



## Installation Instructions

Rear Disc Brake Conversion Kit

Item # RC0011, RC0013

Applications: 1987-92 Ford Mustang

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Thank you for choosing Leed Brakes for your automotive product needs. Before you begin your installation please inspect all parts and review the installation instructions. If you have any missing or damaged parts or if you have any questions regarding the fitment of this kit on your specific vehicle please contact our customer service team at (716) 852-2139 before beginning your installation.

### **Tools required for a safe and smooth installation:**

*Proper Jack & Jack Stands, Tube Wrenches, Standard Socket Set, Standard Wrench Set, Torque Wrench, Lug Wrench, Pliers, Mallet, Brake Fluid, Brake Cleaner, Differential Gasket and Proper Gear Oil.*

### **Wheel Size**

This kit is designed for 15" or larger wheels. We do not recommend attempting to install this kit with 14" wheels and we do not authorize the modification of any of the components of the kit.

### **Axle Shafts**

This kit is designed to work with a standard offset of 2.5". If you are having new 4 or 5-lug axle shafts made they should be the same length and offset as the original axles that were installed in your car. The 5-lug brake kit does not require longer axle shafts as with other kits. For the rotors to slide over the axle shafts the outside diameter of the flange cannot exceed 6.125". Most factory axles will work without modification, but some factory and aftermarket axles may need to be machined down.

### **Drum Brake Removal:**

1. Safely raise the vehicle off the ground until the wheels are clear and spin freely. Support the vehicle using the appropriate Jack Stands and remove the rear wheels.
2. Begin by removing the brake drums from the ends of the axles. If the drums are stuck, they can often be freed by tapping the drum face between the studs with a hammer. If the inside of the drums are badly grooved it may also be necessary to back of the self-adjuster to allow the drums to slide off over the brake shoes.
3. Moving to the differential remove the cover bolts and drain the gear oil from the differential. Rotate the differential until the center shaft retaining bolt is visible. Carefully loosen and remove the retaining bolt.
4. Push the center shaft towards the rear of the car and slide it out of the differential. You can now push the axle shafts inward towards the differential and remove the C-clips. With the clips removed the axles can be slid out of the axle housing. Be sure to save the C-clips, center pin, center shaft, retaining bolt and differential cover bolts for reinstallation.
5. Disconnect the parking brake cable from the brake lever and the backing plate. Using a set of hose pinch off pliers or something similar pinch of the center rear flex hose. Using a flare wrench disconnect the brake line from the back of the wheel cylinder. Remove the 4 nuts and bolts from the end of the axle housing and remove the drum brake backing plate.
6. Inspect the condition of your axle bearings and seals and clean the front and back side of the axle housing flanges for installation of the new brackets.

### **Bracket Installation:**

1. The base brackets will be installed on the **outboard** side of the axle housing flange. Use the 3/8" nuts and bolts supplied to secure the brackets to the axle housing. Be sure the surface is clean and free from any burrs or rust to ensure the brackets will sit flat. Torque to 45-50 Ft/Lbs.

#### **Photo 1**

2. The brackets are drilled with 3 separate bolt patterns. This allows you to position the calipers straight back, 20 degrees up or 20 degrees down. If you are working on a car with aftermarket suspension this will allow you to position the calipers where you need to clear the suspension or wheel wells. For cars with stock suspension the brackets should be installed straight back **Photo 2**
3. The upper caliper bracket can now be installed onto the base bracket. Install the 7/16" hex head bolts provided into the holes of the base bracket. Next slide (1) of the 1/4" and (1) 1/8" tube spacers provided over each bolt.
4. Next slide the upper caliper bracket over the bolts and secure with the 7/16" nuts provided. The tube spacers should now be sandwiched between the upper and lower brackets. The nuts can be left finger tight until you verify the caliper is centered over the rotor. **Photo 3**
5. Reinstall the axle shafts, C-clips, center shaft and retaining bolt. Be sure the axle shafts are in the correct sides and tighten the retaining bolt. Make sure everything spins freely and reinstall the differential cover with a new gasket. Be sure to refill the differential with the correct grade of gear oil. **Photo 4**

### **Rotor and Caliper Installation**

1. Inspect the axle shaft flanges to insure they are free from rust and burrs. For proper function it's important that the rotors sit flat on the axle flanges. Slide the rotors into place on the ends of the axle shafts and secure with 2 lug nuts. **Photo 5**
2. The calipers are different for the left and right sides and will be installed so that the parking brake levers are above the axle tube.
3. Slide the caliper into position over the rotor and align the caliper with the mounting holes in the bracket. Install the caliper slider bolts and check the relationship of the caliper to the rotor. If the caliper is centered over the rotors no shimming is required. **Photo 6**
4. If the caliper would not slip easily into place you will need to add or remove spacers between the upper and lower bracket. If the outer pad is binding against the rotor face you will need a thinner shim. If the inner pad is binding against the rotor face you will need to add a spacer. This can be accomplished using 7/16" flat washers. Repeat the process as necessary until the caliper is centered and the rotor can be turned freely by hand.
5. When the shimming is complete the 7/16" nuts can be torqued to 45-50 Ft/Lbs. The rotor and caliper can then be reinstalled, and the slider bolts can be lubricated with silicone grease and torqued to 25-30 Ft/Lbs. **Photo 7**
6. Attach the flexible brake lines to the caliper using the banjo bolt and copper washers provided in the kit. Place one copper washer on the banjo bolt and then slide the banjo bolt into the flex hose. Install a second copper washer onto the end of the bolt and then install the bolt into the caliper. Tighten the banjo bolts to 25 Ft/Lbs. Additional torque may be required if any leaks are noted after bleeding the brakes. **Photo 8**
7. It is possible to re bend the original hard lines to connect to the calipers, but for a neater installation the original hard lines can be shortened and re flared. Make sure both the hard lines and flex lines make smooth bends and do not contact any moving parts. If the hard lines cannot be secured to the axle housing using the original mounting tabs, then the brackets supplied can be welded to the axle housing to support the lines. Now remove the pinch off pliers from the center rear flex line.

