

Z1 FRONTIER LEAF SPRINGS INSTALLATION MANUAL



This Installation Manual is intended for the following models:

2022+	Nissan Frontier (D41)
2005-2021	Nissan Frontier (D40)

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 Off-Road Frontier Leaf Springs, consult with a Professional Mechanic, or contact Z1 Off-Road for more information.

PARTS INCLUDED:

Item	Quantity	Description
1	2	Leaf Spring

TOOLS REQUIRED:

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

SAFETY REQUIREMENTS:

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

BEFORE YOU BEGIN:

Remove contents from the Z1 Off-Road Frontier Leaf Springs and verify that ALL necessary hardware is present.

Extended U-Bolts and **ARE** necessary for this installation due to the Z1 Leaf Springs being a taller stack height than the OE Leaf Springs and increasing the overall suspension travel. We recommend Extended Travel Shocks as well, as damage to Standard Length Shocks can occur under full suspension droop.

PROCEDURE:

1. Place the transmission in Park position (or in Reverse gear if equipped with a manual transmission). Apply the parking brake.
2. Loosen the lug nuts on the rear of the vehicle.
3. Safely raise and support the vehicle with a jack and jack stands.
4. Remove the rear Lug Nuts and Wheels from the vehicle.
5. Starting on either side of the vehicle, support the rear axle with a jack. *Figure 1.*



