

# TECH

## Suspension Tactics

THE FSC NOVA GETS SUSPENDED



"The instruction guide did a great job of outlining the details to get our suspension setup with a few tools."

Written by Jake Amatisto  
Behind the Lens: The Author and Scott Sparrow

**T**he last time you read about our big-block Nova we were installing the new subframe from Chris Alston's Chassisworks. With the new frame we were able to scrap our rusted and damaged stocker for a much sturdier piece, while losing some weight. Even with the frame bolted in, it still seemed far off from being a "real car" again since the front fenders, grill, and radiator support were still missing in action, but we were making some good progress. Once the frame was securely strapped to the car, it was time to bolt up the springs, control arms, shocks, and brake assemblies. This turned out to be a

very simple process due to Chris Alston Chassisworks' thorough instructions. We will admit that we have mentioned the instruction manual a couple times in these past couple segments of the Godzilla Project, so it may seem like a blatant editorial plug, but it really is valid for mention since it makes the whole install process so much easier. Easy enough that us FSC staffers were able to install the setup without any problems, and that's saying a lot since the car owner, David Wong (who installed much of the suspension himself), hasn't had much experience as a mechanic. Wong explained, "The instruction guide did a great job



### Baseline Measurement

As a baseline measurement, Chassisworks recommends 1-1/6-inches of thread remaining past the jam nut on each upper control arm rod end. This is only to get your wheel alignment close to straight. The rod ends had to be re-adjusted later.

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► First on the agenda was the installation of the upper and lower **control arms**. The control arms in the Chassisworks kit come fully powder-coated, so expect to do some minor trimming in order to get the ball joint screwed in. To determine what arm goes on which side, Chassisworks stamps a "D" and "P" in each arm.

► With some anti-seize on the threads, we then installed the **ball joint** using the supplied wrench. We also made sure to install the rubber boot first.



Control Arms



Ball Joint

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### Stainless Steel Allen Headed Pivot Studs

Chassisworks includes these pretty trick stainless steel Allen headed pivot studs to attach both the upper and lower control arms. Before screwing them in, we made sure to clean the threads on both the frame provision and the control arms bolt. They get locked in place with a set screw.

Once the frame was securely strapped to the car, it was time to bolt up the springs, control arms, shocks, and brake assemblies.

of outlining the details to get our suspension setup with a few tools. The only real tools we needed were a basic 100-piece socket set, a level, a couple tape measures, and a pencil and paper to jot down the measurements for the wheel alignment." And yes, he said wheel alignment. The instruction manual will actually walk you through the alignment step-by-step, making the kit a true one-weekend project, meaning you don't have to wait until Monday to get it aligned. The detailed guide has all of the photos, simple calculations, and instructions to take out all of the guesswork from this process.

The first portion of the suspension we installed was the tubular chrome-moly control arms. Chassisworks ships them powder-coated without the ball joints installed. Before screwing them with the supplied wrench, we made sure to trim the excess powdercoat that had collected near the threads of the ball-joint provision. You also have to screw in the rod ends in order to bolt the arms to the frame. Besides trimming the powdercoat, the assembly of the control arms was simple.

With the frame in place, we also slapped on the steering rack. Unlike most front sub-frame kits, this one comes with an exclusive rack designed by Chris Alston, not a "Mustang II" rack. This, too, was an easy install, and the polished mounting brackets that hold the piece are the kind of details that will make the undercarriage of Godzilla look great when it's all together.

The shock/coil assembly for our Nova project is one of our favorite parts on the car. The Vari-Shocks are double-adjustable using large, easy-to-turn knobs. The coils come silver powder-coated and can be adjusted to lower or raise ride height. This setup will allow for a ton of adjustments. When the car's running, these ride height and shock stiffness will be very important to control the car's front end for not only street driving, but at the track too.

We opted to go with the 14-inch slotted rotors in our kit. We are actually going to attempt to drive this beast on the street, otherwise we would've gone with a featherweight drag racing brake setup, which is also an option with the kit. The brakes are also



Alignment



Rubber Mallet



Shock Simulator



Spindles

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► We also made sure to check the sub-frame **alignment**. If the subframe is tweaked in the car, it could lead to big alignment problems later. To do this, we simply measured from the edge of the new frame to the body seam.

