



TS2104 C-Wire Adapter

Installation Guide





Table of Contents

1	Welcome	3
2	Preparation	4
	- What is in the box?	4
	- Precautionary measures	5
	- With or without C-Wire?	6
3	Installation Without a C-Wire	7
	- Step 1: Check if there are 3 or 4 wires	8
	- Step 2: Prepare the necessary tools	10
	- Step 3: Open your HVAC system's cover	11
	- Step 4: Label the wires	12
	- Step 5: Disconnect the wires from the HVAC control board	13
	- Step 6: Connect the wires from the C-Wire Adapter to the HVAC control board	14
	- Step 7: Connect the disconnected wires from the HVAC control board to the C-Wire Adapter	15
	- Step 8: Mount the C-Wire Adapter inside your HVAC system	16
	- Step 9: Disconnect and label old thermostat wires	17
	- Step 10: Unscrew old Mounting Plate	18
	- Step 11: Replace with new Thermostat Mounting Plate	19
	- Step 12: If the Trim Plate is used (Optional)	20
	- Step 13: Pull the labeled wires through the hole of the Mounting Plate	21
	- Step 14: Attach the Mounting Plate on the wall	22
	- Step 15: Connect the wires	23
	- Step 16: Set the jumpers on the back of your Thermostat	24
	- Step 17: Attach the Thermostat onto its Mounting Plate until it clicks	25
	- Step 18: Turn on the power	26
	- Installation done!	27
4	Wiring Diagrams	28
	- C-Wire Adapter wiring	28
5	Troubleshooting	29



Welcome!

Thank you for choosing the TrickleStar® TS2104 C-Wire Adapter™.

The TrickleStar C-Wire Adapter is an optional accessory for the Tricklestar Wi-Fi Smart Thermostat. The common wire (C-wire) is used to provide a return path to power your thermostat. If your HVAC system has a C-wire, you can directly connect the TrickleStar Thermostat to the 24 V AC power source and you do not need to install the C-Wire Adapter. If your HVAC system does not have a C-wire, it will not power your TrickleStar Thermostat. In this case, you need to install the TrickleStar C-Wire Adapter.

If you have any inquiries about TrickleStar products or need technical support, visit our website for tutorials, videos and Frequently Asked Questions (FAQ). You can also contact us by email or phone.

Website: www.tricklestar.com
Email: customer.service@tricklestar.com
Toll Free: 1-888-700-1098

Instruction Videos

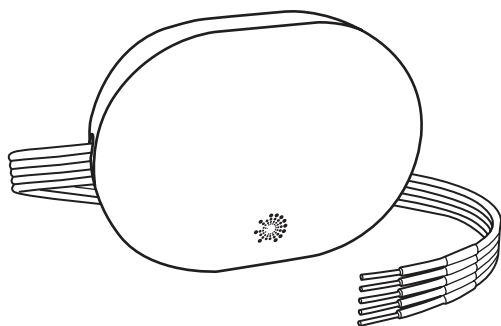
If you want to see the Installation Instructions as videos, visit our YouTube channel:

<https://www.youtube.com/user/TrickleStarUS/>

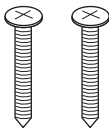


Preparation

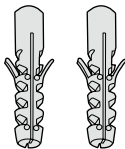
What is in the box?



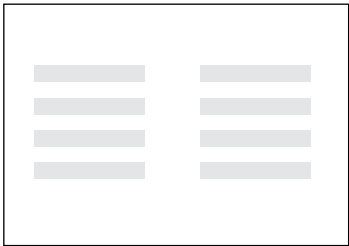
C-Wire Adapter



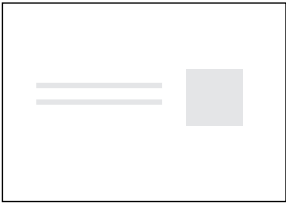
Screws (2 pcs.)



Drywall plugs (2 pcs.)



Wire Labels



QR code sheet

Fig 4-A

Precautionary measures

- Read all instructions carefully before starting the installation.
- Before installing the C-Wire Adapter, be sure to turn off the power for your HVAC system either at the Circuit Breaker Box or at the Main Switch.
- Leave the power OFF until you have finished the installation.

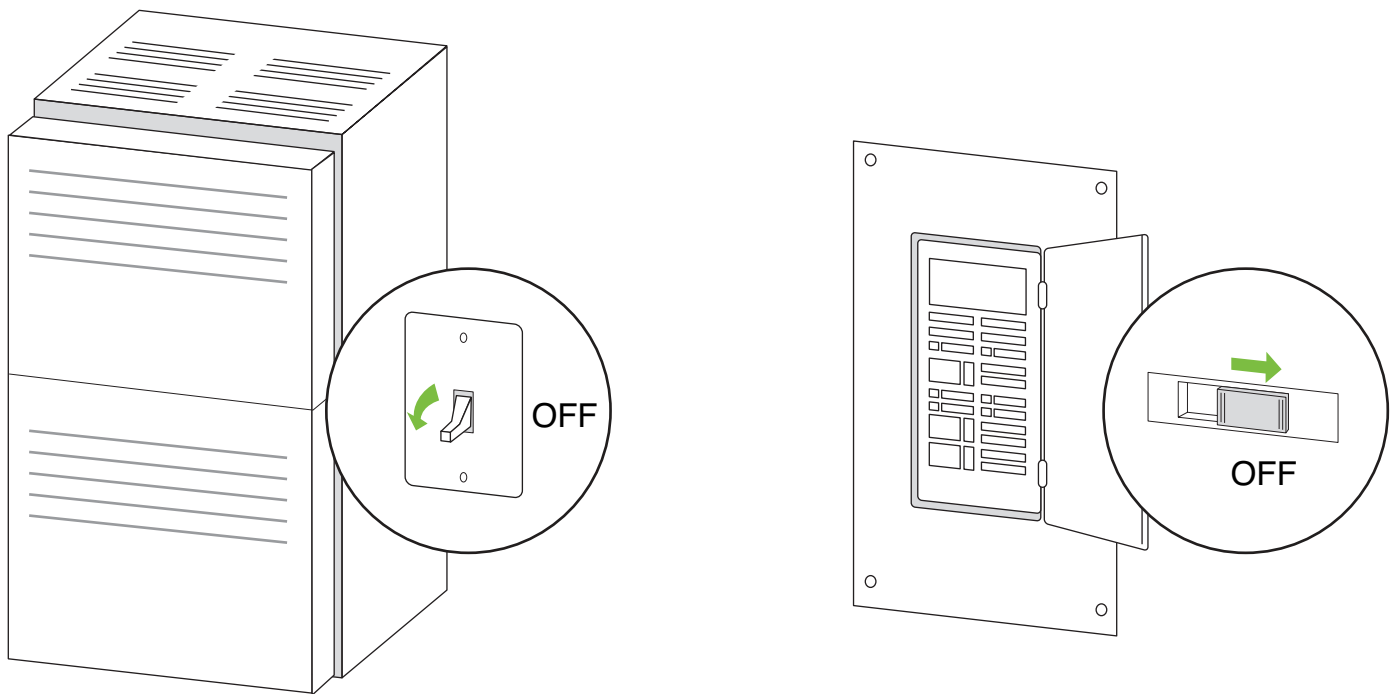


Fig 5-A



Hint: Your system should not make any noise and you should not feel any air exiting your vents when the power is OFF.



With or without C-Wire?

The TrickleStar Thermostat supports installation for both with and without C-Wire, but the installation is a little different.

Do you have a C-Wire connected to your old thermostat? Check the wires connected to the terminals on the base of your old thermostat.

- If a wire is connected to the “C” terminal, then your system has a C-Wire to power your new TrickleStar Thermostat.
- If there is no wire connected to the “C” terminal, then you need to install a C-Wire Adapter to power your new TrickleStar Thermostat.

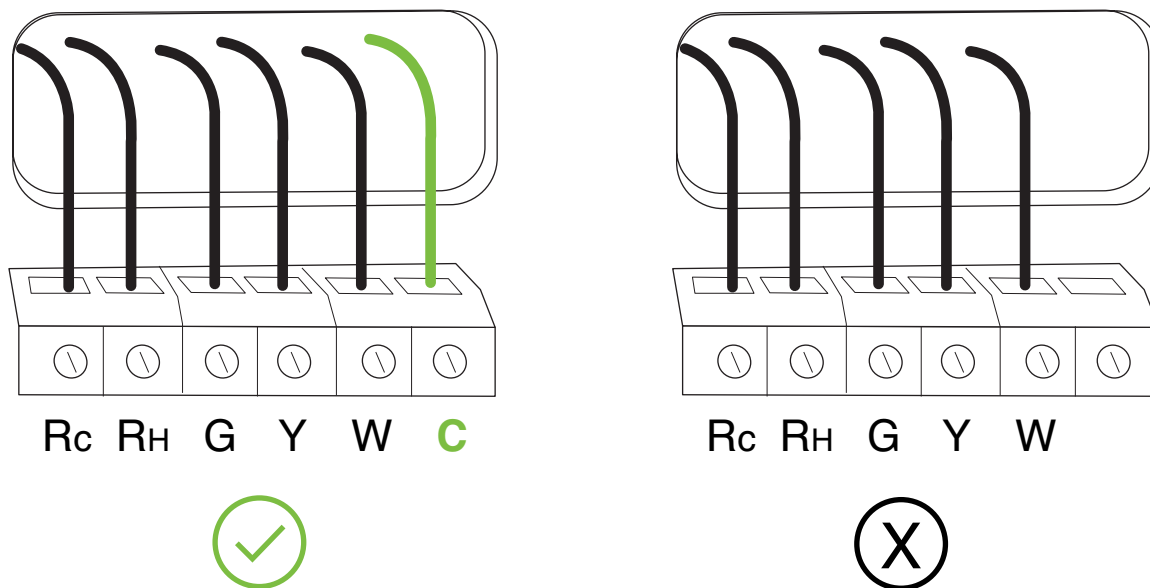


Fig 6-A



Note: Make sure that the C-Wire at your old thermostat is directly connected to the HVAC Control Board.



