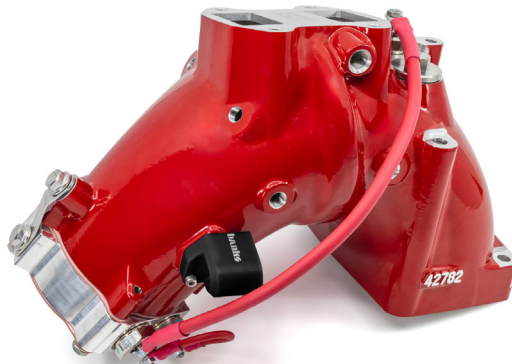


BANKS DUAL HEATER AND BILLET HEATER UPGRADE KIT INSTALLATION AND WIRING DIAGRAMS

Banks Ram-Air® Intake System
2007.5-2024 Dodge/RAM
2500-5500 6.7L Diesel

Included MAP relocation kit
is for use with a Banks
Monster-Ram with a billet
heater kit and will not fit
stock intake horns.



Please read through the following
instructions thoroughly before
starting your installation. If you

Item	750W 1500W Billet Heating Kit	Part#	Qty
1	Single Billet Body Dual Billet Body	62226 62221	1
2	Coil Heater	62213	1 2
3	Copper Washer	91983	1 2
4	M5 Flange Nut	91585	1 2
5	MAP Relocating Kit	43644	1
6	Heater Connecting Wire	62222	1
7	12V Heater Cable	62223	1
8	Grounding Bar	62224	1
9	Flanged Hex Bolt	91584	2
10	M6 Socket Head Cap Screw	91573	4
11	T20 Cap Head Screw	91779	1
12	M6 Washer	91925	4
13	Throttle Body Gasket	93004	2
14	5mm Hex Key	92989	1
15	T20 Torx Key	93012	1
16	Silicone O-ring grease	90005	1

Below is the step-by-step install guide.

A quick start wiring diagram and notes regarding throttle deletes are at the end of this page.

Billet Heater Install Guide



1. Copper washer

Slide the copper washer onto the coil heater(s) before installation.



2. Install coil heater(s)

Start threading them in by hand



3. Tighten coil(s)

Use a 26mm wrench and hand-tighten. Don't over-torque them.



4. Thread the heater nuts down first

This will expose all the threads for the next step.



5. Threadlocker

Apply a drop of blue thread locker to each of the coils.



6. Thread the heater nut(s) back up

Expose 2 threads from the bottom to give enough space between the heater post and the coil body.



7. Heater connection wire (1500W Kit)

For 1500W kits, bend the small red wire into a U shape to connect the two coils together.



8. Wire orientation

Be sure the connection wire loops away from the engine. If you can see the Banks logo, the wire should look like a smily face.



9. Heater cable

Stack the thicker heater cable on top of the smaller wire.

10. Tighten heater(s)



With two 8mm wrenches. Single the two nuts together while holding the lower nut stationary.

Failure to hold the lower nut stationary can damage the coil heater by breaking the post free from the ceramic insulator.

11. Heater cable orientation



Tighten the larger heater cable so that its pointing away from the looped wire.

12. Remove 12V power lead



13. Cable tie



Free the wire harness from the throttle heat shield.



14. Throttle heat shield

With a 10mm socket, remove the bolts that secure the heat shield.



15. Free boost tube

With a 10mm socket, remove the clamp that holds the boost tube on.



16. Throttle Body

Reach around the back side, slide the locking tab over and unplug the throttle valve.



17. Unbolt Throttle

With an 8mm socket, unbolt the 4 bolts that secure the throttle.



