



# IFS SERIES

## STEERING GEARBOX BULLETIN



### Independent Front Steer Air-Ride Suspension Steering Gearbox Mounting Plate Reinforcement Procedure

July 2004

*Suspensions affected were manufactured during  
March of 2003 - May of 2004*

### SRK-559 Service Repair Kit for IFS Steering Gearbox Mounting Plate p/n 48100423

#### DESCRIPTION

This modification is required to strengthen the mounting plate for the steering gear box on the sub-frame of certain Generation 2 IFS suspensions that do not have gussets on the steering gearbox mounting plate. When installed and torqued properly, the components resist the bending forces experienced by the steering gearbox mounting plate. The bending forces in the steering gearbox mounting plate can be seen during a static steer condition of the RV on smooth, dry concrete. Static steer: steering the front wheels while the RV is not in motion.

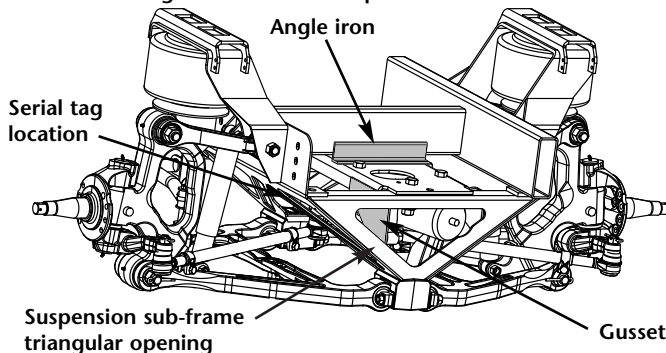
#### INSPECT IFS SUSPENSION TO DETERMINE IF YOU HAVE A GENERATION 2 IFS SUSPENSION

The reinforcement assembly in this supplemental kit and its components are intended for installation on Generation 2 suspensions that **DO NOT** have gussets and angle iron installed (shaded items in **FIGURE 1**).

**NOTE:** Note the large triangular opening in the front of the suspension sub-frame where the steering shaft connects to the steering gearbox.

**FIGURE 1**

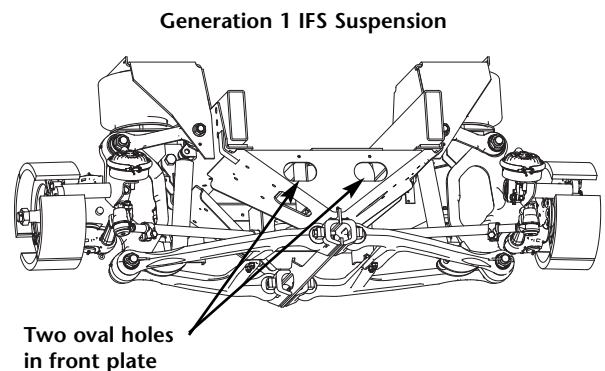
Only Generation 2 IFS Suspensions without gussets and angle iron installed require field modification



**NOTE:** The Generation 1 IFS suspension sub-frame shown below **does not** need this reinforcement assembly to enhance the rigidity of the steering gearbox mounting plate (**FIGURE 2**).

**NOTE:** The Generation 1 sub-frame has 2 oval holes in the front plate.

**FIGURE 2**



#### SUGGESTED TOOLS

1. 15/16" deep-well socket for 5/8" nuts
2. 1-5/16" deep-well socket for 7/8" nuts and bolts
3. 1-5/16" wrench
4. 600 ft.-lb. impact driver
5. Torque wrench
6. Socket wrench
7. Vehicle lift eases installation