Installation Without a C-Wire

If your system does not have a C-Wire, it will not power your new TrickleStar Thermostat. You need the TrickleStar C-Wire Adapter (sold separately as an accessory). For more information on the TS2104 C-Wire Adapter, visit our website at: www.tricklestar.com

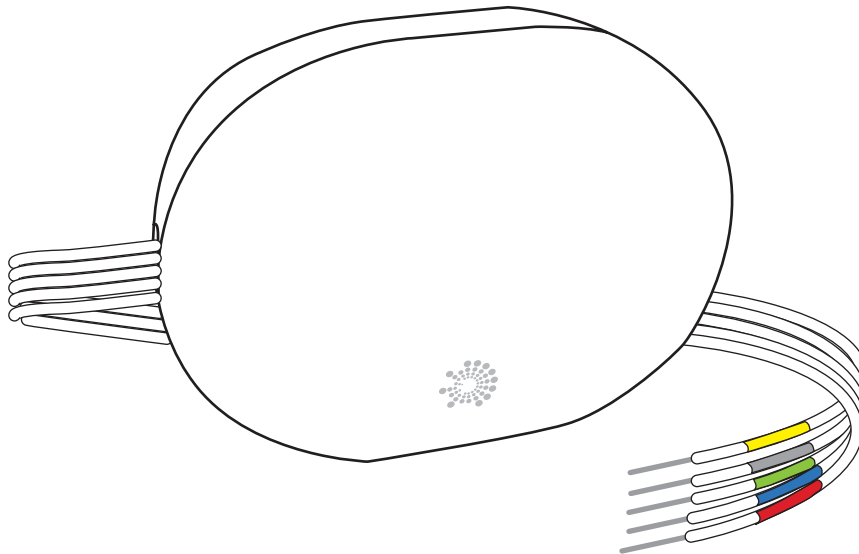
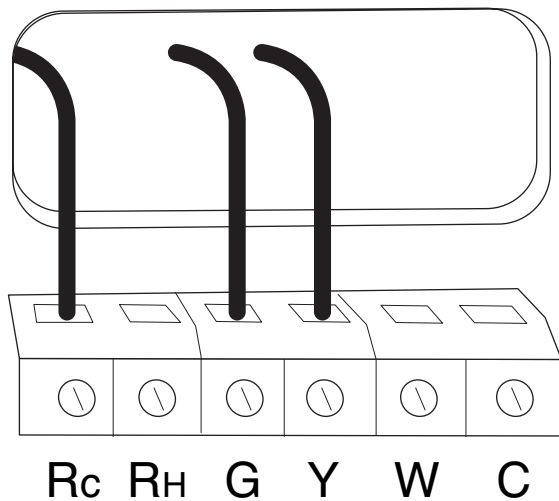


Fig 7-A

Step 1: Check if there are 3 or 4 wires

The TrickleStar C-Wire Adapter requires your system to have either three or four wires:

3 wires
Y/Y1, G, and R (or Rc or RH)



3 wires
W/W1/E, G, and R (or RC or RH)

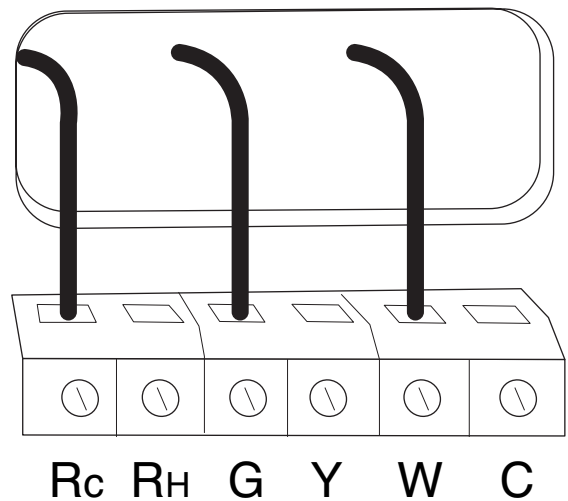


Fig 8-A

4 wires
W/W1/E, Y/Y1, G, and R (or Rc or RH)

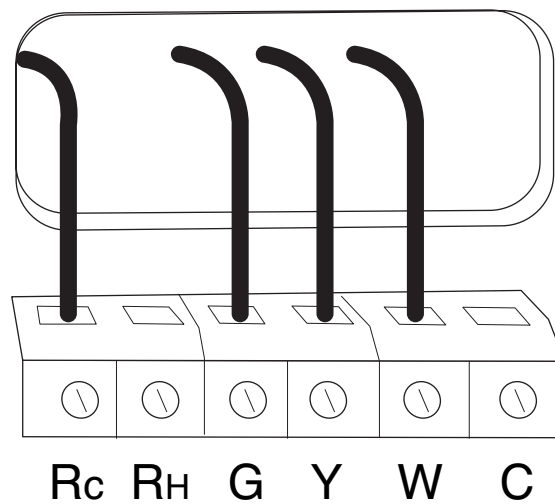


Fig 9-A

Yes

Continue to the next page

No

Email or call our technical support:

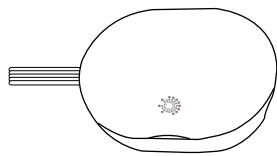
Email: customer.service@tricklestar.com

Toll Free: 1-888-700-1098



Step 2: Prepare the necessary tools

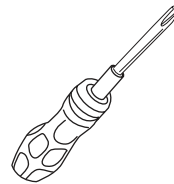
Bring along your TrickleStar C-Wire Adapter, wire labels, Phillips screwdriver and your mobile device with Wi-Fi connection to your HVAC system.



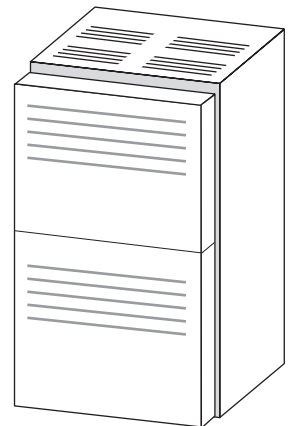
TrickleStar C-Wire Adapter

Label the wires at your control board.			
R	R	G	G
Rc	Rc	Y/ Y1	Y/ Y1
RH	RH	W/ W1	W/ W1

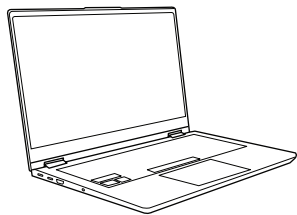
Wire Labels



Phillips screwdriver

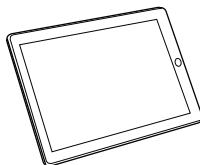


HVAC System



Laptop

or



Tablet

or



Smartphone



Fig 10-A



Note:
The HVAC system is usually located at the basement or the attic.

Step 3: Open your HVAC system's cover

Open your HVAC system's cover to reveal the control board.

We recommend that you take a photo of the wires connected to the HVAC control board. You may need to refer to this photo at a later stage.

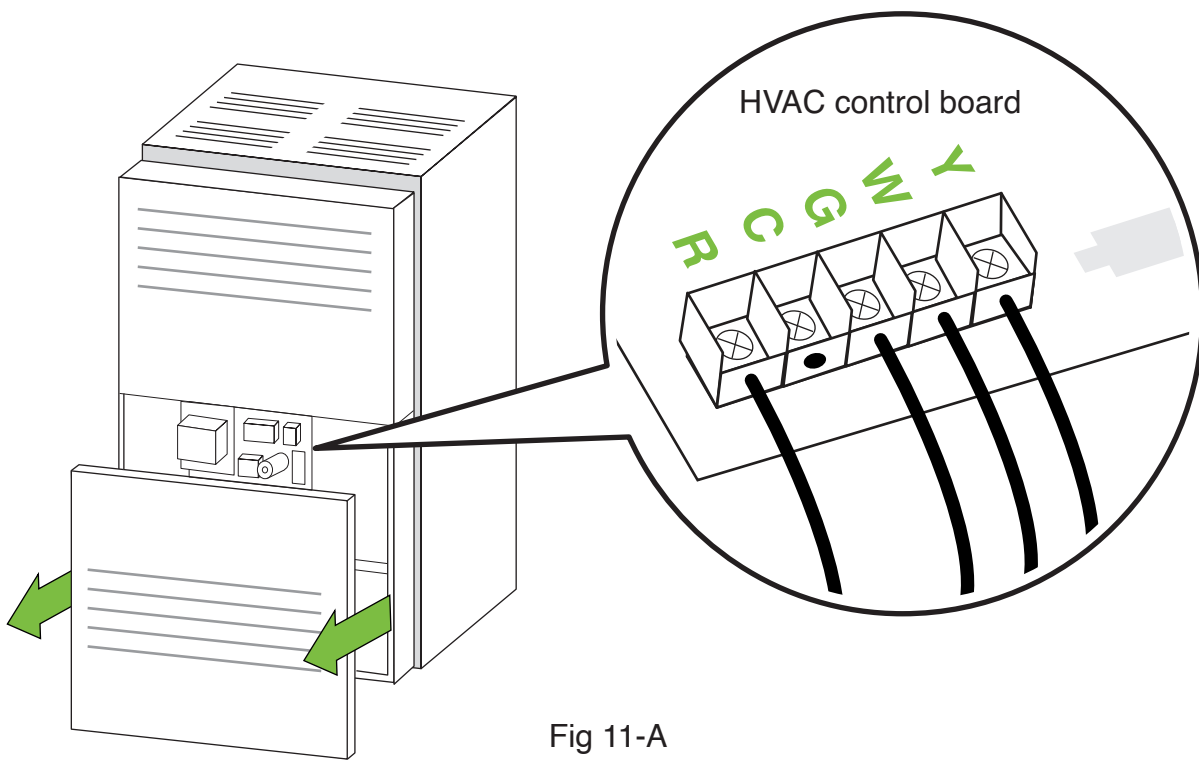


Fig 11-A



Note:

The HVAC system contains high voltage circuitry and wires. Before you open your HVAC system's cover, be sure to check that you have turned off the power for your HVAC system.