18. Pull the throttle free from the Monster-Ram.



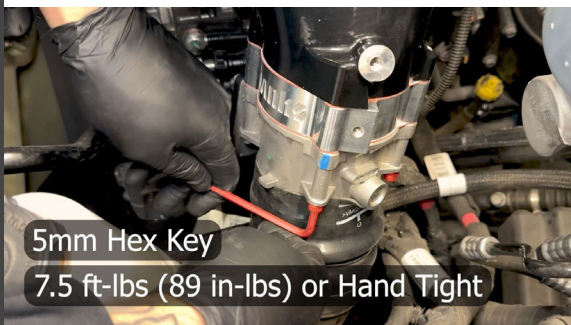
19. Thread locker

Apply a drop of thread locker to each of the Banks supplied long bolts



20. Gaskets

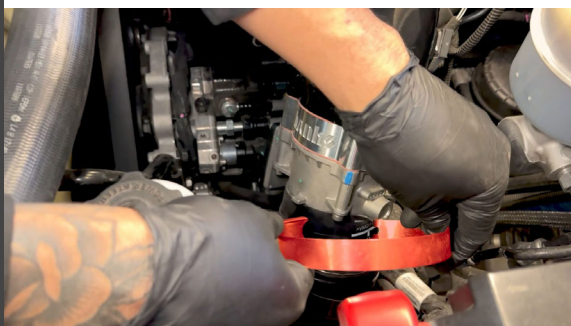
Line up the two supplied gaskets onto both side of the billet heater.



21. Bolt the billet heater on

Slide the longer bolts through the throttle and billet heater. Start threading them by hand, then snug them down with the supplied 5mm hex key.

Do not over-torque and break the bolts.



22. Boost tube clamp

Wrap the clamp back around the throttle.



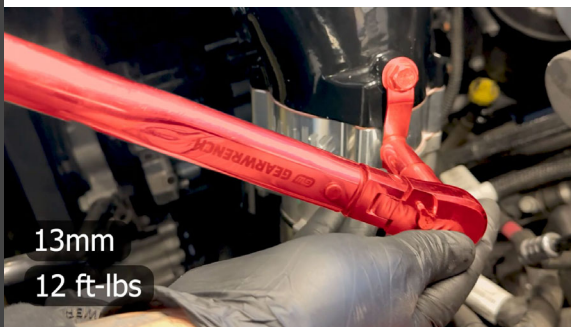
23. Secure the clamp

Use a deep socket and snug it down.



24. Grounding bar

Grab the 2 bolts and the grounding bar. When installed the rounded end will point towards the Monster-Ram



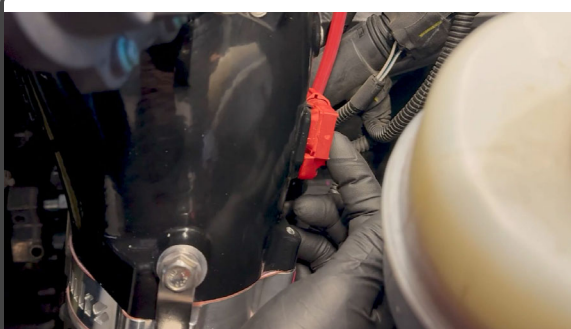
25. Torque Grounding Bar

With a 13mm socket, torque top 12 ft-lb.



26. Cable Tie

Re attach the wire harness to the stud under the Monster-Ram.



27. MAP sensor

Locate and unplug the MAP sensor.



28. MAP sensor

Depress the tab and unplug it.



T-15 Torx

29. Map sensor

With a T-15 Torx, remove the MAP sensor from the Monster-Ram

Note: The Included MAP relocation kit is for use with a Banks Monster-Ram with a billet heater kit and will not fit stock intake horns.



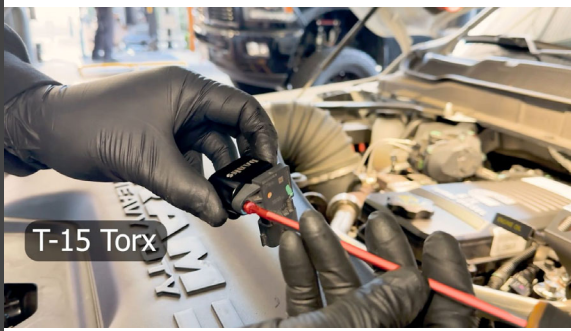
30. Lubricate O-ring

Apply some silicone lubricant to the MAP sensor O ring



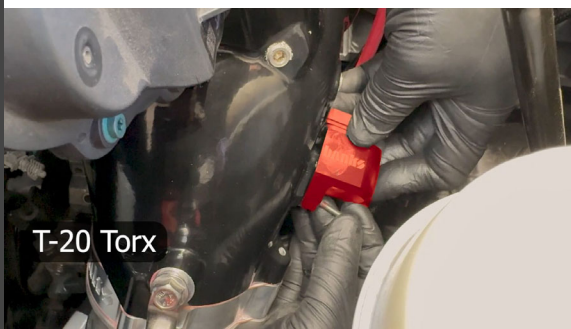
31. Lubricate O-ring

Also apply some lubricant to the o ring on the MAP relocation block.



