

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

info@metaltech4x4.com

Your 2.0 rear coil conversion kit should contain:

- 2 ½-13 x 1.25" counter sunk bolts
- 2 ½-13 Half Nylock Nuts
- 2 Spring Isolators
- 2 2.0 center Pucks CNC Alum

GX470 / GX460 / 4Runner 2.0 Rear Coil Conversion Kit

SAFETY!

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

Thank you for purchasing the Metal-tech 4x4 GX470/GX460/4Runner 2.0 Rear Coil Conversion Kit. As the original pioneers, of a bolt-on solution, we have taken great pride in their development and manufacturing. The kit you have now is an evolution of continuous improvement in design and materials for maximum long-term performance. It is genuinely the second-generation coil conversion design for all GX/4R airbag-equipped trucks regardless of year. As a company of offroaders also wheel what we make and look forward to seeing 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 help make the installation go smoothly.

GX470 and GX460

- 1.1 **REMOVAL:** Jack up the truck's rear and support the vehicle with jack stands under the frame rail. Remove the rear tires.
- 1.2 Disconnect the sway bar links on the frame with a 12mm wrench
- 1.3 Disconnect the wiring on both shocks located at the top. Once disconnected use a 17mm wrench to remove the bolt on the axle and stem mount on the frame.
- 1.4 Located on top of the frame where the airbag mounts you will see two airlines; one going to each airbag. You must disconnect them; they are on a special quick release. You can see where the airline is mounted by looking through the fender well between the body and frame. (or just cut them!)
- 1.5 Using a flashlight look through the fender well between the body and frame and there will be a spring clip holding the airbag in place. Use a long thin flat head screwdriver and slide the clip out of its position.
- 1.6 Remove the airbag, it will fall free and is not mechanically connected to the axle.

- 2.1 **INSTALL:** Remove old parts and prep for installing the new parts.
- 2.2 Install the centering pucks (the aluminum disks with the counter sunk hole) on the axle using the counter sunk bolts with a 5/16 Allen wrench, and nylock nut (3/4" wrench for the nut) 48 ft-lb torque dry.
- 2.3 Slide the black springtail isolators over the spring cups. Make sure the springtail isolator's orientation is where the end of the spring's pigtail is facing outwards towards the brakes.
- 2.4 Install the Prado 120 upper second springs, and the upsidedown cones (some call them spring isolators, see text in 4.0 as to why) on top of the spring. Install the cone facing downward into the coil spring.
- 2.5 Push down the axle on each side and install the new spring/cone assemblies.
- 2.6 Install shocks. (OEM shocks will work with the Stage 3 kits) Bolt lower bushings first, then guide the pin to the frame mount by lifting the axle upwards.
- 2.7 Install the sway bar links using the 12mm wrench.
- 2.8 Install wheels and lower back onto the ground. Torque your lug nuts 90-110 lbs depending on your rim.

3.1 **Eliminating warning lights on the dash:**

3.2 **GX460 ONLY:** Do not unplug, or remove any electrical component. Air compressor stays plugged in, rear height sensors stay plugged in and do not remove any relays or fuses.

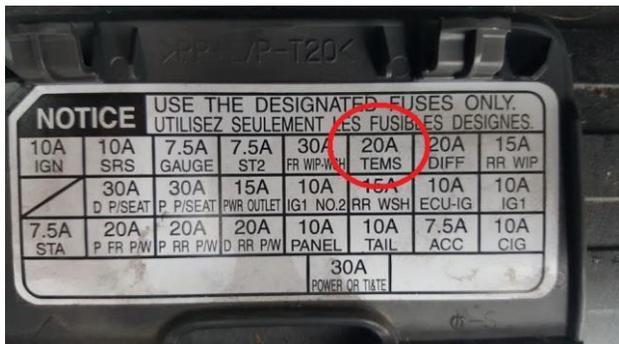
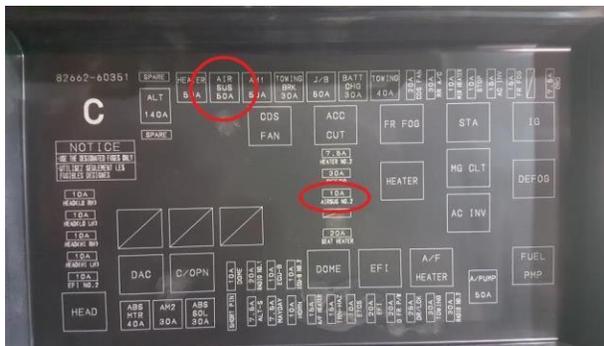
3.3 At the rear height sensors mounting brackets, you will need to space them down from the frame IF YOU ARE LIFTING* the truck. A simple stack of 4 or 5 washers (not included in kit) on each bolt between the frame and the bracket will position the sensor in the position that will keep everything working correctly. The OEM bolts are long enough for the thickness of 5 washers.

*if you are not lifting the truck, leave the height of the brackets in their stock location.



