



# MASTER POWER BRAKES



## Pro Driver 4-Piston Rear Disc Brake Kit 1991-1997 Toyota FJ80/FZJ80 & Lexus LX450 P/N: DB7012BR



Thanks for purchasing our Pro Driver Rear Disc Brake Kit for the 1991-1997 Toyota FJ80/FZJ80 and Lexus LX450. This system can be completed with only minor modifications to the vehicle and installed using simple hand tools.

**\*\*\*IMPORTANT\*\*\***

**\*\*\*MINOR TRIMMING TO THE OEM BACKING PLATE IS REQUIRED FOR FITMENT\*\*\***

### Installation Notes:

- Please read all instructions before attempting the installation.
- Proper operation of your brakes is essential for your safety and the safety of others. Any brake service should be performed by a professional technician experienced in the installation of brake systems.
- Any installation requiring you to remove a wheel or gain access under the vehicle requires use of jack stands or a lift appropriate to the weight of the vehicle. In all cases, recommended ratings for jack stands should be at least 2-tons. If using a floor jack, be sure to use the appropriate wheel chocks.
- All installations require proper safety procedures and protective eyewear.
- A selection of hand tools sufficient to engage in the installation of these products is assumed and is the responsibility of the installer to have in his/her possession prior to beginning this installation. All installations, which require removal of hydraulic hoses and/or bleeding of the brakes, require appropriate fitting/line wrenches, as well as a safety catch can and protective eyewear. Other than these items, if unique or special tools are required they are listed in the section for that step.
- **ALWAYS CONFIRM WHEEL FITMENT PRIOR TO BEGINNING THE INSTALLATION OF ANY BRAKE SYSTEM!!** Returns will not be accepted for ANY installed part or assembly. Use great care to prevent cosmetic damage when performing wheel fit check!
- Before starting the installation, verify that all parts are included with the brake kit. If items are missing, notify Master Power Brakes immediately.
- Master Power Brakes requires the use of a high quality DOT 3 or DOT 4 brake fluid. Synthetic DOT 4 fluids are acceptable. **ALL WARRANTY IS VOID IF SILICONE DOT 5 FLUID IS USED.**

Parts List	
Quantity	Description
2	4-Piston Billet Aluminum Brake Caliper <i>(w/ brake pads installed)</i>
1	LH Slotted & Zinc Washed Brake Rotor
1	RH Slotted & Zinc Washed Brake Rotor
4	M12-1.75 x 23 mm Hex Head Bolt
4	M12 Split Lock Washers
1	12mm Bolt Shim Kit
1	Hose Kit (12.875" Hoses w/10mm Banjo Bolt & Hardware)
1	3D Printed Modification Template

Replacement Brake Pads	
FMSI Number:	N/A
MPB Part Number:	PD100F.480-MOD

## Installation:

1. With the vehicle properly supported, remove the rear wheels and tires.
2. Removal of the OEM disc brake assembly is required next. Remove the OEM brake caliper followed by the OEM brake rotor.
3. Before installing the disc brake kit, the OEM backing plate will require minor trimming for proper clearance of the new 4-Piston Billet Aluminum Brake Caliper. **A 3D Printed Modification Template has been provided that is the EXACT profile the OEM backing plate needs to be trimmed to.** We recommend using a die grinder with a carbide burr or a pneumatic belt sander to grind the backing plate. This may be done with the OEM park brake shoes still mounted to the backing plate. Trim the OEM backing plate until the 3D Printed Modification Template sits flat on the caliper mounting surface and both M12-1.75 x 23mm Hex Head Bolts can slide freely into the holes as if they were being installed into the 4-Piston Billet Aluminum Caliper. See Figures 1a below and 1b on the next page below for trimming reference.

