

## **YAMAHA RHINO COMPACT CAB HEATER KIT INSTALLATION INSTRUCTIONS**

Please read all instructions before beginning installation. When working on cooling systems always allow vehicles to cool to avoid being burned or scalded by hot coolant.

Before working with any electrical system on your vehicle, ALWAYS remove the negative battery cable and secure it away from the battery terminal.

Please check your kit with the parts list and picture below for all required parts.

Qty	Description
1	Yamaha Rhino Heater Unit
1	Standard Heater Mount Bracket
1	6 f x 5/8" Heater Hose
13	12" Cable Ties
4	#16 Hose Clamps
4	#10 Hose Clamps
1	1 1/4" Hole Saw
1	Rhino 24" Wiring Loom & Quick Connect
2	1" Y Fittings (Aluminum)
2	RH and LH Mounting Brackets
2	Heater Core Support Brackets
2	Grommets (Rubber)
1	1/4" - 20 x 1 1/2" Bolt & 1/4" - 20 Nylock Nut
2	1/4" - 20 x 1 1/4" Serrated Flange Bolts
2	1/4" - 20 x 3/4" Serrated Flange Bolts

Qty	Description
4	1/4" x 20 U-Nuts
2	1/4" ID x 1/2" OD Spacers
6	#10 x 5/8" Plastic Mounting Screws
2	1/4" Fender Washer
1	Duct Elbow Mounting Bracket
1	90° Duct Elbow
1	15" X 2.0" Duct Hose (Compressed)
1	10" X 2.5" Duct Hose (Compressed)
2	2" Defrost Vents
1	2.5" Duct Y
2	Stepdowns
1	2" Hole Saw
1	3" Hole Saw
1	Pilot Bit (not shown)

# Firestorm Yamaha Rhino Cab Heater

HT\_CP-424



23001 Industrial Blvd  
Rogers, MN 55374  
866.527.7637







## **Firestorm Cab Heater Important Note**

### **Technical Support:**

- Customer Support Phone - 866.527.7637 (toll free), press #1 at menu prompt
- Technical Support Phone – 866.527.7637 (toll free), press #2 at menu prompt
- Email – MotoInfo@motoalliance.com

### **Supplemental Instructions: Bleeding air from the coolant system:**

Note: The inlet hose mentioned below refers to the line that sends coolant from the engine to the radiator.

1. Follow the bleeding procedure included in your instructions. If after following the procedure listed in the instructions you still do not get hot air from your heater (at fast idle & engine is hot), then perform the procedure below.
2. Ensure that all coolant levels are filled to the manufacturers recommended levels before starting.
3. Start your SxS and run the engine at fast idle (3000 rpm) until the engine is hot.
4. Locate the inlet hose to the radiator. Pinch off the inlet hose after the radiator Y, so that the majority of the coolant is bypassed through the cab heater. You may need a shop rag to protect your fingers from the heat of the hose.
5. Do this until the radiator fan turns on. Let go of the hose until the fan turns off. Pinch the hose again and complete one more fan on/off cycle.
6. Turn the machine off and let the engine cool down completely (this can take several hours).
7. Check the fluid level in the radiator and the reservoir and fill accordingly.
8. Repeat steps #3-6 once more.

*The above is assuming that you followed the "garden hose" section of the instructions that came with your heater.*

### **Black Shipping Plugs:**

Please remove the black plugs that are found on the heater core lines (copper pipes on the back of the cab heater). These are used for keeping the core lines free of dust and debris during shipping.

**Firestorm Compact**



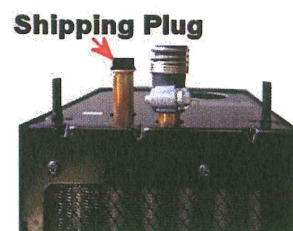
866.527.7637

**Firestorm Underhood**



3

**Firestorm Upright**



MotoInfo@motoalliance.com

**Please note:** Before drilling holes, check area behind the firewall panel to make sure no damage will occur by drilling holes.

**Important Tip:** Raise the front of vehicle on jack stands or ramps before draining cooling system. This will help in preventing air locks and you won't have to drain the whole cooling system.

