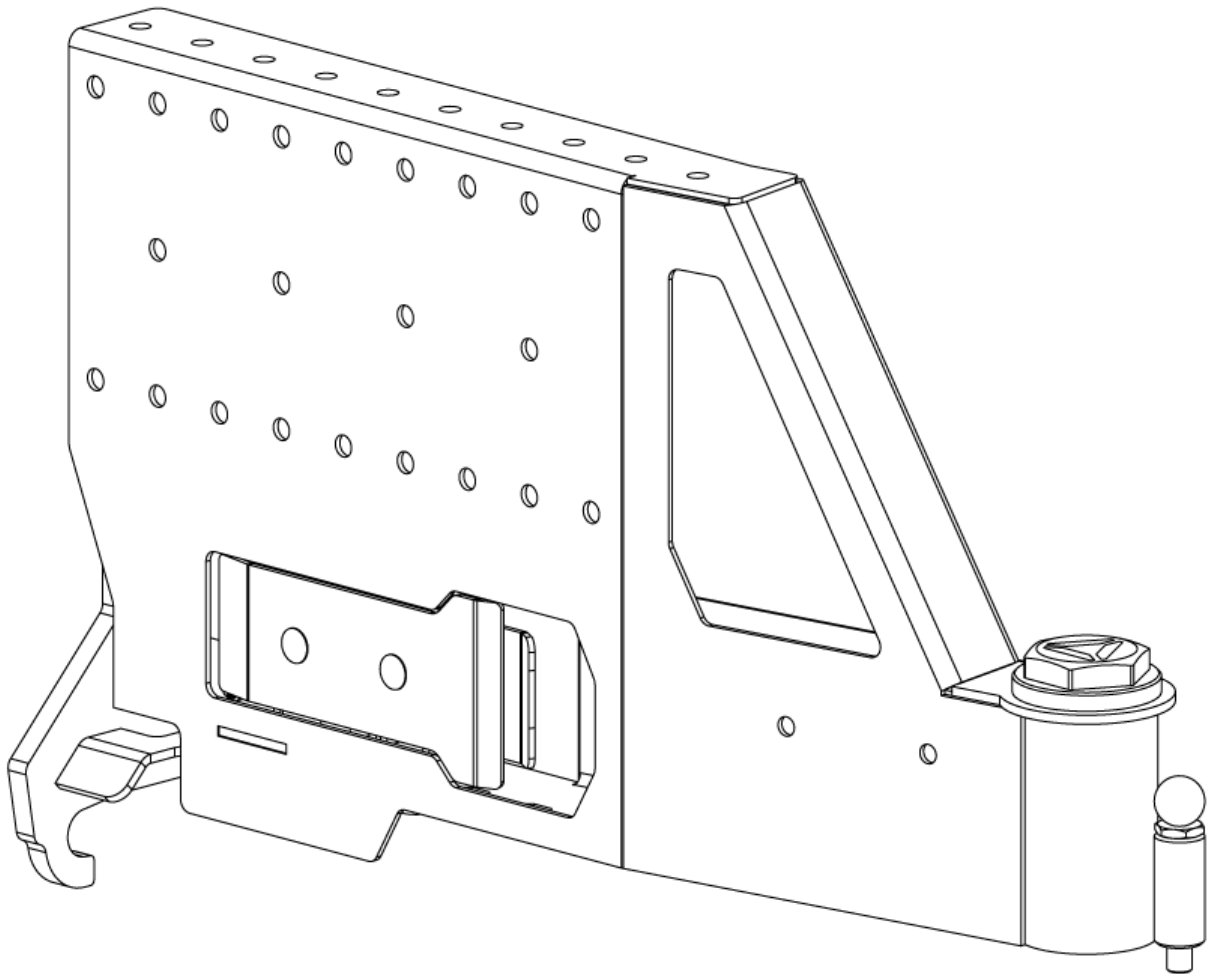


Land Cruiser Rear Bumper Swing Gate Installation & Latch Adjustment

Land Cruiser (LX450) Rear Bumper
1991-1997



Overview

Congratulations on your purchase of the DELTA Vehicle Systems Rear Bumper Swing Gates. These gates have been designed in CAD, CNC laser cut, formed, fabricated, and powder coated 100% in the U.S.A. The design allows for the mounting of any of DELTA's swing gate accessories, offering near-endless possibilities for adding functionality to your bumper and improving your overall experience with your vehicle.