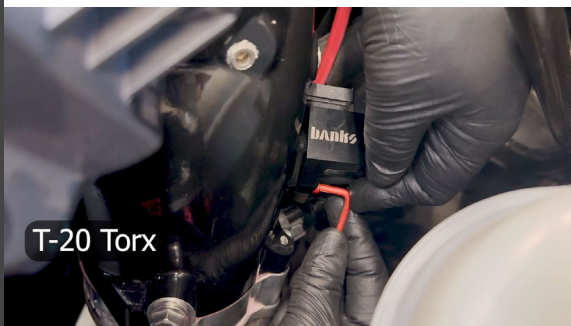
32. Secure MAP sensor

Use the supplied T-15 screw and secure the MAP sensor to the relocation block.



33. Install MAP sensor block

Reinstall the MAP sensor and relocation block. Secure it with the T-20 torx screw.



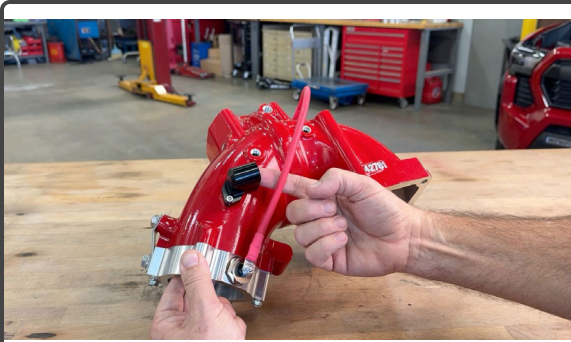
34. Install MAP sensor block

Snug it down with the supplied T20 key



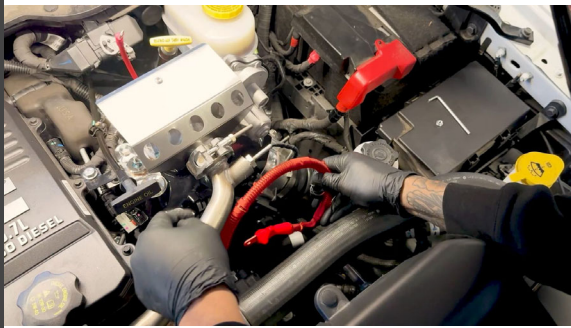
35. Harness routing

Route the MAP sensor harness underneath the larger heater cable.



36. Harness routing

Wire the MAP sensor harness under the power cable like this.



37. Loop the 12V heater cable

Free the 12V harness from its cable ties to position it towards the front of the truck. Loop the extra out of the way.



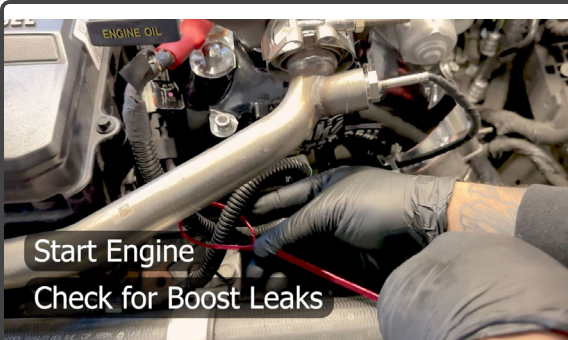
38. Install heater cable

Put the factory 12V heater coil down first, and stack the Banks heater cable on top.



39. Since the power cables together

With one 8mm wrench on the bottom, and the one on top, singe the two together.



40. Harness Cleanup

Secure any loose wires with a zip-tie.

