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Mermaid Control Box Wiring

For Standard Control Boxes Built After 2013

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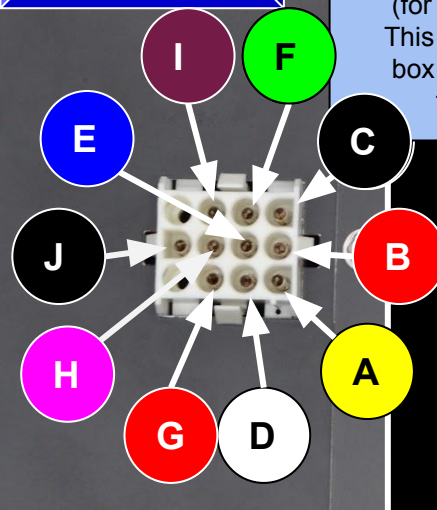
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Reverse Cycle Box](#)

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PLUG SLOT	COLOR	ICON	GOES TO IN BOX	CAME FROM ON UNIT
Row 1 #1	Yellow	A	Heat Contactor Or Main Contactor	Heat Strip Or Reversing Valve
Row 1 #2	Red	B	Compressor Capacitor	Compressor -S-Terminal [Start]
Row 1 #3	Black	C	Main Contactor	Power To HP Reset Switch
Row 2 #1	White	D	Compressor Capacitor	Compressor -R-Terminal [Run]
Row 2 #2	Blue	E	Heat Contactor Or Reversing Relay	Heat Strip Or Reversing Valve
Row 2 #3	Green	F	Ground Lug On Control Box	Ground Screw On Base Of Unit
Row 3 #1	Red	G	Compressor Relay Terminal #2	From High Pressure Reset Switch
Row 3 #2	Pink	H	Neutral Side Of Main Contactor	Neutral To Blower
Row 3 #3	Purple	I	Fan Relay Terminal #4	Power To Blower
Row 4 #2	Black	J	Compressor Relay Terminal #4	Compressor -C-Terminal [Common]

Page 2 External Wiring



BLACK TERMINAL BLOCK
 Q = 24 Volt Lead
 R = Fan Wire
 S = Heat Wire
 T = Cool Wire
 U = 24 Volt Common Wire
 (for Wi-fi thermostats).
 This connects inside the box to the green C wire from [page 3](#).

NOTE: The brown U wire is only on boxes built after May 2021 (but can be easily added as seen on [Page 15](#)).

WHITE TERMINAL BLOCK
 K = Power To Pump
 L = Neutral To Pump
 M = Ground Lug
 N = 30 Amp Glass Fuse
 O = Power From Breaker
 P = Neutral From Breaker

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Page 3: Transformer, Fuse Holder & Hard Start

A: Black Power Wire From White Terminal Block To Fuse Holder

B: Black Power Wire From Fuse Holder To Contactor Power In

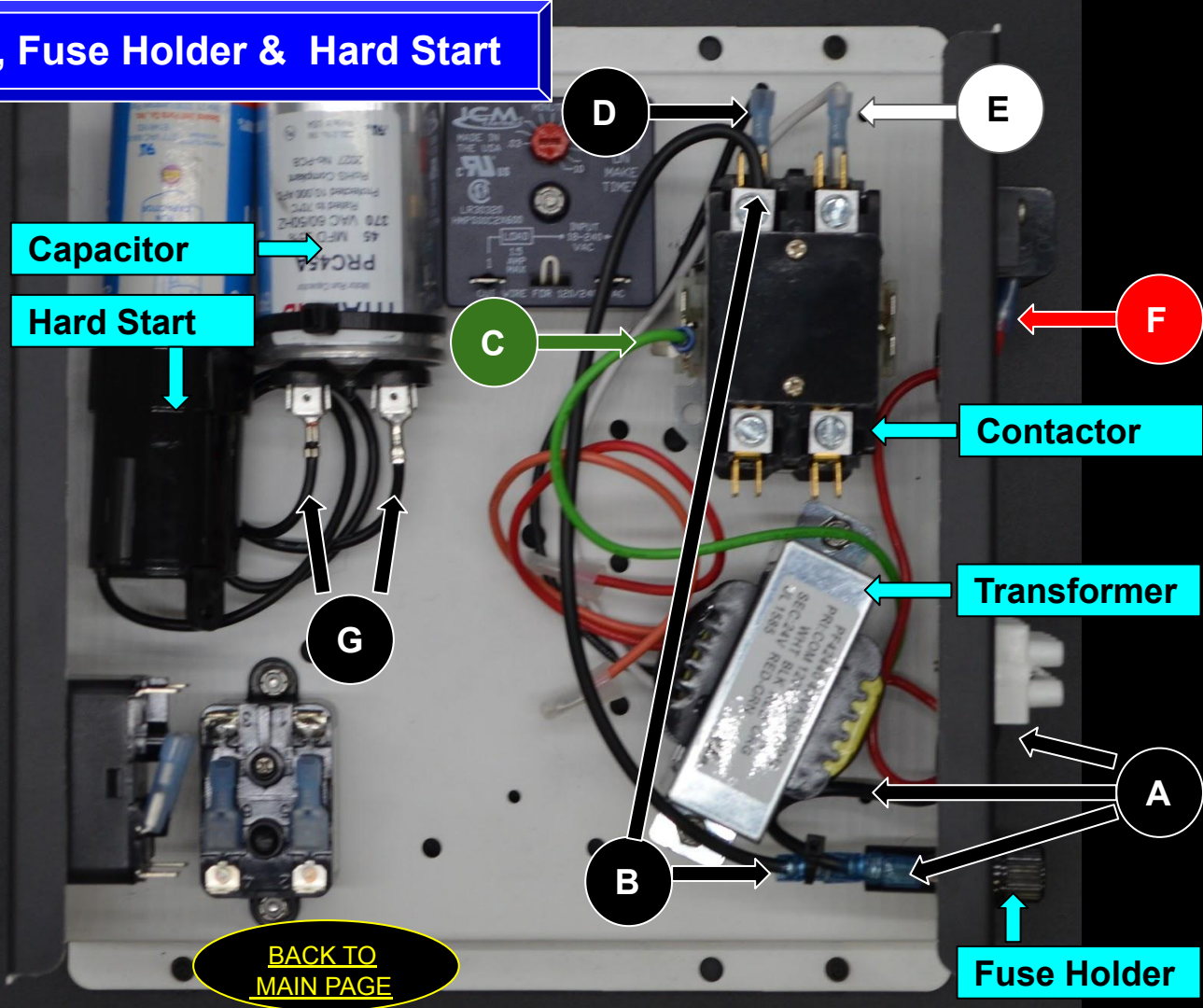
C: Green Transformer Wire (24 Volt Neutral) To This Contactor Terminal

