



XOPlate

Front Exhaust Skid Plate

For Jeep Cherokee (KL)

(XO-KL-F-EXH)

Installation and Owners Guide

Revision A

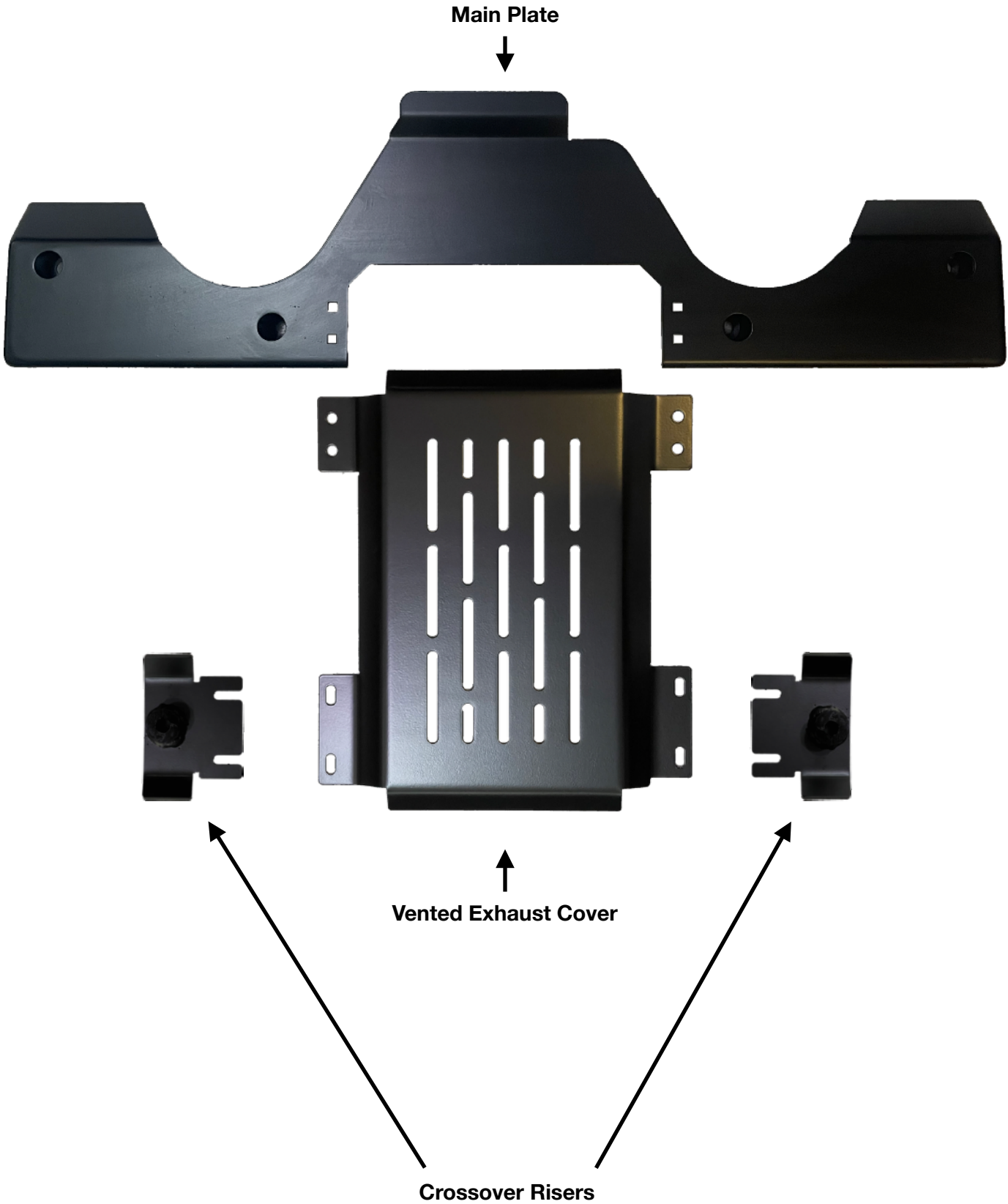
Copyright 2024
Gleaming Alloy Fabrication, Inc.
All rights reserved

Welcome to the Gleaming Alloy Family!