Product Compatibility

This swing gate will work with any DELTA modular rear bumper, and is compatible with DELTA's entire range of swing gate accessories.

Tools Required

- 1-1/8", 3/4" (19mm), 9/16" (14mm), 1/2" (13mm) sockets
- Socket wrench(es)
- 7/16", 9/16", 7/8" combination wrenches
- Rubber mallet
- Latex gloves (recommended)
- Grease (Synthetic grease or something similar)

Loctite Threadlocker Blue or equivalent thread adhesive

1a

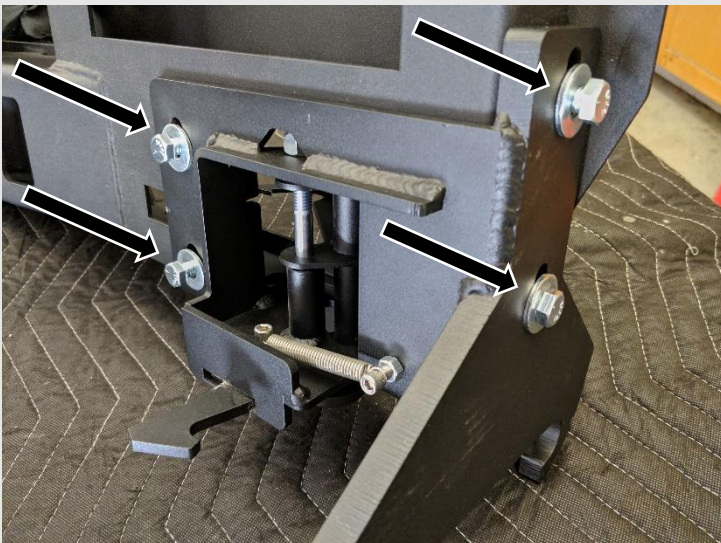
Insert Latch into Gate



Insert one of the latches into its place on one of the swing gates. Note that the left latch is only compatible with the left swing gate and vice versa, so if it doesn't fit, try the other latch (or the other swing gate).

1b

Set Hardware



Insert four of the provided inch-long 3/8" bolts with washers into the four holes mounting the latch to the gate, as shown. Only finger tighten them for now; they should be loose enough for the latch to slide up and down.

Now repeat steps 1a and 1b for the other latch and swing gate.

2

Grease Bearings



Using either a bearing packer or your own two hands, thoroughly pack both bearings with grease.

Keep your gloves on, there's plenty more to grease.

3

Grease Seal Surface and Thread of Swing Gate



Apply some grease around the interior seal surface and the thread on the swing gate, as shown.

4

Grease Large Cylinder of Lockout Plunger and Plunger Hole



Apply some grease to the large cylinder on the lockout plunger, as well as its corresponding hole on the swing gate.

NOTE: If your lockout plunger ever becomes stuck or gummed up, cleaning and re-greasing it will leave it good as new!

5

Grease Swing Gate Spindle



Finally, grease the swing gate spindle on the bumper itself.

At this point, it's recommended to leave a glove on your non-dominant hand. This way, you will be able to use tools with your dominant hand and handle greasy things with the other.

6

Install Bottom Bearing and Seal



Insert the larger bearing into the bottom of the swing gate, oriented as shown, followed by the seal.

7

Drive in Seal and Bearing



Drive the seal into the swing gate until flush, using a rubber mallet and something to dissipate the force.

We used a cylinder of aluminum for this, but a 2x4 block would work just as well!

8

Grease Interior of Seal



Apply some grease to the interior of the seal itself.

9

Install Lockout Plunger



Push the lockout plunger into the hole on the swing gate and snug it down with a 7/8" wrench.

The Aluminum knob cannot be attached while installing the plunger

Don't overtorque it; snug is enough.

10

Install Pull Knob on Lockout Plunger



Push in the bottom of the lockout plunger, then unscrew and remove the nut, exposing the threads.

Be careful not to let go of the plunger, as with nothing holding it in place, it will go flying!

Apply a small amount of thread adhesive (we used Loctite Threadlocker Blue) to two or three threads at the end of the plunger, and screw on the aluminum pull knob.

Hand-tightened is sufficient, as the thread adhesive will hold the knob in place.

