# Spartan Fire, LLC

**Campaign Service Bulletin**
**CSB22-250-001**

**DATE: 10/31/2022**

**APPLIES TO:** This service bulletin applies to 2014 through 2022 model year, Gladiator and Metro Star model emergency response chassis cabs built between October 21, 2014 to April 4, 2022.

**CONDITION:** Front shock lower bolts may come loose or break.

**CORRECTION:** Replace lower shock mount and bolt.

**LABOR ALLOCATION:** 1.5 hours for 20k
4.0 hours for 24k

**CLASSIFICATION:** V3

**PARTS NEEDED:**

**Lower Shock Mount Kit for Air Retention Kit equipped front suspension**

| QTY | Part Number | Description |
|---|---|---|
| 1 | K716166 | W/Air Retention |

**Lower Shock Mount Kit for standard front suspension**

| QTY | Part Number | Description |
|---|---|---|
| 1 | K716167 | W/O Air Retention |

**GENERAL INSTRUCTIONS:**

Thoroughly review entire service bulletin before starting work. If there are questions or concerns with steps defined in this service bulletin, contact Spartan Fire, LLC. Customer & Product Support Group.

All applicable industry safety standards must be followed when performing work identified in this procedure.

# Service Bulletin

**Service Bulletin: LSB 1221**
**Date**: 03/29/22
**REV**: OR

**Subject**: Some IFS-FT units may have shock absorbers that experience excessive loading during road events that cause full extension of the shock absorber. This can result in damage to and possible failure of the shock absorber.
**Applies To:** IFS for Fire Truck
**VDM Range:** 10/31/2014 thru 10/28/2021, excluding units contained at OEM.
Verify with OEM on specific affected units and applicable serial numbers.
**Vocation**: Fire Truck ER
**Labor Allowance:** 1.5 Hours for 20k units and 4.0 hrs for 24k units

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**Please Read the Entire Bulletin and Reference Drawing D716168 before Proceeding with Any Work. Follow industry standards regarding safety equipment and procedures. Refer any questions to Reyco Granning Field Service/Warranty department via 417-466-1044. (Mark Bachman)**

## ⚠ WARNING:

**⚠ Use jack stands or other safety devices to properly support vehicle**

**Failure to safely support the vehicle and follow the procedures in this bulletin can lead to property damage and/or personal injury.**

**This procedure should be done in the event that shock absorber life is shortened or reduced to less than 2 years.**

**For trucks with 24k IFS this procedure is best performed with the truck frame jacked up 2-3 inches. 20k units can be done without lifting the vehicle. Support vehicle per standard safety requirements. Reference drawing D716168 for part numbers, torque specs, and thread-locker specification.**

**Caution: Fasteners with specified torques should not be tightened beyond hand tight with an impact wrench or driver.**

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**Note:** This document is for trained professional technicians, who have been trained in the use of industrial standards, and have the tools to perform this service safely and correctly.

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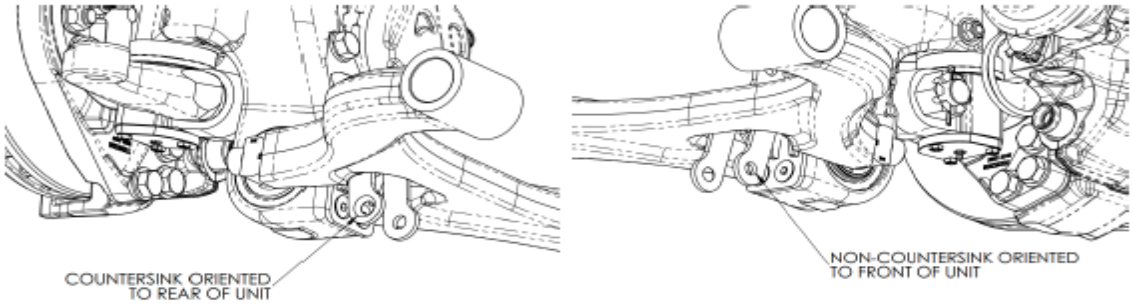
**Procedure:**

- Remove the original shock absorber and hardware and discard.

**For 24k units**, remove nut that attaches transverse leaf spring to shackle.
- Place a small jack under the transverse spring, near the eyelet to allow access to the lower shackle bolt, and lift slightly so shackle bolt can be removed.
- Remove shackle bolt, release jack and allow the transverse spring to relax and lower out of the way.

**For 20K units and proceeding with 24k units**
- Remove the ¾" bolt attaching the shock bracket to carrier with 1 1/8" socket and ratchet, or box end wrench.
- Remove the 2 Allen hex drive flathead screws from the lower end of the shock bracket with a 3/8" Allen wrench or socket.
- Remove lower shock bracket.

