

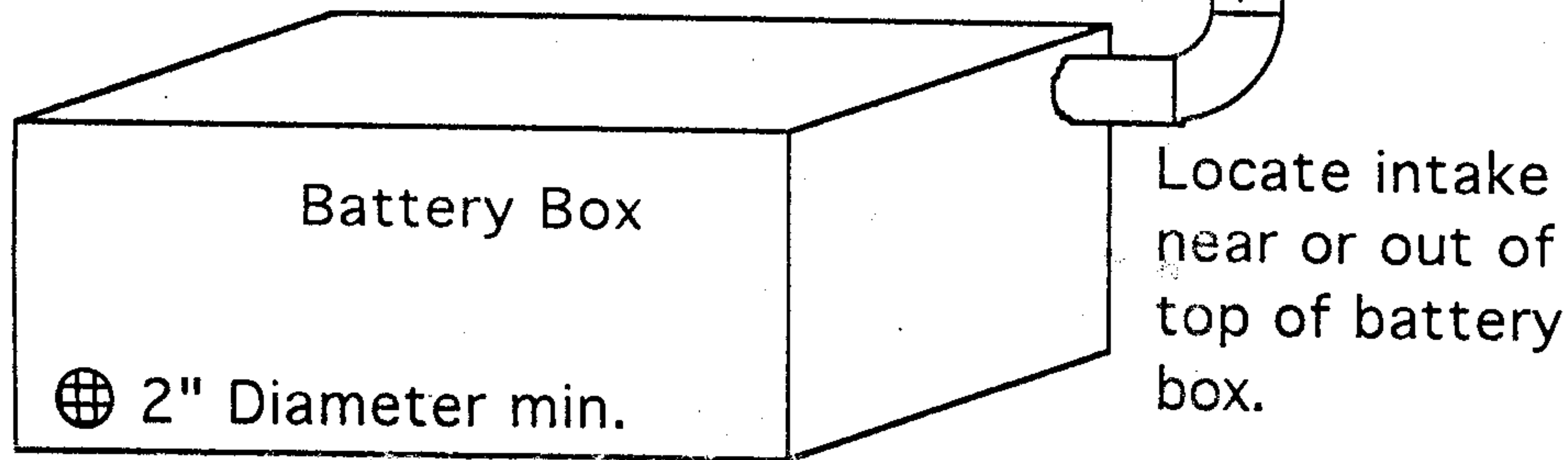
# POWER VENT INSTALLATION DIAGRAMS

## MECHANICAL DIAGRAM

Use PVC dwv pipe and fittings.  
Use curved elbows as opposed to sharp 90 degree turns. No more than 4 - 90 degree elbows.

POWER VENT installed vertically with label right side up.

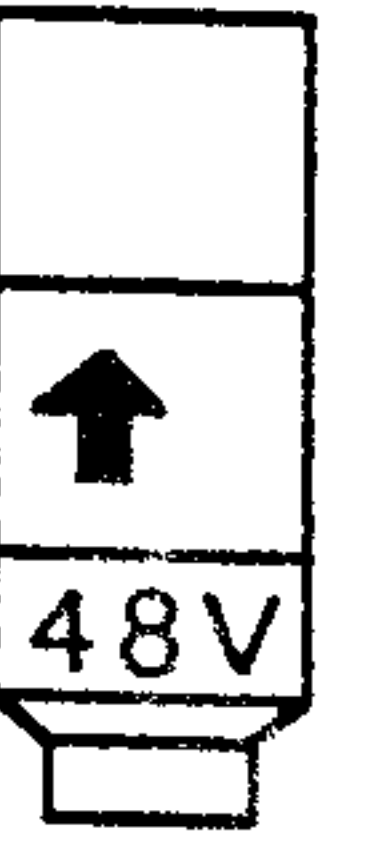
Do not glue these joints.  
Gluing voids warranty and makes fan replacement difficult.