## **Cab Heater Installation**

1. Cut out the Heater Hose Hole Template and position it on the firewall as shown in Figure 1 and as stated on template.

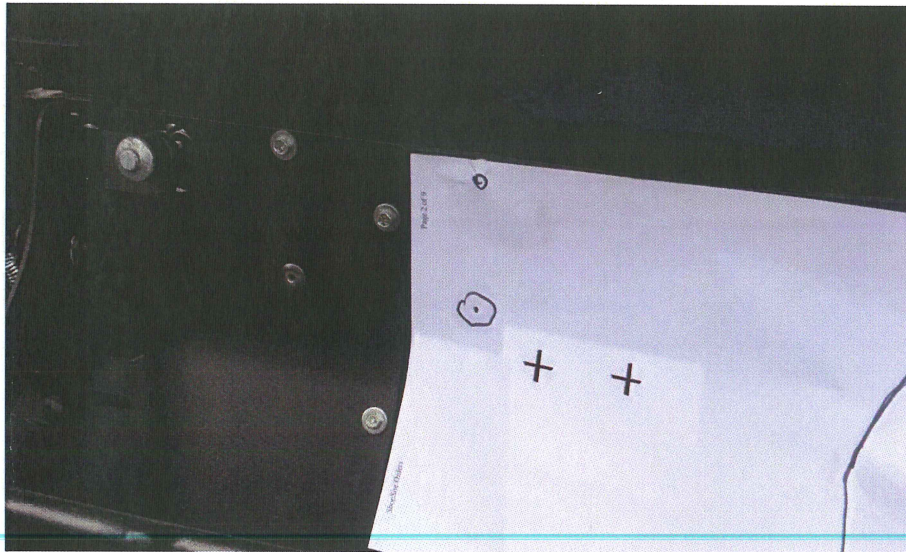


Figure 1

2. Mark the hole saw centers and remove the template.
3. Carefully drill the heater hose holes using supplied the 1 1/4" hole saw.
4. Place the supplied rubber grommets into the drilled holes.
5. Take the main heater mounting bracket and hold it up under the center of the dash.



6. Line up the main heater mounting bracket with the dash molding contour on the right side under the dash as shown in Figure 2.

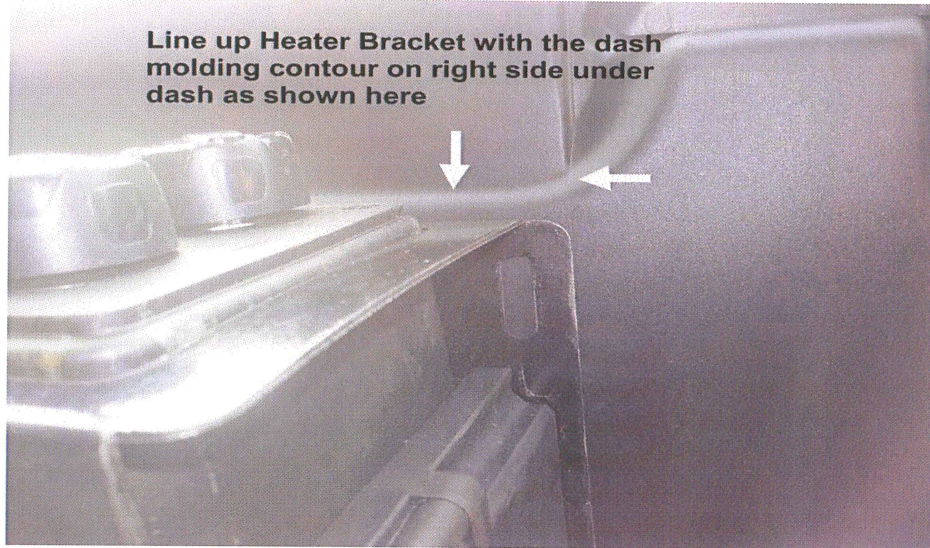


Figure 2

7. Mark the hole centers of the slotted holes in the main heater mounting bracket onto the under dash panel.
8. Remove the main heater mounting bracket.
9. Drill the four mounting holes using a  $\frac{3}{8}$ " drill.
10. Assemble the main heater mounting bracket, defrost duct mounting bracket and defrost duct elbow as shown in Figure 3:
  - The end of the defrost duct elbow with the plastic tabs should face the opening of the defrost duct mounting bracket.
  - The end of the defrost duct elbow without the plastic tabs should rest in the oval hole of the main heater mounting bracket.

