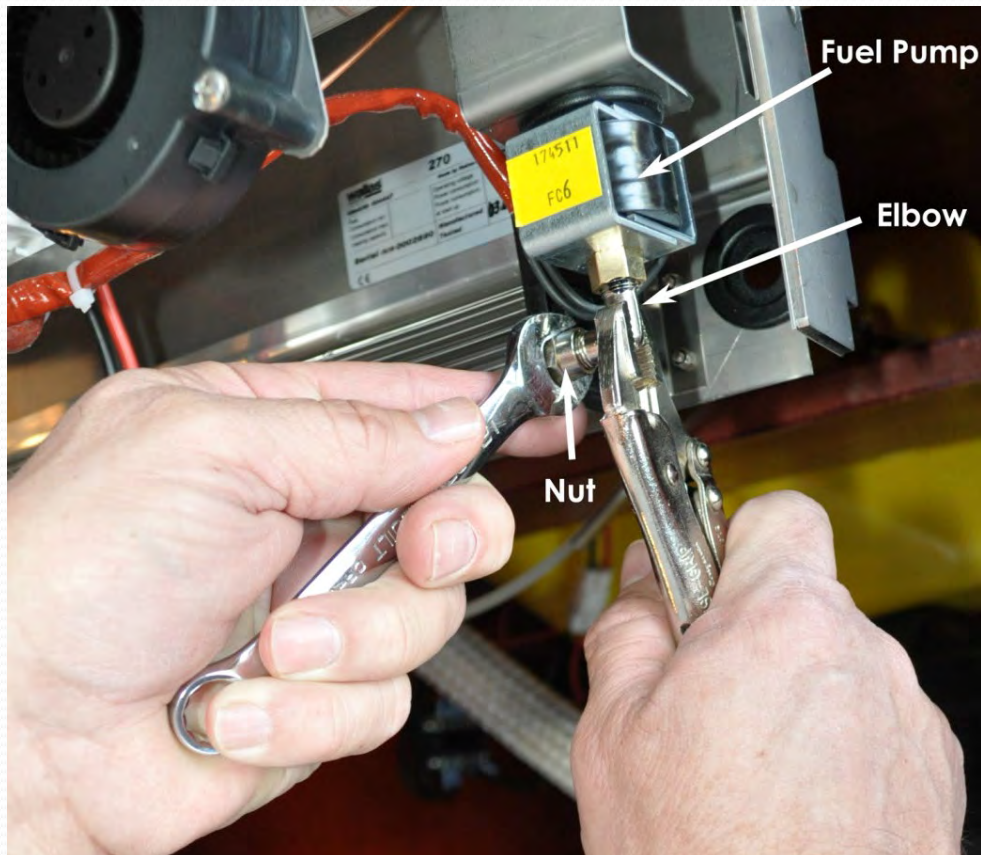
3. If taking fuel from the main tank or a shared tank, assure the Wallas device has its own pickup.



You can use a #50011 custom drop tube to match an existing female fitting, or adapt to a breather fitting, or use a #30011 drop tube to make a new penetration into the top of the tank.






## Section 4: Fuel connections



When connecting the fuel line to the fuel pump, ALWAYS hold the fuel pump elbow steady with a ViceGrip<sup>®</sup> or equivalent and use a 12 mm end wrench to tighten the fuel nut to the elbow VERY TIGHT. This will assure no air leaks. Do NOT turn the elbow relative to the pump body, as this can damage the pump metering, ruining the pump.



# Section 5: Electrical connections

- The Wallas power supply should be fuse or breaker protected to 15 amps.
  1. The system will arrive with 13' of 11 GA wire. If this is long enough to reach the battery or main bus, it should be large enough to carry the starting amperage to start the stove.
  2. Longer wire runs WILL require larger wire gauge:
    - a) Up to 15' : 10GA 
    - b) Up to 18' : 8GA 
    - c) Up to 22' : 6GA 
  3. When testing the stove, a flashing yellow panel light indicates low voltage, possibly power lead drop due to undersized or power leads too long for their size.
  4. *The stove should always be shut off using the control panel. Do not drop the power supply while the stove is running.*





## Section 6: Mounting the control panel



- The Wallas Nordic Dt control panel comes with a 6' wire harness
  - The panel should be mounted in a vertical surface, not on the counter top.

The Nordic Dt uses a thermo control panel, capable of sensing room temperature & controlling output power automatically when in heating mode. Panel location should be made accordingly.



