'63-'72 C10

MACHINE & FABAICATION

VERSION 2, BOLT-ON FRONT CROSSMEMBER KIT

INSTALLATION MANUAL

JUNE 2020

READ FIRST!

PLEASE READ THROUGH ALL OF THE INSTRUCTIONS AND ENSURE THAT YOU UNDERSTAND THEM. BE SURE THAT YOU HAVE ALL OF THE REQUIRED GSI COMPONENTS, BASIC TOOLS, AND SKILLS. ALL DIMENSIONS ARE IN INCHES.

SOME COMPONENTS HAVE BEEN HIDDEN FOR INSTRUCTIONAL PURPOSES AND MAY LOOK DIFFERENT THAN THOSE PICTURED

NOTE: IT IS RECOMMENDED TO PAINT THE FACTORY CHASSIS BEFORE GSI CROSSMEMBER INSTALLATION

- 1. On a level surface, place wheel chocks at rear wheels.
- 2. Using a properly rated floor jack, raise front of chassis high enough to remove front wheels.
- 3. Place chassis on properly rated jack stands. Remove inner fender wells, engine, factory crossmember and all front factory suspension components.

DISTORTION NOTE:

<u>Removal of the factory cross member</u> may cause the frame rails to distort depending on the condition and accident history of the frame. It may be necessary to compress the frame using tools such as long clamps or ratchet straps to bring the factory frame holes in alignment with the GSI cross member.

- 4. Using a floor jack; raise the GSI crossmember main body, up to frame rails to align the center mounting holes at both passenger and driver side, with the center mounting holes on the crossmember body.
- Secure main body of the GSI crossmember into place with (2) 1/2-13 x 1-1/2" grade 8 bolts (4) 1/2" washers and (2) 1/2-13 nyloc nuts, but do not completely tighten.



- 6. Place the GSI upper control arm/bag brackets at the top of chassis frame rails, and locate using (6) 3/8-16 x 1-1/4" grade 8 bolts and (6) 3/8" washers. Mark or scribe hole locations to be drilled at the side of the frame rails at both passenger and driver side. Note: One hole on each side of the frame, may line up with one hole at the side of the upper control arm/bag bracket and may need to be reamed out. Top holes used to locate the upper control arm mount/bag brackets at frame, may need to be reamed out as well.
- 7. Remove upper control arm/bag brackets, center punch hole location to be drilled and drill for 3/8" hardware.



- 8. Insert the GSI inner frame braces, with motor mount slots oriented toward the front of the truck and align with upper and lower mounting holes at frame.
- 9. Install the remaining (4) 1/2-13 x 1-1/2" grade 8 bolts (8) 1/2" washers and (4) 1/2-13 nyloc nuts for the main body of the GSI crossmember, but do not completely tighten.



- 10. Install upper control arm/airbag mounts using (14) 3/8-16 x 1-1/4" grade 8 bolts (28) 3/8" washers and (14) 3/8-16 nyloc nuts, but do not completely tighten.
- 11. Install the GSI motor mount perches at inner frame braces with (4) 3/8-16 x 1-1/4" grade 8 bolts (8) 3/8" washers and (4) 3/8-16 nyloc nuts and (2) 1/2-13 x 4" grade 8 bolts (4) 1/2" washers and (2) 1/2-13 nyloc nuts at the GSI crossmember main body, but do not completely tighten.



- 12. A: Use 3/8" hardware to pull upper control arm/bag mounts toward top and side surface of chassis, then torque to <u>37 ft-lbs.</u> at both passenger and driver side.
 - **B**: Torque 1/2" hardware at crossmember main body to <u>90 ft-lbs</u>. at both passenger and driver side.
 - **C**: Torque 3/8" hardware at top of motor mount perches to <u>37 ft-lbs.</u> at both passenger and driver side.

D: Torque 1/2" hardware at bottom of motor mount perches to <u>90 ft-lbs.</u> at both passenger and driver side.



13. Assemble the GSI upper and lower control arms as shown; using a silicone-based, synthetic water-proof grease at the outside face of all lower crush sleeves and the inside face of the all control arm bushings. Grease is not necessary for the outside face of the bushings and the inside face of the control arm pivot tube.

ASSEMBLED UPPER CONTROL ARM (DRIVER AND PASSENGER SIDE ARMS ARE SYMMETRIC)



- 14. Install the polyurethane limit bump stops at both passenger and driver side, using (2) 3/8" washers (2) 3/8" lock washers and (2) 3/8-16 grade 8 nuts. Note: Overtightening hardware will deform limit stop.
- 15. Install the GSI upper control arms using (4) 5/8-11 x 3-3/4" grade 8 bolts (8) 5/8" washers and (4) 5/8-11 nyloc nuts. Torque to 5/8" hardware to <u>180 ft-lbs.</u> Torque upper control arm ball joint hardware to <u>20 ft-lbs.</u> at 8 places.



16. Install the GSI lower control arms using (4) 5/8-11 x 4-1/4" cam bolts (8) GSI cam washers and (4) 5/8-11 nyloc nuts. Torque to <u>102 ft-lbs.</u>



17. Install airbags using (4) 3/8-16 x 3/4" grade 8 bolts with (4) 3/8" washers at the top of the airbag mounts, and (2) 3/8-16 x 3/4" grade 8 bolt with (2) 3/8" washers at the lower control arms. Apply blue thread locker to air bag hardware and torque between 15 to 20 ft-lbs. Note: Using longer bolts WILL damage air bags.



18. Install shocks at upper shock mount using (2) 1/2-13 x 2" grade 8 bolts and (2) 1/2" washers. Install shocks at lower control arm shock mounts using (2) 1/2-13 x 2-1/4" grade 8 bolts and (2) 1/2" washers. Apply a blue thread locker and torque shock hardware to <u>32 ft-lbs.</u>



19. Install spindles to control arms. Using the supplied castle nuts and cotter pins tighten and secure the ball joints to the spindles.



20. Install power rack and pinion unit to crossmember. **Note: you will need to remove the factory rubber bushings and steel sleeves prior to install.** Using the supplied aluminum bushing sets, insert the large bushing to the back of the rack to be installed between the rack and the crossmember. Use the small aluminum bushing on the front side. The driver side rack mount has a threaded insert in the crossmember. Using a 5/8-18 x 3.75" bolt and a 5/8 flat washer, secure the rack to the crossmember as shown. The passenger side will use a 5/8-18 x 3.75" bolt, (2) 5/8 flat washers, and a 5/8-18 nylock nut.



21. Install the tie rod adapter kit as pictured. Thread the 9/16-18 jam nut onto the rack and pinion ends, followed by the aluminum adjuster with ¾-16 jam nut and hiem joint installed. Insert the correct taper pin through the top of the spindle. Now using the misalignment spacers as shown, complete the assembly and install the castle nut and cotter pin. **Note: the taper pin will need to be drawn into the spindle arm by tightening the nut.**