We'd like to sincerely thank you for purchasing this XOPlate Front Exhaust Skid Plate for the Jeep Cherokee KL! It is our fifth XOPlate product but it has been in development nearly as long as the Rear Sub-Frame Skid Plate which we released in late 2022. With your continued support, there will be many more similar products for the Jeep Cherokee (KL) and other platforms.



Get to Know Your XOPlate...



Installation Instructions

Please read completely through the following guide before attempting the installation. It will give you a good feel for what is involved to install the XOPlate. Some steps offer optional procedures and or tips, so reading through the entire steps first will prepare you if there are any alternate actions to take.

Parts List

1x XOPlate main plate
1x XOPlate vented exhaust cover
2x XOPlate crossover risers
1x Loctite thread locker capsule

Bag 3: 2x stud plates, 2x M8x1.25x20 flange-head bolts
Bag 4: 4x M8x1.25x16 carriage bolts, 4x M8x1.25 flange nuts
Bag 7: 2x M8x1.25x30 flange-head bolts, 2x M8x1.25 flange nuts.
Bag 8: 4x M8x1.25x16 carriage bolts, 4x M8x1.25 flange nuts.
Bag 10: 8x thick spacer washers, 1x 5" (12.7 cm) adhesive rubber edge trim

Required Tools

Socket wrench
13mm deep socket
13mm open end or box wrench (ratcheting box-end recommended)
Torque wrench

Optional

Angle grinder w/flap disk (or equivalent tool for grinding metal).
High temperature automotive spray pint.
An assistant

Estimated Install Time: Under one hour

This installation guide is targeted at the DIY'er who is installing the skid plate at a home workshop, either inside a garage or in the driveway. If you are a professional mechanic and/or have access to a professional facility and tools, you might be able to replace some of the steps with more efficient techniques and equipment.

Where To Get Help

Should you have any questions about installation, or problems during the installation process, feel free to reach out to us for assistance. You can send email to info@gleaming-alloy.com or use Facebook Messenger to message “Gleaming Alloy” directly. You can also message us on Instagram at [@gleaming_alloy](https://www.instagram.com/gleaming_alloy). If you have a particular issue, please accompany it with photographs showing the nature of the problem.

The following resources are also available on the internet.
Just scan the QR code to take you there:



[Gleaming Alloy
Owners Group](#)



[Gleaming Alloy
Support Documents](#)



[Gleaming Alloy
YouTube Channel](#)

Step 1: Prepare the vehicle

While installation on a lifted vehicle can be performed without raising the vehicle, we suggest driving the front wheels onto a pair of automotive ramps. You will appreciate the extra workroom for the installation.

Alternatively, you can raise the front of the vehicle and use a pair of jack stands, but auto ramps are the safer approach. In either case, be sure to engage the parking brake after the vehicle is raised.

Important Note: These instructions use standard automotive terminology referring to the left and right side of the vehicle as seen from the perspective of the driver.

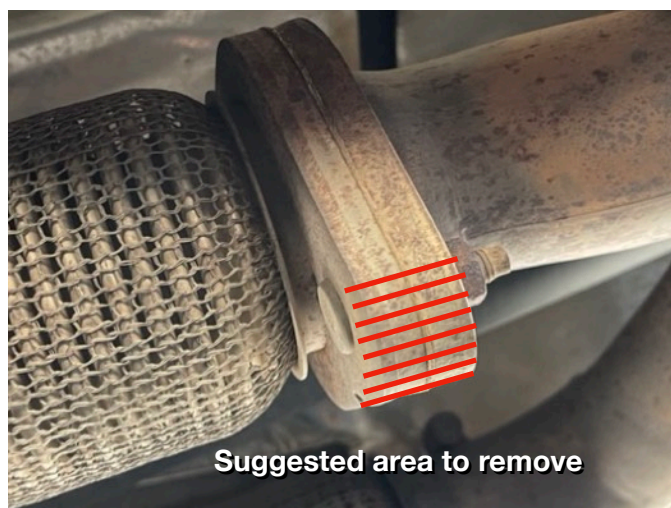


Step 2: Hedge your Bets for Clearance

Step 10 will discuss various approaches you can take to dial in your skid plate so it clears your exhaust. With luck, you will not have to perform any of those steps to keep the exhaust from hitting your skid plate. However, there are a couple actions you can take prior to installing your skid plate that will decrease the chance that there will be interference with the exhaust pipes.