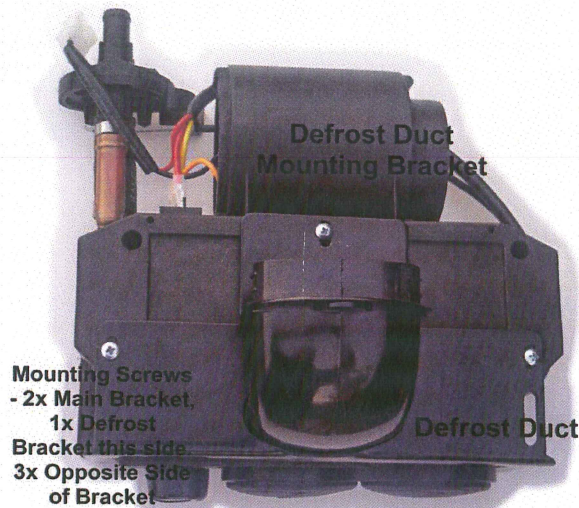


Figure 3

11. Secure the assembly using the supplied plastic mounting screws on both the top and bottom sides of the bracket.

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12. Using the supplied heater hose, pass each end through the rubber grommets in the firewall from the **radiator side** of the firewall. **Do not cut hose to do this.**
13. Attach the heater hoses to the heater unit (**note: the lower hose clamp placement**):
  - The top heater hose attaches to the temperature control valve.
  - The lower heater hose attaches to the heater core, pushing the hose completely on the fitting.
14. Install the heater core support bracket to the hoses as shown in Figure 4. *Do not over tighten through bolt.*

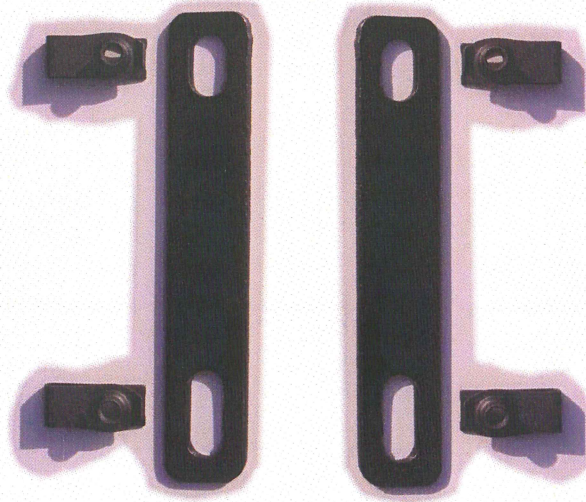


Figure 4

15. Take the heater support brackets and install the U-Nuts onto the bracket as shown in Figure 5.

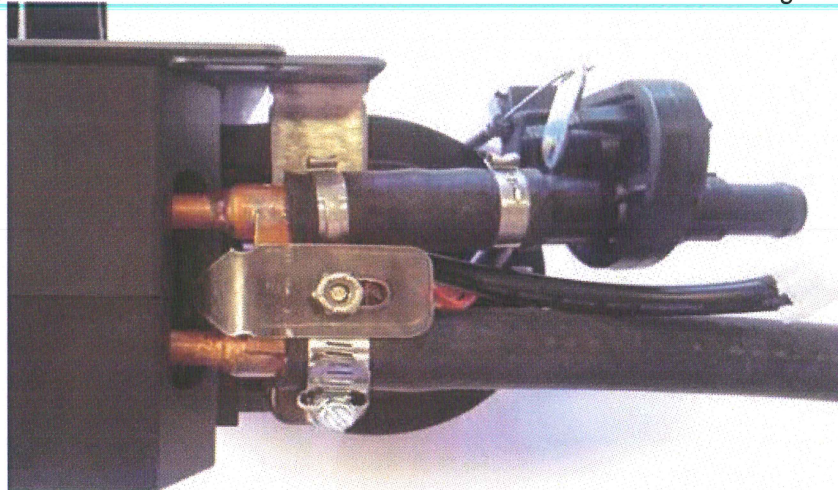


Figure 5

16. Have a helper hold the heater support brackets behind the dash over the holes drill in dash panel.
17. Lift the heater up into position, pushing the heater hoses back through the rubber grommets.
18. Fit the  $\frac{1}{4}$ " x  $\frac{3}{4}$ " mounting bolts through the two front (heater front) holes of the main heater mounting bracket, through the holes in dash and into the heater support brackets with the U-Nuts, *do not tighten*.
19. Fit the  $\frac{1}{4}$ " x  $1 \frac{1}{4}$ " mounting bolts though the two rear holes of the main heater mounting bracket.