## Parking Brake Cables and Adjustment

1. This kit includes new parking brake cables that will pass through the body and connect to the parking brake handle in the same manner as the original cables. The cables will now run above the axle and connect to the levers on the calipers. Using the L-brackets, Cable clamps, and nuts and bolts supplied secure the parking brake cable to the lower trailing arm using the sway bar mounting bolt. This will ensure the cables do not rub against the tires. **Photo 9**
2. In certain cases, such as with some aftermarket suspension kits, the supplied cables may not work. In those situations, the best solution is a universal cable kit such as those supplied by Lokar.
3. Work the parking brake levers on each caliper using an adjustable wrench slid over the lever until the rotor cannot be spun by hand with the lever engaged. **This step must be completed to achieve a firm brake pedal.** It will take several applications of the lever to completely adjust the calipers. If you are unable to properly adjust the calipers in this manner the pistons can also be adjusted by turning them out a ¼ turn at a time by removing the inner brake pad and turning the piston counterclockwise. The best tool for this job is a caliper adjusting tool, but a large flat head screwdriver can also be used. This process will also be used to turn the pistons back in when you replace worn out brake pads in the future. **In order for your new calipers to stay in adjustment and provide a solid pedal feel the parking brake must be used on a regular basis.**
4. Connect the cables to the calipers and make final adjustments as necessary to ensure the parking brake applies and releases completely. If the car is supported under the frame rails and the rear suspension is fully extended it may be necessary to make your final adjustments when the car is back on the ground and the suspension is compressed.

## Parking Brake Handle Modification

1. In order for the parking brake cables to stay in proper adjustment it will be necessary to defeat the ratcheting mechanism on the parking brake handle.
2. Remove the top portion of the console and remove the parking brake handle from the car. You must remove the coil spring from the parking brake handle. This can be done by cutting through the coils and removing them. **Photo 10 & 11**
3. You can now cut off the tab on the top of the handle assembly to allow the handle to sit flat and parallel with the floor when the parking brake is released. **Photo 12**
4. With the spring removed you should now be able to turn the gear on the handle assembly by lifting up on the pawl. You can either weld the pawl to the gear at the second to the last tooth or you can completely rotate the gear past the last tooth and allow the pawl to drop into the open portion of the gear. In this position it cannot rotate. **Photo 13 & 14**
5. With the handle reinstalled in the car and the cables connected the handle should return all the way to the flat position and the levers on the calipers should return all the way to the stops on the calipers. If you need more length or adjustment you may need to purchase an adjustable front cable. These are available under Ford Performance part # M-2810-A as well as from other aftermarket suppliers.

## **Brake Line Installation**

1. Disconnect the brake lines and electrical connector from your master cylinder. Remove the retaining hardware and remove the master cylinder from the power booster. Remove the brake line going to the top rear port of the factory distribution block.
2. Temporarily install the new master cylinder so the new lines and fittings can be routed prior to removing the master cylinder for bench bleeding.
3. Connect the shorter brake line supplied from the rear port of the new master cylinder to the center port of the supplied tee block. Connect the brake line that was previously installed into the bottom port of the original master cylinder into the bottom port of the tee block. **Photo 15**
4. Connect the longer brake line supplied from the top port of the tee block down to the top rear port of the factory distribution block. Connect the remaining original line to the front port of the master cylinder. Keep in mind all the lines will require minor bending to make the connections. Now tighten all the fittings with a tube wrench except the 2 fittings at the master cylinder.
5. Remove the master cylinder for bench bleeding.

## **Proportioning Valve**

1. If your car is still equipped with the factory distribution block it can be modified to increase the pressure going to your rear brakes.
2. On the front end of the block, you will see a large nut with a rubber cap in the center. You will need to remove this nut but be sure to place rags under the block as fluid will drain freely with the nut removed. Unthread the nut carefully as it is under spring tension. **Photo 16**
3. Remove the spring and the aluminum piston from the block and remove the rubber seal from the piston. **Photo 17**
4. Push the end of the piston into the plastic sleeve on the inside of the end nut and thread the nut back into the block and tighten it. You **shoud not** have reinstalled the spring or the rubber seal. Your distribution block will now send the full pressure from your master cylinder to your rear calipers. **Photo 18**

## **Master Cylinder Bench Bleeding**

1. Before you install your master cylinder you must **bench bleed** it in a vice off the vehicle using the **bench bleeder kit** provided.
2. To Bench Bleed
  - a. Place your master cylinder in a **vice** by the mounting ears.
  - b. Attach a clear plastic hose to the short end of each of the plastic nozzles provided.
  - c. Clip the plastic bridge onto the partition wall of the master cylinder and insert each plastic tube into the holes ensuring the end of the tube will be fully submerged in the brake fluid.
  - d. Press the tapered end of the nozzles firmly into the master cylinder ports with a twisting motion.

- e. Fill the reservoir with new clean brake fluid (DOT 3 or DOT 4 Recommended).
- f. Using a large Phillips head screwdriver push the piston in, then release using full strokes.