Step 4: Label the wires

- Label only the R, Y/Y1, G, and W/W1 wires with the matching wire labels provided.
- If you have more than one wire going into these terminals, label only those wires going to your thermostat.

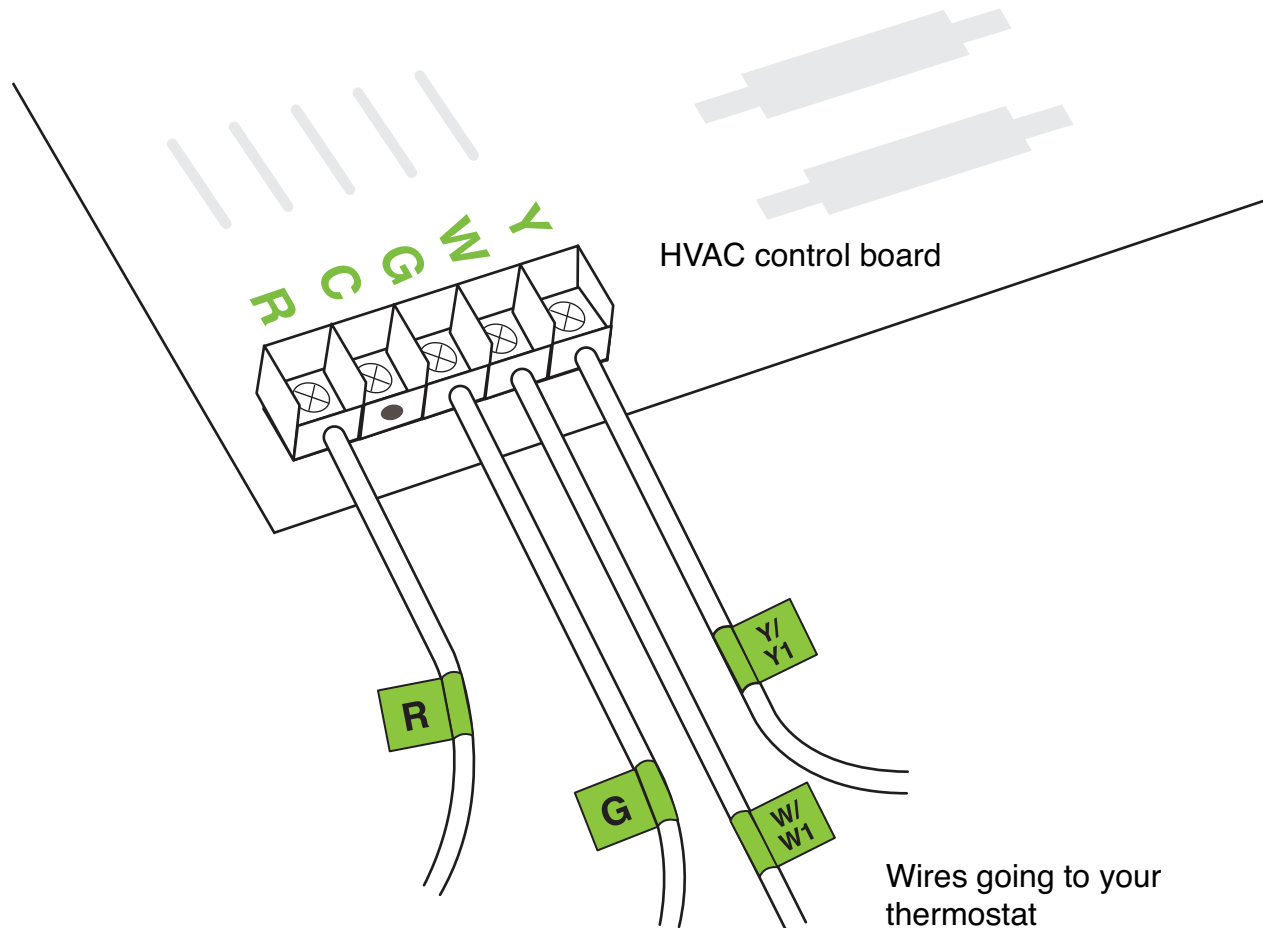


Fig 12-A



Note:

If you have wires connected to both RC and RH terminals at the HVAC control board, you may have a two-transformer system. Contact our technical support to help you with the installation:

Email: customer.service@tricklestar.com

Toll Free: 1-888-700-1098

Step 5: Disconnect the wires from the HVAC control board

Disconnect the wires labeled R, Y/Y1, G, and W/W1 from the HVAC control board.

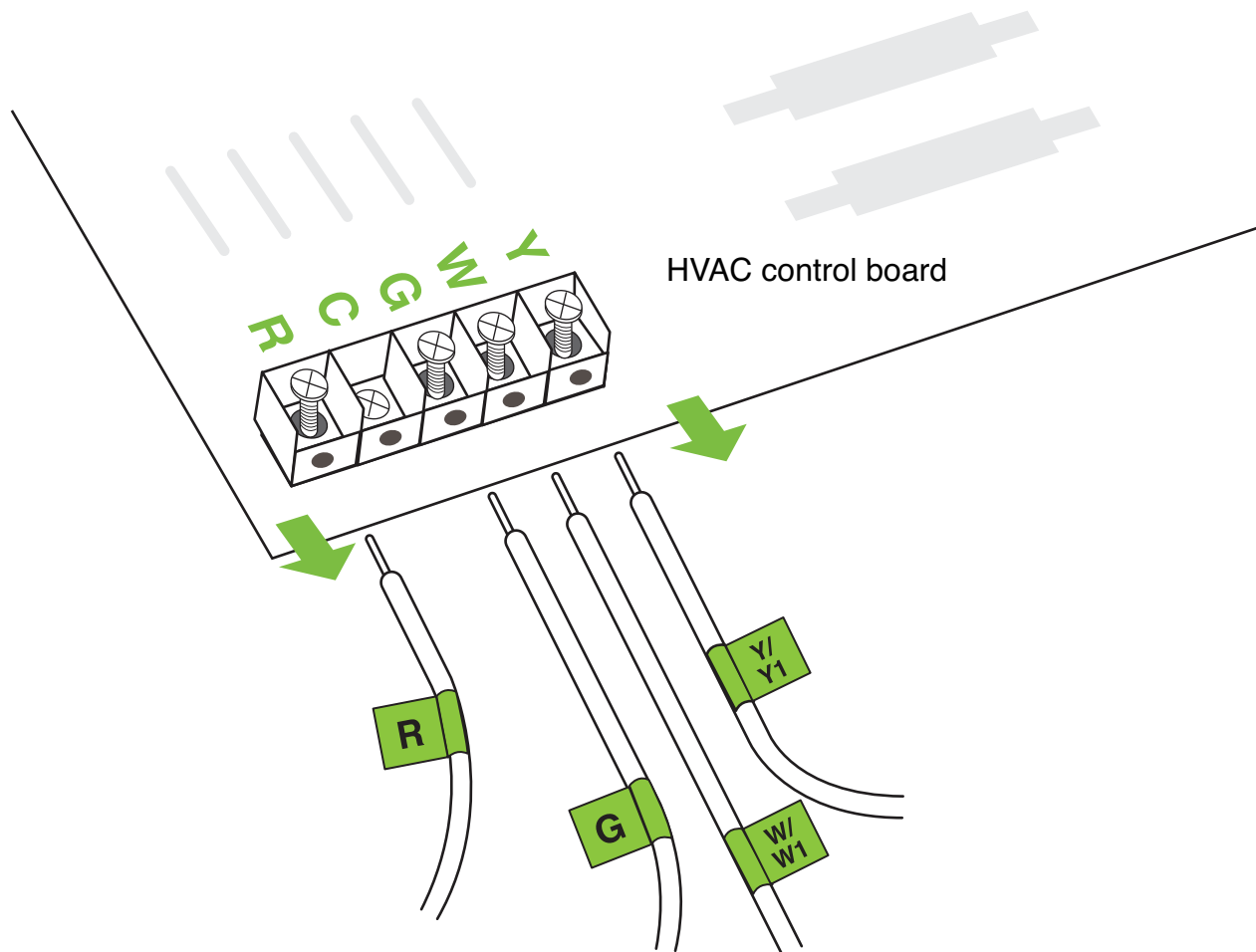


Fig 13-A

Step 6: Connect the wires from the C-Wire Adapter to the HVAC control board

Connect the five white wires from your TrickleStar C-Wire Adapter to their corresponding terminals on the HVAC control board.

