

N7V | N7X | N7LX-- N8V | N8X | N8LX | N10LX | NA10LX

HVAC AC 120V

JC REFRIGERATION INSTALLATION MANUAL



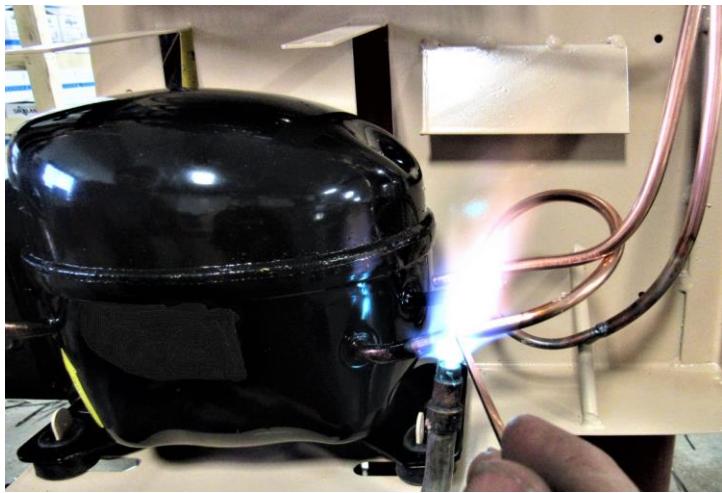
Jr and Jeremy Lambright

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Good Day Friends, this is how it all begins, hope you find this helpful thru your installation.



Units prepped for compressors



brazed welded for strength



Tools needed to do the install:

Screw gun 5/16 ¼ Phillips wrench putty knife knife caulk gun zip ties



And enough time to think things thru at times, so don't give up and hang in there to the end it will be all worth it. A cold fridge is about to be had!!



We at JC Refrigeration try to build these as easy to install as possible, and so these are DIY cooling units but please be aware tho that our upgrades might not look quite the same, and brackets, frames, hole plates might not always line up perfectly as fridge boxes can vary at times, and so some modifications, foam shaving or tweaking might need to be done at times to install it. A thing to remember is these are made out of thick steel tube and plates so some twisting or pushing into place is very normal and nothing to be alarmed about. We offer videos for the gas/elect and install manuals for the Hvac units to help you thru this install and feel free to send us a picture along with your question, and we will help you to the best of our ability.

JR & Jeremy Lambright

To start this process, begin by taking the cooling unit out of the box, if box appears to be damaged don't panic as we foam package them into the box (YA) and so the box can be practically destroyed and the unit is still not damaged. So, when you take the box apart you will notice a spray foam packing inside and so this needs to be removed and then the unit will slide out. Inside the box you should have the cooling unit, and parts needed to do the install (RA)



Cover up your floor with blankets and removing any door handles or smoke alarms that might hinder the exit of your refrigerator from your cabinet. Turn off the water pump (if you have an ice maker in your fridge) and the refrigerator control panel.



WARNING:

Make sure to turn off LP gas at the tank before starting the install.

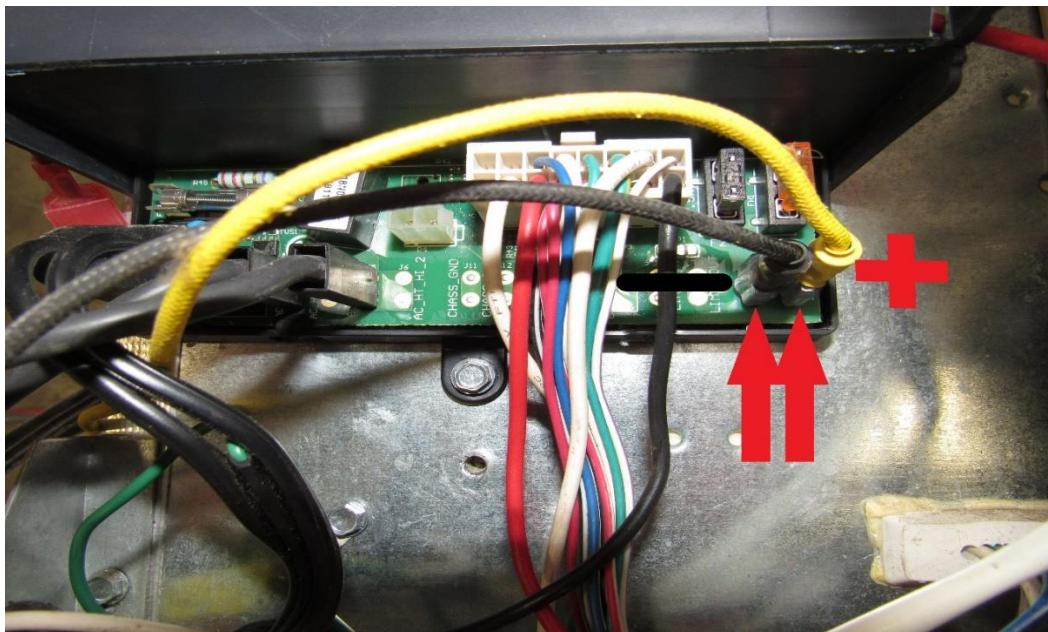


Locate your refrigerator side vent on the outside of your RV. Good idea to take a pic of these wires or label them so you know which goes where when done.
Take the board cover mounting screw (**RA**) loose.



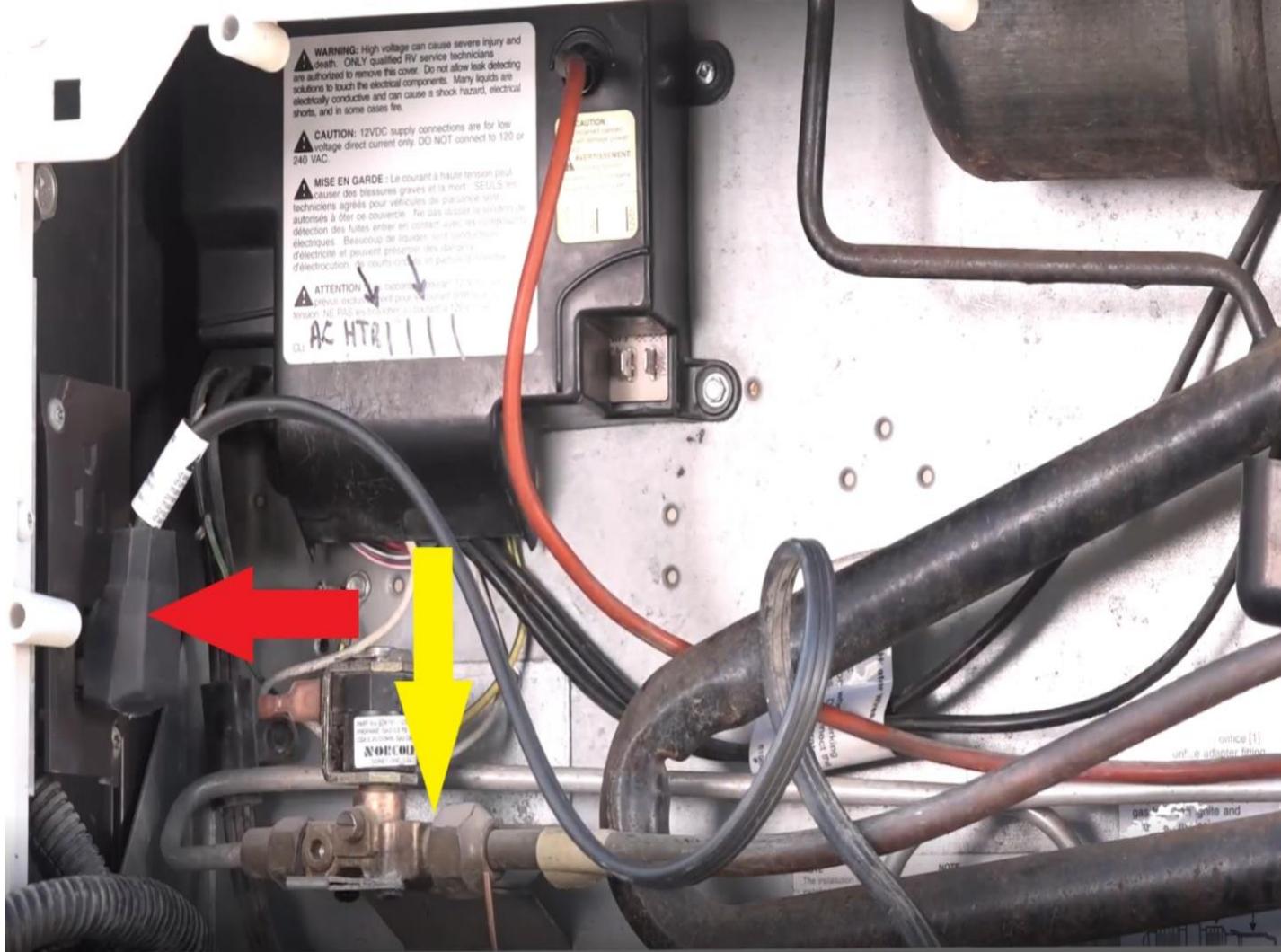
Take the main 12V wires (**RA**) loose from your board. The wire colors will vary from coach to coach.

Note: If your wire ends are not insulated, wrap the end in electrical tape so you don't blow the fuse.



Unplug your 120v plug (**RA**) from your RV receptacle.

Take the LP line (**YA**) off of the LP solenoid valve. Make sure gas is turned off (see step one)



There are many different styles out there but most have at least 2 mounting screws through the back plate holding the fridge to your RV floor. Screw size and bit needed will vary from coach to coach.

Remove these screws (RA).



On Winnabago coaches you will have 4 bolts lagged to a steel side plate, 2 on each side of the fridge, also the top roof vent cap needs to be removed and 2 to 4 philips screws need to be loosend from the top of the fridge.



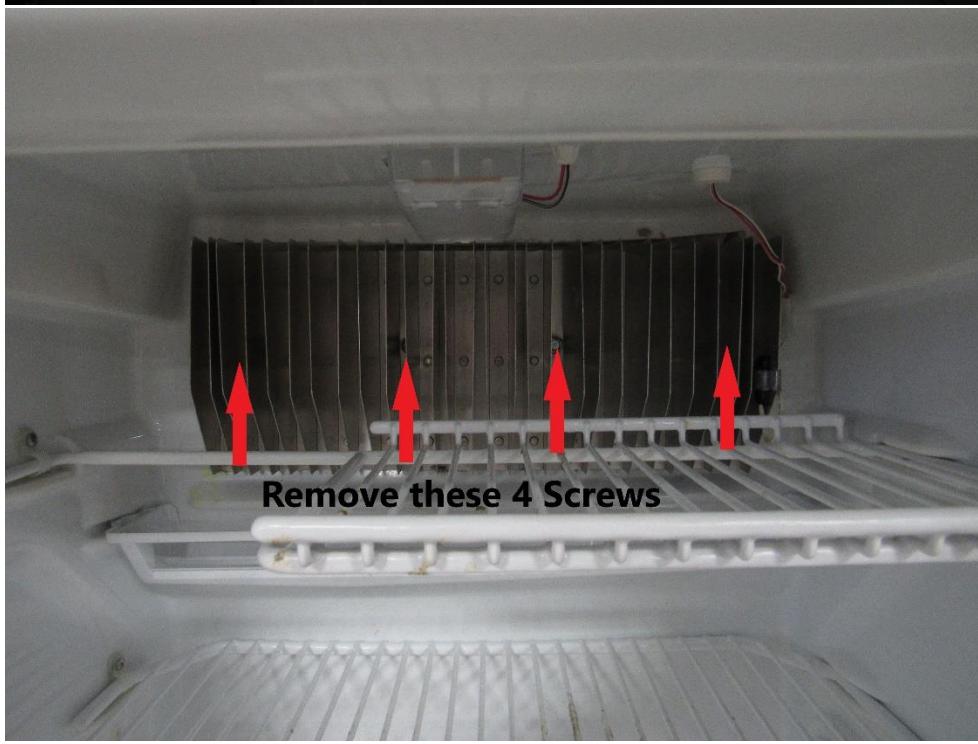
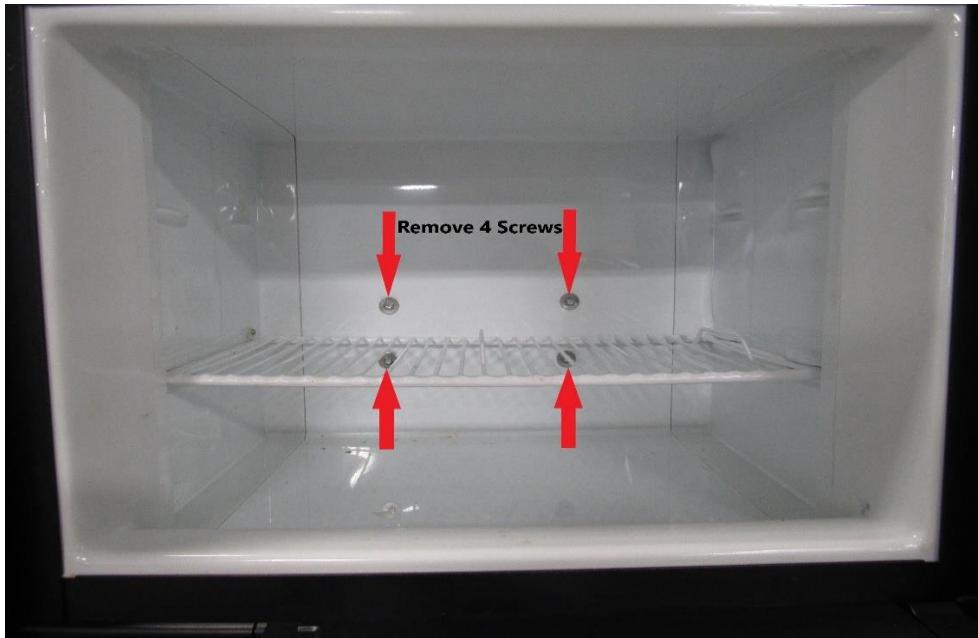
Going inside again start by removing the black trim covers on the top and bottom of fridge.



