



## Installation Instructions

### Manual Disc Brake Conversion Kit

Item # FC2004-C05X

**Applications:** 1965-72 Dodge and Plymouth A-body cars

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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, Wheel Bearing Grease.***

### **Fitment Notes:**

This kits is designed to fit cars with 5-lug wheels with a 5x4-1/2" bolt pattern. The car must have been factory equipped with 10" brake drums in order for the kit to fit correctly.

### **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 front wheels.
2. Starting at the front wheel hub, remove the grease cap, cotter pin, lock nut and flat washer from the spindle as well as the outer bearing.
3. You should now be able to slide the hub/drum assembly off the spindle. If you have trouble removing this assembly you may need to retract the brake shoes by inserting a flathead screwdriver into the adjustment slot in the drum brake backing plate. Use the screwdriver to disengage the adjusting lever from the adjusting screw. You should now be able to turn the adjusting screw to retract the brake shoes.
4. Before you remove the drum brake backing plate you will want to remove all brake fluid from your brake system. ***Be very careful not spill any brake fluid on any painted surfaces as it will damage your paint.*** To remove the brake fluid from your system first remove the lid from your master cylinder. Next place one end of a clear hose on the bleeder of your wheel cylinder and the other into a suitable container. Finally open the bleeder screw until all fluid has been removed from your system
5. From under the dash disconnect the pushrod from the pedal assembly.
6. Disconnect the brake line(s) from your master cylinder. Remove the retaining hardware and remove the master cylinder and or power booster from the firewall. This assembly will also include the pushrod that was previously disconnected from the pedal.
7. Disconnect the hard brake line from your flexible hose at the frame rail. It is recommended you use a tube wrench as to not damage the brake line fittings. If your fittings look rusty spray them with penetrating oil and let them soak for easy removal.
8. Remove the horseshoe clip from the brake hose at the frame mount.
9. Remove the drum brake backing plate assembly by removing the 4 retaining bolts and nuts attaching it to your spindle. Again the use of penetrating oil is recommended on any rusty hardware for easy removal.

### Inspection:

Once you have removed all drum brake components from your spindles it is recommended that you clean your spindles bearing surfaces. Check for any debris or signs of damage to the spindle. Any light damage caused by rust can usually be cleaned up with an emery cloth.

At this point you should also test install your new bearings onto the spindle to ensure proper fitment without interference.

### Brake Kit Installation:

1. The calipers will be installed on the face of the spindle pointing towards the firewall. Install **Caliper mounting brackets** so that the caliper mounting holes are orientated towards the rear of the car. **Photo 1**
2. Before bolting the brackets into position, the lower rear hole in both spindles will need to be drilled out using a 1/2" drill bit. The bit will tend to follow the existing hole but take care to ensure the hole is drilled as straight as possible.
3. The caliper mounting bracket can be installed on the outside face of the factory spindle. Use the 7/16" bolts and lock washers to secure the upper holes and use the 1/2" bolt to secure the lower rear hole. The factory hardware should be reused in the lower front hole. Torque the 7/16" bolts to 45-50 ft. lbs. and torque the 1/2" bolts to 75-80 ft. lbs. **Photo 2**
4. Slide the supplied spacer onto the spindle prior to installing the rotor. The spacer must be installed with the stepped side pointing in towards the engine. This will ensure the rotor sits in the proper position on the spindle. **Photo 3 & 4**
5. Next you will need to properly pack the **inner and outer bearings** with grease prior to installation.
6. Remove the protective coating from your **rotors** on both the braking surface and bearing race surfaces using a brake cleaner available at your local parts store.
7. Install the greased **inner bearing** into the inner race of the **rotor**. **Photo 5**
8. Lightly pack grease into the inner lip of the **grease seal**. Next install the **grease seal** into the inner portion of the **rotor** using a soft mallet or piece of wood. This will prevent any damage from occurring during installation. \* **The lip of the seal should face the bearing when installed. Photo 6**
9. Slide the **rotor** onto the **spindle** and install the greased **outer bearing, slotted washer and adjusting nut. Photo 7**
  - a. **Proper adjustment of the bearings is VERY IMPORTANT.** Rotate the rotor while tightening the spindle nut to 18-24 ft lbs. Next back off the adjustment nut about 1/2 turn and retighten to 10-15 ft lbs while aligning the retaining slots with the cotter pin hole in the spindle.
  - b. Install **cotter pin**, bend cotter pin so that each side is bent in the opposite direction of the other.
  - c. Install the **grease cap. Photo 8**
  - d. Spin the rotor to ensure there is no interference with the grease cap and retaining assembly.
10. **Calipers** will arrive preloaded and ready for installation. If you need to replace the pads in the future the retaining pins are held in by spring clips. The pins can be removed by driving them out with a punch from the outside face of the caliper. The pads are standard **D11** brake pads. **Photo 9**

