

Z1 2023+ Z COOLANT PUMP UPGRADE INSTALLATION MANUAL



This Installation Manual is intended for the following models:

| | |
|-------|----------|
| 2023+ | Nissan Z |
|-------|----------|

PROLOGUE:

Study these instructions completely before proceeding to assembly. The installer must have a thorough knowledge of automotive systems operation. If unfamiliar with any of the concepts outlined in this instruction, we recommend the installation be completed by a qualified professional.

WARNING!

Extreme caution should be taken when performing maintenance or performance upgrades to your vehicle. Please observe and abide by any Warning or Caution labels placed on the various components and tools used when servicing your vehicle. If you have any questions regarding installation or the various components included with the Z1 Motorsports Coolant Pump Controller, consult with a Professional Mechanic or contact Z1 Motorsports for more information.

PARTS INCLUDED:

| Item | Quantity | Description |
|------|----------|-----------------------------------|
| 1 | 1 | Coolant Pump and Bracket Assembly |
| 2 | 1 | Coolant Pump Controller |
| 3 | 1 | Controller Bracket |
| 4 | 1 | Controller Wiring Harness |
| 5 | 1 | Z1 Male Dust Cap |
| 6 | 1 | Firewall Grommet |
| 7 | 5 | M4 Phillips Head Screw |

TOOLS REQUIRED:

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extension(s)
- Assorted Metric Sockets/Wrenches
- 10mm Open End Wrench
- Torque Wrench
- Funnel
- Drain Bucket
- Pliers
- Phillips Head Screw Driver
- Flat Head Screw Driver

SAFETY REQUIREMENTS:

- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always turn the ignition to the OFF position and disconnect the NEGATIVE battery terminal.
- Always use properly rated jack stands when working under your vehicle.
- Always keep limbs and parts away from moving drivetrain parts.
- Only operate drivetrain in safe space and well-ventilated areas.

BEFORE YOU BEGIN:

Remove contents from the Z1 Motorsports Coolant Pump Controller and verify that ALL necessary hardware is present.

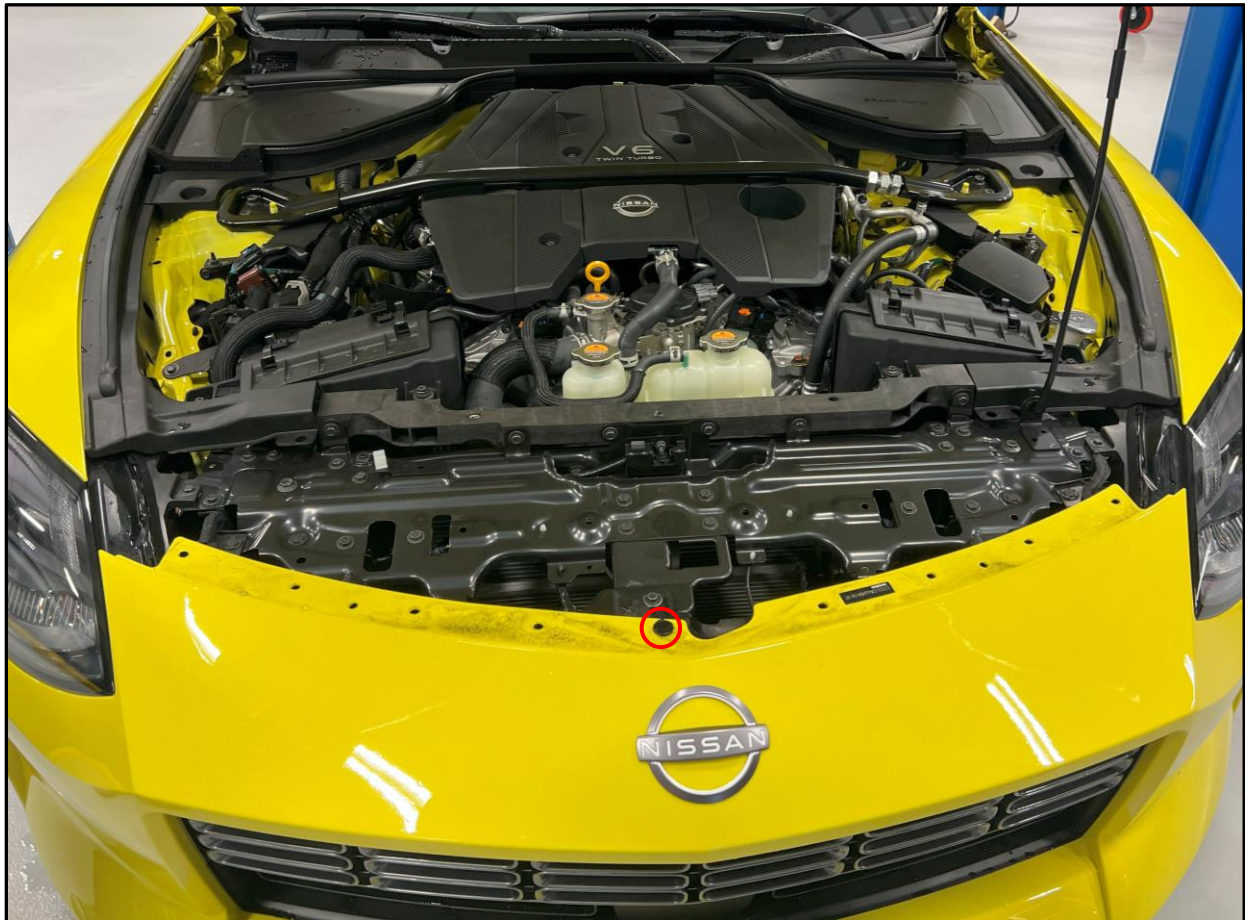
Installation Note:

