

# Z1 AKEBONO REAR BIG BRAKE KIT INSTALLATION MANUAL



This Installation Manual is intended for the following models:	
2022+	Nissan Frontier (D41)
2005-2019	Nissan Frontier (D40)
2005-2015	Nissan Xterra

## 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 Akebono Rear Big Brake Kit, consult with a Professional Mechanic, or contact Z1 Off-Road for more information.

## **PARTS INCLUDED:**

Item	Quantity	Description
1	1	Right Side Caliper
2	1	Left Side Caliper
3	2	Brake Rotor
4	4	Brake Pads
5	2	Rear Stainless Braided Brake Lines
6	1	Right Side Bracket
7	1	Left Side Bracket
8	4	M12 x 1.25 Flange Head Bolt, 20mm
9	2	M12 x 1.25 Flange Head Bolt, 35mm
10	2	M12 x 1.25 Socket Head Screw, 20mm
11	2	Banjo Bolt
12	4	Copper Crush Washer
13	2	Brake Pad Retainer
14	4	Cotter Pin
15	4	Brake Pad Retainer Pin

## **TOOLS REQUIRED:**

- Hydraulic Jack
- (2) 2-Ton (or greater) Jack Stands
- Ratchet
- Ratchet Extension(s)
- Assorted Metric Sockets
- Assorted Metric Wrenches
- Torque Wrench
- Hammer
- Airsaw, Cutting Wheel, or equivalent
- Brake Clean
- Brake Pad Grease
- Pliers
- Brake Fluid
- File/Deburring Tool
- Flare Nut Wrench

## **SAFETY REQUIREMENTS:**

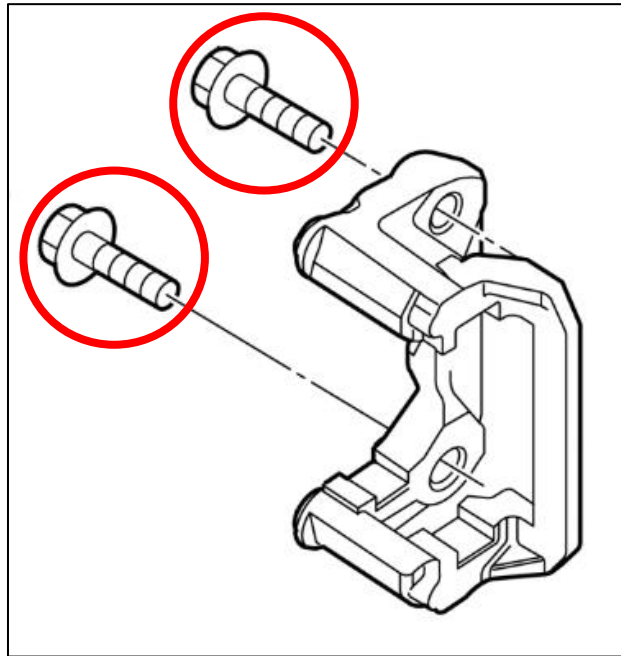
- Always wear safety glasses and any necessary protective garments. If using any fluids, chemicals, or solvents, a respirator is recommended.
- Always use properly rated jack stands when working under your vehicle.
- Always keep limbs and parts away from moving drivetrain parts.
- Always turn the ignition 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 Rear Akebono Rear Big Brake Kit 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. Loosen lug nuts on rear wheels.
3. Raise and support the Truck using jack and jack stands, or a lift.
4. Remove the Rear Wheels and Lug Nuts.
5. Starting on the Passenger Side of the truck, remove the OE Rear Caliper and support the Caliper by hanging it up with a hook or zip tie. It is held on by (2) two bolts. *Figure 1.*



*Figure 1*

**NOTE:** The OE Brake Caliper and Brake Line can be completely removed at this time for more room to work, but it will leak Brake Fluid. If you elect to remove the line, cap off the end of the Brake Hard Line to prevent Fluid from leaking. Brake Fluid will damage painted surfaces, make sure to clean up any spills immediately.

6. Remove the (2) two Lock Plates that secure the OE Brake Line onto the it's mounting points. *Figure 2* shows the clip and OE Brake Line removed from the mounting points. Retain these Lock Plates as they will be reused.