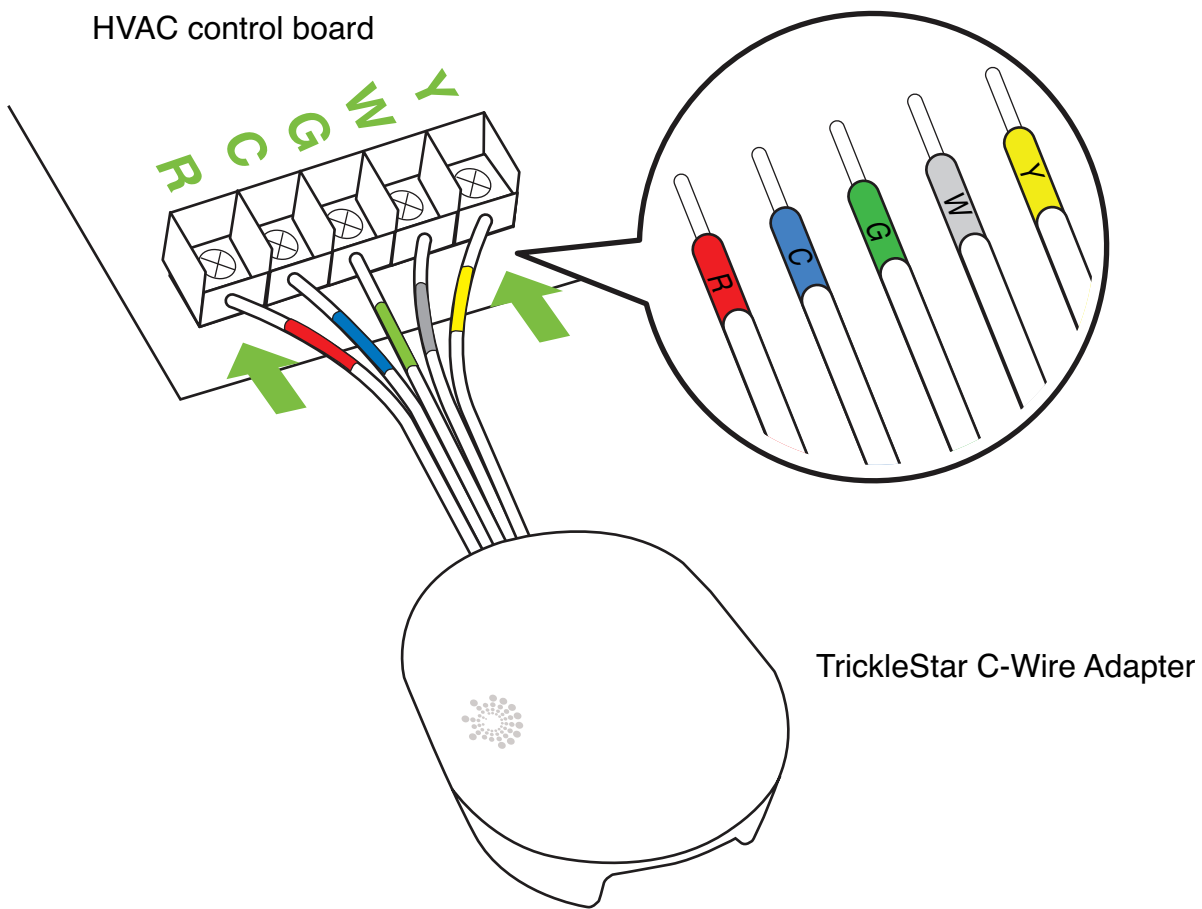


Fig 14-A

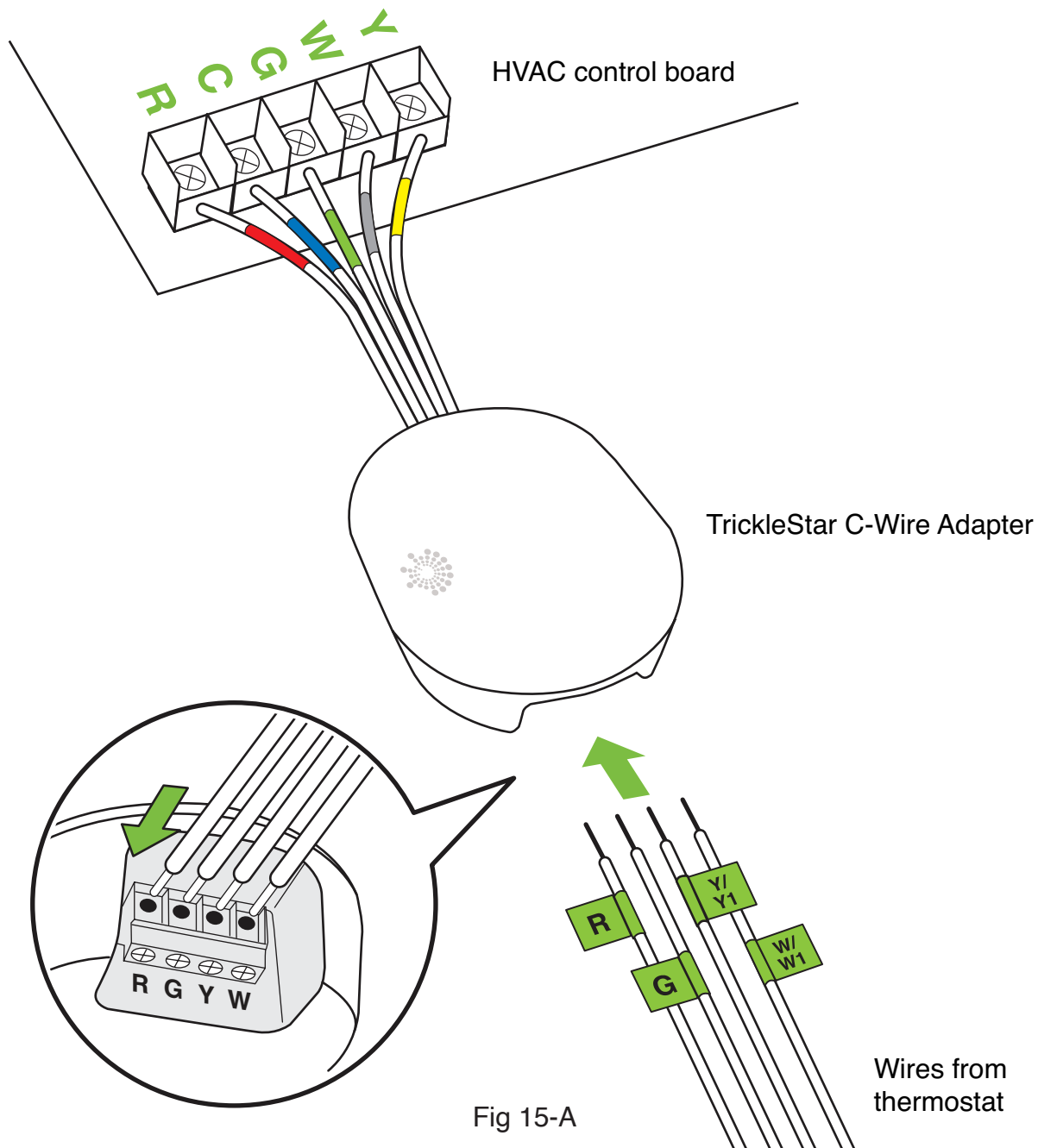


Note:
Pull the wires gently to ensure that they are connected securely.



Step 7: Connect the disconnected wires from the HVAC control board to the C-Wire Adapter

Connect the wires you disconnected from the HVAC control board in Step 5 to their corresponding terminals on the TrickleStar C-Wire Adapter.



Step 8: Mount the C-Wire Adapter inside your HVAC system

- Mount the TrickleStar C-Wire Adapter inside your HVAC system. Be sure not to strain the wires.
- Close your HVAC system's cover securely.
- You can now return to your thermostat.

