

Z1 VR30 3.0T ALUMINUM LOWER WATER NECK INSTALLATION MANUAL



This Installation Manual is intended for the following models:

2016+	Infiniti Q50 (VR30)
2017+	Infiniti Q60 (VR30)
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 VR30 Aluminum Lower Water Neck, consult with a Professional Mechanic, or contact Z1 Motorsports for more information.

PARTS INCLUDED:

Item	Quantity	Description
1	1	Z1 Aluminum Coolant Neck
2	1	Gasket
3	1	ORB Barb Fitting

TOOLS REQUIRED:

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extension(s)
- Assorted Metric Wrenches
- Assorted Metric Sockets
- In-lbs Torque Wrench
- Screwdrivers
- Funnel
- Pliers
- Coolant
- Vacuum Bleeder or [Z1 Elite Diagnostic Tool](#) (Recommended)

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 VR30 Aluminum Lower Water Neck and verify that ALL necessary hardware is present.

PROCEDURE:

1. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
2. Locate the proper jacking points on the vehicle's chassis (refer to the Vehicle's Owner's Manual). Raise and support the vehicle using a jack and jack stands.
3. Remove the lower engine Splash Shield/Undershroud. It will be secured by an assortment of 10mm screws and plastic panel clips. *Figure 1.*

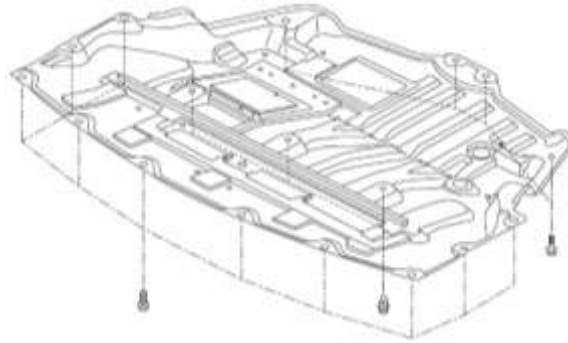


Figure 1

4. Remove the (8) eight plastic clips that secure the Air Duct on the top of the Front Bumper Fascia. Remove the Air Duct and set aside. *Figure 2.*

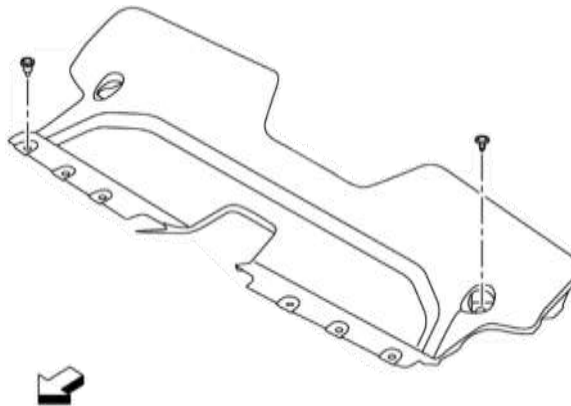


Figure 2

5. Either Drain the Engine Coolant or pinch the hoses into the OE Water Inlet to minimize Coolant Spillage. Pinching the hoses will make the Coolant Bleeding process easier.
- a. If choosing to drain coolant, remove the Drain Plug on the bottom of the Radiator, then remove the Coolant Reservoir Cap. Drain and collect all coolant. It is advised to let the vehicle cool before draining to prevent being burned by hot coolant. *Figure 3.*