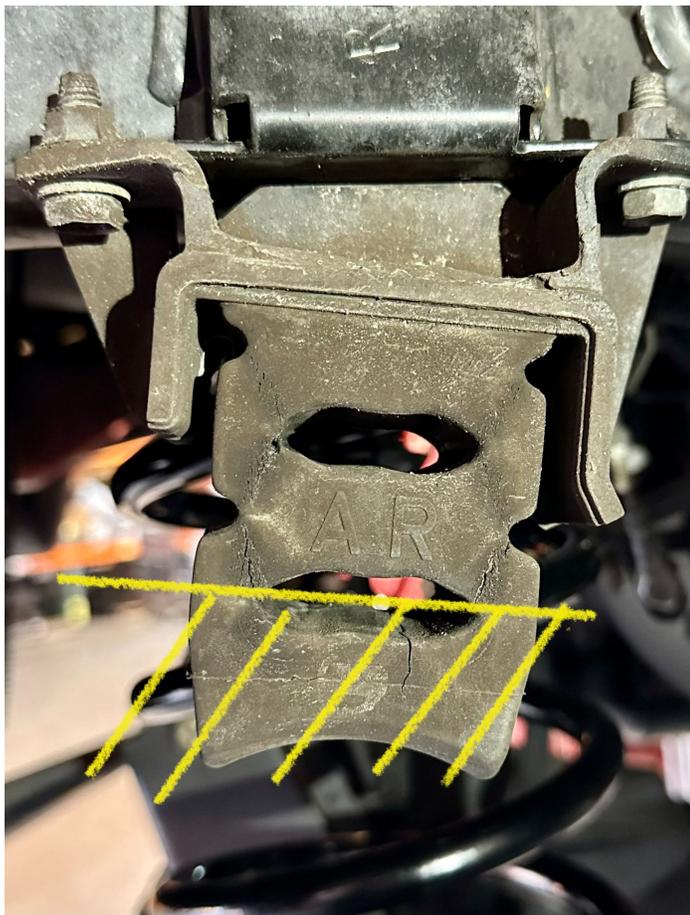
GX470 ONLY: Disconnecting the Ride Control Computer, Fuses, and Relay

3.1 Inside the engine bay, you will locate the fuse/relay box on the driver's side. The panel inside will have a chart showing the location of all the fuses and relays. Locate the "Air Sus 50A" fuse and the "Air Sus Fuse #2" and remove them from the fuse panel. Some vehicles may also require the removal of the TEMS 20A fuse form.



4.0 Frame-mounted BUMPSTOP Modifications

The photo below is a factory Toyota airbag-equipped vehicle frame-mounted bump stop. Yellow is the recommended cut area.



The OEM airbag-equipped vehicle has an oversized soft frame-mounted bump stop that at full compression contacts the top of the axle. The OEM Coil Sprung vehicles use a shorter in-height solid frame-mounted bump stop.

Why? The airbag-equipped vehicle is designed to lower the truck via the airbags and rest the back of the truck on these oversized bump stops. OR if the air system fails they are the failsafe. However, when we convert to a real coil spring these are now the wrong frame-mounted bump stops by design and use.

For a GX/4R with a lift, they can still be used, however excessive contact (Hard flexing the axle will engage one side of the axle to pivot) will break down and fail if left at full size. They are just too soft for this kind of use and why Toyota uses the smaller solid ones.

For those installing OEM height coil springs like the Metal-tech 4x4 Stage 3 Conversion kit, it is very important to cut or replace this bump stop. The suspension at OEM ride height leaves only one inch or so of up travel between the tip of the bump stop and the top of the axle. If left at the stock height you will feel “bottoming out” as you drive and go over bumps, especially dips in the road at speed.

Solution options:

A: Replace with an OEM Toyota coil sprung truck frame mounted bump stop. Any 03+ 4Runner, FJ Cruiser or GX460 that had coil springs will yield this set of bump stops. Wreacking yards usually have plenty. Of course, new OEM ones can be purchased too from Toyota.

B: Cut down the OEM airbag frame-mounted bump stop. Easy to do you can cut it down even on the truck. Use the photo above as a cut guide. If used hard off-road, inspect them now and then for excessive wear.

NOTE:

Aftermarket frame-mounted “bump stops.”

Metal-tech 4x4 in all the years since 1999 of using, designing, and installing lifted suspension on Toyotas has yet to find an aftermarket frame mounted aftermarket bump stop that does not engage too soon creating an uncomfortable ride. The upside-down cone that sits on the top of the rear coil spring, by Toyotas design is a “second spring”. It is commonly miss called an “isolator” but its real name is “second spring” by Toyota. This is a factory Toyota design to be engaged at the last range of the truck's rear travel to boost the spring rate to soften any hard hits. The cone is designed to engage the top center of the spring mount at the axle BEFORE the frame-mounted bump stop touches the axle. The frame-mounted bump stop is a pivot point for flex and a last resort at the full bottom out. Adjusting for the bottom out should be done with the second spring.