Remove the two mounting screws on top and bottom (**RA**). Screw size and bit needed will vary from coach to coach.

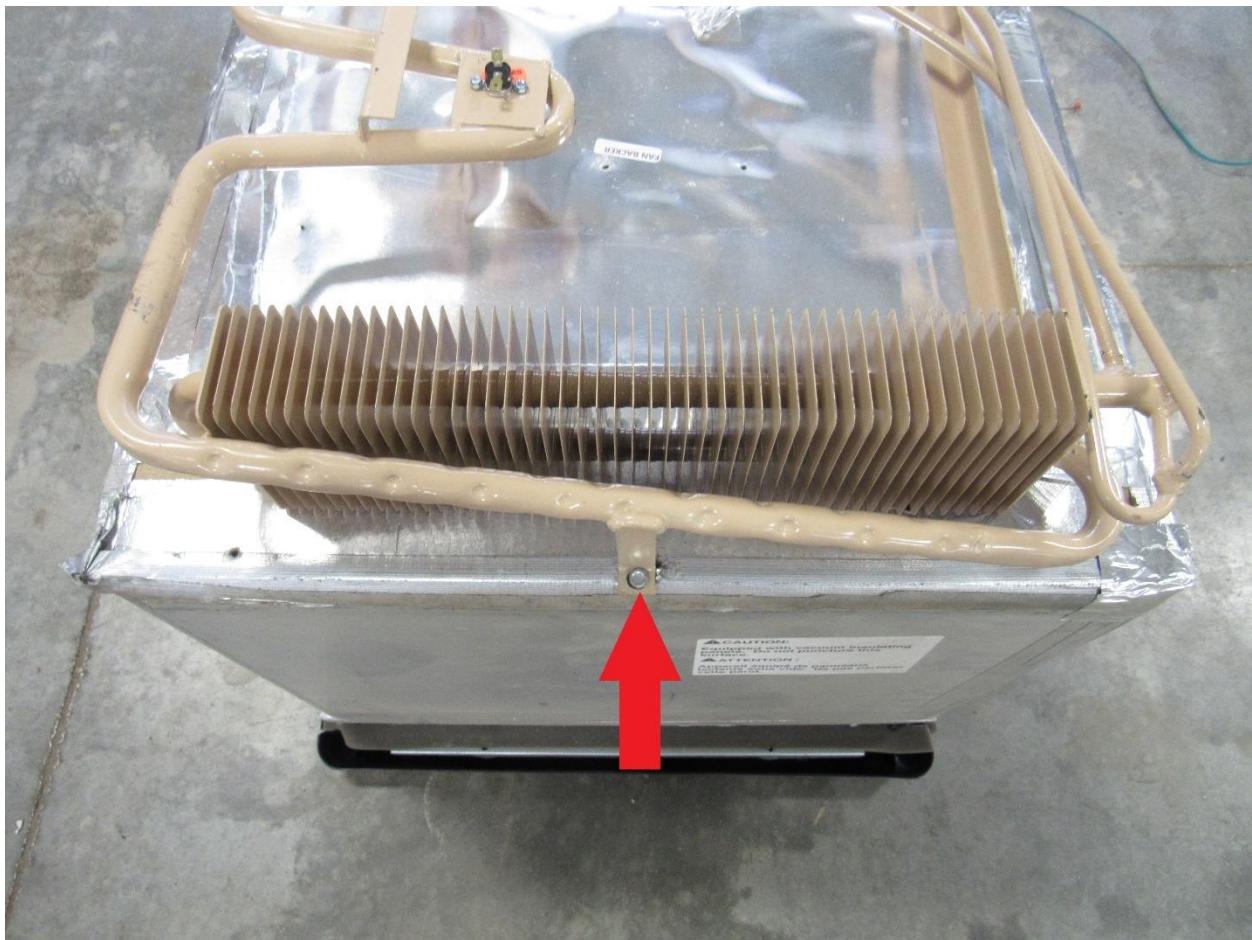


Take a 5/16" hex bit and cordless impact driver and proceed to loosen all the screws (**RA**) in the freezer and the refrigerator. Refrig fins will drop down so unclip thermistor and lay to the side, remove fins and set to the side for now. Removing your freezer shelve or top fridge shelve is optional.

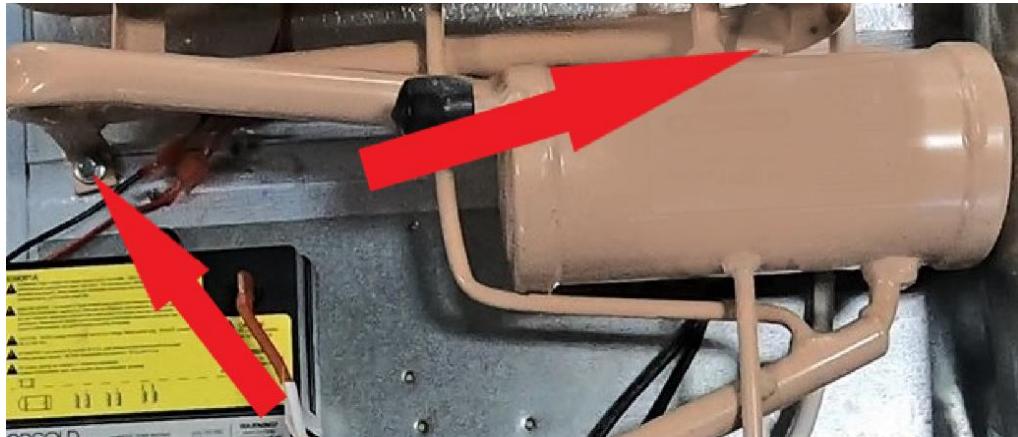


We do not show the fridge being slid out onto the floor, as the lay out of the coaches vary greatly and so it could be misleading to your scenario. But the object is to have 1 guy on each side of the fridge and as your fridge starts to exit lift up gently so when the rear end of the fridge fully exits the cavity that it does not drop, but needs to be gently and carefully set on the floor and pushed or carried to your open floor area. Lay fridge face down on the floor, making sure doors are latched shut so they don't swing open and we normally put a pile of blankets on the floor by the top freezer door so the fridge is lying face down at a angle.

Take out mounting screw (RA) on top.

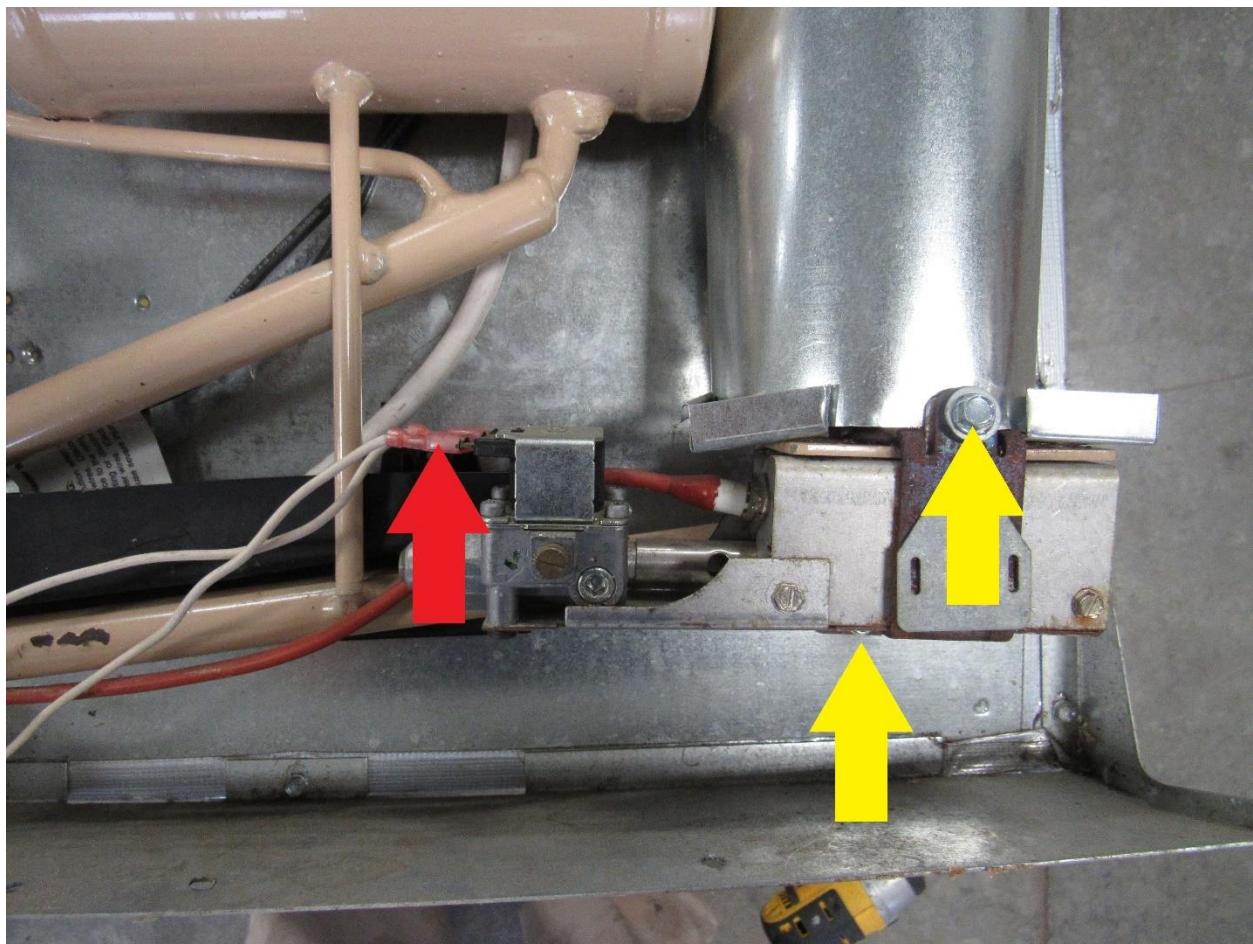


Remove bottom 2 mounting screws, may vary in location (RA)

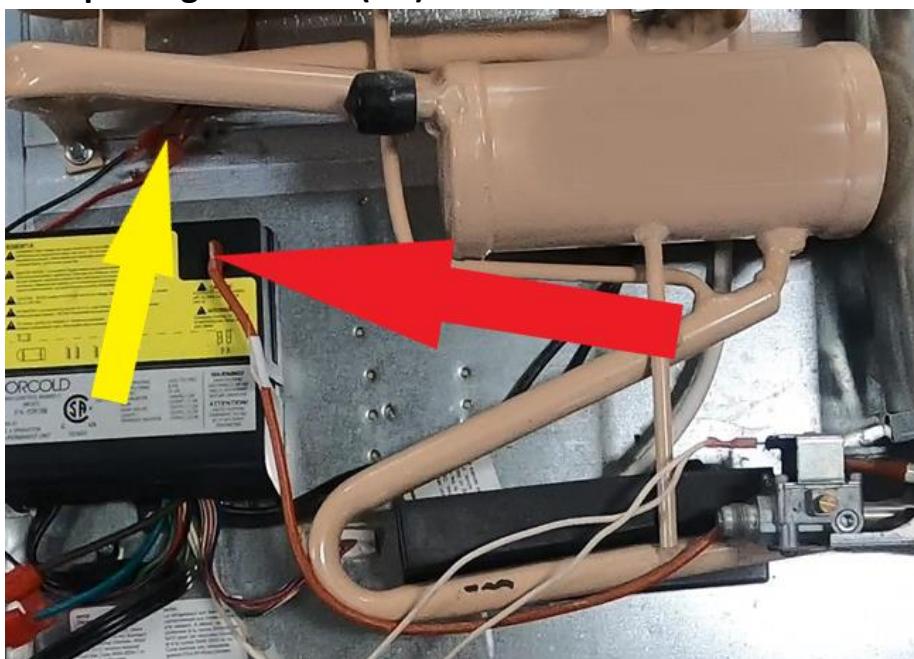


Take out both 5/16" hex mounting screws (YA).

