



MY SAFE T PLUS® UNIT

MODEL NO.

SERIAL NO.

INSTALLATION INSTRUCTIONS FOR MOUNTING HARDWARE KIT ZF-1003K2.5

This kit supports installation of SAFE T PLUS®:



**MODEL #42-270
(YELLOW)**



KEEP INSTRUCTIONS IN VEHICLE AT ALL TIMES



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Our Commitment to You

We, here at SAFE T PLUS®, are driven by the relentless pursuit to **“Help Drivers Arrive Safely to their Destinations”**.

It is through our uncompromising customer service and focus on producing high quality products that ensures we meet the expectation and satisfaction of the people using our products. Our appreciation of our customers is reflected through the quality of our products and our professional level of customer service. Our commitment to customer service doesn't end when you receive your product. Rather, it is our core principle in building relationships throughout the ownership of your SAFE T PLUS® products.

Thank you from the SAFE T PLUS® Team!

IMPORTANT SAFETY INFORMATION



Before installing your SAFE T PLUS® unit:

- ✓ **Be sure that vehicle is able to maintain a straight-ahead trajectory when driven on a straight and level stretch of road, without drifting left or right. If vehicle tends to drift, you might need to service vehicle alignment in accordance with vehicle manufacturer's specifications.**
- ✓ **Check the condition of vehicle tires. Be sure tires are properly inflated and exhibit normal wear. Correct deficiencies if noted.**



Installing the SAFE T PLUS® unit requires gaining access to the front underside of your vehicle. Be careful when working underneath your vehicle.



Use all tools, safety items, and recommended items in accordance with product manufacturer's instructions.

IMPORTANT SAFETY INFORMATION



SAFE T PLUS® only permits the use and installation of genuine and original Factory Provided/Supplied parts and accessories. SAFE T PLUS® DOES NOT ALLOW any replacement, substitute, homemade, or alternative parts or accessories to be used with any products for your safety and to ensure the proper functionality of your SAFE T PLUS® Steering Control. SAFE T PLUS® DOES NOT ALLOW any of its factory provided parts to be altered, modified, and changed under any circumstance. Failure to use genuine SAFE T PLUS® parts could result in product failure, breakage, potential accident, which will immediately void your warranty and any liability of SAFE T PLUS®. Your safety is our first priority.

If you need any replacement parts, they may be ordered through SAFE T PLUS® distributors, dealers, and the factory depending on your point of purchase. If you need help locating replacement parts, please contact us direct, we would be happy to help.

SAFE T PLUS® WARRANTY INFORMATION

Our team is committed to producing the highest quality Steering Control devices to all our customers. So, in the event that anything is wrong or incorrect with your SAFE T PLUS® Steering Control product(s), we will work hard to make it right for you, and fast.

Any SAFE T PLUS® products damaged in shipping (when ordered directly from SAFE T PLUS® Factory) or defective products must be returned directly to SAFE T PLUS® in the original box or comparable cardboard packing securely protecting the product. A Return Goods Authorization Number (RGA#) must be attained first, and included with the product. We will issue a call tag to have the product picked up and shipped to us.

Submit a warranty request claim by completing the below Warranty Request Form or by contacting SAFE T PLUS® at (770) 322-8727 or support@safe-t-plus.com.

Limited Warranties

SAFE T PLUS® for Recreational Vehicles (Class, A, B, C and Towable Vehicles) – Limited Lifetime Warranty

Safe T Plus Steering Control products installed on any recreation vehicle (class A, B, C and towable vehicles) carry a limited lifetime warranty against defects in material and workmanship, subject to the limitations and disclaimers below (the “**Limited Lifetime Warranty**”). The Limited Lifetime Warranty shall apply to the original Safe T Plus Steering Control product purchaser only and is non-transferable.

WARRANTY LIMITATIONS AND DISCLAIMERS

In Safe T Plus’ sole judgment if this warranty applies, Safe T Plus will repair or replace the Safe T Plus unit, mounting bracket, part or component that is deemed defective. The any and all costs to remove your Safe T Plus Steering Control unit, mounting bracket, part and/or component, ship the product to Safe T Plus, and after any warranty repair or warranty return, re-install, road test, and/or center such products, will be at your sole cost and expense through direct arrangement with the point-of-sale dealership, service center, online reseller, or other third-party entity.

Safe T Plus is not responsible for any (i) outside service work or service warranty costs, (ii) customer expense reimbursement, (iii) customer travel expenses (i.e. service, lodging, food, fuel, etc.) or (iv) other associated costs (including damages and incidental costs) from dealers, service centers, retail outlets, other third parties, or related mechanics, associated with installing, removing, reinstalling, road testing, and/or centering of replacement or returned Safe T Plus units, mounting brackets, parts or components that are sent for warranty repair.

Safe T Plus reserves the right to change or modify any of its parts or products without assuming obligation to modify any previously manufactured part or products.