Models equipped with adaptive cruise control may require the removal of the adaptive cruise control module for installation. If this module is unplugged or dropped, dealership programming may be necessary. Installation of this kit may be possible without removing the adaptive cruise control module, but installation instructions are not provided.

PROCEDURE:

1. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
2. Unlatch and raise vehicle's hood. Apply hood prop.
3. Release tension to front wheel lug nuts but DO NOT remove them.
4. Locate proper jacking points on vehicle's chassis (refer to vehicle's Owner Manual). Raise and support vehicle using jack & jack stands.

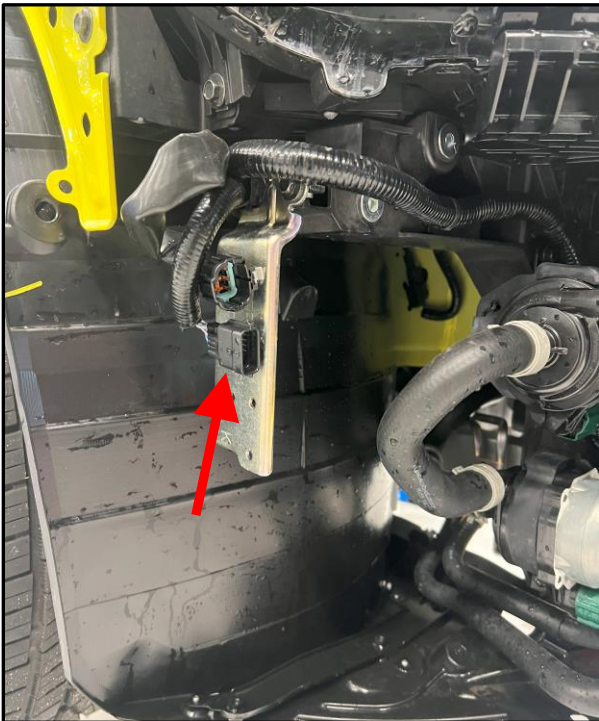
5. Remove front lug nuts and wheels.
6. Remove the engine undershroud.
7. Remove the plastic pop clips and screws securing the passenger front fender liner, remove the front fender liner.
8. Remove the plastic pop clips securing the radiator air guide to the top of the core support and front bumper.
9. Remove the last remaining plastic pop clip securing the top of the front bumper to the top core support plate (circled below).