Figure 1

6. Remove the Nut and Bolt securing the Rear Shock to the Lower Shock Mount. *Figure 2.*

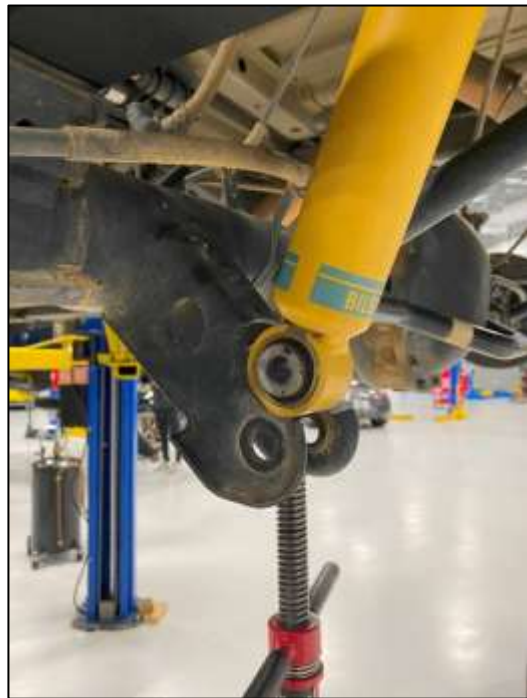


Figure 2

7. Remove the (4) four nuts that secure the U-Bolts and Leaf Spring to the Vehicle. *Figure 3.*



Figure 3

8. Remove the (2) two U-Bolts, the Rear Spring Pad, and the Bumper. Retain the Rear Spring Pad and Bumper. *Figure 4.*

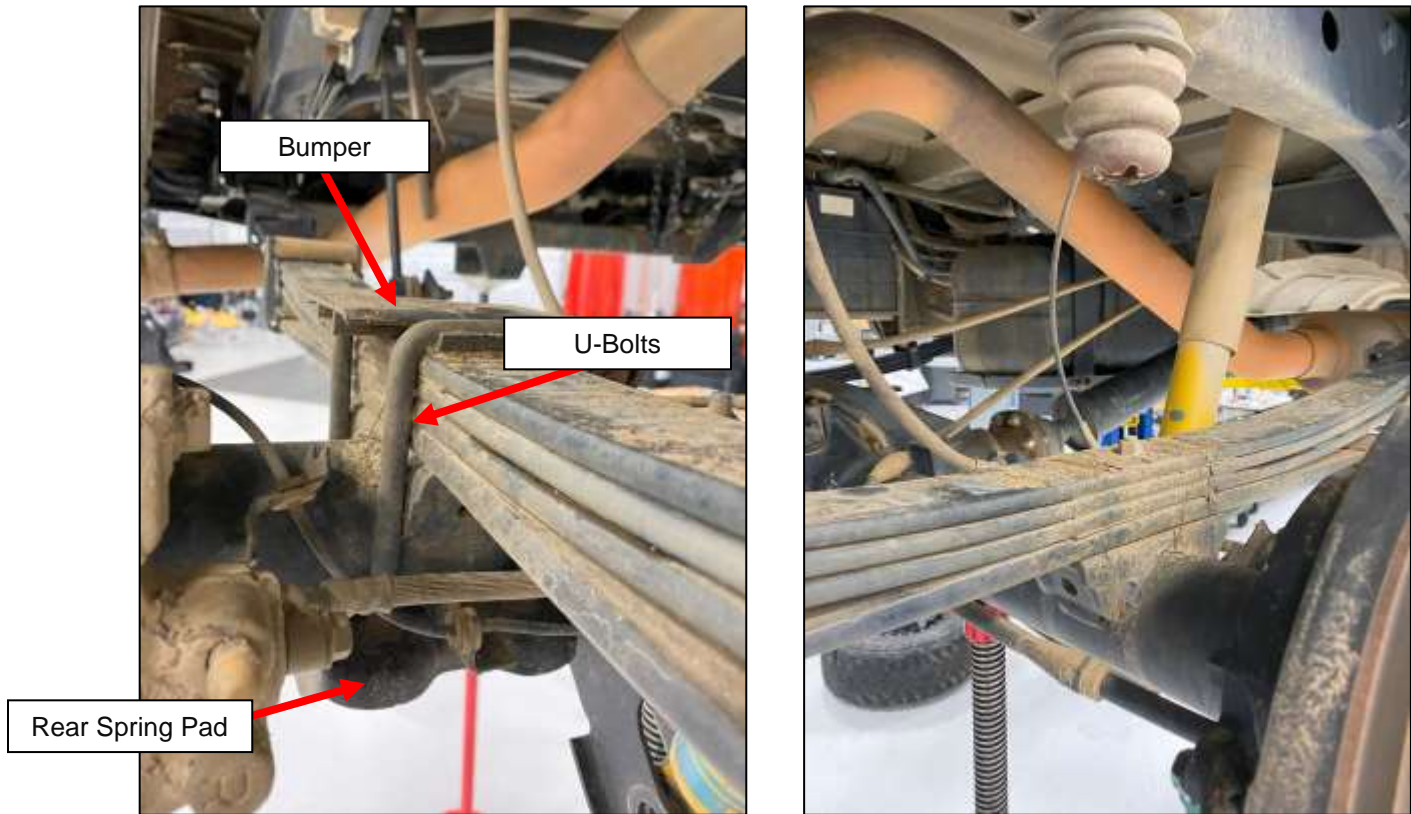


Figure 4

9. Remove the (2) two nuts securing the Rear Shackle to the Vehicle and remove the Rear Shackle. Retain the Shackle Bushings as they will be reused. *Figure 5.*



Figure 5

10. Remove the Nut and Bolt securing the front of the Leaf Spring to the vehicle. *Figure 6.*



Figure 6

11. Remove the OE Leaf Spring from the vehicle. It is recommended to do this with help of another person as the Leaf Spring is heavy and can be awkward to maneuver it out of the vehicle. *Figure 7.*



Figure 7

12. Locate (1) one Z1 Leaf Spring. Install the OE Bushings removed in *Step 9* in the open end of the Leaf Spring. *Figure 8*.