*Figure 2*

7. Remove the OE Rotor. *Figure 3*.



*Figure 3*



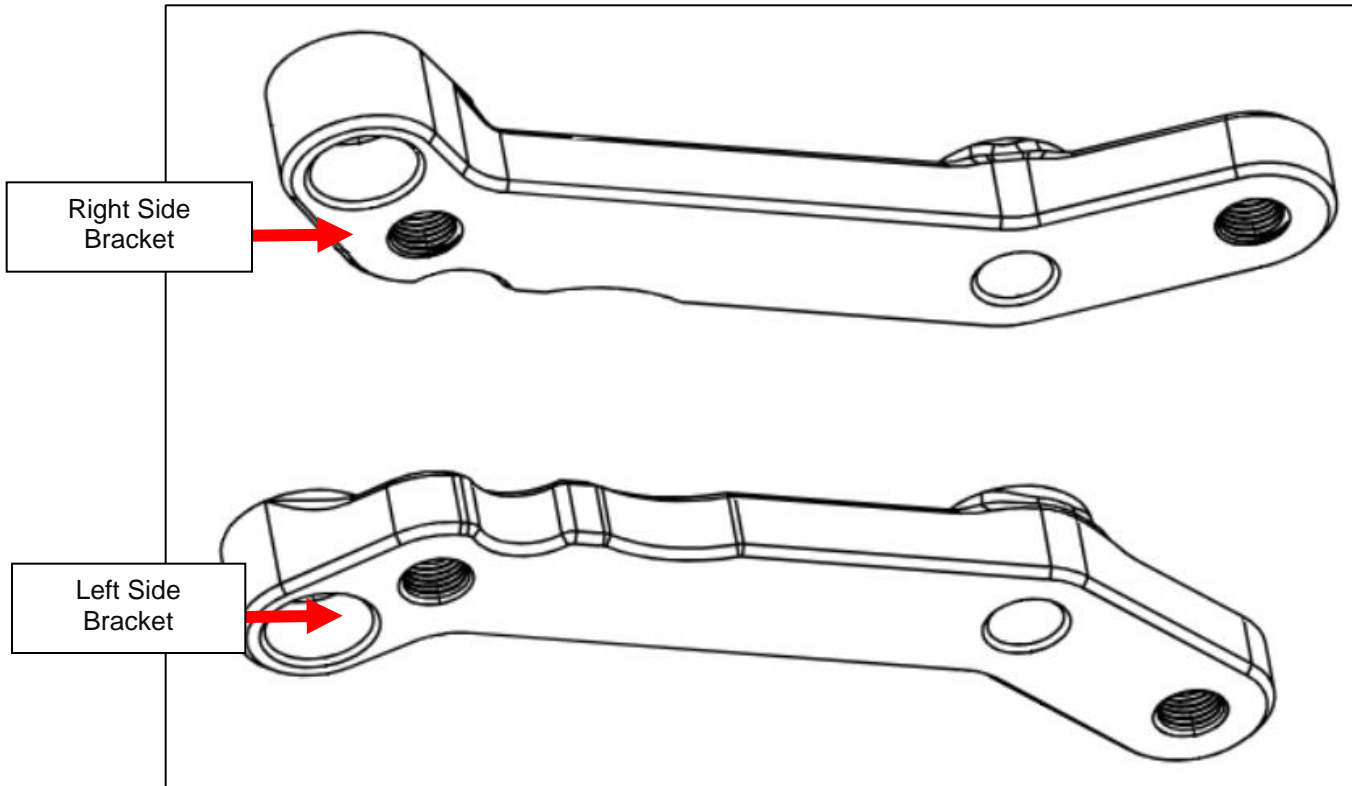
- Using a Cutting Wheel, Air Saw, or other Cutting Device, trim the Brake Dust Shield. Use *Figure 4* for where to cut.