**For 24k units,** transfer shackles to the new lower shock bracket and tighten to specification with the shackles placed into the original orientation, including bolt direction.
- Install the new lower shock bracket (with shackles) with new hardware and blue Loctite 242 (or equivalent), torque to specification.




- Use small jack again to raise and connect the transverse spring to shackles with new hardware and torque to specification.



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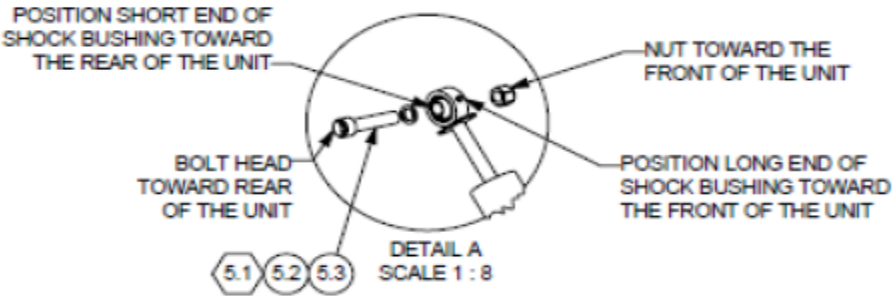
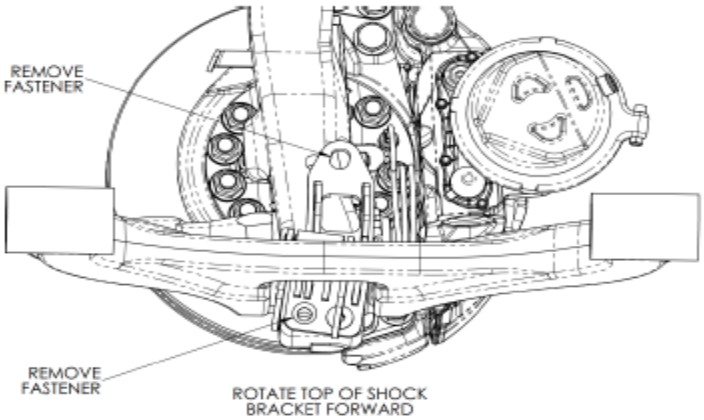
Install new shock per drawing 716092, see image below.




- Repeat procedure on opposite side of the truck.

**24k Tips and Tricks:**

- **Lower Shock Bracket Removal**
- Lower shock bolt brackets can be difficult to remove and reinstall on trucks equipped with a 24k suspension. This is due to the fact that one of the lower flathead screws is directly behind the spring shackle links. To further compound the difficulty, the upper shackle bolt is covered up by the lower control arm and is inaccessible. The following tips will help make the job easier.
- At full suspension droop, the lower shock bracket can be rotated about the one difficult to access bottom flathead screw if the other two fasteners are removed. This rotation often allows enough displacement of the bracket to allow access to the upper shackle bolt. Loosening the upper shackle bolt allows the shackle links to be swung out of the way and full access to the lower flathead screw can be gained.



