

# Installation Instructions for rear Lexus IS-F brake caliper on various Lexus Applications



## 2014+ Lexus ISXXX/2013+ Lexus GSXXX/2015+ Lexus RCXXX

### Kit Contents

- 1 pair of aluminum caliper adapter brackets
- 4 M12 OEM Lexus Nuts (PN. 90080-17221)
- 4 M12 OEM Lexus m12x1.25x40 bolt with washer (PN. 90119-12415)
- 4 M10x1.25x45 10.9 grade Zinc bolts
- 4 M10 10.9 grade Zinc Washers
- 1 Loctite threadlocker 242 blue



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

## **APPLICATION DISCLAIMER**

This installation annual uses images and tools selection for a 2014 Lexus IS350 F-sport. While very similar in nature to various Lexus vehicles, there may be differences on your particular vehicle. In particular, removing and clearance the splash guard/dust shield is one area where your vehicle may be different. Off-road use only.

### **Caliper Clearance**

Caliper should clear most 18" wheels. 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.

### **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.

### **Disclaimer of Warranty / Limitation of Liability**

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  
14mm box wrench or socket, 1/2" drive suggested  
11mm box wrench  
Torque wrenches capable of 33.9-210.1 N\*m (20-150 ft-lb) settings  
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  
6MM nail puncher or setters (99 cent screw driver with grinded flat tip)  
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  
Dermal with cutting disc 406 and sanding bits  
Angle Grinder

2-3 Toyota DOT3 or 4 Brake Fluid. Check manufacturer's recommendation or capability.

## Caliper preparation for installation

Before installation calipers on the vehicle, the caliper must be modified to clear the suspension knuckle. Please print out the template (100% 1:1 scale) on the last page and follow the direction. Use a dermal with a die disc and remove the area marked from the template. This is usually done before powder coating or painting caliper.



Printed template, scissors, dermal with some die cutter and sanding tips.



Cut around the dotted lines and lay the template on top of the RIGHT side caliper. **Notice the arrow for the bleeder valve.** Fill in the area of the template with a marker as shown on the pictures.



The area to grind and remove is the half-moon shape cutout from the template with the same depth as the caliper mounting tabs.



In this picture is the LEFT side caliper with the template flipped around and marked for grinding. **Make note of the arrow pointing towards the bleeder valve.**





Top view of how much grinding is needed. Use the Dremel and cutting wheel to cut away the necessary area and sanding disk to make the cut smooth.



Side view of how much grinding is needed. Make sure the depth of the removed area matches the flat area (in red) of where the caliper would be bolted up.



What it looks like after powder coating.

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

### Step 1 – Raise vehicle and remove wheels

Break loose the rear lug nuts and jack up the rear end properly and 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 14mm bolt on the brake caliper and leave the caliper aside by hanging or hooking it onto the suspension. Do not remove the brake line.



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 – Modification to dust Shield and knuckle



Cut a section of the dust shield off as shown. That picture on the left is the driver side rear dust shield. Use some paint to cover up the section that was cut if needed. Bend the dust shield back and make sure there's enough clearance for the rotors to install.





Here is a picture of the dust shield on the passenger side and how far the cut needs to clear.



You can cut off the entire rear dust shield edge off like the picture to the left. Start from the top edge and finish towards the bottom. This dust shield edge will hit the new IS-F rotors.



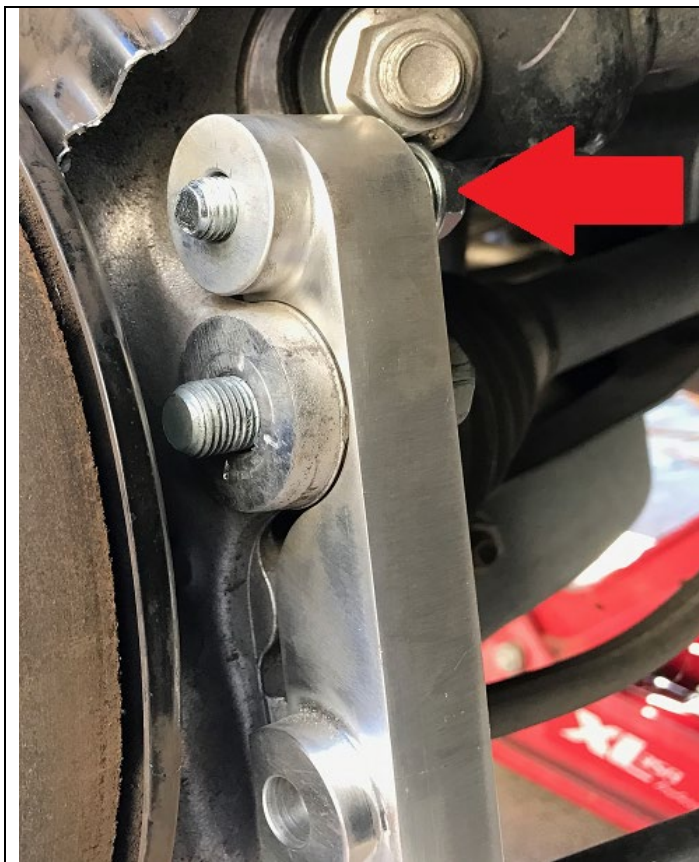
This area on the knuckle must be grinded down to clear the bracket. Take an angle grinder or Dremel and grind this pointed cast metal flat. You will see where it would hit once mounting the bracket. Once grinded down, the bracket should sit flush on the knuckle and the bolts should go through the bracket onto the knuckle perfectly.