**NOTE:** The Brake Dust Shield can be completely removed, but requires removal of the rear axle.



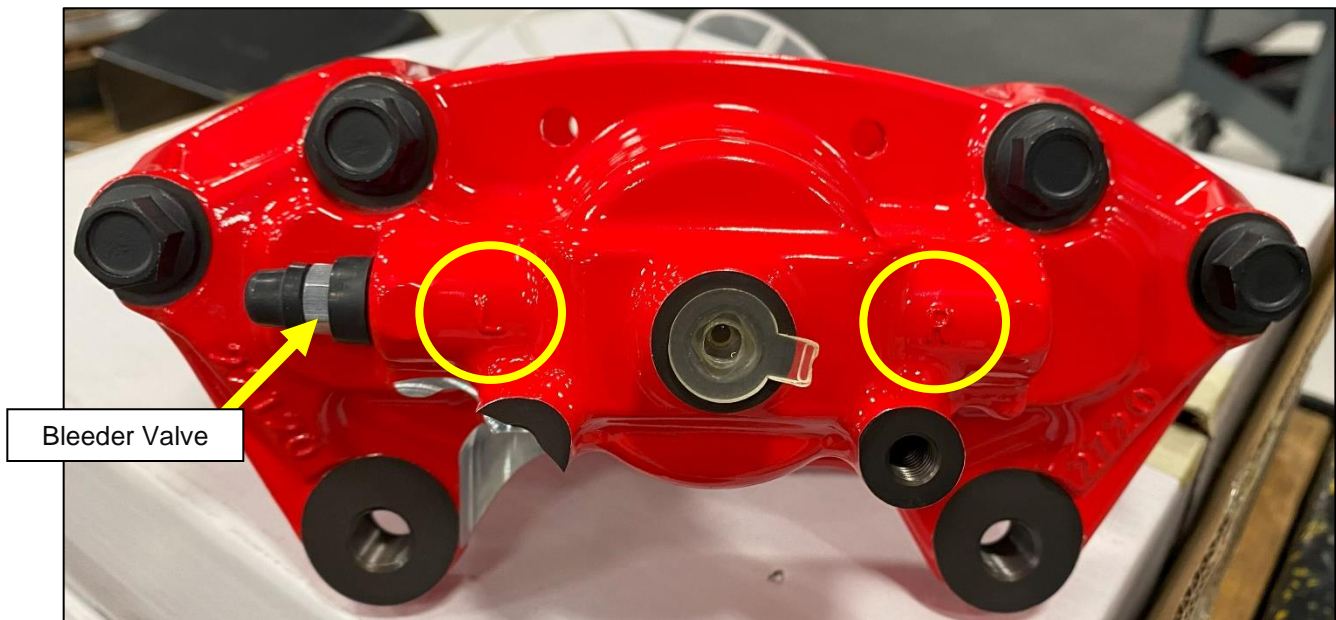
Figure 4

9. Locate the Passenger Side (Right) Caliper, the Right Side Bracket, (1) one M12 x 1.25 Flange Head Bolt, 35mm, and (1) one M12 x 1.25 Socket Head Screw, 20mm. *Figure 5.*



*Figure 5*

The Calipers are marked with an L and an R. The Sides are indicated by which side the Bleeder valve is on. The Caliper below in *Figure 6* is the Driver Side (Left) Caliper. The Bleeder Valve of the Caliper MUST point upwards when mounted.