D: Transformer Power Wire. Black For 120 Volt -OR- Red For 220 Volt

E: White (Neutral) Transformer Wire

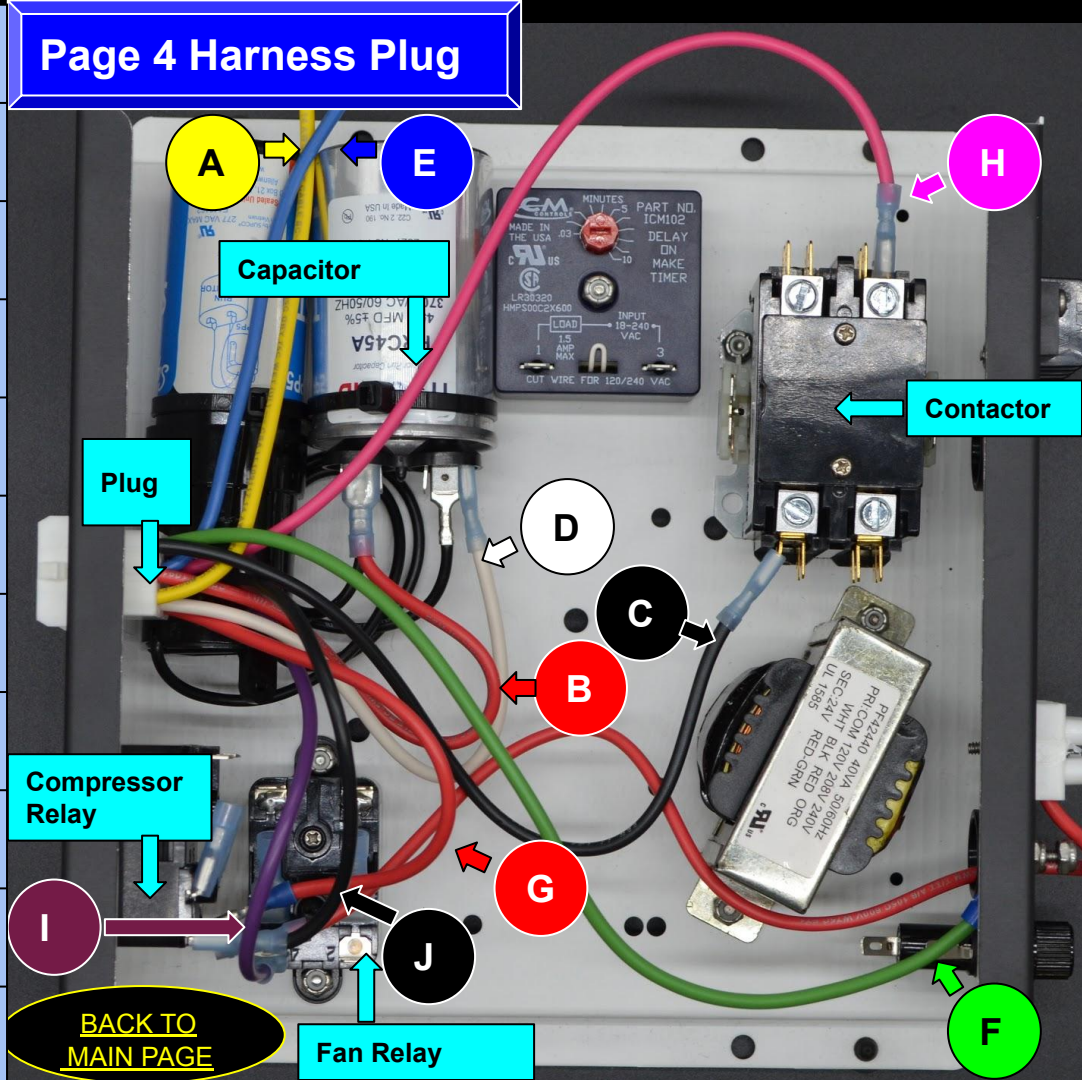
F: Red Transformer Wire. Goes Here For Cool Only & Electric Heat Units. See [THIS PAGE](#) For Where It Goes On Reverse Cycle Units.

G: One Wire From The Hard Start Goes To Each Side Of Capacitor.



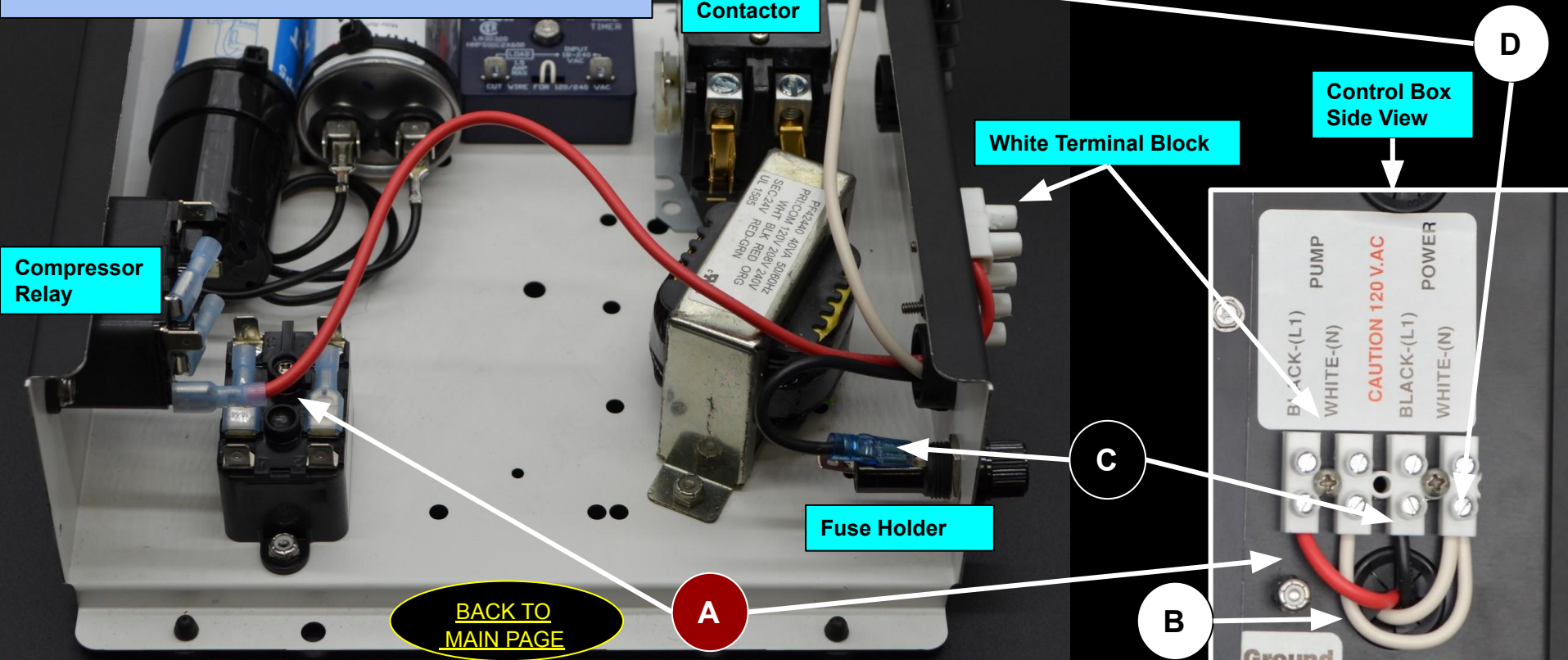
PLUG SLOT	COLOR	ICON	GOES TO IN BOX	CAME FROM ON UNIT
Row 1 #1	Yellow	A	Heat Contactor Or Main Contactor	Heat Strip Or Reversing Valve
Row 1 #2	Red	B	Compressor Capacitor	Compressor -S-Terminal [Start]
Row 1 #3	Black	C	Main Contactor	Power To HP Reset Switch
Row 2 #1	White	D	Compressor Capacitor	Compressor -R-Terminal [Run]
Row 2 #2	Blue	E	Heat Contactor Or Reversing Relay	Heat Strip Or Reversing Valve
Row 2 #3	Green	F	Ground Lug On Control Box	Ground Screw On Base Of Unit
Row 3 #1	Red	G	Compressor Relay Terminal #2	From High Pressure Reset Switch
Row 3 #2	Pink	H	Neutral Side Of Main Contactor	Neutral To Blower
Row 3 #3	Purple	I	Fan Relay Terminal #4	Power To Blower
Row 4 #2	Black	J	Compressor Relay Terminal #4	Compressor -C-Terminal [Common]