The main proactive action you can take is to use an angle grinder (with a flap disk) to grind away a portion of the exhaust flange shown in the picture to the right. This triangular-shaped flange is only present on V6 equipped Cherokees, and usually points straight down. If yours is like this, grinding away about 1/4" (6mm) of material on the bottom and left edge will greatly increase the odds that you will have no skid plate interference with the exhaust.

If you grind metal away, you shouldn't have to worry about corrosion since rust will form a protective patina-like layer. If you ARE concerned about this, use a high-temperature automotive spray paint to coat the exposed metal.



Suggested area to remove

Another proactive action you can take is to bend backwards the reflective cones at the front of the flex pipe. These only exist on V6 equipped Cherokees and, even then, are only present on certain model years. If your jeep has them, and they aren't already bent from off-roading, use a hammer to bend them back slightly as shown to the right.

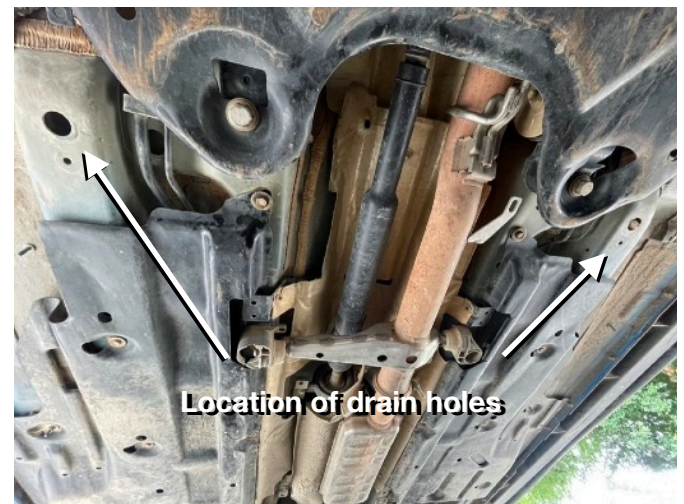


Performing these actions might not be necessary on your Jeep, but taking care of them now will be much easier than doing so later, since you won't have to remove your skid plate to access these components.



Step 3: Install the Stud Plates

On the left frame rail (which is integrated with the unibody), look for two drain holes that are about even with the exhaust flex pipes. One hole is large (about 1.25" or 32mm in diameter) and the other is small (about 3/8" or 9mm in diameter).



On older model Cherokees, the large hole is plugged with a rubber grommet. If you have this grommet, remove it with a screwdriver and discard the grommet.



Insert the stud plate into the large hole as shown to the right.

Note: This portion of the frame rail is notorious for collecting mud and dirt when off-roading. Use your finger to clean away any dirt inside the opening before inserting the stud plate.



The goal is to align the hole in the stud plate with the small hole in the frame rail, as shown to the right.



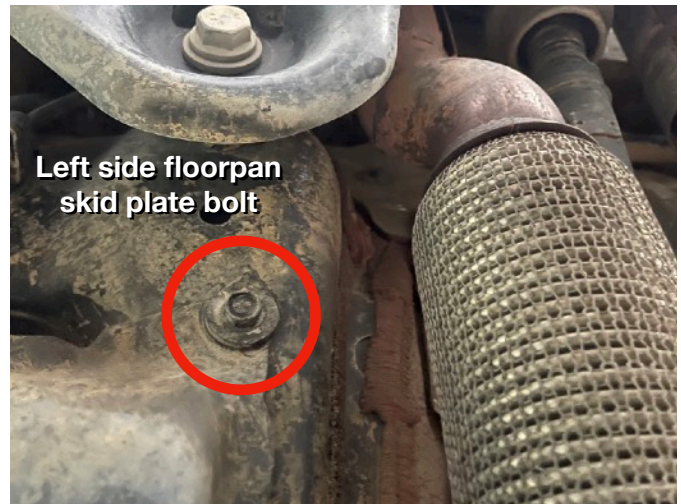
Thread the supplied M8x1.25x20 flange head bolt into the small hole to secure the stud plate in place, as shown to the right. Just finger-tighten it for now because you want the stud plate to swivel a little. This will allow some minor adjustment of the position of the skid plate.

Repeat this procedure for the right side frame rail. These two studs are now ready to support the outer ends of the exhaust skid plate.

