MACHINE & FABRICATION

‘63 - ‘87

GSI FRONT COILOVER SUSPENSION SYSTEM

INSTALLATION MANUAL

AUGUST 2017

REV A.

’63-’87 REAR SUSPENSION WITH WATT’S LINK INSTALLATION

READ FIRST!

Please read through all the instructions and ensure that you understand them. Be sure that you have all the required GSI components, basic tools, and skills.

CUTTING

This kit requires significant cutting to the existing frame. Air hammers, abrasive cut-off wheels, and reciprocating power saws (sawzall) are recommended tools. There should be **NO** need for any modification to the GSI supplied parts.

WELDING

This kit requires welding to the frame. MIG (GMAW) welding process with a suitable mix gas and ER70S2 wire is recommended. All components are 3/16” or 1/4" thick, welds should match the thicknesses of parts being welded.

DO NOT GRIND ANY WELDS! DO NOT QUENCH WELDS WITH WATER OR OIL. ALLOW TO AIR COOL.

STOCK PARTS

THIS GSI KIT WAS DESIGNED USING STOCK OFF THE SHELF MAJOR COMPONENTS.

- FRONT UPPER AND LOWER BALL JOINTS ARE FOR ‘71-‘72 C10 TRUCKS FOR 63-72 YEAR TRUCKS.
- ’73-’87 USE THEIR STOCK FRONT UPPER AND LOWER BALL JOINTS
- SPINDLES FOR ‘63-‘72:
  - CPP ‘71-‘72 MODULAR SPINDLE FOR **BIG BRAKES** AND **29”+ TALL TIRE** (USUALLY 22” WHEELS”)
  - CPP ’71-’72 2” DROP SPINDLE FOR **29”+ TALL TIRE** (USUALLY 22” WHEELS)
  - STOCK ’71-’72 SPINDLES FOR 29” OR LESS TALL TIRE
- SPINDLES FOR ’73-’87 ARE STOCK SPINDLES. **USE DROP SPINDLES FOR TIRES 29” OR TALLER**
- FORD ’85-’93 MUSTANG 2 STEERING RACK

AFTERMARKET PARTS

THIS KIT WAS DESIGNED SPECIFICALLY FOR USING THE FOLLOWING:

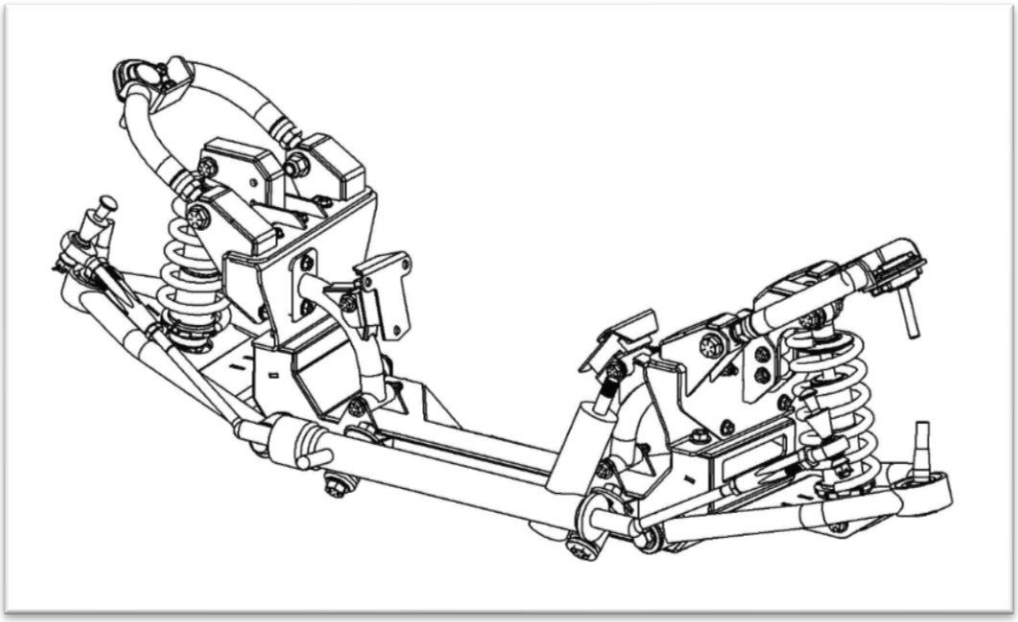
- RIDETECH COILOVERS:
  - FRONT: 11333510-1963-1972 C10 FRONT COILOVERS
  - REAR: 11336510 1963-1972 C10 REAR COILOVERS