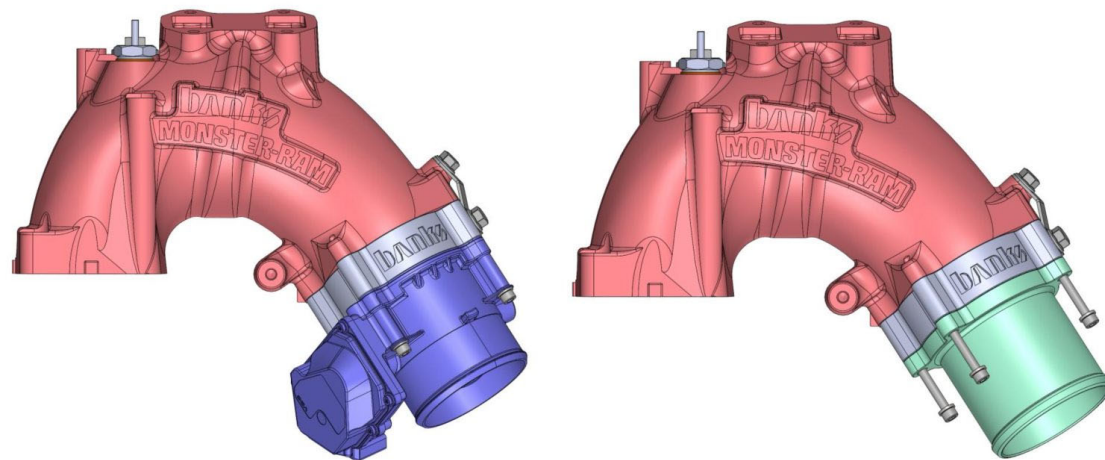


41. Start and Check

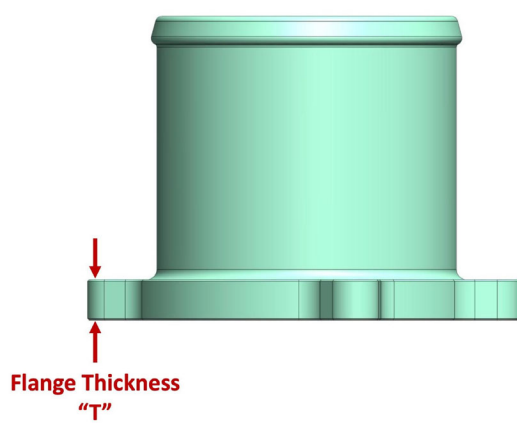
Start the engine and check for any boost leaks.

Throttle Delete Accommodation

If the throttle valve has been deleted, the supplied M6 screws will likely be too long. For proper thread engagement into the Monster-Ram, you will need **43mm** plus the thickness of the throttle delete flange.



M6 screws are typically sold in 5mm length increments. If your required length ends in a 3, round down. If it ends in a 4, round up. Use the equation below to determine the length of screws required.



Corrected Screw Specification

M6 x 1.0 x L

L = 43mm + T

Example

If: flange thickness T = 12mm

Length = 43mm + 12mm = 55 mm

New screw spec: M6 x 1.0 x 55mm

Quick Start Wiring Diagrams

The following diagrams show the recommended wiring layout for connecting an additional coil heater to your dual heat-capable Monster-Ram or bolting on a Banks Billet Heater.

Your heating kit will include either a thick or thin red connecting wire, depending on which upgrade heater kit you've purchased. For clarity, these diagrams are color-coded as shown below.

