

Safe-T-Plus Installation Instructions

General Overview

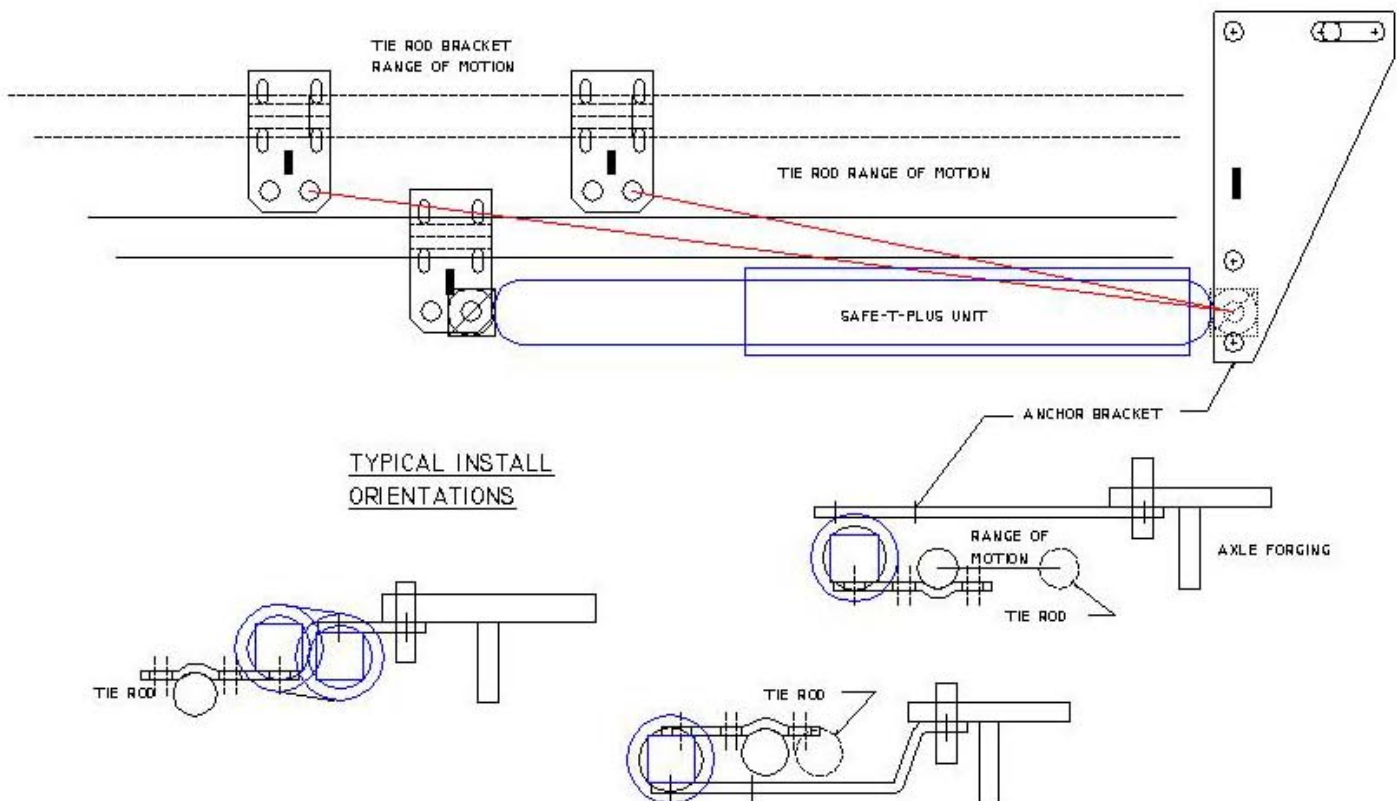
Safe-T-Plus is a return to center steering stabilizing device housing an internal pre-loaded centering spring and a 50/50 hydraulic damper. It arrives in the box centered, and requires no manipulation prior to installation, save alignment of the mounting holes. It must be matched up to the center of your steering system for best results.

Anchor Brackets

Most Anchor brackets are roughly pie shaped. **In all cases the angled edge goes towards the tire.** Flat brackets typically can be installed on either driver or passenger side, excepting clearance issues with sway bars, mounts, etc. **Z-bend brackets will orient to one side only with the angled edge always towards the tire.**

Tie Rod Brackets

Tie Rod brackets can be oriented Top / Bottom / Vertical / or any slight angle necessary to achieve a nearly horizontal installation to the tie rod. We rotate the tie rod bracket slightly so that the mounting height of the small end of the STP unit is just a bit lower (1/4 to 1/2 inch) than the large end to control water runoff.



1. Test drive the vehicle. Mark top center (tape works well) of where the steering wheel must be held in order to track straight down the road. Line these marks up in preparation to do the install.
2. Install the anchor bracket to main bolts shackling the axle forging in place. Replace the nuts and re-torque to factory specs. **Note: Angled side towards the tire!**
3. Determine the best mounting method to achieve a nearly parallel installation to the tie rod. Loosely fit the **STP's large end in place on the Anchor bracket** with 3/4 inch mounting bolt.

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4. Determine the best mounting method for the tie rod bracket (top / bottom / angled) to achieve a nearly parallel installation to the tie rod. Loosely fit the **STP's small end to the nearest tie rod bracket mounting hole** with 3/4 inch mounting bolt.
5. Install the U-bolts through the tie rod bracket and around the tie rod. Leave slightly loose for now.
6. Tighten the 3/4 inch mounting bolt on Anchor bracket side. 80 lbs is sufficient.
7. Tighten the 3/4 inch mounting bolt on the tie rod bracket side. 80 lbs is sufficient.
8. Align the tie rod bracket to the tie rod and tighten the U-bolts evenly until just snug enough to hold them.
9. Prepare to test drive, and perform any final adjustments necessary before tightening the U-bolts completely.

Final Adjustments

After installation, test drive the vehicle again. Once again, take note of where the steering wheel must be held to track straight down the road, and re-mark it accordingly. 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.

A note here: Try to test with the most perfect conditions, straight road, no crown, freeways seem best for me, but I've also used parking lots too.

Now is where the extra hands come in handy. Pull in somewhere, and with the motor, steering pumps etc, all running; have someone hold that steering wheel firmly in exactly the proper position. Underneath, slightly loosen the U-bolts on the tie rod bracket, 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. You may feel it move, more than see it, as were talking about very small increments.

Another note: 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. **Tighten everything up.** Dust yourself off.

Go test drive again. Remember this is the time to get it right, 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, hands off. **Take a final turn on the U-bolts. 25-30 lbs typically is sufficient.**

Extra Detail on Final Adjustments

Some guys will tape a stick, ruler, pencil, etc to the dash to act like an indicator disc to supply more accuracy. Some will even go so far as to mark 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. You'll be pretty close, but will require test drives to see any final adjustments that might be necessary. 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 1/2 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 (1/4 to 1/2 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 you find yourself overshooting the desired results, some have scribed 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.