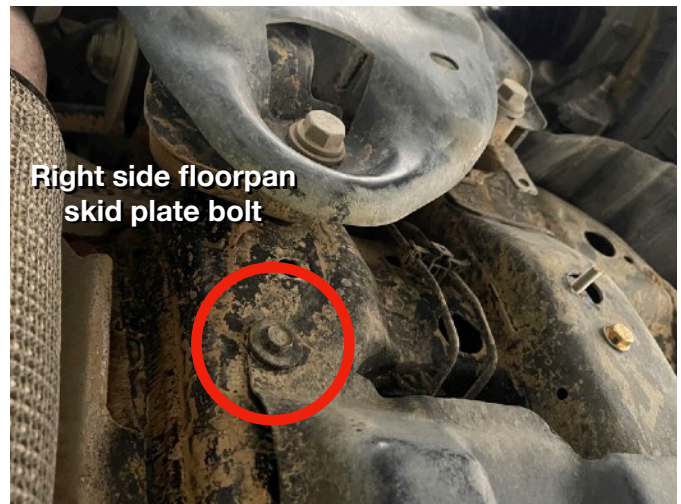


Step 4: Remove the Front Floor-Pan Skid Plate Bolts

The two floor-pan skid plates are found to the left and right of the driveshaft and exhaust pipes. Locate the front bolts that attach these skid plates to the unibody. They are in the immediate proximity of the exhaust flex pipes (if so equipped), just behind the powertrain skid plate.

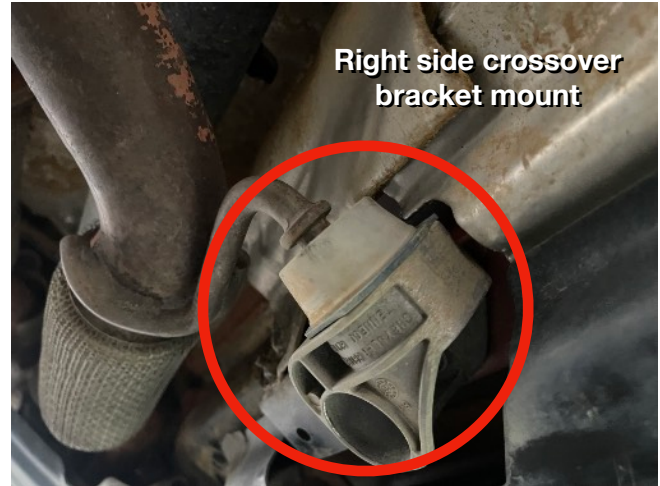


Use a 13mm socket to completely remove these bolts. You will not be reusing them, so you can discard when removed.



Step 5: Install the Crossover Risers

Locate the exhaust crossover brackets that support the exhaust pipes right where they come together (if equipped with the V6). You will notice two aluminum, circular mounts that support the crossover brackets and are bolted directly into the unibody.



Starting with the left side mount, use a 13mm deep socket to remove the bolt that passes through the large circular opening on the aluminum mount. The bracket itself won't fall because it is still attached to the exhaust, but it should hang loose.

Take one of the crossover risers and insert the tube into the circular opening. Take the bolt you removed and fasten the entire assembly back to the unibody, as shown to the right. Do not tighten the riser to the unibody. In fact, it should simply be held in place with *about one turn of the bolt*, still loose enough to freely rotate about the bolt.



The 'forked' end of the riser will be oriented towards the exhaust pipes when attached to the vented exhaust cover in Step 8.



Repeat this process for the right side crossover riser so it appears as shown to the right.



