

**INSTALLATION INSTRUCTIONS  
FOR  
FORD F-250 GAS  
W/ LEAF SPRING SUSPENSION**

PARTS NEEDED:

3-19-02 C

**31-120**      **SAFE-T-PLUS** unit (White)  
**F-316K13**    **MOUNTING HARDWARE KIT** consist of:

25-316		ANCHOR BRACKET
25-401		TIE ROD BRACKET
12-516-1125K		5/16" X 1 1/8" U-BOLT KIT
10-3-125	2	7/16-14 X 1-1/4 BOLT
14-325	2	7/16-14 TOP LOCK NUT

TOOLS NEEDED:

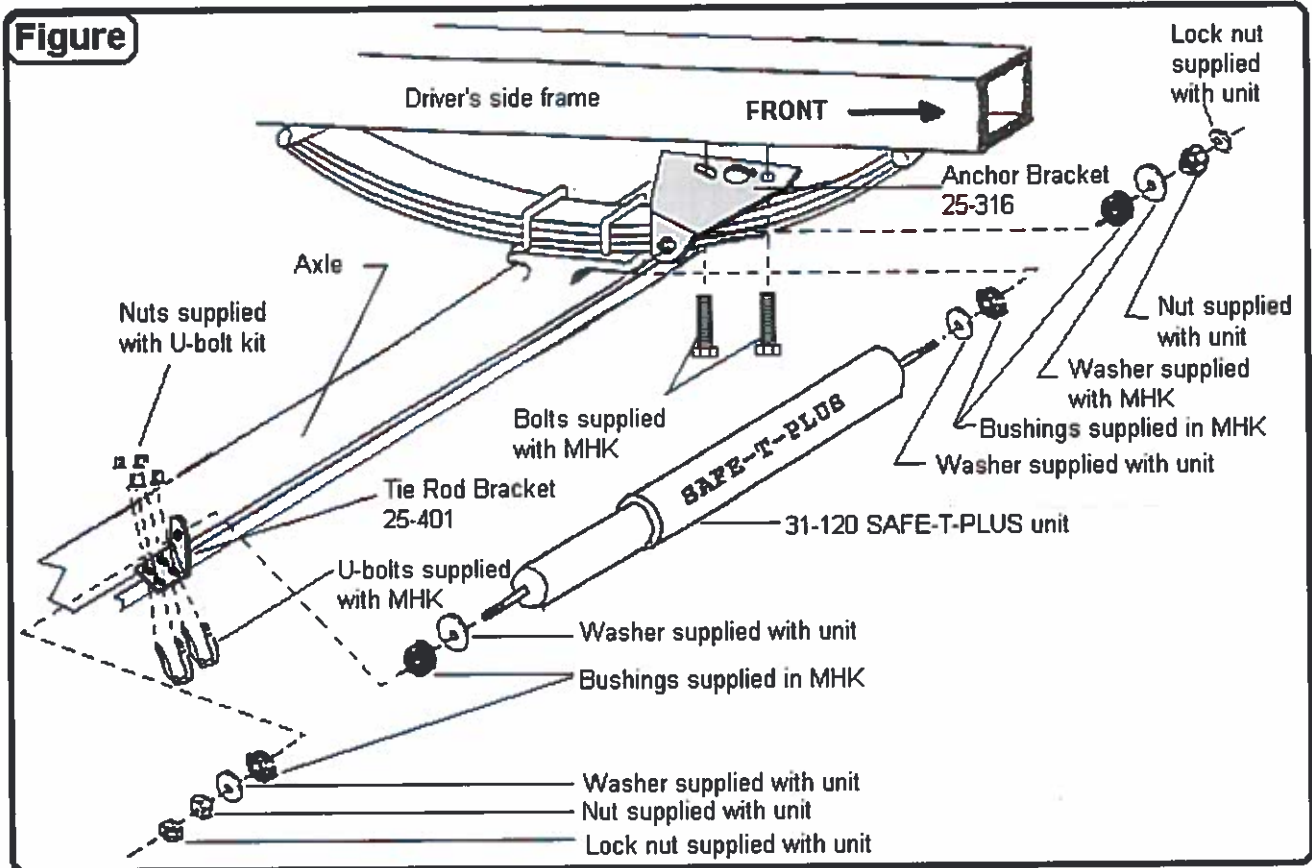
Standard 1/2" sockets and/or wrench for unit attachment bolts.  
Standard 9/16" socket and/or wrench for the U-bolts.

Thoroughly clean the section of the Tie Rod before attaching Tie Rod bracket.