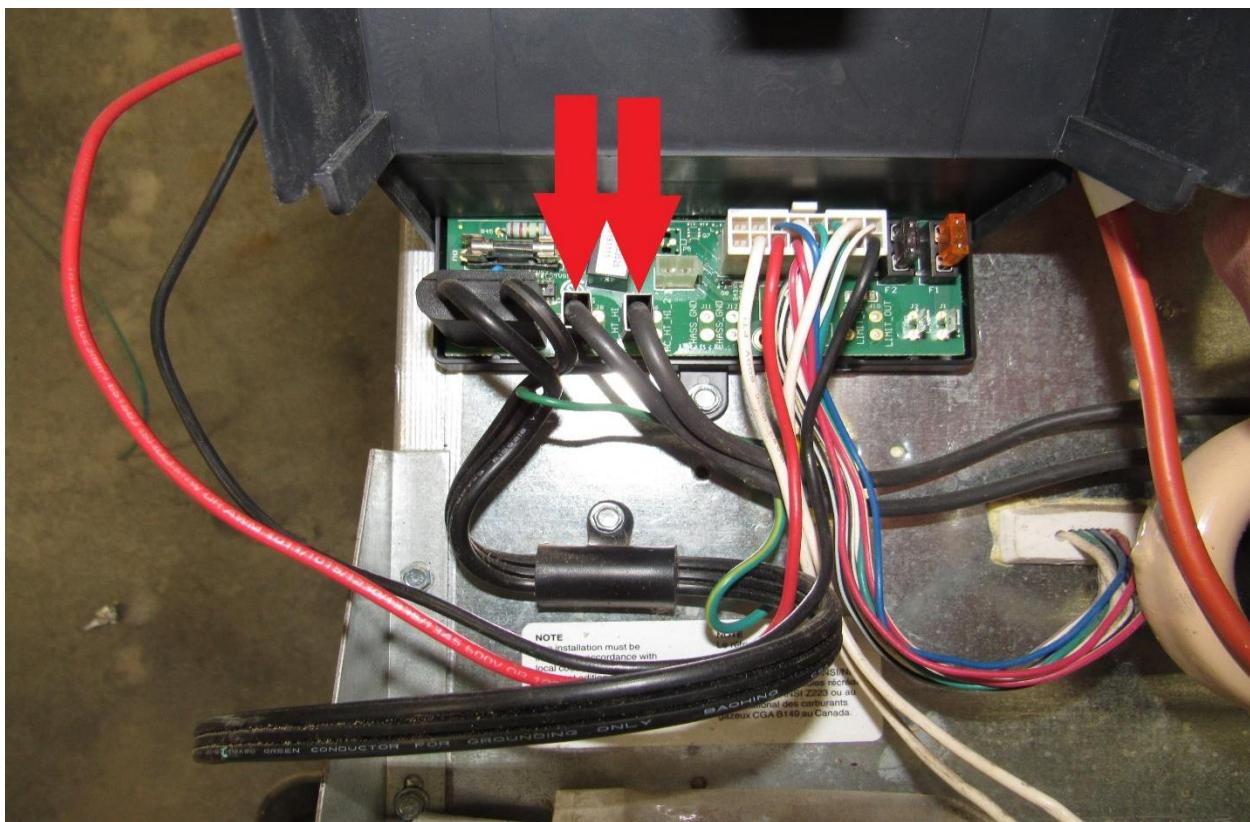
Take off the 2 white LP gas valve wires (RA).



Unclip the igniter wire (RA) from the board. Also disconnect vent fan wires (YA)



Take the heating element wires (RA) loose from the board.



Take off fan mount (RA) and thermostat (YA). The fan bracket mounting style and thermostat location may vary.

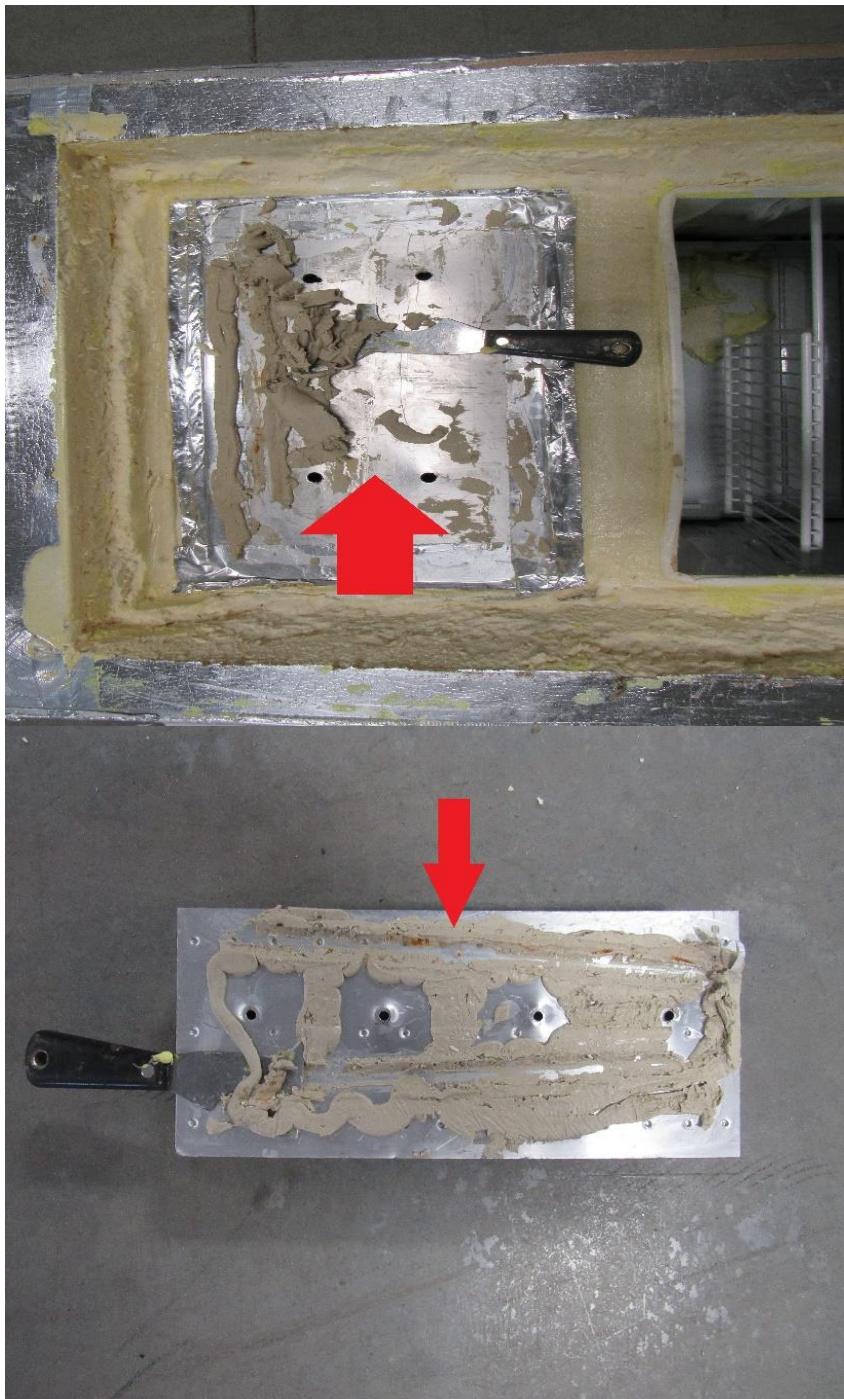


If old unit is taped along the sides cut tape with knife. Take unit off the old cooling unit of your refrigerator by lifting straight up and out. Clean off any residual foam or thermal sealant around the edges (RA).

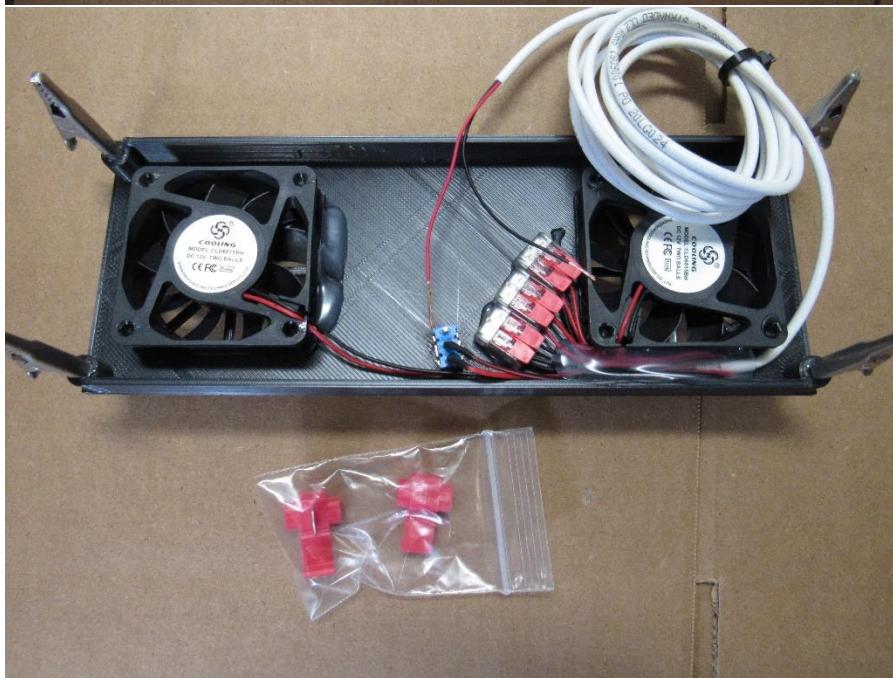


Clean off the old thermal mastic (RA) from the freezer section. A large blade putty knife or scraper works well.

Clean off old thermal mastic from the refrigerator fin (RA). A shop vac works well to remove any other debris or loose foam.



Take the fin fan out of the plastic bag. It will include two scotch locks that we will use to hookup later.