STEERING SHAFT SUPPORT AND PAINT

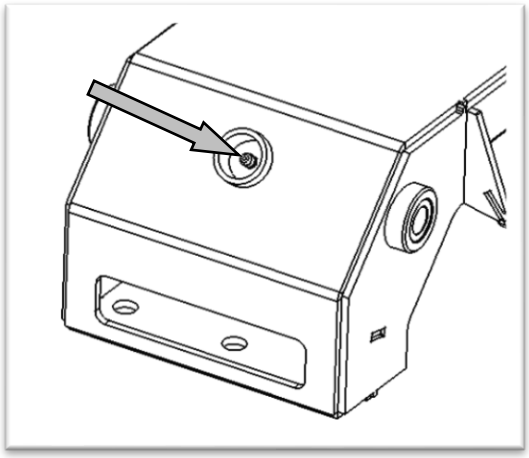
Due to the custom nature of various installs, you will need to determine how to mount your steering linkage. The crossmember positions the rack input shaft at an angle that has resulted in a successful install with minimal universal joints. Custom exhaust headers may be required. We suggest that this is done before final finish for obvious reasons.

FRONT CROSSMEMBER INSTALLATION

1. Remove the engine. Remove steering, all suspension components, and the stock front crossmember is removed and not used in any way. At the least the inner fender wells will need to be removed or modified for clearance.
2. This kit replaces the main front crossmember.



3. Install the two grease zerks from the hardware kit crossmember ***GREASE ZERKS*** into the **GSI CROSSMEMBER** lower arm cross shafts.

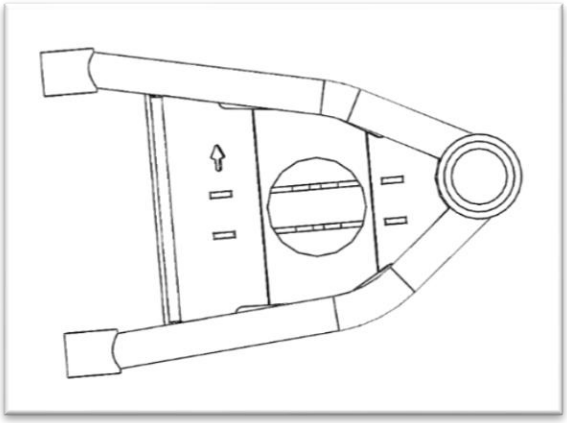


4. Using a floor jack, lift the **GSI CROSSMEMBER** to the frame and align the mounting holes with those in the frame.

DISTORTION NOTE:
Removal of the factory crossmember may cause the frame 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, ratchet straps, or spud wrenches to bring the factory frame holes in alignment with the **GSI CROSSMEMBER**.

5. Insert the ***LEFT FRAME C*** over top of the left frame rail and line up with factory cross member bolt holes on lower frame rail. Repeat with *right frame c* on the right side of the frame.

