

# BRAKING EFFECTS

## A Better Set of Binders for Your A-, F-, or X-Body

It's easier than ever to build horsepower, we all know that. To complement that movement, manufacturers are starting to offer binders that are significantly better than factory to safely

slow you back down from speed. Classic Performance Products (CPP) has been carving out a reputation as the go-to guys when it comes to chassis and other quality upgrades, not only engineering its own "made in the USA" brand of performance brakes and suspension components, but also recently partnering exclusively with Brembo Brakes to offer a high-performance brake kit for your street machine, including the '64-'72 A-bodies, '67-'69 F-bodies, and '68-'74 Novas.

For those of you unfamiliar with the Brembo name, we should point out

that its braking systems can be found in a number of motorsports, such as NASCAR, Formula One, and 24 Hours of Le Mans. Brembo brakes are also offered as a factory option in many high-performance applications, including the venerable ZR1 Corvette and the all-new '10 SS Camaro.

Working together, CPP and Brembo have developed a braking system that's competitively priced with the performance to match. To showcase the new setup, we followed along as CPP installed this package, designed for high-end street

### QUICK NOTES

#### WHAT WE DID

Installed CPP 13-inch brakes onto a '64 Chevelle

#### BOTTOM LINE

Slowing down has never been easier

#### COST (APPROX)

Starts at \$3,595

and limited track use, onto a '64 Chevelle. Along with the Brembo brake kit, the factory drum master cylinder and booster were also upgraded with new CPP components. Once the job was completed, the Brembo kit not only gave the Chevelle an aggressive look, but it is perfect for everyday driving, weekend autocross excursions, and throttling through the curves at a local road course!



## WHAT'S INCLUDED

- Inner and outer roller bearings
- Seals
- Dust caps
- Billet aluminum hubs
- DOT-approved stainless steel braided lines
- Performance Ferodo brake pads
- Cross-drilled and vented 13-inch rotors
- Lightweight billet aluminum rotor hats with antirattle springs
- Aluminum calipers with four sequentially sized pistons
- Aircraft-grade aluminum mounting brackets
- All hardware, bolts, nuts, & cotter pins



We started by removing the cotter pin from the ball joint that holds the tie rod to the steering arm, followed by taking out the castle nut.



If you don't have a tie rod removal tool, a couple of quick taps with a hammer will separate the tie rod from the steering arm.



Removing the spindle is relatively simple. Start by taking out the cotter pins from the upper and lower ball joints. Then loosen the upper and lower castle nuts and back them off a few threads—but do not remove them just yet. The spring is still compressed and has plenty of stored energy that can damage the body panels—or even worse, you.



Next, we slid a floor jack under the lower A-arm and slowly raised it to add a bit of compression to the spring. Another couple of raps from the hammer on the upper and lower ball joints will break them loose. With the spring compressed we safely removed both castle nuts from the upper and lower ball joints. Then we slowly lowered the floor jack. As the lower A-arm comes down, the tension on the spring is released at a controlled rate and won't surprise you like a jack-in-the-box.



Once everything is undone, the spindle and drum brake lifted right off.



Now that everything is easily accessible it's a good time to check the condition of the ball joints on the tie rods and upper and lower A-arms. If there is doubt about their condition, replace them. CPP offers full frontend rebuilt kits for most of the GM lineup.



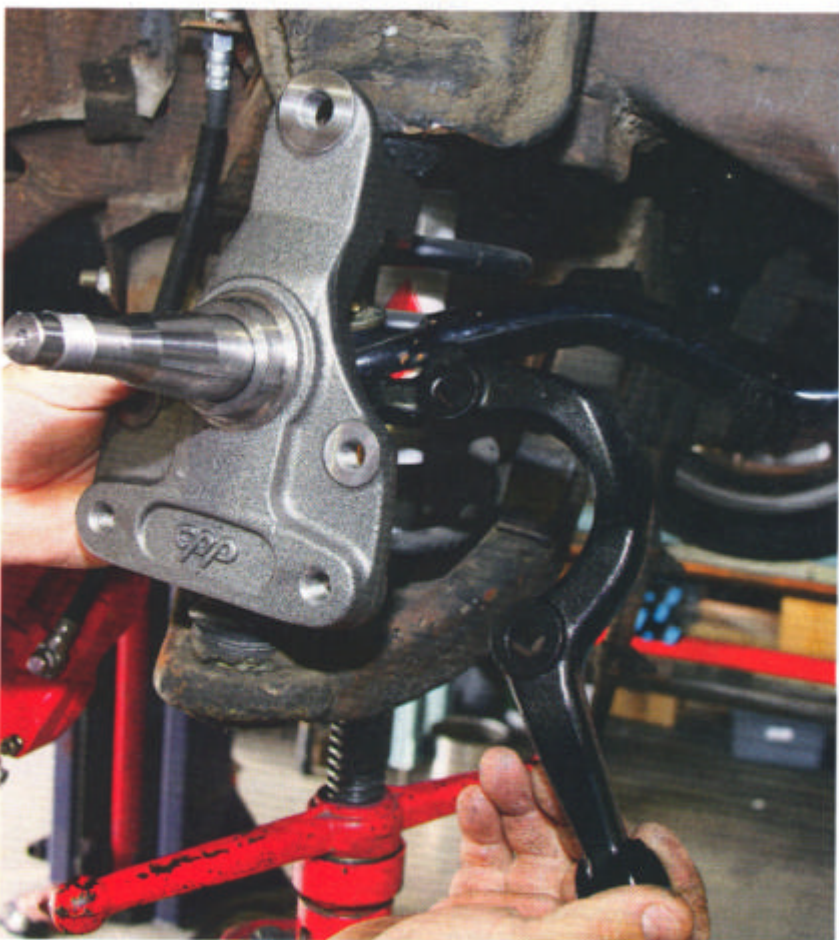
While this isn't required, we opted to switch to a forged CPP drop spindle to lower the Chevelle. For more information about what spindles and steering arms will work with this application, check out the "Spindles & Steering Arms" sidebar.