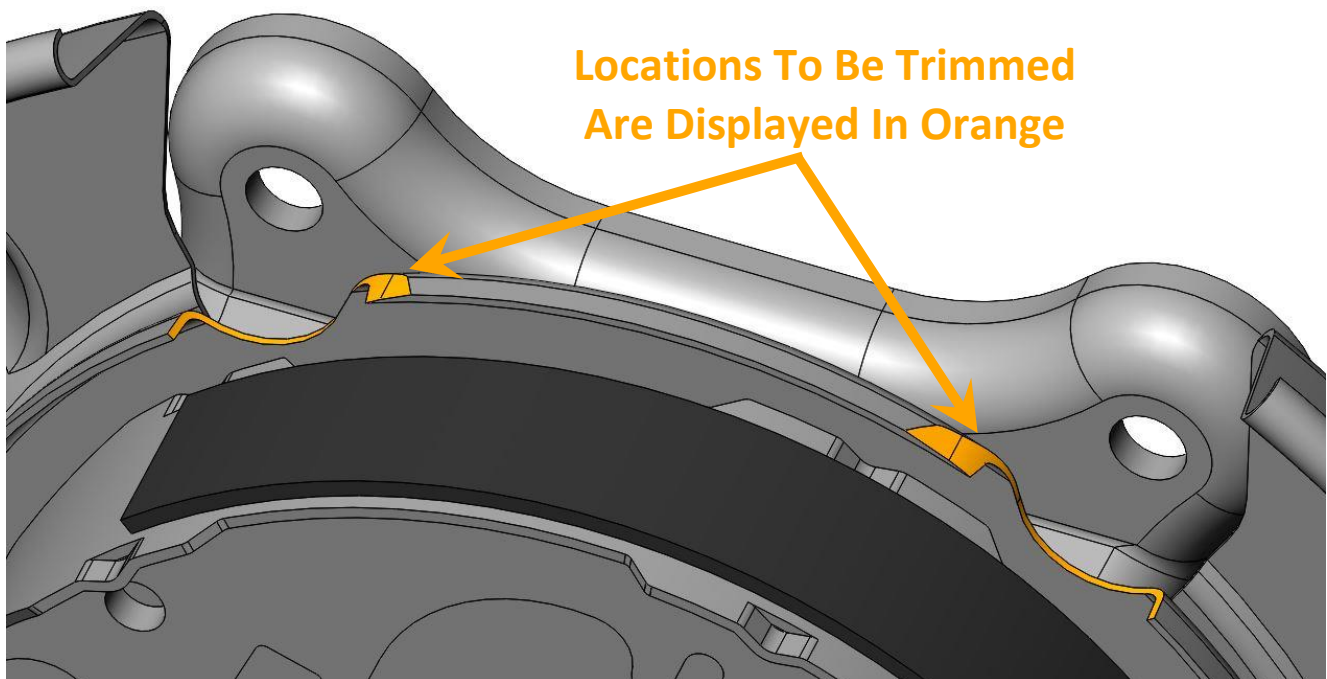


Figure 1a – OEM Backing Plate Trimming Location

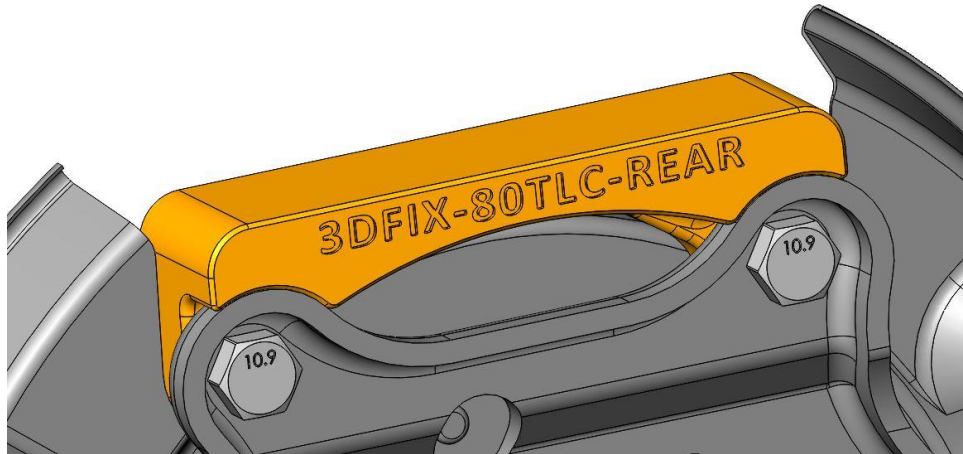
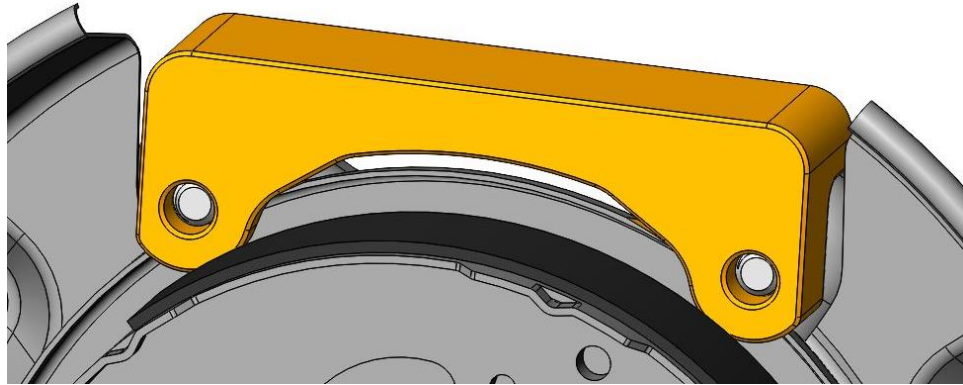