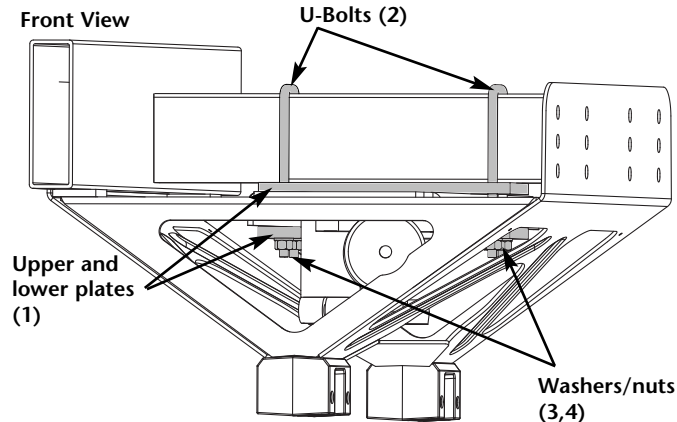
## PARTS LIST: U-BOLT PLATE INSTALLATION

Item	Description	Holland Part No.	Qty.
1*	U-Bolt Plate	900 34 573	2
2	U-Bolt	900 42 903	2
3	Washer, 0.65"	936 00 150	4
4	Nut, 5/8"-11 Gr C	934 00 490	4
5	Shim, 0.031"	900 36 261	4
6	Shim, 0.062"	900 36 262	2

**Note:** Place shims 5 and 6 between upper plate and existing cross member with edge of each shim aligned with the edge of the upper u-bolt plate.

\* Upon request, an alternate part is available, 900 34 579, if 900 34 573 interferes with the steering gear.

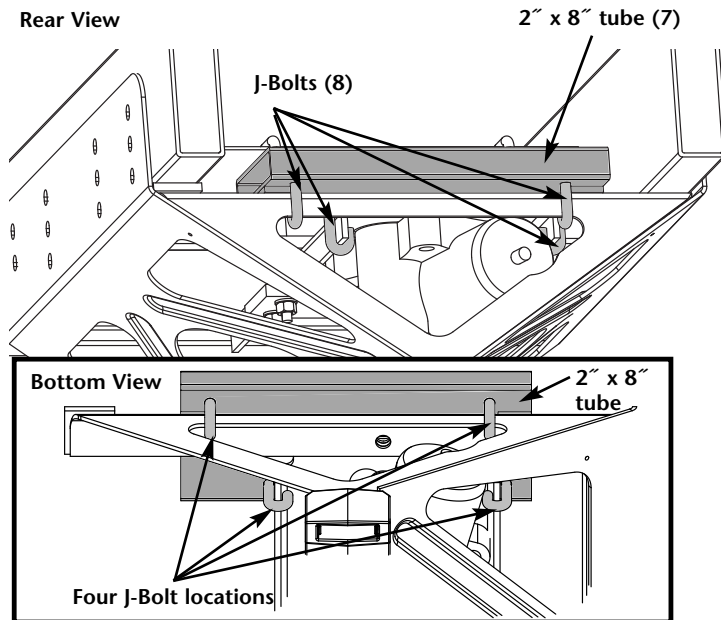
**FIGURE 3**



## PARTS LIST: 2" X 8" TUBE INSTALLATION

Item	Description	Holland Part No.	Qty.
3	Washer, 0.65"	936 00 150	4
4	Nut, 5/8"-11 Gr C	934 00 490	4
7	Tube, 2 x 8 Cross Member w/ Shims	905 48 124	1
8	J-Bolt	939 00 290	4
9	Washer, 0.88" Gr	936 00 162	2
10	Nut, Lock, 7/8"-9 Gr C	934 00 498	2
11	Bolt, 7/8"-9 x 5.0" Gr 8	930 03 845	1
12	Bolt, 7/8"-9 x 2.5" Gr 8	930 03 785	1

**FIGURE 4**



## TORQUE

**TABLE 1**  
**Torque Chart**

SIZE	TORQUE FT. LBS.	TORQUE NM
5/8" U-Bolt Nuts	90 - 100	122 - 135
5/8" J-Bolt Nuts	70 - 80	95 - 108
7/8" Gearbox Lock Nuts	500 - 600	677 - 812

### TORQUE NOTE:

Torque specifications are with clean lubricated threads.

### IMPORTANT:

Use of special lubricants with friction modifiers, such as Anti-Seize or Never-Seize, without written approval from Holland Engineering, will void warranty and could lead to bolt failure or other component issues.