10. Remove the screw on each corner of the bumper securing it to the front of the fenders.



11. There are (2) electrical connectors on a bracket in the passenger side of the bumper (shown below). Disconnect both of them. The image below is shown with the bumper already removed.

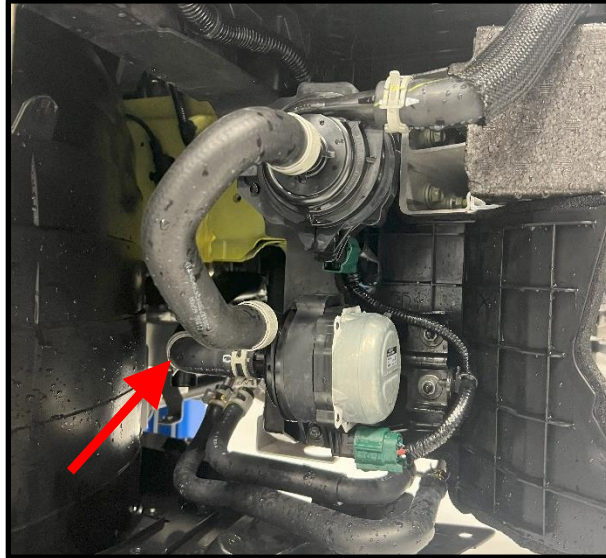


12. There are plastic tabs securing the bumper at the corners of the headlights and below the headlights. Carefully pry the bumper away to release it. Once released carefully remove bumper and set to the side.

13. Remove foam impact absorber from crash beam.

14. To prevent excessive coolant from spilling, you can either drain the charge air coolant, or use (2) pinch clamps to squeeze shut the hoses attached to the heat exchanger. Pinching the hoses shut will make the bleeding process later much easier.

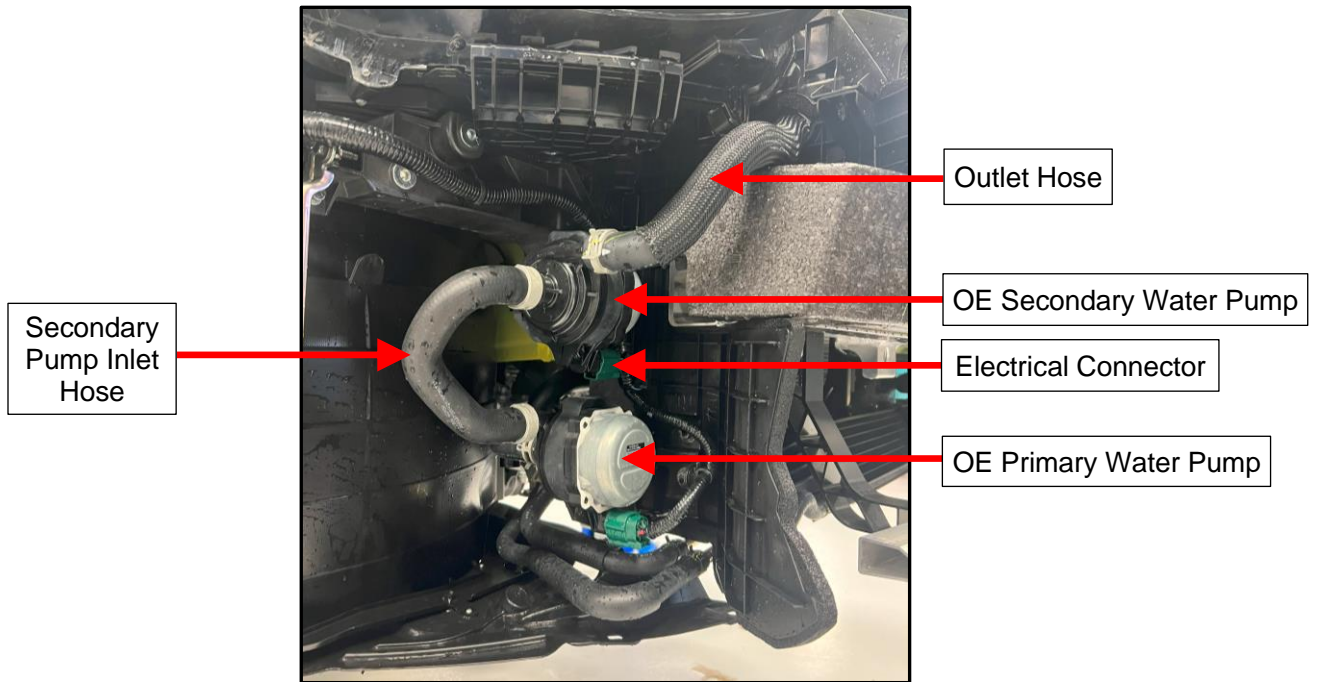
- a. If you choose to drain the coolant, remove the drain plug located in the first water pump feed hose in front of the passenger front wheel well (shown below). Replace plug once coolant has drained. Then remove the hoses from the OE heat exchanger and drain excess coolant into bucket below.