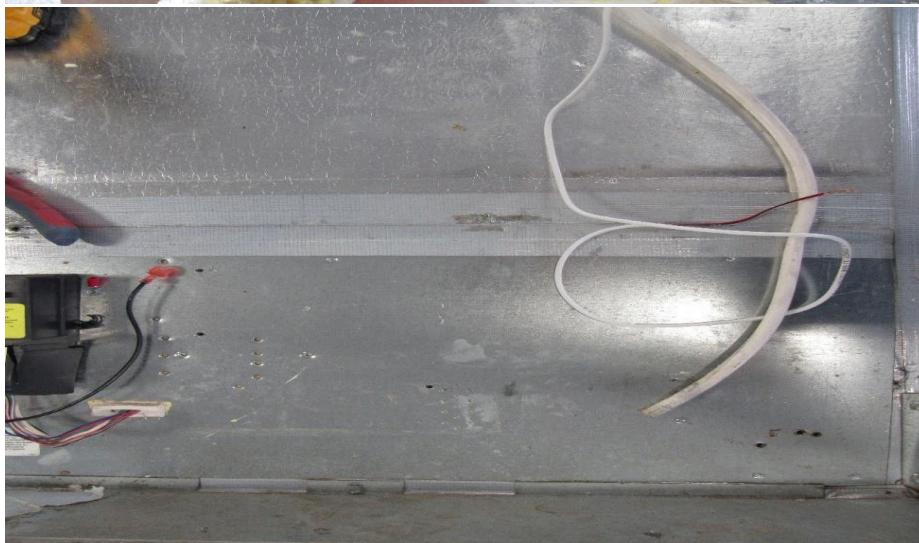
Installing the fin fan has 2 options:

Option#1 Set the fin fan into the refrigerator fin opening, make sure it's somewhat secured to a shelf for now. Leave enough wire as shown inside and also enough on the bottom to hook up with later. The fin fan wire will remain in this position throughout the rest of the install.



Option #2 A second standard black and white QR code.

If you would rather install the fin fan wire thru the defrost hose later, please see our fin fan installation manual at: <https://jc-refrigeration.com/docs/fin-fan/fin-fan-installation-manual/>



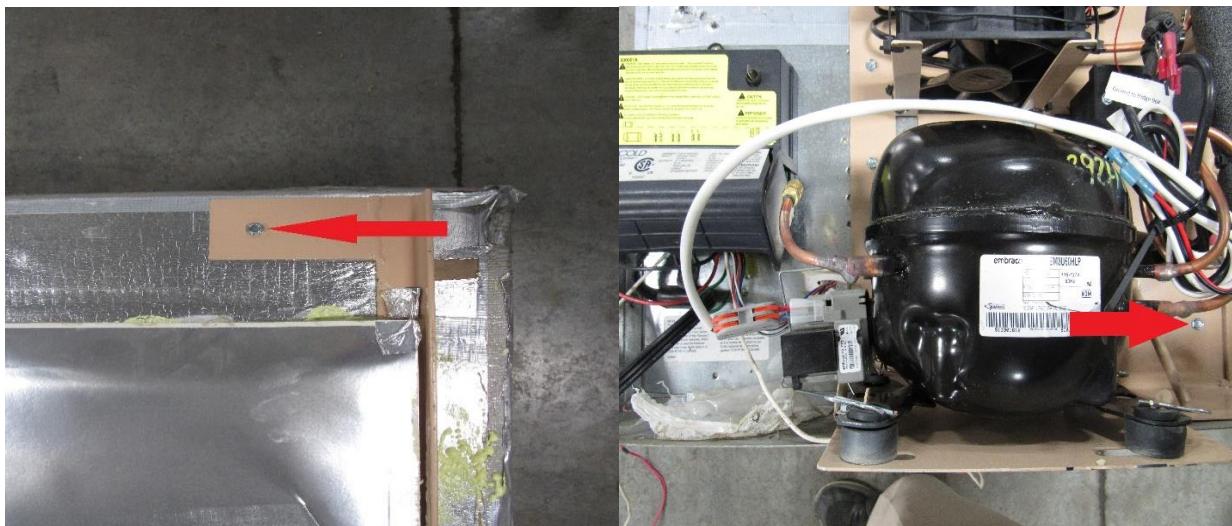


Warning: The next few steps are very important. If done incorrectly, the cooling unit freezer and fin screws might not line up the best. If possible, have someone to help you with the next steps as it will make everything much easier.

First, we will do a “dry fit”. Set the unit in the box as shown in picture.



If you are alone screw two self-drilling 5/16” mounting screws (**RA**) that are included in the parts bag, your exterior mounting holes will not line up to the original holes. This will hold the unit in place for the next step. If you have another person with you leave these screws out and have the second person hold the unit while you set the refrigerator upright into the standing position now open freezer door and make sure mounting holes in the freezer are aligned with the cooling unit holes.



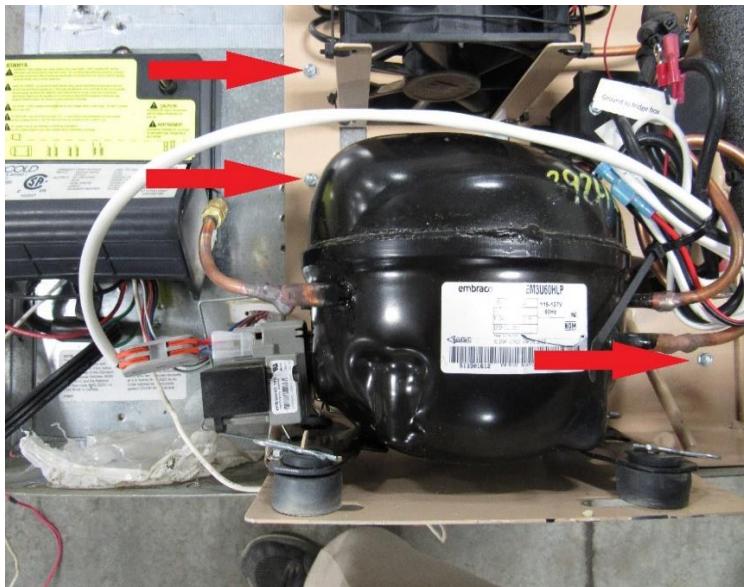
If holes are not aligned have the rear person lift the unit up or down or side to side till holes are aligned, or if alone you have to set fridge back down, take out mounting screws and adjust the unit to where the holes line up. It does not have to be perfect, just close enough where you can see the edge of them. Don't be afraid to sand or shave foam off the side, top or bottom to let the unit slide the way it needs to go to line up the freezer screws. Pictured below is an example with the holes just visible on the bottom corner (RA).



Warning: The box holes can be redrilled or enlarged to make holes line up and then the washers can cover the hole, (YA) but do not ever drill new holes into the cooling unit plates as you will hit the cooling tubes causing a rupture. If part of holes are visible you can either leave them as is since unit will be sealed in the back or you can use white silicone caulk to cover the holes.



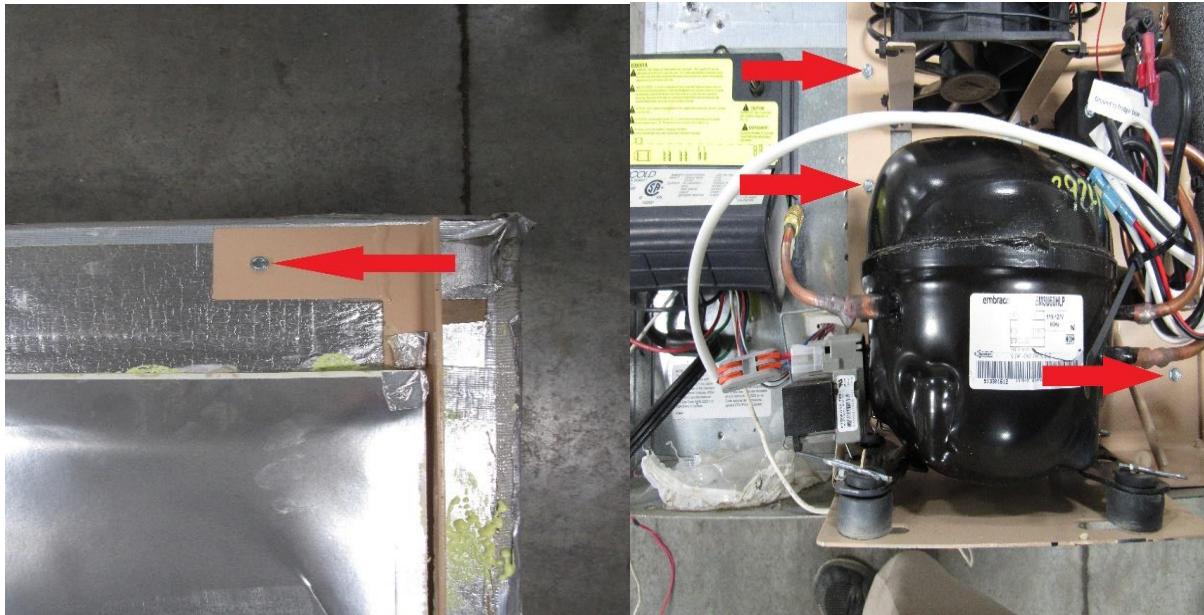
Once you have positioned the unit to where your holes align with your freezer holes, re-enter the previous mounting screws plus (2) 5/16" screws shown in picture below (RA). This way you know exactly where the unit needs to be later. If a second person is there to help these screws do not have to be put back in.



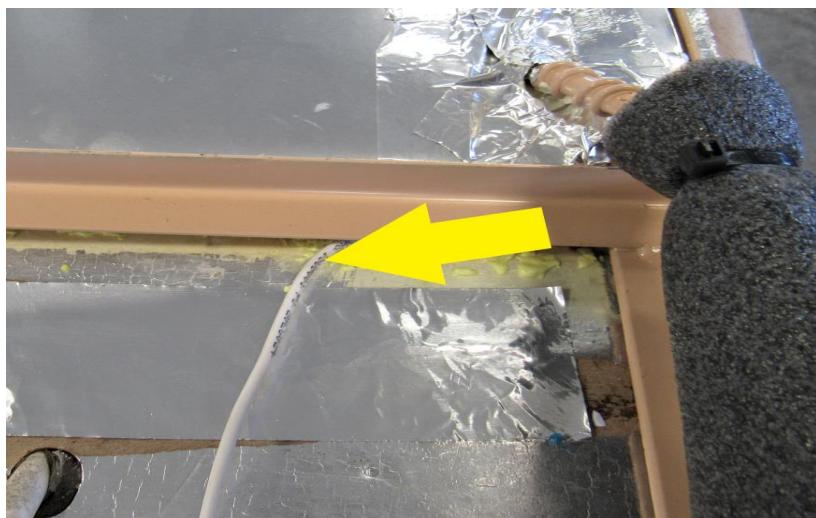
Take the unit completely off the box again. We will install the thermal mastic next. Take a caulk gun and place a small bead in this fashion. You will need to use the whole tube.



Lay unit back into box being careful so as not to scrape off any thermal mastic on the box, and make sure unit is in position where you had it last so freezer holes line up. Now screw the unit to the back of the fridge using the 5/16" self-drilling hex screws provided



Your fin fan wire will exit on the bottom of the foam insert between unit and box. (YA)