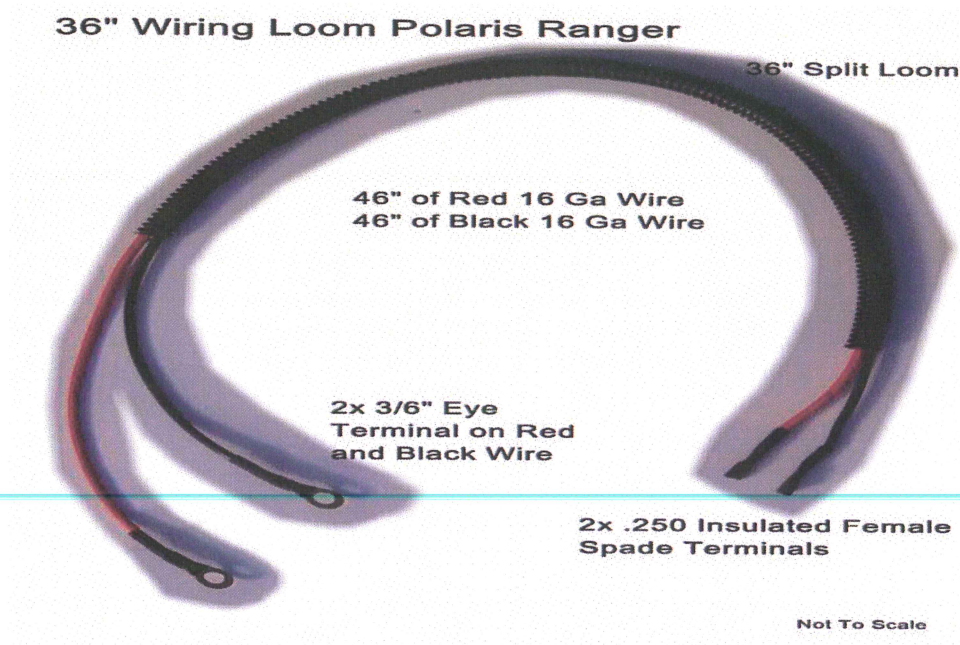
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20. Install a  $\frac{1}{2}$ " spacer and then a  $\frac{1}{4}$ " fender washer over each of the two bolts through holes in the dash and into the heater support brackets with the U-Nuts. **Do not tighten.**
21. Adjust the heater position and tighten the mounting bolts.
22. Connect the wiring loom to the heater:
  - The red wire attaches to red.
  - The black wire attaches to black.



23. Drill a  $\frac{3}{8}$ " hole behind the heater through the lower dash panel to run the wiring loom up to the auxiliary power plug.
24. Using the quick connector:
  - You need to connect the red wire of the supplied wiring loom to the positive side of the auxiliary power plug.
  - You need to connect the black wire to one of the mounting bolts of the voltage regulator under the hood.
25. Reconnect the battery; turn the key on to check fan operation.
26. Disconnect the battery.
27. Use cable ties as necessary to secure the wiring loom.

## Coolant Setup

1. Drain the cooling system by removing the lower radiator hose.

**Important Tip:** Raise the front of vehicle on jack stands or ramps before draining the cooling system.

This will help in preventing air locks and you won't have to drain the whole cooling system.

2. Position the radiator Y connectors as shown in Figure 6a, 6b & 6c.

*Before cutting the radiator hoses, be sure that the placement of Y's will not interfere with any part of the vehicle.*