11

Lower Gate onto Spindle



Carefully lower the swing gate onto the spindle on the bumper. Do not close the gate.

12

Install Top Bearing



Drop the smaller bearing onto the spindle. Wiggling the gate around a little bit while doing this can help seat the bearing.

13

Install Washer and Nut



Install the washer and nyloc nut onto the spindle on top of the bearing, and tighten it down until the bearing is snug.

There should be very little resistance when swinging the gate open and closed; if there is significant resistance, the nut is likely too tight.

NOTE: The spindle may need to be tightened a few days after installation.

14

Loosen Bolts on Latch Assembly and Bumper Latch Plate



Loosen the three bolts on the latch plate on the bumper (the plate on the same side as the swing gate). The four bolts on the latch assembly should still be loose from earlier.

Once the latch plate is loose enough to slide back and forth, push it so that it is flush with the bumper at the spot indicated in the picture.

15

Lift Latch Assembly and Close Gate



Lift up the latch assembly in the swing gate and slowly close it, guiding the clevis plate onto the dowels on the bumper.

Be careful not to scratch the latch pocket in the bumper while you do this.

16

Set Latch Adjustment Bolt



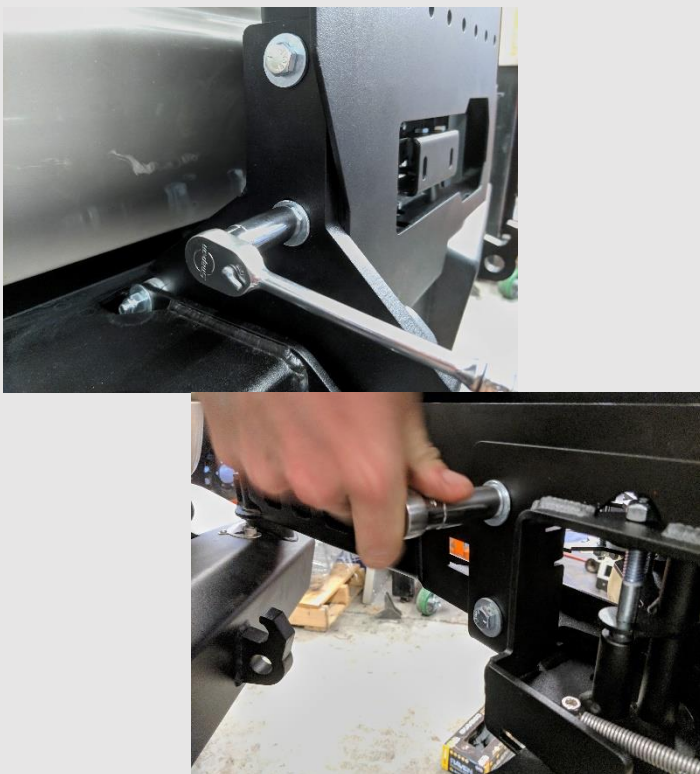
Under the bumper, you can access the latch adjustment bolt. Tightening this bolt draws the latch post towards the front of the vehicle, which sets the latch strike distance.

For now, tighten this bolt in small increments while checking how much wiggle room there is in the latch at each step. This bolt tensions the latch plate's position.

It is best to preform this step with the latch in the closed position. Do not overtorque!

17

Initial Latch Adjustment

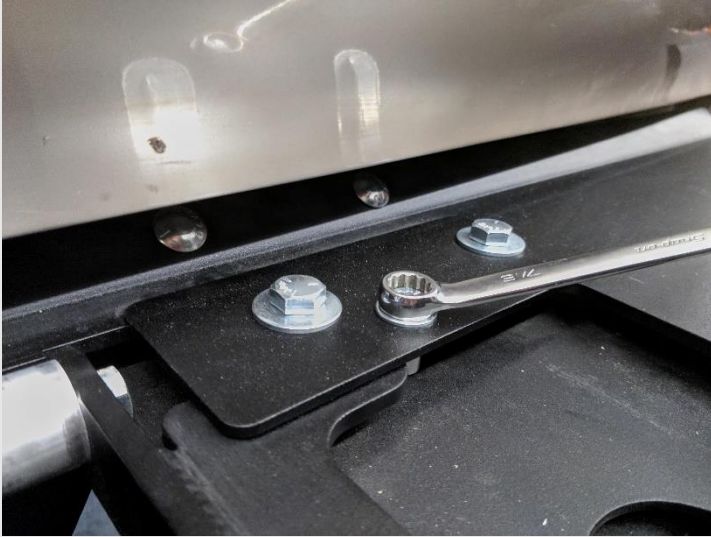


Once you have the latch adjustment bolt initially set, snug up the two accessible latch assembly bolts on the swing gate. Then carefully open the latch all the way to the second stage and open the gate, so that you can snug the other two latch assembly bolts.