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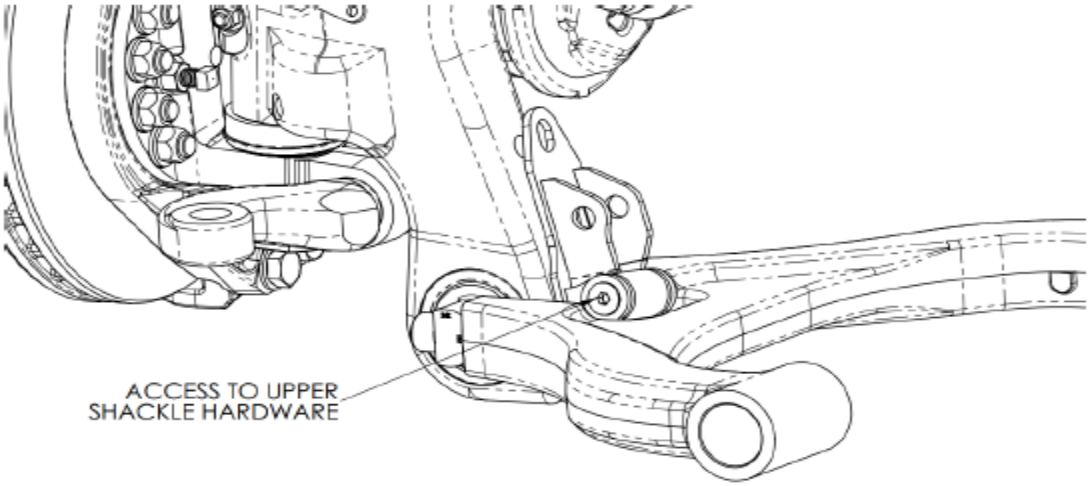
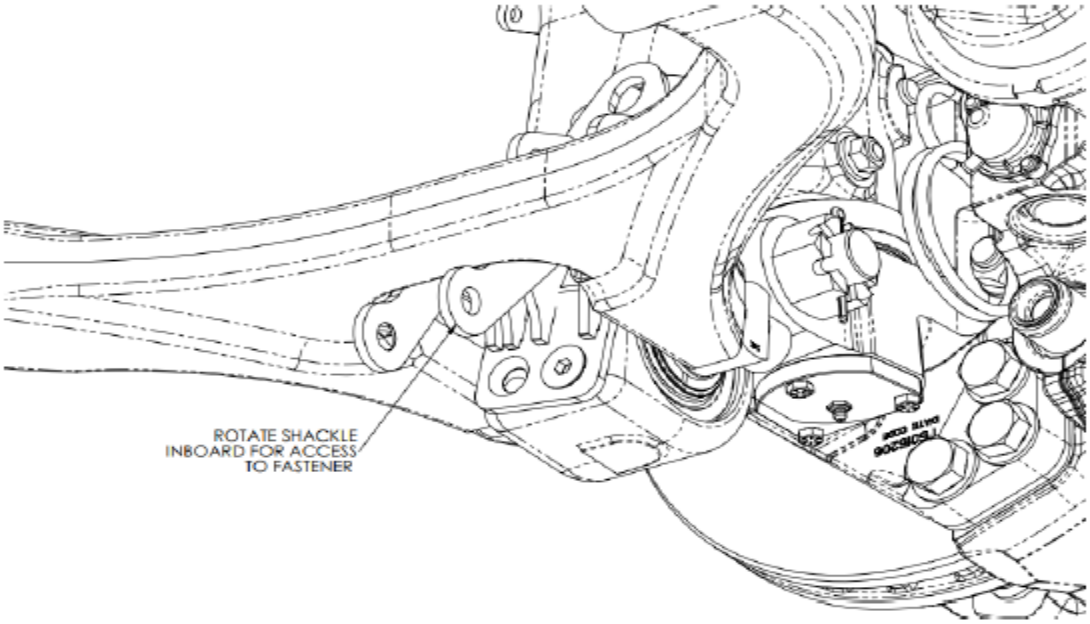
**24k Tips and Tricks (cont.):**



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**24k Tips and Tricks (cont.):**

- **Lower Shock Bracket Reinstallation.**
- Loosen ¾" Upper bolt first on the lower shock bracket.
- Tighten the two flathead screws first (with the ¾" upper bolt installed, but not torqued).
- If required, the carrier / hub assembly can be unbolted from the lower control arm at the bar pin connection. The wheel and tire will have to be removed and all air removed from the air spring, then the carrier / hub assembly can be jacked and rotated up. This allows full access to the upper shackle bolt for both removal and installation of the shackle links and for full access to the flathead screws.

- **Shock Absorber.**
- Access to the Upper Shock Bolt is easiest with a 5/8" Allen socket, about 12" of extension and a breaker bar through the tooling holes provided in the cradle.



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For warranty coverage please supply the following info with warranty claim and submit to Reyco Granning.

1. Suspension serial number, located on tag at left front of suspension.
2. In Service Date
3. Repair Date
4. Vehicle mileage (if available)
5. Invoice #

## Parts Required:

One Reyco Granning Kit #K716166 for Ariel, Platform, and other High Center of Gravity trucks.
One Reyco Granning Kit #K716167 for Pumpers, Engines, Rescues, and other conventional trucks with a lower center of gravity.

## Tools Required:

½" Adjustable Torque Wrench capable of at least 250 ft-lbs.
¾" Adjustable Torque Wrench capable of at least 400 ft-lbs.
15/16" Socket
15/16" Box End Wrench
1-1/8" Socket
1-1/8" Box End Wrench
One 3/8" Allen wrench or drive socket
One 3/8" Allen drive socket
One 5/8" Allen drive socket
Various lengths of socket extensions as needed.

- Totaling at least 12" of length.

## Torque Specs (20K):

Upper Shock Bolt – 250 ft-lbs.
Lower Shock Bolt – 250 ft-lbs.
¾" Hex Head Carrier to Lower Shock Mount Bolt – 315 ft-lbs.
5/8" Flathead Carrier to Lower Shock Mount Bolt – 180 ft-lbs.

## Torque Specs (24K):

Upper Shock Bolt – 250 ft-lbs.
Lower Shock Bolt – 250 ft-lbs.
¾" Hex Head Carrier to Lower Shock Mount Bolt – 315 ft-lbs.
5/8" Flathead Carrier to Lower Shock Mount Bolt – 180 ft-lbs.
Spring Shackle Bolts – 160 ft-lbs.



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