



Metal-tech, Cage LLC
2700 E 9th St Suite 200, Newberg OR 97132
metaltech4x4.com 503-822-1111
info@metaltech4x4.com

Metal-tech Fabrication

03-09 GX470 Rear Swing Out Bumper

“Pegasus”

Your rear bumper should contain:

1 Main Bumper	Accessory Pack (cont.)
1 Swing arm	1 Stainless Steel Slide Plate
1 Accessory Pack	1 Spring Loaded Auto Lock
1 Tire Holder/Stinger	2 Upper ¼” Thick Spacers
1 120 lb. Gas Strut	2 Lower “E” ¼” Thick Spacers
1 Latch Plate	1 Swing Out Bearing Kit
1 Stainless Steel Latch	1 Rear Bumper Bolt Kit
2 Black HDPE Landing Pads	1 Spacer Bolt Kit.

SAFETY! Use the appropriate safety devices during installation. **SAFETY!**
SAFETY! Wear safety glasses at all times. **SAFETY!**

Thank you for your purchase of a Metal-tech Fabrication Pegasus Rear Bumper for your GX470. We have taken great pride in the development and manufacturing. We also wheel what we make and look forward to the opportunity to see you on the trail! Before you begin your installation take a moment to read through this write up. There are a few key things noted that will make the installation go smoothly.

- 1.0 Remove old parts and prep for the new:
 - 1.1 Remove stock bumper – If installed on truck.
 - 1.2 Remove the trim that covers the top of the stock bumper.
 - 1.3 To remove the bumper there are a series of 7 bolts, 4 screws, and a clip throughout the fender well, underneath, and the top.
 - 1.4 Once all hardware is removed grasp the outer corner on the wheel well portion and pull it back away from its snap fit mounts. It does take some force to pull it off the truck.
 - 1.5 Remove factory pull point on the left side

Pegasus Installation

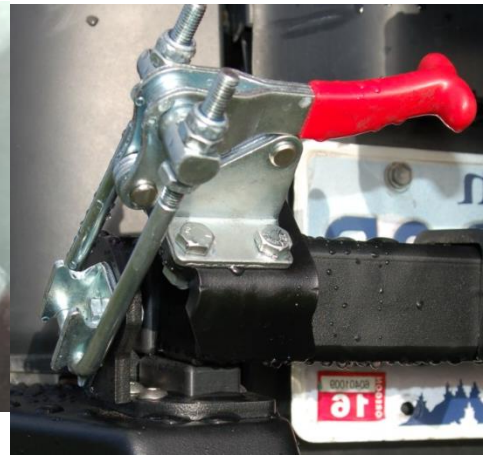
- 2.0 Check frame for excessive weld splatter above and below the frame corners. Lexus is inconsistent with the finish since this is usually hidden under layers of plastic. Since we are installing steel directly to these points for strength, the presence of weld splatter can affect the installation of your new bumper. If there is excessive weld spatter or welding wire lying on the frame where your new bumper mounts remove it with a file or grinder.

“Pegasus” Metal Tech 4X4 GX470 Rear Swing Out Bumper

Rev. 1.6

3.0 Install the latch mount, landing pads, latch hook, gas strut ball mounts, auto lock, and the stainless steel slide plate as shown in images below.

- 3.1 HDPE Landing Pads use 1/4” hardware
- 3.2 Latch Plate, Latch, and Stainless Plate use 5/16” Hardware
- 3.3 Gas strut balls mount to bumper near the pivot point and the 3-hole mount on the swing out beam.



*** At this time, it would be wise to install any other accessories onto the bumper/swing, including but not limited to, Outpost Off Road Flange Mount LED Lights, CB antenna, Step Mounted Dual Power Supply, Step Mounted Running/Step Lights.**

4.0 Install Main Bumper.

*NOTE: Loosely bolt to the frame so it can be adjusted once all the bolts and spacers have been installed.

- 4.1 With the help of a friend lift the bumper onto the truck. **(Be careful to not scratch your truck!)**
- 4.2 Align the center holes and install the provided 12mm bolts, lock washers and washers.
- 4.3 Use the lower “E” spacer (looks a bit like an E). The two holes will be to the inside of the frame and the open “E” will be at the threaded holes into the bottom of the frame.
- 4.4 Use the provided ¼ spacers on top of the frame (silver in picture)
- 4.5 Install the 12mm bolts, lock washers, and flat washers into the bottom of the vehicle frame. The long draw bolts with the 3/8 bolts, lock washers, flat washers, and nuts through the lower and upper mounting holes in the Metaltech4x4 bumper.
- 4.6 Once all is installed loosely, align the bumper to the desired position and tighten all mounting hardware evenly.
- 4.7 Install the factory trim panel for the bottom of the rear door opening to the factory threaded holes using the Spacer Bolt Kit (BK-SP-1/2-6mm) (you can mark/drill holes from underneath looking up at the trim panel.)