## STEERING GEARBOX MOUNTING PLATE REINFORCEMENT PROCEDURE

### U-bolt plate installation

**WARNING** Always use jack stands of sufficient strength and position them according to OEM recommendations. Failure to do so may cause the vehicle to fall, resulting in vehicle damage and/or serious personal injury.

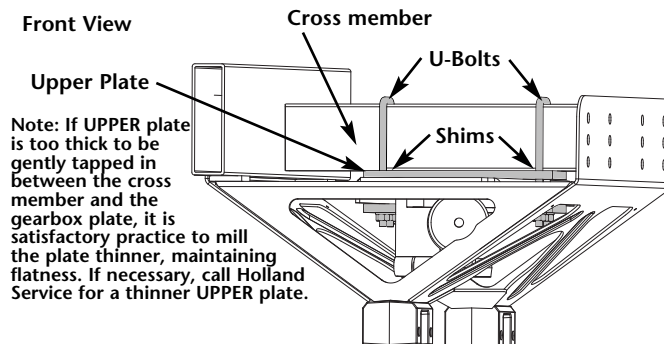
**CAUTION** DO NOT pinch hoses or lines. Hoses and lines must be accessible after installation of these parts.

1. Hang each of U-bolts (2) over the frame rail cross member (**FIGURE 5**).
2. Place one of the U-bolt plates (1) on top of the steering gearbox mounting plate and under the frame rail cross member, so that the U-bolt plate is parallel to the cross member. Add shims between upper plate and existing cross member.

When shimmed properly, the edges of the shims should be flush with the upper plate to align the U-bolt holes.

3. Insert the legs of each of the U-bolts through the holes in the U-bolt plate and shims.

**FIGURE 5**



## STEERING GEARBOX MOUNTING PLATE REINFORCEMENT PROCEDURE *continued*

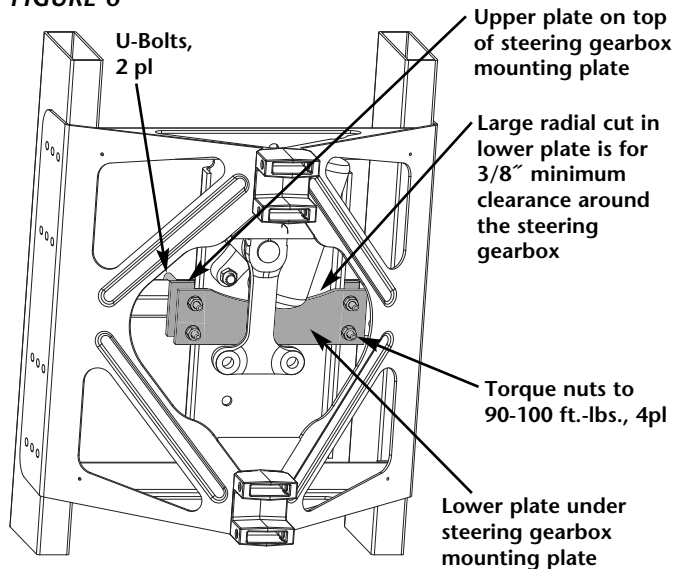
- Place the second U-bolt plate (1) *under* the steering gearbox mounting plate, and insert the legs of the U-bolts through this plate (**FIGURE 6**).
- Install 5/8"-11 nuts with washers. (Torque nuts evenly on each of the legs of both U-bolts to 90-100 ft.-lbs.)

**NOTE:** Additional washer or shims may be necessary with the *top* U-bolt plate to prevent excessive bending of the existing gearbox mounting plate.

**CAUTION** DO NOT bend plates when applying torque to U-bolts.

**CAUTION** If cross member is mislocated too far forward on the chassis, the lower U-bolt plate will interfere with the steering gearbox. Call Holland Service to request the alternate U-bolt plate listed in the parts list.

