

Installation Instructions for front GR corolla brake caliper on



**92-19 Toyota Camry / 2010+ Lexus RX / 2012+ Lexus NX
19+ Toyota Rav4 / 20-22 Toyota C-HR / 10-19 Toyota Highlander
23+ Toyota Prius / 21-23 Toyota Venza / 07-23 Lexus ES
04+ Toyota Sienna**

Kit Contents (GR1.0-328)

- 1 pair of aluminum caliper adapter brackets
- 4 10.9 Grade (M12x1.25x30) bolt yellow zinc
- 4 M14 to M12 Sleeves (14mm OD x 12mm ID x 15mm H)



This is a representative photograph. The actual components in your kit may appear slightly different.

APPLICATION DISCLAIMER

This installation manual uses images and tools selection for a 2019 Toyota Camry. While very similar in nature to various Lexus and Toyota vehicles, there may be differences on your particular vehicle. In particular, removing and clearance of the splash guard/dust shield is one area where your vehicle may be different. Off-road use only.

Caliper Clearance

Caliper should clear most 17" wheels for large caliper. However, the gap between the spokes of the wheel and the face of the caliper may be different among wheels from make and models. Do not assume that a larger-diameter wheel will automatically clear the face of the caliper. Please test your wheels with the provided template.

Safety Notice

Improper handling of a vehicle, especially while raised and supported by jack stands, ramps or other mechanical means, can cause serious bodily injury or even death. It is strongly recommended that a trained, experienced mechanic, with proper equipment, install the brake adapter. The seller assumes no liability, expressed or implied, for the improper installation or use of this product or its components.

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By purchasing the brake adapter components described herein and opening the accompanying box or packaging, the purchaser(s), buyer(s) and/or the ultimate user(s) expressly (1) acknowledge that they have read and understand all terms set forth herein; (2) understand and agree that the brake adapter and/or components, whether acquired new or used, whether complete or incomplete, whether of merchantable or non-merchantable quality, whether saleable or non-saleable, is taken, purchased, selected and/or acquired "AS IS" and "WITH ALL FAULTS"; (3) acknowledge that the brake adapter and/or components contained herein are intended only for off-street use, regardless of whether said brake adapter and/or components are approved by a state or the United States Department of Transportation; (4) understand and agree that they bear all risks, including but not limited to the risk as to quality and performance of said brake adapter and/or components, and the risk of bearing the costs of repair or replacement of the subject brake adapter and/or components, whether in defective or non-defective condition. The seller is not responsible for damage, consequential or otherwise, for equipment failure or mal-performance after installation: understand that (5) Auto Racing is a dangerous sport, and products are subject to failure when exposed to the high stresses involved with use on a racetrack the seller MAKES NO EXPRESS OR IMPLIED WARRANTIES, WHETHER ORAL OR WRITTEN, WHETHER TRUE OR UNTRUE AND REGARDLESS OF SOURCE, TO ANY PURCHASER(S), BUYER(S) OF ITS BRAKE ADAPTER AND COMPONENTS. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS HEREBY EXPRESSLY AND EFFECTIVELY DISCLAIMED AND SUCH DISCLAIMER IS ALSO HEREBY ACKNOWLEDGED BY THE PURCHASER(S), BUYER(S) AND/OR ULTIMATE USER(S). RATHER, THE PURCHASER(S), BUYER(S) AND/OR ULTIMATE USER(S) EXPRESSLY AND IMPLIEDLY AFFIRM THAT HE/SHE/THEY ARE RELYING UPON THEIR OWN SKILL AND JUDGMENT IN SELECTING AN PURCHASING THE ADAPTER AND/OR COMPONENTS CONTAINED HEREIN AS SUITABLE FOR THEIR INTENDED USE. The purchaser(s), buyer(s) and/or the ultimate user(s) understand and agree that no officer, director, employee, agent salesman, representative, distributor, or other affiliate of the seller has any authority to make nay statement or representation contrary to the terms set for.

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Tools and Equipment Required

Different models and years of vehicle use different-sized fasteners and every effort has been taken to correctly identify the proper sized tool for each step of the installation. Occasionally, however, manufacturers may use an alternate fastener, so it's advisable to check that each tool correctly fits the fastener before loosening or tightening it. The following tools and equipment will be needed:

17mm box wrench or socket, 1/2" drive suggested

½ ratchet if using ½ sockets.