5.0 Install Swing Arm

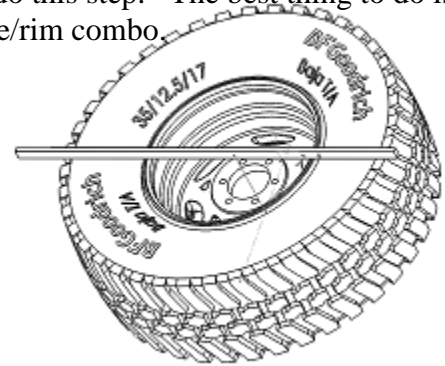
- 5.1 Hand pack grease (moly or lithium wheel bearing grease) into the two tapered radial bearings.
- 5.2 Wipe any manufacturing dust from the pivot shell at the end of the swing arm. Lightly pre-grease the inner races. (Note we have already installed the inner races for you inside the pivot shell)
- 5.3 With the swing arm upside down drop the large radial bearing into pivot shell on swing arm. NOTE: make sure the taper of the bearing is facing the taper of the race already in the shell.
- 5.4 Tap pivot lip seal into place on top of the large radial bearing. (Tip: put a little grease on the outer part of the seal can so it seats easier) Use caution to seat the seal evenly, an uneven seal can damage the seal rendering it worthless. (Metal-tech Fabrication stocks replacement parts for all components)
- 5.5 Install Latch to the end of the swing out arm as shown in step 3.3 **(use the ¾ long bolts)**
- 5.6 Install swing arm on to the pivot. Drop in upper smaller tapered radial bearing, washer, and then castle nut. Lift swing arm up and down a bit to help the tapered bearing seat into the race. Tighten the nut firmly but still allowing the pivot to swing.

- 5.7 Close the swing arm and adjust the latch U bolt so it pulls down and locks swing arm in place; all the way down to touch the HDPE blocks.
- 5.8 Tighten castle nut then back spindle nut off a ½ turn and install cotter pin.
- 5.9 Install grease cap tapping it into place with a rubber mallet.
- * **TIP: Once the dome cap is in place you may want to paint it with Rust-oleum Textured Black #7220830 so it matches the bumper. (The cap is left zinc plated for installation purposes and is fine if left alone; but painting it black will make it look nicer.)**

5.10 Install tire stinger into clamp on top of swing arm. Be sure the stinger triangle is

oriented point up and flat edge on the bottom.  **WARNING!** If the stinger is mounted too far back IT WILL HIT THE BACK DOOR OF YOUR TRUCK AND DAMAGE YOUR DOOR. Use caution as you do this step. The best thing to do is measure the true back spacing needed for your tire/rim combo

- 5.10.1 Lay your spare tire face down on the ground.
 - 5.10.2 Place a flat edge across the tire from one side to the other sitting on the rubber.
 - 5.10.3 Measure the distance from the flat edge to mounting flange of the rim.
 - 5.10.4 This is the maximum offset you need for the stinger adjustment. You want the inside rubber of the tire to touch the swing arm. So, subtract ½” from the offset number you got and use that. If you are adding a camera mount kit adjust for the additional ¼ inch plate.
- 5.11 Install the stinger and clamp down so the face of the stinger is on the same plane as the swing arm. There is a third hole in the swing arm. This is an optional hole to use as a lock bolt position to be sure your stinger does not move. Do not drill this hole until your install is complete and you are sure your tire is sitting correctly.



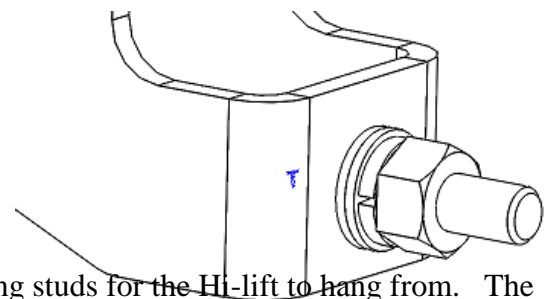
WARNING!!!! SLOWLY CLOSE your swing arm checking that the back of the stinger does NOT contact the back door. Damage to your truck can happen if you do not use caution. If it will hit, you need to shorten the stinger tube by cutting it down.

6.0 **Install Hi-lift** mounting points. These are the lower mounts on the swing arm. They are oblong to allow for adjusting the fit for your Hi-lift jack. First bolt the bolts into place then check that your Jack fits over them. Adjust as needed.

6.1 NOTE: Remove the bottom foot on your hi-lift, most are on a pull pin and go off and on easily. Store the foot and pin inside your recovery bag, inside the truck.

6.2 Bolts install from the inside facing outward. Orientation is bolt, flat washer, mount on bumper, two flat washers, one lock washer, and one nut.

6.3 The remaining threads of the two bolts are the mounting studs for the Hi-lift to hang from. The end of the jack with the mechanism goes to the right of the truck. Use the two remaining nuts to secure the jack to the studs.



*The following instructions are for the optional accessories available at www.metaltech4x4.com.