This MUST be done until ALL air has disappeared from the clear plastic hoses.

**CAUTION- MASTER CYLINDER WILL NOT BLEED PROPERLY IF HOSES ARE NOT FULLY SUBMERGED IN BRAKE FLUID UNTIL THE BLEEDING PROCESS IS COMPLETE**

### **Master Cylinder Install:**

1. Remove the master cylinder from the vice and install on the firewall, secure with factory hardware. ***Be very careful not to spill any brake fluid on any painted surfaces as it will damage your paint.***
2. Carefully remove the bleeder kit nozzles and install the brake lines in the appropriate ports.
3. Secure all brake lines and check for leaks.
4. Connect the low fluid level sensor.

### **Bleeding the vehicles braking system:**

**We recommend that the brake system is bled using a gravity bleed method. While there are many ways to bleed a system this way is less likely to introduce air in the system causing a spongy pedal. Whenever bleeding your system you must keep an eye on your fluid level. If your master runs dry you will have to bench bleed the master again.**

1. Remove the cap from the master cylinder.
2. Starting at the right rear wheel cylinder or caliper attach a clear hose to the bleeder with the other end in a clear container.
3. Open the bleeder and observe the fluid flow. It may take a couple of minutes for the fluid to flow with a new system. Once the fluid begins to flow let it drip until you do not see any air.
4. Move to the left rear wheel, repeat step 3.
5. Move to the right front wheel, repeat step 3.
6. Move to the left front wheel, repeat step 3.
7. Repeat steps 2 through 6 once more.
8. Install the lid on the master cylinder.
9. Pump the brake pedal until you achieve a firm pedal.
10. Remove lid on master cylinder & check fluid level

Repeat steps 2 thru 6 to ensure all air has been removed

Once you feel you have successfully removed all air from your brake system check all fittings and lines for leaks and verify all fasteners are tight. Install your wheels and spin them to insure they still spin freely, making sure the caliper doesn't interfere with the wheel and your brakes are not dragging or locked up.

You may now take your vehicle for a test drive in a safe area. We recommend that you drive the vehicle with light to medium application of the brakes for the first 150-200 miles. This will allow your brake pads to properly seat to your rotors to insure optimal braking performance.

**If you have any questions, please call our tech line at (716) 852-2139.**

**Thank you for purchasing from Leed Brakes we hope you have had an enjoyable experience.**



## Installation Photos

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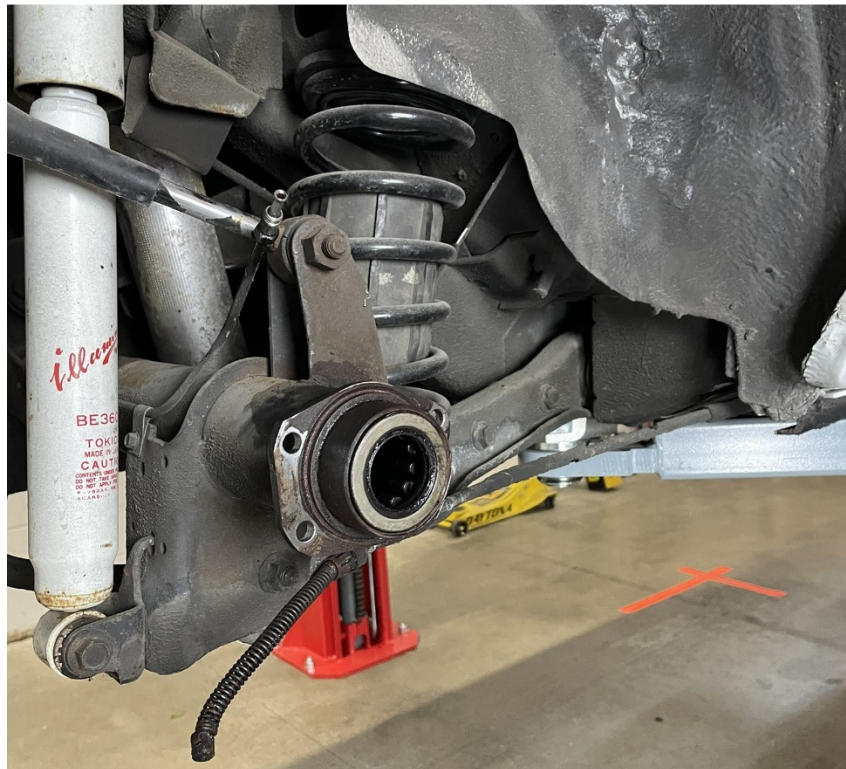
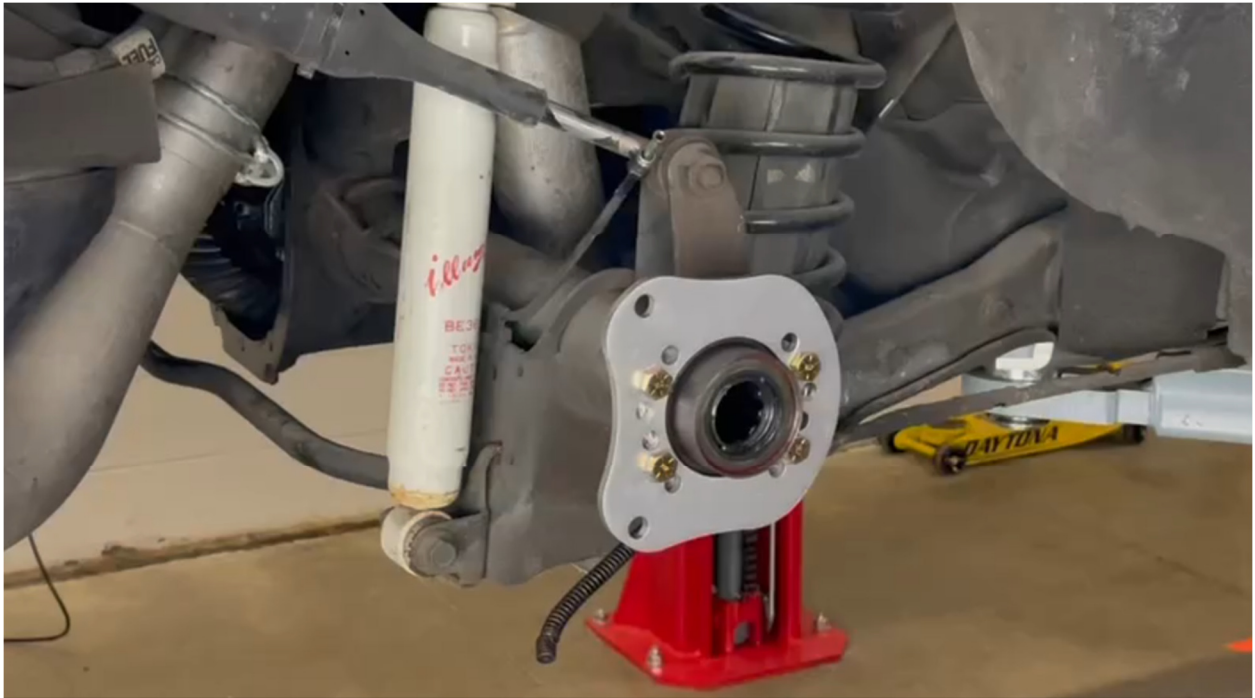


