

# Z1 350Z G35 POWER STEERING COOLER UPGRADE KIT INSTALLATION MANUAL



This Installation Manual is intended for the following models:	
2003-2008	Nissan 350Z
2003-2007	Infiniti G35 Coupe
2003-2006	Infiniti G35 Sedan

## 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 350Z G35 Power Steering Cooler Upgrade Kit, consult with a Professional Mechanic or contact Z1 Motorsports for more information.

## **PARTS INCLUDED:**

Item	Quantity	Description
1	1	Cooler Mounting Bracket
2	1	Z1 Procooler Oil Cooler Core
3	2	Reusable Zip Tie
4	2	Banjo Fitting - M22 to 10mm Hose Barb
5	2	Banjo Bolt - M22
6	4	Aluminum Crush Washer – M22
7	4	Spring Clamp
8	2	Riv-Nut
9	1	5/8" Cushioned P-Clamp
10	2	M6 x 25mm SEMS Bolt
11	6ft	3/8" Hose
12	1	Riv-Nut Tool
13	4	M6 Bonded Sealing Washer
14	4	M6 Nut

## **TOOLS REQUIRED:**

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extension(s)
- Assorted Metric Sockets
- Assorted Metric Wrenches
- Torque Wrench
- Pliers
- Flat-Head Screwdriver
- 12mm Allen/Hex Key
- Power Steering Fluid
- Hose Cutting Tool

## **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:**

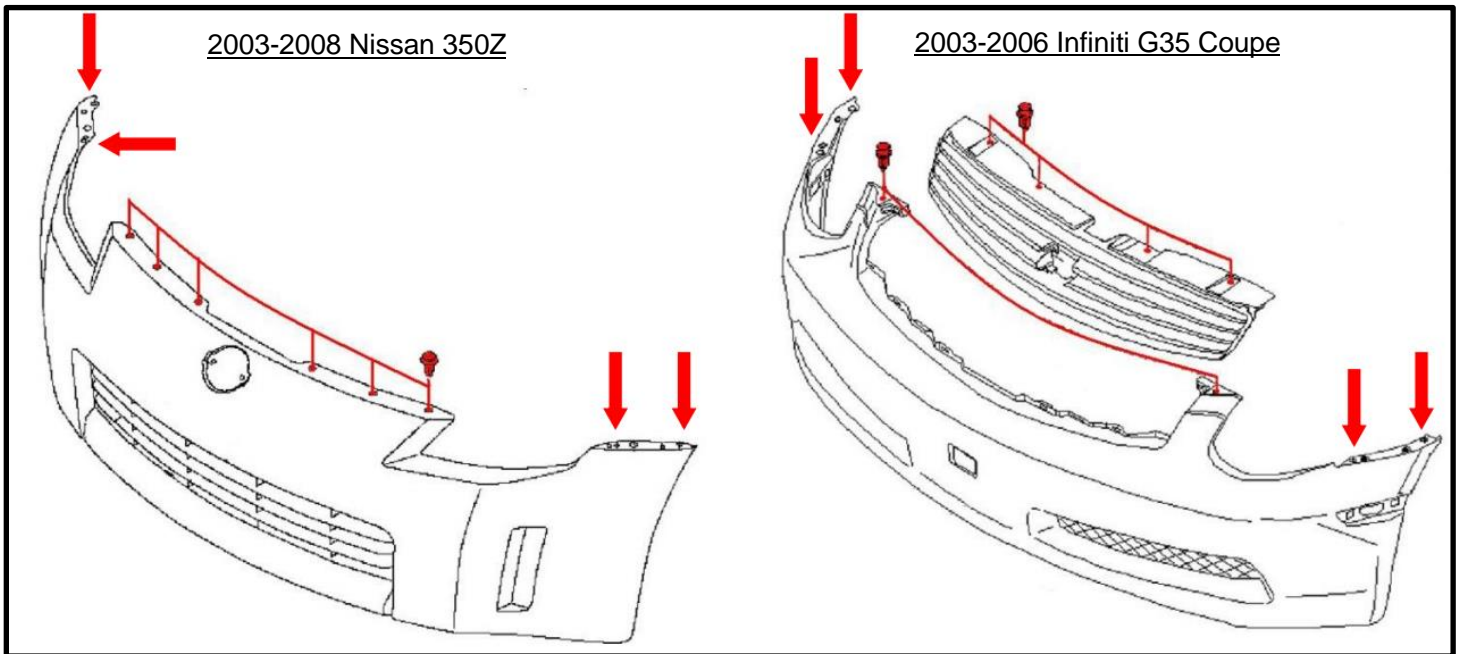
Remove contents from the Z1 Motorsports 350Z G35 Power Steering Cooler Upgrade Kit and verify that ALL necessary hardware is present.

