Relentless Off-Road Fabrication 2016+ Toyota Tacoma Stingray Lo-Pro winch bumper installation guide

Required tools:

- Philips and Flat head screwdrivers
- ½" drive ratchet. *Note: An Impact driver is not required* but is helpful.
- 10mm socket
- 12mm socket
- 14mm socket
- 14mm ratcheting wrench
- 9/16" wrench
- 17mm socket
- Masking tape
- Safety glasses
- Moving blanket or other soft surface
- Angle grinder with cutoff wheel and sanding disc. Or A
 pneumatic die grinder, body saw or Dremel may be
 used to make the cut as well, however it will still need
 to be smoothed after cutting.
- Optional but helpful: Creeper to lay on for accessing bottom of bumper.

Thank you for your purchase!

Please thoroughly read all instructions prior to attempting the installation procedure. If you are missing any of the required tools or doubt your ability to install the product please take it to a professional for installation.

The installation process requires irreversible cutting of the factory front bumper plastic, be sure you are confident in the placement of the cut lines and your ability to do the required cutting and installation.

We recommend having 2+ people available to lift the new bumper in place and start securing the bolts to hold it. The bumper weighs 75lbs on it's own and double that with a winch bolted in!

Step 1:

We always recommend working on a clean, dry vehicle. With the vehicle parked on level ground, transmission in park, and parking brake set: Raise the hood of the vehicle.

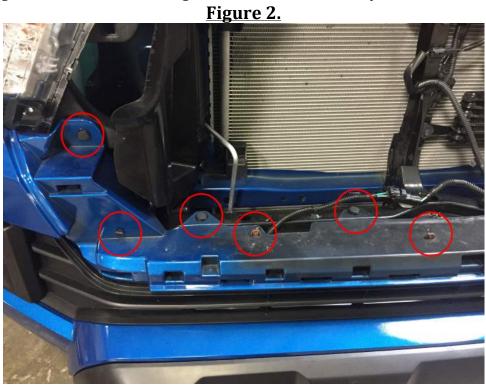
First we need to remove the grille. There are clips on the left/right corners(arrows), and 2) 10mm screws holding in place near the center by the hood latch(circled). Remove all of these fasteners. Once they're all removed, pull outward on the grille away from the front of the vehicle at the corners of the grille near the headlights, working across the bottom and releasing the clips securing the bottom until the grille completely pops loose. Set it aside in a safe place for reinstallation later.

Figure 1.



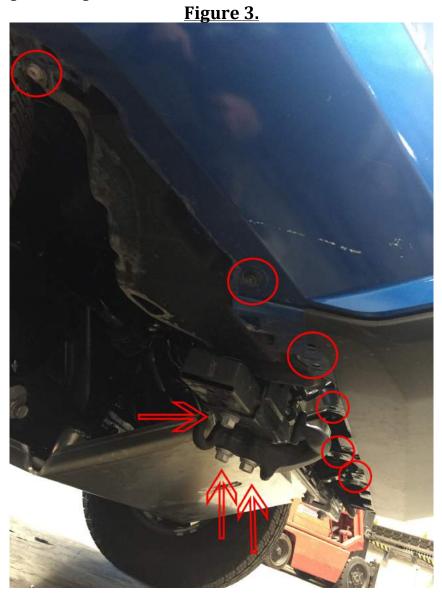
Step 2:

Now we will move on to releasing the bumper cover. Locate the fasteners shown in Figure 2. Releasing all of them around the upper portion of the bumper cover, starting at one end and continuing toward the other until they're all undone.



Step 3:

Now we need to release all of the fasteners and clips from under the bumper cover. Now is a great time to use your creeper if you have one. Release all clips, screws, and bolts highlighted in Fig 3. As well as the tow hook and cross member end extensions.



Step 4:

Next we need to release the sides of the bumper at the fender wells. Locate the fasteners and clips shown in Figure 3. Remove the screws and pop the clips loose. After all have been loosened, free the bottom corners of the inner fender well liner from the bumper cover, and then continue upward separating it slightly from the bumper cover. Repeat for other side of the truck.

Once all these have been released and the fender liners loosened from the bumper cover, while laying on the ground look upward behind bumper cover and locate the back of the fog lamps (if equipped). Watch out for any dust/sand falling into your eyes Release the connector from the light, as well as any clips holding the wiring loom to bumper cover.