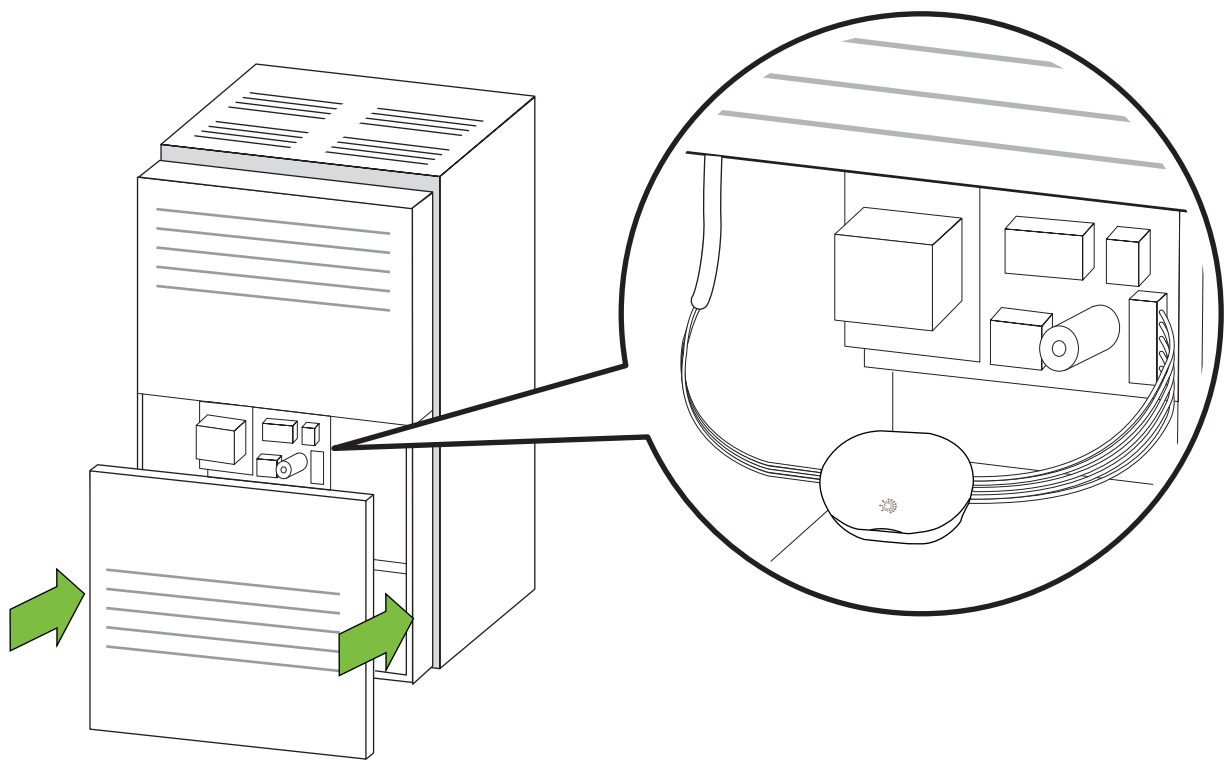


Fig 16-A

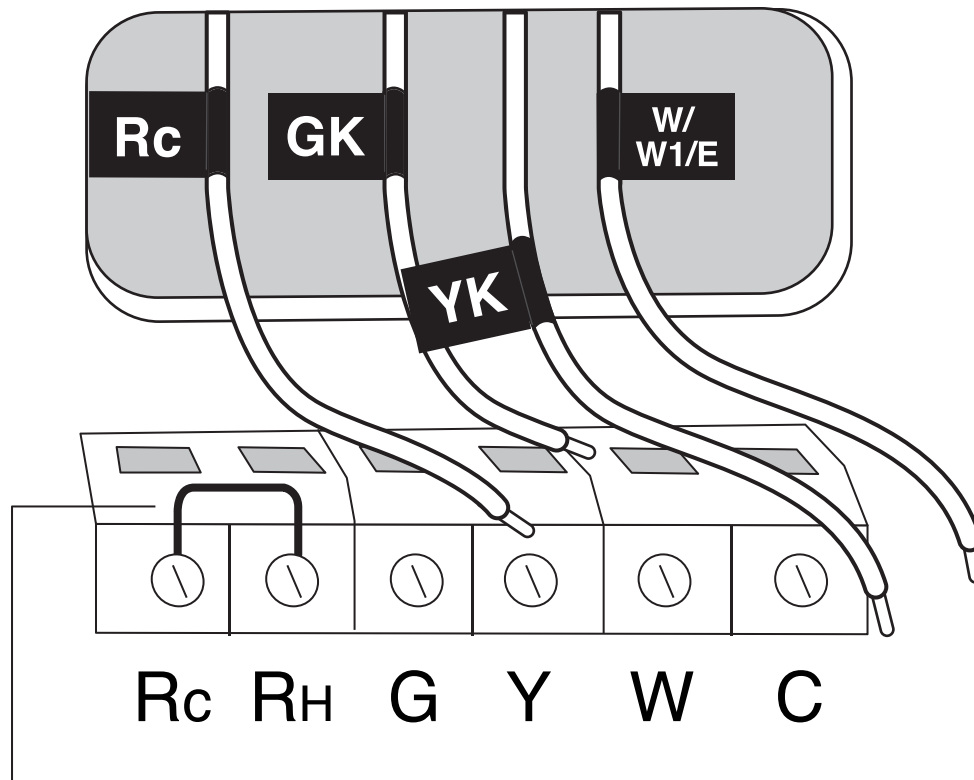


Note: Make sure your HVAC system's cover is fully closed. Some HVAC systems will not turn on if the cover has not been closed properly.

Step 9: Disconnect and label old thermostat wires

Disconnect and label the wires from your old thermostat carefully, one wire at a time, using the wire labels provided. If you have connected the C-Wire Adapter, label the wire connected to the G terminal with the GK wire label and label the wire connected to the Y/Y1 terminal with the YK wire label.

Make sure the wires do not fall back into the wall when released from the terminals and that the labels are fastened to the wires securely.



Jumper wire

Fig 17-A



Note: If the terminals on your old thermostat has a jumper wire between RH, RC or R, remove the jumper wire. Your new TrickleStar Thermostat does not need this jumper wire.

Step 10: Unscrew old Mounting Plate

Unscrew the Mounting Plate of your old thermostat to remove it from the wall. When you remove the Mounting Plate, be sure not to tear off the labels on the wires.

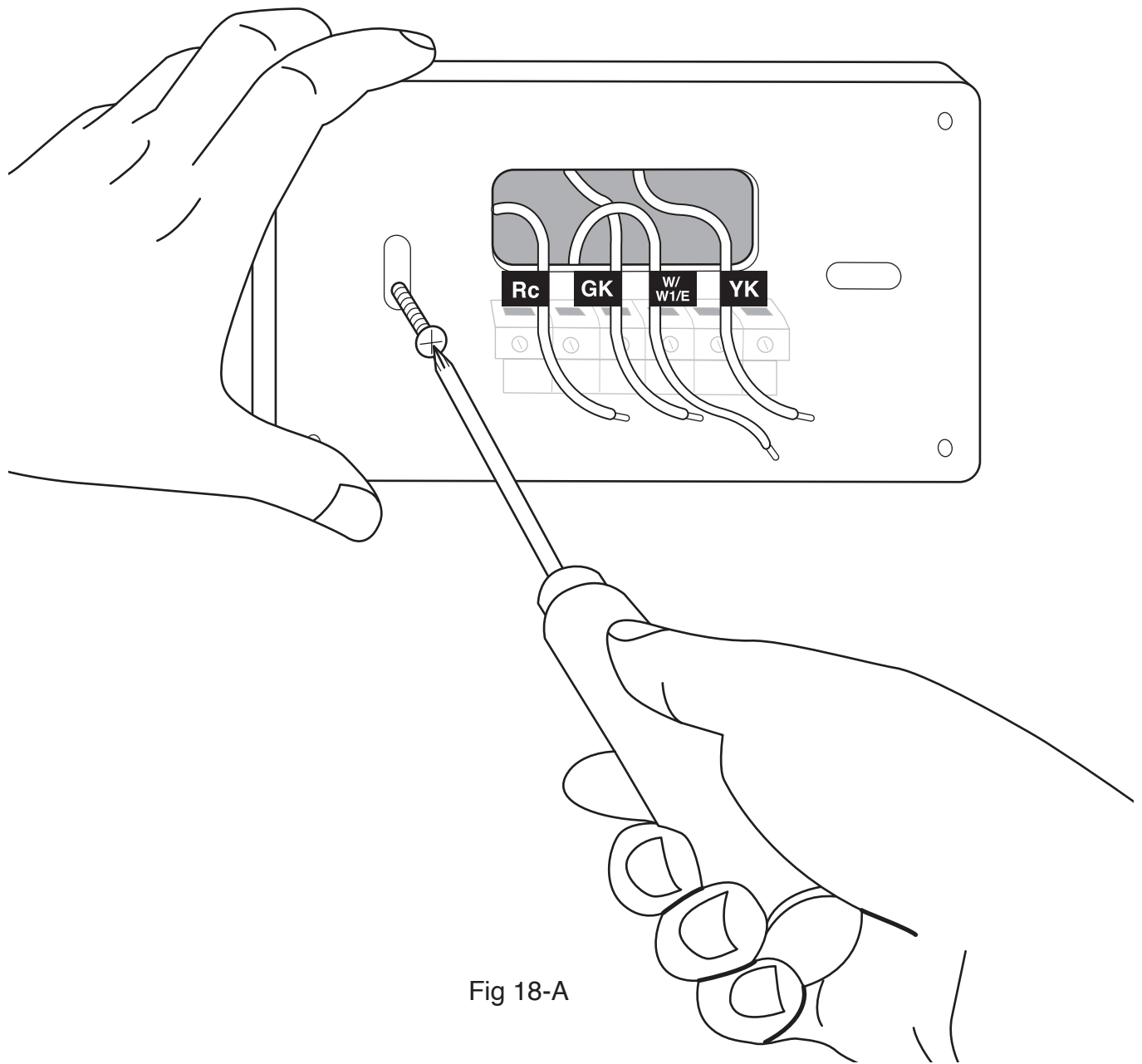


Fig 18-A

Step 11: Replace with new Thermostat Mounting Plate

Decide if you want to mount the TrickleStar Thermostat directly to the wall or you want to use the Trim Plate. The Trim Plate helps you to hide marks or holes left on the wall by your old thermostat.

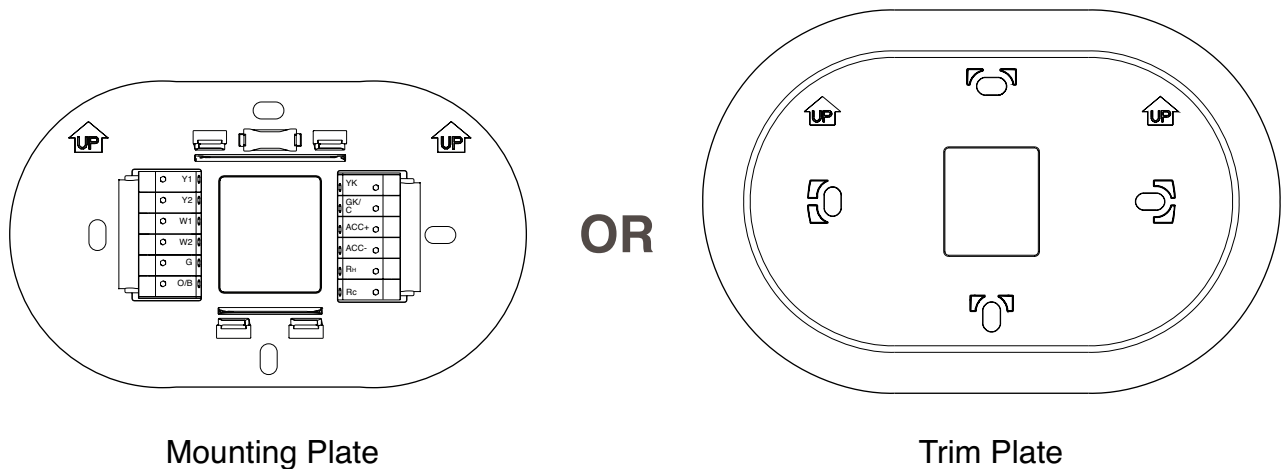


Fig 19-A

Step 12: If the Trim Plate is used (Optional)

If you use the Trim Plate, align the mounting holes on the Trim Plate and Mounting Plate, then press them together into place.