Page 4 Harness Plug

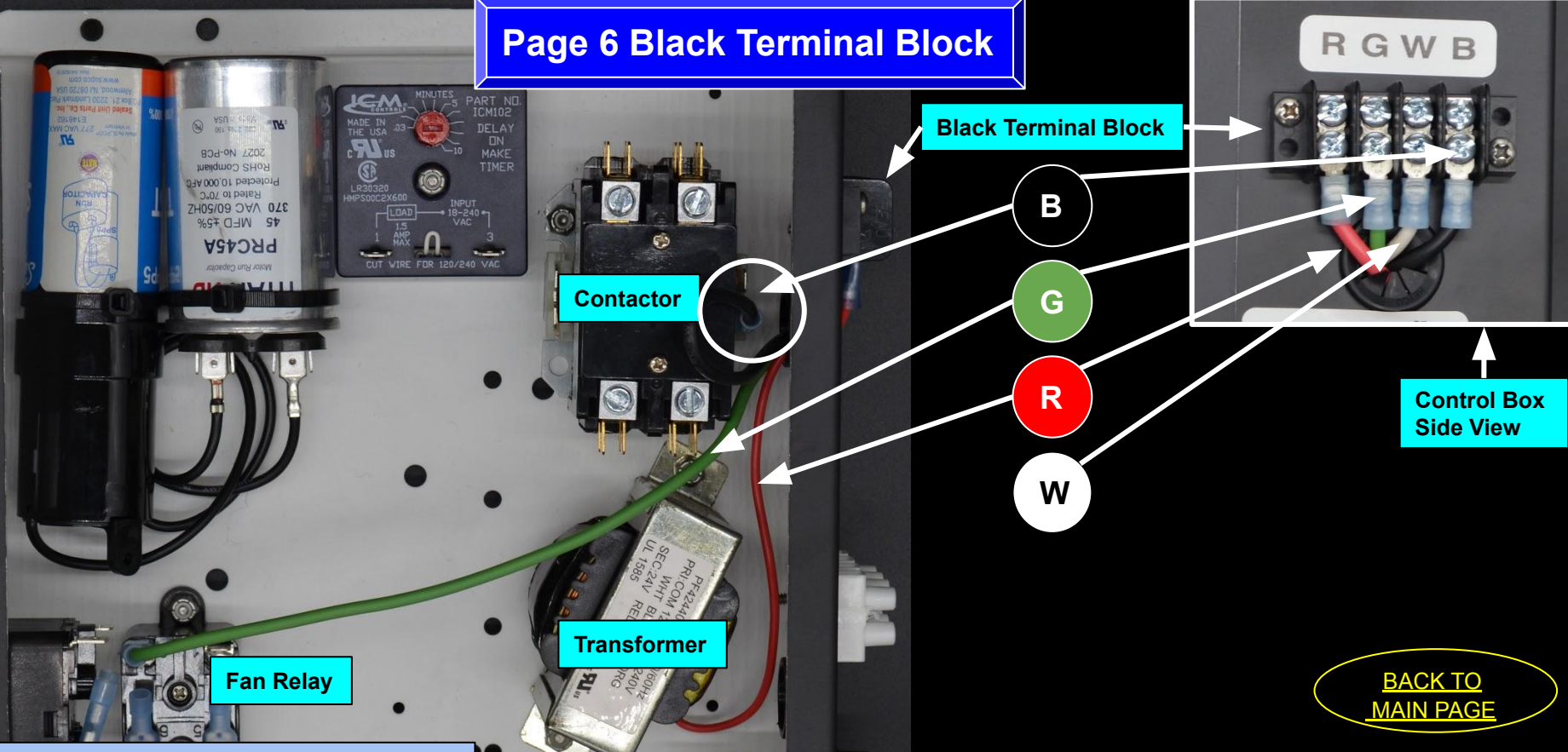


Page 5 White Terminal Block

A Red Pump Wire Goes To Compressor Relay Terminal #2
B White Pump Wire Attaches To White Power Wire Terminal
C Black Power Wire Goes To Fuse Holder
D White Power Wire Goes To Contactor



Page 6 Black Terminal Block



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B (Black/Cool) Goes To The Contactor.

G (Green/Fan) Goes To The Fan Relay
Onto Terminal #3.