► Once the rod ends were secured to the control arms, we tapped them onto the frame with a **rubber mallet**. This can be tricky since the control arms are lined with Teflon bushings, which makes a pretty tight fit. With a few taps of the mallet, the arms were on.

► With the control arms bolted up, we then installed the **shock simulator**. This is used to hold the lower control arm in place while the spindle is installed.

► The **spindles** simply get bolted up using the supplied 9/16-inch castle nut.

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Brackets



Assembly



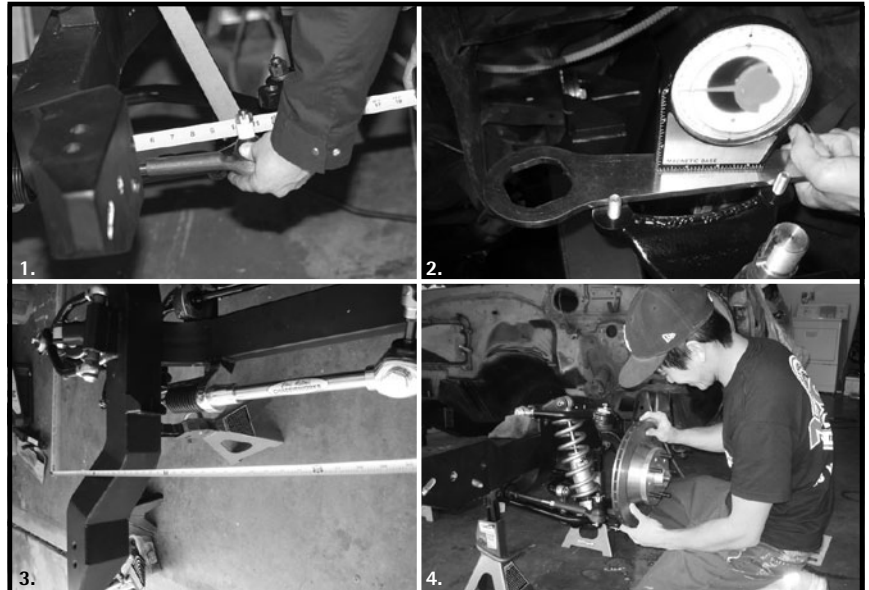
Fastened

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► The steering rack is bolted up using these nifty polished aluminum **brackets**. They get bolted to the front frame crossmember using Allen head stainless screws.

► Here's a shot of the completed spindle/shock **assembly**. The coils allow for ride height adjustability, and the Vari-Shocks are also double-adjustable.

► With the rack pushed all the way against the brackets, we **fastened** it to the frame. With the major components installed, it was time to align the frontend.



### Godzilla Alignment

1. The first step in aligning the frontend is adjusting the tie rod ends. With the rack fully cocked to one side, we measured the distance from the frame to the center of the bolt hole on the spindle.

2. The camber measurement was next. We originally had trouble lining the level against the spindle, but the ball joint wrench that is provided with the kit made for a solid flat base to get our camber adjustment.

3. The task of measuring and adjusting toe-in would have been easier with the help of another body to hold the tape measures in place to ensure precise measurements. We recommend enlisting the help of a friend on this one. With a little improvisation and patience, Wong took down the measurements 4-5 times to ensure no drastic variance.

4. To finish the installation, we finally bolted up our 11-inch rotors. Our goal was to get the suspension set up correctly following detailed instructions provided by our friends at Chris Alston's. We're confident that we achieved this goal. We will re-visit the suspension, specifically the shock adjustments, when we're ready for fine-tuning at the track.

available in large 14-inch diameter for more of a "g-machine" or "pro touring" car, but we went with 11-inchers so we could use a 15-inch rim, whereas the 14-incher would have to have something larger, and we really didn't want to put big rims on the car.

In this story, we completed the install of the Chris Alston Chassisworks' NoFab front clip and we must say, this is definitely something that could save your car from the scrapper, it did with ours. Plus, this setup is perfect for those that want to replace the entire steering and front suspension in one fell swoop instead of putting a front end together piece by piece. However, it ain't cheap, but it actually

works out to be cheaper than if you were to buy the same quality parts individually. ■

### S O U R C E

Chris Alston's Chassisworks  
800.722.2269  
[www.cachassisworks.com](http://www.cachassisworks.com)