

Transforming an Elky's Roadgoing Manners With Hotchkis'

THE AGILE A-BODY PART I

QUICK NOTES

WHAT WE DID

Install and test Hotchkis Performance's TVS suspension package on a big-block '69 El Camino SS.

BOTTOM LINE

Before and after test results show a marked improvement in handling while maintaining a civilized ride.

COST

\$1,763

Let's face facts, folks: We don't love our musclecar-era Chevys for their handling prowess. Truth be told, today's lowliest econoboxes

handle and ride better than your average veteran Bow Tie, and in our book, that's just not right. So in this, the first of two installments, we set out to update the road—and track—manners of a big-block-powered '69 El Camino SS by installing Hotchkis Performance's Total Vehicle System (TVS), all the while documenting the results on the test course.

We weren't just looking for handling for handling's sake. The ability to take a turn at

speed is great, and a smooth ride is hard to beat, but having a car agile enough to avoid unexpected obstacles (e.g., the swerving latte-sipper chatting on a cell phone, the unexpected canine crossing the street, the shredded tire tread in the middle of the lane) is priceless. If you're gonna drive the thing, you want to drive safely, right?

The complete TVS Package that our Rat-powered Elky's owner chose consists of Sport Springs and Hotchkis' new Extreme sway bars front and back, heavy-duty tie-rod sleeves, lower rear trailing arms, and new double-adjustable upper trailing arms. To this we added a pair of trailing-arm mount braces, a set of HPS 100 shocks, and an airbag kit. With better suspension in place, the stage was set to take advantage of modern rolling stock, so we mounted up a set of Oasis Wheels

17-inch IROC hoops shod in BFGoodrich g-Force T/A KDW rubber.

To test the efficacy of the TVS package, we hit the test track with our veteran El Camino to lay down baseline numbers, run on stock-style 14-inch Cooper tires, no less. We headed down the road to the Hotchkis Installation Center for the upgrades, then returned some weeks later for post-upgrade testing. With the TVS in place and running our modern BFGs, we were able to twist through the slalom course 3.5 mph faster than baseline. What's just as impressive, however, is that we were able to make the run just over 2 mph faster on the old-school Coopers. Better suspension makes good use of better tires, but in this case, dividends are paid even with traditional tires.

Our skidpad test area was unfortunately unavailable during our baseline testing, but

total Vehicle System

Text and Photos: John Nelson



frankly, we don't need to know where we started to realize that the 0.85g we pulled with the TVS/BFG combo is impressive—as is the 0.76g we managed with the 14-inchers mounted. We've seen a baseline of 0.63g on a '70 Elky with similar rubber in a previous test. The more-modern alignment specs, lack of body roll, and better contact-patch management all led to less understeer—and greatly improved roadholding ability. Finally, our subject '69 stopped 8 feet shorter from 60 mph. We wanted to retest on the Coopers, but our day of testing had taken its toll on the car's stock binders, a deficiency we'll remedy in Part II.

The El Camino's owner, Bernie DeMarkey, told us he was prepared to sacrifice a smooth ride in the name of performance...and was glad to find that he didn't have to. "The ride quality is much

better than before," he reported. "The car's solid, but not abrupt when it hits bumps," he continued. "The body lean is totally gone, and so is that 'floaty' feel." DeMarkey summed up his revised ride by saying, "We've updated the overall feel of the car to what we're driving today."

As performed by Hotchkis Installation Center lead wrench Corey Bedortha, installing the TVS on this A-body took roughly a day, less alignment and pinion-angle setup. We mention the issue of alignment on purpose. According to Bedortha, the factory rear suspensions setups couldn't really handle the power being put through them, "so they made the front end not bite." Factory toe-in was set at $\frac{5}{16}$ inch; Bedortha set it to $\frac{1}{16}$ inch with the TVS. The General also endowed the Elky with positive camber, 0-0.5 degree's worth; the

new setting is -0.7 degree. Factory caster, on the other hand, was negative (-1.5 degrees). Bedortha set it to +1.9 degrees, which he told us was the best he could get. To see more improvement, we need more positive caster and negative camber.