Figure 1b – 3D Printed Modification Template In Place

- Next install the rotor onto the hub assembly. Use three lug nuts when installing to hold the rotor tight against the hub. This will allow for accurate shimming of the calipers, which will be done in a later step. The rotors are LH and RH side specific, when installing be sure to follow the direction of rotation as indicated below in Figure 2a. Figure 2b below shows the proper rotor installation.

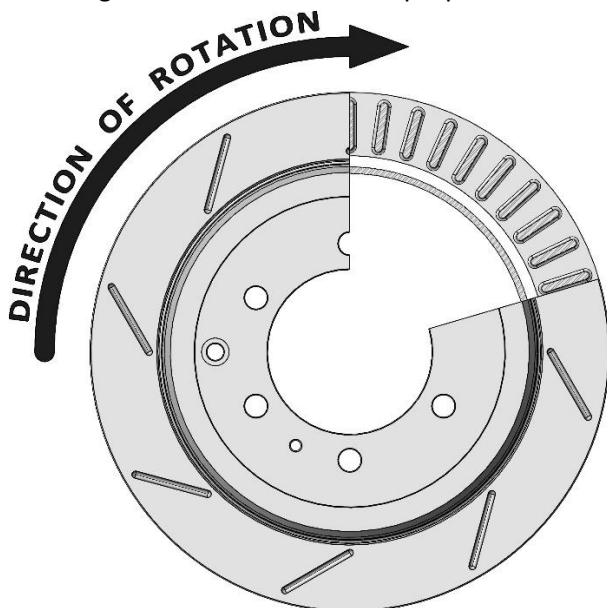


Figure 2a – Proper Rotor Direction (RH Shown)

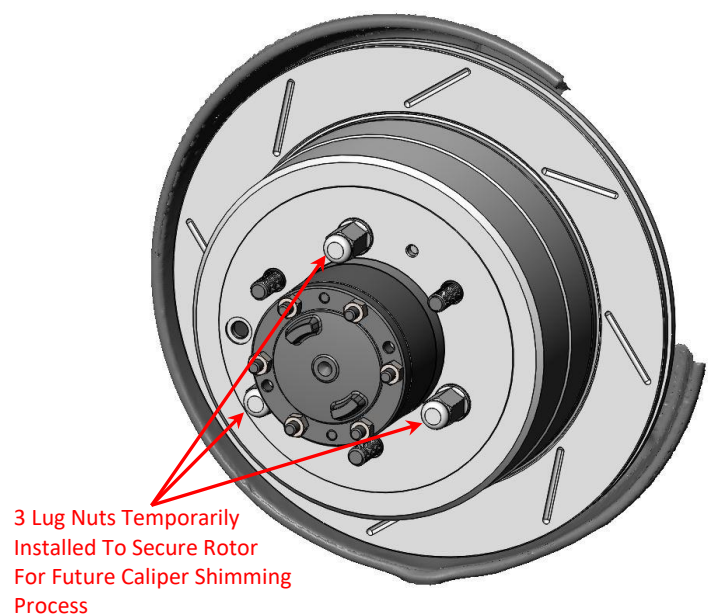


Figure 2b – Proper Rotor Installed (RH Shown)

- Next, **remove the brake pads** and place the brake caliper onto the OEM brake caliper mount, securing it with the supplied M12-1.75 x 23mm Hex Head Bolts and M12 Split Lock Washers. **Only snug the bolts now to allow for future caliper shimming process.** Refer to Figure 3 on the next page for reference.