Photo 1





Front of Car →

Photo 2

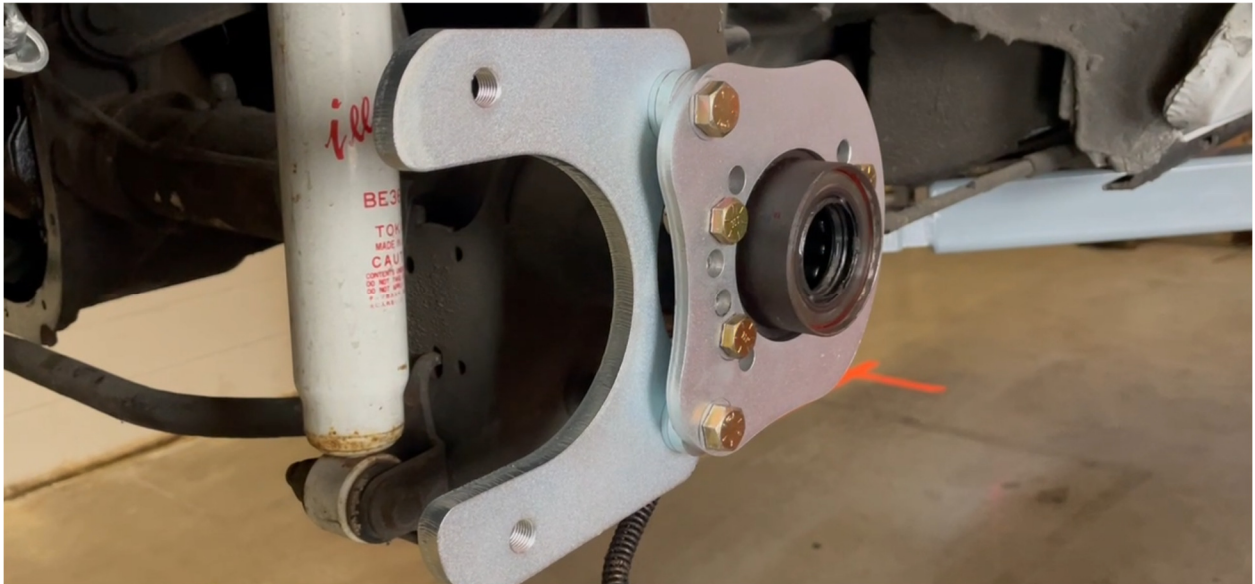


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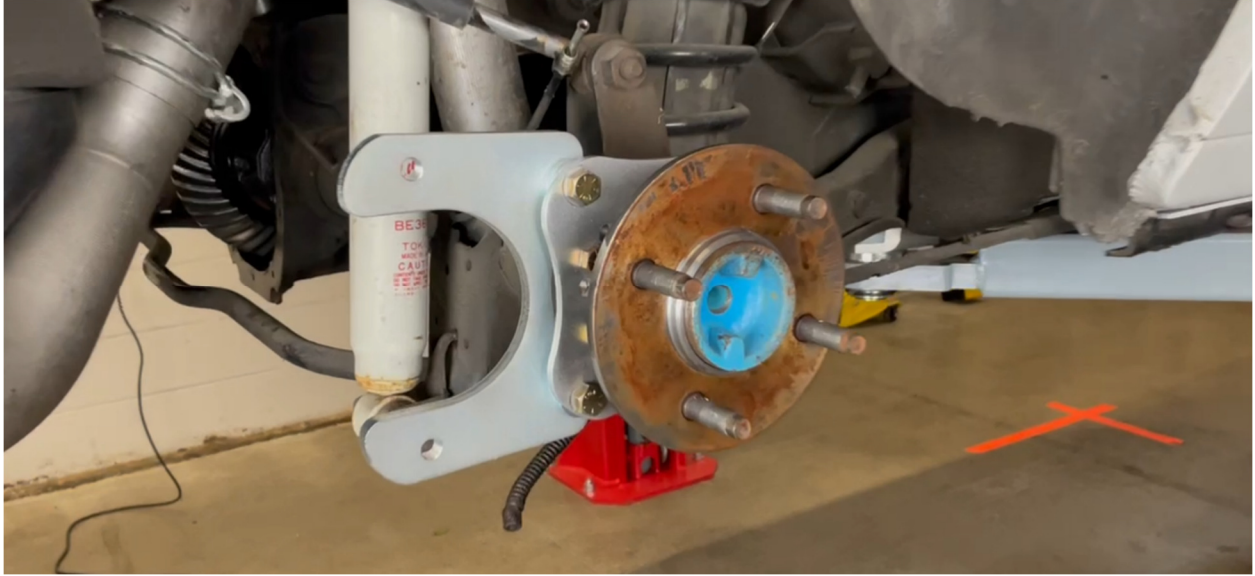