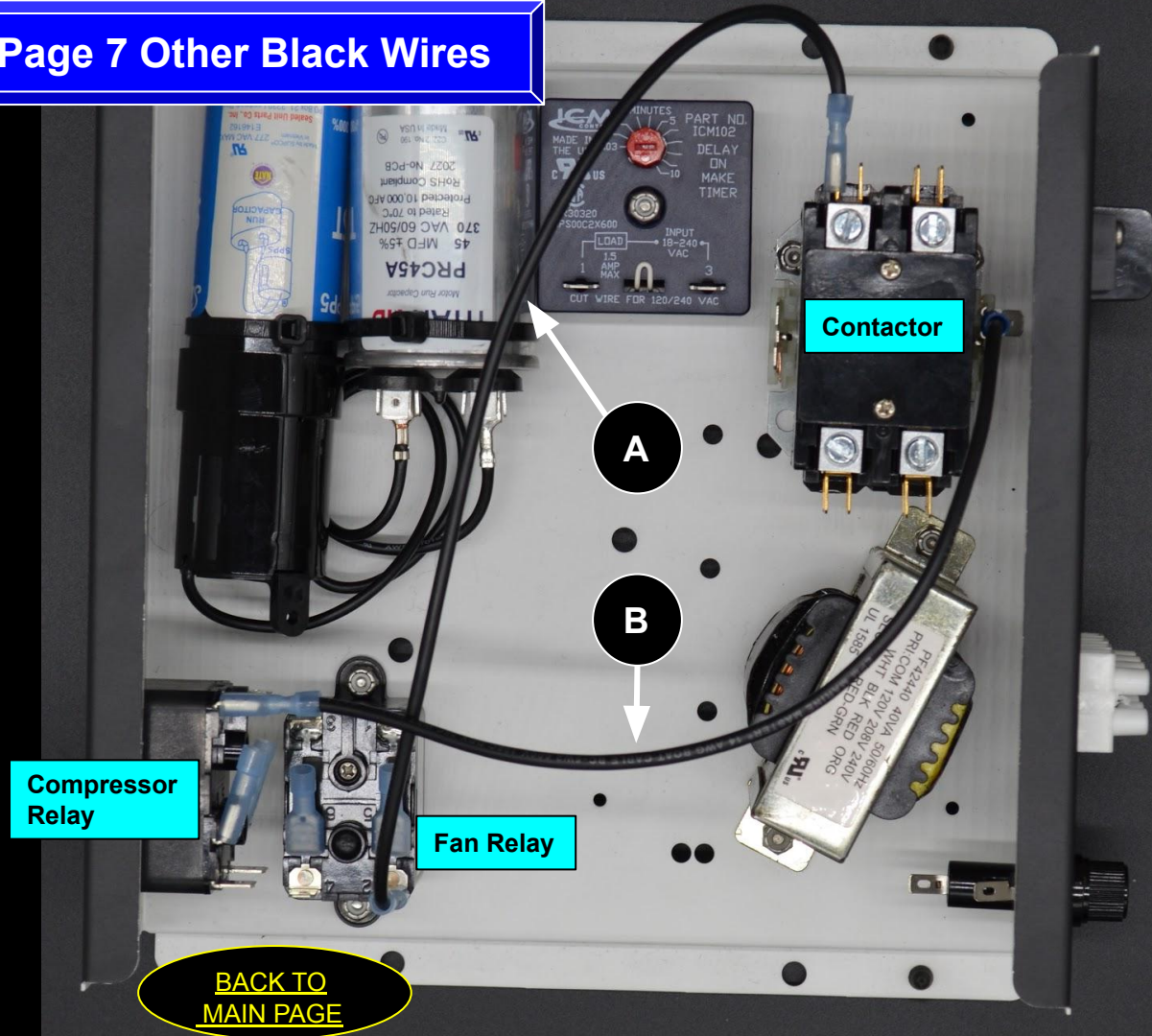
R (Red/24 Volts) From Transformer. Note
On Reverse Cycle Units This Wire Goes
To The Reversing Relay And Then Another
Red Goes From There To The R Terminal.

W (White/Heat) Goes To The
Electric Heat Contactor OR
The Reversing Relay. Unused
On Cool Only Units.

Page 7 Other Black Wires

**A Goes From The Main Contactor
To The Fan Relay Terminal #2 .**

B Goes From The Contactor To The Compressor Relay Terminal #3 .