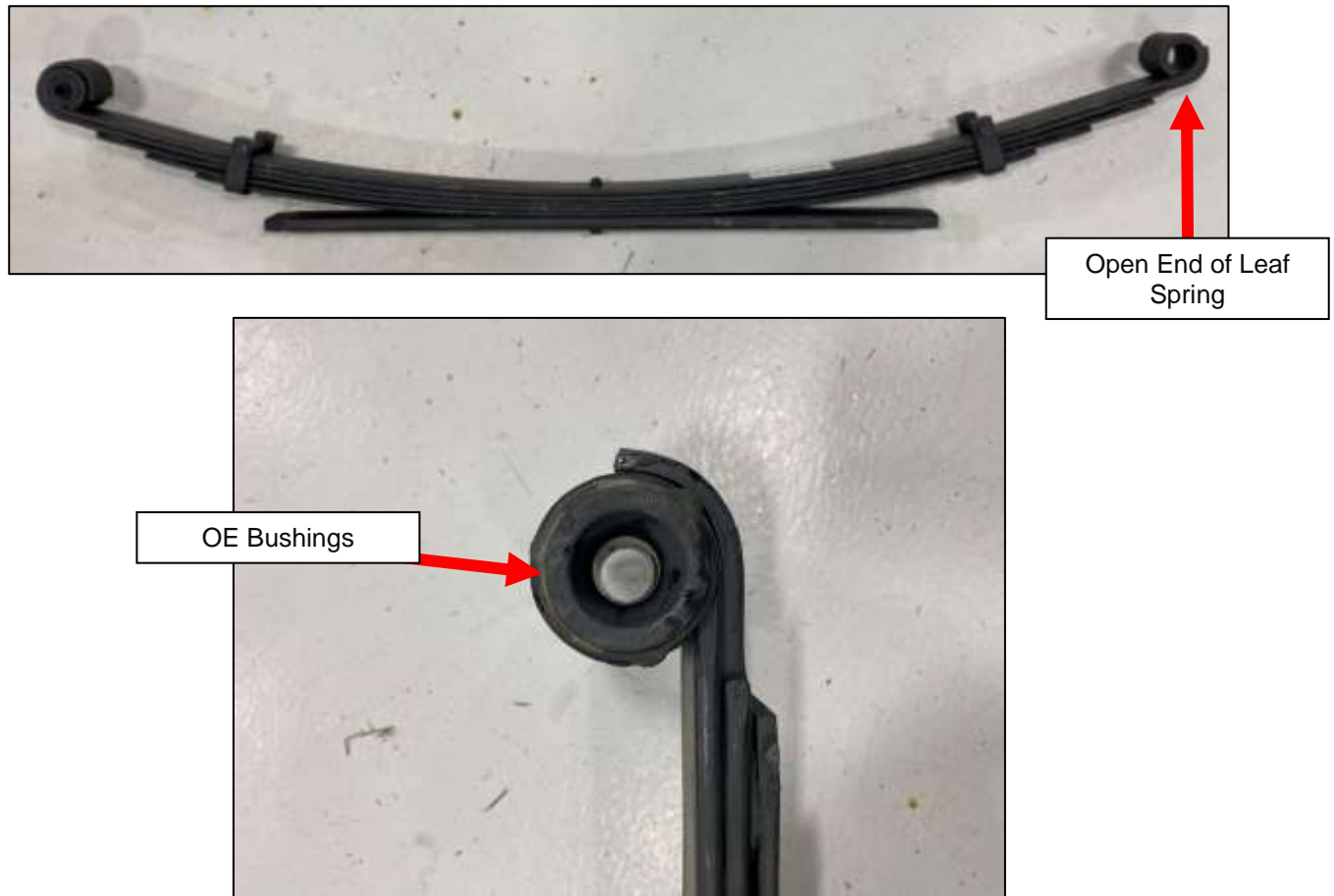


Figure 8

13. Position the Leaf Spring into the vehicle. The end of the Leaf Spring with the preinstalled bushing will be towards the **FRONT** of the vehicle. Align the tab on the bottom of the Leaf Spring with the hole in the axle to confirm alignment. The Axle may need to be lowered with the jack and moved forward or back to allow the Leaf Spring to line up properly. *Figure 9.*



Preinstalled Bushing
towards FRONT of Vehicle



Align Tab with hole in
Axle Mount

Figure 9

14. Reinstall the Nut and Bolt removed in *Step 10* to the front of the Leaf Spring. Do not torque the bolt yet.
Figure 10.