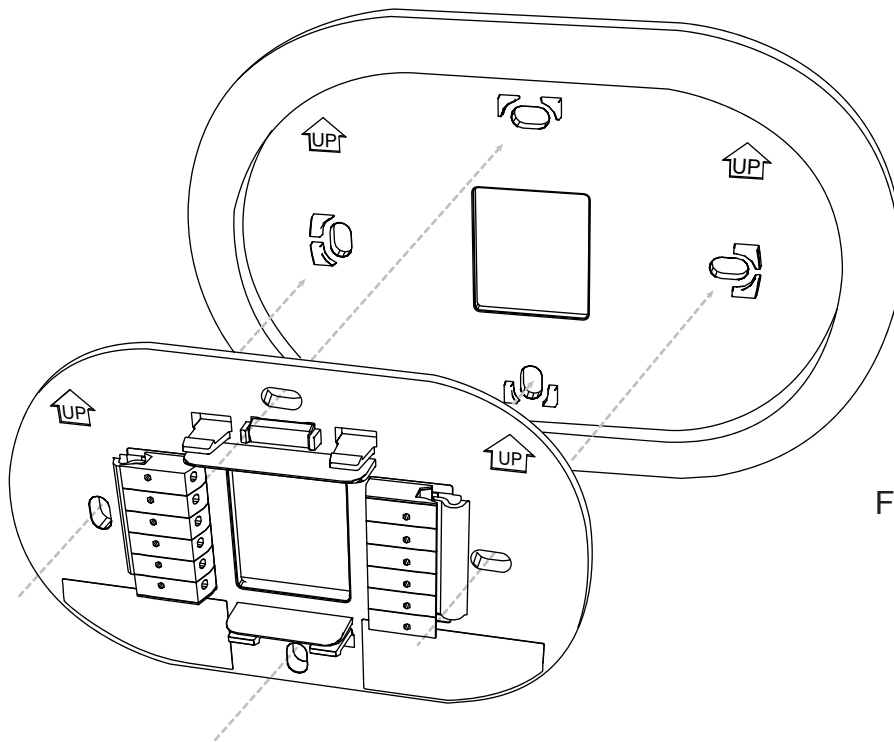


Fig 20-A

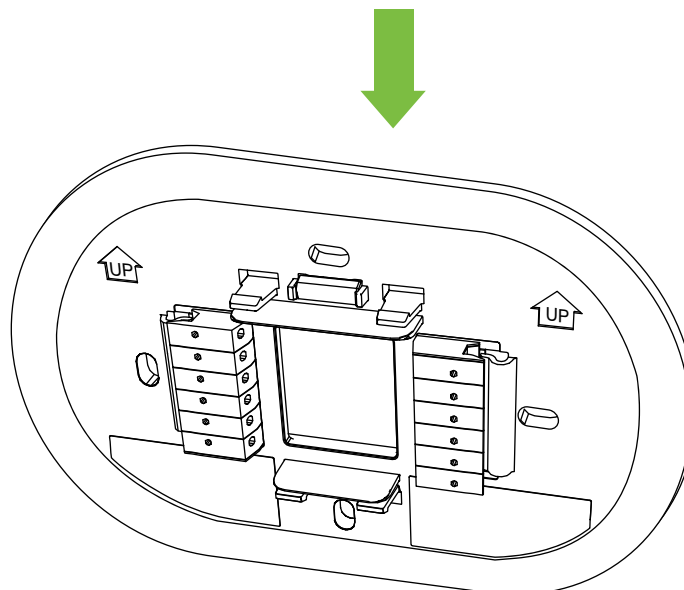


Fig 20-B

Step 13: Pull the labeled wires through the hole of the Mounting Plate

Pull the labeled wires carefully through the hole of the Mounting Plate.

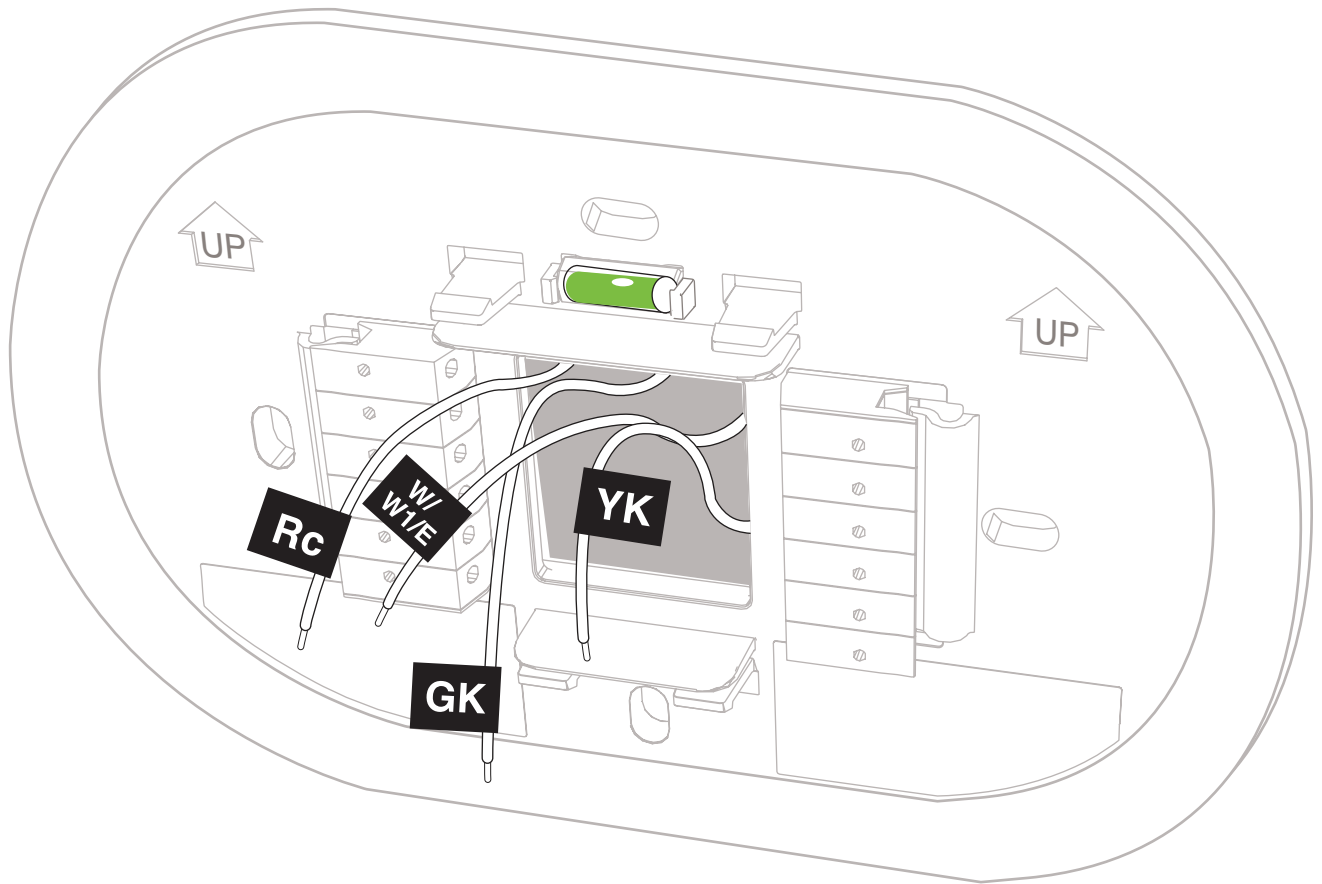
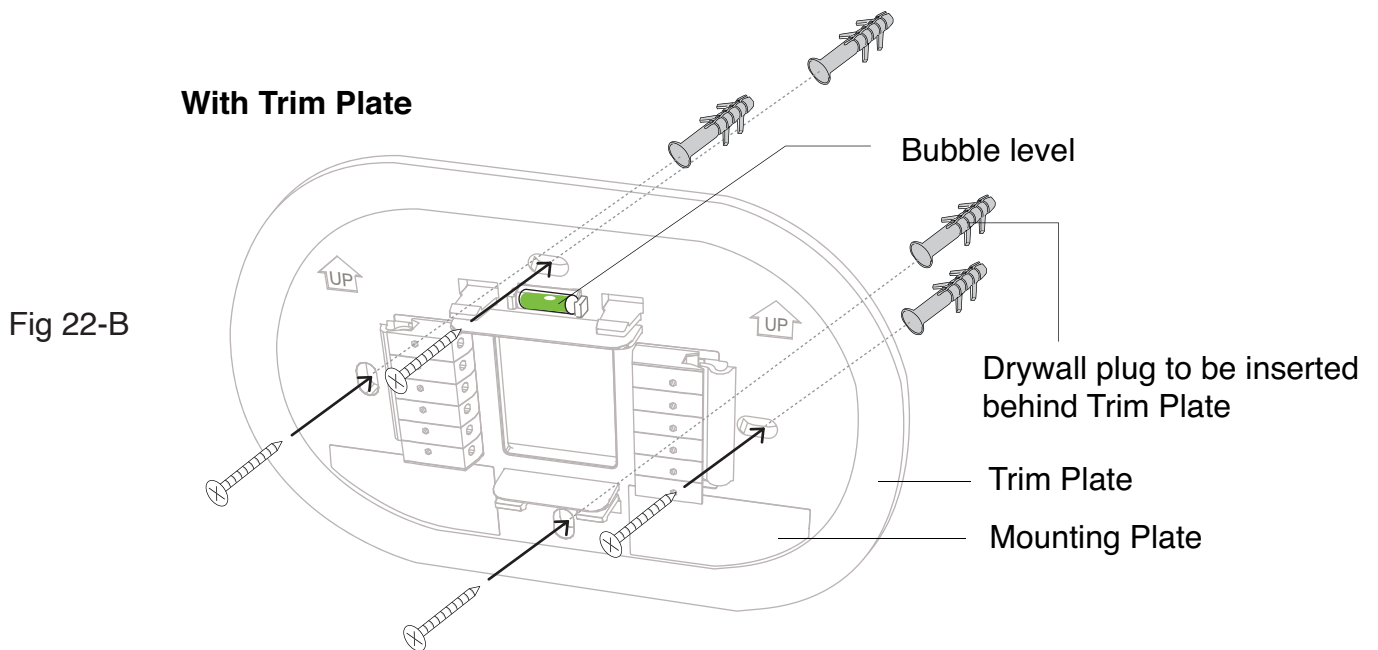
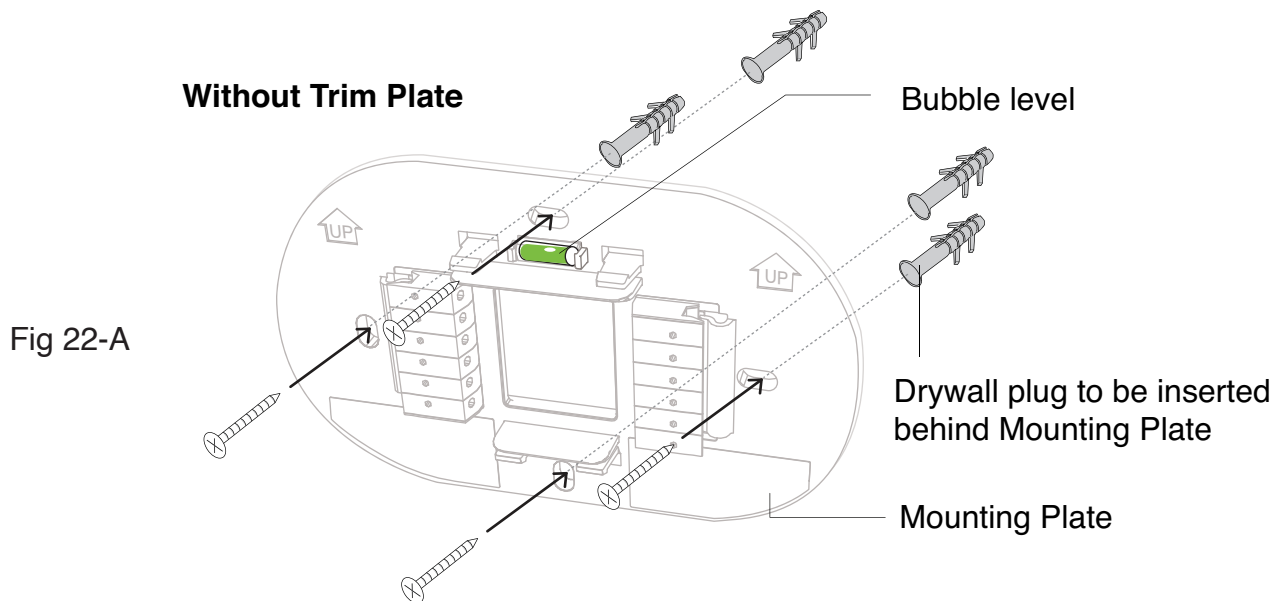