**NOTE:** The driver side of the radiator is the **INLET** side.



Figure 6A

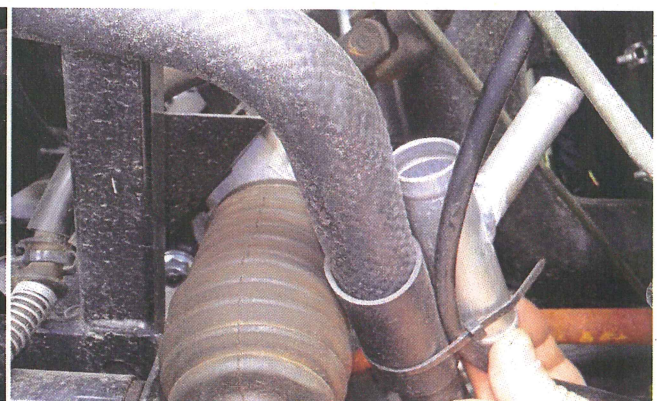


Figure 6 D

3. Cut the radiator hoses as shown in Figure 6a & 6b. When running hoses make large bends, so as not to crimp the hose as shown in Figure 6d.

**Note:** Before cutting the radiator hoses, be sure that the placement of Y's will not interfere with any part of the vehicle. Be sure the hose connected to the temperature control valve of the heater is connected to the top radiator hose.

Note: Inlet of heater must go to the top radiator hose

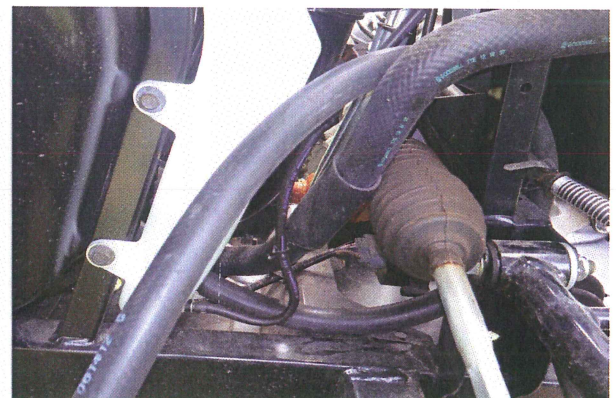
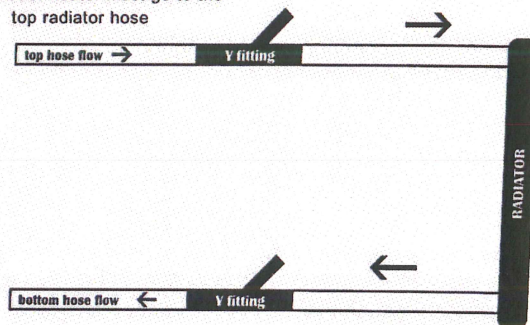


Figure 6c & 6d

4. Cut the heater hoses to length.
5. Before connecting the hoses to the Y connectors, we recommend using a garden hose to run water through the heater hose and heater assembly. **This step must be carried out** as it forces air bubbles out of the heater core. Filling the heater core without the pressure of the garden hose leaves the chance for air pockets inside the core. This will lead to no or limited heating during operation.
6. Fit the hose to the Y connector and tighten the clamps. Make sure all hoses are as far away as possible from the driveshaft, steering shaft and sharp areas, etc.





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7. Use cable ties as necessary.
8. Refill the cooling system as per the manufacturer's procedure.
9. Start and run the vehicle at a fast idle and run up to normal operating temperature.
10. Check for leaks.
11. Check the heater operation.
12. Allow vehicle to cool and recheck the cooling system level and coolant ratio, fill and/or alter coolant ratio as required. If the heater fails to blow hot/warm air once the vehicle is up to operating temperature, there may be an air lock in the heater unit.
13. Temporarily block off the top/inlet radiator hose between the Y fitting and radiator.
14. Start and run the vehicle up to operating temperature.
15. Feel the outlet/lower hose from the heater until it feels hot. The heater now should be blowing hot/warm air. Remove the clamp from the radiator hose. The heater should continue to blow hot/warm air. This procedure may have to be repeated a few times to remove the air from system. Allow the vehicle to cool, restart the vehicle and run up to operating temperature. Recheck the heater operation.

**Please note:** *the heater output will be limited at idle. All testing should be done at a fast idle.*

## Defrost Duct Installation

1. Attach the 2.5" duct hose to the defrost duct and secure with a cable tie.
2. Drill the duct hole approximately as shown in Figure 7.