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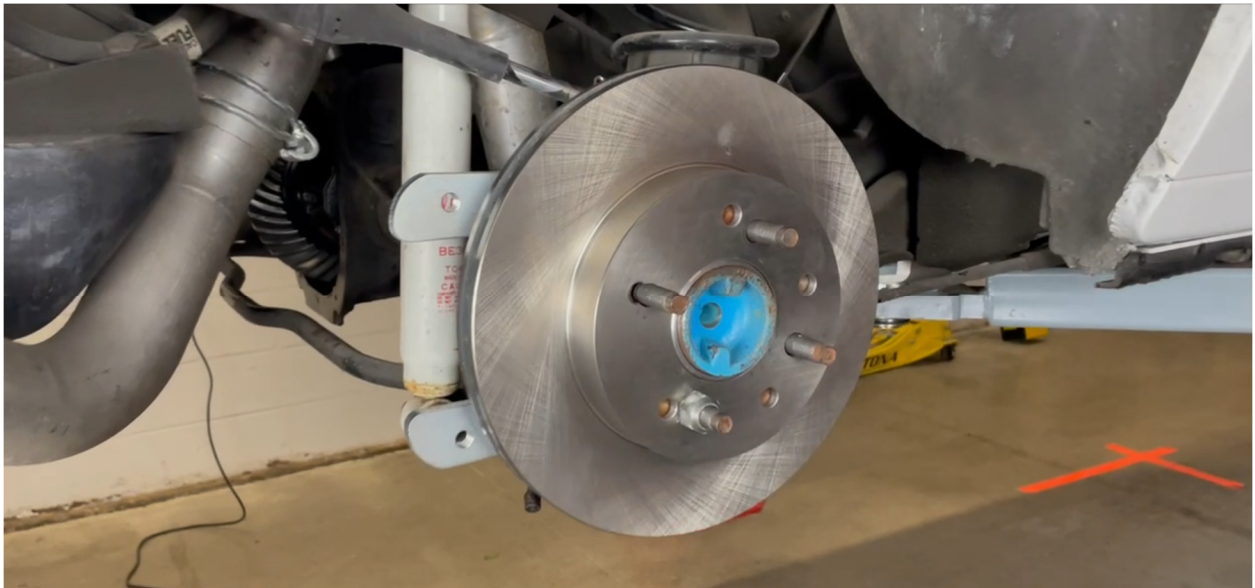


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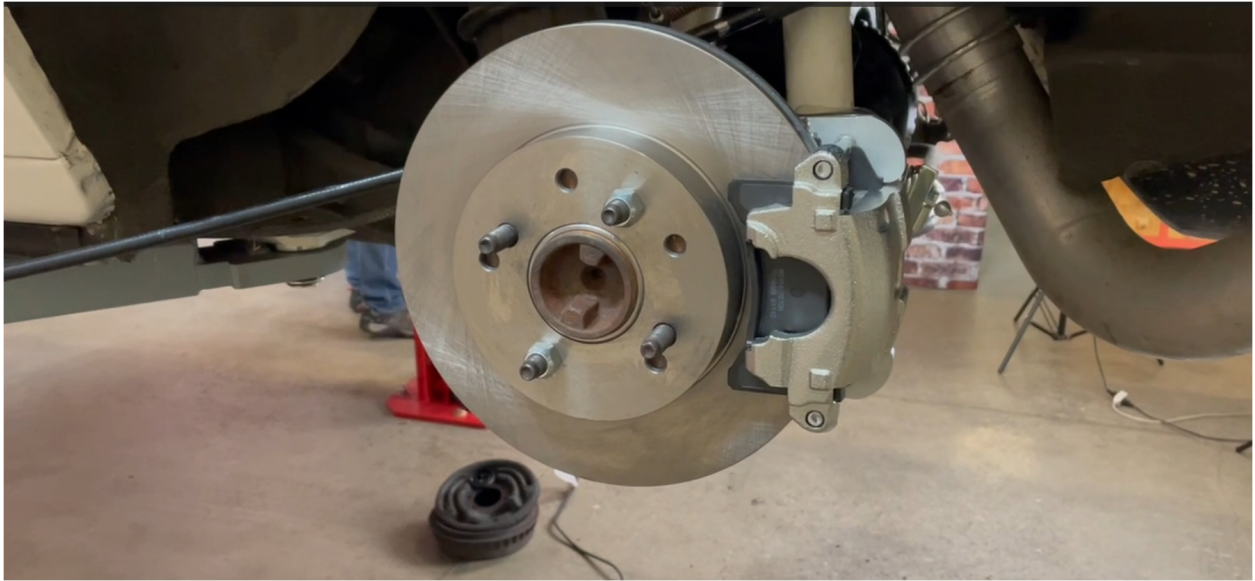