Billet Heater: Thick Gauge Wire ■



Coil Heater: Thin Gauge Wire ■ ■



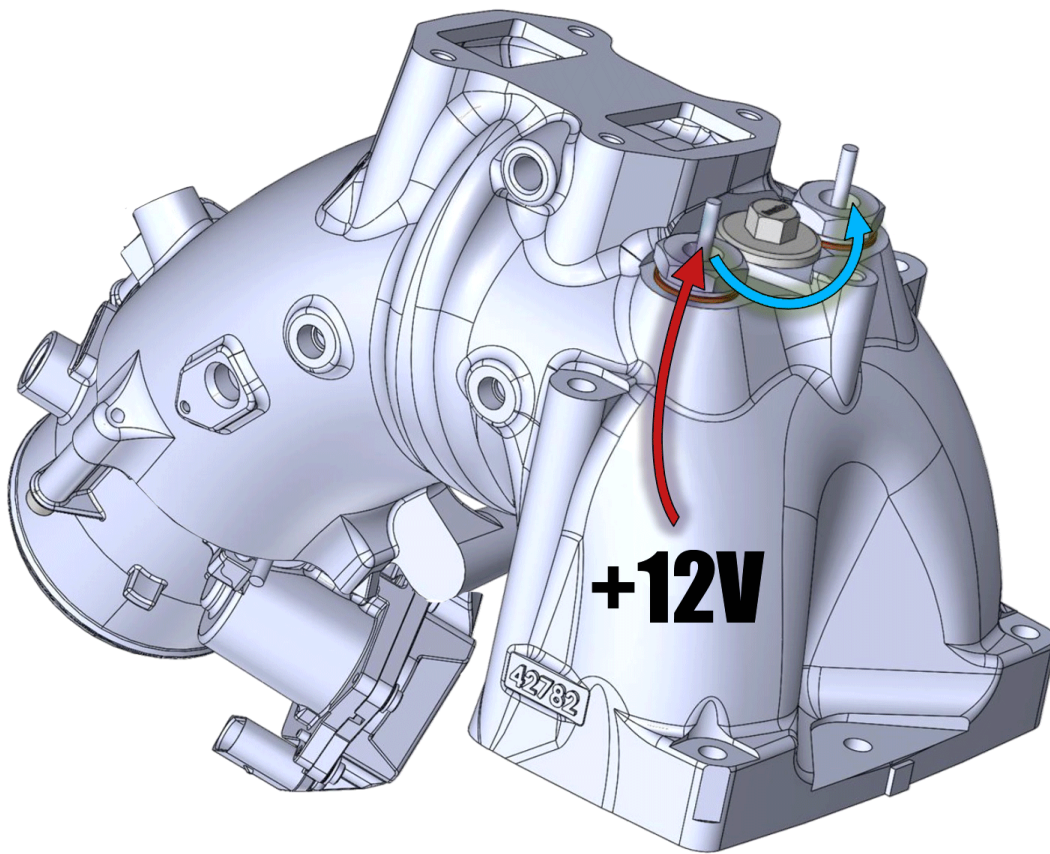
Only **one** coil heater should ever be connected to the end of a thin gauge wire, and no more than **two** coil heaters should ever be connected to the end of the thick gauge wire.

Quad Heater Coil Note: Installing **four** coil heaters may exceed the rated