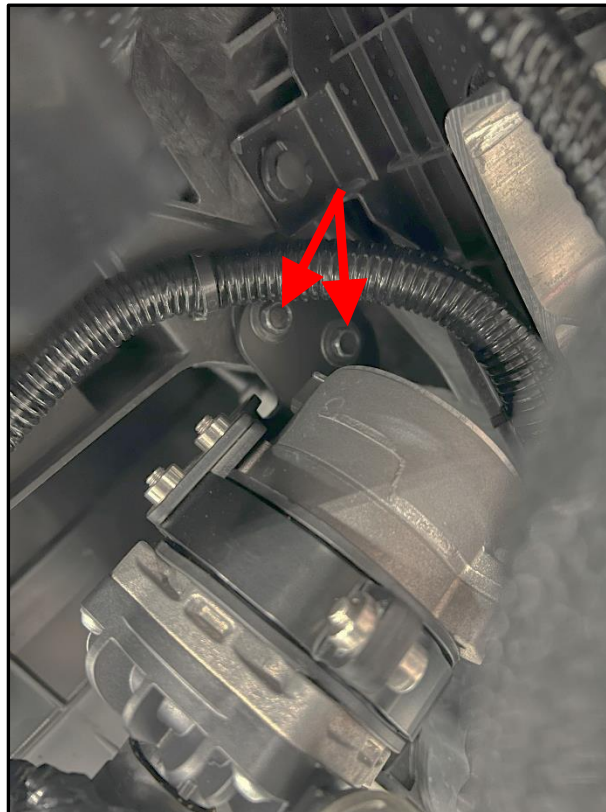
- b. If you choose to use pinch clamps, pinch the outlet hose connected to the first OE water pump. The water pumps are located in front of the passenger front wheel, below the passenger headlight. The primary water pump is the lower one and its outlet hose feeds into the secondary (upper) water pump. The hose is shown below with arrow.



15. Remove the OE secondary (upper) water pump from the vehicle, retain the hardware as it will be reused. The pump will be attached to the vehicle with (2) bolts and a bracket. It will also have an electrical connector that will need to be disconnected and two water hoses (retain the hose clamps). Use the image below as reference.



16. Locate assembled Z1 coolant pump and brackets. The pump should come pre-assembled with the brackets already attached to the pump.
17. Position the Z1 pump and bracket into place where the OE pump was removed from. Secure with the OE bolts that were removed earlier. Install the OE hoses onto the new Z1 pump, secure with OE hose clamps.