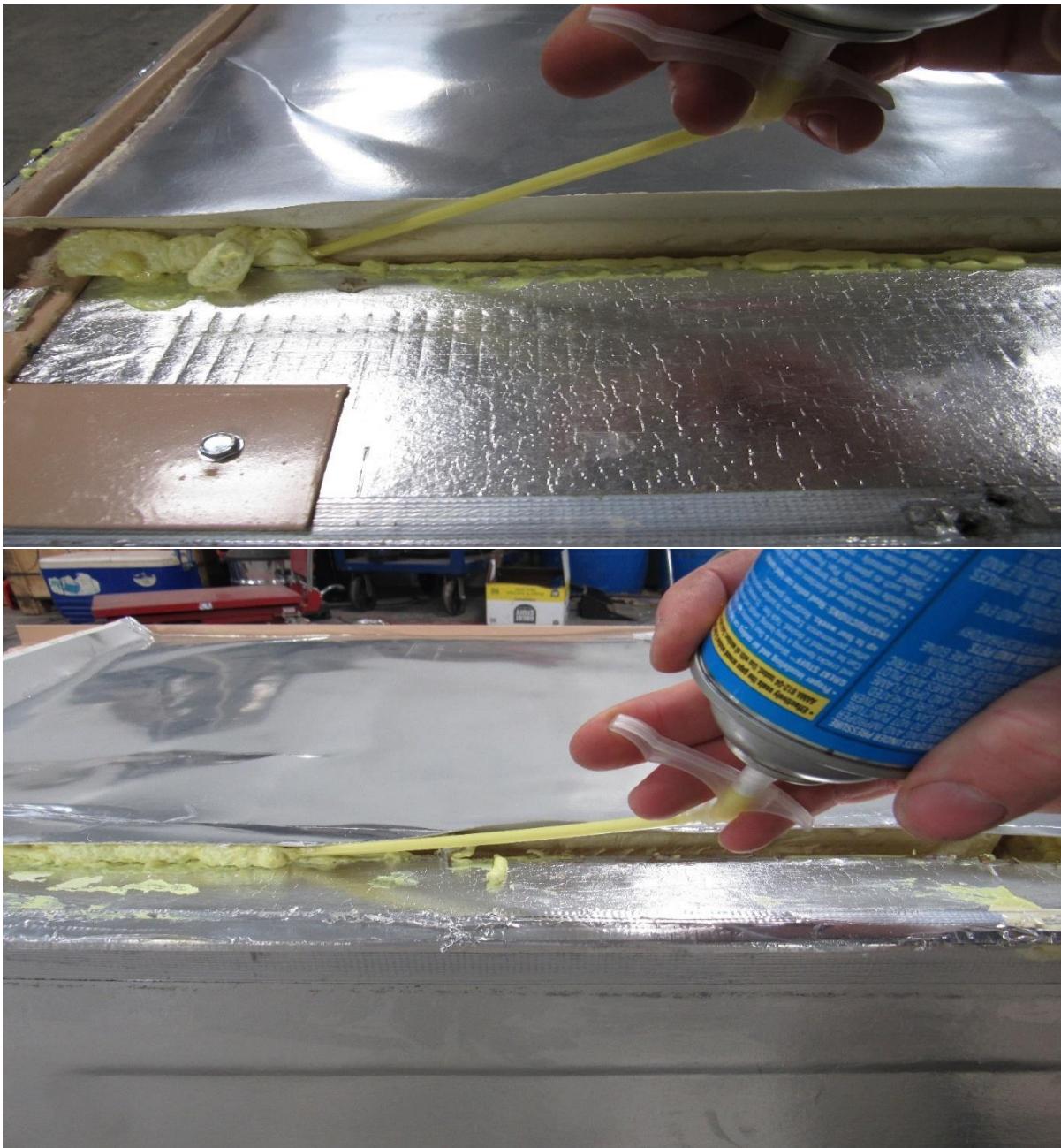
Set the refrigerator upright into the standing position and install all four freezer screws, using the supplied 5/16" screws in the parts bag, pulling the unit tight against the back. Do the same with the refrigerator section fin. Install four screws pulling it tight.



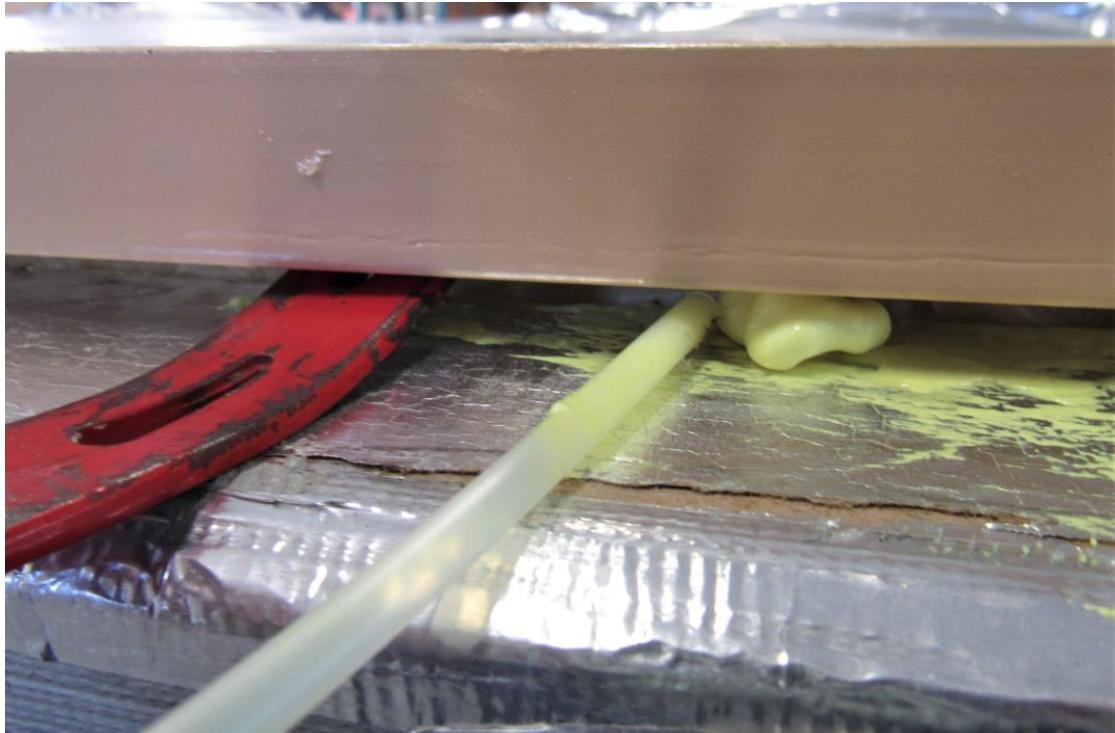


Warning: Make sure this step gets followed precisely, otherwise your fridge is unable to cool properly

Lay fridge back down, take the can of Great Stuff foam (shake can for a few seconds) and apply a bead of foam around all four sides as shown below. Make sure and seal all cracks and gaps. This will help seal all air leaks while travelling down the road.



On areas where the steel frame is tight against the box, take a small pry bar or flat bar and lift up enough to get in there to fill up the gap between unit and fridge box.



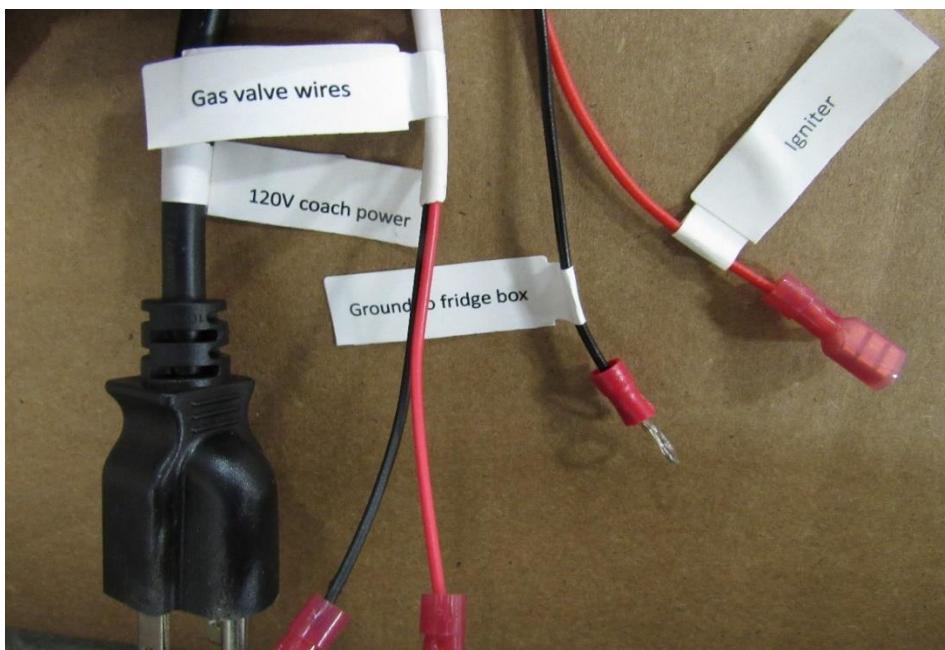
After filling all gaps with foam, follow up with the supplied aluminum tape as shown.



Snip the zip tie which holds the wiring that came with the unit. You will have three main wires coming from the control box.



They have labeled tabs on where they need to go.

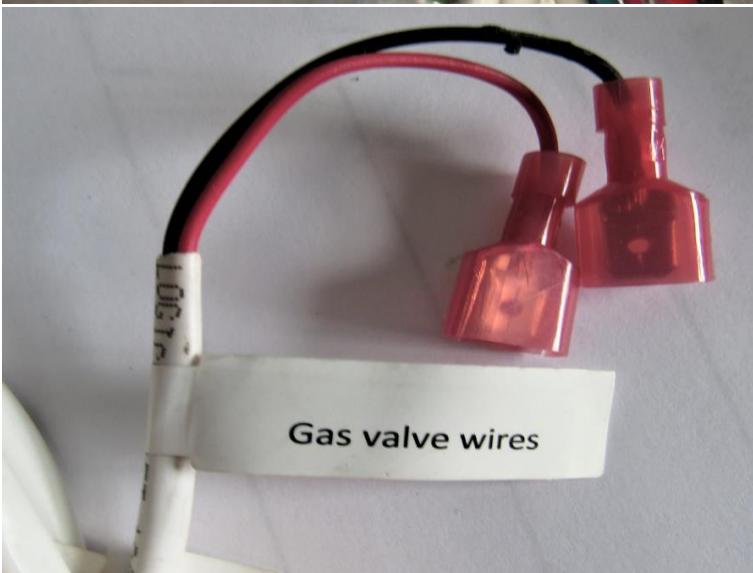
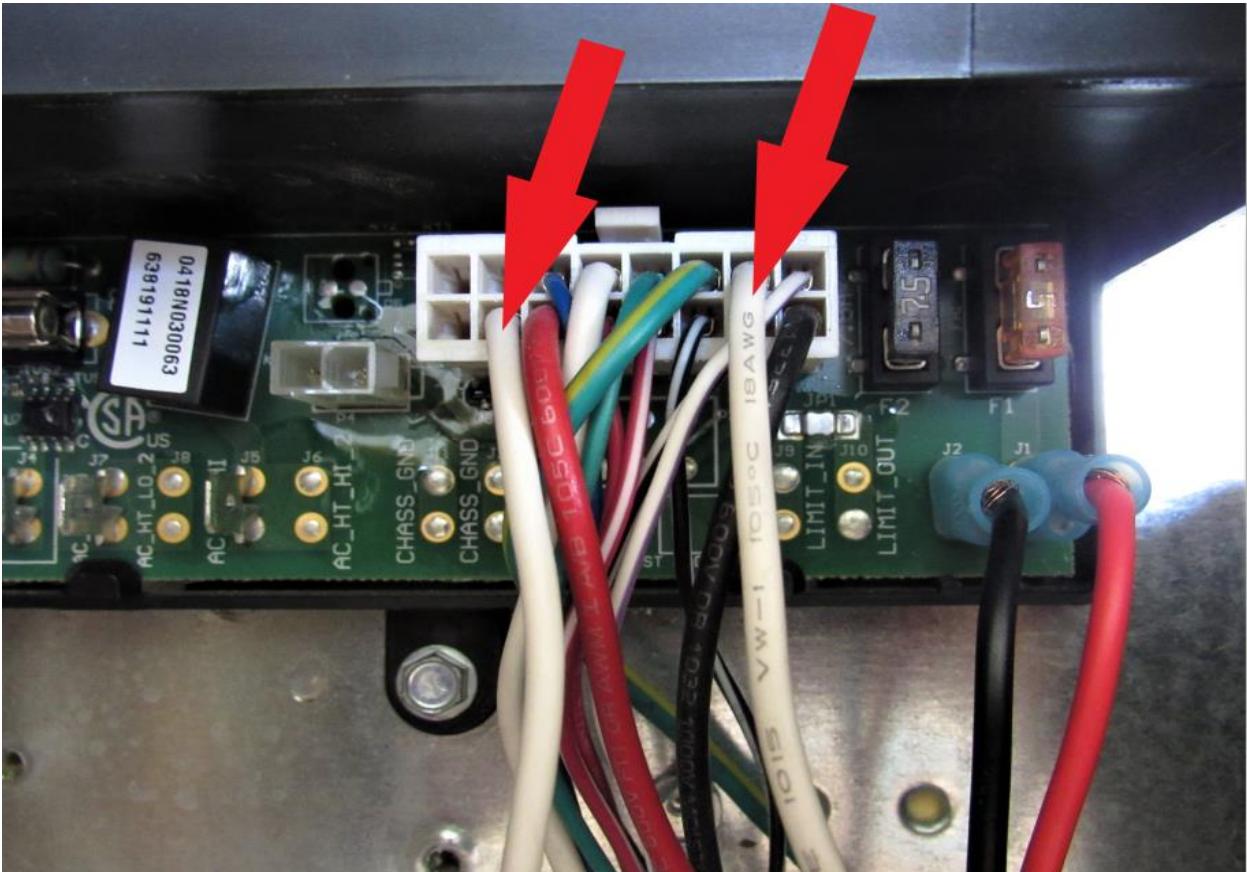


Take the wire marked “Ground to fridge box” and “Igniter” and place them as shown.