And that's where we'll end Part I of our quest to create an agile Elky. Installing the Hotchkis TVS system radically improved this musclecar's handling and ride quality, but our alignment options are limited by the stock spindles and control arms. In Part II, we'll address this issue with Hotchkis' B-body spindle conversion, as well as its brand-spanking-new upper and lower control arms. The spindle setup provides new 12-inch front disc brakes—to this we'll add a True Connections rear disc kit. We'll of course hit the test track again and bring you the numbers. See you then.

THE AGILE A-BODY

GRAPHIC DEPICTION

It's all well and good for us to talk about "improved handling," but it's better still when we can show you. First of all, note the drastic reduction in body roll in our before and after photos. We all know that cutting down body roll is a good thing; John Hotchkis explains why: "With increased roll stiffness, the car turns more quickly and is better balanced." The real action, however, happens where the rubber meets the road. "The secret," Hotchkis continues, "is to manage the tire contact patch." Check out the Elky's right front tire in each of our photos. In stock form, the tire is literally falling over



and cornering on its side. Once TVS-equipped, cornering is happening on the tires' contact patch, which is as it should be. There's a lot of grip happening here, much more than any tire could achieve with the stock suspension. This is especially important with modern rubber. "Today's tires are better than the race rubber available when these cars were new," Hotchkis observes. Stiffer is generally better, but if the sway bar/spring combo is too stiff, the tires are overpowered and pull on road ripples. It's a balancing act; in this case, well-balanced is what we got.



These double-adjustable upper trailing arms are one of the newest additions to Hotchkis' suspension lineup. These beefy pieces facilitate pinion-angle adjustment via left- and right-hand threads, in turn reducing vibration and improving traction. Bedortha obtained a starting length by measuring the stock arms, then setting the replacements to match.



According to Hotchkis, high-horsepower vehicles can bend or break the upper frame crossmember mounts. Accordingly, it offers stout trailing-arm mount braces to replace the flimsy stamped steel pieces some A-bodies came with.

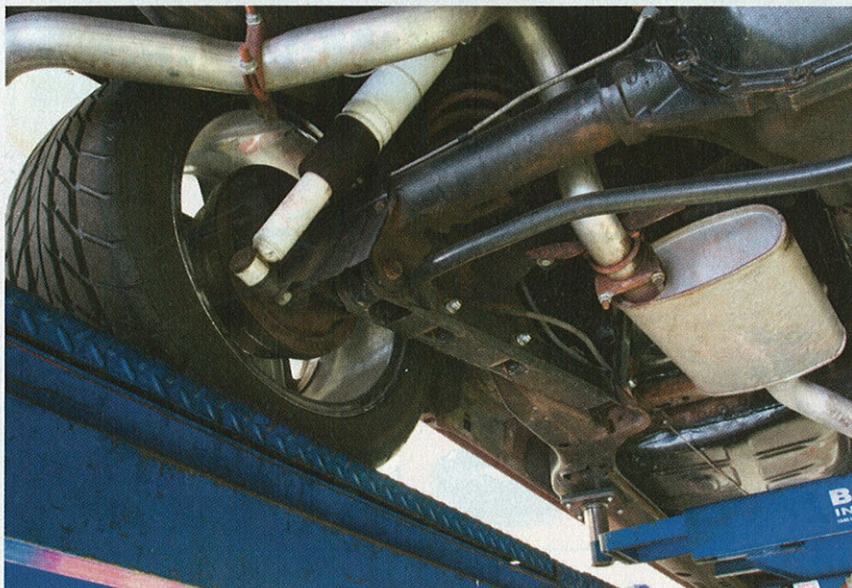


Once mounted, the beefy, 1½-inch billet aluminum center section stands out. Less visible, but just as important, are the Swivel-Max bushings contained in the Hotchkis upper trailing arms. According to John Hotchkis, these pivot bushings exploit the benefits of polyurethane—and avoid suspension bind—by allowing "a little" side-to-side movement, but no fore-and-aft movement.