Step 6: Assemble the Skid Plate

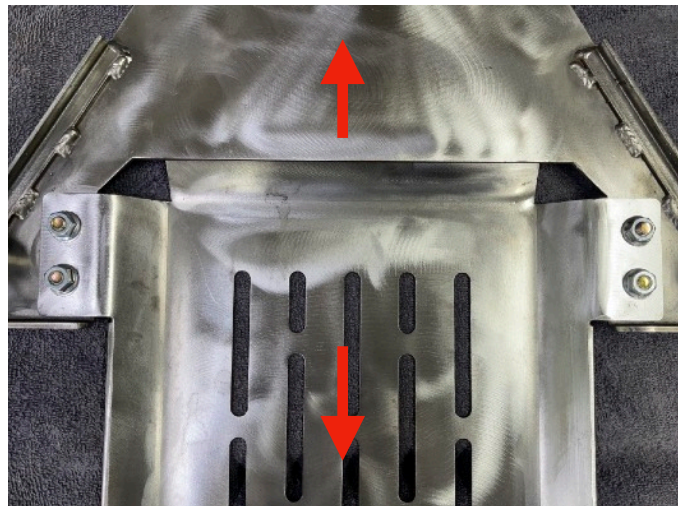
You must now fasten the vented exhaust cover to the main plate. To do this, insert the vented exhaust cover into the back of the main plate by angling it inward and dropping it down so the four bolt holes align, as shown to the right.



Now pass the four M8x1.25x16 carriage bolts up through the bottom of the main plate and through the corresponding holes on the vented exhaust cover. Thread the four M8 flange nuts on to the carriage bolts.

Note: Make sure the necks of the carriage bolts are fully seated in the square holes. The fit can be a little tight!

If there is any 'play' in the assembly, pull the vented exhaust cover backwards, away from the main plate. Tighten the four M8 flange nuts in this position. With everything nice and snug, torque the four flange nuts to 22 lb-ft (29 Nm).



Step 7: Raise the Skid Plate Assembly

Now is the time to raise the skid plate assembly and bolt it into place. Here is where an assistant comes in handy, since it will be difficult to raise the skid plate and thread the nuts & bolts at the same time. If you do not have an assistant, you can use a floor jack to support and raise the skid plate (throw a towel over the cup of the jack to avoid scratching the skid plate). If you don't have a floor jack, use other objects, such as blocks of wood, to bear most of the weight of the skid plate and hold it close to its final position.



Begin by passing the leftmost tubular stand-off of the main plate over the stud hanging down from the left frame rail of the unibody. Once the stud passes through the hole, thread one of the M8 flange nuts onto the stud. Do not tighten it. Just thread it enough to hold that end of the skid plate up.

Repeat this step on the right side. With both outer stand-offs threaded onto the studs, the entire skid plate can be held more-or-less in place.

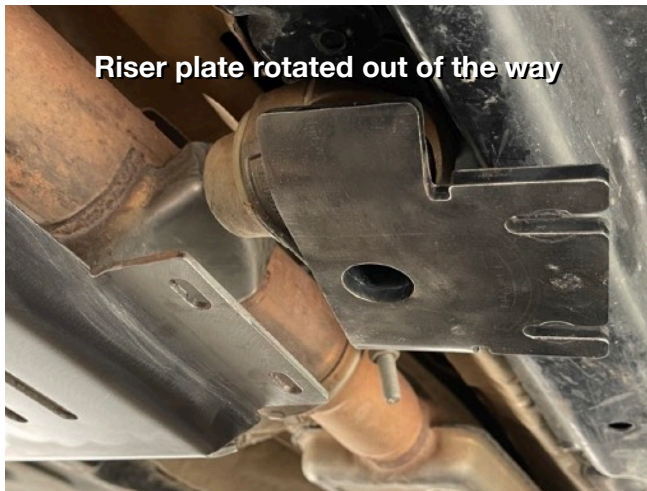


Clear room at the middle of the skid plate (remove the floor jack or disassemble the stack of blocks used to hold the skid plate, whatever the case may be), Align the two inner stand-offs on the main plate under the two bolt holes you exposed in Step 4. Use the two M8x1.25x30 flange-head bolts to pass through the stand offs and into the bolt holes in the unibody. Just start the threads and turn the bolts a couple times to securely hold the weight of the skid plate assembly.



Step 8: Fasten the Crossover Risers

At the rear of the skid plate assembly, rotate the crossover risers out of the way and then back so that the forked end of the riser plate is now under the skid plate assembly and holding its weight.



You will now use the four M8x1.25x16 carriage bolts and M8x1.25 flange nuts to secure the vented exhaust cover plate to the riser plates. Ideally you want to come up from the bottom with the carriage bolts and thread the flange nuts from the top. Space is quite tight so this may be challenging for one or two of the carriage bolts.