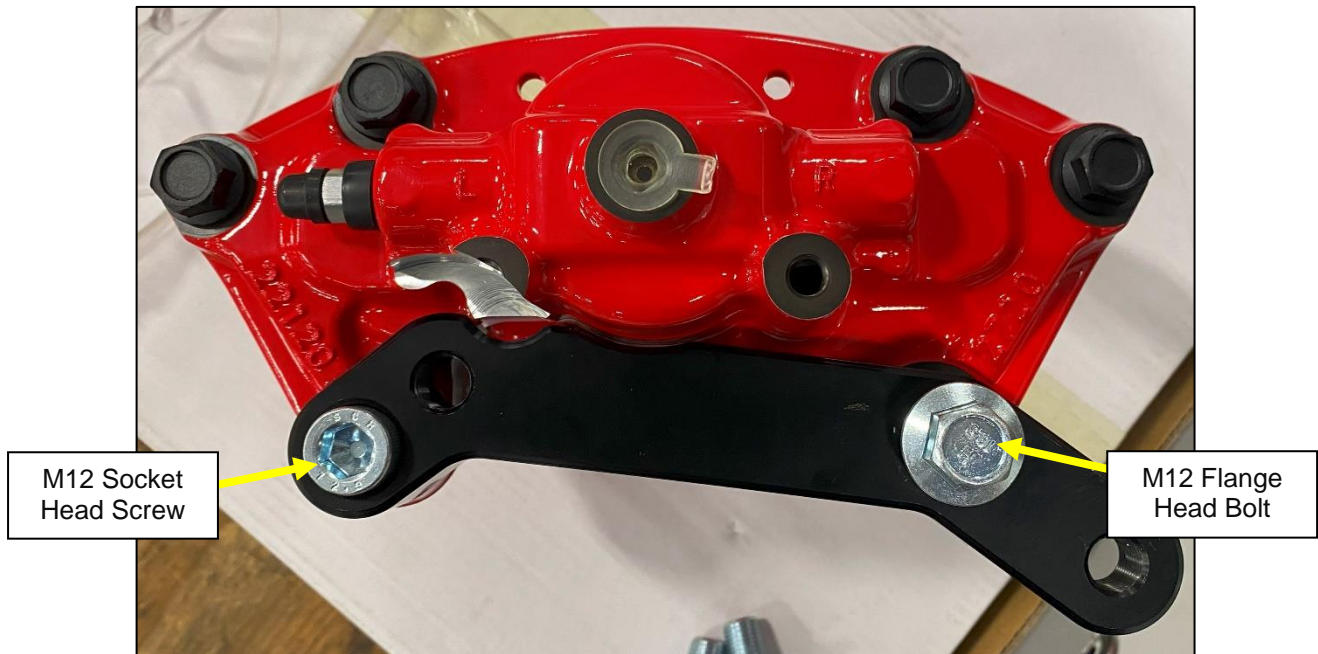


*Figure 6*



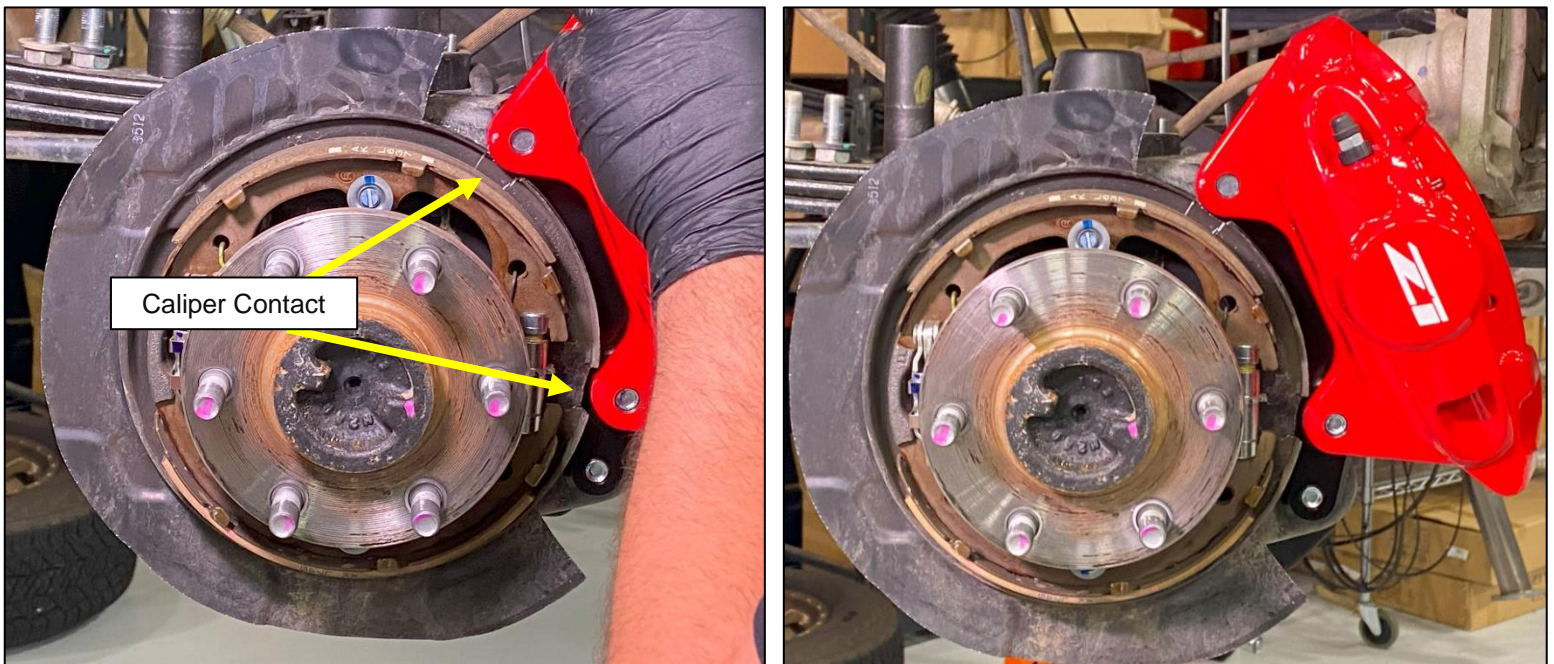
10. Position the Right Side Bracket over the Right Caliper and secure it with (1) one M12 x 1.25 Flange Head Bolt, 35mm, and (1) one M12 x 1.25 Socket Head Screw, 20mm. Torque these bolts to 63 ft-lbs. These will not be easily accessible once they are mounted on the car. *Figure 7*.