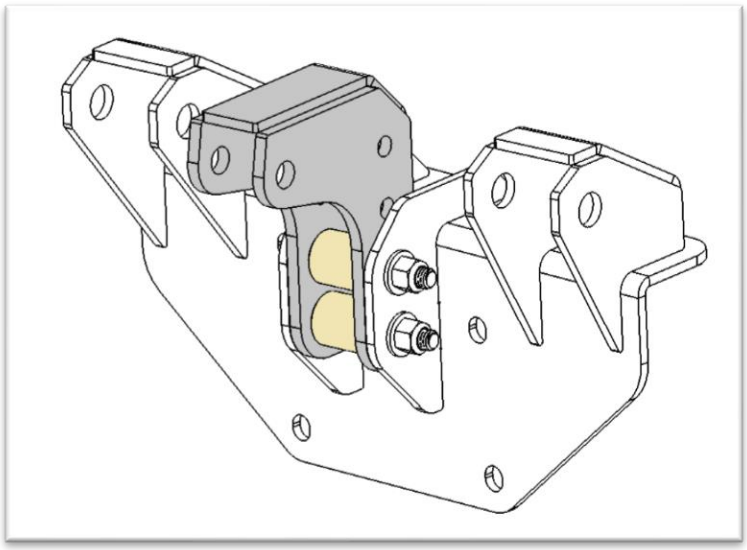
6. Install, do not fully tighten yet, the 3X Ø1/2" (Ø1/2" means half inch diameter) bolts, from hardware kit ***CROSSMEMBER TO FRAME*** per side. This hardware holds the two ***FRAME C*** and **GSI *CROSSMEMBER*** to the frame. Nuts are threaded on through the side windows on the **GSI *CROSSMEMBER***.
7. Install the **LEFT *UPPER ARM MOUNT*** on top of left frame rail over the ***LEFT FRAME C***. Insert 3x (2X for 73-87) ø3/8" bolts from ***UPPER ARM MOUNT TO FRAME***. Tighten upper bolts to allow the bracket to fit tight against frame. Repeat process on the right side.
   NOTICE: '73-'87 We have encountered a few frames that do not have the two holes line up. It appears to be rare, but in this case we suggest doing what you need to get at least two Ø3/8" bolts installed.
8. With ***UPPER ARM BRACKETS*** on the frame, note that the top hole will line up with an existing hole for most frames. If not, mark and drill hole using the ***UPPER ARM MOUNT*** as a guide, then mark and drill out the remaining Ø3/8" holes through the frame. Deburr the holes and install Ø3/8 bolts.
9. Install the ***MOTOR MOUNTS*** to the **GSI *CROSSMEMBER*** and ***FRAME C*** using hardware from ***ENGINE MOUNTS TO CROSSMEMBER*** and ***ENGINE MOUNTS TO FRAME C INNER SUPPORT***.
10. At this point tighten all installed hardware, including those from step 6. This should serve to "suck in" the frame crossmember and engine mounts.
11. install lower ball joints and bushings into the lower control arms**. KEEP THE BALL JOINT'S CASTELLATED NUT AND COTTER PIN FOR LATER WHEN INSTALLING THE SPINDLE**
12. Install ***LOWER CONTROL ARMS*** onto **GSI *CROSSMEMBER*** using two Ø5/8x13" long bolts and hardware from ***LOWER ARMS TO CROSSMEMBER***.



NOTICE: We discovered it may be difficult to determine orientation of the lower arms. New production arms will have an Arrow pointing forwards on them as shown left. If yours does not have an arrow compare the front and rear tube angles to the image with the arrow. Also there should be a noticeable amount of positive caster once the spindle is installed. The lower ball joint will be forward of the upper ball joint.

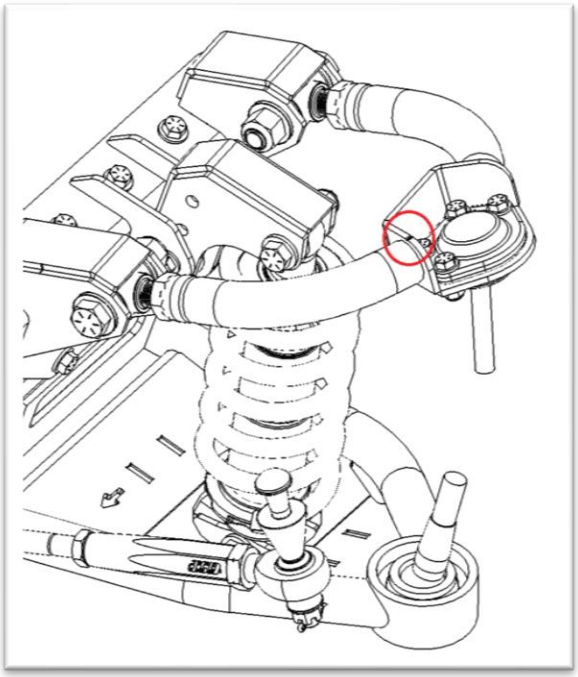
DO NOT TIGHTEN YET!

