

Z1 350Z G35 OFFSET STEERING RACK SPACERS 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 Offset Steering Rack Spacers, consult with a Professional Mechanic or contact Z1 Motorsports for more information.

PARTS INCLUDED:

Item	Quantity	Description
1	1	Offset Steering Rack Spacer - Passenger
2	1	Offset Steering Rack Spacer - Driver
3	2	M16-1.0 x 40mm Socket Head Bolt
4	2	M3 Set Screw
5	1	Tie Rod Retaining Tab - Passenger
6	1	Tie Rod Retaining Tab - Driver
7	1	Red Loctite

TOOLS REQUIRED:

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extension(s)
- Assorted Metric Sockets/Wrenches
- Torque Wrench
- 1.5mm Allen/Hex Socket
- 14mm Allen/Hex Socket
- 32mm Wrench or Adjustable Pliers with Thin Jaws
- Large Adjustable Crescent Wrench
- Ball-Joint Separator Tool or Pickle Fork

SAFETY REQUIREMENTS:

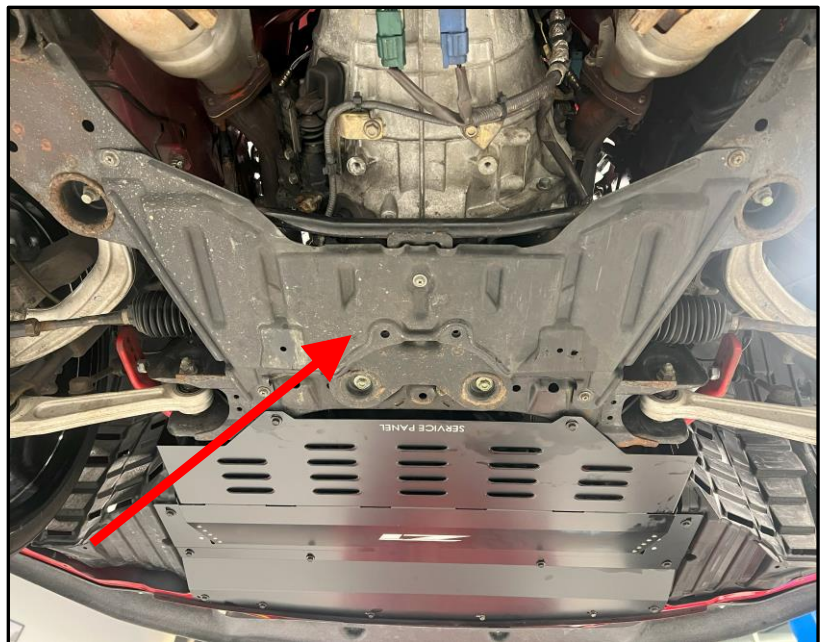
- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always turn the ignition to the OFF position and disconnect the NEGATIVE battery terminal.
- Always use properly rated jack stands when working under your vehicle.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

BEFORE YOU BEGIN:

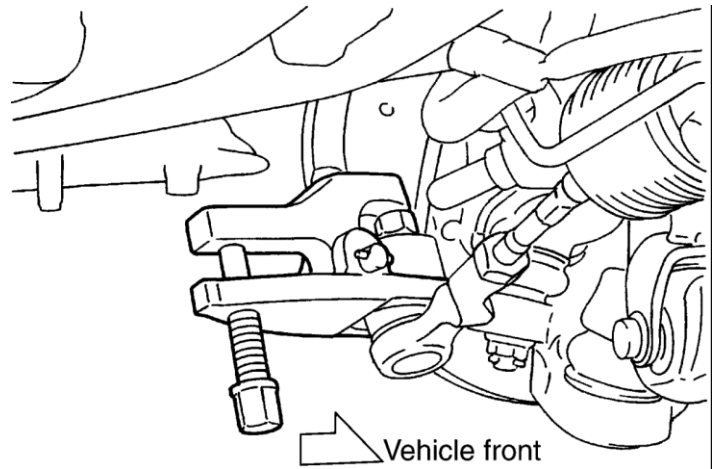
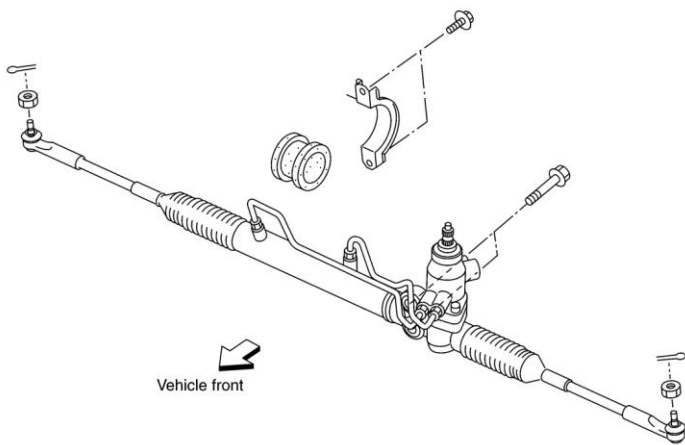
Remove contents from the Z1 Motorsports 350Z G35 Offset Steering Rack Spacers and verify that ALL necessary hardware is present.