11. Install the **calipers** with the bleeder facing up. Use the **7/16-20 x 2" bolts** and lock washers provided. Place one of the supplied tube spacers between the caliper mounting boss and the caliper mounting bracket at each hole. Torque to 45-60 ft. lbs. **Photo 10 & 11**
12. Once the calipers are installed spin the rotors to ensure there is no interference between the caliper and the rotor. If the caliper is not centered over the rotor you may need to add additional shim washers. These should be placed between the caliper mounting bracket and the tube spacer at each mounting hole. This will move the caliper inboard towards the engine. If the caliper needs to move outboard towards the wheel thinner tube spacers will be needed. **Photo 12**
13. Before installing the **flex hose** adapter into the caliper wrap the threads on the flat end of the adapter with Teflon pipe thread tape. **Note the pointed end of the fitting will connect to the flex hose and the flat end will go into the caliper. Do not use Teflon tape on the pointed end.** This is a pipe thread fitting that will become tighter as it is threaded into the caliper. It will be necessary to angle the adapter correctly to allow for the best flex hose routing. **Photo 13 & 14**
14. Install the female flex hose adapter to the frame bracket and retain it using the **horseshoe clip** provided. Reconnect the original hard line and tighten using a tube wrench. Next connect the flex hose between the adapters and tighten using a tube wrench.
15. Turn the wheels through a complete left and right turn to insure there is no interference with the new brake system and any suspension or body components. Also check the hoses during this operation to ensure the hoses are not binding or twisting. If your rubber hoses bind during a turn you could experience loss of braking while driving. If it looks like they are binding remove the horseshoe clip and reposition the brake hose until it no longer binds.

### **Brake Line Installation**

1. If your car already had a factory style dual bowl master cylinder installed you should be able to connect your existing lines to the new master cylinder supplied. You will still need to install the supplied adjustable proportioning valve into the line that supplies the rear brakes.
2. Disconnect the rear brake line from the brass block. Connect the line to the **"out" port** of the adjustable proportioning valve supplied. Then using the short brake line supplied connect the **"in" port** of the valve to the rear port of the brass block.
3. If your car had a single bowl master cylinder installed remove the line that ran from the master cylinder to the brass block. Using one of the lines supplied connect the rear port of the new master cylinder to the top port of the brass block.
4. Disconnect the rear brake line from the brass block and plug that port with the **3/8-24 plug** provided.
5. Connect the line to the **"out" port** of the adjustable proportioning valve supplied.
6. Using the other brake line supplied connect the front port of the new master cylinder supplied to the **"in" port** of the adjustable proportioning valve.

### **Master Cylinder Bench Bleeding**

1. Before you permanently install your master cylinder you must **bench bleed** it in a vice off of 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 insuring 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 Only).
- 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 pushrod, dust boot and retainer from your original master cylinder. These parts will be transferred to your new master cylinder.
2. Remove the master cylinder from the vice and install on the firewall, secure with factory hardware. ***Be very careful not spill any brake fluid on any painted surfaces as it will damage your paint.***
3. Carefully remove the bleeder kit nozzles and install the brake lines in the appropriate ports.
4. Install the brake line with the ½" fitting to the port for the rear brakes (port furthest from the firewall)
5. Install the 3/8-24 fitting into the port for the front brakes (port closest to the firewall)
6. Secure all brake lines and check for leaks.

### **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 thru 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
11. Repeat steps 2 thru 6 to insure all air has been removed.

### **Adjustable Proportioning Valve Adjustment**

1. The adjustable proportioning valve is meant to control rear brake lockup by limiting the pressure to the rear brakes. If the rear brakes lockup prematurely the car can be difficult to control during a hard stop.