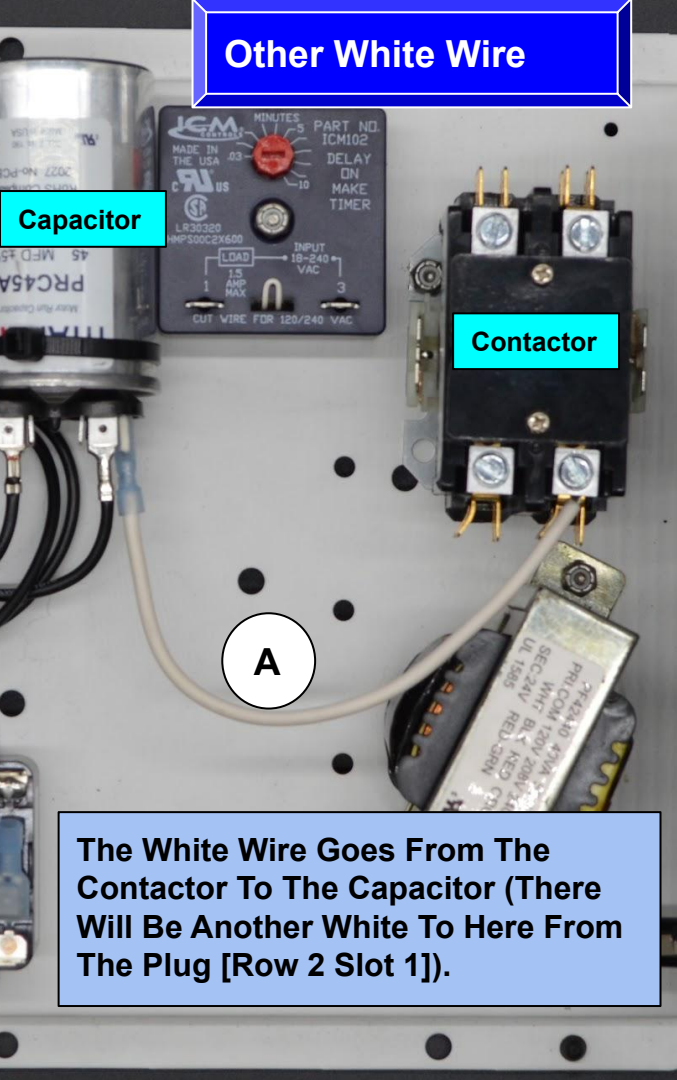


Other White Wire

Page 8

Other Yellow Wires

Time Delay



Capacitor

Contactor

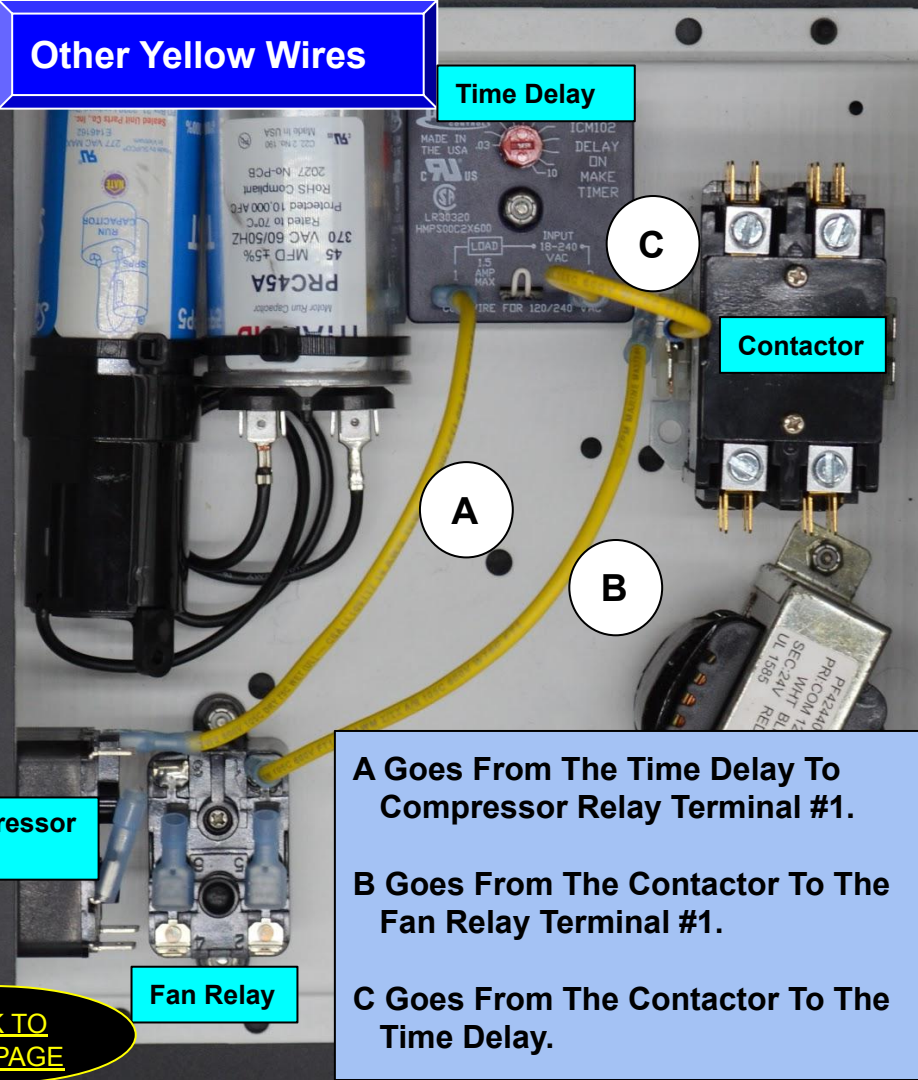
A

The White Wire Goes From The Contactor To The Capacitor (There Will Be Another White To Here From The Plug [Row 2 Slot 1]).

Compressor
Relay

Fan Relay

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Contactor

A

B

C

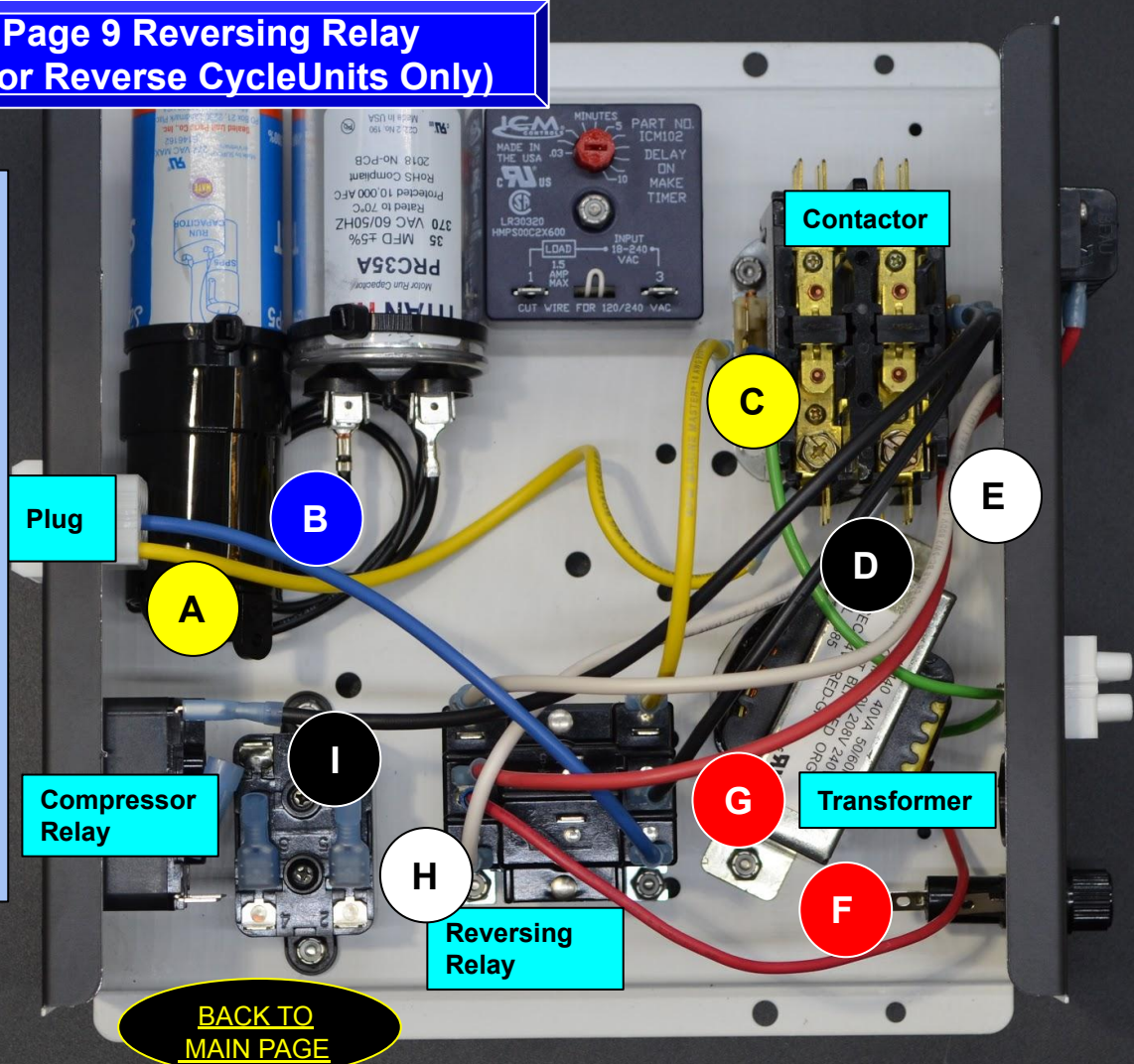
A Goes From The Time Delay To Compressor Relay Terminal #1.

B Goes From The Contactor To The Fan Relay Terminal #1.

C Goes From The Contactor To The Time Delay.