capability of the vehicle's heater circuit. This is not a recommended configuration, and any such installation is undertaken at the owner's risk.

Dual Heater In Banks Monster-Ram

+12V (From Relay/Solenoid) – 1st Heater

Thin Gauge Wire – 2nd Heater



Correct

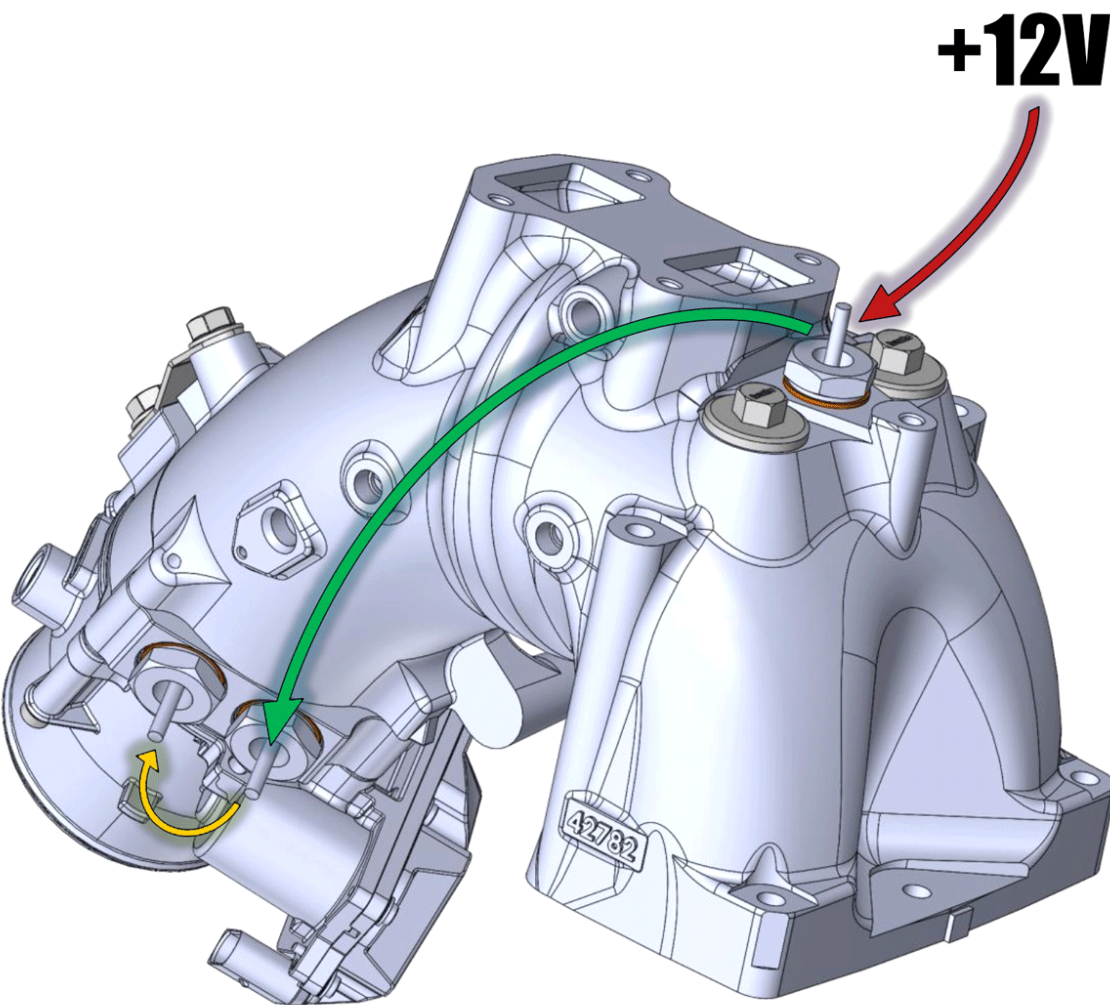
Wire the 2nd heater in series after the 12V lead via the thin gauge wire.

