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Z1 Z34 S-PRO COILOVERS INSTALLATION MANUAL

This Installation Manual is intended for the following models:	
2009-2020	Nissan 370Z
2023+	Nissan Z
2009-2013	Infiniti G37 Sedan
2008-2013	Infiniti G37 Coupe

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 Z34 S-Pro Coilovers, consult with a Professional Mechanic, or contact Z1 Motorsports for more information.

PARTS INCLUDED:

Item	Quantity	Description
1	4	Z1 Coilover Wrench
2	2	Z1 S-Pro Front Coilover
3	2	Z1 S-Pro Rear Shock Absorber
4	2	Z1 S-Pro Rear Spring
5	2	Z1 S-Pro Adjustable Rear Spring Collar
6	2	Rear Spring Seat Rings

TOOLS REQUIRED:

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extension(s)
- Assorted Metric Wrenches
- Assorted Metric Sockets
- Torque Wrench
- Channel Lock Pliers

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 Z34 S-Pro Coilovers 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. Break loose all Lug Nuts but do not remove.

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 all (4) four wheels.

FRONT COILOVERS:

1. Disconnect Wheel Sensors and Brake Lines from the OE Front Coilover Bracket.

2. Loosen but do not remove the (3) three nuts at the top of each OE Front Coilover from the top of the Shock Towers in the engine bay.

3. Remove the nuts securing the Sway Bar End-Links to each Lower Control Arm and OE Coilover, circled below in *Figure 1*. Retain all hardware.

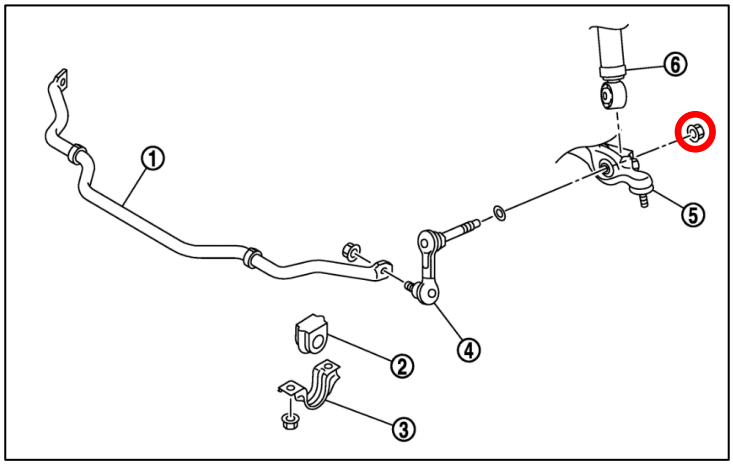

Figure 1

4. Remove the nuts securing the Sway Bar End-Links to the Sway Bar, circled below in *Figure 2*. Remove the End-Links and set aside and retain all hardware.

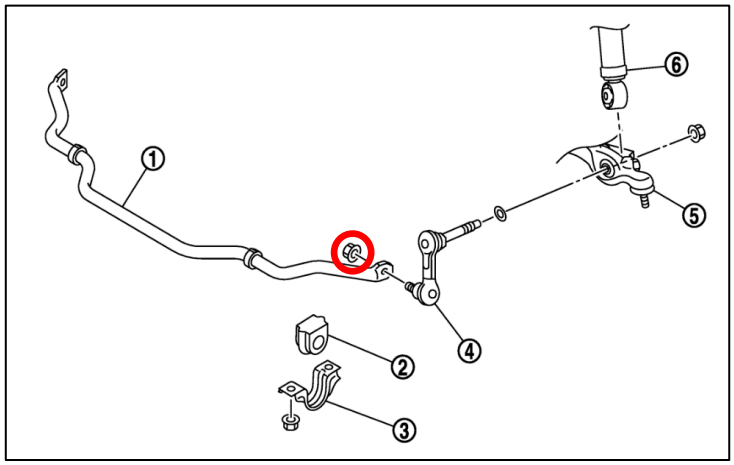

Figure 2

5. Remove the (3) three bolts securing the Brackets to the backside of the Lower Control Arm, circled below in *Figure 3*. Remove the Brackets and set aside.