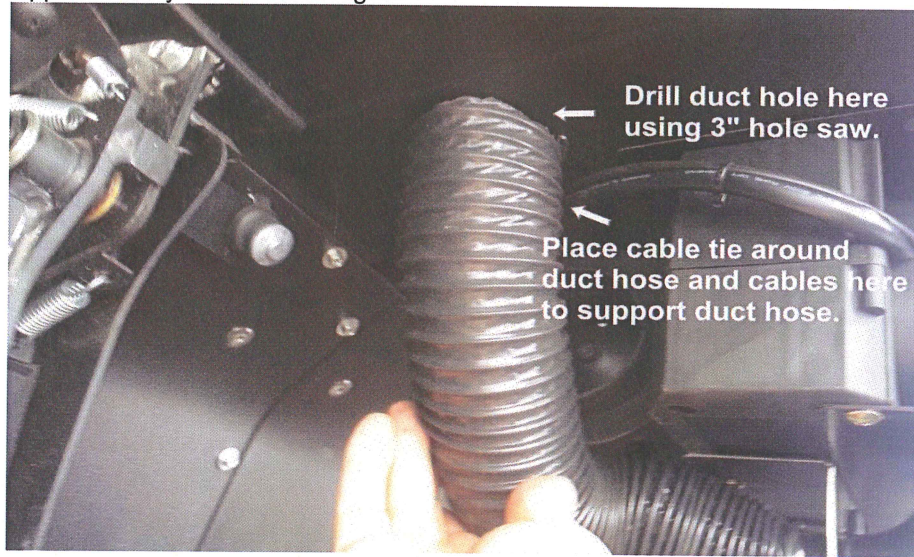
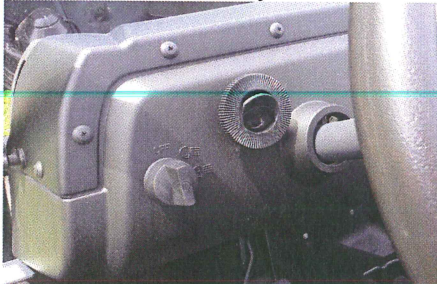


Figure 7

3. Determine where you wish to install defrost vents; Figure 8a, 8b and 8c show approximately where the vents can be located. *Be sure they are clear of any windshield fittings.*



Figures 8a

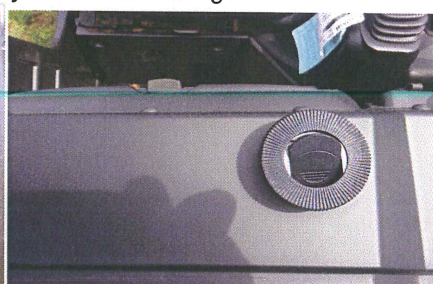


Figure 8b

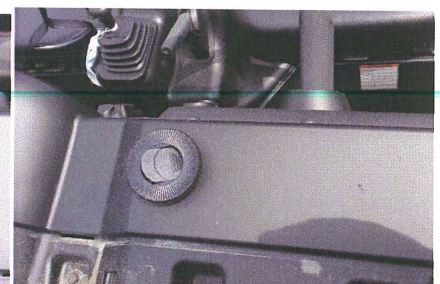


Figure 8c

4. Using the 2" hole saw drill the holes for the vents.  
*Before drilling any holes, check area behind the dash panels to make sure no damage will occur by drilling holes and that there is sufficient room for the vent and hose.*
5. Stretch the duct hose from the heater defrost elbow leading toward the back and up under the dash. This hose will eventually be cut into three hoses (**DO NOT CUT NOW**).
  - The first will connect the heater defrost vent to the 2.5" duct Y under the dash.
  - The remaining hose will be cut again and connect the two open Y ports to the 2" vents that fit in your dash.
6. **Before making the first cut in the hose**, verify that the remaining hose will stretch from the Duct Y to the (2) 2" vents.
7. Once verified, cut the hoses accordingly, using a wire cutter.
8. Attach the first hose to the heater defrost elbow and secure it with cable ties.
9. Connect the other end to the 2.5" duct Y and secure it with cable ties.
10. Connect the two remaining hoses to the 2.5" duct Y and run them through the 3" holes in your dash.
11. Connect the hoses to the 2" vents and secure with cable ties.



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12. Stretch the duct hose from the heater to up behind the dash to a length past up in behind the dash area.
13. Cut the hose, making sure you have enough hose to go between the defrost vents.
14. Attach the duct Y to the heater duct and secure with a cable tie.
15. Divide and cut the remaining duct hose in half.
16. Attach each piece to the duct Y and secure with a cable tie.
17. Run each hose out to the vent hole and pass through the hole in the dash.
18. Attach to the vent inlet and secure with cable ties.
19. Use Figure 9 as a guide.