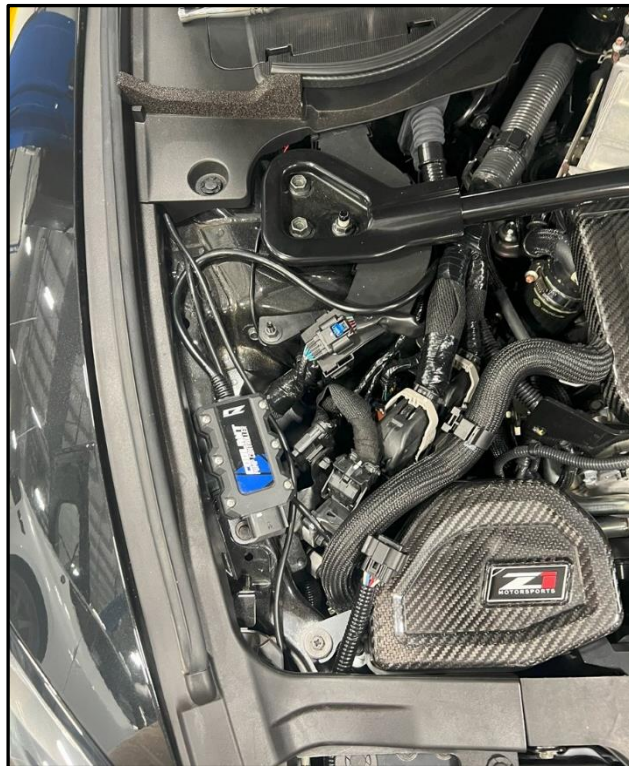


18. Remove (1) bolt on the passenger side of the engine bay securing the ECU bracket to the vehicle (circled below).



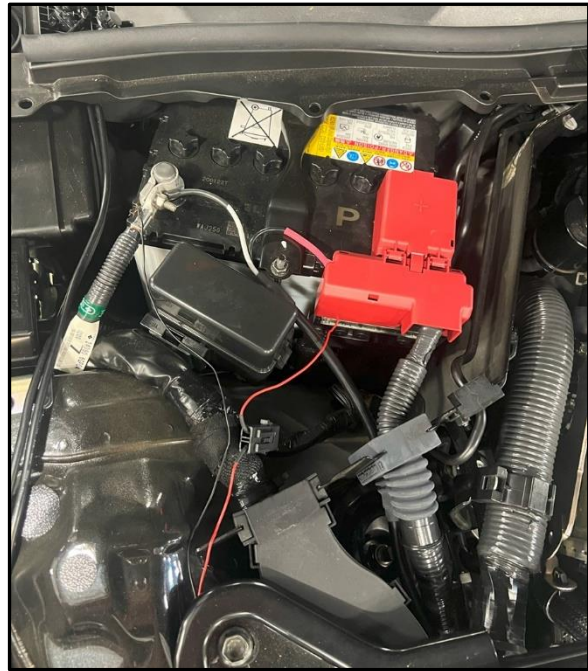
19. Locate the Coolant Pump Controller enclosure, controller bracket, and (3) M4 screws.

20. Attach the bracket to the controller using (3) M4 screws in the orientation shown below, with the bracket's chassis side mounting hole opposite of the power cable coming out of the controller. The mounting bracket's holes are slotted to allow you to rotate the controller slightly for the best fitment for your vehicle. Position the controller and bracket onto vehicle using the OE bolt and mounting hole from step # 18.

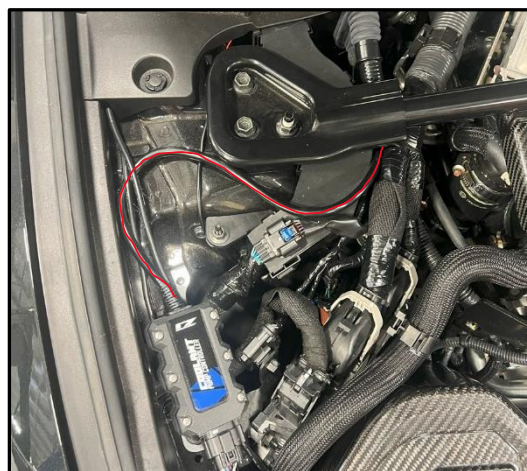
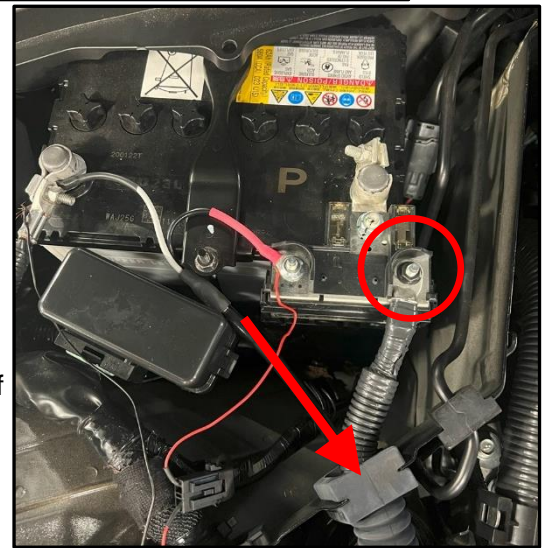


Note: The bracket shown in the images above is a sample 3D printed bracket. The production bracket will be a black metal piece.