PROCEDURE:

1. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
2. Release tension to front lug nuts but DO NOT remove them.
3. Locate proper jacking points on vehicle's chassis (refer to vehicle's Owner Manual). Raise and support vehicle using jack & jack stands.
4. Remove the rear engine undershroud covering the steering rack (shown with arrow at right).



5. Remove front lug nuts and wheels.
6. Remove the cotter pin on each tie rod end ball joint, then loosen the nut. DO NOT fully remove the nut.
7. Using a ball-joint separator tool or hammer, unseat the tie rod ball-joint from the steering knuckle. Once unseated, fully remove the nut and remove the ball-joint from the knuckle.



8. Remove the clamps/safety wire and remove the OE steering rack dust boots.



9. Using a flathead screwdriver, remove the OE retaining clip on the tie rod end connecting to the steering rack (shown below).



10. While holding the steering rack flats with a 21mm wrench, use a 32mm wrench, large adjustable wrench, or large flat jaw pliers to unthread the OE tie rod nut from the steering rack.
11. It is recommended to spray come brake clean into the threads of the steering rack to clear out any dirt or debris.
12. You should check to see if your steering rack is “centered” at this time. To do so, you will need to ensure the steering wheel is straight forward, then measure how much is protruding from each side of the rack. Measure from the base of the rack, notice in the image below at left the caliper is stuck inside the recessed edge of the rack in order to measure from the base of the rack.

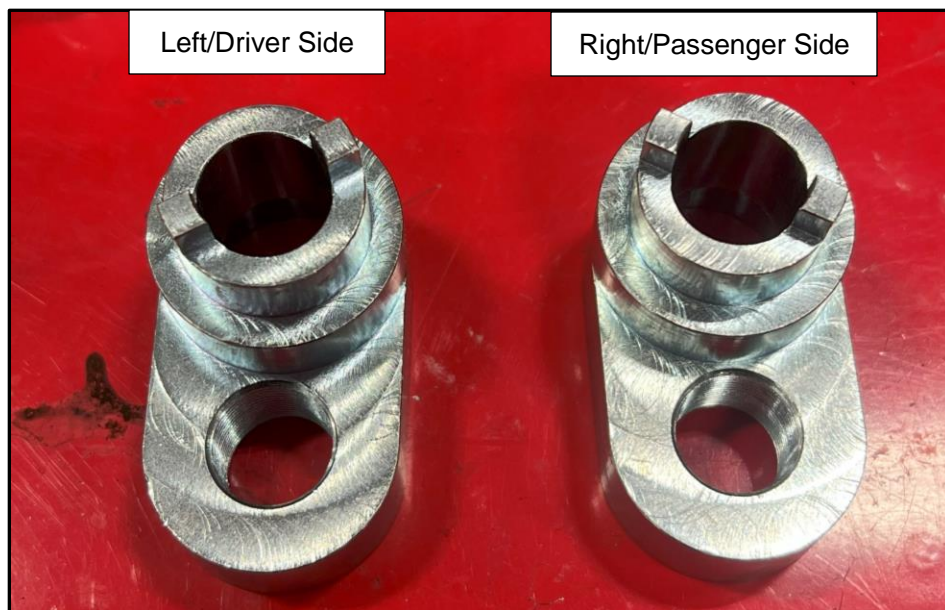
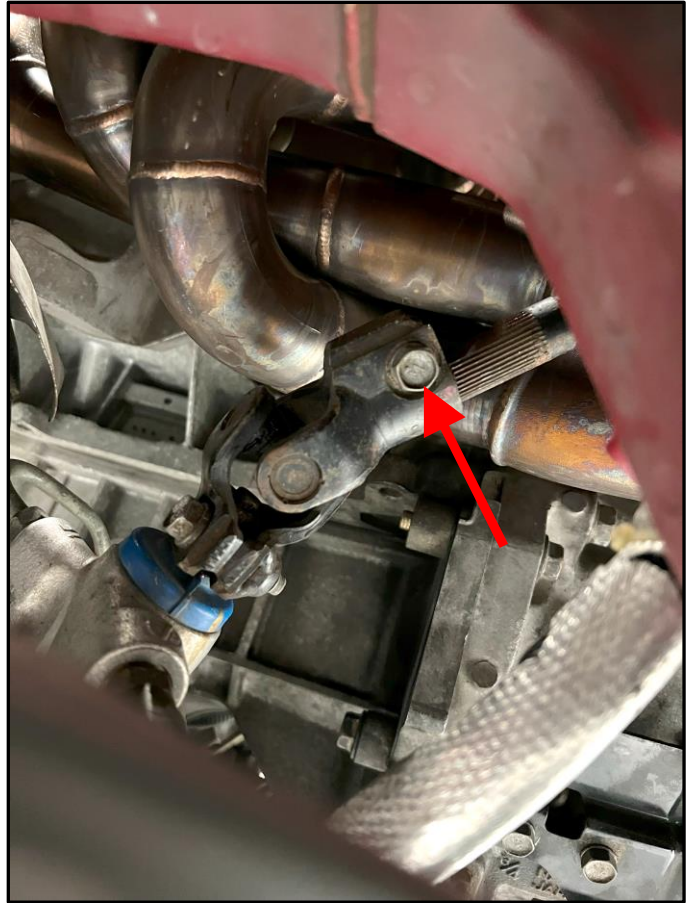