Fig 21-A

Step 14: Attach the Mounting Plate on the wall

Attach the Mounting Plate on the wall using the drywall plugs and screws provided. Use the built-in bubble level to make sure the base is level.



Use a drill with 3/16 in. (3.3 mm) drill bit to drill four holes for the drywall plugs.

Step 15: Connect the wires

- Connect the RC, GK, YK and W/W1/E wires to their corresponding terminals on the Thermostat Mounting Plate as shown below.
- Connect the remaining wires to their corresponding terminals on the Thermostat Mounting Plate.

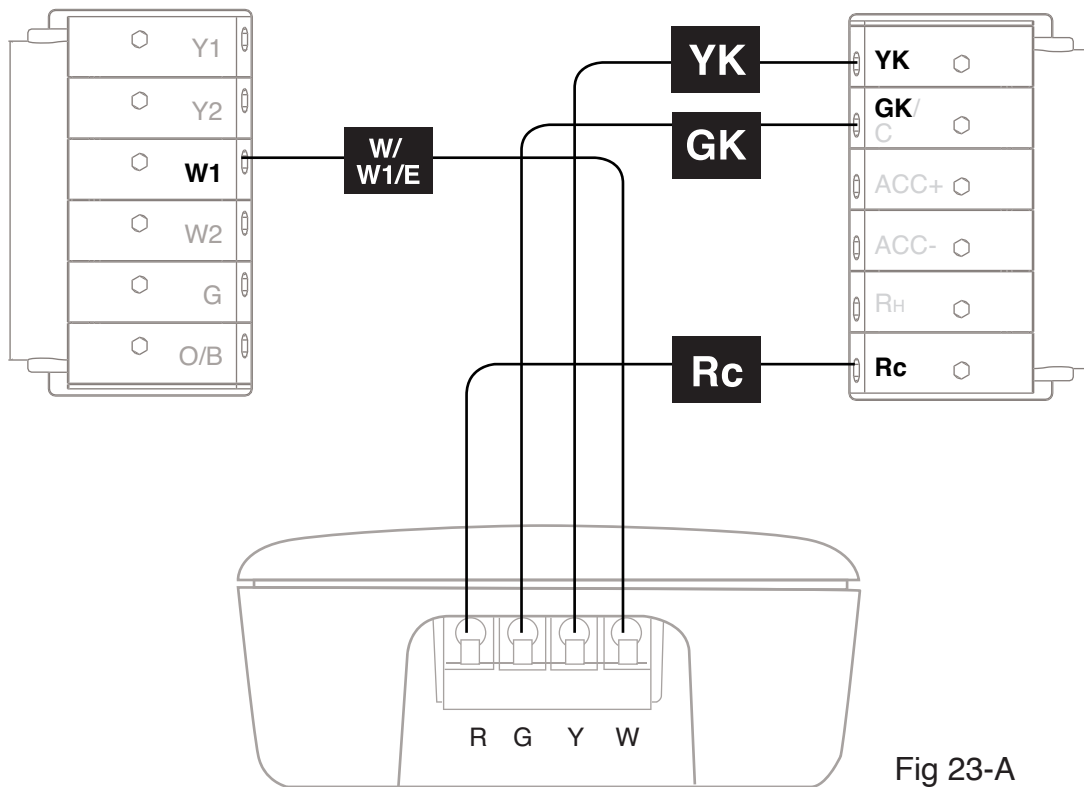


Fig 23-A



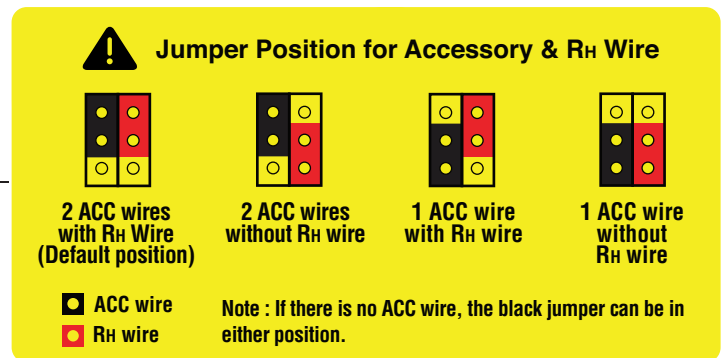
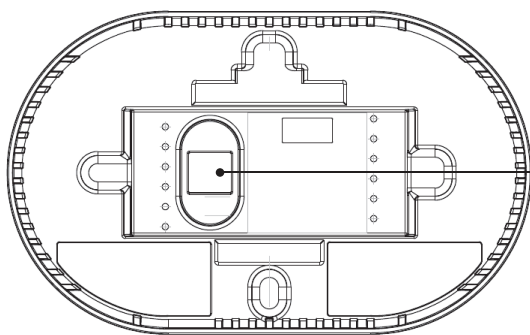
Note:

- You can refer to “Wiring Diagrams” from pages 56 to 61 of the Thermostat Installation Guide for some common HVAC equipments.
- Connect the remaining wires to their corresponding terminals. Pull the wires gently to ensure that they are connected securely.
- Tape the ends of any excess wires and push the wires back into the wall carefully.
- Make sure there is no draft coming from the hole in the wall as it may affect the temperature readings.

Step 16: Set the jumpers on the back of your Thermostat

The Accessory (ACC) wires are used to power devices such as humidifier or dehumidifier. If your system does not have any ACC wires, you can leave the black jumper in either position.

Fig 24-A



If your system has two ACC wires with an RH wire, set the jumpers as illustrated. This is the default position.

If your system has two ACC wires without an RH wire, set the jumpers as illustrated.

If your system has one ACC wire with an RH wire, set the jumpers as illustrated.

If your system has one ACC wire without an RH wire, set the jumpers as illustrated.

Step 17: Attach the Thermostat onto its Mounting Plate until it clicks

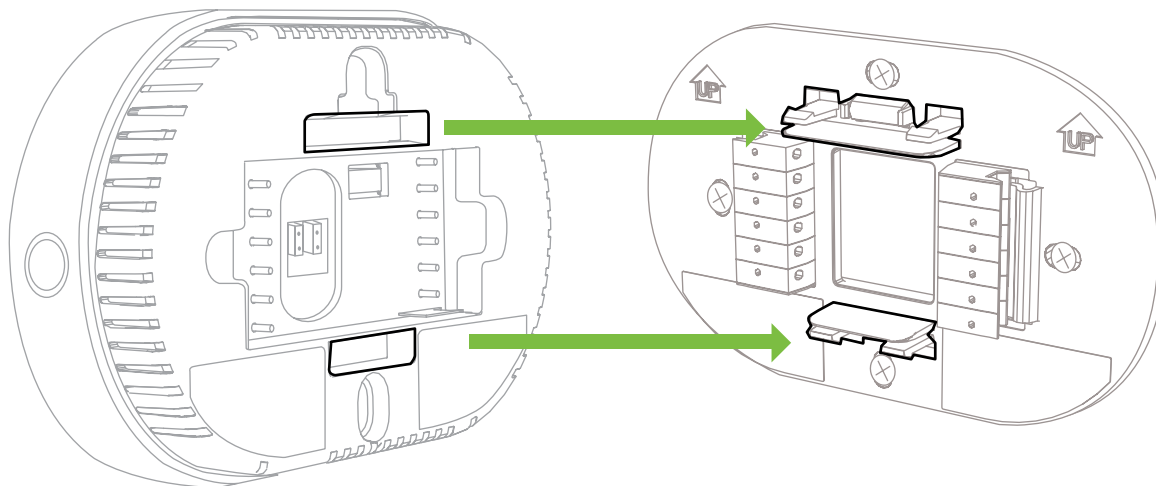


Fig 25-A

Step 18: Turn on the power

Turn the power back ON for your HVAC system either at the Circuit Breaker Box or at the Main Switch.