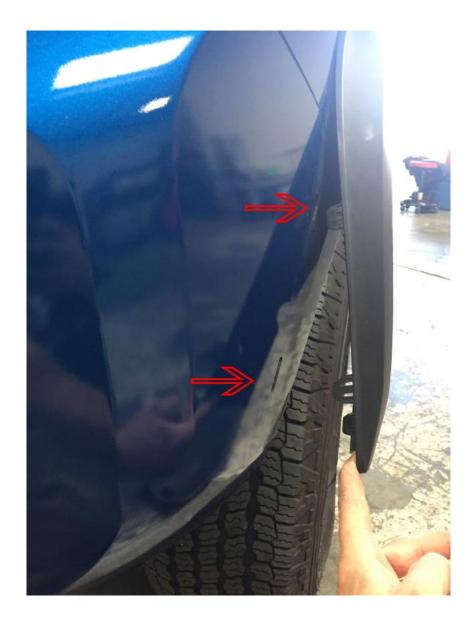
Figure 4 (next page):



Step 5:

Next we need to unclip the fender flares from the bumper cover so the bumper cover can be removed from the truck. There are 2 clips and one pin holding them to the bumper cover. With these released the fender flare should be pulled away from the bumper cover just enough to get behind them.

Figure 5 (next page):



Step 6:

In an open area near the vehicle lay out the moving blanket, etc as a surface to rest the bumper cover on during the trimming process.

We are now ready to remove the bumper cover from the truck. *It is helpful for 2 people to remove and later reinstall bumper cover to prevent any scratches to the cover, or your fenders/headlights.*

The bumper cover is now only held on via some clips along the upper edges along the fender liners and under and near the headlights. Pull the bumper cover lightly away from the body at the corner by the fender well/flare and it should start to release(Figure 6).

Work your way around to the other side, or with 2 people release each side simultaneously, then set the bumper cover face down on your soft surface after removed from the truck. Be careful not to move it too much in order to prevent any scratches.

Figure 6:



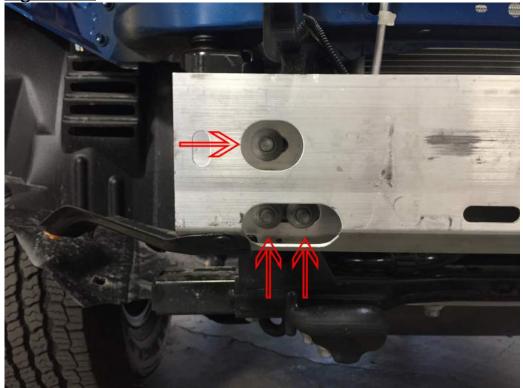
Step 7:

We will now need to remove the aluminum impact bar from the frame ends that was behind the plastic bumper cover. First we need to remove the plastic pads clipped on (Fig7.1), release it by pushing each tab and pulling to release until removed. Next, there are 3 recessed in bolts as seen in Figure 7.2 that are removed with a deep 14mm socket. Set the aluminum bar aside. Now remove the frame horn extensions the cross bar was attached to from the frame via the 3) 14mm head studs welded to the frame. Save these nuts for later reinstallation. The frame horn extensions and crash bar will not be reused.

Figure 7.1(next page):



Figure 7.2:



Step 8:

Now we will strip the plastic lower grille and lip from the bumper cover to prepare for our cutting. This is done by releasing all of the clips shown highlighted with arrows in Fig 8.

Set aside the lower lip of the bumper, but keep the center insert handy for trimming in the next step.





Step 9:

At this point we are now ready to layout our cut line and trim out the lower section of the bumper to prepare it for the new Stingray bumper insert. Lay out your masking tape cut line similar to ours shown in Fig 9. On both the main bumper cover and the lower grille insert panel.

Figure 9.1(next page):



Step 10:

Now you're ready to put on your safety glasses and trim out the lower bumper along our cut line. Cut on the side of your line closer toward the inner portion of bumper that will be removed vs farther out in order to allow your cut to be adjusted and smoothed out later on. You can always cut more, you cannot put material back if you cut too far! Also, when cutting the lower grille insert panel, be sure to cut inward enough to maintain a bit of material to the edges of the panel where the clips will re-secure it later on (can be seen in 10.2)

Figure 10.1/10.2 shows the cuts completed.

Figure 10.1 (upper image, next page):



Figure 10.2:



Step 11:

We are now almost ready to do a dry-fit of the new Lo-Pro bumper!

Your Stingray Lo-Pro bumper will slip over the studs sticking out of the frame ends and help suspend the bumper until a couple mounting bolts are installed to hold the weight completely. Before we do our test fit we need to do a minor trim to the inner fender liners behind the 2 outer frame end studs in order to give clearance for our mounting brace plates. The brace plates are the long brackets with 3 holes in them, to determine where to cut the liners hold the bracket up to the 2 studs with the 2 corresponding holes in the bracket held to the studs, the liner will block the bracket from fitting against the frame rail to the other mounting location so we'll trim as necessary until there is no longer interference. The approximate area to be trimmed is shown in Fig. 11 behind the cross-hatch lines, the frame end studs the brackets slip over are highlighted with arrows.

The rear hole of the bracket lines up with a through-hole in the frame, which comes with a plastic plug from the factory, remove the plastic plug for later installation of the brackets.

Repeat process on opposite side of truck.

Figure 11:



Step 12:

Now we'll reinstall the remaining portion of the bumper cover back onto the vehicle, clipping it in from one side/corner across the front to the other side. Pop in a couple of the center clips to help secure it to the grille support channels again for the time being.