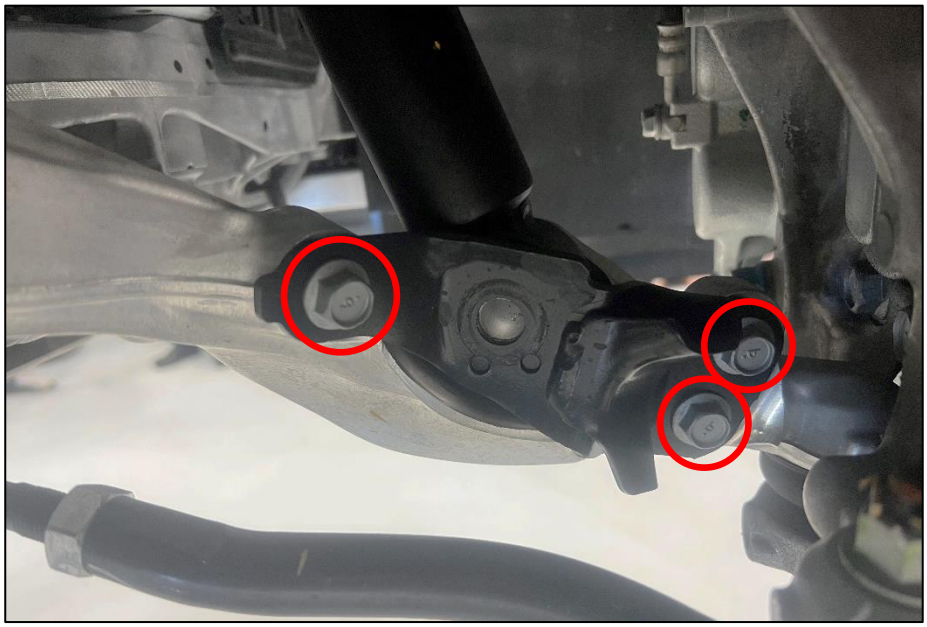

Figure 3

6. While supporting the OE Coilover, fully remove the (3) three nuts at the top of the Coilover in the engine bay. Retain this hardware.

7. Remove the OE Front Coilovers. You will likely need to push the Upper and Lower Control Arm down to provide clearance to remove the Coilover. If the Upper Control Arm is difficult to push down, loosen the Upper Control Arm Mounting bolts near the chassis. Retorque them to **40 ft-lbs** after installation.

8. Locate the Z1 Front Coilovers. Set the Coilovers down next to each other. *Figure 4*.

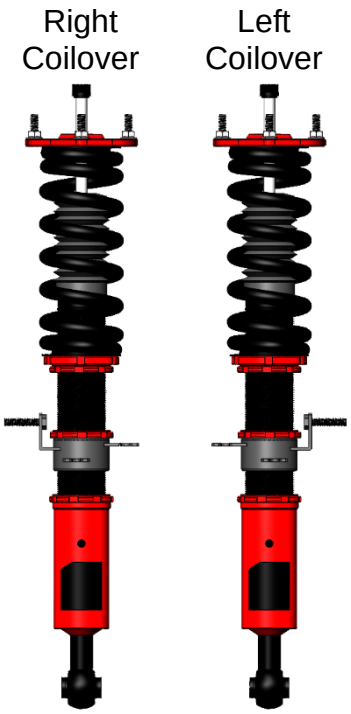

Figure 4

9. **ENSURE THAT THE LARGE TOP NUT, THE ONE ABOVE THE UPPER BUSHING IN THE TOP HAT, BUT BELOW THE ADJUSTER KNOB IS TIGHT**. You will need to use an open-ended wrench to adjust the knob. *Figure 5*.

Figure 5

10. Preload the Front Springs. To adjust Spring Preload, loosen the (2) two Collars under the Spring with the Coilover Wrenches. Rotate the Collar ~5mm upwards. Use the Coilover Wrench as a reference as it is 5mm thick. After adjusting the Collars, tighten the (2) two Lock Collars with the Coilover Wrenches.

11. Adjust the Shock Body Length so that they are the same for each side. Loosen the Lower Shock Collar and Rotate the Lower Mount Body until they are the same length. Once adjusted, tighten the Lower Locking Collar.

12. Starting on either side of the vehicle, position the Z1 Coilover into place, with the metallic Z1 Logo facing outwards. *Figure 6*.

