

23001 Industrial Blvd Rogers, MN 55374 866.527.7637

#### CanAm Commander 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.

Part #	Qty	Description
HT_CP-445	1	Commander Heater Unit
	1	Standard Heater Mount Bracket
	6	11-12" Cable Ties
	4	#16 Hose Clamps
	6	#10 Hose Clamps
	1	5 feet x 5/8 Heater Hose
HT_RP415	2	1" Y Fittings (Aluminum)
	1	CanAm Wiring Loom
	3	4-6" Cable Ties
	1	Vent Support Bracket
	1	3" Vent
	1 ea	RH and LH Mounting Brackets
	2	Core Support Brackets
	2	1/4 Push Pins
	1	1/4-20x1 1/2" Bolt & 1/4-20 Nylock Nut

Part #	Qty	Description
	4	1/4-20x3/4" Serrated Flange Bolts
	4	U Nuts 1/4 x 20
	6	#10 x 5/8 Screws for Plastic
	1	1/4 Fender Washer
	2	1/4 Washers
	18"	Duct Hose (Compressed)
	1	Duct Elbow Mounting Bracket
	1	90° Duct Elbow
	9	12" Cable Ties
	2	3" Defrost Vents
	2	2.5" Duct Y
	1	3" Hole Saw
	1	Pilot Bit (not shown)



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**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. Carefully cut out the heater hose hole in the rubber shield on the firewall by making an X cut with a utility knife in the rubber shield as shown in Figure 1.



Figure 1



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2. Take the Heater Support Brackets and install the U-Nuts onto the bracket as shown in Figure 2.



Figure 2

3. Remove the bolt located just behind the dash lower panel on the center panels as shown in Figure 3.



Figure 3

4. Using the bolt from the previous step, place it through the Right Heater Support Bracket.

5. Fitting the large ¼" Fender Washer, install the Right Heater Support Bracket as shown in Figure 3. Do not tighten bolt fully – only tighten the bolt so the bracket can still be moved.



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6. Remove the three voltage regulator mounting bolts as shown in Figure 4.



Figure 4

7. Fit the Left Heater Support Bracket into position using the Voltage Regulator Mounting Bracket and the two lower voltage regulator mounting bolts as shown in Figure 5.

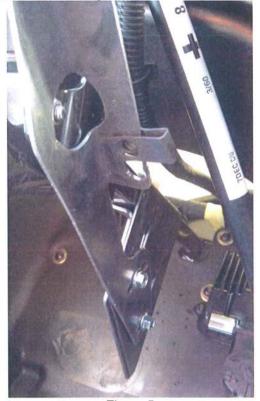


Figure 5



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- 8. Refit voltage regulator reusing the factory mounting bolts.
- 9. On the top voltage regulator mounting bolt use the two supplied ¼" washers between voltage regulator and the voltage regulator mounting bracket as a spacer.

  Do not tighten bolt fully tighten so the bracket still can be moved.
- 10. Take the Main Heater Mounting Bracket and hold it up under the dash aligning the heater support brackets.
- 11. Check the mounting alignment.
- 12. Adjust the Heater Support Brackets as needed; tighten bolts. Do not tighten the right heater support bracket bolt.
- 13. Install Main Heater Mounting Bracket around the compact heater Do not insert screws at this time
- 14. Insert the non-flanged end of the Defrost Duct Elbow into the oval hole in the Main Heater Mounting Bracket, see Figure 6. Mount the Defrost Duct Mounting Bracket to the Main Heater Mounting Bracket. The oval hole in the Defrost Duct Bracket should fit over the Duct Elbow and rest flush with the plastic flanges. Attach using supplied plastic mounting screws on both top and bottom side of brackets.

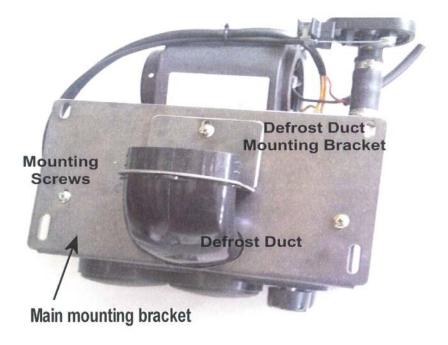


Figure 6

- 15. Using the supplied Heater Hose, pass each end through the X cuts in the rubber shield from the *radiator side* of the firewall <u>do not cut the hose to do this.</u>
- 16. Attach the Heater Hoses to the heater unit pushing the hose completely on the core fitting <u>Please note the hose</u> clamp placement as shown in Figure 7.



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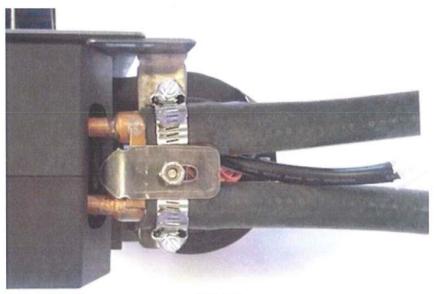


Figure 7

- 17. Do not install the temperature control valve at this time.
- 18. Install the Heater Core Support Bracket to the hoses as shown in Figure 7. Do not over tighten the through bolt.
- 19. Connect the Wiring Loom to the heater red wire to red and black wire to black.
- 20. Locate the plug near the fuse box as shown in Figure 8.