**NOTE:** The Caliper in *Figure 7* is for the Driver Side (Left) of the Truck.



*Figure 7*

11. Using the Caliper Bracket Assembly and (1) one M12 x 1.25 Flange Head Bolt, 20mm, test fit the Caliper to the mounting point. More of the Brake Shield will need to be trimmed, mark and clearance any points of contact. *Figure 8*.



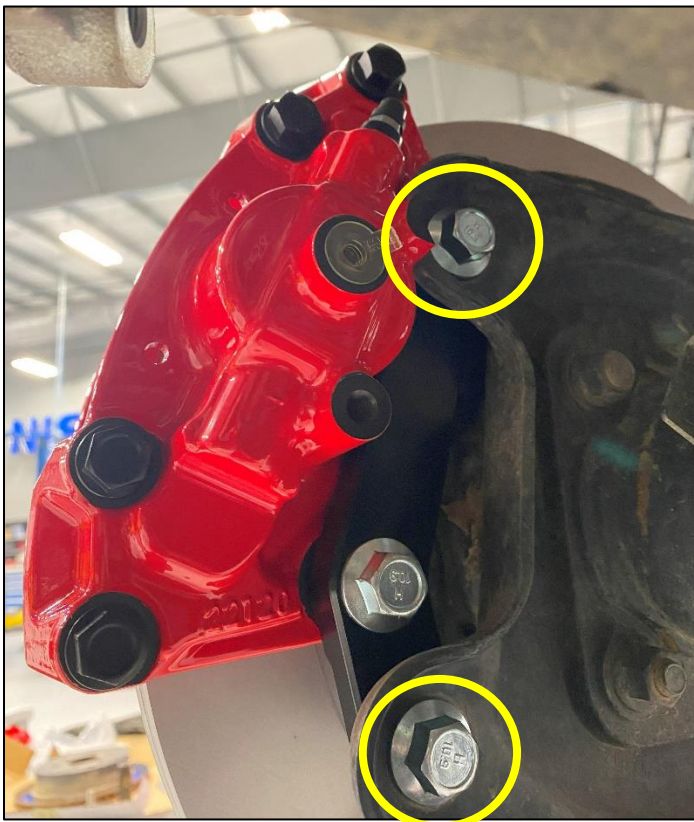
*Figure 8*

12. Use a file or deburring tool to clean up any sharp or rough edges from trimming the brake dust shield.
13. Install a new Brake Rotor onto the Wheel Hub. They are not directional. Using a lug nut or two on the Wheel Studs can hold to rotor in place until the new Caliper is on. Wipe down the rotor surface with Brake Cleaner to remove protective oils on the rotor. *Figure 9.*