The easiest way to get this done is to hold the flange nut in place with a finger and thread the carriage bolt into it as far as you can go before the neck of the carriage bolt must slide into the slot. After that, finger tighten the flange nut as far as you can, then use a 13mm open/box-end wrench (preferably a ratcheting type) to tighten the nut. If there is interference with the aluminum exhaust mount, you can pry it out of the way with a screwdriver as shown to the right. This is possible because the bolts fastening the riser through the exhaust hanger mount and into the unibody should be very loosely threaded.

With patience, you should be able to achieve the result shown to the right. With the mounting brackets aligned this way, go ahead and tighten the four flange nuts as much as you can. Ideally, you would torque them to 22 lb-ft (29 Nm), but it's unlikely you can get a torque wrench in there. Tightening as hard as you can (without exerting extreme force) using an 8" wrench is equivalent to this torque spec.



Step 9: Tighten Everything Up

Now it's time to complete installation by tightening up all the nuts and bolts. Using a deep 13mm socket, begin at the rear crossover risers. Alternate tightening between the left and right side so that you pull the rear of the exhaust skid plate up evenly. You are also tightening the exhaust hanger mounts when doing this. **When the mounts are flush, just hand-tighten the bolts so everything is snug. You will torque them in Step 11.**

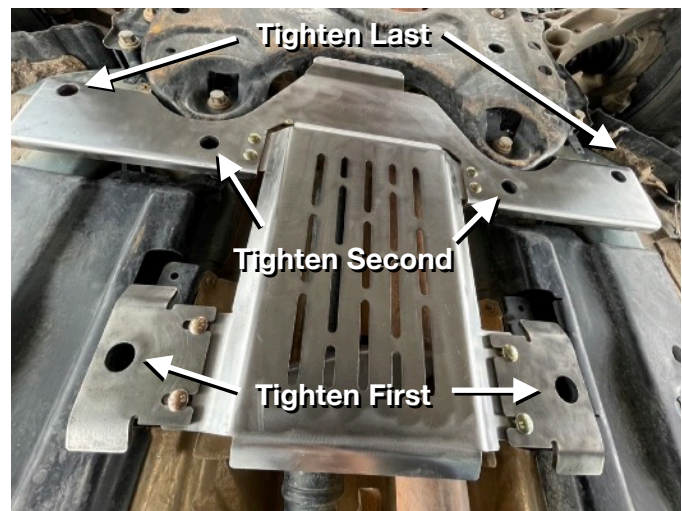
Now move to the inner two risers on the main plate. Using a 13mm deep socket, alternate tightening between the left and right side so that you pull the middle of the exhaust skid plate up evenly. **Again, just get everything snug. You will torque them in Step 11.**

Next, move to the outer risers to tighten the flange nuts onto the studs. Use the same 13mm deep socket to **just get them snug. You will torque them in Step 11.**

Lastly, tighten the short flange-head bolts that are securing the stud plates (from Step 3) in place. Use a 13mm open/box-end wrench to do this, as shown to the right. You can fully tighten these bolts. They should be torqued to 22 lb-ft (29 Nm), but it's unlikely you can get a torque wrench in there, so just two good 'grunts' will do.

At this point, your skid plate should be fully seated against your chassis. Grab the exhaust pipe from behind the crossover mounts and wiggle it in all directions. It should move up to 1/4" (6mm) in all directions and should not strike the skid plate. It's okay if the flex pipe itself makes light contact, as long as it is not hitting a sharp edge. The crossover mounting points and the big, triangular exhaust flange are the main concerns.

If the "wiggle test" produces some hard contact with the skid plate, proceed directly to Step 10. Otherwise, go ahead and take a test drive and listen for any rattles. If there are still no rattles after the test drive, skip the next step and proceed to Step 11.



Step 10: Dialing in for Clearance

One of many things we learned when developing this skid plate is that no two Cherokees are the same. Even Jeeps of the same model year and engine configuration exhibited subtle differences. Thus developing a single skid plate that could handle all the variances proved daunting, to say the least. We're very pleased with the result and are confident that, in most instances, it can be installed "out of the box" with no exhaust interference, provided you hedged your bets in Step 2.

That said, there's going to be instances where interference is present. This step presents some strategies you can use to adjust your skid plate so no contact is being made.

The first thing you must do is identify the point of contact. This is often easier said than done. Sometimes wiggling the exhaust produces no contact but driving around does. In our experience, the large exhaust flange (that we suggested that you grind in Step 2) is usually the culprit. If you didn't hedge your bets by grinding this, perhaps you should rethink that step.