At this point you will want to install the Lo-Pro bumper and check clearances with the AC condenser line(silver hardline, runs up near left side of radiator) and the finned trans cooler line that runs horizontally across the lower frame cross member. These lines may need some light bending/moving in order to ensure adequate space between the Stingray Lo-Pro bumper, and your winch (if applicable). If any bending is necessary do so carefully while supporting the lines near fittings or brackets, and bend no more than necessary. We recommend you have about 3/8" clearance to help prevent any possible contact chaffing and failure of these lines.

Step 13:

After a successful dry fit, take your Lo-Pro back off and install your winch or a light bar if you have one to install. Once all accessories are in place in the Stringray bumper, re-connect your factory fog light wiring to the back of the lights, then begin to reinstall the Lo-Pro bumper onto the vehicle. *NOTE: If you ordered your Stingray Lo-Pro bumper with the optional grille hoop then you will need to reinstall your factory grille now before reinstalling the bumper as the hoop will block the grille from going back on or off later.*

With the Stingray Lo-Pro bumper roughly installed over the frame studs, thread only the inner single nut to the frame ends as accessed through the lower outside cutouts in the bottom cutouts on each side of the bumper. Once these 2 nuts are nearly all the way on, raise the bumper on its mounts into your desired position, closing the gap between the grille and the upper portion of the Stingray bumper down to about ½" gap. Less gap will lead to excessive contact when offroad which may cause scuffing or other damage.

Snug these 2) nuts with your 14mm ratchet wrench at this time.

Now we can install the bumper recovery brace plates that we cleared the fender liner for earlier, they will slip over the remaining 2 outer frame studs, wrap back around the outside of the body mounts and line up with the single hole through the frame rails(which we removed the plastic caps from earlier), where we secure them via the $\frac{1}{2}$ " x 4" long bolt through the frame, and the factory nuts tightened to the frame end studs to secure the bumper. With the frame end stud-nuts tight, we can now tighten the $\frac{1}{2}$ " bolt on the other end of the braces, snug it with your $\frac{3}{4}$ " wrench/ratchet now but do not over-tighten or it will begin to pinch and crush the frame rail.

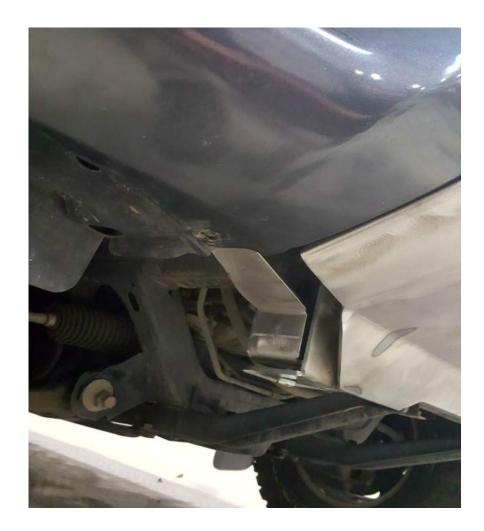
Step 14:

Now we'll move on to installing your factory bumper trim brace brackets. First, resecure the factory fender flares and the screws/clips removed earlier from the fender liners to re-secure the liner to the factory bumper cover.

The brace brackets now install into the lower frame cross member ends near the lower bumper mounting ears, and will help secure the side factory bumper cover for additional rigidity. To begin the installation of the braces first use as many of the supplied 7/16" washers to fill the gap between the lower bumper mounting ear and the cross member, The number of washers used will vary from truck to truck, and be dependent on how high the Lo-Pro bumper was mounted. We'll slide the brace bracket into the end of the cross member(end with welded nut) above the

corresponding bolt hole in the bumper mount ear and cross-member hole. The opposite end of the brace should be above the factory bumper cover, with the hole lined up to the corresponding brace plate hole. See figure 14 for an example(pictured on a different vehicle, but installed similarly) Loosely install the included M10-1.25x35mm bolt from the bottom through the bumper ear, into the cross member and threaded to the welded nut on the frame end of the bracket. Use an included 3/8-16x1" bolt through the bumper plastic and the brace bracket, with a washer on each side to help prevent pinching or cracking of the plastic. Once all lined up and threaded loosely on both ends, tighten both of these bolts to secure the plastic bumper cover and lower bumper mount ears.

Figure 14:



Step 15:

We are now nearly complete with the installation. At this time check all fasteners to be sure they're installed and tight. If your grille was not re-installed earlier, do so at this time. Check your fog lights to be sure they're functioning normally. Lastly, wire up any accessories you installed into the Stingray Lo-Pro bumper.

Congratulations on completing the installation of your new Relentless Off-Road Fabrication Stingray Lo-Pro bumper!

We hope you enjoy your Stingray Lo-Pro bumper for years to come! If you have any questions or comments please feel free to contact us.