- 7.0 Install Utility Rack onto swing arm with Bolt Kit BK-MT-34221 (The stainless steel button head bolts are for the license plate holder).
- 8.0 Install the Small Basket, or Fuel Can Holder set up using the supplied hardware
 - 8.1 Align the bolt pattern of the utility rack with the accessory of your choosing and install the provided hardware.

* **The 2 front center bolts are used to mount the provided license plate holder.**

8.2 Use the provided hardware or the pair of License Plate Bolt Lights (LED-LP) to install the license plate onto the mount.

9.0 **After 500 miles** check tightness of all hardware.

10.0 **Install Metal-tech 4x4 sticker on your truck.**

We welcome your feedback on our products and your experience with Metal-tech. You can reach at 503-822-1111 Mon-Fri 8:30 AM to 5 PM PST. Or via e-mail at info@metaltech4x4.com

Metal Tech 4x4 Rear Swing Out Bumper Swing Arm Sealing Guide

1. Your rear accessory package should have contained a tube of black silicone. This is used to fully seal the arm from moisture getting inside.
2. Start by reading all of the manufacturers safety and usage information provided on the packaging.
3. Next open the tube and use the pointed tip to apply a bead of sealant to the spot where the end cap and the arm meet underneath the latch mount
4. Read Step 5 First Also Apply a bead of sealant to the area that the washers will contact the swing arm where the accessories/license plate holder mounts.
5. Install the appropriate/desired accessory onto the swing arm and repeat the seal on the washers for it.
6. You may remove any excess sealant for a cleaner look.
7. Once arm has been installed, but before grease cap, apply a bead of sealant to the hub and cap then install cap. Wipe away excess or wait for it to set up and cut away excess.



- Thank you for your purchase! We have taken great pride in our product development and manufacturing. We also use what we make and look forward to the opportunity to see you on the trail! Before you begin your installation take a moment to read through this write up.
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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.

- **Always wear safety glasses.**
- **Always chalk the opposite end of wheels when working on a car, Chalk the rear when working on the front, and vice versa.**
- **Always use jack stands if the vehicle is to be off the ground. Never work on a vehicle solely suspended by a jack.**

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



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GX470 Pegasus Rear Bumper Side Wing supports – Install Guide

Your side wing supports will include the following welded powder coated black parts:

- 1 Left side support
- 1 Right side support
- 1 Left side frame mount
- 1 Right side Frame mount

Hardware pack contains:

- 8 8mm Lock Washers
- 8 8mm x 1.25mm x 20mm BOLTS Grade 10.9
- 4 3/8"-16 x 1.5" BOLTS Grade 8
- 8 3/8" Washers
- 4 3/8" Lock Washers
- 4 3/8"-16 Nuts
- 4 1/2"-13 x 1.5" BOLTS Grade 8
- 8 1/2" Washers
- 4 1/2" Lock washers
- 4 1/2"-13 Nuts

Tools Needed:

3/8" Drill bit and Drill
12mm wrench/Socket
12mm wrench/Socket
19mm wrench/Socket
Torque Wrench
Optional: 9mm bore brush OR similar sized wire pipe cleaner to clean threaded holes in the frame.
Optional: Black touch up paint or any fingernail paint

SAFETY! Use the appropriate safety devices during your installation. Wear safety glasses at all times.
SAFETY!

If you are not comfortable with installing your own parts please do seek out a qualified professional to assist.

Note: **Still running airbags?** This guide assumes your GX470 has had an airbag to coil spring conversion and you have removed the factory air compressor on the left side of the truck. If you are still running airbags, you just install the right side brace. The left side brace will not be installed. The system will still work just fine with the single brace. Both are better if possible but not required.

1. *OPTIONAL: To ease installation of the side supports IF DESIRED cut the exhaust on the passenger side behind the harmonic balancer. This will give you a high tuck exhaust system for your truck and better ground clearance. It also gives you easier access to the mounting holes in the frame to install the trucks Right side support wing bracket on the frame.*
2. Mount the Left and Right frame mounts to the frame of your rig using the 8mm hardware provided into the stock threaded holes. (TIP: Clean the stock threaded holes out before installing the bolts; usually they have dirt/sand etc. in them. Easier threaded hole cleaner is a 9mm firearm bore brush or similar sized wire pipe cleaner)
3. Place the side supports into the location on the front side of the frame mount. Using the ½” hardware bolts and snug the bolts up. Not too tight as you will be removing them.
4. Mark the hole locations on the bumper brace the side supports contact. Ensure clearance from the inner gusset and stop box.
5. Remove the brace and drill the two marked holes to 3/8” into the brace on the bumper. (TIP: Use touch up paint to protect the raw metal from drilling. Finger nail paint dries quick, is tough and comes with a brush. Any color is fine as you will not see it. 99 Cent stores sell it, don’t “barrow” from a loved one, we are not responsible for that!)
6. Install the side brace to the bumper using the 3/8” hardware and secure the brace to the frame using the ½” bolts. Torque the ½” bolts to 80 ft lbs dry.
7. Enjoy a beverage for a job well done.

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