

**Metal-tech Front tube bumper
Winch mount and Bash plate**
Installation directions
by
Metal-tech
rev.1.2

Bumper install w/ winch mount (Bash plate install is located below the winch install, the tube bumper portion installs the same)

Parts:

1	Metal-tech tube bumper
1	Metal-tech winch mount
2	Metal-tech winch side plates (L/R)
2	12mm 1.25mm bolts
2	½" x 3" Grade 8 bolts
2	½" x 1 ½" Grade 8 bolts
2	½" x 1 ¼" Grade 8 bolts
8	½" Grade 8 lock washers
12	½" Grade 8 washers

Tools needed:

- Metric sockets 10mm, 14mm, 17mm
- SAE Socket ¾"
- Box wrench ¾" (Note: This needs to be a thin head box wrench. Most double end box wrenches work great. Combination wrenches box end may not fit into the frame opening.)
- Drill w/ ½" drill bit
- Cold chisel
- Hammer
- Optional blue thread locker for all threads

Safety:

Please note that this work should be done by a competent mechanic. If you feel you are not competent to do this work please have a professional mechanic do this installation. Metal-tech Cage, LLC is not responsible for any modifications you make to your vehicle. These instructions are meant to be a guide to assist a competent mechanic.

#1 Always wear safety glasses

#2 Always chalk the opposite end of wheels when working on a car. (ie. Chalk the rear when working on the front, and vice versa.)

#3 Always use jack stands!!!! Never work on a vehicle solely suspended by a jack.

All Modifications are done at the owners risk, check local laws for compatibility.

Preference:

The installation of the Metal-tech Tube Bumper w/ the winch mount is as follows. If you have the bash plate version follow steps 1-4 then skip to the bash plate installation. The bash plate installation is then listed at the end under Bash Plate installation.

Prep:

1. **[TOOL: 10mm socket]** Remove the front stock bumper. Unbolt the lower, top and side bolts holding it on to the truck. It will take a prying force with your hands to pull the side of the stock bumper off the mounts by the fenders. It will come off with some force. (Tip: Try to not use a tool, it can be done with hands.)
2. **[TOOL: 10mm socket]** Remove the head light bezel. All the top clips and bolts are accessible with the hood open.
3. **[TOOL: 14mm deep socket]** Remove the OEM inner steel cross brace that is behind the plastic bumper shell. This will take some force as Toyota typically has the nuts on tight. (Tip: Try to use a 6 point socket to keep from stripping the shoulders of the nuts. The nuts are reused.)
4. **[TOOL: 10mm socket]** Remove the mid horizontal brace located below the head lights. See photo:





5. **[TOOL: Drill with 1/2" drill bit]** Drill out the small threaded hole on the outside of the frame directly behind each front bumper flange. Drill out only the one side of the frame. See photo:



6. Repeat step 5 on the other side.
7. **[TOOL: Cold chisel and hammer]** Use a cold chisel and knock off any remaining inner nut fragments from inside the frame on both sides. See photo:

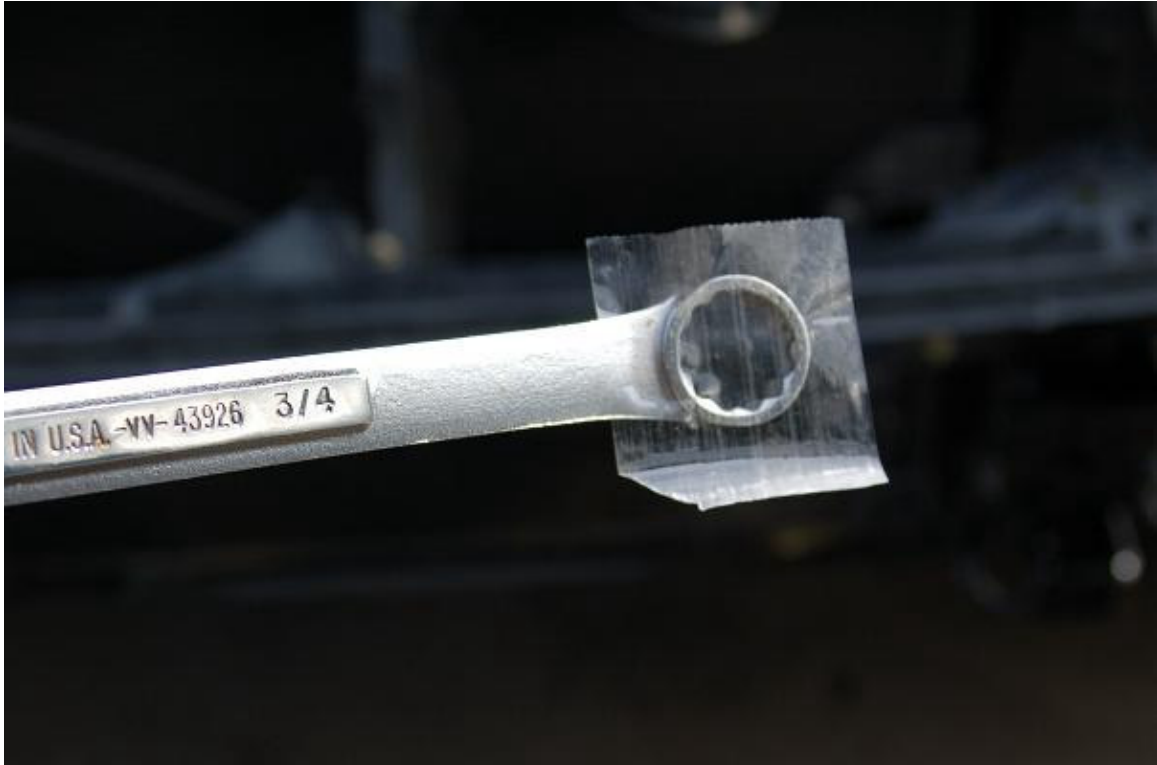


8. **[TOOL: 17mm socket]** Mount the drivers side, winch side plate. Start by loosely installing the lower 12mm bolt (12mm bolt w/ 1/2" lock washer and 1/2" washer) into pre threaded frame hole.

9. **[TOOL: ¾" socket, ¾" box end wrench]** Install the ½" x 1.5" bolt with a washer on the outside into the upper hole you drilled earlier. See photo:



10. **[TOOL: 3/4" socket, 3/4" box end wrench]** Install a 1/2" washer and 1/2" lock washer inside the frame on the 1/2" bolt you just installed. Tip: To hold and thread the 1/2" nut using the 3/4" box end wrench, put a small piece of packing tape over one side of the box end wrench. See photo:



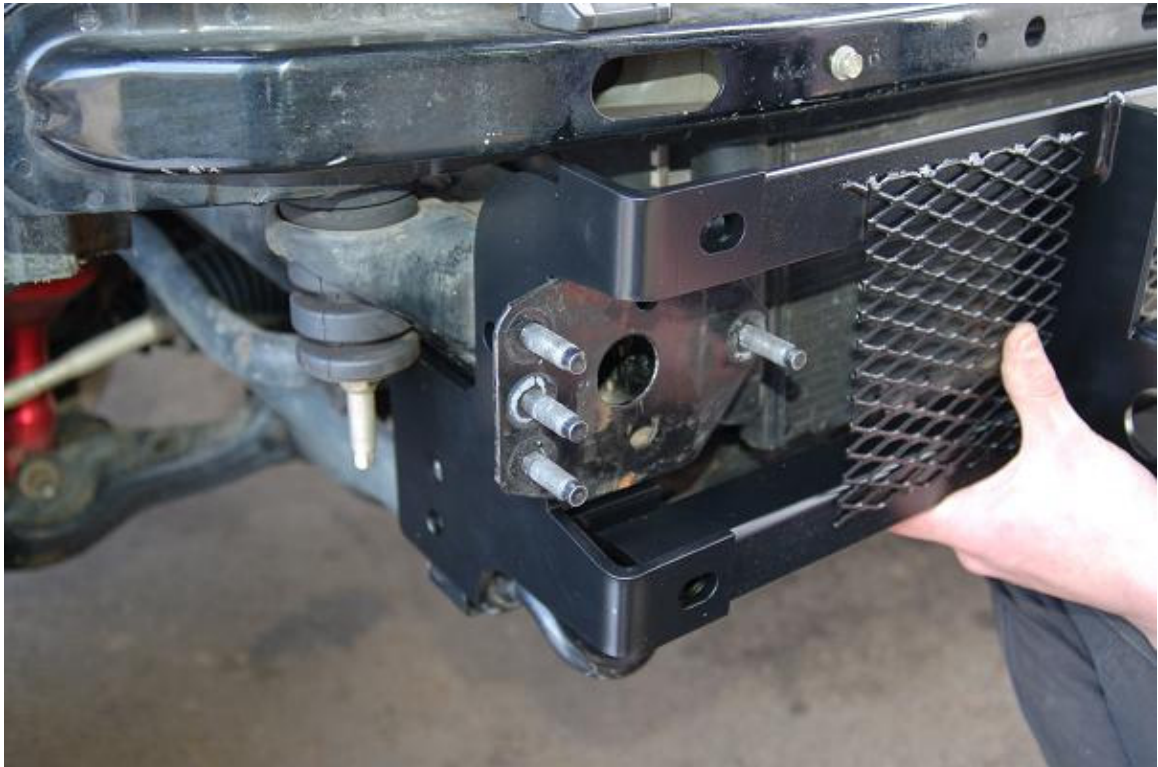
Tip Cont. : Fold the tape over, trap 1/2" nut inside. See photo:



11. Place the two ½" x 3" bolts w/ two washers, one lock washer and one nut each on the ground in front of the truck.
12. Place the two ½ x 1 ¼" bolts w/ one washer, one lock washer and one nut each on the ground in front of the truck. Have the passenger side, winch side plate standing by.
13. (Tip have a helper with you for the next step, its much easier) Lift the twin beam winch mount up, have the A/C condenser line go in the middle of the driver side of the winch mount. Use one of the ½" x 3" bolts on the lower bolt hole to hold that side up. See photo:

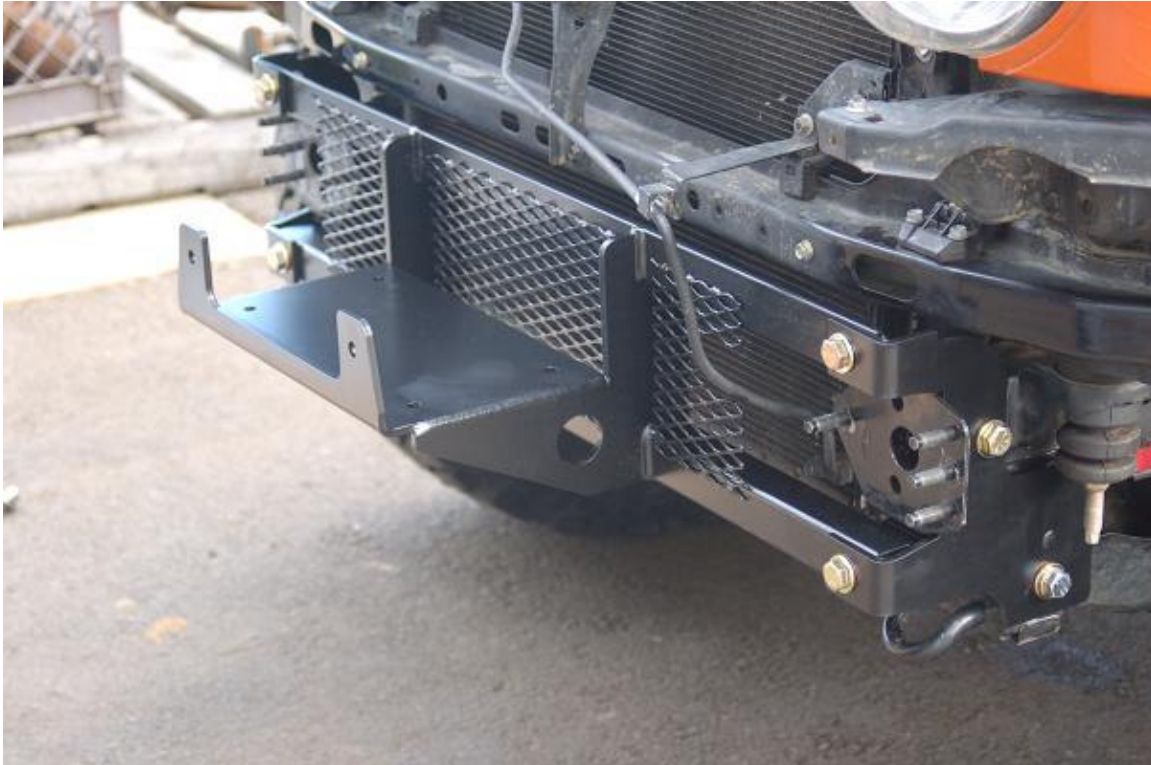


14. **[TOOL: 17mm socket, 3/4" socket, 3/4" box end wrench]** Install the passenger side, winch side plate. Once the plate is on the side of the frame the 1/2" dowel pin will hold the plate in place. Install winch mount lower 1/2" x 3" bolt to hold the winch beam in place. See photo:



15. **[TOOL: 17mm socket, 3/4" socket, 3/4" box end wrench]** Install the passenger side plate upper 1/2" x 1 1/2" bolt with, two washers and one lock washer. Repeat the steps used for the drivers side. Keep the plate losses for now.