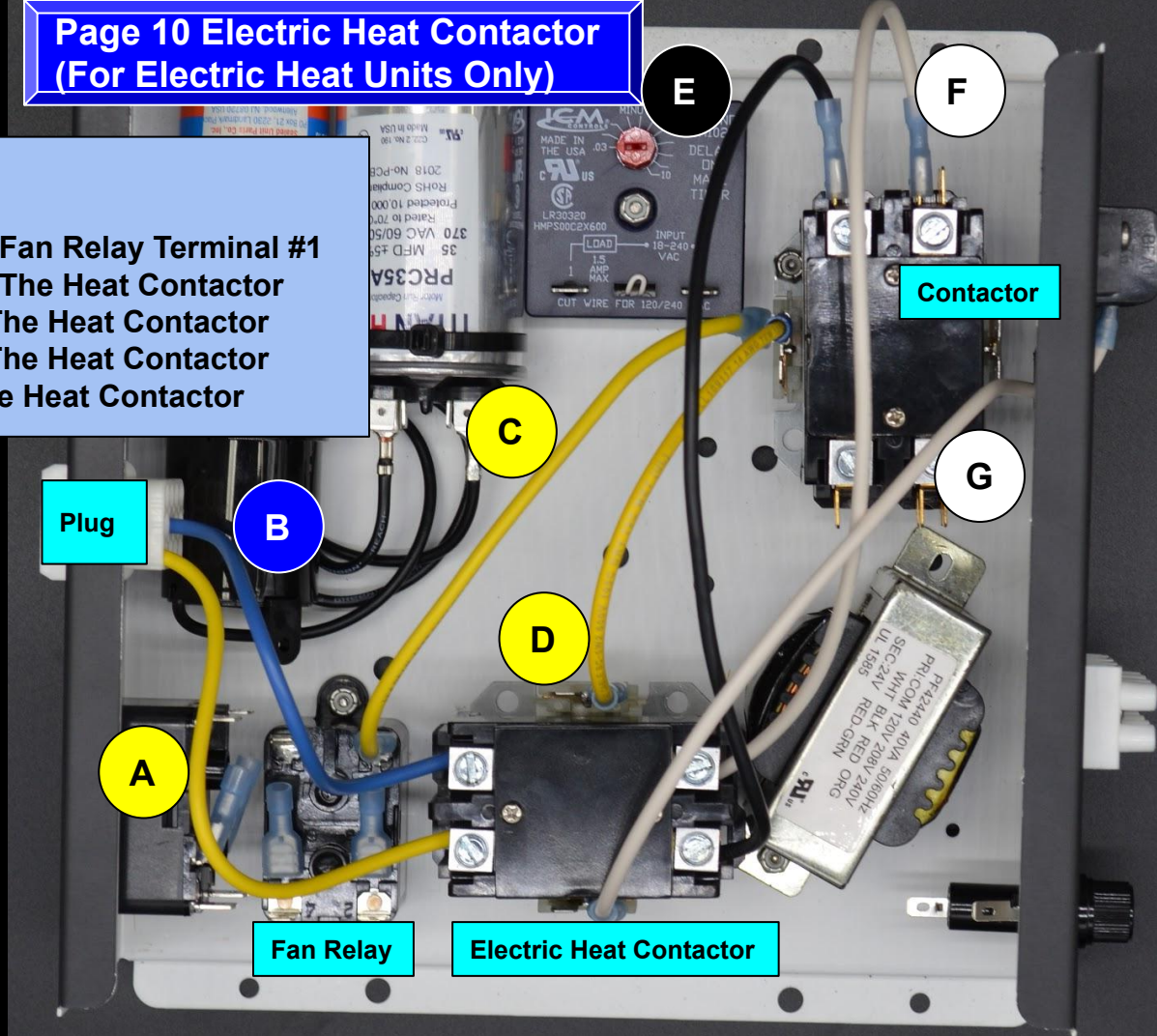
**Page 9 Reversing Relay
(For Reverse Cycle Units Only)**

- A - Yellow Wire From Plug To Main Contactor**
- B - Blue Wire From Plug To Reversing Relay Terminal #1**
- C - Yellow Wire From The Main Contactor To Reversing Relay Terminal That's Below #4**
- D - Black Wire From The Main Contactor To Reversing Relay Terminal #4**
- E - White Wire From T-Stat Terminal W To Reversing Relay Terminal That's Below #6**
- F - Red Wire From Transformer To Reversing Relay Terminal #6**
- G - Red Wire From Reversing Relay Terminal #6 To R Terminal On Black Terminal Block**
- H - White Wire From Main Contactor To Reversing Relay Terminal #3**
- I - Black Wire From Main Contactor To Compressor Relay Terminal #3**



Page 10 Electric Heat Contactor (For Electric Heat Units Only)

- A - Yellow Wire From Plug To Heat Contactor
- B - Blue Wire From Plug To Heat Contactor
- C - Yellow Wire From Main Contactor To The Fan Relay Terminal #1
- D - Yellow Wire From The Main Contactor To The Heat Contactor
- E - Black Wire From The Main Contactor To The Heat Contactor
- F - White Wire From The Main Contactor To The Heat Contactor
- G - White Wire From T-Stat Terminal W To The Heat Contactor



Page 11 Cool Only Control Box

Compressor
Capacitor

Hard Start

Harness Plug

Compressor &
Pump Relay

Fan Relay
(Under Wires)

Open Space
(No Heat)