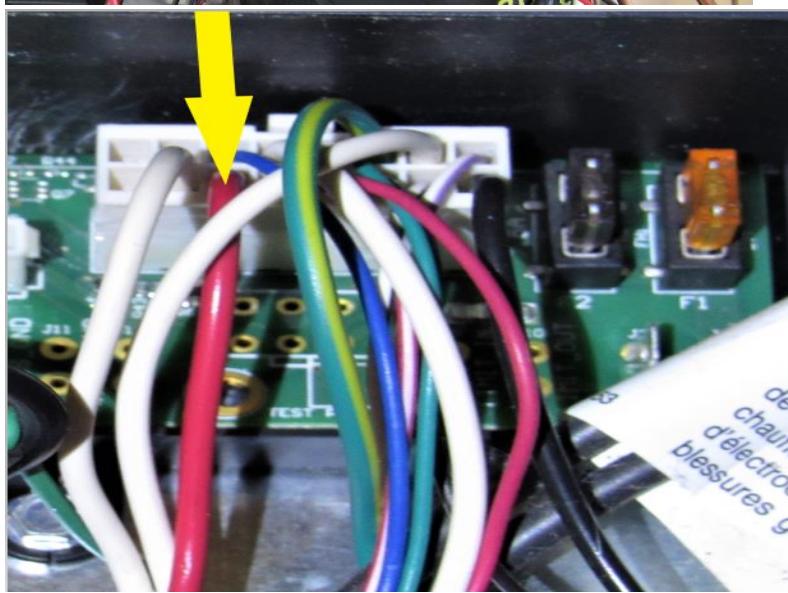
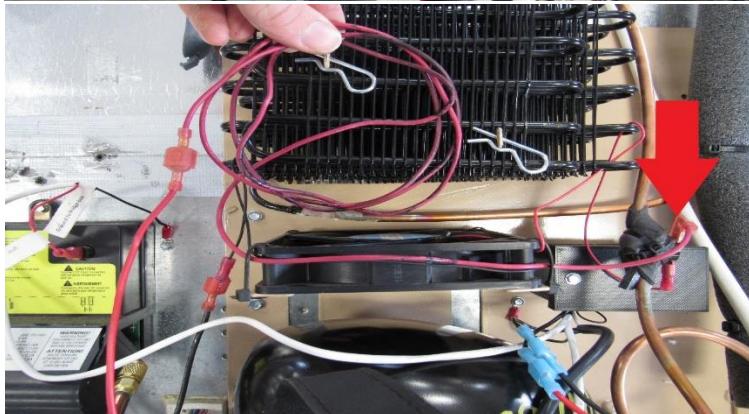
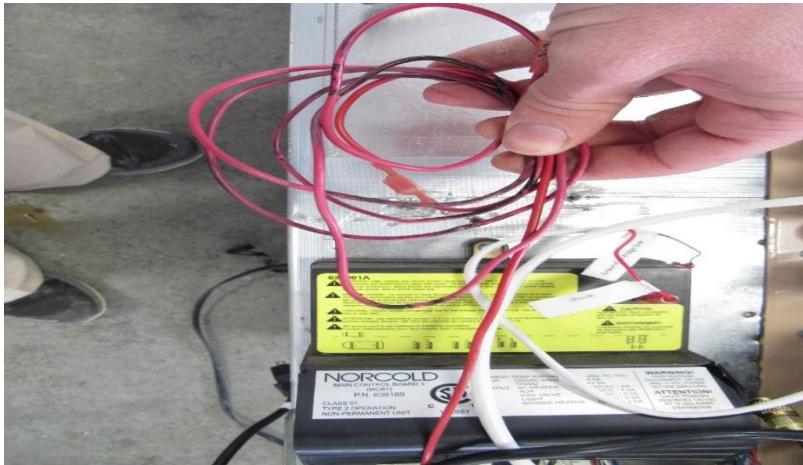
Igniter simply plugs into the igniter terminal on the main control board and the black wire with a ground terminal gets grounded out to the box.



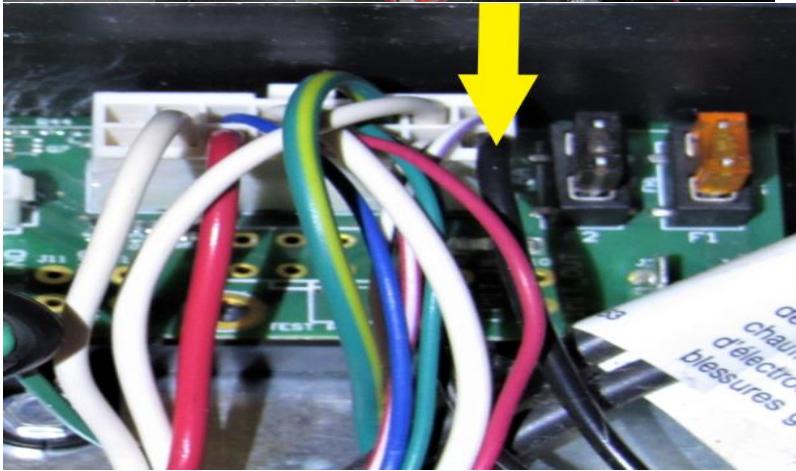
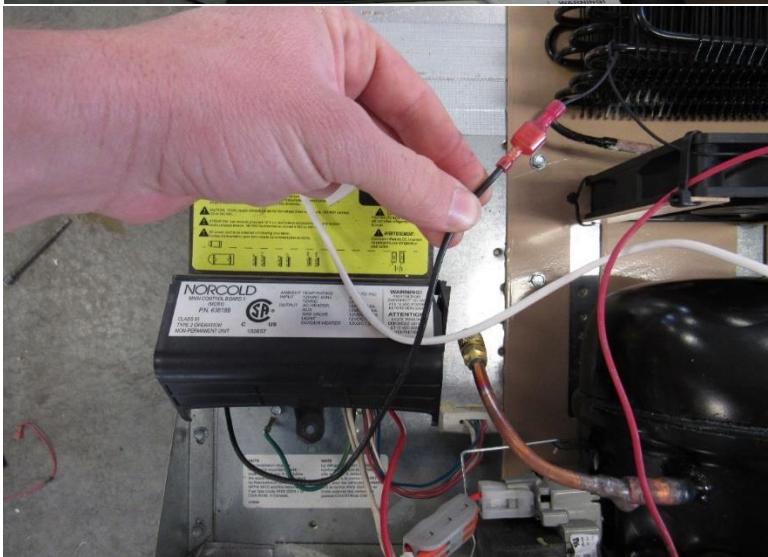
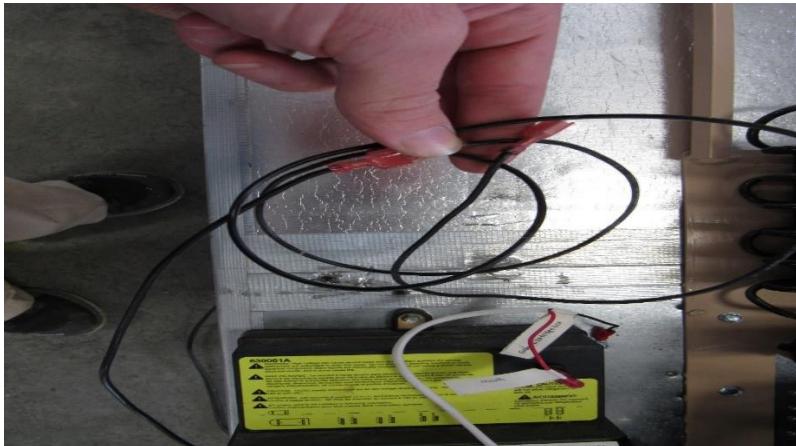
The two white wires (**RA**) coming from the main control board need to be plugged into the wires labeled “Gas valve wires” These 2 white wires used to go to the gas safety valve on the old unit (Female Ends). Our controller gas valve wires have male ends.



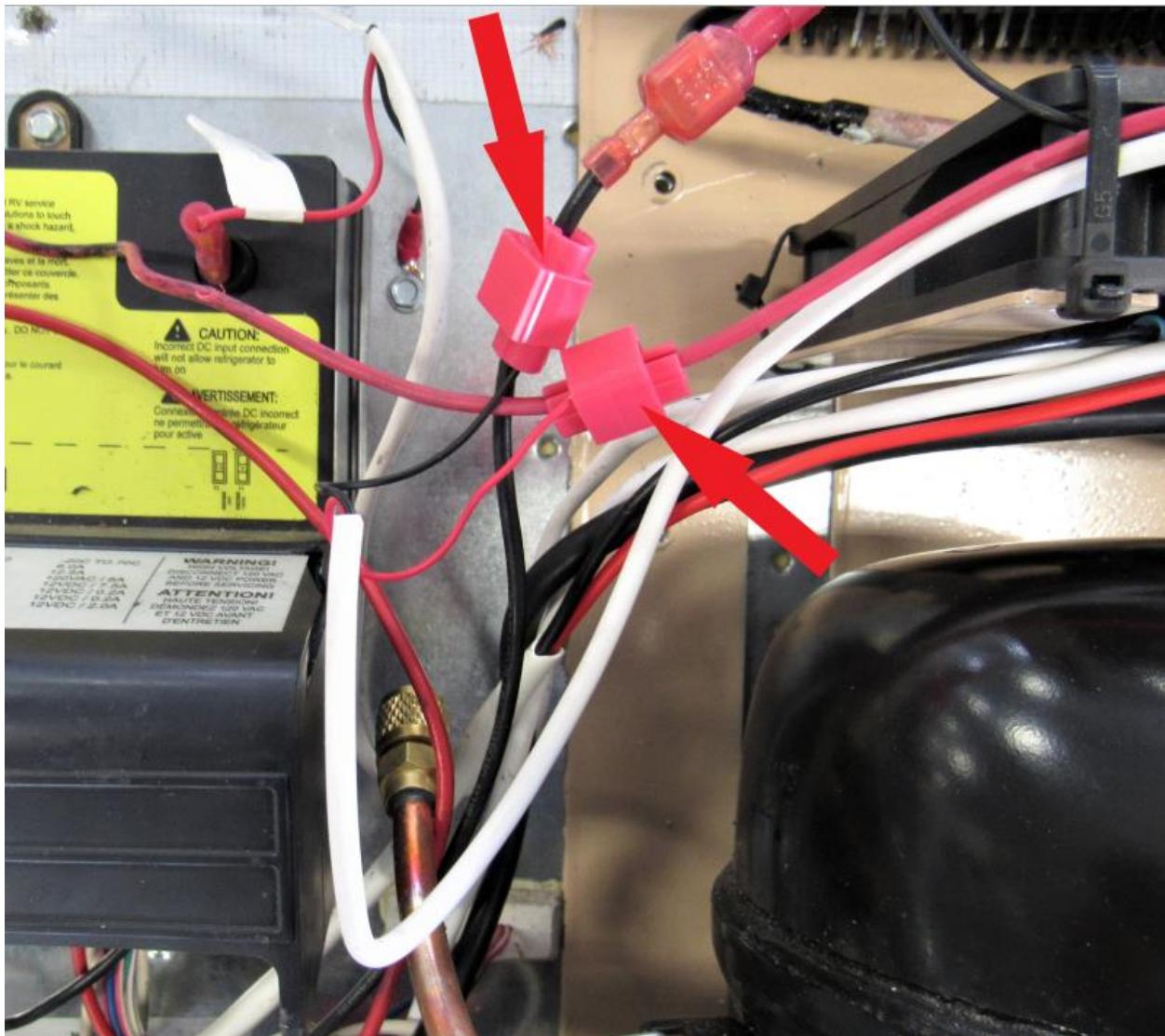
The red wire held in this picture is the original fan wire 12V + that powered your old original fan (**YA**). Run the red wire from your main control board over to the temperature sensor (**RA**) located on the right-hand side of the compressor as shown below. This supplies 12V + to the fan thermostat