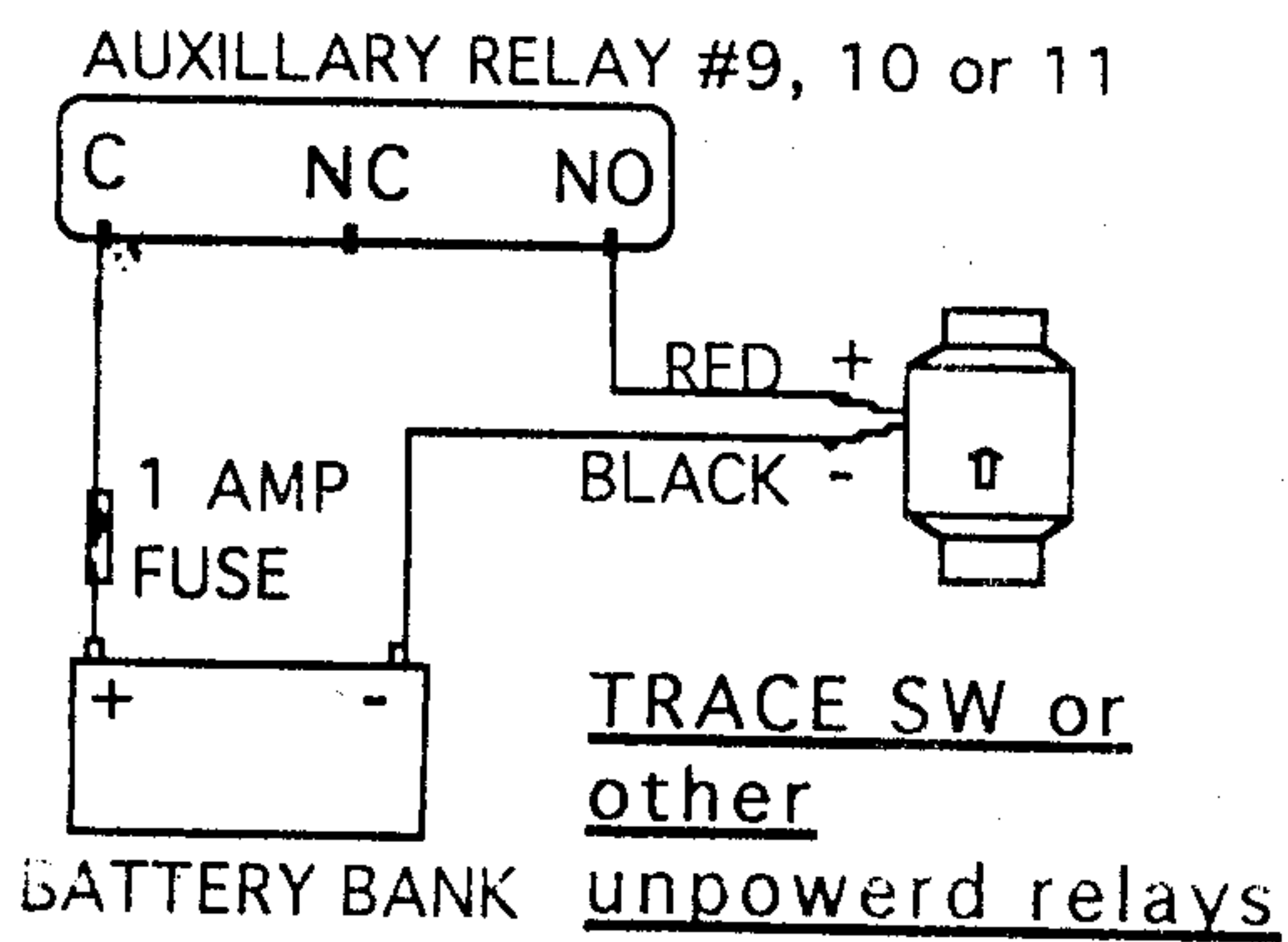
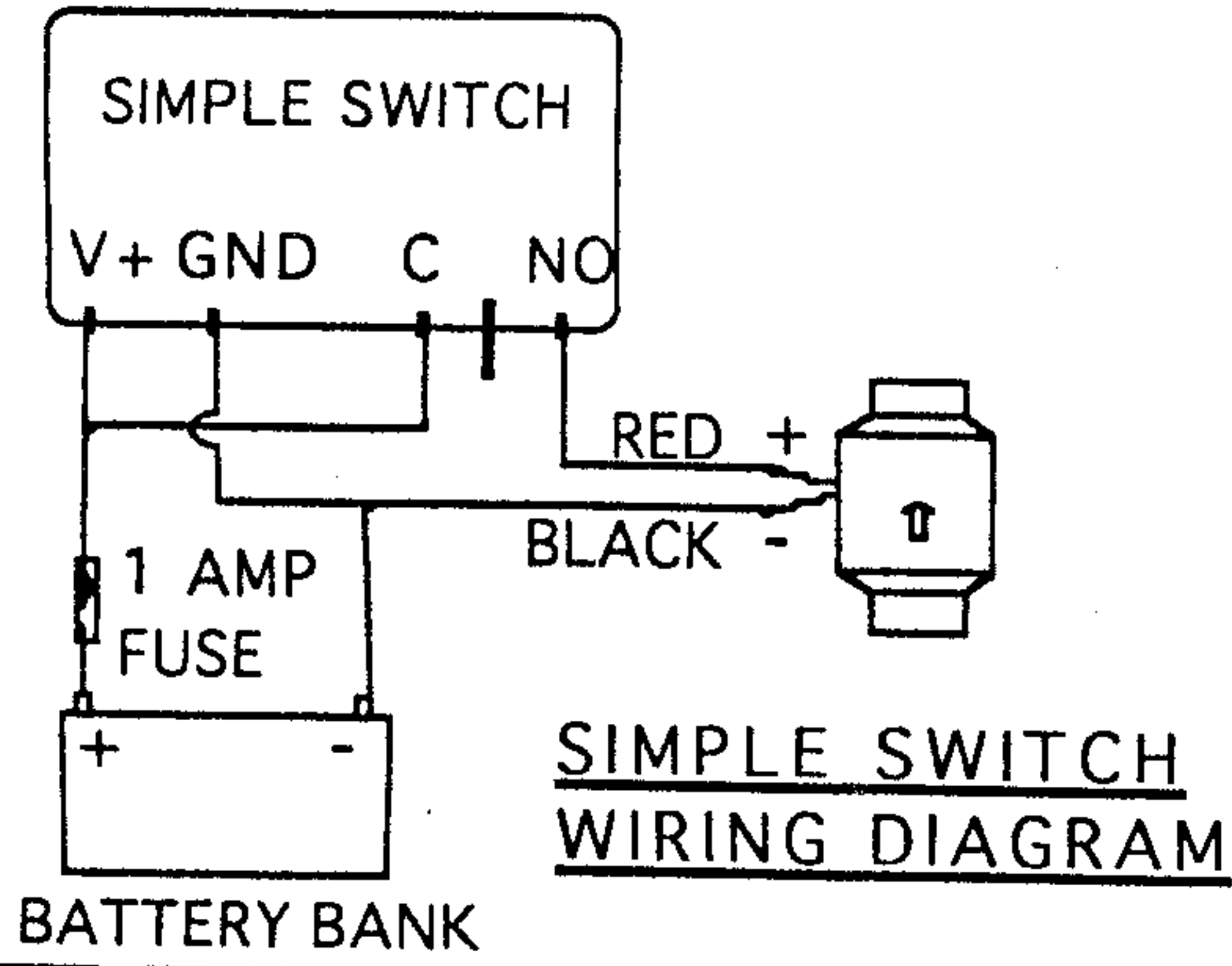