*Figure 9*

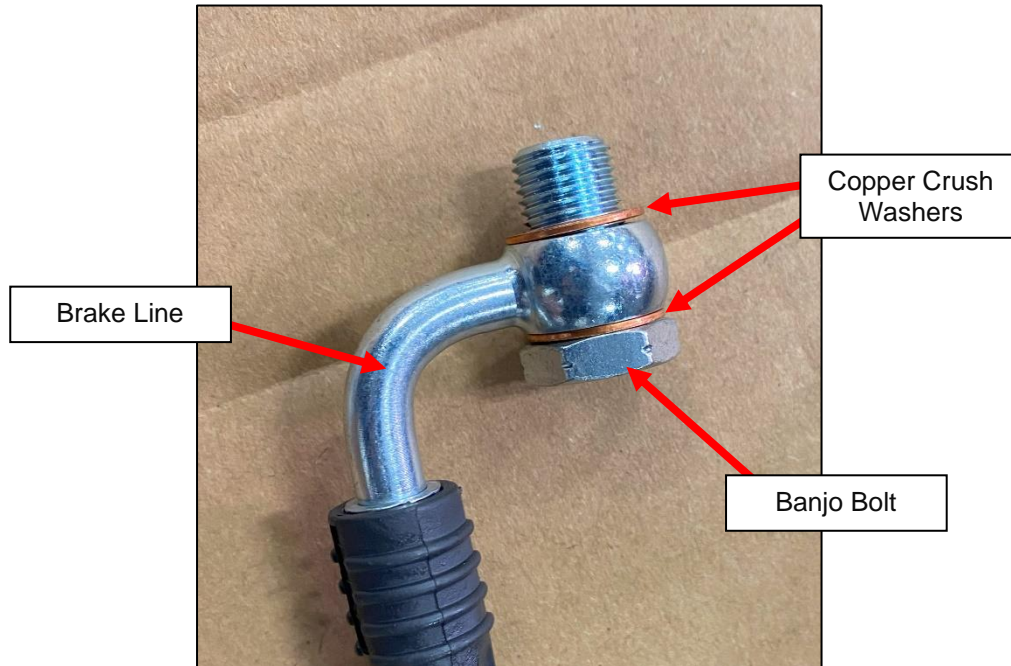
14. Locate the Caliper Bracket Assembly and (2) two M12 x 1.25 Flange Head Bolts, 20mm. Mount the Caliper Bracket Assembly to the Mounting Point and secure with the two M12 Bolts. Torque the M12 Bolts to 63 ft-lbs. *Figure 10.*



*Figure 10*



15. Locate (1) one Stainless Steel Brake Line, (1) one Banjo Bolt, and (2) two Copper Crush Washers. Place a Copper Crush Washer on the Banjo Bolt and insert it through the bottom of the Brake Line, and place another Copper Crush Washer on top. *Figure 11.*



*Figure 11*

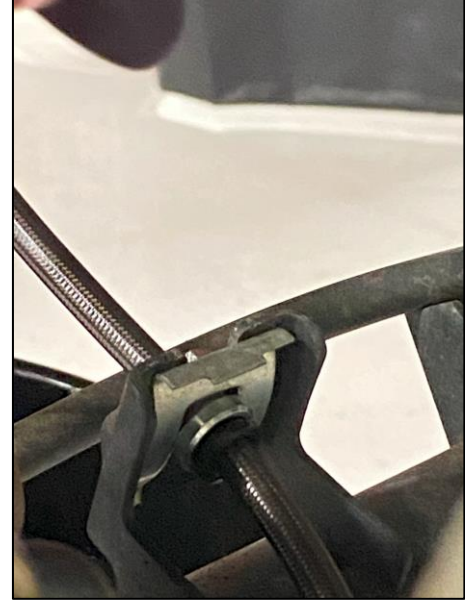
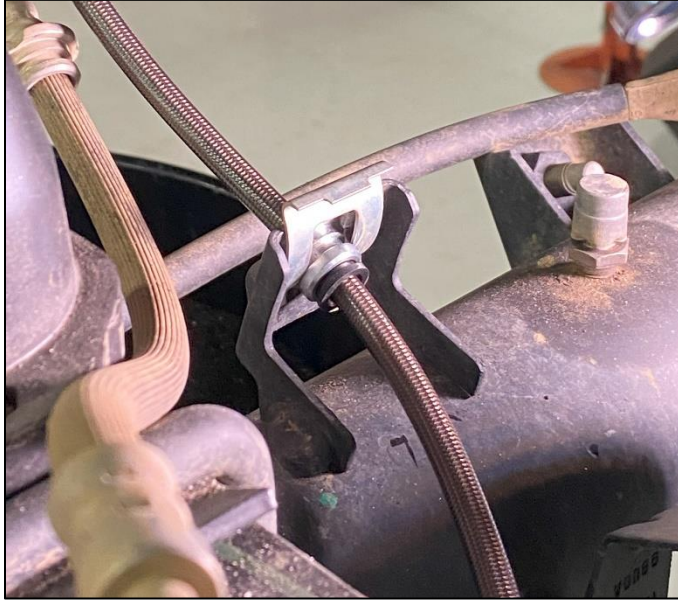
16. Install the Banjo Bolt and Brake line into the back of the Caliper. Start the Banjo Bolt by hand before tightening with a wrench. Torque to 12 ft-lbs. *Figure 12.*