10mm box wrench

Torque wrenches capable of 33.9-210.1 N*m (20-150 ft-lb) settings

optional sheet metal cutters

brake bleed bottle (2' of 3/16" ID clear vinyl tube and a 20oz water bottle)

1 pair of jack stands or means of supporting vehicle

2 M8x1.25x30 bolt (this is used to remove the rotors from the hub)

Small drip tray or several rags or shop towels

Plastic or non-marring mallet

straight Grinder (this uses ¼ shank) or Dremel (this uses 1/8 shank)

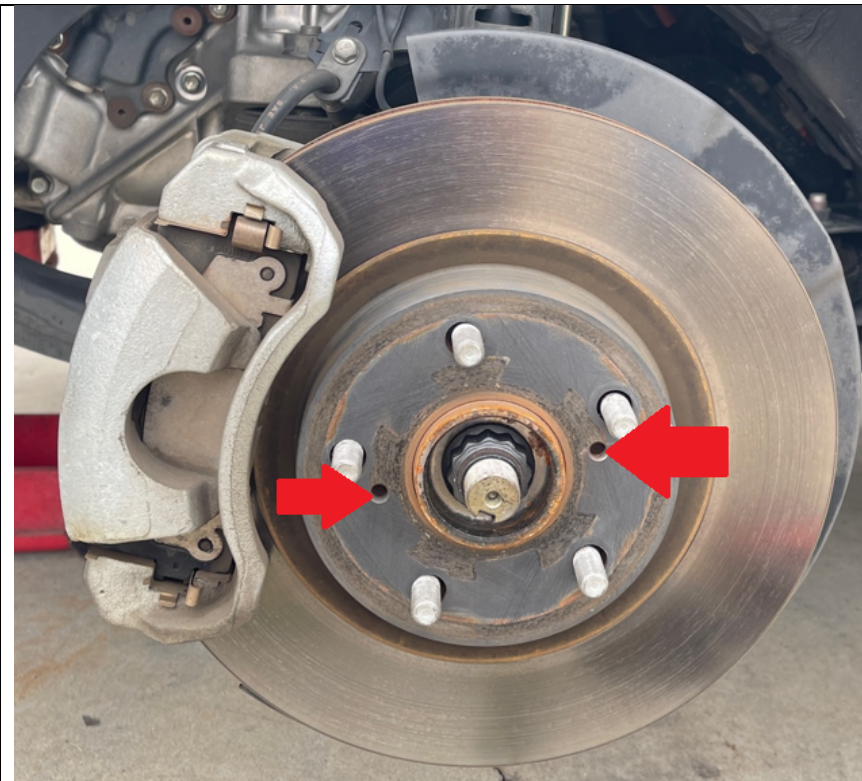
2 Toyota DOT3 or 4 Brake Fluid. Check manufacturer's recommendation or capability.

Step 1 – Raise vehicle and remove wheels

Break loose the front lug nuts and jack up the front end properly. Place the vehicle on jack stands on proper jack points to clear the wheels from the floor. Loosen and remove the lug nuts and remove the wheels and place in a clear area.

Step 2 – Removal of brake caliper and rotor

Removal of the 17mm bolt on the rear of front brake caliper and leave the caliper aside by hanging or hooking it onto the suspension. Do not remove the brake line.



If rotor does not come off, use the two **M8x1.25x30** bolts from the hardware store and insert it into the two threaded holes of the rotor's top hat. Screw this down until the rotor comes apart from the hub.

Step 3 – Install Rotor

This bracket requires the **328mm x 28mm front rotors from 2020+ Toyota Camry TRD or 2016+ Lexus RX350**. You can purchase this from your local auto part store, rock auto or Toyota/Lexus dealer ship with OEM part number: 43512-48130



Please the rotor on the hub and use lug nuts to hold it into place.

Step 4 – Modification to dust Shield

Depending on some make and model, modifications to dust shield might be needed. For the 2019 Camry, this was not needed as seen in the picture below. Make sure the dust shield is clear of the caliper and rotor. 2019 Lexus RX350 rotor is used in image below:



Warning – cutting metal will leave sharp edges. Use adequate caution and wear safety glasses and a precaution.