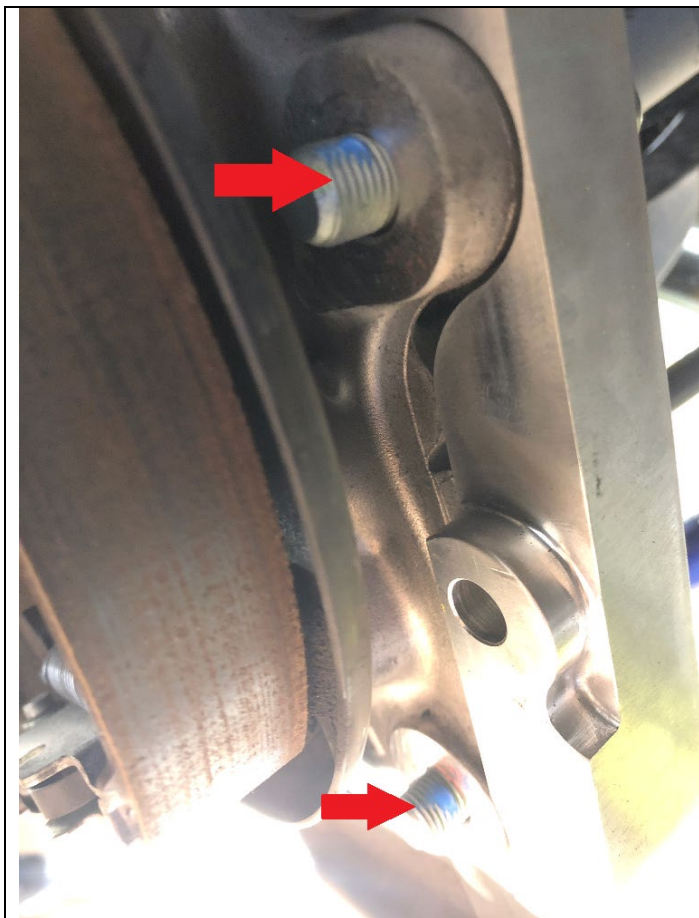
Warning – cutting metal will leave sharp edges. Use adequate caution and wear safety glasses and a precaution.



#### Step 4 – Install caliper bracket



Make sure you put the 14mm caliper bracket through the top hole first before mounting the bracket with the 17mm knuckle bolts. The bolts hit the suspension nut and it will not go through if this isn't done first. Once the 14MM caliper bolt is sitting in the bracket, tap it back so it can clear the caliper once you install it. Then tap the bolt from the back side to put it in place. You'll see that it's super tight in this area. This is by design to have the caliper sit in the correct position of the rotor.



Put the 17mm bolts through the bracket and through the knuckle. Apply a slight amount of threadlocker to the end of the 17mm bolts and mount the bracket as shown. Note. Nuts are on the inside of the knuckle and bolts are on the outside.



