

## STREET SWEEPER



# BUM STEER

**A little preventative maintenance with some new steering adjuster sleeves from CPP may save you big headaches down the road.**

**W**hen NASA's space shuttle first went into service 30 years ago—yes, it's been that long—nobody ever intended it to be flying for three decades. To be sure, it's been upgraded, refurbished, and well maintained, but we've also lost half the fleet. The point here underscores the importance of regular care and upkeep on our antique hot rods. Even with the best loving care, it's easy for some very important items to slip between the cracks.

The steering system of a 40-year-old muscle car was likewise never meant to suffer the outrageous punishment of the highway for that long. Our '68 Chevelle project car, though well taken care of, has a laundry list of lesser components that if not addressed over time have the potential to wreak havoc. Making the situation more critical is the extra power and handling we've put into the Chevelle. The old factory steering pieces were just too overstressed. One such component is the stock tie-rod adjuster sleeve, of which there are two. As part of the tie-rod assembly, all the Chevelle's substantial cornering load was being transmitted through a stamped steel production adjuster sleeve.

In previous issues we upgraded our brakes and master cylinder with components from Classic Performance Products (CPP), and at that time we took the opportunity to swap out the stock adjuster sleeves. These are

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the pieces that allow the toe-in to be adjusted; the inner tie rod threads into one side, and the outer tie rod threads into the other side. The adjuster sleeve and the two tie-rod ends make one complete tie rod assembly, and there are two of these on



Last year, we upgraded to CPP's front-end package of tubular upper and lower control arms, springs, anti-swaybar, idler arm, and inner and outer tie-rod ends with new stock adjuster sleeves. This photo shows our setup at the time it was upgraded. This view does a good job showing the overall geometry and function of the GM A-body steering design: steering input comes from the Pitman arm attached to the steering box. That motion is transferred directly to the drag link—sometimes called the relay rod (center). The idler arm provides a neutral pivot point, and is geometrically similar to the Pitman arm. The tie rods are the links that transfer motion from the drag link to the spindle. A failure from any part of the system can result in a loss of steering. Not good.



each Chevelle. Right- and left-hand threads are provided on each tie rod to facilitate adjustment (think of it as a really beefy turnbuckle).

CPP sells an entire range of suspension, steering, and braking components for GM A-bodies ('64-'72). In many instances, there are several levels of strength, from stock to full-on race. CPP offers three levels of tie-rod adjuster sleeves for Chevelles—the stock stamped piece with clamps, a cylindrical stainless steel piece with machined adjustment “flats,” and the new hexagonal aluminum pieces that we installed. These newest aluminum units are lighter, and with a hexagonal shape, they afford much easier adjustment.



The Chevelle's tie-rod adjuster sleeves: the heavy-duty aluminum hex sleeves on the left (CPP PN ES2032SP-AR, \$69 per pair), and the stock sleeves (CPP PN ES2032S, \$9.00 each). Note the locking jam nuts that come with the aluminum sleeves.



Besides the lighter weight of CPP's aluminum sleeves, there is some added practical utility. The stock sleeves are stamped from steel, and leave crevices for water and road dirt to accumulate. Over the years, rust can develop, causing the clamp nuts to freeze in place.

Our stock adjuster sleeves were only a year old, so they came off relatively easy. If your Chevelle still has the stock ones, you might be in for a bit of a fight. Before removing the old ones, take down measurements for the length—even if you're not replacing the tie-rod end links. Our inner and outer end links were replaced last year, but we've included the CPP part numbers in our chart. Note that the '64-'70 tie rods are all the same, but the '71-'72 tie-rod end links have different threading.



At some point, your Chevelle will need an alignment, and the toe-in will be set using the tie-rod adjuster sleeves. The sleeve will be set where the alignment is best, without regard to where that places the stock clamp nuts. This photo illustrates that this may not always be in the most ideal location, and may be too close for comfort for some tool access. The hex stock of our new pieces eliminates this problem.



## WHERE THE MONEY WENT

DESCRIPTION:	PART NO.:	COST:
Aluminum tie-rod sleeves .....	ES2032SP-AR .....	\$69 (pair)
Outer tie-rod end .....	ES333R .....	\$78 (pair)
Inner tie-rod end .....	ES681N .....	\$28 (pair)
<b>TOTAL:</b> .....		<b>\$175</b>

If you're just replacing the adjuster sleeves, you only need to disconnect the outer tie-rod end from the spindle. You should have no vertical movement of the tie-rod coupling on the spindle—if you do, it's time to get new tie-



rod ends. Use a mallet to loosen the tie-rod end from the spindle (after removing the cotter pin and castellated nut). Use a pickle fork at your peril: it will usually ruin everything it touches.



Thread the adjuster sleeve onto the inner and outer tie-rod ends after you have threaded the locking jam nuts on. Make sure you turn both ends the same number of times, comparing the overall length to the measurements you took earlier. When you get them the right length, tighten the jam nuts.



With the tie rod lengths set to your old specs and the end-links reattached to the spindles, you should be able to drive to the alignment shop with no problem. Note the machined groove on the left side of the adjuster sleeve—this indicates a left-hand thread on that side (the inner tie-rod end).

### SOURCE:

**CLASSIC PERFORMANCE PARTS**

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