This and the remaining steps may need to be repeated after the break in period.

18

Snug Latch Plate Bolts



Snug up the three bolts on the bumper latch plate. Be careful not to over-tighten and strip the center bolt especially.

The two 3/8" bolts should be tightened to 23 ft-lbs. and the 1/4" bolt should be to 6.3 ft-lbs (8.5Nm).

19

Fine Tune Latch Adjustment



Close the latch on the swing gate, and see how much play there is. If the latch has wiggle room, you can try tightening the latch adjustment bolt more, but it might require some trial-and-error of sliding the latch plate slightly forwards or backwards and testing the fit.

In the end, the latch should be loose enough to close without significant resistance, but tight enough so that there is no wiggle room when the latch is closed.

The auto latch should be able to grab the strike (depth is adjusted with the rear bolt) and the handle should be able to close with minimal force.

20

Position Latch Handle Cover and Carriage Bolts

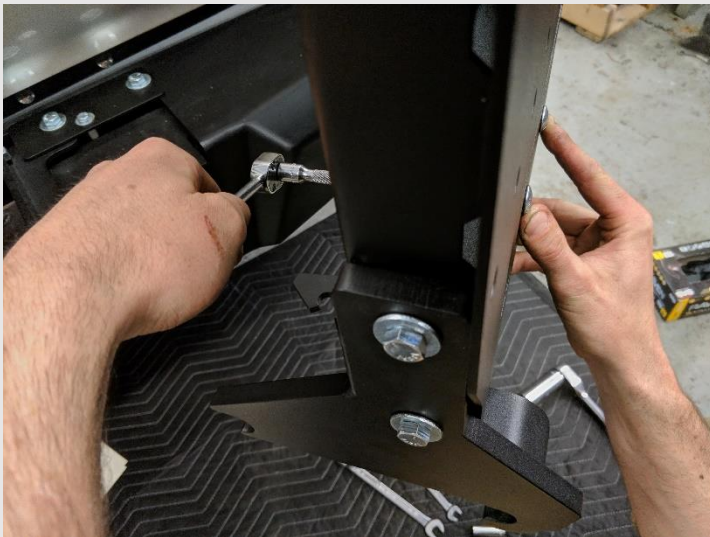


Put the latch handle plate and the carriage bolts in place on the latch. On the other side of the latch, you can access one of the bolts. Put a washer and a nyloc nut onto this bolt.

It helps to pin the washer and nut against the inside of the slotted holes and spin the carriage bolt from the outside.

21

Tighten First Carriage Bolt



Using a 1/2" socket on an extension, tighten down the first carriage bolt to 13 ft-lbs (17.6Nm) with the latch handle closed and the handle cover centered in the hole.

22

Tighten Second Carriage Bolt



Adjust the latch handle plate so that it has an even reveal with the cutout in the swing gate. Then open the latch (while holding this plate in place) so that you can put a washer and nyloc nut on the other carriage bolt, and tighten it down. Close the latch handle so that you can check if the reveal is still even, and make adjustments if needed.

Note on Latch Adjustment

You may now need to add more tension to the latch. Close the gate and latch it to test whether it has enough tension. If it feels loose, then loosen the three bolts on the bumper latch plate, pull it farther back to tighten it, and tighten the bolts back down.

Additionally, this latch has a break-in period; you will likely need to fully readjust it by repeating steps 13-18 after a few hundred cycles.

23

Install Cap



Install the cap onto the swing gate's hinge. Make sure that the o-ring in the cap is seated evenly, and then use the provided cap wrench to snug it down until flush. Careful not to overtorque, flushing the cover and snugging it is adequate.

24

Crack a Cold One



You're all done! The wrench doubles as a bottle opener, so make good use of it and celebrate.

Keep the wrench in your glovebox in case you need to service the swing gate in the future – or get thirsty.

Your swing gate is now ready to accept accessories and provide years of easy access to your vehicle.