Time Delay

Thermostat
Hook-Up

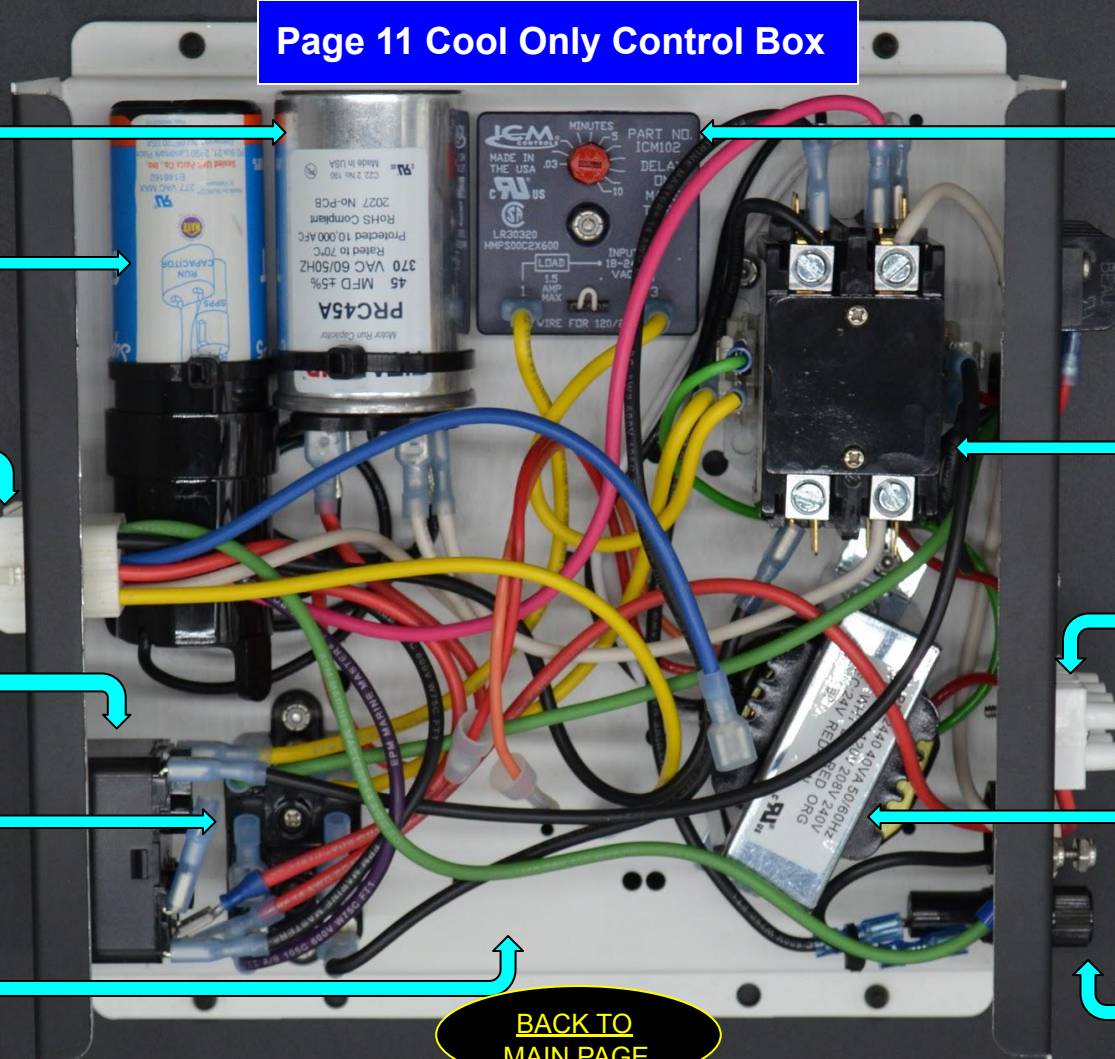
Main
Contactor

Pump & Power
Hook-Up

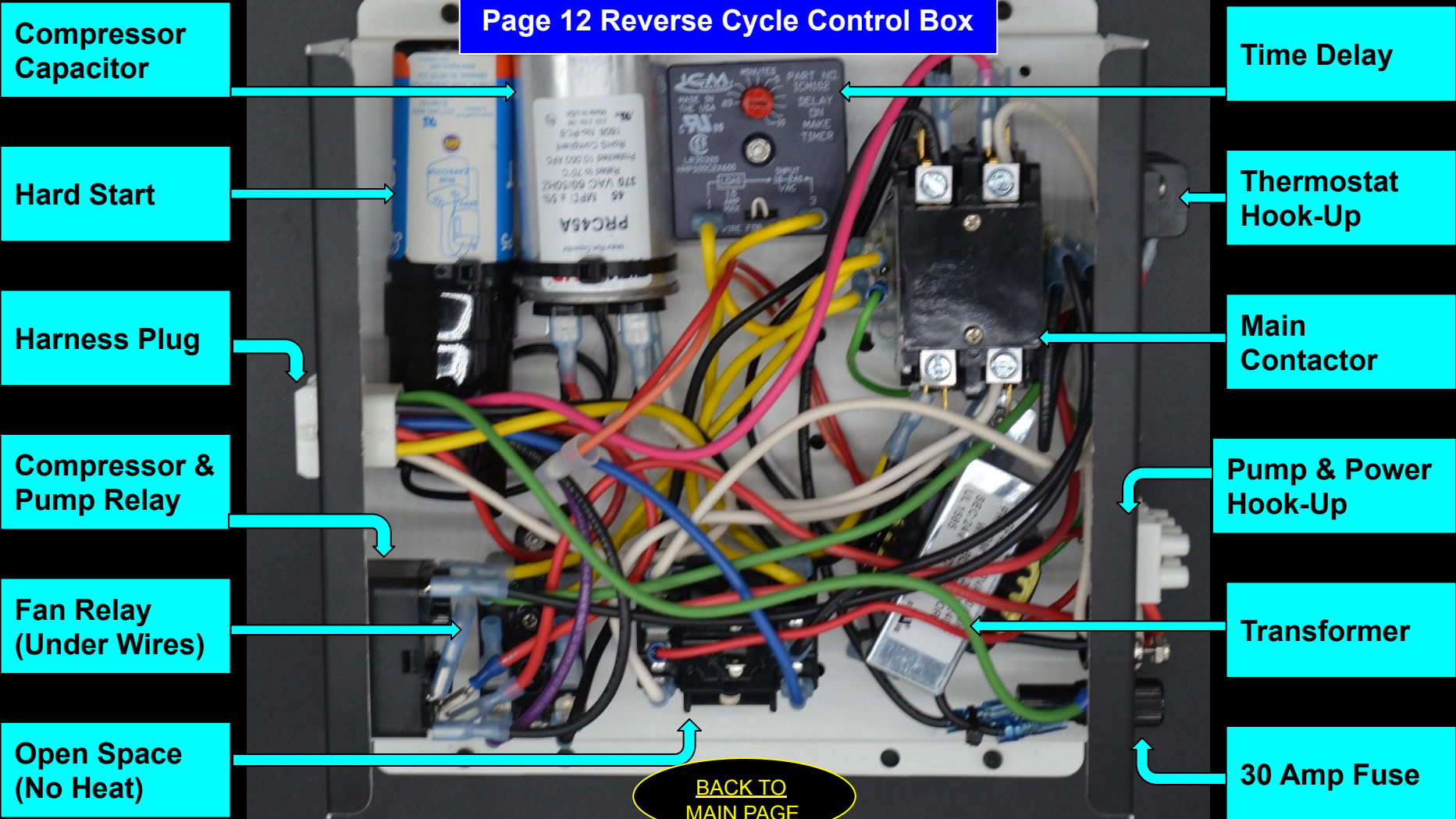
Transformer

30 Amp Fuse

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Page 12 Reverse Cycle Control Box



Page 13 Electric Heat Control Box

Compressor
Capacitor

Time Delay

Hard Start

Thermostat
Hook-Up

Harness Plug

Main
Contactor

Compressor &
Pump Relay

Pump & Power
Hook-Up

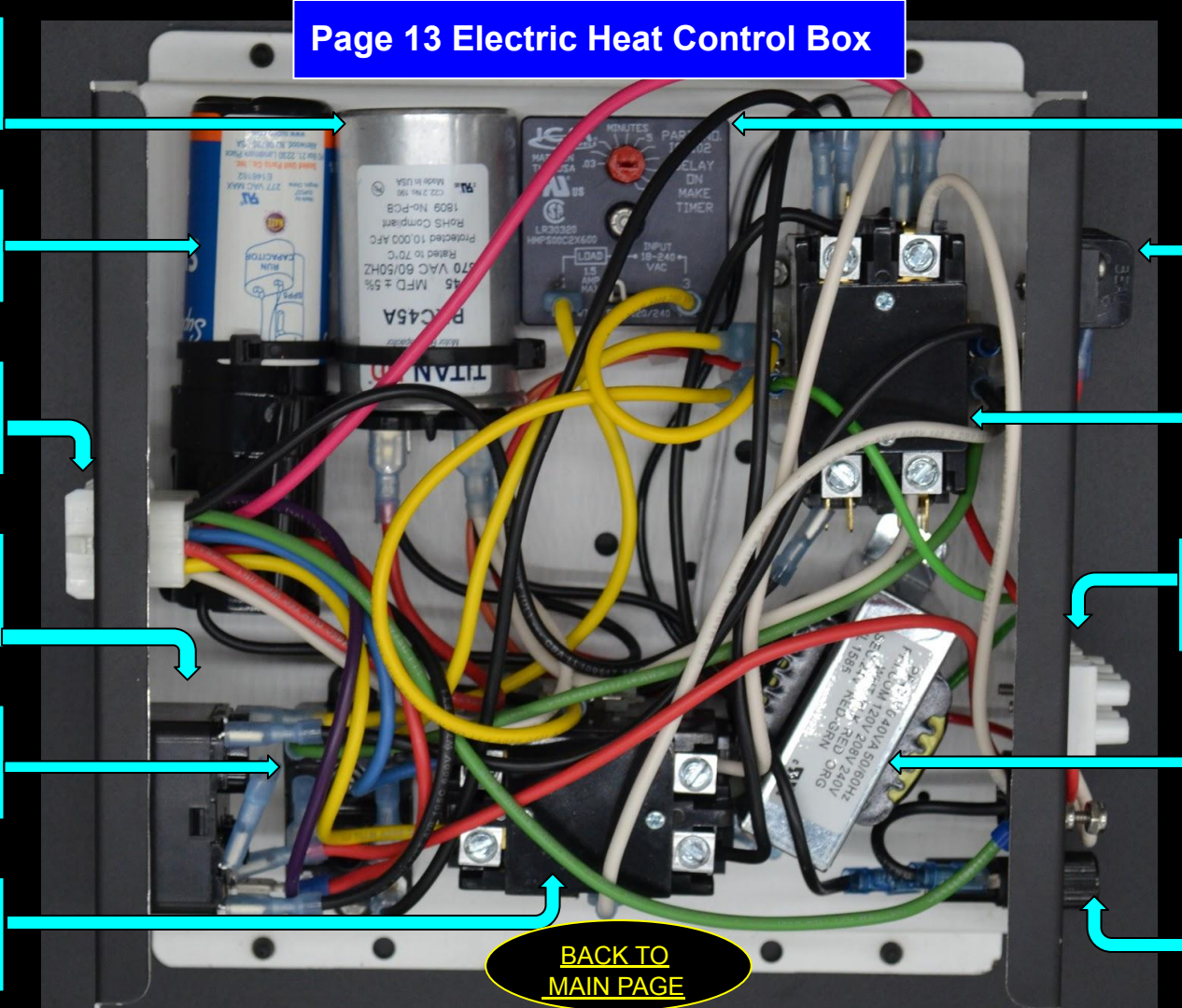
Fan Relay
(Under Wires)