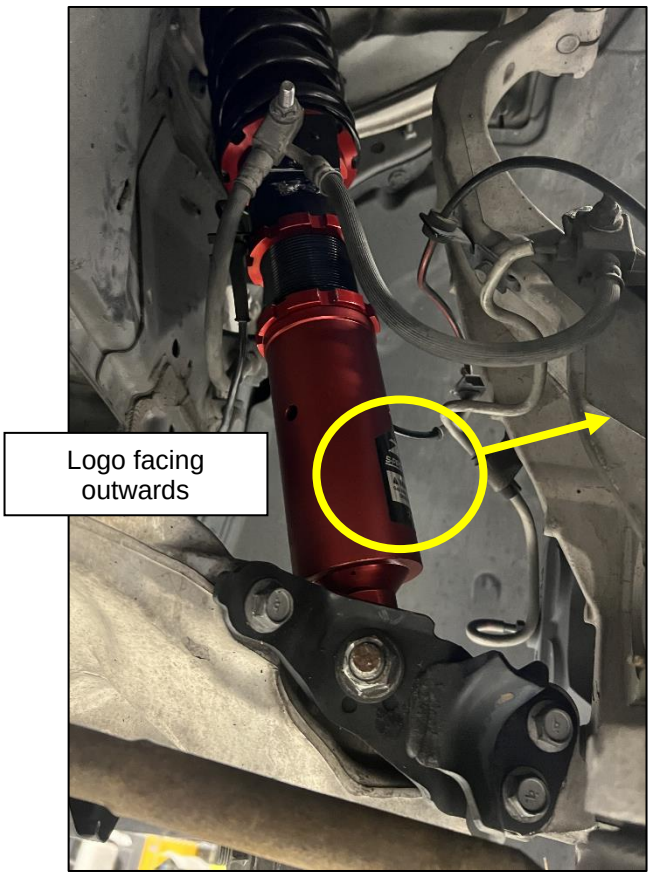

Figure 6

13. Reinstall the (3) three bolts and Brackets removed in *Step 5*. Torque the bolts to **38 ft-lbs**.

14. Reinstall the Sway Bar End-Link through the Z1 Coilover and Lower Control arm and secure with the OE Nut that was removed in *Step 3*.

15. Repeat *Steps 12-14* on the opposite side of the vehicle.

16. Using a jack, raise the Suspension/Steering Knuckles so that the studs on the Upper Mounts poke through the Shock Towers in the engine bay. Secure the studs with the (3) three supplied nuts on each side. Torque the nuts to **22 ft-lbs**.

17. Rotate the Sway Bar up and reattach the Sway Bar End-Links to the Sway Bar using the OE Hardware removed in *Step 4*.

18. Reattach any Wheel Sensor Lines or Brake Lines that were removed in *Step 1* to the Z1 Coilovers.

    NOTE: The Brake Line Bracket can rotate around the Shock Body to Raise or Lower it. Once the height is set, tighten the collar against it to lock it in place.

19. Final torquing of components should be completed with the vehicle on the ground. The torque specs can be found at the end of the Rear Coilover Installation section.

REAR COILOVERS:

1. Starting on either side of the vehicle, place a jack under the Rear Knuckle/Axle Housing to relieve the Coil Spring Tension.

2. Remove the bolt securing the Lower Mount of the Shock Absorber from the Knuckle, circled below in *Figure 7*.

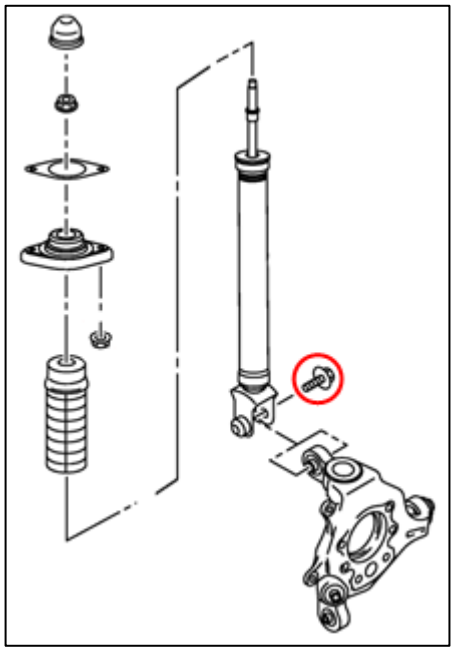

Figure 7

3. Gradually lower the jack to separate the Shock Absorber from the Knuckle.

4. Remove the (2) two nuts at the top of the OE Rear Shock Absorber that secure it to the studs on the chassis, circled below. *Figure 8*.