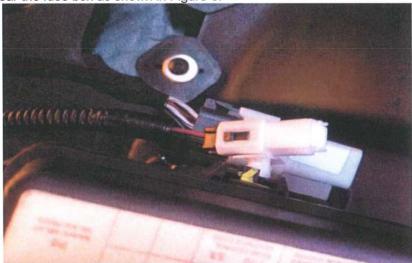


Figure 8

21. Use the Cable Ties as necessary to secure the Wiring Loom as required.



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22. Take the 2.5" duct hose and pass it up under that dash and over the center section to the passenger compartment as shown in Figure 9 and 10.



Figure 9

- 23. Fit the Vent to the Vent Mounting Bracket.
- 24. Connect the Duct Hose to the Vent and secure with a Cable Tie.
- 25. Decide where you wish to mount the Vent Mounting Bracket as shown in Figure 10.



Figure 10



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- 26. Once the position is determined, mark the mounting holes and drill with 1/4" drill bit.
- 27. Use the supplied Pushpins to secure the bracket.

#### **Defrost Duct Installation**

- 1. Using the Defrost Vent Template and supplied Hole Saw, drill the holes for the vents.
- 2. Cut into the duct hose that runs from the heater to the passenger compartment fitting the duct Y to the duct hose as shown in Figure 11a and 11b.



Figure 12a & 12b



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3. Using Figure 11c as a guide, secure the Hoses with Cable Ties.

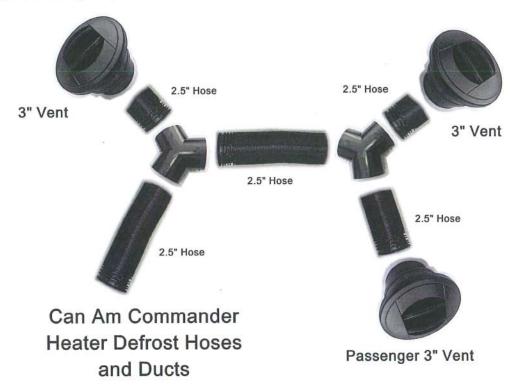


Figure 11c

- 4. Place the vents into the holes and push down carefully until the vents snap into place.

  Important Tip: Cleaning any burs from around the hole with a knife will make installing the vent into place easier.
- 5. Attach the Duct Hose to the Defrost Duct Outlet on the heater and secure with Cable Ties.
- 6. Lift the heater up into position pushing hoses back through the firewall.
- 7. Fit the ¼" mounting bolts and move the heater into the correct position making sure the heater is not interfering with dash or steering shaft, etc.
- 8. Adjust the heater support brackets if needed.
- 9. Tighten the mounting bolts.
- 10. To install the temperature control valve locate a suitable position in the top heater hose just behind the heater.
- 11. Cut the hose and install the temperature control valve in the hose making sure the valve is not interfering with the steering shaft.

#### **Coolant Setup**

12. 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.



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13. Cut the Radiator hoses as shown in Fig 11a and 11b.



14. Insert the Y connectors exactly as shown in Fig 11c in the radiator hoses. 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.



23001 Industrial Blvd Rogers, MN 55374 866.527.7637

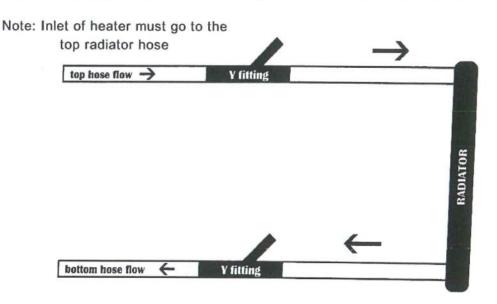


Figure 11c

- 15. Be sure the hose connected to the temperature control valve of the heater is connected to the top radiator hose.
- 16. Cut the heater hoses to length.
- 17. Before connecting the hoses to the Y connectors we recommend using a garden hose to run water through the heater hose and heater assembly.
- 18. Make sure the temperature control valve is fully open, i.e. the max heat position.
- 19. 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.
- 20. Fit the hose to the Y fittings and tighten the clamps. Make sure all hoses are as far away as possible from the driveshaft, steering shaft and sharp areas, etc.
- 21. Use cable ties as necessary.
- 22. Refill the cooling system as per the manufacturer's procedure.
- 23. Start and run the vehicle at a fast idle and run up to normal operating temperature.
- 24. Check for leaks.
- 25. Check the heater operation.
- 26. 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.
- 27. Temporarily block off the top/inlet radiator hose between the Y fitting and radiator.
- 28. Start and run the vehicle up to operating temperature.
- 29. 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.



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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.

# Firestorm Compact Cab Heater Template for Can Am Commander