**FIGURE 6**



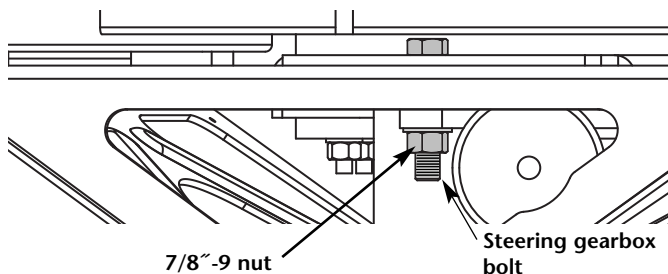
### 2" x 8" tube installation

**WARNING** Always use jack stands of sufficient strength and position them according to OEM recommendations. Failure to do so may cause the vehicle to fall, resulting in vehicle damage and/or serious personal injury.

**CAUTION** DO NOT pinch hoses or lines. Hoses and lines must be accessible after installation of these parts.

- Remove the 7/8"-9 nut, bolt, and washer at the front of the steering gearbox (**FIGURE 7**).

**FIGURE 7**

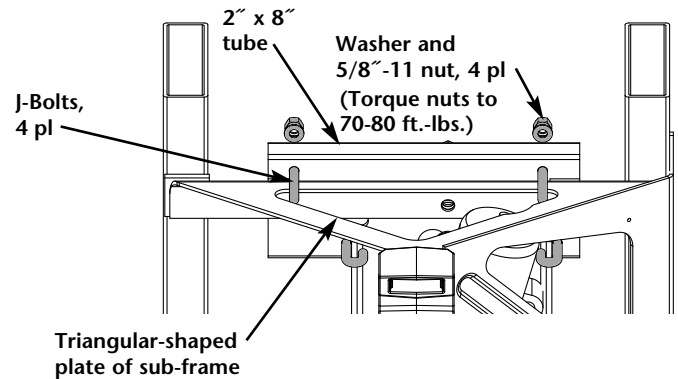


**CAUTION** Remove **ONLY** the front gearbox nut and bolt. If all three gearbox bolts are removed, the steering will need re-alignment.

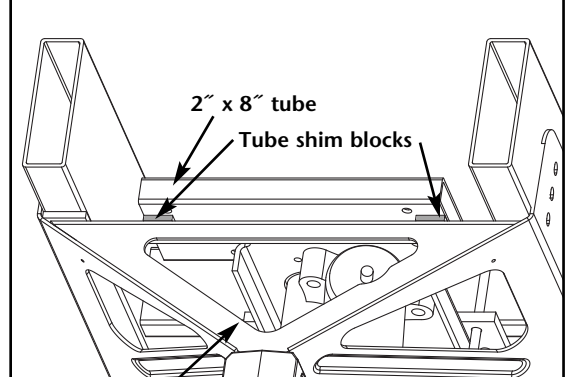
- Before installing the 2" x 8" tube (7) on the suspension sub-frame, insert the threaded end of J-bolts through the 0.70" diameter holes near the corners of the tube; insert the washers and 5/8"-11 nuts through the clearance holes on the other side of the tube (**FIGURE 8A**).
- Place 2" x 8" tube (7) (**FIGURE 8A**) on *top* of the existing steering gearbox mounting plate so that the shim blocks welded to the tube rest on the front edge of the front triangular-shaped plate of the sub-frame.

**NOTE:** The large holes should be on top of the 2" x 8" tube for washer, nut, and socket tool clearance (**FIGURE 8B**).