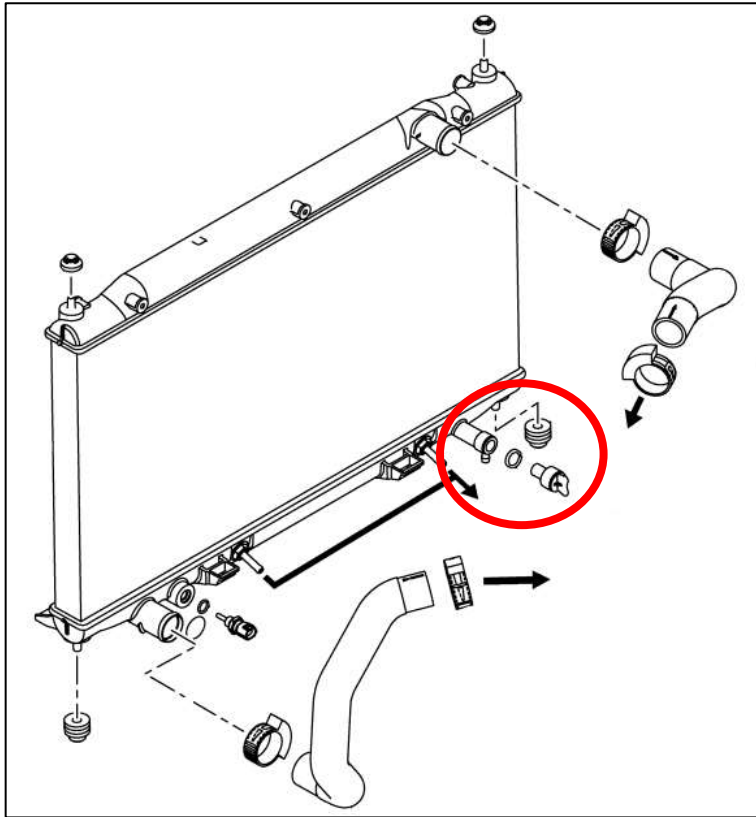


Figure 3

- b. If choosing to pinch the hoses, use proper pinch clamps and pinch the hoses connected to the OE Water Inlet. *Figure 4.*

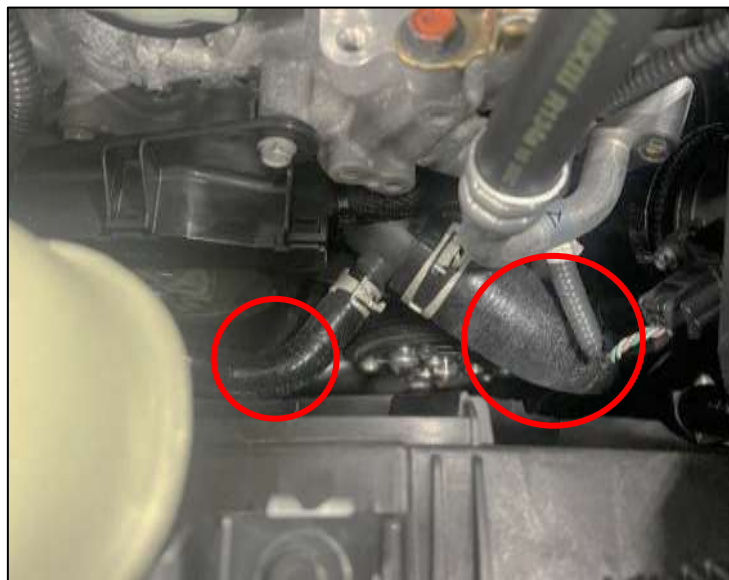


Figure 4

6. Once Coolant is Drained or Hoses are pinched, loosen the (2) two Hose Clamps and remove the Hoses from the OE Plastic Water Inlet. Collect any excess Coolant that will spill out.
7. Remove the (3) three bolts that secure the OE Plastic Water Inlet to the engine. There are (2) two bolts on top and (1) one bolt on the bottom. The bottom bolt can tough to reach. Retain this hardware. *Figure 5.*

NOTE: Some vehicles will have a plastic wiring harness cover that may need to be moved to provide access to the Water Inlet Bolts. Remove the (2) two securing bolts and set the plastic cover aside.