Once you have identified the point of contact, you can employ one or more of the following strategies:

- Shift the skid plate. If it appears that shifting the skid plate in a specific direction will give you the necessary clearance, try loosening the six mounting bolts/nuts and nudge the entire assembly. The skid plate is designed to allow about 1/6" (4mm) of play, so this might just be enough. Just keep in mind that one sides' gain is the other sides' loss, so make sure you don't fix one problem but cause another. Note: loosening the flange bolts that hold the stud plates in place will give you a greater range of left-to-right adjustment.
- Bend the exhaust hangers. The exhaust hangers near the crossover risers can be bent so as to push the exhaust upwards a little bit. The shape of the rods that are welded to the exhaust pipes has a significant impact on how the exhaust hangs.
- Lower the entire skid plate. We've supplied eight thick spacer washers that can be used to lower the skid plate. Each one is about 1/8" (3 mm) thick. This doesn't sound like much but it can make a world of difference when trying to eliminate contact. You should place the spacer between the unibody frame and the polyurethane pad at the end of each riser. Keep in mind that for the rear crossover risers, the spacer must go *inside* the aluminum exhaust mount.
- Tilt the skid plate front-to-back. Sometimes lowering just the front or back, or even the left or right side of the skid plate will give you the necessary clearance. For instance, you can add single spacers to the risers on the driver side of the vehicle and then add double spacers to the passenger side. Another trick is to attach the vented exhaust cover *below* the crossover risers instead of above them. This will push the rear of the plate down by 1/4" (6mm) and raise the leading edge of the skid plate at the same time.
- Use the rubber edge trim. If the leading edge of the main plate is coming very close to the powertrain skid plate, it may be making contact after experiencing vibrations. Use the adhesive rubber trim to dampen the contact.
- Inspect your motor mounts. If it appears like you have the necessary clearance, yet you still experience rattles when accelerating, you may have worn or broken motor mounts. This would allow the engine to twist more than usual and that would result in the exhaust moving more than it should.

If you're experiencing persistent interference problems, feel free to contact us. We may be able to offer some helpful guidance.

Step 11: Torque It Up!

Once you are sure there is no interference with your exhaust, it's time to torque all the mounting bolts. Before doing this, give the skid plate the "bang test." Hit it hard with the ball of your fist. You should hear a muted 'thud' and it should feel very solid. If you hear any buzzes or rattles, something is probably loose, and you should investigate the source of the noise.

When satisfied that everything is right, you will need to remove each mounting bolt/nut one-by-one, apply **one drop** of the supplied Loctite thread-locker to the threads, and tighten the bolt/nut to 10 lb-ft (13 Nm). It is important not to exceed this spec or else you may excessively deform the the polyurethane pads on the ends of the risers. The resistance from the compressed pads (and the thread-locker) will keep the bolts & nuts from coming loose.



**You have successfully completed installation of your
XOPlate Front Exhaust Skid Plate! Go have a beer!**

Care and Use

Now that you've installed your XOPlate, you're probably anxious to head out onto the trails to put it to the test. Before you do that, however, there are a couple of steps you need to take to make sure that everything is performing properly.

300 Mile Inspection

After you have been driving your Jeep for about 300 miles, you should inspect your XOPlate to make sure everything looks properly fastened. Check the carriage bolts that attach the vented exhaust cover to the crossover risers to make sure they aren't coming loose. You can also check all six of the mounting bolts/nuts to make sure they are still at 10 lb-ft (13 Nm).

Regular Maintenance

The XOPlate Front Exhaust Skid Plate for the Jeep Cherokee KL is generally maintenance-free. You will need to keep it clean and free of debris, however. Mud will have the tendency to accumulate above the skid plate. You should always shoot a stream of high-pressure water between the XOPlate and the exhaust after engaging in off-road activities that involve mud and water crossings. You should also keep the bottom of the skid plate clean and occasionally hit it with some automotive spray paint if scratches and gouges develop.

Spare Parts

Every component of the XOPlate Front Exhaust Skid Plate for the Jeep Cherokee KL is available for purchase from Gleaming Alloy and can be easily replaced should they become damaged. This includes the main plate and vented exhaust cover, should you happen to damage them by hitting an obstacle very hard.