Additional Limitations

This warranty will not apply to a Safe T Plus unit, mounting bracket, part or component that (i) has been altered from Safe T Plus’ original construction in any way so as, in Safe T Plus’ sole judgment, to affect its stability, functionality, or longevity, (ii) was installed improperly, (iii) was not installed according to factory instructions, (iv) was structurally altered, (v) was used in conjunction with non-factory or non-genuine Safe T Plus parts, or (vi) has been in any way, in Safe T Plus’ sole judgment, subject to misuse, negligence, unauthorized repair, adjustment, or accident. This warranty does not cover any other component related to a vehicle’s steering assembly, front end suspension, tires, other after-market or chassis/vehicle installed products, or chassis.

This warranty is limited to material and workmanship matters. Safe T Plus will not reimburse you to re-center or align your Safe T Plus unit, mounting bracket, part or component after any warranty repair or replacement. You are solely responsible to ensure your Safe T Plus unit, mounting bracket, part or component is centered and aligned properly at all times.

Limitation of Liability

THE MAXIMUM LIABILITY OF SAFE T PLUS UNDER THIS WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE SAFE T PLUS PRODUCT, PART OR COMPONENT. TO THE MAXIMUM EXTENT PERMITTED BY LAW. SAFE T PLUS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY.

Exclusive Remedy

TO THE MAXIMUM EXTENT PERMITTED BY LAW, THIS WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. TO THE MAXIMUM EXTENT PERMITTED BY LAW, SAFE T PLUS SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

WARRANTY RETURN INFORMATION

Safe T Plus products considered for warranty must be returned directly to Safe T Plus in Austell, Georgia, in the original box or adequately secured cardboard boxing, freight prepaid by customer. A copy of customer's name, return shipping address, contact information (phone, email) and the Return Goods Authorization (RGA#) must be included with the product.

Warranty replacement units or mounting brackets, bolt kits will be returned to customer at Safe T Plus' expense (freight prepaid for return).

In the event of a vehicle accident with Safe T Plus installed, please remove the Safe T Plus Unit and all associated mounting brackets, bolt kits. We want to ensure your Safe T Plus products were not damaged and are properly functioning after any type of accident.

Submit a warranty request claim by completing the below Warranty Request Form or by contacting Safe T Plus at (770) 322-8727 or support@safe-t-plus.com.

Ship your return product (must include the RGA# you are provided) to:

Safe T Plus
Attention: RGA
634 Golf Course Rd
Tallapoosa, GA 30176

We recommend keeping a copy of your tracking number for your records.

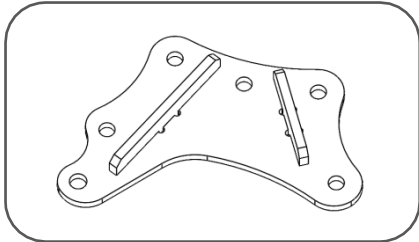
Once the return product is received at our factory, please allow 1-2 days to process your warranty claim and ship out your warranty replacement product(s). All warranty replacement products will be shipped out by regular Ground Shipping Service at manufacturer's costs. If, however, you need replacement products expedited quicker than regular Ground Shipping Service, return expedited shipping costs will be at your expense and non-refundable.

KIT CONTENTS & REQUIRED FASTENERS

NAME AND DESCRIPTION

PART NUMBER

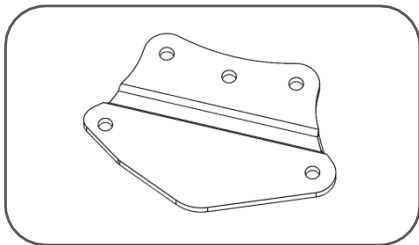
QUANTITY



Upper Pitman Arm Bracket

USI-1030

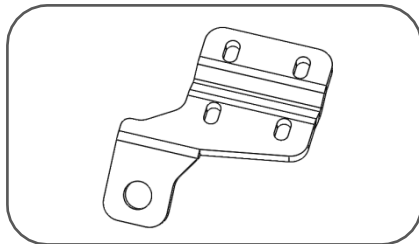
1



Lower Pitman Arm Bracket

USI-1003

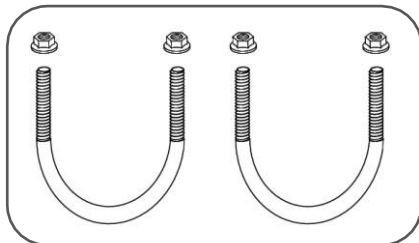
1



Tie-Rod Bracket

USI-1014

1



U-Bolt Kit

12-38-1625K

*(contains two
3/8 x 1-5/8-inch
U-Bolts, and four
3/8-16 flanged lock nuts)*

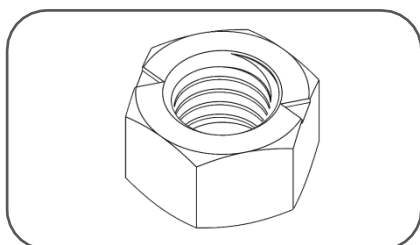
1

KIT CONTENTS & REQUIRED FASTENERS (cont'd)