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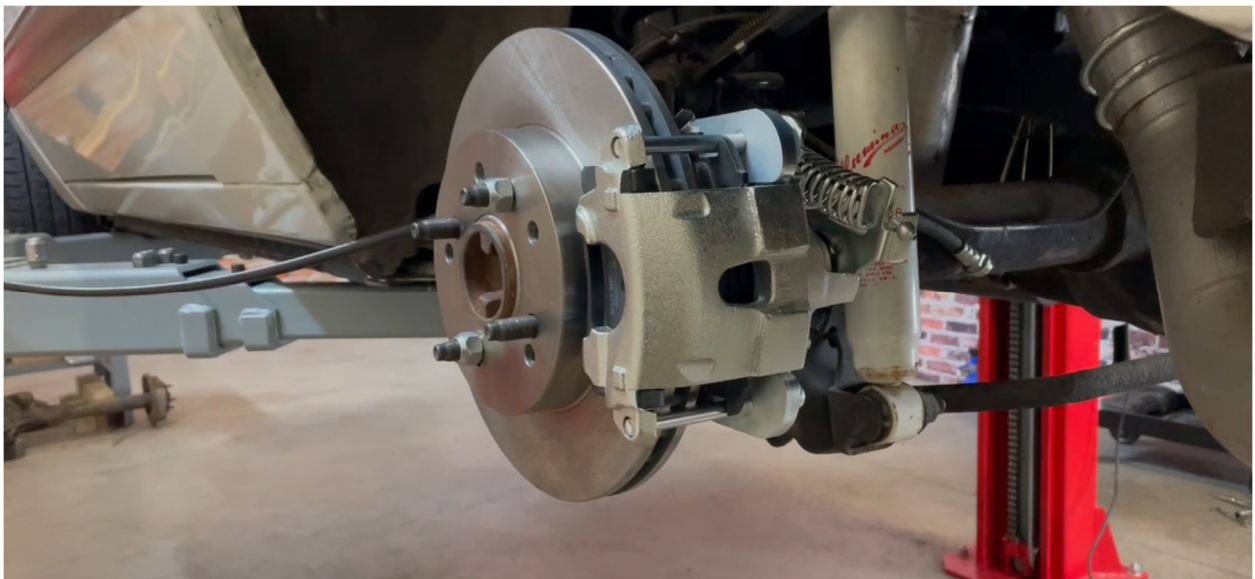