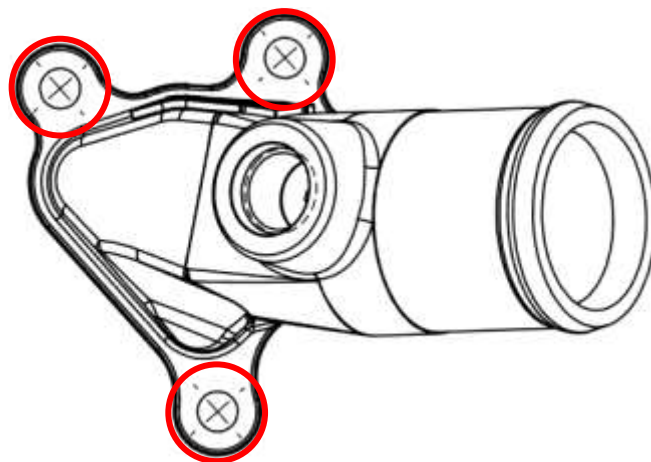


Figure 5

8. Locate the Z1 Aluminum Water Neck, ORB Barb Fitting and Gasket. Install the ORB Fitting and Gasket into the Water Neck. *Figure 6.*

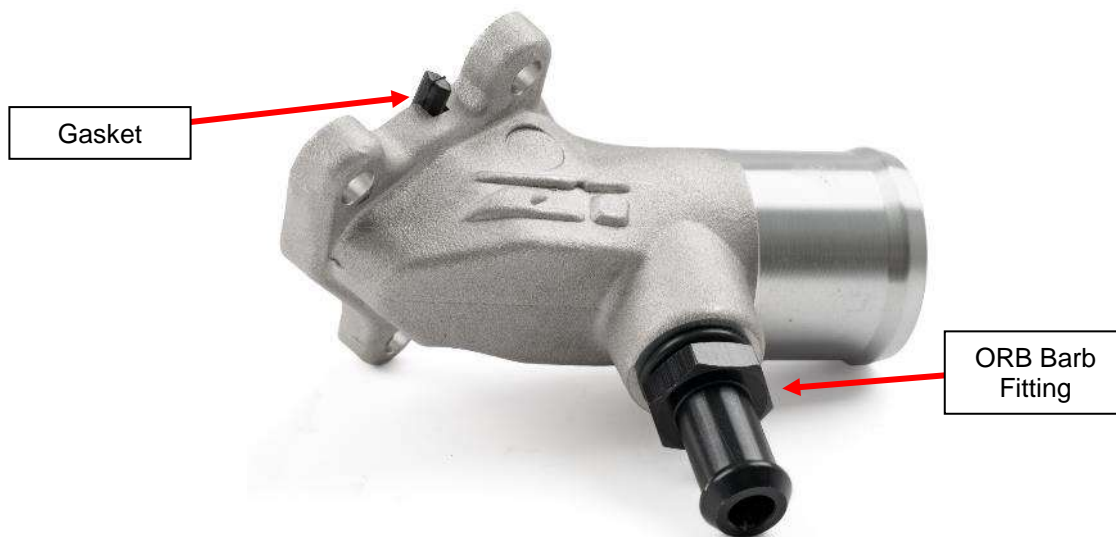


Figure 6

9. Clean the mounting surface on the engine for the Water Neck of any debris or residual coolant.

10. Install the Z1 Water Neck Assembly onto the Engine using the OE Bolts removed in *Step 7*. Torque the bolts to **80 in-lbs**. *Figure 7*.
11. Reattach the (2) two Coolant Hoses disconnect in *Step 6* and secure with the OE Clamps. *Figure 7*.



Figure 7

12. Refill and bleed the Coolant System. It is recommended to use a Vacuum Bleeder Tool or the [Z1 Elite Diagnostic Tool](#). If using a Vacuum Bleeder, refer to the Manufacturer's instructions for use. If using the Z1 Elite Diagnostic Tool or don't have access to either of these tools, continue to the next sections.

Z1 Elite Diagnostic Tool:

1. Open the Coolant Reservoir Cap. Fill the Coolant Reservoir with Coolant until it reaches the **MAX** line.

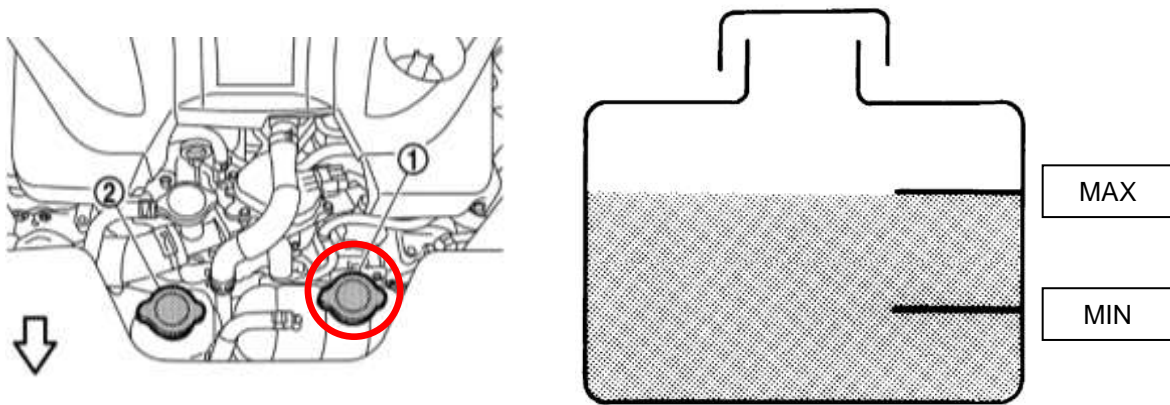


Figure 8

2. Using the Z1 Elite Diagnostic Tool, open the thermostat using the **ENGINE COOLANT BYPASS VALVE** function under the **ENGINE** section. Coolant should start flowing. Squeezing the upper radiator hose can help purge any air bubbles in the system.
3. Watch the Coolant Reservoir Tank, as the Coolant Level drops, refill the Reservoir back to the **MAX** line.
4. Check for leaks in the cooling system.
5. Once the Coolant Level stops dropping and there are no more air bubbles or leaks, turn of the Water Pumps.
6. Reinstall the Coolant Reservoir Cap.

Factory Service Manual Bleeding:

1. Open the Coolant Reservoir Cap. Fill the Coolant Reservoir with Coolant until it reaches the **MAX** line.
Figure 9.

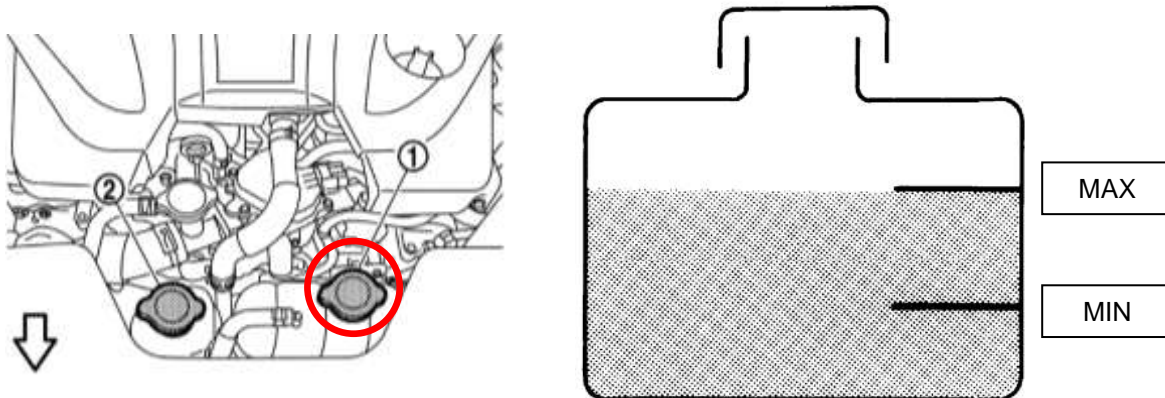


Figure 9

2. Reinstall the Coolant Reservoir Cap.
3. Start the engine then immediately turn it off.
4. Let the engine sit for about (10) ten seconds and check the Coolant Level in the Reservoir.
5. Refill the Reservoir to the **MAX** line.
6. Repeat Steps 1-5 until the Coolant Level no longer drops.
7. Start the engine and allow it to warm up until the Engine Thermostat opens. This should take ~10 Minutes at 2000 rpm. Watch the Engine Temperature Gauge to make sure the engine does not overheat. Check for any leaks in the cooling systems.
8. Check Coolant Reservoir Level, refill as necessary. Make sure no bubbles are popping up in the Reservoir.
9. Reinstall Coolant Reservoir Cap.

END

Additional Technical Support:

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