**NOTE:** If removing the Banjo Bolt after use, new Copper Crush Washers **MUST** be used.



*Figure 12*

17. Run the Z1 Brake Line under the Leaf Springs. Position the new Brake Line into the lower bracket for the OE Mounting Location. Using an OE Lock Plate, secure the brake line. The left image in *Figure 13* shows the Lock Plate not installed all the way, the right image shows the Lock Plate installed correctly.



*Figure 13*

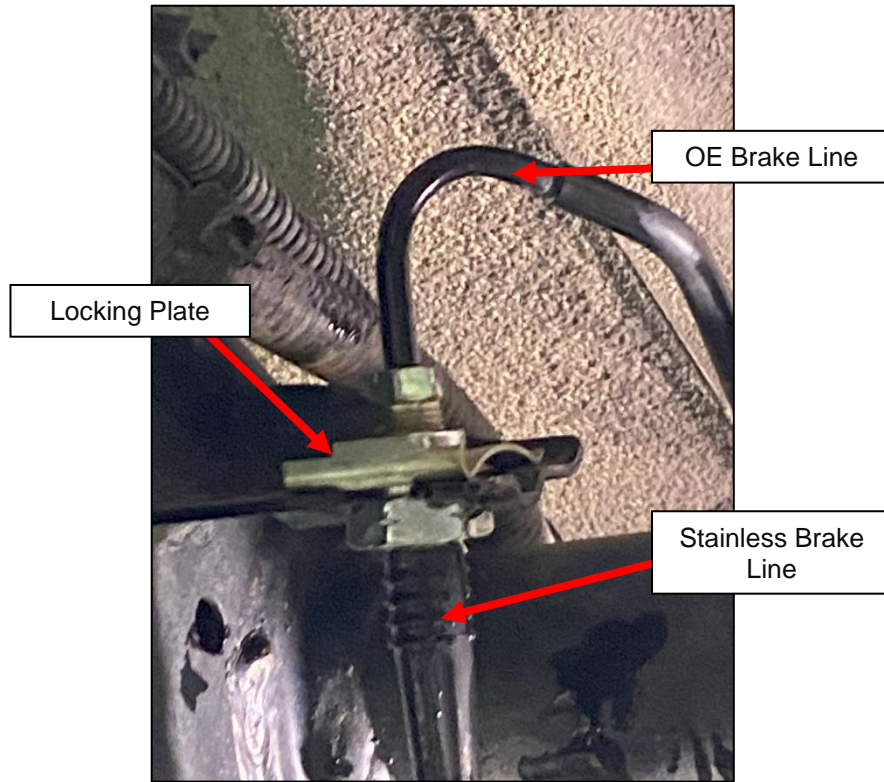
18. Remove the OE Rubber Brake Line from the Hard Line with a Flare Nut Wrench. Prepare with some rags and a container to catch any dripping Brake Fluid. *Figure 14*.



*Figure 14*



19. Connect the new Z1 Brake Line to the OE Hardline, and secure the Brake Line to the Mounting Point with the Locking Plate removed in *Step 6. Figure 15.*