## **PROCEDURE:**

1. Release tension to passenger front wheel lug nuts, but DO NOT remove them.
2. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.

3. Locate proper jacking points on vehicle's chassis (refer to vehicle's Owner Manual). Raise and support vehicle using jack & jack stands.
4. Unlatch and raise vehicle's hood. Apply hood prop.
5. Fully remove passenger front lug nuts and wheel.
6. Remove both the lower engine splash shield and the passenger side inner fender liner.
7. Remove the fasteners securing the front fascia and grille (G35 only!). This is done by using a flat blade screwdriver and gently popping out the center section of the plastic pop clips located under the hood.

**Note:** On G35 models, there are two additional "push-in" type fasteners attached to the grille that secure the grille to the fascia. Light pulling force will need to be applied in order to remove the grille. OEM or aftermarket urethane fascia's can be pried forward slightly in order to collapse the fasteners in order to remove the grille.



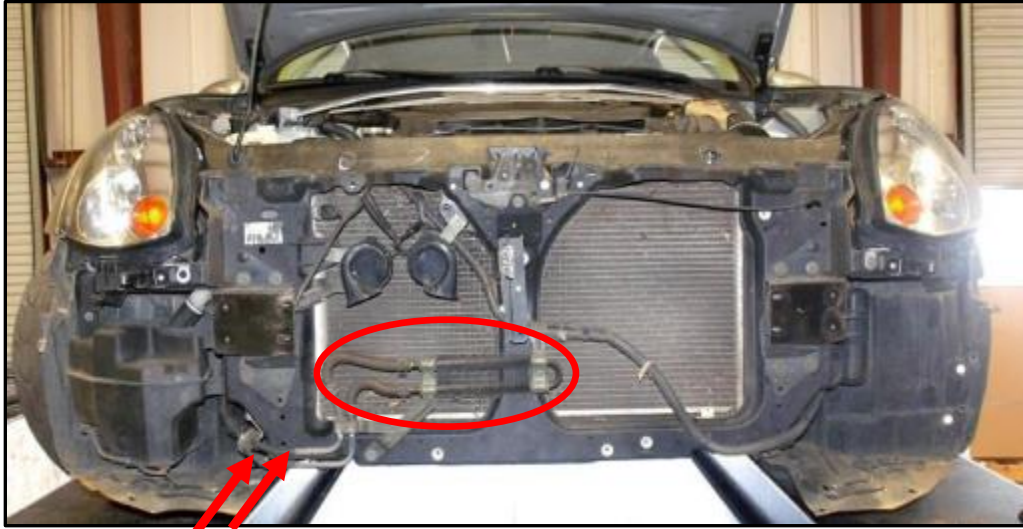
8. Peel back front wheel liner with flat-head screwdriver and remove (2) screws which mount front bumper fascia to the vehicle's bumper side bracket (shown at right and with arrows above).
9. Gripping the sides of fascia, pull the ends of the fascia downward. A plastic alignment tab is located on each side of the fascia and is designed to align it with the fenders during assembly. Once free, carefully remove the fascia from the chassis and set aside.