- a. If the sides are the same, your rack is considered “centered.” Proceed to the next step.
- b. If the sides are not the same rotate the steering wheel accordingly until the sides are even, even if that means the steering wheel is off-center.

- c. Measure the rack again. Once you confirm the sides are even you can adjust the steering wheel by either removing the steering wheel altogether or removing the coupler on the splines of the steering column and steering rack.
- d. If it is easier for you to remove the steering wheel altogether, remove it and reinstall with the wheel straight up and down.
- e. If it is easier for you to remove the coupler, remove the bolt shown at right and then slide the steering column out of the rack. Then rotate the steering wheel until it is straight up and down, then reinstall the steering column into the rack and secure with the bolt previous removed.
- f. Both methods will do the same thing. Once the steering wheel/column are reattached, check again at the rack to make sure the sides are even.
- g. Your rack is now considered "centered."

13. Locate both of the Z1 Offset Steering Rack Spacers, (2) M16 bolts, (2) M3 set screws, and the provided Loctite.

14. There is a left and right side spacer, when installed in the steering rack it should be pointed forward.



15. With an M16 bolt and some Loctite, install the spacers into the steering rack. The large socket head bolt will use a 14mm Allen/Hex socket. While holding the steering rack flats with another 21mm wrench, torque the socket head bolts to 59-72ft-lbs.



16. Install the M3 set screws into the threaded hole on the bottom of the rack spacer.
17. Locate both of the tie rod retaining tabs.

18. Place the tabs onto the threaded section of the OE tie rod. There is a left and right tab, once the tie rod is threaded into the spacer, the bent flat section of the tab should be on top and the curved edge towards the front. Apply some Loctite and thread the tie rods into the Z1 rack spacers (as shown below).



19. While holding the rack spacer with a 32mm wrench or large adjustable wrench on the top and bottom, tighten the tie rod with a 32mm wrench or thin flat jaw pliers. Torque tie rods to 59-72ft-lbs.

Installation Tip: Hold the top bent part of the retaining tab down with the wrench or pliers to prevent it from rotating as you tighten down the tie rod.

20. Using a hammer and punch, bend the overhanging bottom side of the retaining tab over the flat section of the tie rod end (as shown below).



21. Reinstall the tie rod ball-joint onto the steering knuckle. Torque ball joint nut to 22-28ft-lbs. Secure with a cotter pin.
22. Position the steering wheel in the center position and center your steering rack by making sure there is an even amount. Since the spacers will move the inner tie rods outboard ~35mm, you will need to thread the inner tie rod into the outer roughly that amount to get the toe in an acceptable range before doing a proper alignment.
- a. If you do not have an angle kit and you notice the inner tie rods are reaching the end of the threads in the outer tie rod before you can correct the toe, you will need to trim the inner tie rod or buy shorter inner tie rods.
23. If desired, reattach the dust boots and secure them with safety wire. Due to the outer tie rod mounting further forward, it may pull or stretch the dust boot at full lock so ensure the safety wire is tight. It will be difficult to pull the dust boot over the offset spacer, use silicone spray and twist the boot while pulling.
24. Reattach the rear engine undershroud and front wheels/lug nuts.
25. Properly lower vehicle from jack and jackstands.
26. Torque front lug nuts.
27. Perform an alignment.

END

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