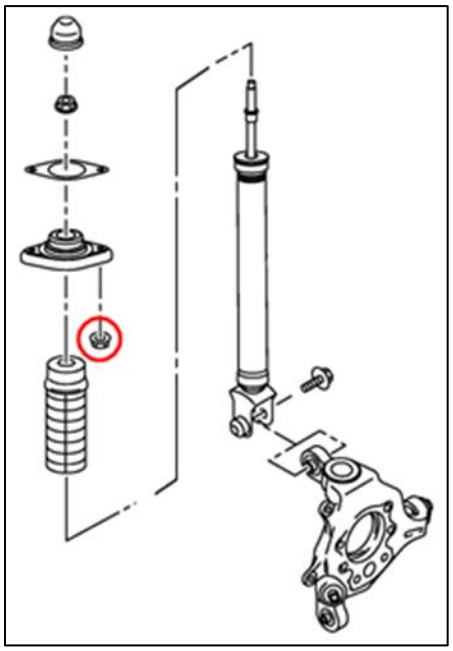

Figure 8

5. Place the jack under the Toe Arm to support the Control Arm and Coil Spring. Shown below in *Figure 9*.

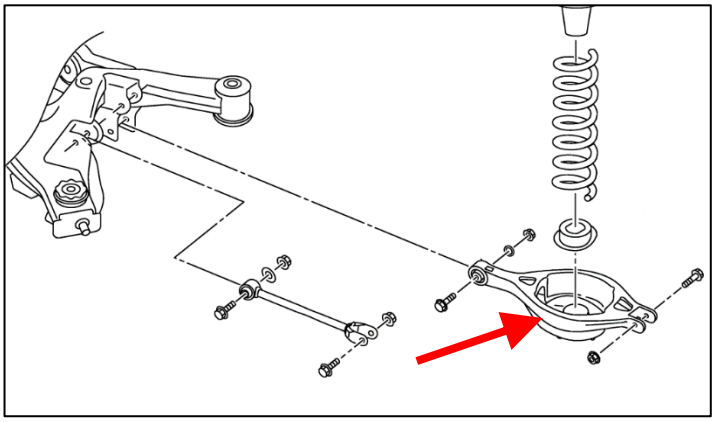

Figure 9

6. Remove the bolt and nut securing the Toe Arm to the Knuckle. Circled below in *Figure 10*.

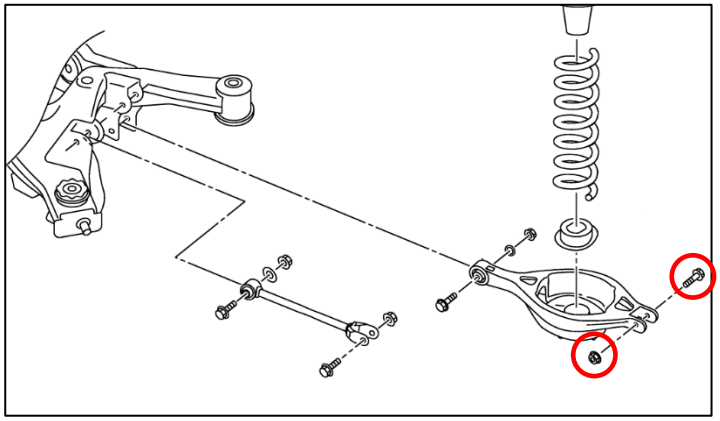

Figure 10

7. Slowly lower the jack to lower/pivot the Toe Arm, and remove the Coil Spring, Upper Rubber Seat, and Lower Rubber Seat. Retain the Lower Rubber Seat as it will be reused.

8. Repeat *Steps 1-7* for the other side of the vehicle.

9. Locate the Z1 Rears Shock Absorbers, Rear Springs, Rear Spring Collars, and Rear Spring Seat Rings. Ensure that the Top Nut above the Upper Rubber Bushing is tight.

10. Use the Rear Spring Collars to adjust the Ride Height in the Rear. If you want the vehicle as low as possible, start with the Perch threaded all the way down. If you want the vehicle as high as possible, start with the Perch near the end of the threads. We recommend starting in the middle of the Perch so you can adjust later. Make sure the Collars are tight after adjustment.