The black wire held in this picture is the original fan wire that provided 12V- to your old original fan (YA). Since you only need a short wire, remove the top section and plug into the compressor fan as shown below. This supplies 12V – to the ground side of the fan

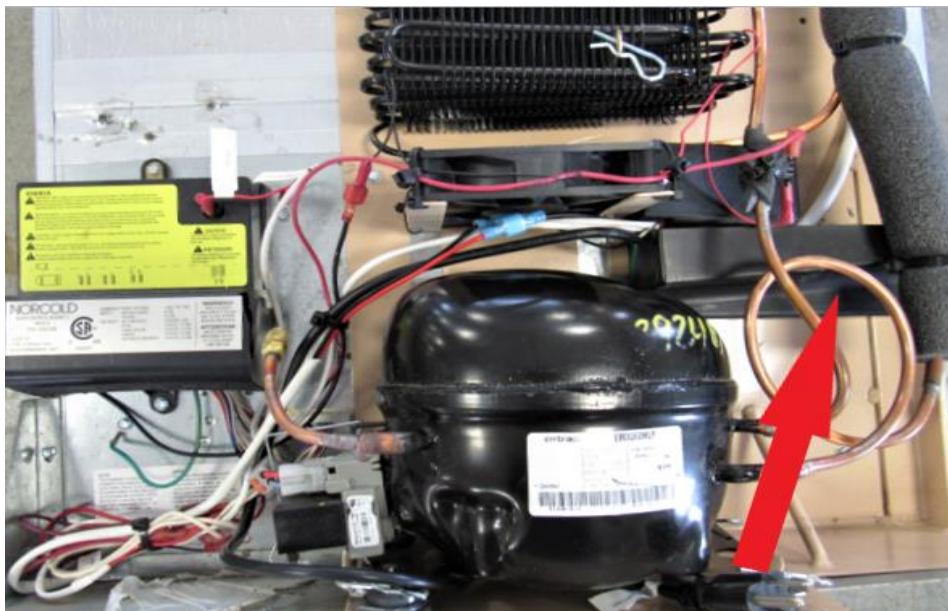


Hook up the fin fan to the wires suppling power to the compressor fan as shown using the two scotch locks. Make sure to get red to red and black to black



Bundle loose wires together and attach zip ties to all loose wires, and tuck 120V power cord under compressor to get it out of the way,to install back into the cavity. Also slide defrost cup (**RA**) back under copper tube and attach with one of the 5/16" self drilling screws or this defrost cup can be left off and the hose stuck out the side vent when all done. Reattach board cover screw (**RA**)

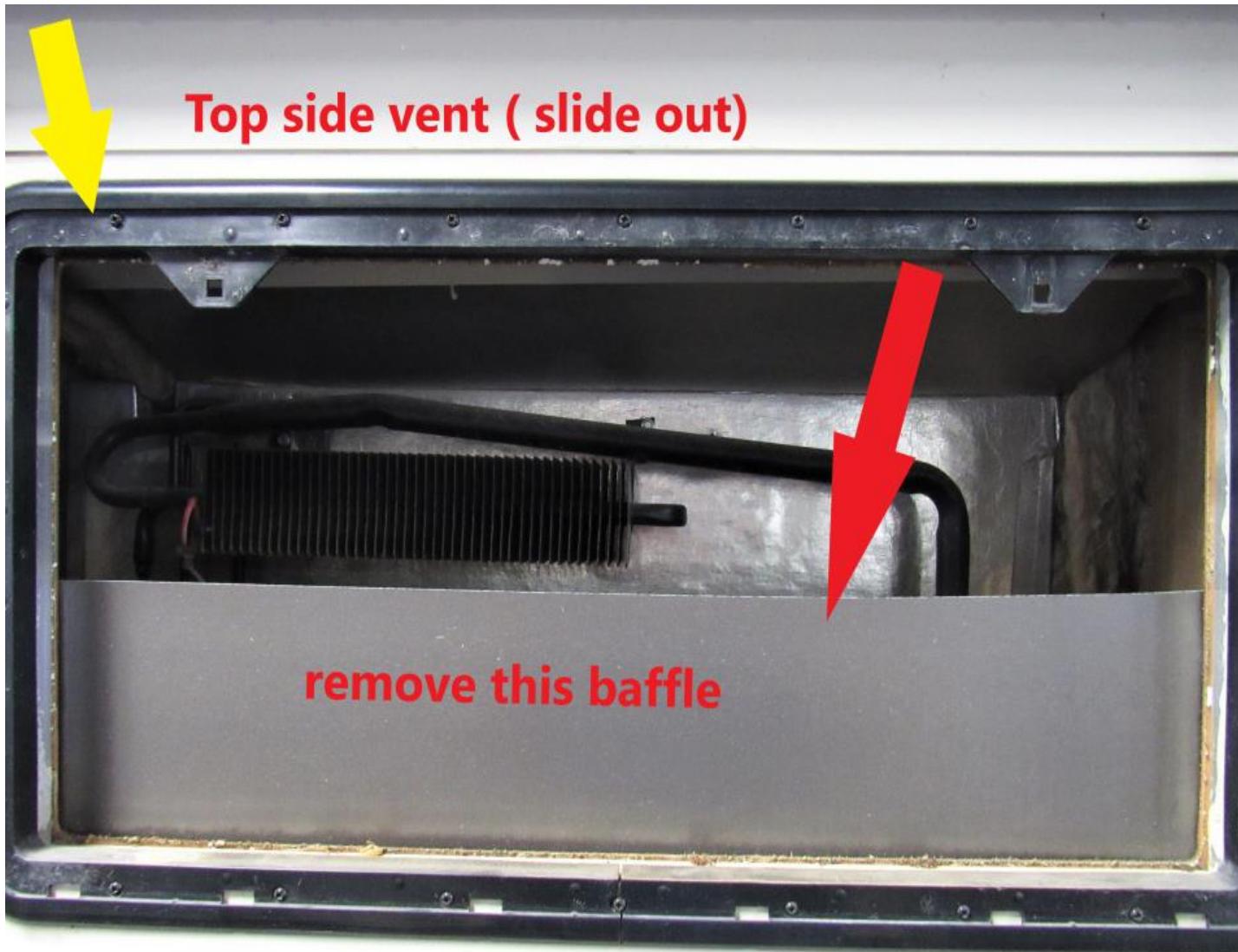
This is how your unit should look after cleaning up the loose wires with zip ties.





Warning: please make sure and follow this thru this step, otherwise unit could over heat causing damage to the unit.

Before installing the fridge back into the cavity, check to make sure wall insulation is secured and this is a good time to sweep or vacuum any loose debris. If this fridge is installed into a slide out then make sure and remove the top side vent (**YA**) baffling (**RA**), as you will no longer need this and all it will do is slow air flow. If Its installed into a roof vent style then nothing has to be changed, but make sure and leave both vents open, as this unit will still have to breathe



Now you're ready to slide the refrigerator back into the cavity. Once it's started it helps to have someone outside to watch as you slowly push the fridge back into place, making sure the gas line is out of the way. Install mounting screws (RA)on the top and bottom first before finishing outside.

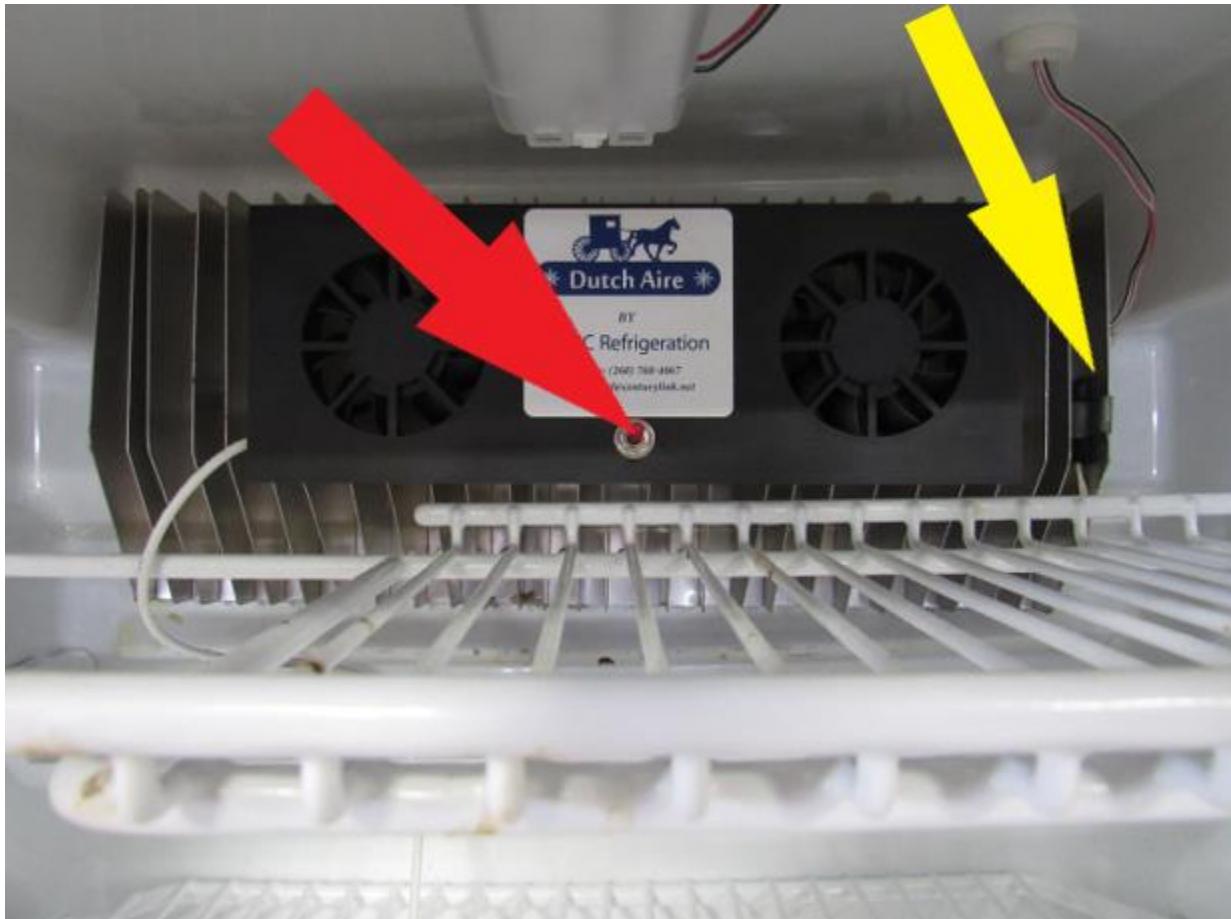


Attach black trim pieces on top and bottom.



Clip the thermistor onto the right-hand side of the fin (YA), this placement is not so crucial as long as its towards the right and close to center up and down. The fin fan can be attached towards the center of the fins.

The fin fan has a simple on/off switch in the center (RA). Your unit will run more efficiently, and ice will not form on the fins with the fans running at all times when using the fridge.



Now we are ready to finish the outside.