- Step 1. Set front wheels of vehicle to a straight-ahead position. This is **IMPORTANT**. later adjustment of the Tie Rod Bracket may be avoided if front wheels are set perfectly straight.
- Step 2. Install Large end of Safe-T-Plus unit to Anchor Bracket 25-316 using rubber-bushing kit provided.
- Step 3. Install Small end of Safe-T-Plus Unit to Tie Rod Bracket 25-401 using rubber bushing kit provided.
- NOTE:**      **All grommets are to be tightened until they bulge over the edge of the steel caps or until they are approximately 1/4" thick.**
- Step 4. Install Anchor Bracket 25-316 below driver's side frame at a point above the tie rod where two holes align each side of a rivet. The 1" hole in the Anchor bracket goes over the rivet head. The ear of the Anchor bracket should be facing the inside of the frame. (See Figure)
- Step 5. Install and tighten new Bolts, supplied in MHK, to attach Anchor Bracket to the frame.
- Step 6. Mount Tie Rod Bracket 25-401 to Tie Rod with U-Bolts provided (See Figure). After all other bolts are tight, tighten U-Bolt nuts to 20 - 25 ft. lbs.

Step 7. Check to be sure installed unit clears all other parts of vehicle by turning steering wheel to both extreme right and left positions. If unit scrapes or binds at any point, review these instructions and make necessary corrections by rotating unit on the tie rod to obtain necessary clearance.

Step 8. ROAD TEST & ADJUSTMENT PROCEDURES: To ensure proper alignment and installation of the SAFE-T-PLUS unit, the vehicle should be road tested. Take along a socket wrench to fit the U-Bolts on the Tie Rod. While driving on a straight stretch of road, vehicle should easily follow a straight course, if not, adjustment is necessary. To adjust, hold steering wheel in a straightforward position, stop vehicle, and set brakes. Loosen nuts on Tie Rod U-Bolts and allow unit to self-center. (Frequently this movement is not noticeable). Retighten nuts and test drive again. Repeat this step if necessary until vehicle will hold a straight line. Note: Continue to hold the steering wheel in a straightforward position until the adjustment has been completed. Otherwise the wheels will return to the pulling position instead of the straight-ahead position desired. If you need additional assistance, please call us toll-free at (800) 872-7233.





## Road Test & Centering/Adjustment Procedures

To ensure proper alignment and installation of the SAFE-T-PLUS unit, the vehicle should be road tested. Take along a 9/16" deep well socket wrench to fit the U-bolts on the tie rod. While driving on a straight stretch of road, vehicle should easily follow a straight course, if not, adjustment is necessary.

To adjust Safe-T-Plus Steering Control follow the below instructions:

1. After installation, test drive the vehicle
2. Try to test with the most perfect conditions: straight road, no crown, limited wind (if possible), freeways seem to work best or large parking lots.
3. Hold steering wheel in a straightforward position to determine if the vehicle is tracking straight or pulling to the left or the right.
4. Stop vehicle, and set brakes.
5. Take note of where the steering wheel *must be held* to track straight down the road, and mark it accordingly. Pull in somewhere, and with the motor, steering pumps, all running. Have someone hold that steering wheel firmly in exactly the proper position.\*
6. Underneath the vehicle, slightly loosen nuts on tie rod U-bolts and allow unit to self-center. tap the Safe-T-Plus unit a few times with your fist, or a rubber mallet, and let the internal spring push / pull the tie rod bracket into a neutral position. (Frequently this slight movement is not noticeable)
7. At this point, take a moment to square-up the U-bolts as they lay up and across the tie rod. If you've left them askew, they may pull the bracket out of position as they tighten.
8. Retighten the U-bolt nuts (only 25-30lbs. of torque)
9. Now test drive again.
10. Repeat this step if necessary until vehicle will hold a straight line\*\*

**Note:**

\*Be mindful that if you are holding 2 to 3 inches of steering wheel against the spring to track straight, it's only 1/16 to 1/8 of an inch down below on the tie rod bracket.

\*\*Repeat if necessary, until you're satisfied. Once completed you should be able to achieve holding your lane position for a 1/2 mile or so at freeway speeds, with hand gently resting on the steering wheel without correcting.

## Extra Detail on Final Adjustments (Tips)

- Using tape, you can stick a ruler or pencil to the dash to act like a centering indicator for more accuracy.
- Another trick is marking the left and right limits of any inherent slop in the center of the steering wheel operation. At the shop, line up the center marks, and do the install.
- Be patient, be precise when moving the tie rod bracket, as just a 1/16 of an inch will make the difference in drifting off half a lane in 100 yards or less.

When making very small adjustments, (1 ½ inches of steering wheel displacement or less) it may be necessary to hold the steering wheel in the direction of correction just a little beyond the required (¼ to ½ inch more) in order to "load up" the internal spring just a little and let the unit help with the relocation of the tie rod bracket. There really isn't any other way to move the tie rod bracket without having some assistance holding the steering wheel while adjustments are being made down below.

If overshooting the desired results, mark a line a set distance from the tie rod bracket so that they can measure in what direction, and how far each adjustment was made.

A "how-to" properly center/adjust Safe-T-Plus Steering Control video is available on our website to help guide you through the adjustment procedures. Feel free to check out video at [www.safe-t-plus.com](http://www.safe-t-plus.com) (bottom right).



If you need additional assistance, please call us toll-free (800) 872-7233 or email us at [support@safe-t-plus.com](mailto:support@safe-t-plus.com) and technical support will be happy to assist.