*Figure 15*

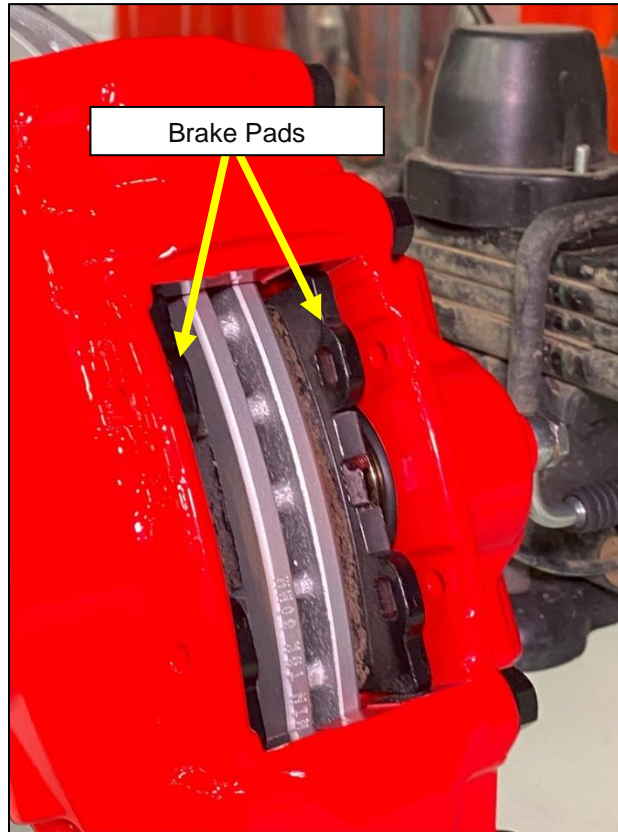
20. Clean up any Brake Fluid that leaked out, it will damage painted surfaces.

21. Locate your selected Brake Pads. Coat the back side of the Brake Pads with a light amount of High Temp Brake Grease to prevent the pads from squeaking. *Figure 16.*



*Figure 16*

22. Insert (1) one Brake Pad into each side of the new Z1 Caliper. Make sure the Brake Pad surface faces the Brake Rotor. *Figure 17.*



*Figure 17*

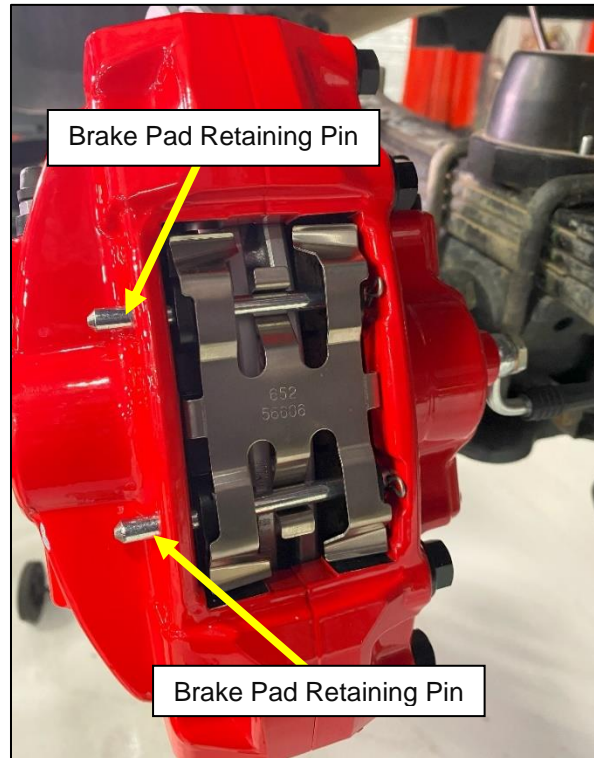
23. Locate (1) one Brake Pad Retainer. Insert it onto the Brake Pads as shown below in *Figure 18.*



*Figure 18*



24. Locate (2) two Brake Pad Retainer Pins. Insert them from the inside of the the Caliper as shown below. The may need to be slightly tapped with a hammer to go through the Caliper. *Figure 19.*



*Figure 19*

25. Locate (2) two Cotter Pins. Insert them through the Brake Pad Retaining Pins installed in *Step 24*. The Retaining Pins may need to be rotated to allow access for the Cotter Pin Holes. *Figure 20.*



*Figure 20*

26. Repeat Steps 5-25 on the Driver Side of the Vehicle.
27. Bleed the Brakes according to Factor Service Manual. If you are also installing the Z1 Offroad Akebono Front Big Brake Kit, wait to bleed the brakes until after those are installed.
28. Take your car for a test drive. Bed your Brake Pads in accordance with the Pad Manufacturer instructions.



*Installed Z1 Rear Akebono Big Brake Kit*

**END**

**Additional Technical Support:**  
Contact Z1 Off-Road at [info@z1offroad.com](mailto:info@z1offroad.com)  
Or call 678-839-8019 between 9am and 6pm ET