# Section 7: Lockout feature

- The Wallas Nordic Dt has a lockout feature that locks the system up if it has failed to start on two consecutive tries. On the third try, both the yellow and red panel lights will flash rapidly.
  - To clear lockout:
    1. Leave panel on, with both the red flame and yellow power lights flashing. They will flash for five minutes.
    2. While lights are flashing, kill power to the unit at its source:
      - Pull the plug, remove the fuse or turn off breaker.
    3. Return power to the unit:
      - Reconnect the plug, replace the fuse or turn on breaker.
    4. Wait five seconds, push control button for three seconds to completely shut system off.
    5. Stove is ready to start again, but before you do, investigate the system to figure out why it has not been starting successfully: fuel, power, glow plug failure, etc.



## Section 8: Cabinet ventilation.

- The Wallas Nordic Dt has two fan motors, one to feed the combustion process and one to blow air across the stove top into the cabin for heating.
  - Every installation of this stove/heater **MUST** provide adequate under counter ventilation!
  - Ideally, a minimum of 16+ square inches of inlet area must be available for cooling and combustion air.

See Figure 3



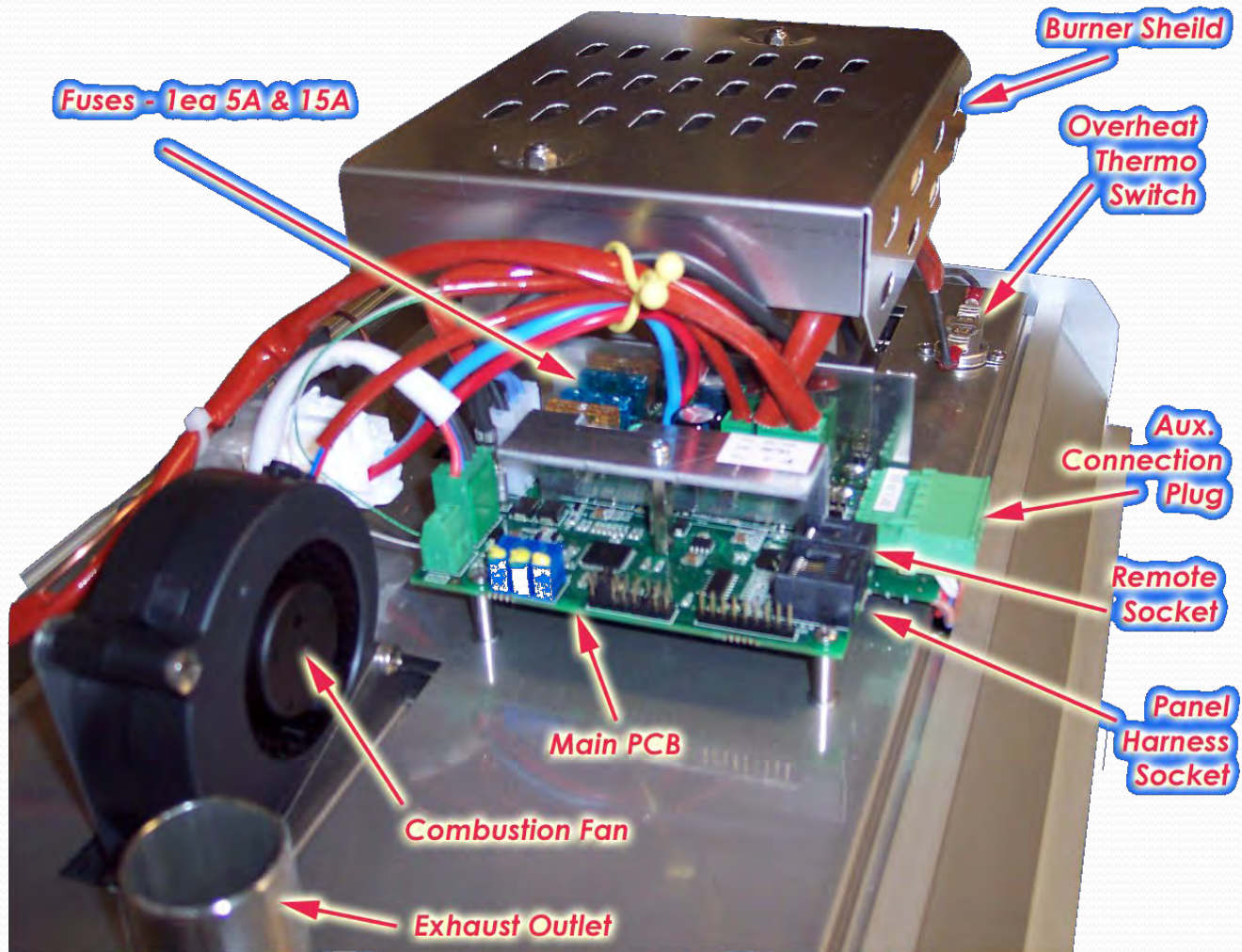
# Figure 3: Inlet air

## Cabinet ventilation



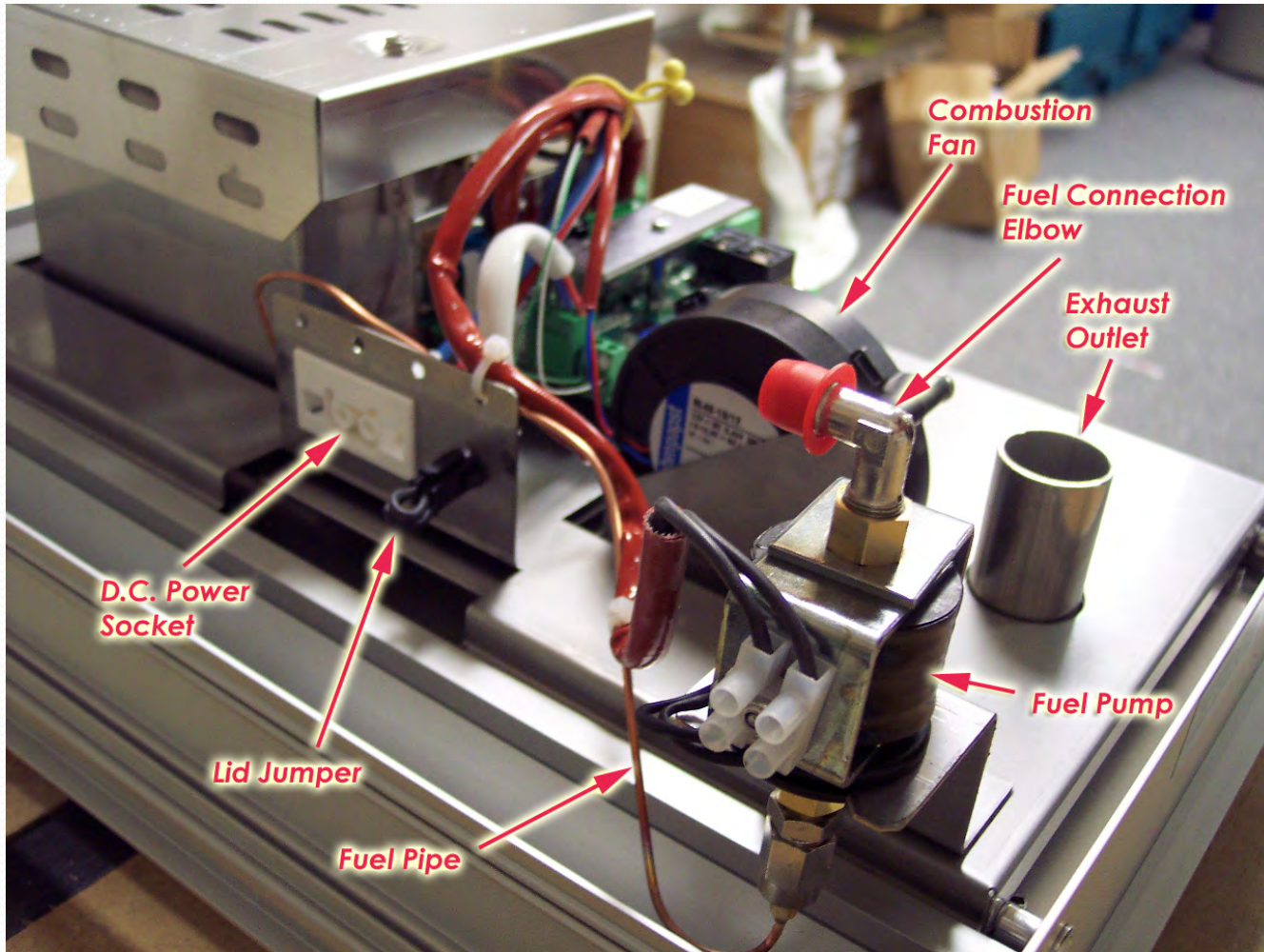


# Figure 4: Stove Reference

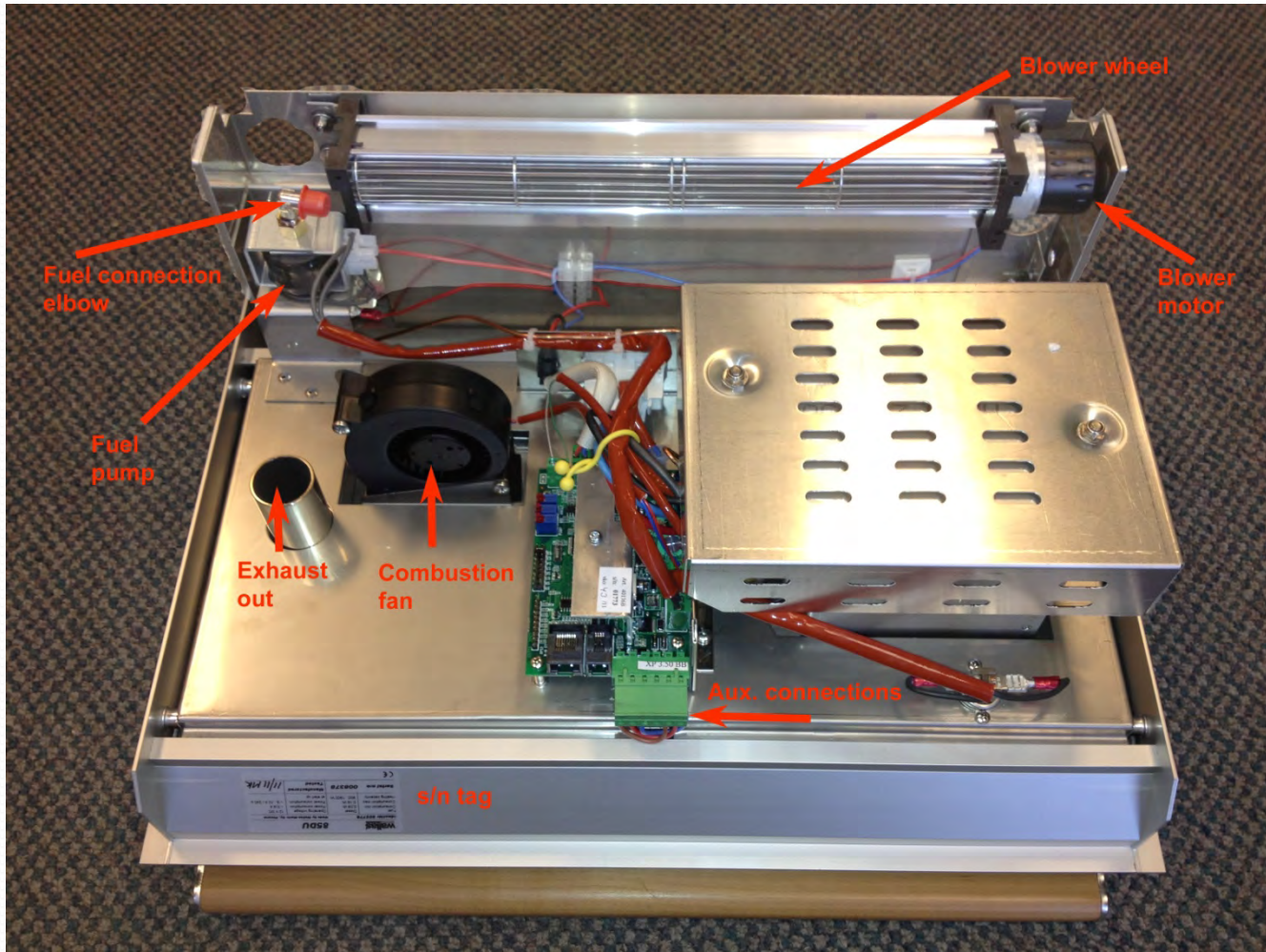




# Figure 5: Stove Reference



# Figure 6: Stove Reference







Thank you!