NAME AND DESCRIPTION

PART NUMBER

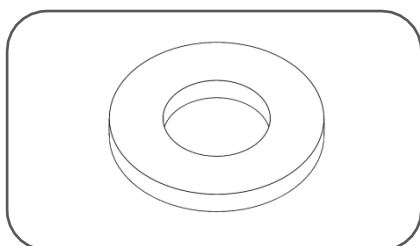
QUANTITY



1/2-13 Hex Lock Nuts

14-450

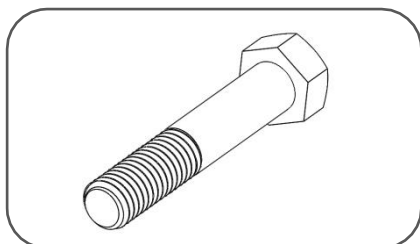
5



1/2" Washers

15-450

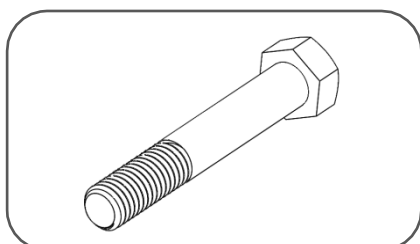
5



1/2"-13 x 2-3/4" Hex Bolt

10-4-275-13

3



1/2"-13 x 3-1/4" Hex Bolt

10-4-325-13

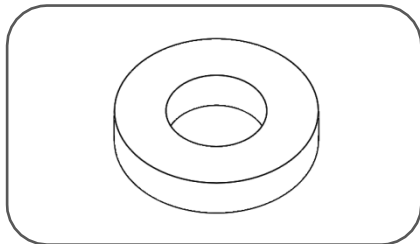
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KIT CONTENTS & REQUIRED FASTENERS (cont'd)

NAME AND DESCRIPTION

PART NUMBER

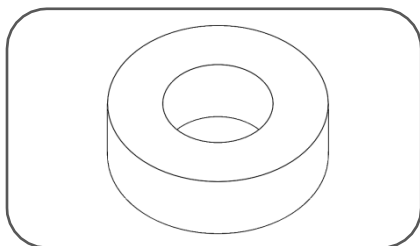
QUANTITY



16-700

2

9/16" x 1/4" Spacer

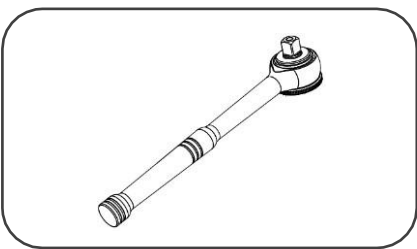


16-250

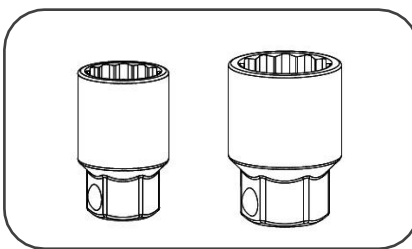
1

9/16" x 1/2" Spacer

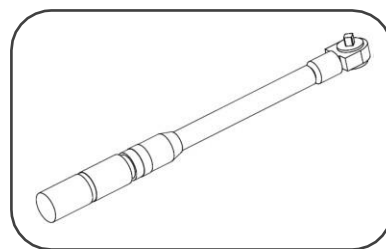
TOOLS REQUIRED



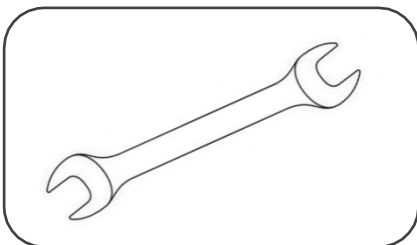
Socket Wrench



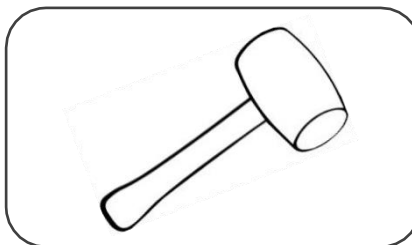
Deep Well Sockets
(9/16", 3/4", 13/16", 1-1/8")



Torque Wrench
(25-250 foot pounds)



Open Ended Wrench
(3/4", 7/8", 1-1/8")

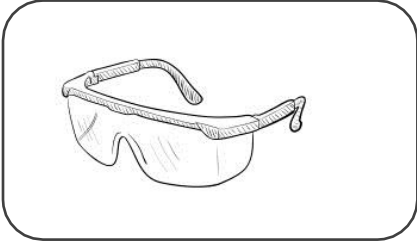


Rubber Mallet

SAFETY & OTHER RECOMMENDED ITEMS

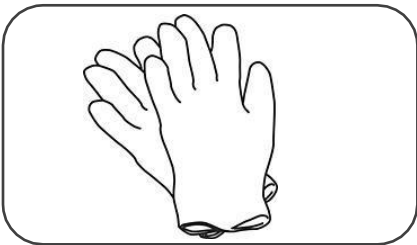
NAME AND DESCRIPTION

PURPOSE



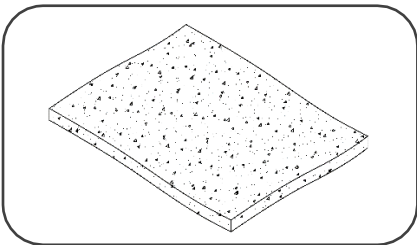
Safety Glasses

Protect eyes from debris while installing SAFE T PLUS[®].