13. Install the ***ADJUSTABLE COILOVER MOUNTS*** and ***CRUSH SPACERS*** as shown on the upper arm mount:



As shown is the lowest position that provides 4” of clearance under the frame. The opposite provides 8” of clearance. Also keep in mind the coilovers are also adjustable and various weights of vehicle and various springs could make it possible to go lower or higher.

14. Install the **COILOVERS** onto the ***ADJUSTABLE COILOVER MOUNT*** *and* ***LOWER* ARMS** using ***FRONT COILOVER HARDWARE*** and bushing spacers included with the coilovers.
15. Install upper ball joints into the upper arm**.** Use the GSI supplied ***UPPER BALL JOINT MOUNTING HARDWARE*****.** **KEEP THE BALL JOINT'S CASTELLATED NUT AND COTTER PIN FOR LATER WHEN INSTALLING THE SPINDLE**
16. Install ***UPPER CONTROL ARMS*** using ***UPPER CONTROL ARM TO FRAME MOUNT***



NOTICE: THE UPPER ARM IS MARKED WITH A NOTCH ON THE FRONT SIDE OF THE BALL JOINT CUP INDICATING THAT GOES TOWARD THE FRONT.

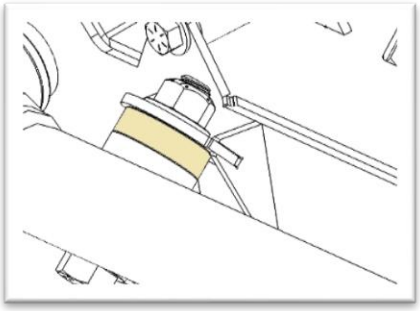
17. Install spindle onto lower and upper ball joints with hardware included with ball joints.

STEERING ADAPTOR INSTALLATION

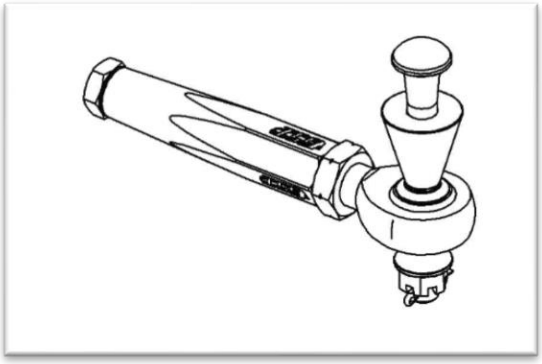
18. Install jam nuts from ***STEERING ADAPTOR*** on rack and pinion ends. Using a cut off tool of your choice cut 1" off each end of the rack's threaded tie rods. Use the jam nuts and a file to clean up the cut off threads.

TIE ROD LENGTH NOTE:
In some cases, it is necessary to cut more off rack end due to differences in rack and pinion manufactures. Cutting is required to properly adjust tie rods, thus the toe in or out of the front wheels.

19. Install rack and pinion onto front cross member with ***RACK AND PINION TO CROSSMEMBER*** hardware and **POWER STEERING BUSHING SET**.

STEERING BUSHING NOTE:
Make sure the thick spacer portion of the rack bushing is between the rack and the crossmember as shown. 

20. Thread jam nuts and then **STEERING ADAPTOR** onto the rack and pinion tie rods.
21. Install **STEERING ADAPTOR TAPER BOLT** into the spindle along with the two misalignment spacers. The larger of the two goes up against the spindle. Finish with the castellated nut and cotter pin from ***STEERING ADAPTOR HARDWARE*** kit.
22. Double check you have tightened all hardware and installed cotter pins.



23. You have completed the installation of the 63-87 COILOVER GSI front suspension kit.

1. Final check:
    a. Double check that all fasteners are tight.
    b. Ensure the rear suspension freely moves through its entire travel.
2. First drive:
    a. Use extreme caution the first time you drive.
    b. Plan the drive. Stay away from busy roads and places where it is not easy to pull over and perform maintenance. Do not go alone. Have a chase car. Stay close.
    c. Listen for any unusual sounds.
    d. Periodically stop and inspect that all hardware is still tight.

ENJOY!