



## **Cognito Motorsports, Inc. Adjustable Limit Strap Kit for '01-'10 GM 8-Lug Trucks and SUV's**

### **Introduction**

- Installation requires a qualified mechanic.
- Read instructions carefully and study the pictures (if included) before attempting installation.
- Check the parts and hardware packages against the parts list to assure that your kit is complete.
- Always wear safety glasses when using power tools.
- Limiting strap kit is necessary to prevent upper control arm damage when using this upper control arm kit to maximize suspension travel. This will prevent arm to droop stop damage.

### **Parts List**

- (2) Limit Strap, length will depend on application
- Hardware package #9105

### **Installation Instructions**

1. Unless otherwise specified, flat washers will always be used under the heads of bolts and under nuts. Therefore, one bolt with one nut will require 2 flat washers.
2. Do not cut off the factory frame perch down travel stop!
3. Remove the factory location front shocks from the vehicle if they are not already removed to allow room to work. This will keep from damaging the shock with the drill bit while drilling the holes in the next steps.
4. Loosely assemble the limit strap assembly to determine best mounting location, refer to figure 1 to visualize how the upper assembly goes together before continuing to read instructions. Thread the jam nut onto the clevis bracket about 1/2". Thread the clevis bracket into the threaded hole of the frame bracket until jam nut stops, so you are only threading together about 8 turns to leave plenty of adjustment to get shorter. Figure 1 shows the clevis threaded all the way into the frame bracket, do not do this because you will not have adjustment to get shorter, 9 out of 10 times you will have to shorten more than you think due to the amount of stretch the limit strap will have once you are finished. Use the 1/2" x 1.1/2" bolt to secure limit strap to clevis. Use an extra 1/2" washer to shim gap between inside of clevis and the limit strap tab if needed. See figure 1.

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5. Bolt the bottom end of the limit strap to the factory lower shock mount. If no shock will be used in the factory location, use the supplied crush sleeves on each side of the limit strap tab, and 9/16" washers for shims if needed, mount inside lower shock mount bracket with the factory bolt and nut. The limit strap bracket may need the hole drilled out to 9/16". If a shock will be used in the factory location, mount the limit strap tab to the rearward side of the lower shock mount bracket using the same bolt that fastens the shock. The limit strap bracket may need the hole drilled out to 9/16". if you are using the factory shock that has the shock body at the bottom, the strap may need to be spaced away from the mount with 2 or 3 flat washers so that the strap does not rub the shock, a longer bolt may be needed for this (not included).
6. Raise the front end of the vehicle off of the ground by the frame, so that the suspension lets the front wheel droop out until the upper control arm touches the down travel droop stop, and the front tire is not touching the ground.
7. Hold the limit strap assembly in place on the rearward vertical part of the pocket so the limit strap lines up best with the rearward side of the lower shock mount bracket. With the limit strap stretched tight, mark the frame at the top with the hole of the upper limit strap mounting bracket. Figure 1 shows the general location where this upper mount hole will be drilled.
8. Drill a 1/2" hole through the frame pocket about 1/4" above the position previously located, because the assembly will stretch quite a bit more than you are able to by hand. You may have to use an angle drill.
9. Adjust the jam nut on the clevis so it is threaded about 1/2 the way up. Re-adjust clevis so it is threaded into the frame bracket up to the jam nut.
10. Lower the front end of the vehicle back to the ground to ride height to aid in fastening the upper end of the limit strap.
11. Bolt the frame bracket to the frame with the 1/2x1.1/2" bolt, nut and flat washers.
12. Now, raise the vehicle off of the ground again by the frame, and the front wheels drooping. Verify that the upper control arm is not touching the droop stop yet, and is about 1/4" from touching. If needed, adjust the length of the clevis to limit the downward travel of the upper control arm. This 1/4" gap will provide ample room for limit strap stretch during break in period while the wheel droops out under driving condition.
13. When the correct length is obtained, tighten all hardware to 60 ft-lbs and the jam nut very tight with an open end wrench while using a backup wrench to keep the clevis from turning while tightening the jam nut.
14. Periodic inspection is necessary to adjust the length to accommodate any excessive limiting strap stretching. To inspect, raise front of vehicle off ground letting wheels droop out until not touching the ground, verify the gap between the upper control arm and the droop stop, this gap can be nothing to an 1/8", it just shouldn't be to the point where the strap isn't taking the load, so the polyurethane bump stop should not be smashed like a pancake against the frame.

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**Figure 1**