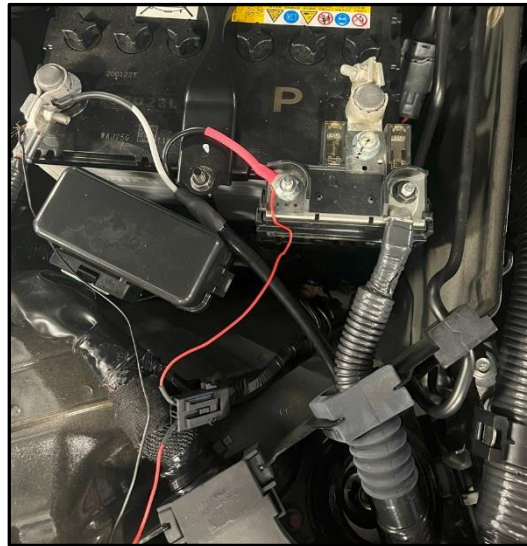
21. Remove the plastic trim cover over the battery compartment.
22. Remove the (4) plastic pop clips securing the passenger side cowl panel to vehicle (shown below). Remove cowl and set aside.



23. Remove the red plastic cover over the positive battery terminal.
24. Remove the nut and disconnect the large power cable on the right side of the positive battery terminal (circled at right).
25. Remove the OE grommet on the battery compartment partition (shown with arrow at right) and pull the power cable through it to remove the grommet.
26. Push the vehicles power cable (that was removed in step #25) through the large opening on the Z1 firewall grommet. When pushing the cable through, it will likely pull the outer shell into itself (like an inside out pair of pants). If this happens, just pull a few extra inches of cable through and then back out to fix the grommet.
27. Route the controller's power cable underneath the strut tower brace and then towards the battery compartment. Refer to the image below as reference.



28. Once the vehicles large power cable is pulled through the new Z1 grommet, reinstall the grommet onto the battery compartment partition (shown below).

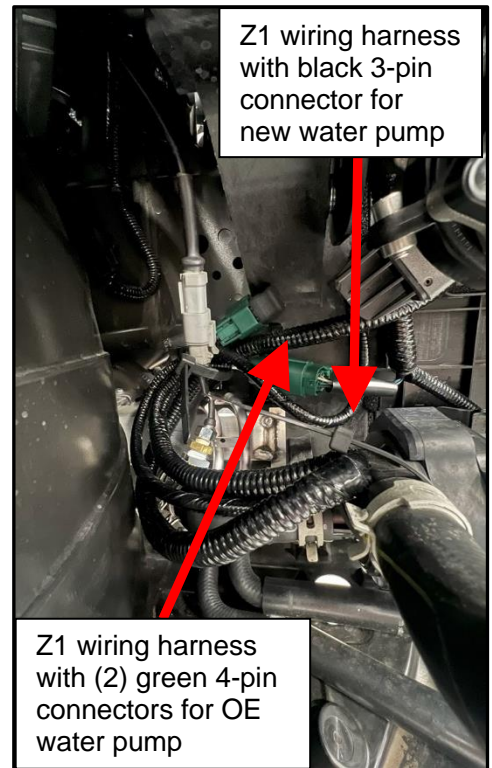
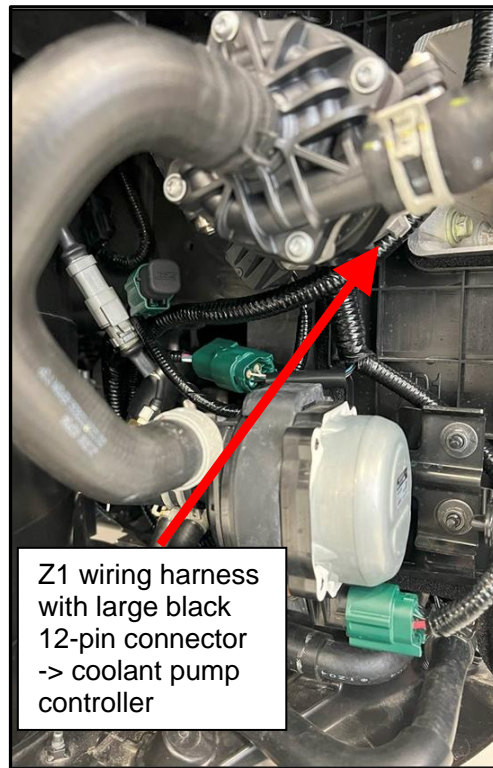