**FIGURE 8A**

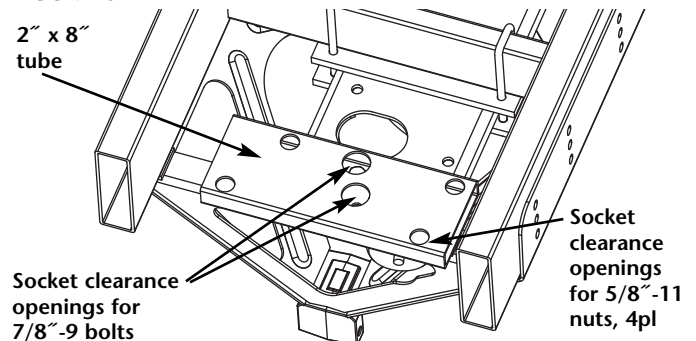


**DETAIL - TUBE SHIMS**



Triangular-shaped plate of sub-frame

**FIGURE 8B**

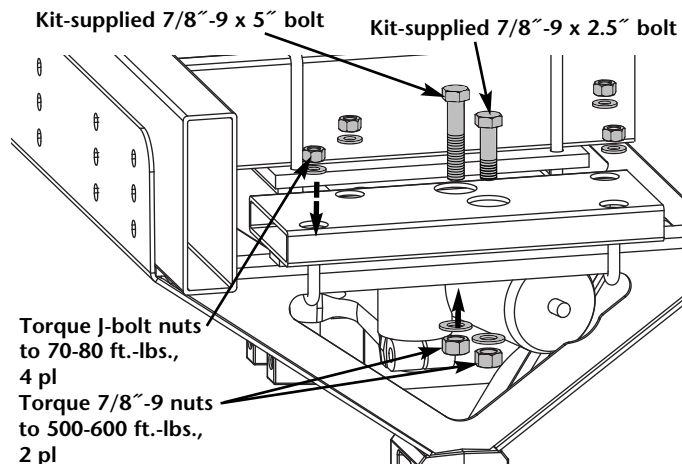


## STEERING GEARBOX MOUNTING PLATE REINFORCEMENT PROCEDURE *continued*

4. Install the 7/8"-9 x 5" bolt, washer, and a new nut (supplied in kit) for the front of the steering gearbox that was removed in step 1 (**FIGURE 9**). The bolt will go through the **rear** 7/8" clearance hole in the 2" x 8" tube. (Torque nut to 500-600 ft.-lbs.)

**CAUTION** Check power steering hoses for excessive wear or abrasion at gearbox.

**FIGURE 9**

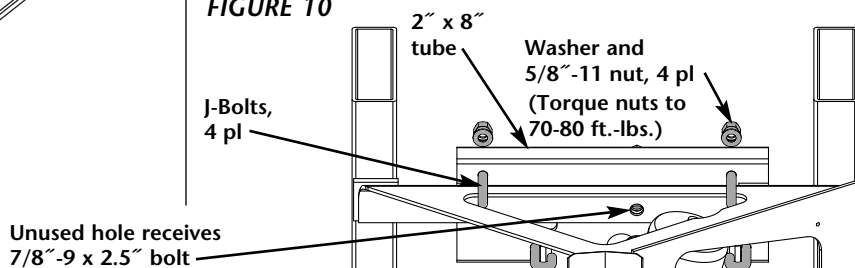


5. Install the new 7/8"-9 x 2.5" bolt through the unused hole in the top flange of the front triangular-shaped plate of the sub-frame (**FIGURE 10**). Install the new washer and nut through clearance hole in top of tube. (Torque nut to 500-600 ft.-lbs.)
6. Hook the J-bolts as shown in **FIGURE 10** around the flanges of the steering gearbox mounting plate and the front triangular-shaped plate of the sub-frame.
7. Tighten 5/8"-11 nuts through the clearance holes on the top of the 2" x 8" tube (**FIGURES 8B and 10**). (Torque nuts evenly to 70-80 ft.-lbs.)

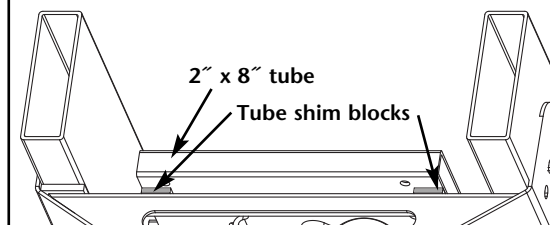
**IMPORTANT:** Ensure that there is even pressure between the shim blocks of the 2" x 8" tube and the front triangular-shaped plate of the sub-frame (**FIGURE 10A**).

**CAUTION** DO NOT bend flanges when applying torque to J-bolts.

**FIGURE 10**



**FIGURE 10A - TUBE SHIMS**



**GO THE DISTANCE.**

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