Photo 7



**Photo 8**



**Photo 9**





Photo 10

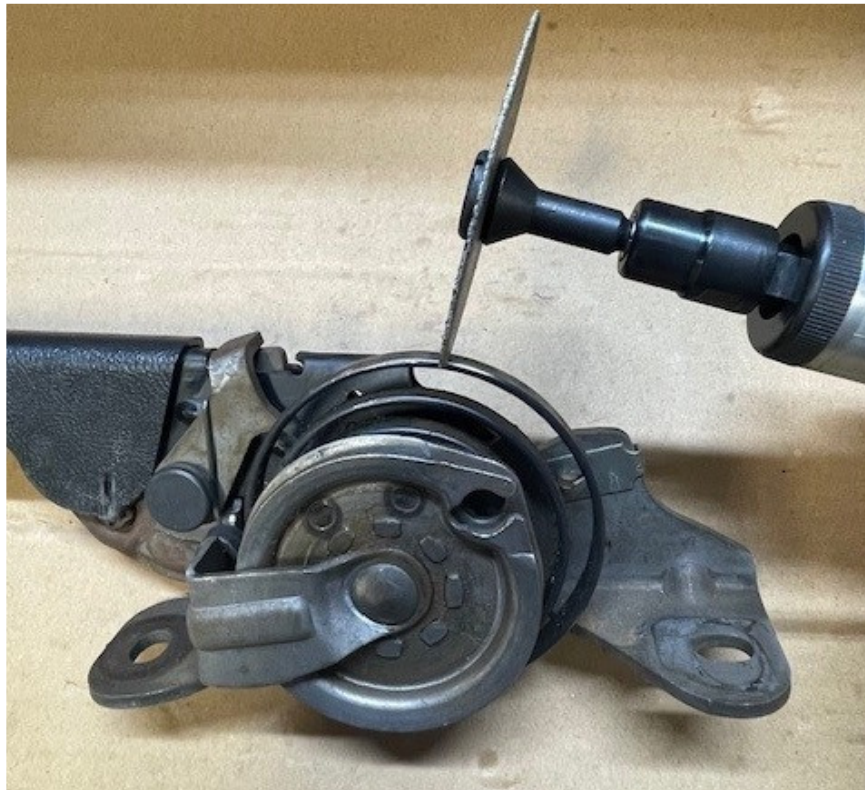


Photo 11

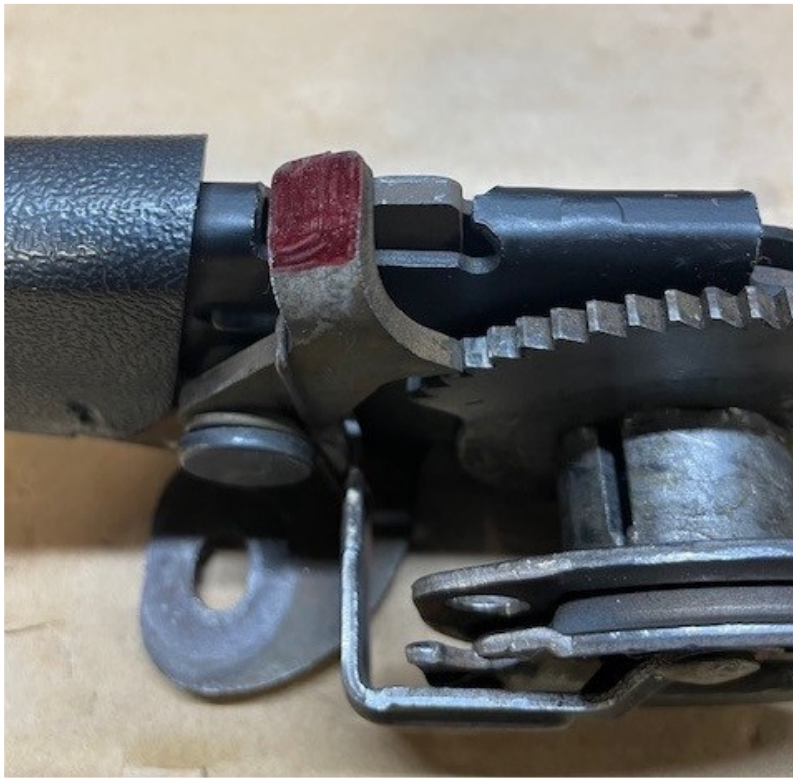


Photo 12



Photo13



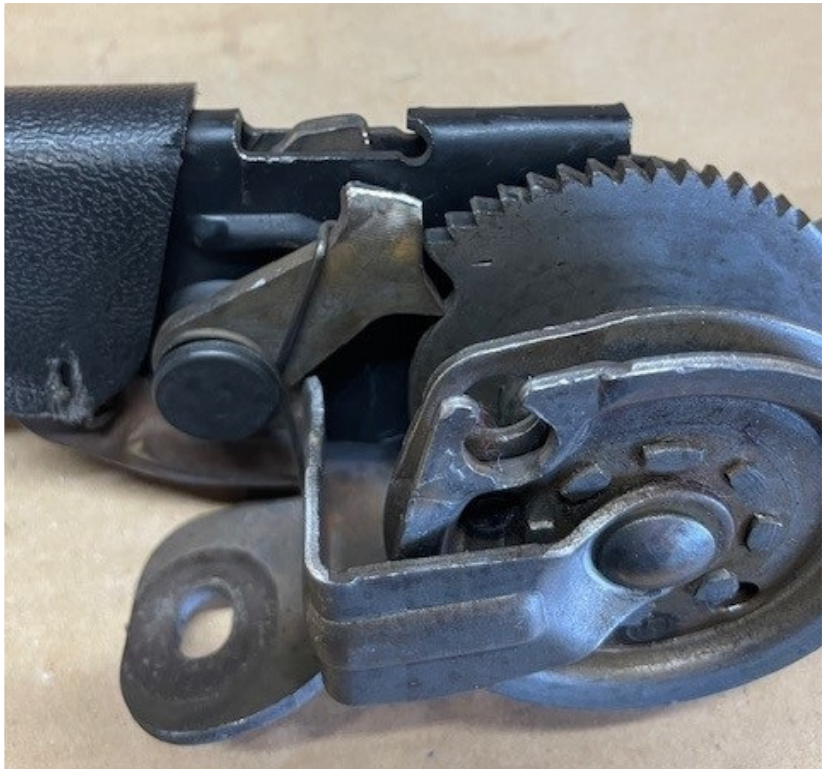