29. Attach the negative (white) wire's ring terminal to the negative battery terminal (shown above).

30. Attach the positive (black) wire's ring terminal to the left side of the positive battery terminal (shown above).

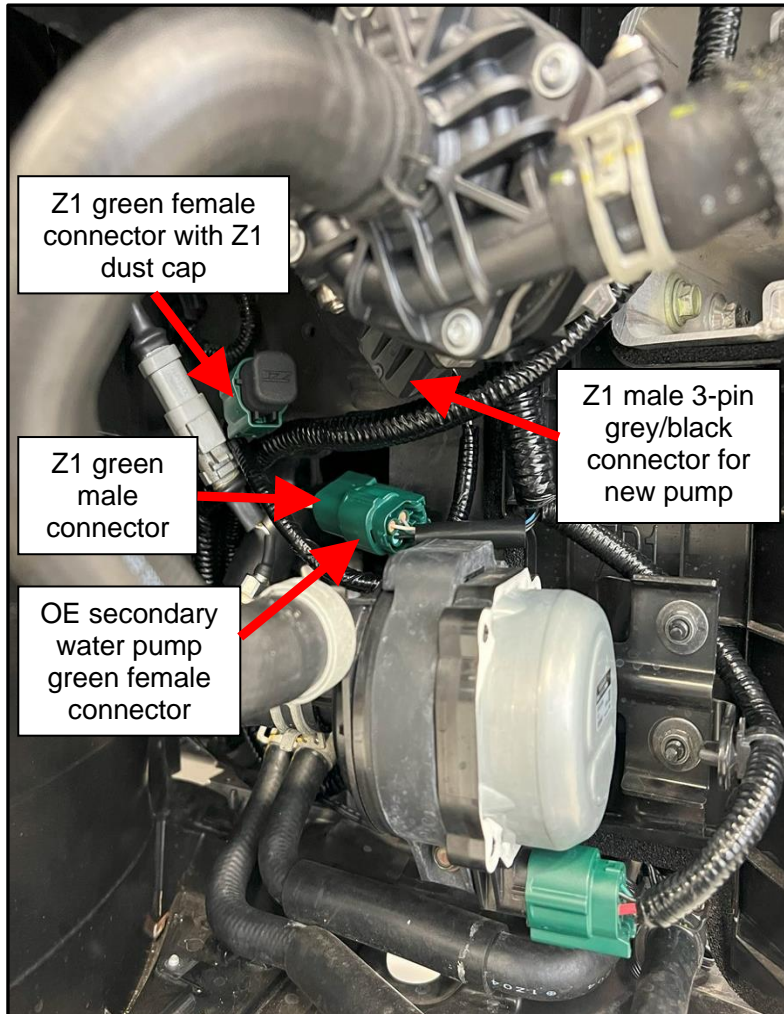
31. Locate the Z1 wiring harness.

32. Starting by the water pumps, route the large black 12-pin connector of the wiring harness up towards the engine bay, to the right of the passenger headlight, and then towards the coolant pump controller. Please use the images below as reference.