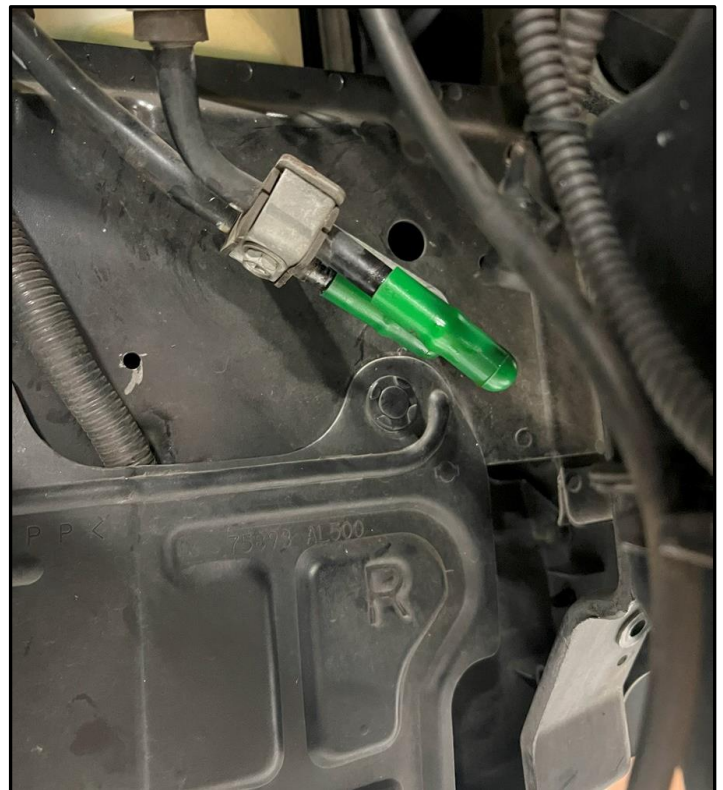
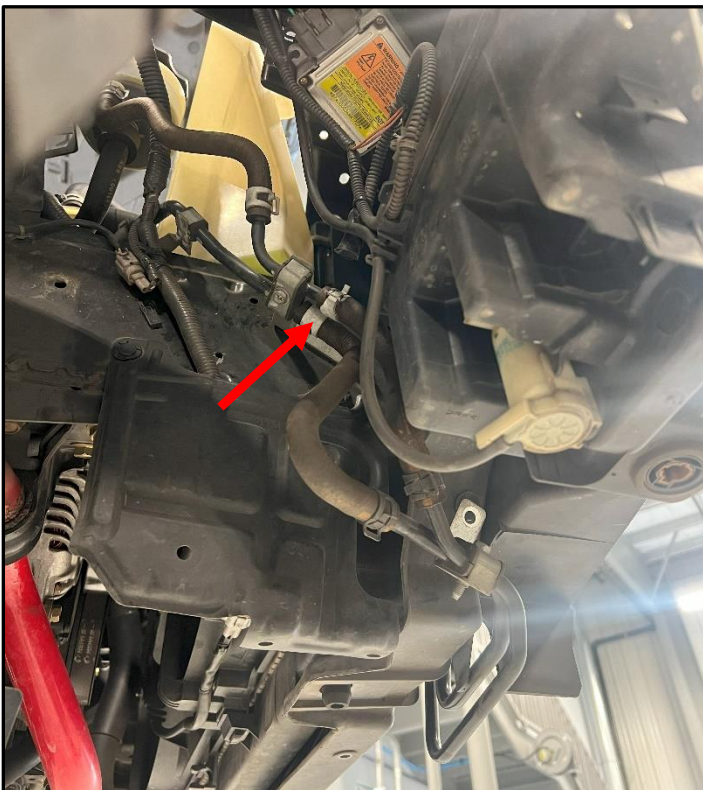
**Installation Note:**

When removing the fascia, remove one side at a time. When doing so, be extremely careful NOT to allow the fascia to rub against the fenders. If allowed to do so, damage to the painted surfaces will result.

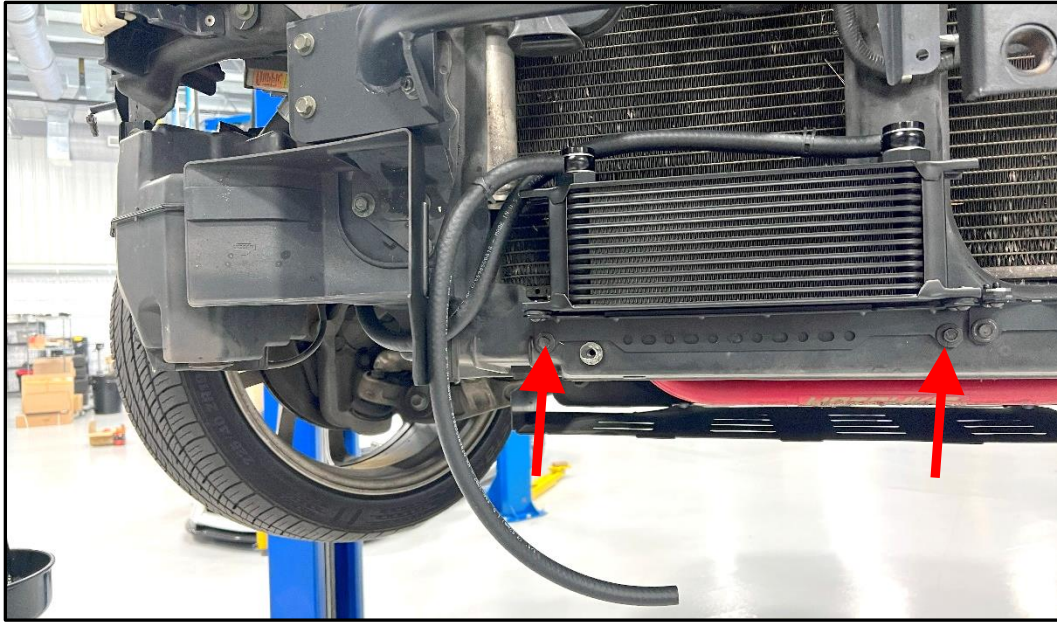
10. Remove the foam bumper reinforcement bar and aluminum crash bar. Four 12mm bolts and four 12mm nuts are used to secure the crash bar onto the chassis.
11. With the crash bar removed, it should look like the image below. The factory power steering cooler is circled below.