16. **[TOOL: 3/4" socket, 3/4" box end wrench]** Install the upper bolts on the twin beam winch mount, use one 1/2" x 1 1/4" bolt per side with one outer washer and one inner washer, nut. Keep loose for now. Install the one washer, one lock washer and nut on each of the lower bolts. Keep loose for now.
17. **[TOOL: 17mm socket, 3/4" socket, 3/4" box end wrench]** Snug up the side plate bolts, center the winch twin beam mount. Tighten both side plates, tighten all four winch twin beam bolts.
18. Check the A/C condenser line that is not near or touching any part of the stone guards on the winch mount. If it is, gently bend the aluminum tube to clear.

The winch mount is now on your truck!



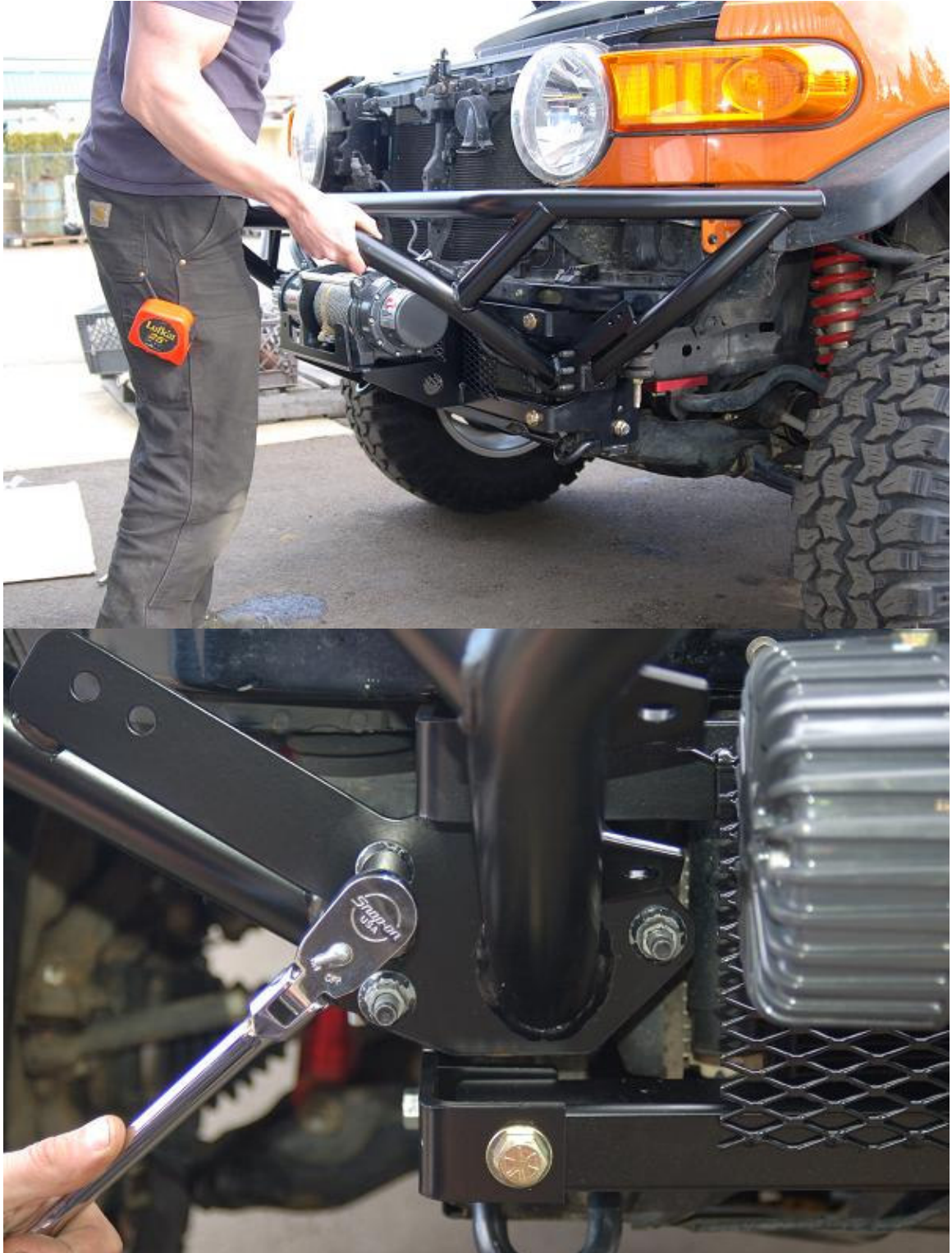
Follow you winch manufactures instructions and install your winch now. The control solenoid box will mount on the supplied bracket to the bumper, so mount this last. You can also mount the controller box under the hood as well.