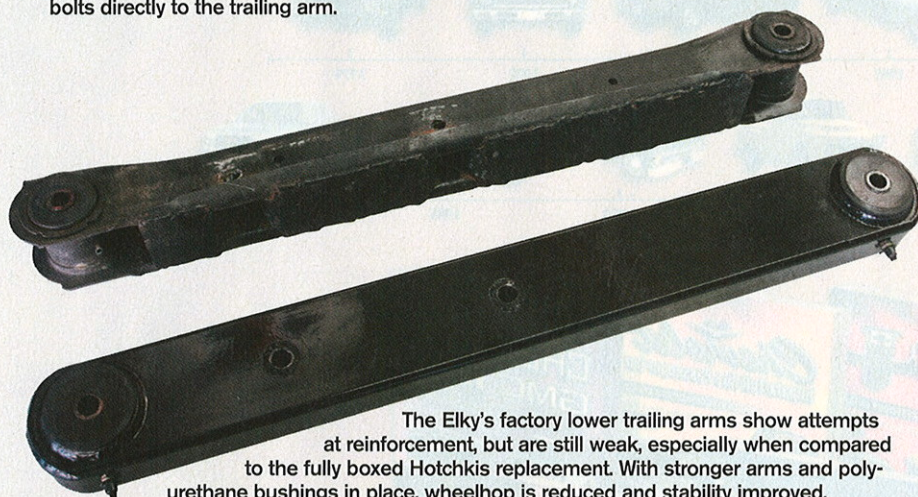


The adjustable mount braces run from the inside of the lower trailing-arm mount to the outside of the upper trailing-arm mount. By reinforcing the car's upper crossmember, overall chassis stiffness—and therefore performance—is improved.

THE AGILE A-BODY



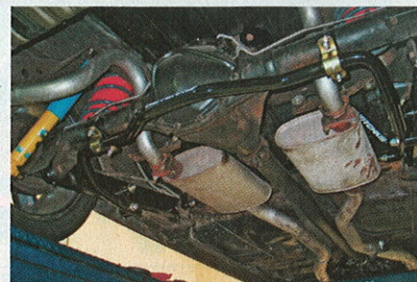
Here we see a garden-variety A-body lower trailing arm setup. Note that the factory sway bar bolts directly to the trailing arm.



The Elky's factory lower trailing arms show attempts at reinforcement, but are still weak, especially when compared to the fully boxed Hotchkis replacement. With stronger arms and polyurethane bushings in place, wheelhop is reduced and stability improved.



Hotchkis' new Extreme rear sway bar mounts indirectly to the trailing arms, using dogbone-style mounts fitted with polyurethane bushings. "The bar is always twisting and turning off the trailing arms," Hotchkis explained. "This way, the bar goes up and down on bushings; it's a better mounting solution." In addition to reducing bind and stress placed on the bar, this setup is adjustable. Using the forward mounting points provides 100 percent more stiffness than the stock bar. The rear mount is 75 percent more.



The Hotchkis-enhanced rear suspension setup is considerably stiffer than the stock arrangement, but also works more freely by using polyurethane bushings, especially in the sway bar mounts and the upper trailing-arm pivots.

What we're aiming for is a package that gives a balanced ride and definite handling improvements.

-JOHN HOTCHKIS



Finally, we wanted to take maximum advantage of our newly installed suspension upgrades, so we mounted up a set of custom-painted 17x8-inch IROC rims from Oasis Wheels and clad them in sticky hi-po rubber, BFG g-Force KDWs, 245/45ZR17. **CHP**

ON THE TEST TRACK

	400-FOOT SLALOM	SKIDPAD	BRAKING
BEFORE	40.6 mph	n/a	185 feet
AFTER (w/14-inch tires)	42.7 mph	0.76g	n/a
AFTER (w/17-inch tires)	44.1 mph	0.85g	177 feet

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