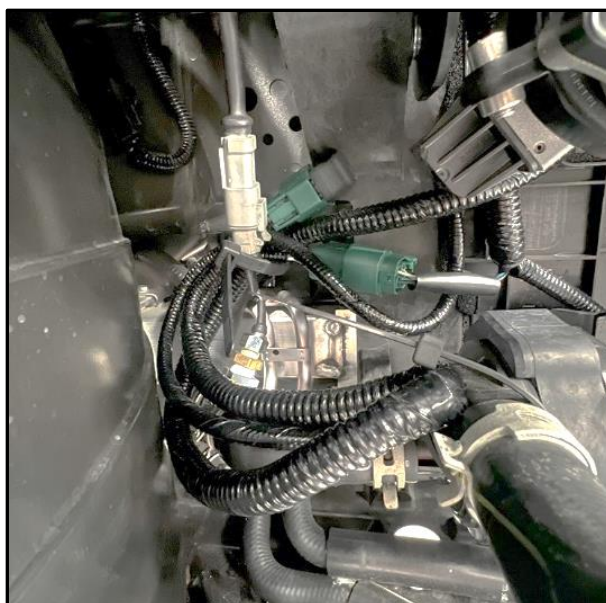


33. Connect the large 12-pin connector to the Z1 Coolant Pump Controller (shown above at left).

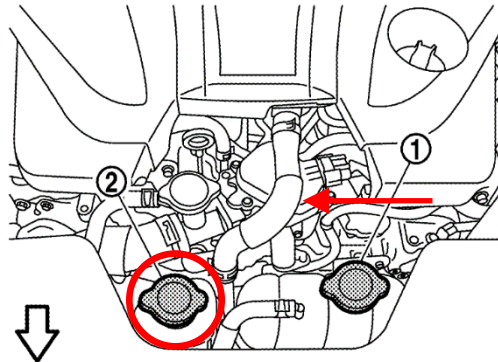
34. Connect the OE connector off the secondary water pump to the green male connector coming off the Z1 harness. Install the Z1 black dust cap into the Z1 female green connector. Please refer to image below. Connect the remaining 3-pin connector on the Z1 harness to the new Z1 water pump.



35. You can route the excess harness anywhere you'd like and zip tie it in place. We opted to tuck it back behind the water pumps and zip tie it to the factory water hoses/pipes.



36. It is now time to refill and bleed the system. Bleeding the intercooler and heat exchanger system on VR30 vehicles is difficult as the intercoolers on top of the engine are the highest point. It is highly recommended to use a vacuum bleeder or the Z1 Elite Diagnostic Scan tool. Follow the instructions from your vacuum bleeder manufacturer, general instructions are listed below in the following steps.
37. Open the charge air cooling system reservoir tank cap (2). Using a vacuum bleeder, suck out as much air as possible.



38. Using the vacuum bleeder, draw coolant back into the system. Make sure the feed hose of the vacuum bleeder is submerged in coolant/water.
39. If you do not have access to a vacuum bleeder, you may use the [Z1 Elite Diagnostic Scan Tool](#). Depending on how much fluid drained out in the previous steps, refill the reservoir to the MAX level line.
40. Start the vehicle and using the [Z1 scan tool](#), navigate to the “Charge air cooler cooling electric water pump” active test under the “Control Modules” in the “Engine” section.
41. Then, select the “Charge air cooler coolant temp” parameter from the list and hit OK(F3). You can then hit F2 to go to “Full drive” mode.
42. Watch the reservoir tank, as the coolant level drops, fill it back up to the MAX line.
43. When coolant level stops dropping, turn off water pump(s).
44. Once the system is bled, reinstall reservoir tank cap.
45. Follow steps # 4-13 in reverse order to reinstall bumper and trim components.
46. Check vehicle for loose tools/items.
47. Properly lower vehicle from jack stands.
48. Perform a final test drive of vehicle.
49. After install there will be a pending code, P14AE “Charge Air Cooler Cooling Electric W/P”, on your ECU. It will not affect performance and will not throw a CEL. The pending code is just indicating that the 2nd factory pump has been disconnected.

END

Additional Technical Support:

Contact Z1 Motorsports at info@z1motorsports.com
Or call 770-838-7777 between 9am and 6pm ET