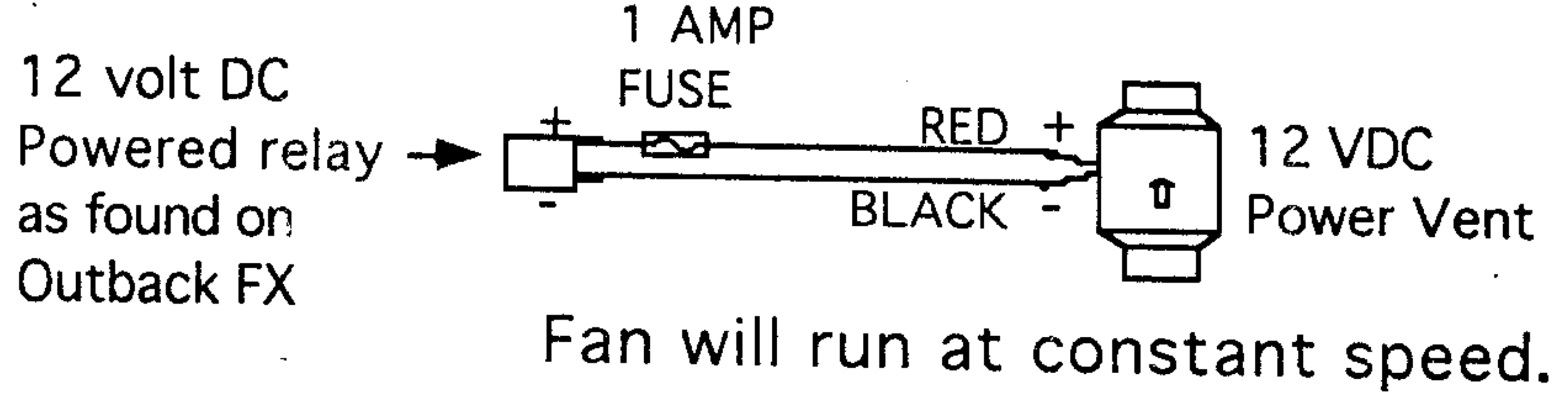
Screened vent. Locate near bottom opposite from fan intake.