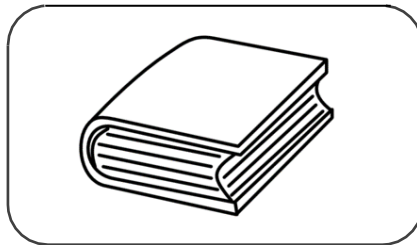
Nitrile Gloves

Protect hands from dirt and lubricants during SAFE T PLUS[®] installation.



Scotch Brite Pad

Remove dirt and debris from tie rod.



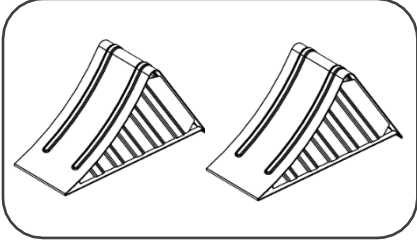
Vehicle Operator's Manual

Reference source.

SAFETY & OTHER RECOMMENDED ITEMS (cont'd)

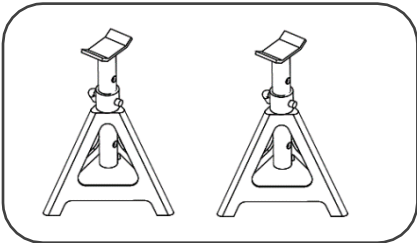
NAME AND DESCRIPTION

PURPOSE



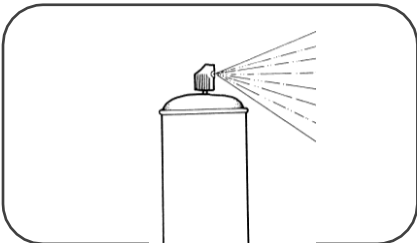
Wheel Chocks

Prevent vehicle from moving when parked.



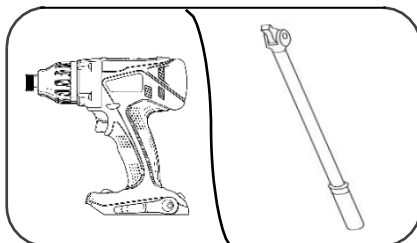
Safety Jack Stands

Support raised vehicle.



Penetrating Oil Lubricant
(PB Blaster or similar)

Helps to loosen existing nuts on vehicle that may be difficult to remove.



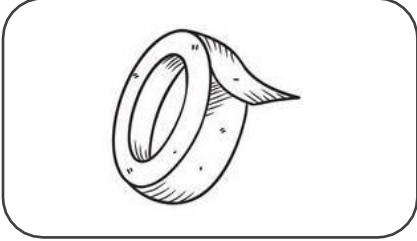
Impact Wrench OR
Breaker Bar

Assist with removal of existing nuts on axle assembly U-bolt if required.

SAFETY & OTHER RECOMMENDED ITEMS (cont'd)

NAME AND DESCRIPTION

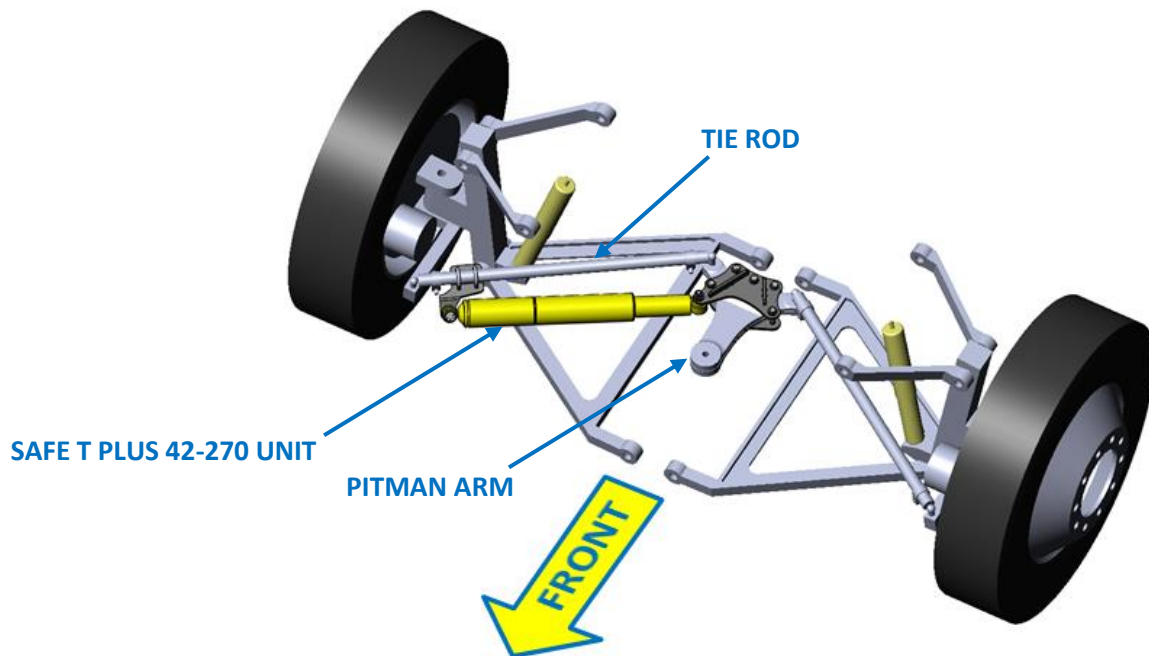
PURPOSE



Painter's Tape

Apply to steering wheel and dashboard for center steering alignment purposes.