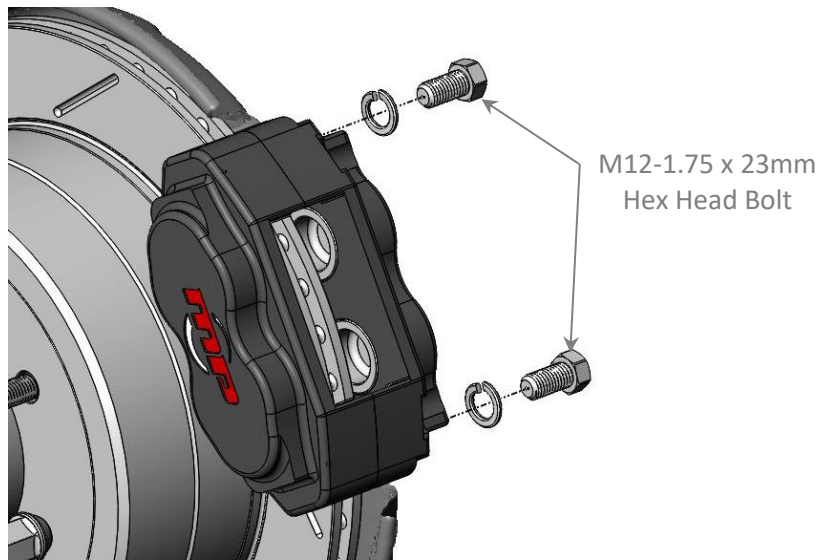


Figure 3 – Caliper Installation (RH Shown)

6. After installing the caliper, it is necessary to center the caliper over the rotor using the supplied shim kit. Measure the gap from the rotor to caliper body with feeler gauges. With all measurements taken, **SUBTRACT THE SMALLER DISTANCE FROM THE LARGER DISTANCE**. Take that difference and divide it by two to determine the proper shim thickness required. For example, the outside measurement is .070" and the inside measurement is .030" leaving a difference of .040". Divide the difference by two leaving the necessary shim at .020". **Do this procedure at both the top and bottom of the caliper to determine appropriate shim thickness for each caliper mounting ear. It is possible for each caliper mounting ear to require different thickness shims.** Set the gaps to within .005-.010" of each other. An example of the shim thickness calculation is shown below in Figure 4a. Follow the steps below for proper shimming of the calipers once the measurements have been taken:

- a. Select the required shims from the shim kit provided.
- b. Loosen the bolts that hold the caliper on.
- c. Install the appropriate shims between the 2 mounting ears of the 4-Piston Billet Aluminum Caliper and the OEM caliper mount removing only one bolt at a time. Snug both bolts after both shim locations are installed. *Refer to Figure 4b on Page 5 for shim location.*
- d. Recheck the gap as described above. If necessary, add or remove shims.

**NOTE: Shimming of the caliper is required due to variations in OEM component manufacturing and machining tolerances of the new braking components.**

## Shimming Process Example

\*\*SAE UNITS SHOWN\*\*

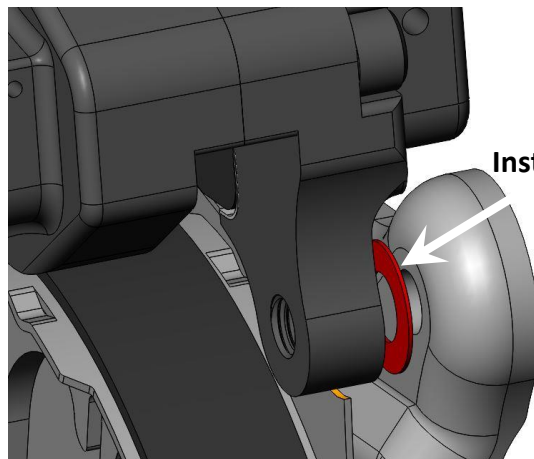
$$\left( \frac{\text{LARGER DISTANCE} - \text{SMALLER DISTANCE}}{2} \right) = \text{UPPER SHIM THICKNESS NEEDED}$$

$$\frac{.070'' - .030''}{2} = .020'' \text{ UPPER SHIM THICKNESS NEEDED}$$

Figure 4a – Caliper Shimming Reference

**\*\* Shim Shown In Red For Clarity\*\***

**\*Recommended\*:**  
Use a very small amount of grease on the shims to help hold them in place during the shimming process.