### NOTE:

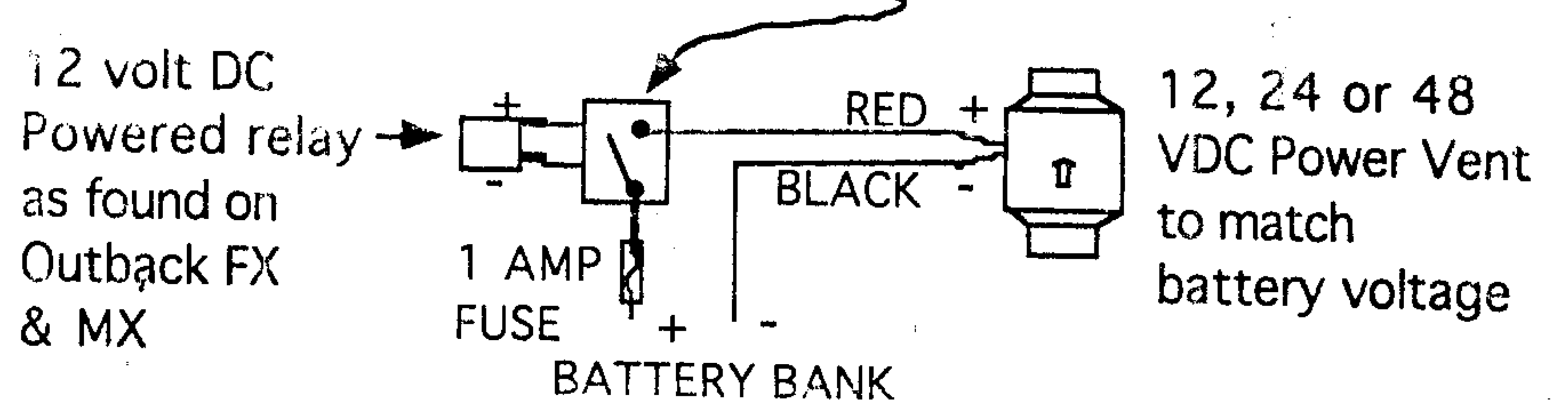
48 VOLT POWER VENTS have a 2" intake and 3" output.