2. The valve provides a maximum of a 55% reduction in rear brake pressure. Meaning that even when adjusted to the full decrease position it will not shut off the rear brakes. Count the turns from the full decrease position to the full increase position. Turn the knob back in the full decrease direction half that number of turns. This will give you a good starting point for most vehicles.
3. Once you are confident that the brakes are fully bleed, working properly and broken in you can make several stops in a safe open area to determine your ideal setting. The goal is to provide as much pressure as possible to the rear brakes without locking them up prior to the front brakes.

**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

### Disc Brake Conversion Kit

**Applications:** 1965-72 Dodge and Plymouth A-body cars



← Front of Car

Photo 1



Photo 2



Photo 3



Photo 4



Photo 5



Photo 6

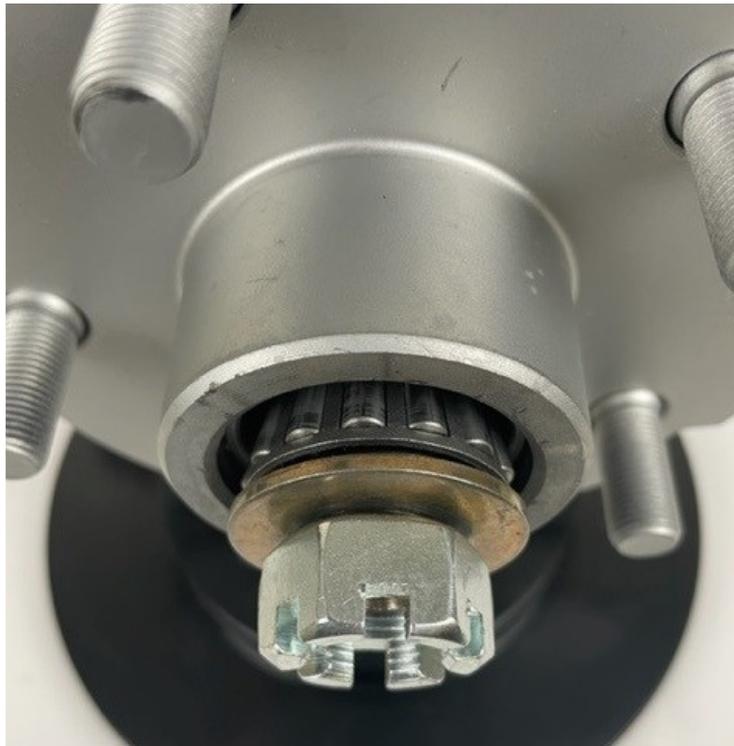


Photo 7



Photo 8



Photo 9



←Front of Car

Photo 10

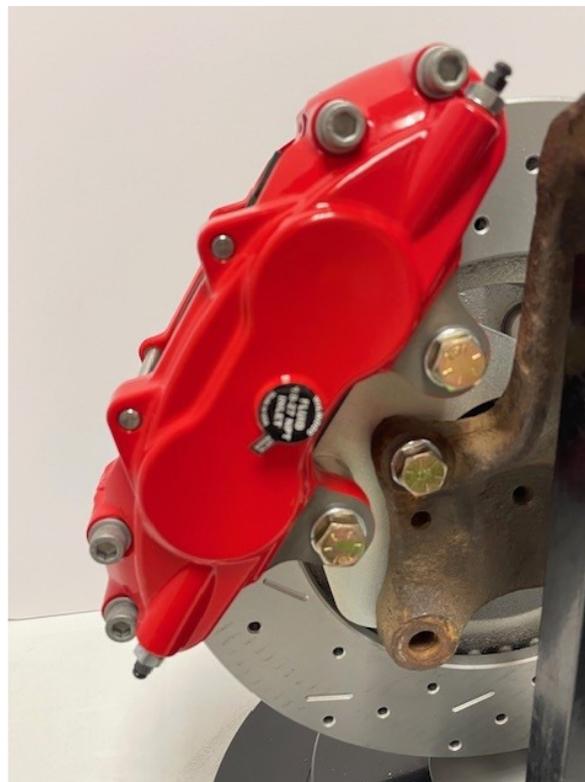


Photo 11



Photo 12



Photo 13



**Photo 14**