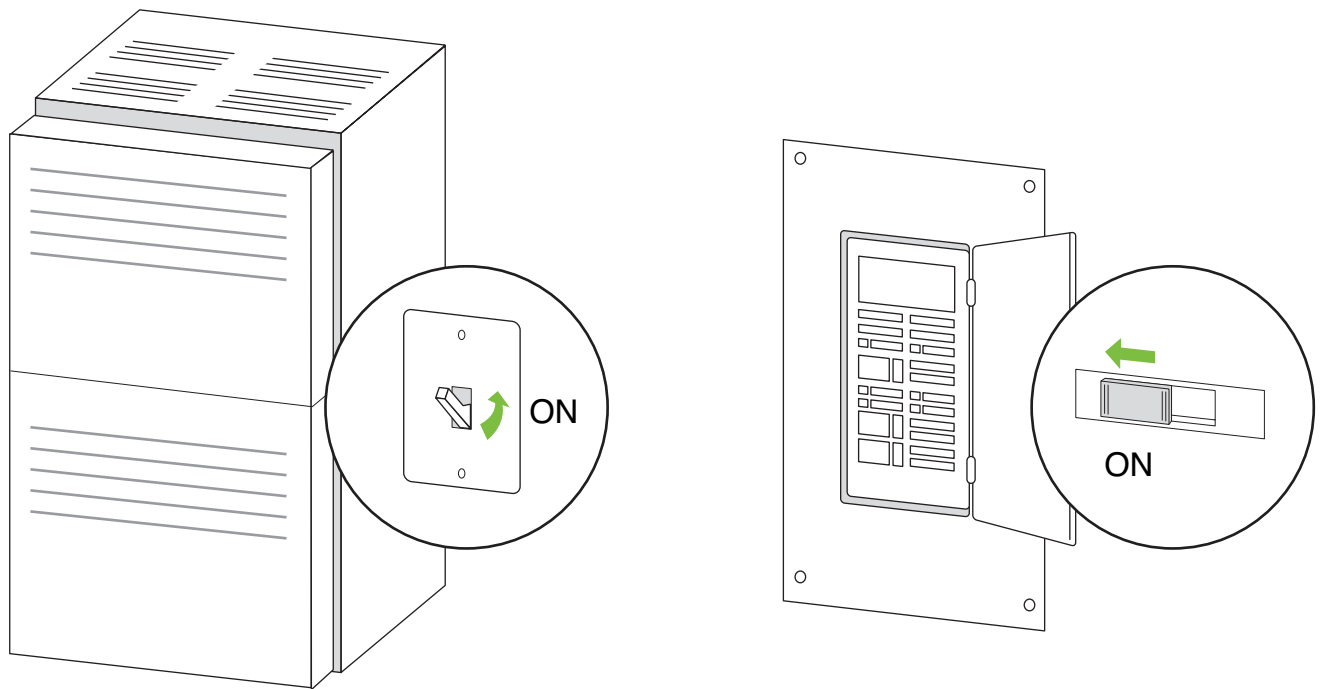


Fig 26-A

Installation done!

Congratulations! You have completed your installation.

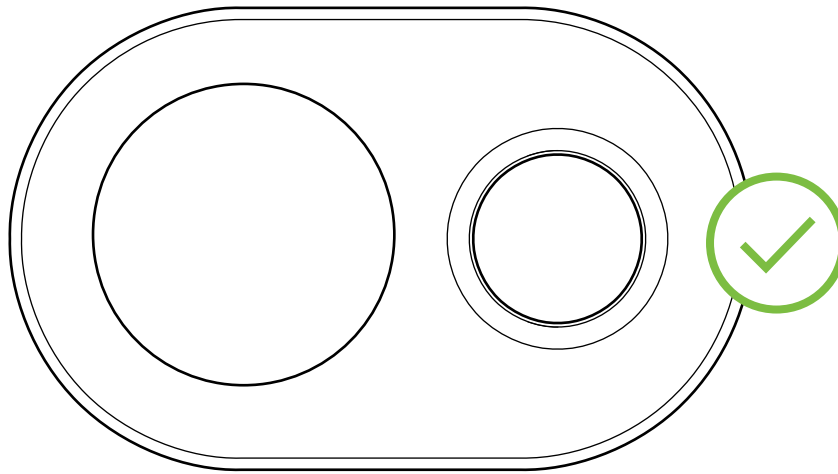
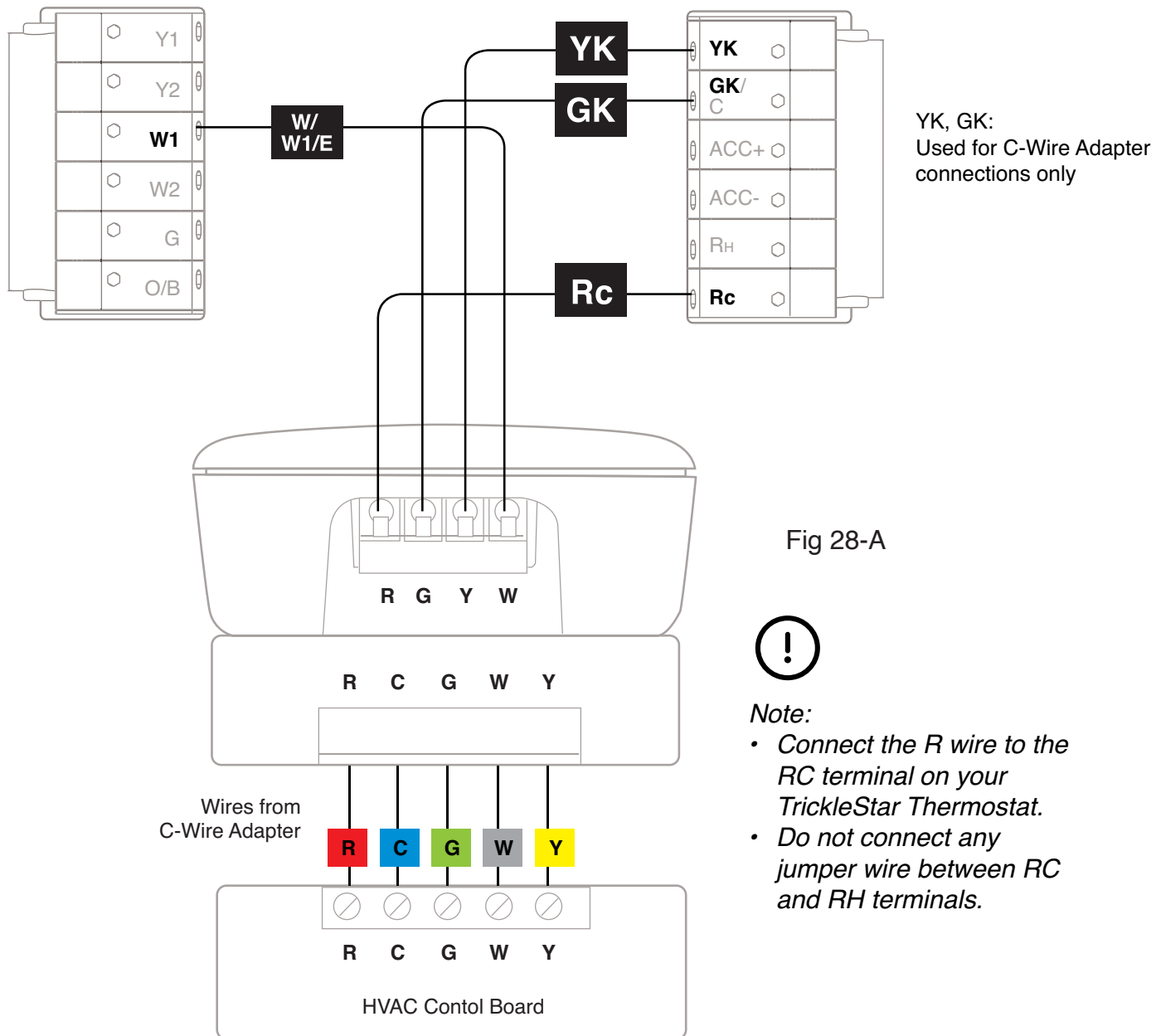


Fig 27-A

Wiring Diagram

C-Wire Adapter wiring

Wire the TrickleStar C-Wire Adapter as shown below.





Troubleshooting

Symptom	Solution
My Thermostat does not turn on after installation	<ul style="list-style-type: none">• If you have installed a C-Wire Adapter, check that all wires are connected correctly from C-Wire Adapter to the HVAC control board and Thermostat. Pull the wires gently to ensure that they are connected securely.• Make sure that your HVAC system cover is fully closed. Some HVAC systems will not turn on if the cover has not been closed properly.• If there is only one R wire (R, RC, or RH), make sure that it is connected to the RC terminal on the Thermostat.

If the problem persists, you can refer to the Frequently Asked Questions (FAQ) section on our website, or email or call our technical support:

Website: www.tricklestar.com

Email: customer.service@tricklestar.com

Toll Free: 1-888-700-1098



For technical support, go to:
Website: www.tricklestar.com
Email: customer.service@tricklestar.com
Toll Free: 1-888-700-1098

Patent Pending

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