SAFE T PLUS® INSTALLATION



WARNING

FOR VEHICLES WITH ENGINES OR GENERATORS MOUNTED IN THE FRONT, USE CAUTION WHEN WORKING AROUND ENGINE AND EXHAUST COMPONENTS. COMPONENTS CAN REMAIN HOT FOR UP TO AN HOUR AFTER ENGINE OR GENERATOR SHUTDOWN. FAILURE TO COMPLY MAY RESULT IN INJURY.

NOTE

- When parking vehicle, ensure that wheels are in a straight ahead position. This can be accomplished by ensuring that your vehicle is traveling straight ahead and stopping the vehicle with the steering wheel in that position.

SAFE T PLUS® INSTALLATION

1. Gain access to the underside of front axle assembly.

NOTE

Some vehicles are equipped with a factory-installed damper (reference above drawing). The damper looks similar to the SAFE T PLUS® unit, with one end attached to the Tie-Rod, and the other end is usually attached to the frame of the vehicle. If damper is installed, remove damper, brackets, and mounting hardware in its entirety before continuing with procedure.

2. Place USI-1030 on top of the Pitman Arm with the flat side down as shown in Figure 1

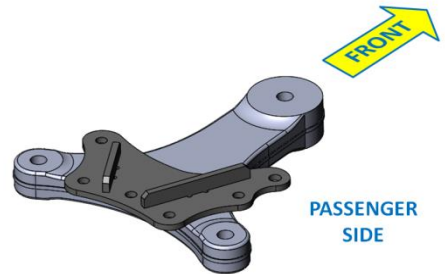


Figure 1

3. Place USI-1003 up against the bottom of the Pitman Arm as shown and loosely install the five 1/2"-13 bolts
 - Place a washer under each bolt head
 - Threads point down for all bolts
 - The 3-1/4" long bolts go in the outermost holes (Figure 2)
 - Place a washer under the nut for each bolt

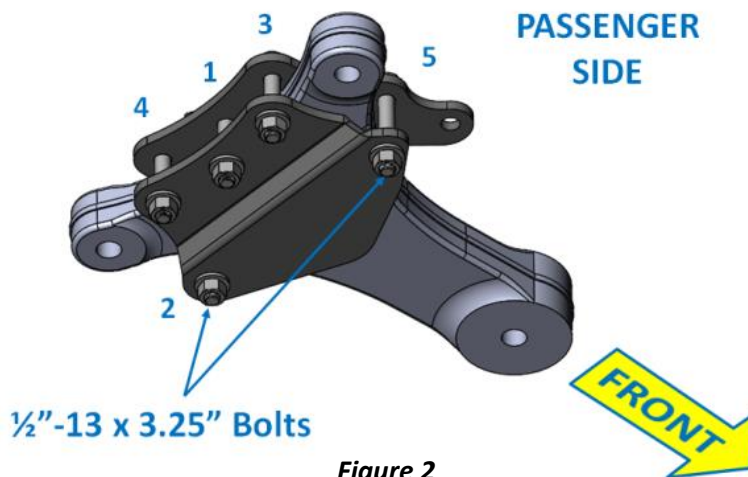


Figure 2

SAFE T PLUS® INSTALLATION

4. With the 1/2" bolts loosely installed, tighten each nut in a star pattern in the order shown in Figure 2, working up to **60 ft-lbs**
 - Make sure the brackets stay centered on the Pitman Arm while tightening down the bolts
5. Loosely install USI-1014 on the end of the passenger tie rod using the 1-5/8" U-Bolt Kit (12-38-1525K). The bracket should be on the underside of the tie rod with the 3/4" bolt hole facing towards the front of the vehicle (Figure 3).
 - The clamp on the end of the tie rod may need to be loosened and rotated to get out of the way of the tie rod bracket. Check the clamp nut's torque before loosening with the torque wrench. Rotate and retighten to the same torque value.