Step 5 – Install brake adapter onto GR calipers



This brake adapter is replacing the OEM factory adapter.
Use a 17mm socket and remove the two 17mm bolt from the adapter.



Swap the factory adapter with the 350psi GR1.0-328 adapter. The adapter is only installed one direction. Reinstall the 17mm bolt through the caliper and thread it into the adapter as seen in the picture to the left.

Once installed on to the car, make sure you torque it properly.

Torque the four 17mm adapter bolts to 107 N*m (1091kgf*cm, 79 ft-lb)

Step 6 – Install brake caliper and rotor



2019 Lexus RX350 rotor is used in image above

Install the rotor to the correct side of the car and use lug nuts to hold it onto the hub. Mount the caliper onto the knuckle and slide the 17mm bolts through the brake caliper mounting ear and into the adapter's thread. Take care to ensure that the caliper is square and evenly started on both bolts. Check for rotor clearance and make sure it's well center on the caliper.

Once installed on to the car, make sure you torque it properly. You can torque the caliper adapter mounting bolts at this point.

Torque the two 17mm adapter bolts to 107 N*m (1091kgf*cm, 79 ft-lb)

It's possible that your car uses m10 caliber 14mm wrench bolt. If that is true, enlarge the caliper mounting hole on the knuckle to m12 bolt size using a 15/32 drill bit.

Determine the left and right side calipers. Bleeder screw is always positioned at the top of the caliper. Install the caliper onto the knuckle and make sure it clears the rotors. Give the rotor a spin to check for clearance.

If installing on 2016 and up Lexus RX, use the included sleeves to fit the M12 bolts onto M14 bolt holes that are on your knuckle. If your car uses M14 bolts, you must use the sleeves to fill in the missing space to make the included M12 bolts fit snug into the hole.

See pictures below. Slide the bushings into the hole of the knuckle and slide in the m12 bolts and bolt up your calipers.

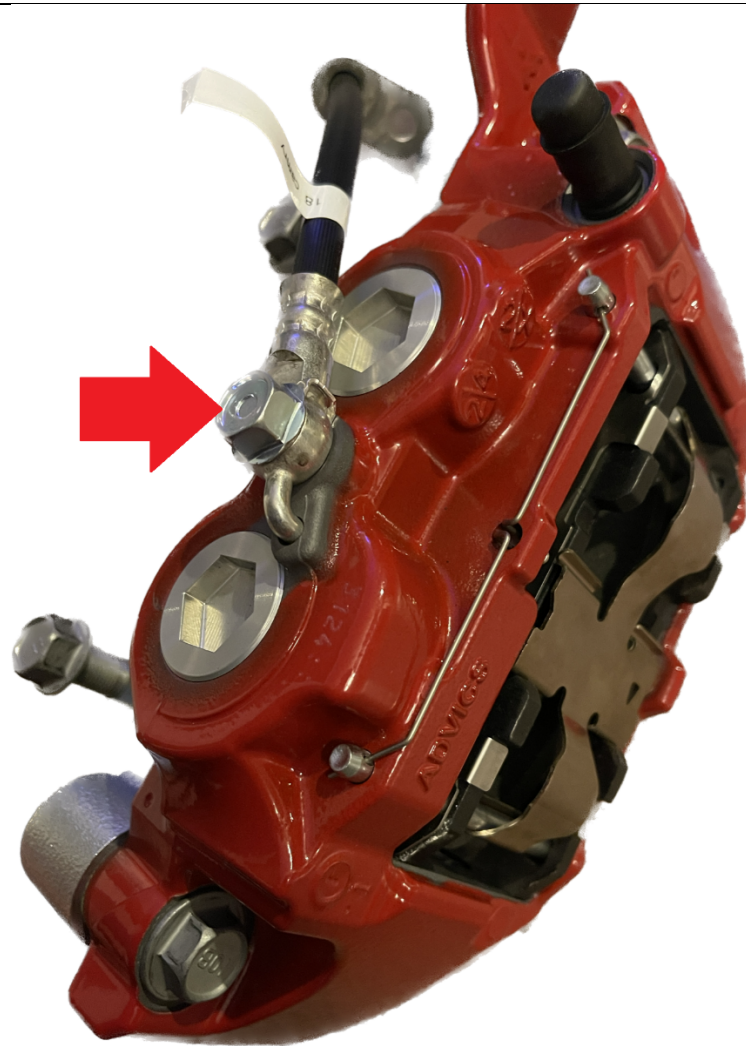


Step 7 – Install brake pads



Installation of brake pads can be done before or after the caliper is installed on the car. Slide the brake pads into the caliper with the warning indicator facing the back of the rotor. Ensure that the friction side of the pads is facing the rotors. Slide the two pins from the front face of the caliper and through the brake pads. Install the retaining clip into place by latching the bottom pin first then pressing down into the brake pad. The top should clip into the upper pin. Install the rear wire retainer through the pin and hook it into the caliper. Picture to the left shows the pads properly installed into the driver side front caliper.