Install Shims Between 4-Piston Caliper Mounting Ears And The OEM Caliper Mounting Surface

Figure 4b – Shim Location

7. With the proper caliper shim thickness determined, remove the caliper, and reinstall the brake pads. **NOTE: If the shim thickness is different from the upper and lower mounting ear of the caliper, take care that the shims stay in the correct location and do not get mixed up.** Torque the M12-1.75 x 23 Hex Head Bolts to **88 Nm (65 ft/lbs)**. **\*CAUTION\* Do not over torque as this may cause damage to threads in caliper body!**
8. Install the Stainless Steel braided hose using one copper crush washer on each side of the banjo fitting. When installed properly the banjo fitting that is crimped onto the hose will point towards the front of the vehicle. Secure the opposite end of the hose to the OEM brake line mounting location on the backing plate using the supplied the hose lock. Torque the banjo bolt to 20-27 Nm (15-20 ft/lbs). Refer to Figures 5a and 5b below for proper brake hose mounting.

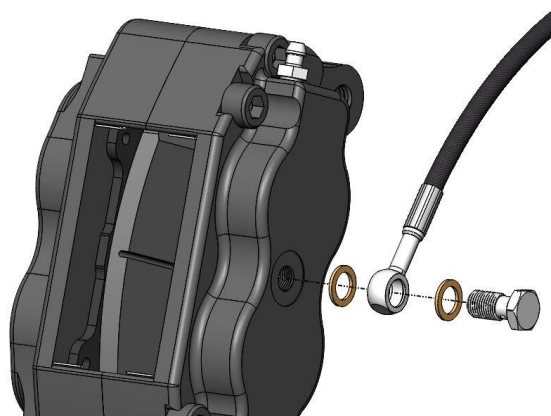


Figure 5a – Stainless Steel Braided Hose Installation

**Top Of Vehicle**

Bleeder Screw

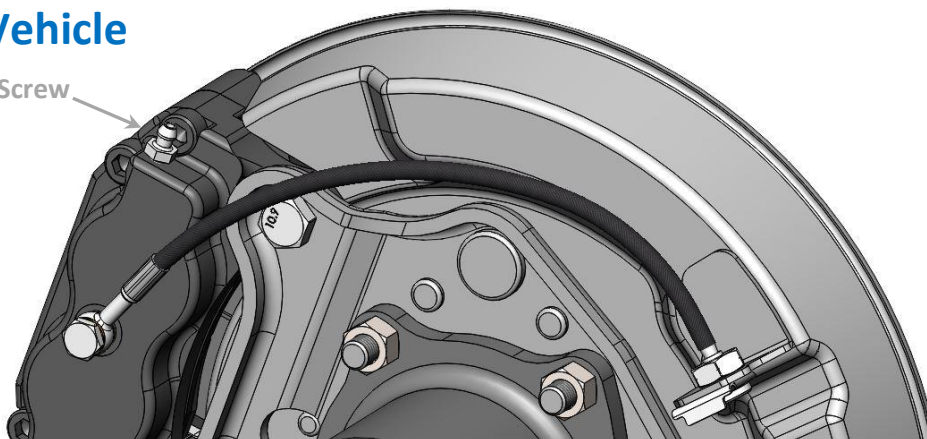


Figure 5b – Stainless Steel Braided Hose Properly Installed (RH Shown)

9. Repeat these steps for the other side and recheck all attachment points and fittings.
10. If the master cylinder has been removed or replaced, make sure it is properly bench bled and then installed on the vehicle. Then the remaining brake system can be bled to remove all of the air from the system. **REMEMBER:** Master Power Brakes requires the use of either DOT 3 or DOT 4 brake fluid. We Recommend the use of Pentosin Super Dot 4 fluid as seen below Figure 6 (**Available at Master Power Brakes P/N: ACJ1703**).

**\*\*\* ANY WARRANTY IS VOID IF DOT 5 FLUID IS USED\*\*\***

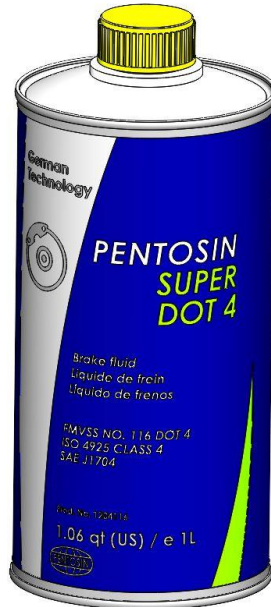


Figure 6 – Pentosin Super DOT 4

11. The installation is now complete.

**If you have any questions regarding installation, feel free to contact us!**

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