Use a 17mm box wrench to hold the nut while torquing the bolts on the bracket. **Torque the two 17mm caliper bolts to 104 N\*m (1065kgf\*cm, 77 ft-lb)**

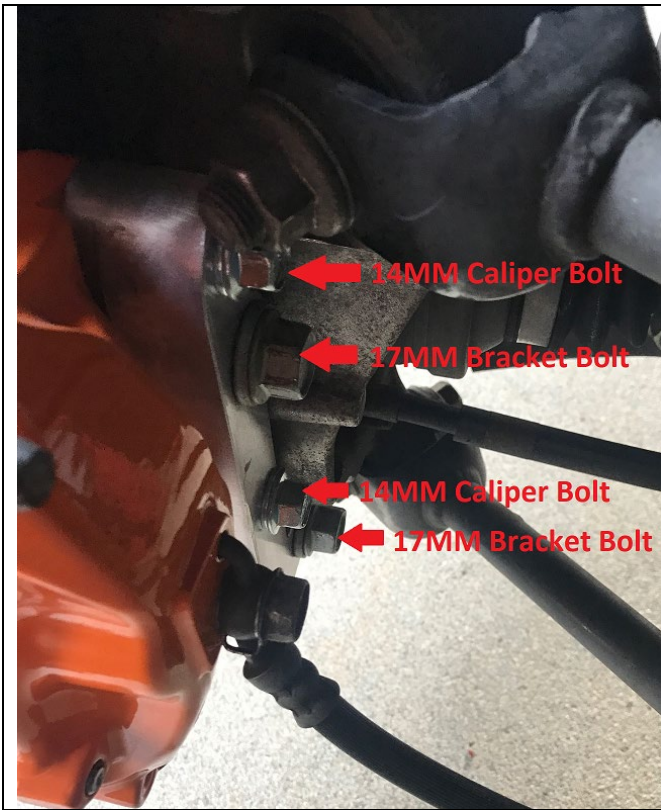
Note. Nuts are on the inside of the knuckle and bolts are on the outside.

### **Step 5 – Install of brake caliper and rotor**

Rotors must be cleaned with brake cleaner. Not doing so will damage the rotors and pads and will prevent the brakes from performing properly.

Determine the left and right side calipers. Bleeder screw is always positioned at the top of the caliper.

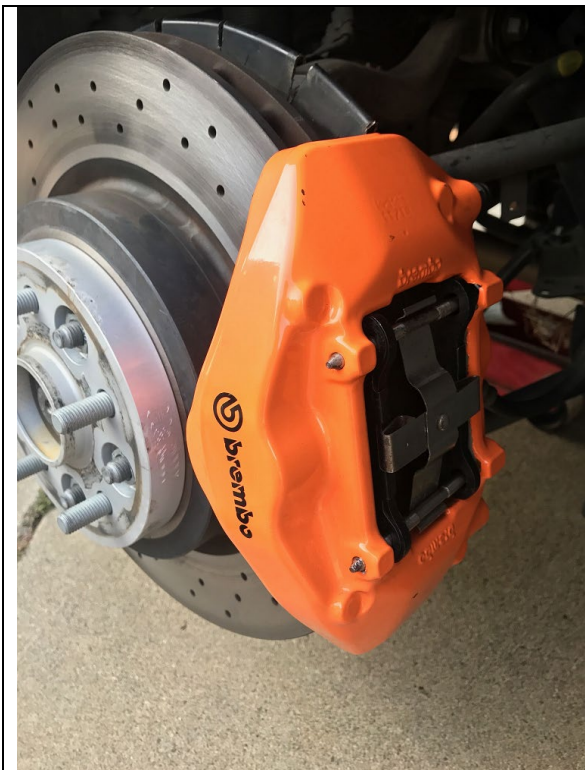
Install the rotor onto the hub. Rotate and spin the rotor and make sure the dust shield is not hitting the rotor. Cut the dust shield or bend what is needed to make sure the rotor does not hit the rotor.



Place caliper on the bracket and mount the 14mm bolts with washer through the bracket into the caliper's thread. Check for rotor clearance and make sure it's well center on the caliper. Take care to ensure that the caliper is square and evenly started on both studs.

**Torque the two 14mm caliper bolts to 78.4 N\*m (800kgf\*cm, 58 ft-lb)**

#### Step 6 – Install brake pads



Installation brake pads can be done before or after the caliper is installed onto the car. Slide on the brake pads into the caliper with the warning indicator facing the outside of the car. Take care and ensure that the friction side of the pads is facing the rotors. Slide the pin and retaining clip into place and then tap the pin into its seat from the back side. Picture to the left shows the pads properly installed into the caliper.



## Step 7 – 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 IS-F brake caliper. Make note of the copper crush washer and banjo bolt. Do not install the brake line twisted. **Torque to approximately 39N\*m (29 ft-lb)**. 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



\*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 11mm 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)



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 11mm 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 bracket.



### IS-F Caliper Template for grinding caliper for clearance

Instruction: Cut along the dotted lines and place it on the back of the caliper. Mark the area with a permanent marker to cut and grind the caliper.