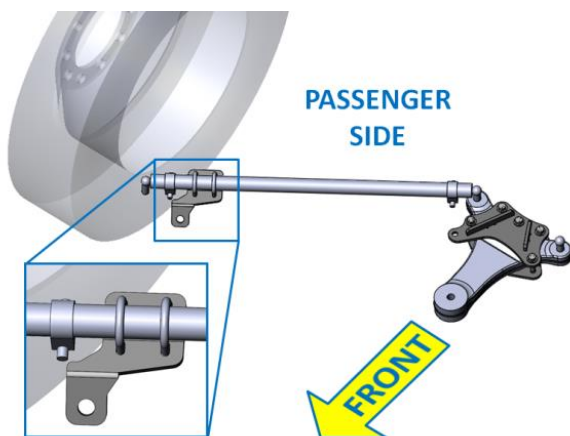


Figure 3

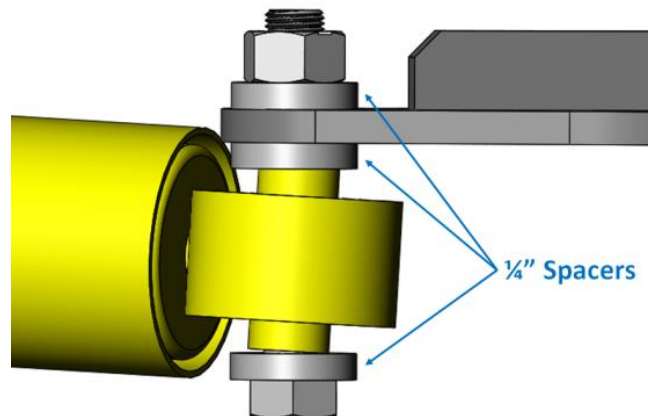


Figure 4

6. Hang the small end of the SAFE T PLUS® from USI-1030 using the 9/16"-18 x 3-1/2" bolt, three 1/4" spacers, and the 9/16" lock nut (Figure 4)
 - Place the spacer under the bolt head.
 - Install the bolt with the threads pointing up.
 - Place another spacer between the SAFE T PLUS® and the underside of USI-1030.
 - Place the third spacer under the lock nut.
 - Torque the lock nut to **110 ft-lbs**, making sure the heim joint on the SAFE T PLUS® does not bind

SAFE T PLUS® INSTALLATION

7. Hang the large end of the SAFE T PLUS® from USI-1014 using the 3/4"-16 x 3-1/2" bolt, 1/2" spacer, washer, and lock nut (Figure 5)

- Place 1/2" spacer on top of the mounting flange of USI-1014.
- Place the bushing of the SAFE T PLUS® on top of the spacer.
- Place the washer under the bolt head and insert the bolt, threads pointing down, through the bushing, the spacer, and the mounting hole of USI-1014.
- Loosely install the lock nut on the back side of USI-1014.

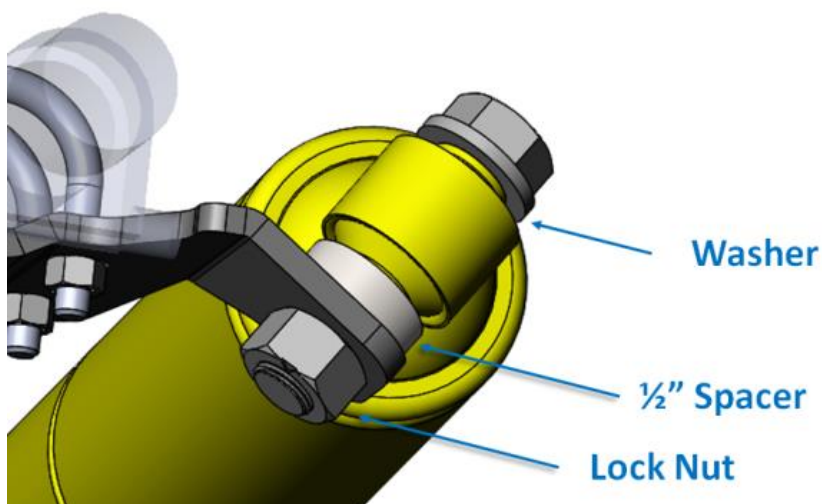


Figure 5

8. Snug the U-bolt nuts down with SAFE T PLUS® horizontal

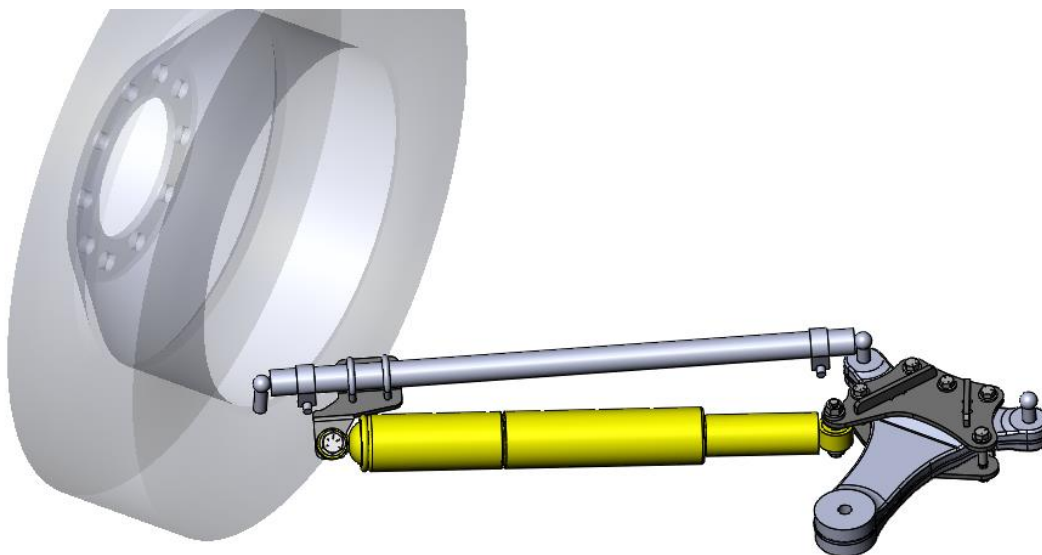
- Make sure there is ample room for adjustment between the USI-1014 and the tie rod clamp.
- Ensure that the unit is not binding at all and torque down the 3/4" lock to at least **150 ft-lbs.**
- Fully tighten the U-bolt nuts to **20 ft-lbs.**