Transformer

Open Space
(No Heat)

30 Amp Fuse

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Page 14 Harness Wires

Harness Plug

**Red & Black:
High Pressure
Reset Switch
Wires**

**Purple & Pink:
Blower Wires.**
Purple To Black.
Pink To White.

Green: Ground Wire

**Red, White & Black
With Flag Terminals:
Compressor Wires.**
Red To S
White To R
Black To C

**Yellow & Blue:
Heat Wires**

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MAIN PAGE](#)

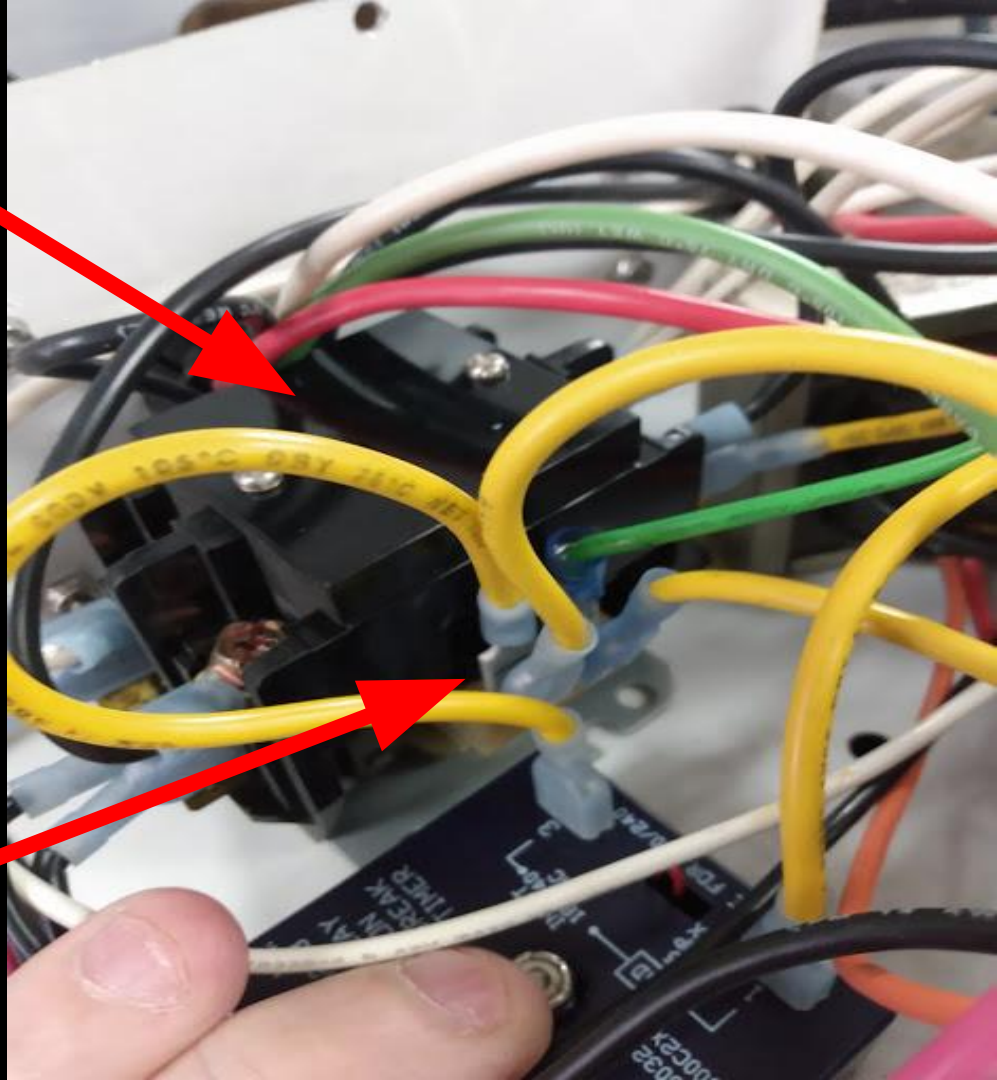
Adding the 5th wire for a wifi thermostat:

Contactor

Most wifi thermostats are powered by you 24 volts, which means it needs a 5th thermostat wire to provide the neutral/common side of the 24 volt power.

You will need to run a thermostat cable with at least 5 wires from your thermostat to the control box. The Red, Green, White and Black connect at both ends as normal. The 5th wire should be run into the control box and connect to the contactor with the other 24 volt common wires. A piggyback terminal may be required.

Connect 5th wire here



Contact Us:

Call us toll free at 888-908-9280

239-418-0535 alternate phone number

239-418-0538 fax

Mermaid MFG of SW FL, Inc.

2651 Park Windsor Drive, Suite 203

Fort Myers, FL 33901

Email us at: techsupport@mmailr.com

See our website at: www.mmailr.com



Equipment can be purchased from us by phone or by email.

We take Visa, Mastercard, American Express and Discover.

We need:

- 1) The card number.
- 2) The expiration date.
- 3) The security code.
- 4) The name as it appears on the card.
- 5) The full billing address.
- 6) The full shipping address. Note that we usually ship via Fed-Ex, and they do not deliver to a PO Box.
- 7) A phone number (in case the delivery guys needs to call).

If you include your email address, we will email you an invoice and the tracking information.

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