19. Before you install the bumper the lower bracket below the factory head lights either need to be trimmed or removed. We recommend trimming them as they help support the paint matched trim piece below the turn signal as well as the head lights them selves. (Tip: You may want to continue to step 20 but only use one nut per side to hold the bumper on. Then you can fit your lights and easily pull the bumper off to make any modifications needed.) See photo:



20. **[TOOL: 14mm deep socket]** Install the tube bumper on the front frame flanges. Tighten each of the factory 14mm flange nuts. See photo:



21. Use the supplied flange bracket to install the winch controller box on the bumper.

22. You will notice the large plastic inner wheel wells are hanging down in front of each tire. Cut off the lower portion of the inner wheel well following a line similar to what is in the photo. A simple cut off saw, body saw, jig saw or even a hack saw will cut these easily. (The bumper is not seen in the photo for a better view. However it may be easier to make the cut with it off.)



You are done at this point. Now install your off road lights just below the factory lights. The provided mounts will work with a number of different off road lights. We use PIAA 520 lights.



Post install:

Check all nuts and bolts are tight and reinstalled correctly. Go have fun with your new bumper!

Enjoy you new Front Tube Bumper and Winch Mount!

Bash plate Installation

Note: We are using the optional aluminum bash plate for the photos since it best shows the contrast with the black powder coated parts. Same installation for the steel version.

1. Set the bash plate upside down on a box or other item to make it easy to get to the 8 center 1/4" slots.



2. Set the back side support on the main bash plate. Make sure the bent edge that is 90° is facing up and the 30° edge is facing down over the edge of the bash plate. See photo:



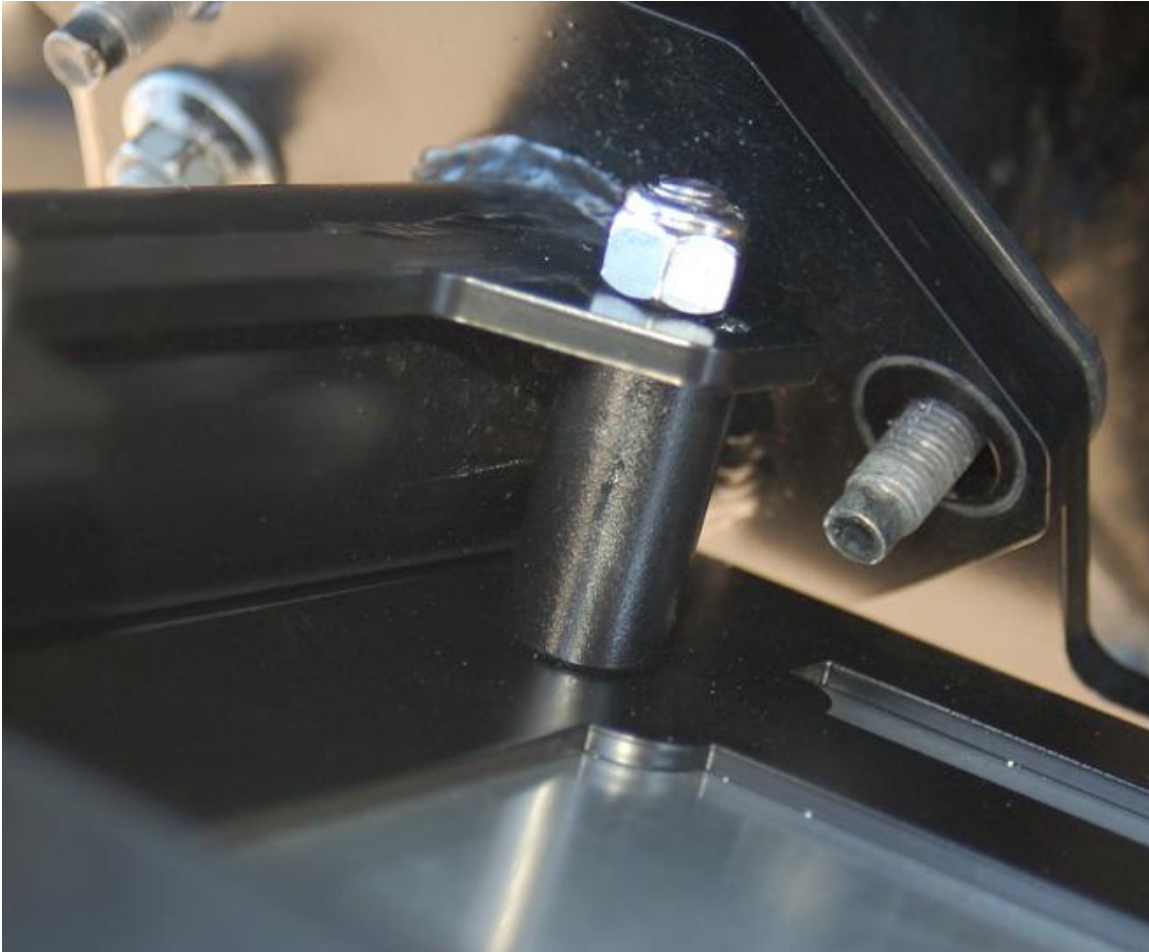
3. Use the 8 provided 1/4" stainless steel button head bolts, 16 washers and 8 nylock nuts bolt the 8 center slots together. NOTE: Put the button heads of the bolts on the opposite side of the main bash plate from the brace. This way the bolt heads face out to the front of your truck.
4. Install the 1/4" thick lower cross brace onto the frame horns on your truck. It will be sandwiched between the tube bumper and the frame, so do not use any nuts at this point. Photo shows the lower bash plate in place. Put the 90* formed lip facing toward the back of the truck.



5. Install the tube bumper as described in steps 19, 20 and 22 as listed above.
6. With a helper lift the bash plate w/ the bolted brace plate up to the tube bumper.



7. Using the provided four 3/8" x 2.5" stainless steel button head bolts, eight washers and four nylock nuts, bolt the bash plate in place with the provided tube spacer between the bash plate mid brace and the inner face of the mounting tabs on the tube bumper.



8. Install the two upper back side braces with the four supplied $\frac{3}{8}$ " x $\frac{3}{4}$ " stainless steel bolts, eight washers and four Nylock nuts. Start with the lower bolts first then install the upper. NOTE: If you are installing lights on the upper mounts do not install the upper bolts, the light mounting bolts will go in the place of the upper bolts.



(8. continued)



9. DONE!