12. If you do not have 3/8" or ~10mm silicone end caps, it is recommended to drain or empty your power steering reservoir, as once you remove the OE lines they will leak. The lines running from the cooler to the reservoir and steering rack run up by the passenger side frame rail and are shown with arrows above.
13. Follow the lines up and remove the soft line from the hard line on the outside of the passenger side frame rail, in the passenger side fender well, just behind the headlight (shown below). If available, install a silicone end cap on each hardline to prevent fluid from dripping.



14. Locate the Z1 Procooler, oil cooler bracket, (4) bonded sealing washers, and (4) M6 nuts. Remove the (2) socket head bolts holding each 1-piece bonded plate from both sides of the oil cooler bracket.
15. Place the Z1 Procooler on the bracket, install the socket head bolts through the bottom, install a bonded washer on each bolt, and secure with an M6 nut (as shown below).
16. Hold the bracket and cooler up to the core support. The image below shows where the cooler will sit and how close the lines should be to the AC condenser on the left side. While holding your cooler in this position, mark the two outer mounting locations with a marker or center punch. The mounting locations are shown with an arrow below.



17. Set the cooler and bracket down and check on the backside of the core support where you marked. Be cautious of the fact that the back side of the core support IS NOT FLAT. For added strength, there are diagonal braces formed into the core support. The holes required must be drilled in between the diagonal braces. This can be verified by looking at the backside of the core support.
18. Carefully drill out the two holes using a 10mm or 25/64 drill bit.
19. Install the two provided M6 riv-nuts into the holes drilled. A riv-nut tool is included if you do not have one. It works by threading the riv-nut fully onto the M6 bolt in the tool. Then, inserting the riv-nut into the drilled hole, and then using two wrenches, unscrew the two parts of the tool to pull the bolt back and install the riv-nut.
20. It is recommended to prefill the core with power steering fluid before installing the fittings and attaching it to the car. The factory service manual recommends using [genuine Nissan PSF](#) (power steering fluid) or equivalent, equivalent being "NISSAN Automatic Transmission Fluid (ATF), DEXRON III/ MERCON or equivalent ATF."
21. Locate the (4) M22 aluminum crush washers, (2) M22 banjo fittings, (2) M22 banjo bolts. With an aluminum washer on each side of the banjo fitting, install a banjo bolt through each fitting and thread into the Z1 Procooler. The banjo bolts do not need to be crazy tight. Over tightening will result in leaks. The core and fittings are aluminum, tighten them until they are snug but do not torque them down hard. It is better for them to be a little loose and cause a little seepage (that can be fixed) than to overtighten them and damage them permanently.
22. Once the core is filled and fittings installed, secure the oil cooler bracket onto the two riv-nuts installed previously. It should look like the image above just without the hose.

23. Locate the hose and (4) clamps. The next few steps are how we recommend routing the hoses. If you want to route them in a different way feel free to, just make sure the lines do not kink.
24. 6ft of hose is provided and should be more than enough. Install a clamp on one end and then install that end onto one of the fittings on the Z1 Procooler.
25. Route the hose between the windshield washer reservoir and the core support and up to the hardline where the factory lines were removed from in step # 13.
26. Hold the hose at the correct length next to the factory hardline and cut it. It is recommended to prefill the hoses once they are on attached to the cooler to make the bleeding process later easier. Carefully prefill the line with PSF, then with a clamp, install the cut hose onto the factory hardline.
27. With a clamp, install the second piece of hose onto the other fitting on the Z1 Procooler.
28. Route the second hose to the other factory hardline from step # 13, cut it to length, prefill it with PSF and install it with a clamp.
29. Use the provided (2) zip ties to secure the lines together and to the vehicle where necessary.
30. Once everything is installed and plumbed up, refill the power steering fluid reservoir. Start the vehicle and turn the wheels back and forth several times to get fluid into the entire system. While turning the wheels, check the reservoir regularly to make sure it does not empty and introduce air into the system, while also checking for leaks at each connection point and on the cooler.
31. Once you've verified there are no leaks, and the steering wheel turns smoothly, the installation is complete. Reinstall components previous removed in steps # 5-10.
32. Check vehicle for loose tools/items
33. Properly remove vehicle from jack stands.
34. Close hood of vehicle
35. Take vehicle for a test drive.

**END**

**Additional Technical Support:**

Contact Z1 Motorsports at [info@z1motorsports.com](mailto:info@z1motorsports.com)

Or call 770-838-7777 between 9am and 6pm ET