Single Heater In Banks Monster-Ram + 1500W Billet Heater

+12V (From Relay/Solenoid) – 1st Heater

Thick Gauge Wire – 2nd Heater

Thin Gauge Wire – 3rd Heater



Correct

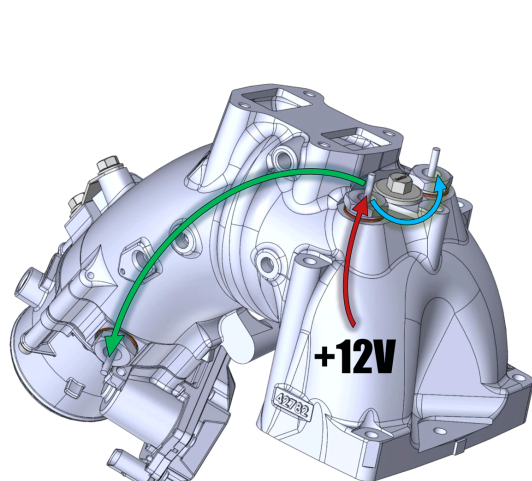
Wire the 2nd heater in series via the thick gauge wire, and the 3rd heater in series via the thin gauge wire.

Dual Heater In Banks Monster-Ram + 750W Billet Heater

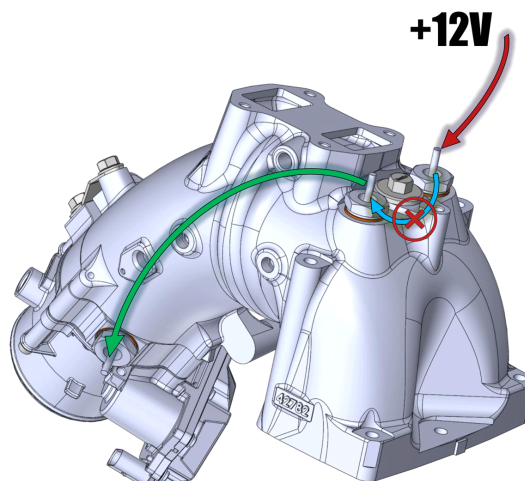
+12V (From Relay/Solenoid) – 1st Heater

Thick Gauge Wire – 2nd Heater

Thin Gauge Wire – 3rd Heater



Correct



Incorrect

Wire the 2nd and 3rd heaters in parallel with one thin wire on top of the

Wiring the 2nd and 3rd heaters in series through the thin gauge wire will exceed

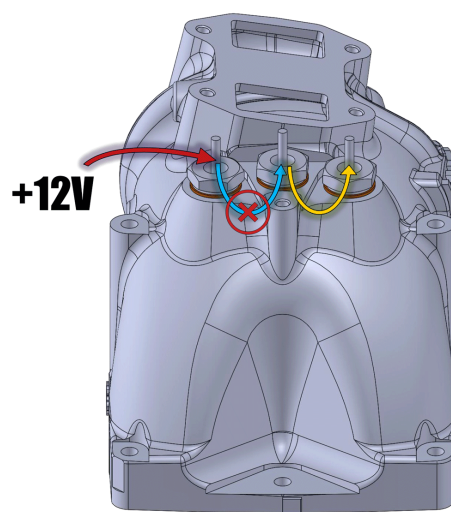
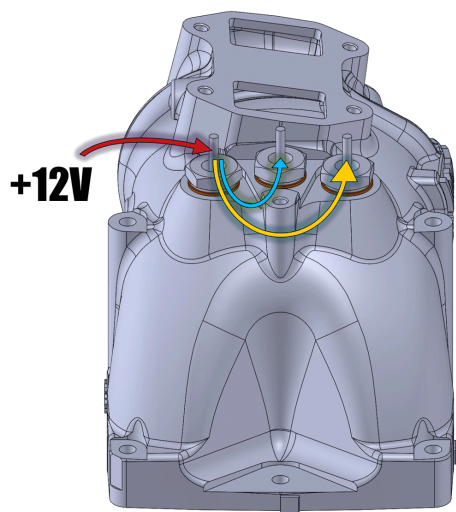
Monster-Ram, and the larger the thin wire's current rating.
gauge wire to the Billet
Heater.

Tri Heater In Banks Monster-Ram

+12V (From Relay/Solenoid) – 1st Heater

Thin Gauge Wire – 2nd Heater

Thin Gauge Wire – 3rd Heater



Wire the 2nd and 3rd
heaters in parallel with their
own thin gauge wires.

Wiring the 2nd and 3rd
heaters in series will exceed
the current rating for the
first thin gauge wire.

Quad Heater Coil Note: Installing **four** coil heaters may exceed the rated capability of the vehicle's heater circuit. This is not a recommended configuration, and any such installation is undertaken at the owner's risk.

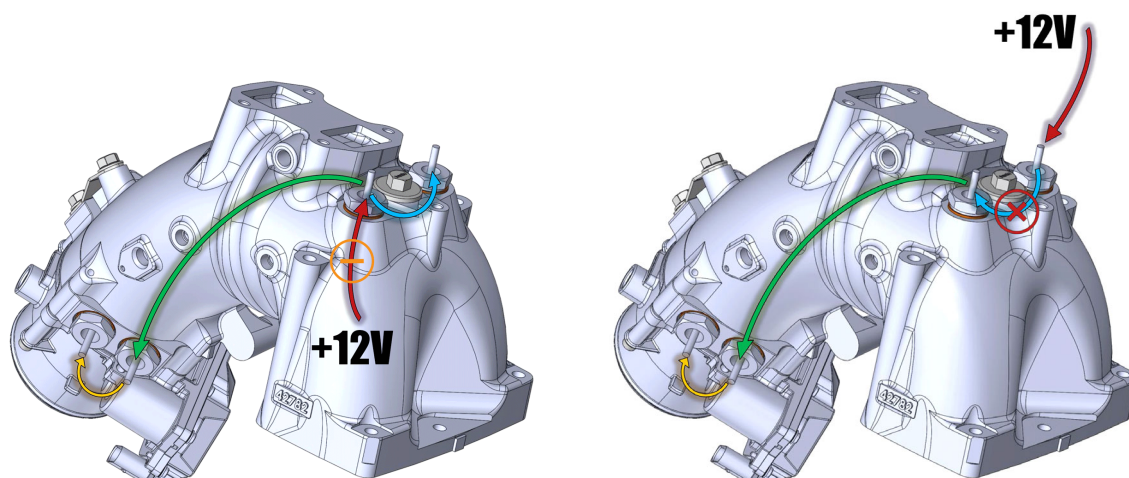
Dual Heater In Banks Monster-Ram + 1500W Billet Heater