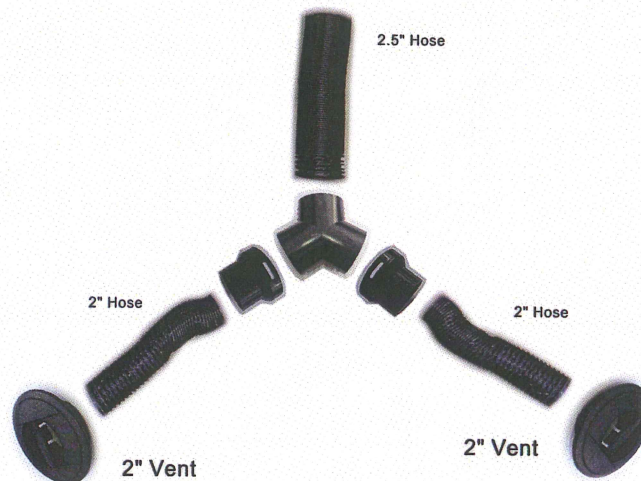
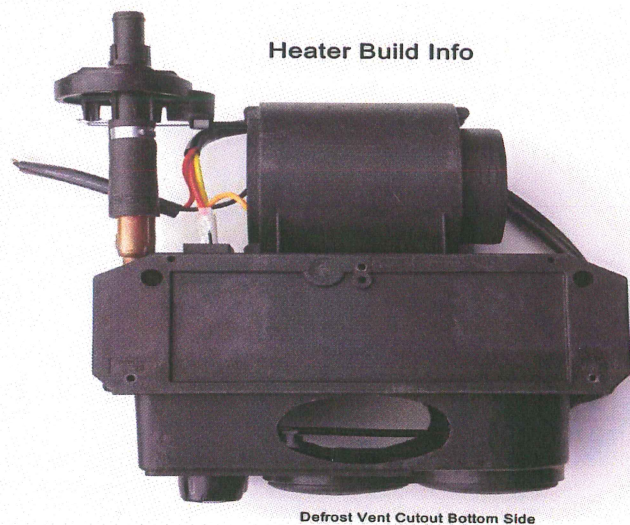


Figure 9

20. Place Vents into the holes and push down carefully until the vents snap into place.

**Important Tip:** Cleaning any burrs from around the hole with a knife will make installing the vent into place easier.



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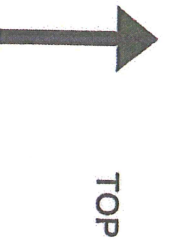


**Installed View**

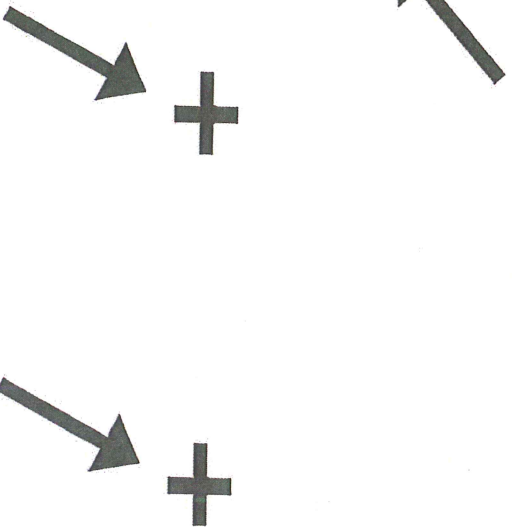
### Before Your Next Ride:

**Verify that no leaks have occurred and that the radiator fluid level is per the manufacture's specifications.**





Align the edge of the template  
with the split in firewall and with  
this rivet



1 1/4" Hole Saw Center

## Firestorm Compact Cab Heater Template For Yamaha Rhino

Cut out template. Tape to firewall as shown in instructions. Mark hole center on firewall. Remove template. Using 1 1/4" hole saw, drill hose holes in firewall.  
Please Note: Before you drill please check the other side of firewall for anything that may interfere with the placement of the holes. We will not be held responsible for holes being drilled in the incorrect place.