Photo 14

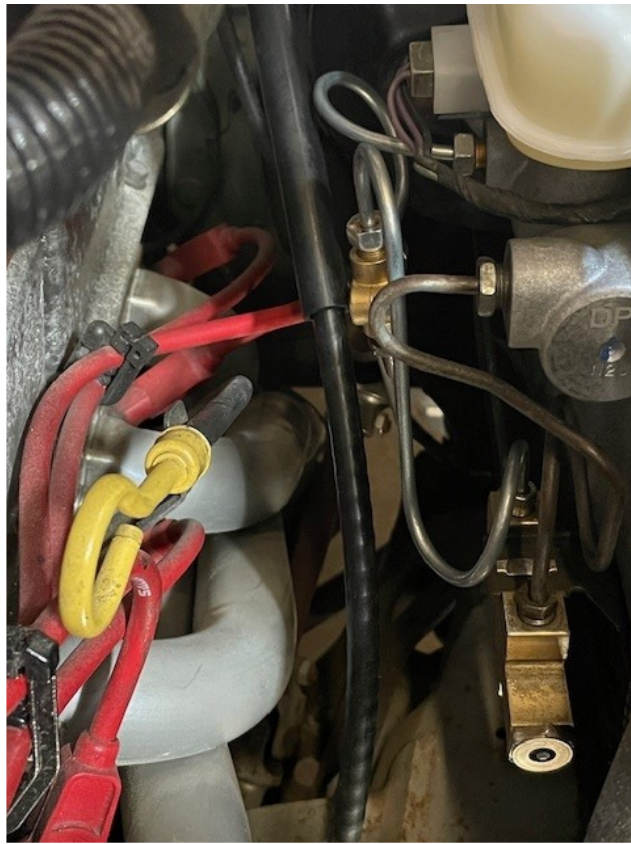


Photo 15

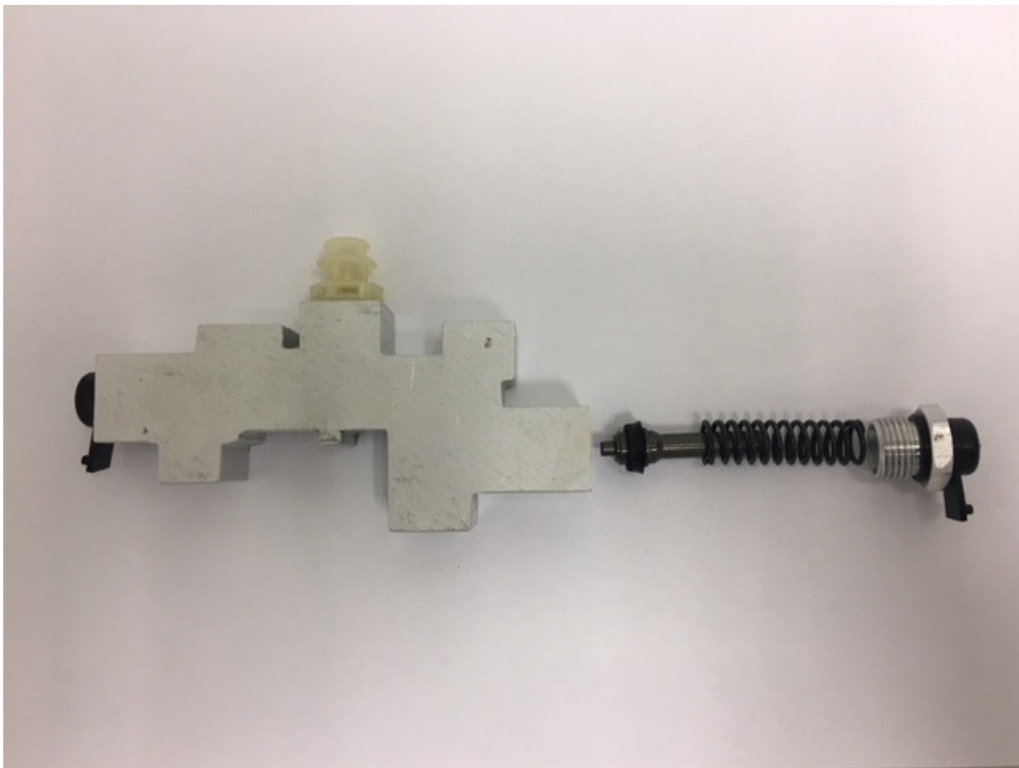


Photo 16



Photo 17



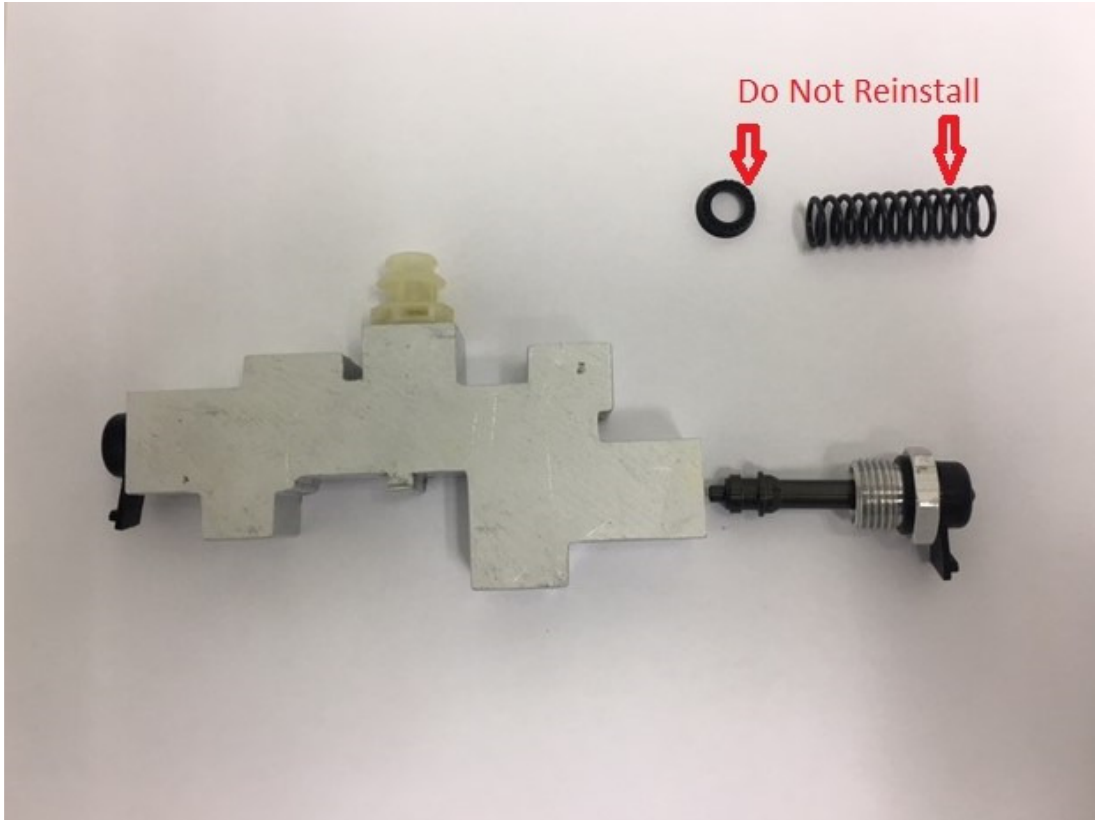


Photo 18