Put the two mounting screws (**RA**) back in place. Or if your coach is a Winnebago, see pics above for location of bolts,



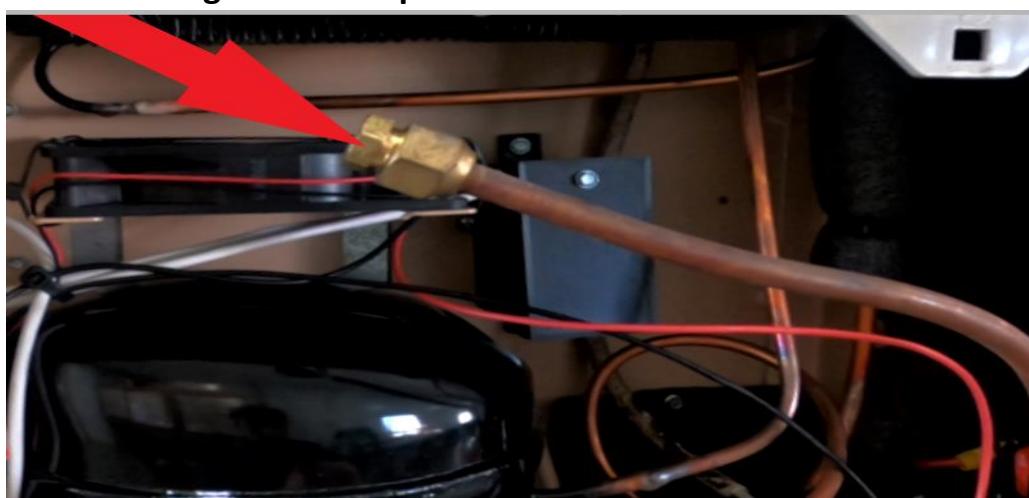
**Plug in your 120v power cord make sure you have 120V power at the outlet.
Keep in mind, every RV manufacturer has its own location for this power outlet.**



WARNING:

make sure this step is properly followed and leak checked so you don't have a gas leak

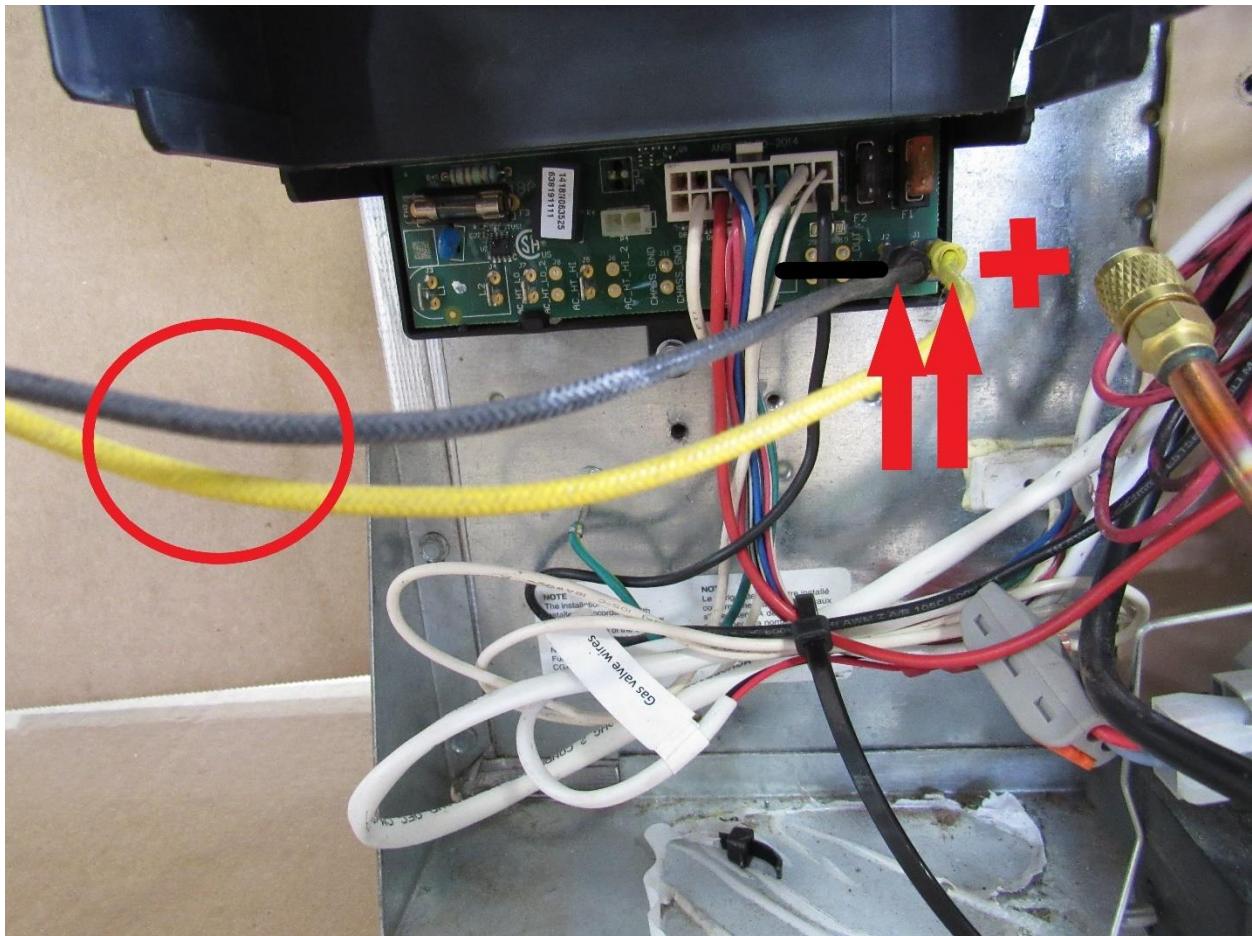
Thread gas plug into gas line (plug included) use wrenches to tighten in, after its tight, gas tank is ready to turn back on and using a soap water mixture check for leaks. (RA) this copper tube can be bent carefully and tucked out of the way once the fridge is back in place



Plug in the 12V wires (**RA**) that come from your RV. The color of the wire coming from your coach will vary from one RV to the next.

The positive wire is on the right.

The negative wire is on the left.



Go to the inside of your RV and turn your refrigerator control “ON” now push the mode button and set it onto LP mode. After a few seconds your compressor should start up and run, you can now adjust your temp setting to your desired temp, we recommend setting it onto 4 and then after approx. 6 hrs adjust up or down to your desired temp inside the fridge. A thing to remember is food zone is 38F to 42F, but most times you will want this fridge to run between 34F to 36F and in the freezer 0F to 10F.



We highly recommend using a digital wireless thermometer to monitor your inside fridge temps, many phone calls or temp misleading's can be avoided by making sure the thermometers you are using are accurate, you do not have to use our brand but we do recommend using something like this type.

<https://jc-refrigeration.com/product/refrigerator-freezer-digital-wireless-thermometer-free-shipping/>

Use digital wireless

DO NOT USE



Clip fridge sensor underneath second shelf down or first shelf beneath the fin, place it center front to back and center side to side (RA), if its clipped underneath it will be out of food containers way



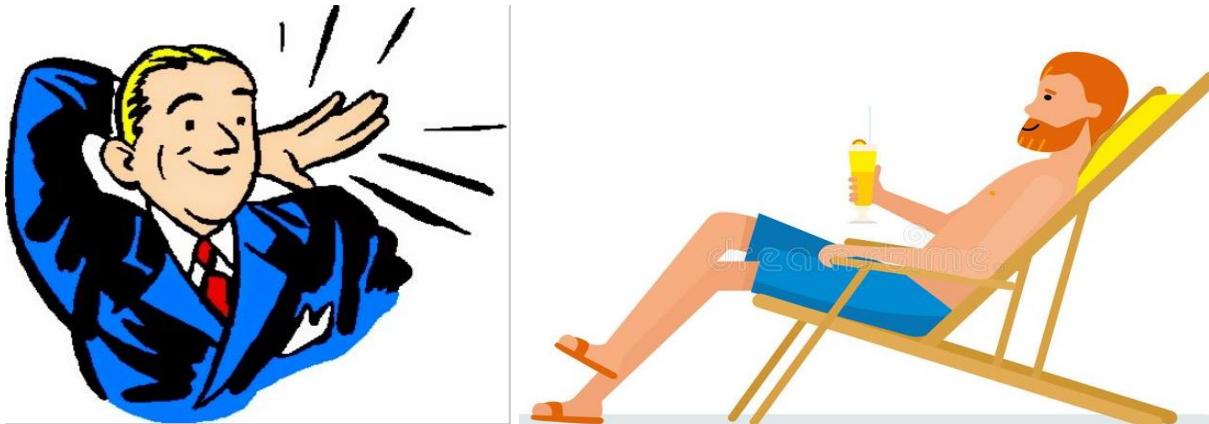
Same with freezer, clip underneath bottom shelves center side to side but have this one more towards the back of the freezer.



You are all done and ready to hit the road and do some serious camping 😊

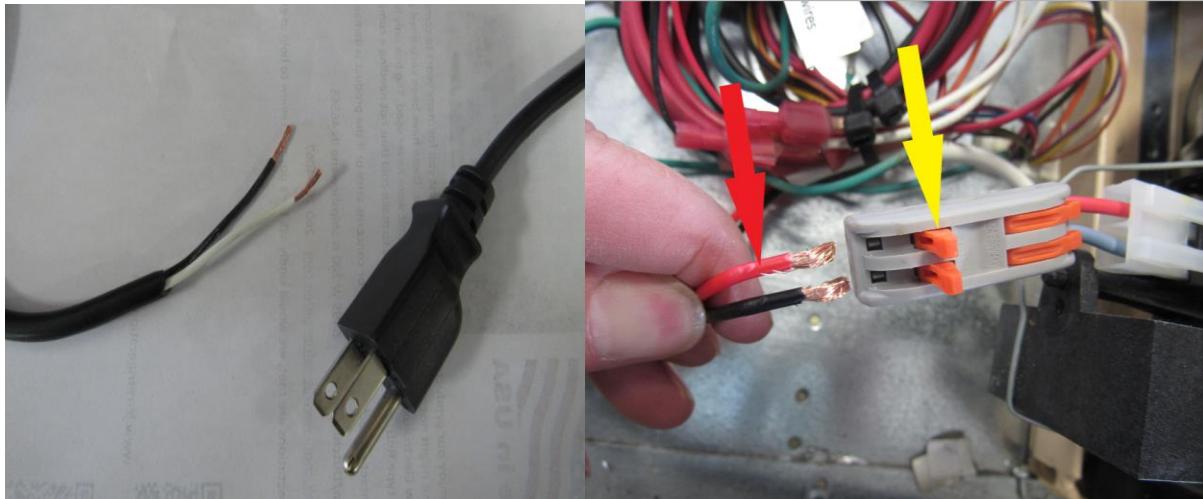
Let us know if you see any areas we missed or that should be made clearer, since we do installs practically every day, we get blind at times to things that should be mentioned or be made clear.

dahvac@outlook.com Thanks for hanging in there to the end, give yourself a fair pat on the back and enjoy your cold fridge for many years on your travels.

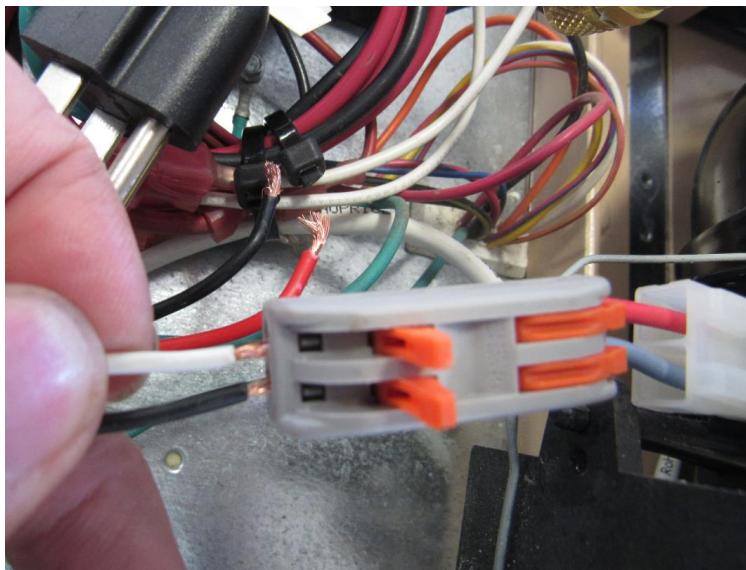


If your controls ever go bad or some other issue arises that the fridge is not working you can always wire this compressor direct to make it work till the other issue gets resolved, follow these directions:

#1 Unplug 120V plug from coach, make a short 120V pigtail, strip the wire ends back approx. 1/4", on left side of compressor open (Wago) levers (YA) and slide out 120V wires leading to compressor (**RA**)



#2 Insert your 120V pigtail wires into Wago and close levers again to lock wires in again, it does not matter which wire goes into which slot. Plug your made-up pigtail that is now attached to the compressor into your 120V power outlet. This is now wired direct and will run as long as this cord is plugged in, and this will not harm the unit in any way, and it gives you a cold fridge till your board or other issue gets resolved.



*Troubleshooting *

Warning Codes:

"SR": Check your fridge ground wires and try grounding a wire from the fridge box to your gas line.

"NO FLO" #1 Check fridge ground wires. #2 Open controller cover and make sure wires are all intact and not broken, #3 make sure the relay makes a "CLICK" after its turned on. #4 Make sure igniter screw is not touching ground or wet, turn out 1 full round. #5 Flame rectification wire may need to be changed. See Controller below