11. Place the Lower Rubber Seats that were removed in *Step 7* onto the Z1 Rear Springs as shown below. *Figure 11*.

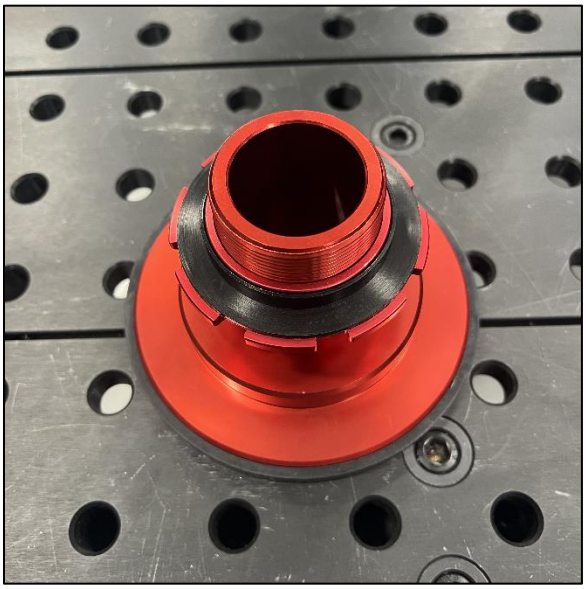

Figure 11

12. Position the Z1 Rear Spring Seat Rings onto the Spring Collars, then position the Springs onto the Rings as shown below. *Figure 12*.

Figure 12

13. Starting on either side of the vehicle, position the Spring and Spring Collar Assembly into the Toe Arm Spring Bucket so that it sits flush on the bottom of the Arm. The Step in the Spring and Lower Rubber Seat will match up with a Step in the Toe Arm Spring Bucket.

14. Swing the Toe Arm up and position the Spring Collar in the large seat in the chassis. Raise the Toe Arm until you can secure it to the Knuckle using the hardware removed in *Step 6*. You may need to use a jack to raise the Arm so that the bolts line up. *Figure 13*.

Figure 13

15. Position the Shock Absorber in place on the vehicle and secure the top of the Shock Absorber to the (2) two studs coming off of the chassis with the nuts removed in *Step 4*. Torque to **21 ft-lbs**. Leave the bottom mount disconnected for the time being, it will be connected to the knuckle in an upcoming step.

16. Set the Rear Spring Preload. The Spring should be able to rotate by hand. Place a jack on the Toe Arm and raise the Arm until the Spring touches at both the Top and Bottom Seats and you can no longer rotate it by hand.

17. Place a Tape Measure into the Spring Bucket and measure the Spring length.

18. Raise the jack under the Toe Arm ~5-10mm. Measure the Spring length again to confirm it was raised ~5-10mm.

19. With the Rear Spring preloaded, adjust the Rear Shock Absorber length. Loosen the Lower Locking Collar on the Shock Absorber. Rotate the Shock Body to either lengthen or shorten the overall length to align the mounting hole on the bottom of the Shock Absorber with the mounting hole on the Knuckle. *Figure 14*.

Figure 14

20. With the length set, tighten the Lower Locking Collar on the Shock Absorber and secure the Lower Shock Mount to the Knuckle with the bolt removed in *Step 2*.

21. Repeat *Steps 1-20* on the opposite side of the vehicle.

22. Reattach all (4) four wheels and lug nuts.

23. Properly lower the vehicle from jackstands.

24. Torque lug nuts to **80 ft-lbs**.

25. Torque Front Coilover Lower Mounting nuts (the nuts securing the Sway Bar End-Links to the Lower Control Arms) to **120 ft-lbs**.

26. Torque the Rear Toe Arm nuts to **54 ft-lbs**.

27. Torque the Rear Shock Absorber Lower Mounting Bolts to **91 ft-lbs.**

RIDE HEIGHT ADJUSTMENT:

Ride Height Adjustment should be performed with the Wheel in the air for the corner of the car you are working on but measured with the car on the ground.

FRONT:

Ride Height in the front should only be adjusted by rotating the Shock Body into or out if the Lower Mount. If you raise or lower the Spring Seat Collars you will be adjusting the pre-load, not just ride height. The Minimum Thread Engagement for the Coilover should not exceed the Sight Window on the side of the Coilover, *Figure 15*.

Figure 15

1. Loosen the Lower Locking Collar.
2. Rotate the Shock Body to thread it into or out of the Lower Mount. Threading the Shock Body further into the Lower Mount will lower the ride height. Threading the Shock Body out will raise the ride height.
3. Tighten the Lower Locking Collar.
4. Check ride height with wheel on the ground.
5. Repeat *Steps 1-4* until desired ride height is achieved.

REAR:

Ride height in the rear is more complicated than the front as you have to adjust the preload as you adjust the ride height.

1. Remove the Shock Absorber lower mounting bolt.
2. Loosen the Spring Seat Locking Collar.
3. Rotate the Seat and Collar up or down to raise/lower the ride height.
4. Tighten the Spring Seat Locking Collar.
5. Follow *Steps 16-19* of the Rear Coilover installation section to set the Rear Spring Preload.

END

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