+12V (From Relay/Solenoid) – 1st Heater

Thick Gauge Wire – 2nd Heater

Thin Gauge Wire – 4th Heater

Thin Gauge Wire – 3rd Heater



Caution



Incorrect

Wire the 2nd heater with the

Wiring all 4 heaters in series

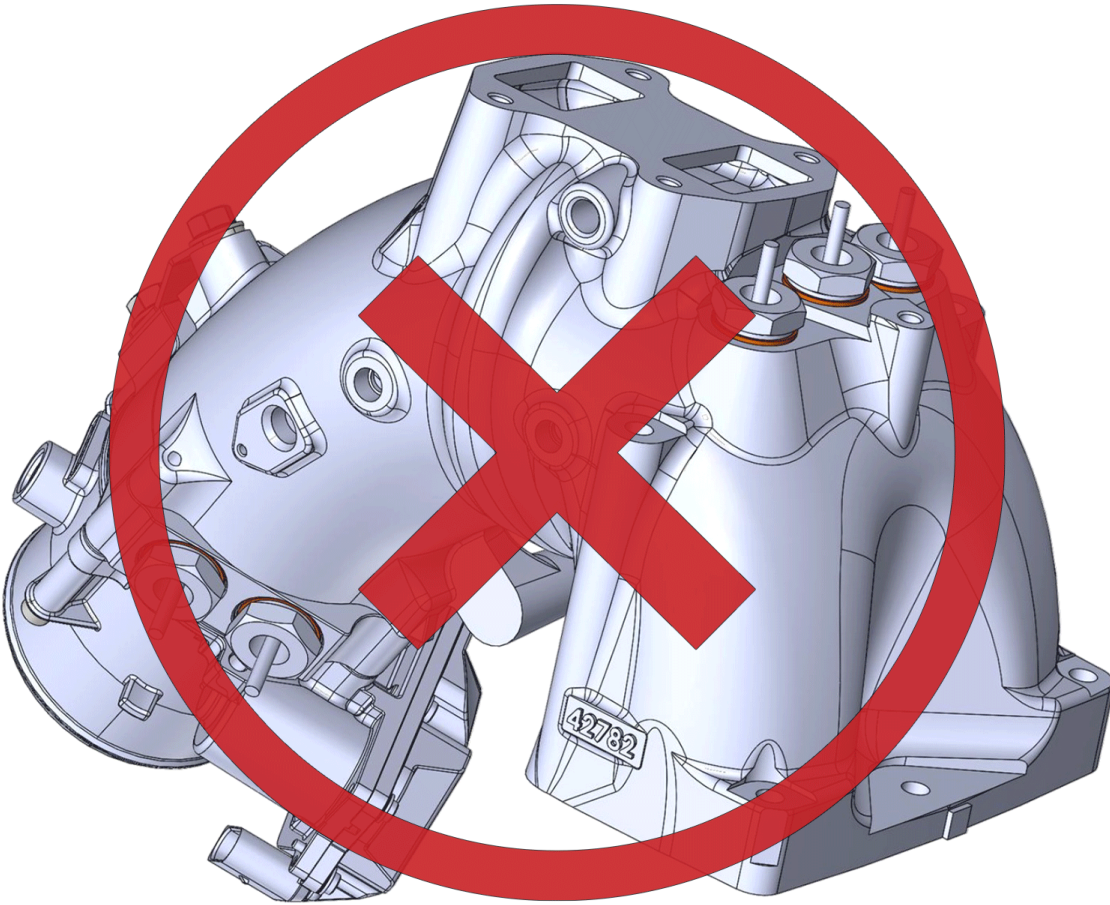
thick gauge wire, and the 3rd heater in series with the thick gauge wire. The 4th heater is wired in parallel with the 1st heater by the thin wire.

through the thin gauge wire will exceed the thin wire's current rating.

Note: This arrangement draws a nominal current of 250 amps, which may exceed the rated capability of the vehicle's heater circuit. We do not recommend this configuration and any such installation is undertaken at the owner's risk.

Tri-Heater In Banks Monster-Ram +
1500W Billet Heater

Configuration Not Permitted



 **Incorrect**

Using 5 heaters will exceed the factory electrical system's capacity, overload the heater relay, damage the vehicle's electrical system, and risk a fire. This is not a permitted configuration.