SAFE T PLUS® INSTALLATION

WARNING

- OVER TIGHTENING OF TIE-ROD BRACKET FLANGED LOCK NUTS CAN CAUSE IMPROPER FIT AND POTENTIAL FAILURE OF U-BOLTS. IF YOU EXCEED 20 FOOT-POUNDS OF TORQUE ON TIE-ROD BRACKET FLANGED LOCK NUTS, TIE-ROD BRACKET WILL BEND CAUSING U-BOLTS TO FLARE OUT. STOP INSTALLATION IMMEDIATELY AND CALL SAFE T PLUS® TO ORDER A NEW TIE-ROD BRACKET AND U-BOLT KIT. DRIVING WITH BENT TIE-ROD BRACKET AND U-BOLTS CAN CAUSE A SERIOUS DRIVING ACCIDENT.
- A RUBBER Mallet IS REQUIRED TO GENTLY TAP U-BOLTS INTO PLACE IN THE FOLLOWING STEP. IF U-BOLTS DO NOT REQUIRE GENTLE TAPPING INTO PLACE, CONTACT SAFE T PLUS® CUSTOMER SERVICE TO ENSURE THAT YOU HAVE THE CORRECT PART. PROPER FITTING U-BOLTS ARE A SAFETY REQUIREMENT.

9. If vehicle is raised, lower vehicle to the ground with full weight on wheels in accordance with vehicle manufacturer's instructions.



SAFE T PLUS® INSTALLATION

Full Right/Left Turn Steer Test

NOTE

Two people are required for the following step. One person should remain inside the vehicle, and the other person outside the vehicle to observe.

WARNING

THE OUTSIDE OBSERVER WILL HAVE TO GAIN ACCESS TO THE FRONT UNDERSIDE OF THE VEHICLE WHILE THE VEHICLE IS OPERATING, AND WHILE THE STEERING WHEEL IS TURNED TO THE EXTREME RIGHT AND EXTREME LEFT. WHILE OBSERVER IS UNDERNEATH VEHICLE, ENSURE THAT:

- **PARKING BRAKE REMAINS APPLIED.**
- **LEVELING JACKS ARE NOT ACTUATED (IF EQUIPPED)**
- **OBSERVER REMAINS CLEAR OF WHEELS WHEN THEY ARE TURNED LEFT AND RIGHT.**

FAILURE TO COMPLY MAY RESULT IN INJURY OR DEATH.

10. Start vehicle. Turn steering wheel to both extreme left and right positions and ensure SAFE T PLUS® unit does not bind or scrape front axle assembly components. If interference is noted, return steering wheel to straight ahead position and shut the vehicle down. Adjust the Tie-Rod Bracket assembly as required. Repeat this step as required until SAFE T PLUS® unit does not interfere with steering components. Should SAFE T PLUS® continue to contact steering assembly components, please contact our technical support team at (770) 322-8727 for further assistance.
11. Installation is complete. The next step is Road Test and Centering, with adjustment if necessary.

ROAD TEST & CENTERING

NOTE

- Two people are recommended for the following step. *If only one person will perform road test, be sure to bring painter's tape to assist with marking steering wheel for proper alignment.*
 - *Bring a socket wrench, 9/16-inch socket, and torque wrench for road test.*
1. Perform road test by driving vehicle on flat, straight surface away from traffic. Drive vehicle without forcing the vehicle to travel straight and note (if any) the direction the vehicle is pulling (left or right). If vehicle maintains a straight trajectory, then this is your final step.
 2. If vehicle is pulling in a certain direction, continue driving the vehicle, but use the steering wheel to hold the vehicle in a straight line.
 3. Stop the vehicle on a flat surface, away from traffic, and hold the steering wheel so that the wheels remain in the straight ahead position.
 4. Place the vehicle in park and engage the emergency brake.

NOTE

- One person must hold the steering wheel so that the wheels remain in the straight ahead position, while the second person steps outside the vehicle to adjust the SAFE T PLUS® unit. If second person is not available, place a strip of **painter's tape** on the top center of the steering wheel, and place a strip on the dashboard above the instrument cluster, directly in line with tape on steering wheel before exiting the vehicle (*Figure 6*).
- When loosening **Flanged Lock Nuts** on the **U-Bolts** in the following step, allow the SAFE T PLUS® unit to push the Tie-Rod Bracket assembly along the Tie-Rod under its own spring loaded pressure. Do not hammer or force the Tie-Rod Bracket into position.