Figure 10

15. Reinstall the Shackle with Bushings and OE Hardware removed in *Step 9*. Do not torque the hardware yet.
Figure 11.



Figure 11

16. Locate your longer U-Bolts and hardware. Position the Rear Spring Pad on the Bottom of the Axle, and the Bumper on top of the Axle. Secure the two together with the new U-Bolts. Make sure the U-Bolts sit in the Cups of the Bumper. *Figure 12.*

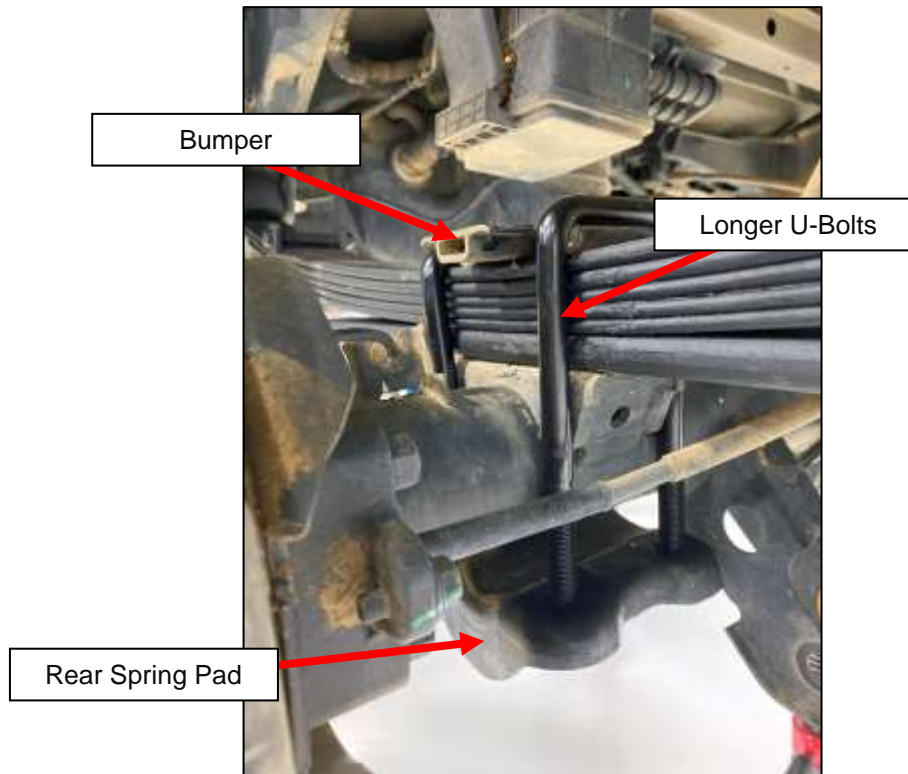


Figure 12

NOTE: Depending on the size of your longer U-Bolts, you may need to drill out the holes on the Rear Spring Pad to accommodate the larger diameter of the U-Bolts. If drilled, paint bare metal surfaces to prevent rust. *Figure 13.*



Figure 13

17. Tighten the U-Bolts slowly in a diagonal pattern to evenly bring the bolts down. The number of exposed threads at the end of the U-Bolts should be the same for all (4) four U-Bolt ends. Torque the Hardware to the specification of the U-Bolt Manufacturer. OE U-Bolts are torqued to **54 ft-lbs.** *Figure 14.*



Figure 14

18. Reinstall the Shock to the Lower Shock Mount with the OE Hardware removed in *Step 6*. Do not torque yet.

NOTE: An extended length Shock is recommended as the Z1 Leaf Packs increase suspension travel and can damage the OE Shock at full suspension droop.

19. Repeat *Steps 5-18* for the other side of the vehicle.

20. Reinstall the Rear Wheels and Lug Nuts.

21. Safely lower the vehicle off the jack stands.

22. Bounce on the rear of the vehicle to stabilize the suspension.

NOTE: Final Torquing of the Hardware **MUST** be done with the vehicle on the ground unsupported by a jack or jack stands.

23. Torque the Front Leaf Spring Bolts to **165 ft-lbs.**

24. Torque the Rear Shackle Bolts to **78 ft-lbs.**

25. Torque the Lower Shock Mount Bolt to **148-ft-lbs.**

26. Take the vehicle for a test drive. After driving, retorque all the Leaf Spring Hardware to specifications described in *Steps 17, 23, 24, and 25.*

END

Additional Technical Support:

Contact Z1 Off-Road at info@z1offroad.com
Or call 678-839-8019 between 9am and 6pm ET