Step 8 – Brake lines and bleed brakes



Remove the brake line with the banjo bolt from your car's original brake caliper and insert it into the new brake caliper. Make note of the banjo washer and banjo bolt. Do not install the brake line twisted.

Torque to approximately 39.2N*m (400kgf*cm, 29 ft-lb). We do not recommend use of a torque wrench on the banjo bolt, the mechanics touch will help prevent overtightening. The Banjo bolt only needs to be tightened enough to seal the crush washers. Excessive torque can damage the threads inside the caliper and/or damage the Banjo bolt. A good turn is all it is needed

Make sure there is enough brake line slack when you fully turn your car's steering wheel left and right. If there isn't, then you can probably use the 2023 Toyota GR Corolla OEM brake lines.



***Tips:** Make sure the area around the banjo bolt is clear of any paint or powder coating. This area must be flat to ensure the seal of the crush washer. With powder coat finish not being flat as possible, there can be possible leaks in the brake lines.

Using a Dremel 2-piece steel ½-in Brush Bits tip on a Dremel can clean off excess powder coating/paint in this area. Before picture shows area where the crush washer sits covered in powder coating. After pictures shows the same area after removing powder coat with brush bits. Now the banjo bolt can sit flush with the crush washer without causing any leaks. This should be done before installation on the car if you chose to power coat your caliper.

Complete the installation on both sides of the vehicle before bleeding the system.

Two people will be needed to help bleed the brake fluid in the vehicle.

Keep a close watch on the fluid level on the master cylinder and do not let it run dry and to draw in air. Bleed the brake system using a 10mm box wrench to loosen the bleed screws. The sequence for bleeding the brakes should be:

1. Furthest rear passenger side (LHD: Rear Right caliper)
2. Furthest rear driver side (LHD: Rear Left caliper)
3. Front passenger side (LHD: Front Passenger caliper)
4. Front driver side. (LHD: Front Driver caliper)

Because you're only installing front brake calipers, you will only be needing to bleed the two front brakes. Start with the passenger side first then the driver side.

Using the clear 3/16 tube which should be inserted into a catch bottle to collect any oil coming out of the brake system, plug this into the bleed screw and loosen using a 10mm box wrench. Have a person press the brake pedal a few times until fluid start to come out. Once you see fluids, lock the screw and have the same person press the brake pedal three times and hold it down to the floor. You can now loosen the bleed screw to release the pressure and fluid to check for air. Lock the bleed screw and have a person press the brakes three more times and repeat this process until all air is out of the system. Make sure to check the fluid level after a few bleeding process or in-between caliper bleed. Complete this process in the sequence of the calipers on the car.

Once complete, make sure all bleed screws are properly secured down. Though a torque wrench is not typically used on bleed screws, as a reference, the torque for the bleed screw should be approximately 10-14 lb-ft. A good turn to the screw will keep it in place.

After bleeding, apply constant pressure to the brake pedal, and check all connections – including the bleed screws, and both ends of the brake line - for leaks.

Warning: Brake fluid will damage most painted surfaces. Immediately clean spilled brake fluid from any painted surface, including the caliper. Though caliper paint is designed to resist harsh chemicals, prolonged exposure will damage the finish.

Step 8 – Reinstall wheels

It is very important to check the wheel-to-caliper clearance before installing wheels.

Reinstall the vehicle's wheels and torque wheels' lug nuts to manufacturer's specifications. It may be necessary to snug the bolt before lowering the vehicle and to then torque the wheels when the car is on the ground. Lexus recommend 76 lb-ft.

Carefully test-drive the vehicle in a safe area at low speed to ensure that all components are working correctly.

Thank you for purchasing this adapter.