ROAD TEST & CENTERING

5. For the person outside of the vehicle, gain access to SAFE T PLUS[®] unit. Using a socket wrench with a 9/16-inch socket, and loosen **Flanged Lock Nuts** on Tie-Rod Bracket **U-Bolt** and allow the SAFE T PLUS[®] unit to freely move to its centered position. Once the SAFE T PLUS[®] unit rests at its centered position, using a torque wrench with a 9/16-inch socket, torque Tie-Rod Bracket **Flanged Lock Nuts** to **20 foot pounds** (*Figure 3*).
6. Repeat road test until vehicle is able to maintain a straight trajectory. If centering the SAFE T PLUS[®] unit requires more than 2 or 3 attempts, please contact our technical support team at (770) 322-8727 for further assistance.

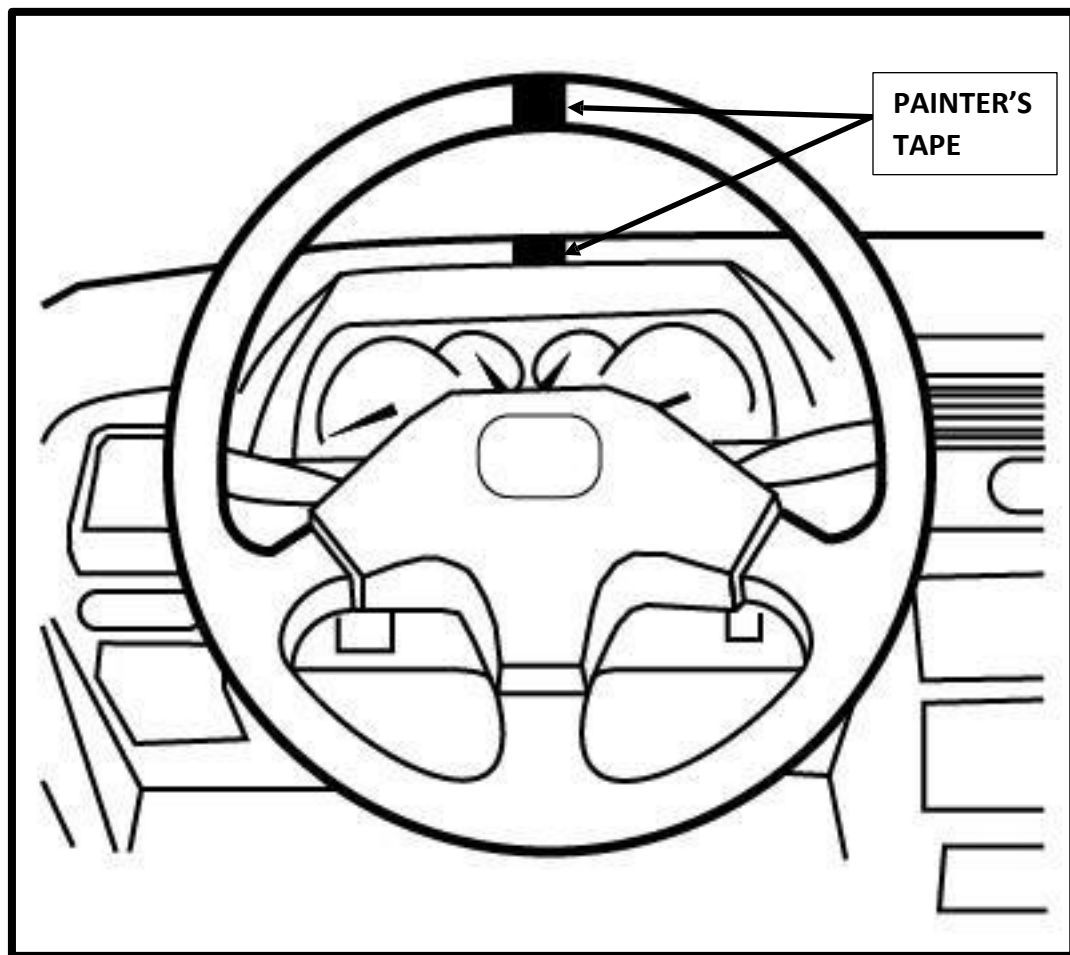


Figure 6. Tape Application to Steering Wheel and Dashboard

VEHICLE ALIGNMENT SHOP INSTRUCTIONS

For future front-end alignments:

1. Gain access to SAFE T PLUS[®] unit. Using a socket wrench with a 9/16-inch socket, loosen **Flanged Lock Nuts** on Tie-Rod Bracket **U-Bolts** so that **Tie-Rod Bracket** is no longer secured to the Tie-Rod. Be sure Tie-Rod can slide freely between the **U-Bolts** and **Tie-Rod Bracket** without binding (*Figure 1*).
2. After completion of vehicle alignment, ensure vehicle front wheels remain in the straight ahead position. Using a torque wrench with a 9/16-inch socket, torque **Flanged Lock Nuts** on Tie-Rod Bracket **U-Bolts** to **20 foot pounds** (*Figure 1*).
3. Perform road test in accordance with **ROAD TEST AND CENTERING** section in this manual.



If vehicle fitted with SAFE T PLUS[®] unit is involved in an accident, please contact us immediately as your SAFE T PLUS[®] Steering Control unit and assembly could be damaged.

United Safety Apparatus, Inc

ADDRESS:

634 Golf Course Rd
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