OUTBACK INVERTERS and others may have a 12 volt powered relay that can power a 12 volt Power Vent directly or power an extra relay in lieu of a Simple Switch. Please refer to their manuals. The Outback MX60 charge controller also has a 12 volt powered relay that may be used.



Option: Run Power Vent on actual battery voltage by using additional 12 volt relay.



This configuration allows the fan to increase speed and output as voltage and gassing increases.

## POWER VENT INSTRUCTIONS (Refer to installation diagrams)

The POWER VENT must be placed vertically with the label right side up in order for the backdraft damper to function properly. Place the POWER VENT higher than the top of the battery box and indoors, especially in cold climates.

Use no more than four 90° bends including one at the exterior terminus facing down. Put a screen on the outside pipe terminus to keep insects and debris out. If installed in a dusty or construction environment put a porous foam or paper filter on the battery box inlet. DO NOT glue the Power Vents in place. Friction fit is adequate. DO NOT drip glue onto the fan blades.

Use 2" PVC dwv pipe on 12 and 24 volt systems. Use 2" intake and 3" output PVC dwv pipe on 48 volt systems. Place a 1 amp fuse (included) at the start of the positive circuit wire. Thermostat wire and phone splice/tap connectors (ULG or UG)) work well to connect the Power Vent. Use a cable tie around the base of the Power Vent and wires to provide strain relief and create a neat wire job. A controller is usually used in the circuit to cycle the fan. OutBack inverters and charge controllers may have a 12 volt powered auxiliary relay available. Other inverters may or may not have a voltage controlled auxiliary relay. Please refer to the appropriate manual for hook up and programming instructions. If no relay is available, a Solar Converters Simple Switch (model VCS1AH) may be used. The voltage set points for turning the fan on and off are above the full state of charge voltage of the battery but below the battery gassing voltage. In the case of grid tied systems where the batteries are kept at float voltage 24 hours/day it may be necessary to run the fan full time as the batteries are always gassing. An alternative is to remove the backdraft damper to allow passive venting and only switch fan on when batteries are above float voltage.

For the inquisitive, please note that the 48 volt Power Vents are built with two 24 volt fans wired in series.

### SET POINTS FOR FLOODED LEAD ACID BATTERIES

| SYSTEM VOLTAGE | FAN ON SET POINT | FAN OFF SET POINT | HYSTERESIS (Trace inverters) |
|----------------|------------------|-------------------|------------------------------|
| 12             | 13.2 VOLTS       | 13.0 VOLTS        | 0.2                          |
| 24             | 26.4 VOLTS       | 26.1 VOLTS        | 0.3                          |
| 48             | 52.8 VOLTS       | 52.2 VOLTS        | 0.6                          |

### LIMITATIONS AND DISCLAIMER.

This vent only moves a small volume of air. It is designed for home systems with typical charging capabilities of 150 DC amps or less. Hydrogen gas creates an explosion risk at concentrations of only 4%. Make sure vent openings are free and clear including safety vent hole at the bottom of the POWER VENT. Periodically check to make sure fan is running during charge periods. Keep your batteries and connections clean and tight. During equalization charges on large systems provide additional ventilation.

Having no control over the use or installation of this product, we assume no liability connected with its' use. The Power Vent itself is warranted for 2 years if installed in accordance with these instructions.

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