# BRAKING EFFECTS



Installing the new spindle is as easy as removing the old one. Again, we slid the jack back underneath the lower A-arm. We raised it a notch, putting enough tension on the spring to expose the threads on the two ball-joint studs, then threaded the castle nuts back on.



Once the castle nuts were threaded onto the studs, we raised the jack some more and ran the castle nuts all the way, securing them with new cotter pins. We then bolted the new steering arm onto the back of the dropped spindle.



Don't worry about saving the old  $\frac{1}{2}$ -inch bolts. The Brembo kit comes with a new set of Grade 8 bolts for attaching the steering arm. After reassembling the suspension and installing the new spindle, it's time to install the new brakes!

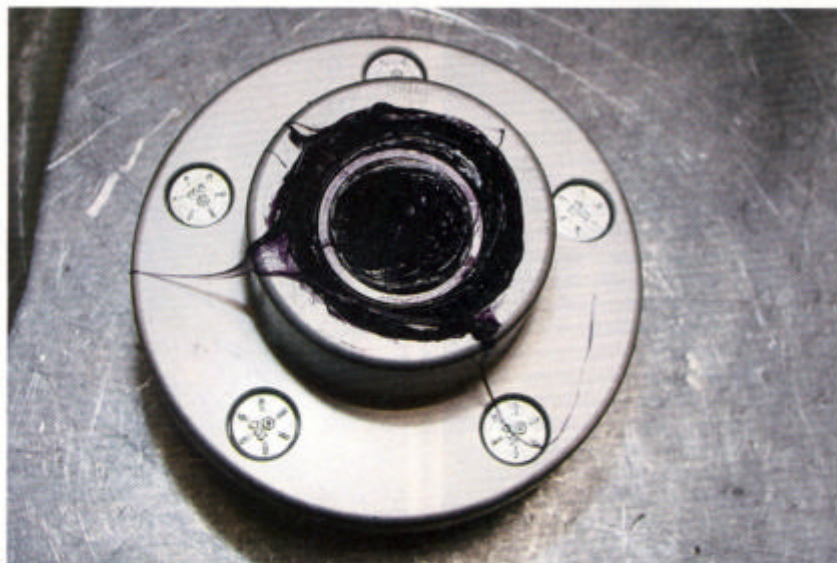
## SPINDLES & STEERING ARMS

While we went for CPP's drop spindle, the upgrade is not necessary. The earlier steering arms used a  $\frac{3}{8}$ -inch bolt, while later GM models switched to a  $\frac{1}{2}$ -inch bolt on the steering arms. The Brembo kit comes with the  $\frac{1}{2}$ -inch bolts. If a sharp enough drill bit is in your toolbox, the earlier steering arms with the  $\frac{3}{8}$ -inch holes can be drilled out to  $\frac{1}{2}$  inch. A \$69 option when ordering the Brembo kit is the new  $\frac{1}{2}$ -inch black-coated steering arms.



Before you install the new hub, the supplied inner and outer roller bearings need to be packed with grease.





Here's a view of the new aluminum hub that comes with the kit.



Lastly, the new seal is tapped into place, keeping it all together.



When sliding on the washer and castle nut, we tightened the castle with a wrench to seat the bearings. Then we backed the nut off, finger-tightened it to take out the slack, and inserted the cotter pin. Never tighten the nut down on the bearing with a wrench and leave it that way; too much load can cause premature bearing failure and potential spindle damage.



A couple taps from the rubber mallet is all you need to seat the dust cap in place, and the hub is as good as done.



The aircraft-grade precision-machined aluminum bracket which holds the caliper in place attaches to the spindle as shown here. What sets the Brembo fixed brakes apart from other fixed calipers is the radial-mounted fixed caliper. All Brembo brakes are radial-mounted and no shimming is required to set the caliper's position, resulting in longer pad life and far superior braking.



Here is the beauty of these two-piece 13-inch rotors. The rotors are built in such a way that they're considered floating rotors. Every other disc mounting screw has approximately 0.001 inch of play and is held in place with a spring bushing. The spring keeps constant tension on the bushing and fastener, eliminating rattles or squeaks from road vibration. The two-piece hat and rotor system has distinct advantages over a one-piece, including weight savings; nearly 8 pounds is saved on each front corner of the vehicle. Additionally, the direction vanes and cross-drilling help to further dissipate heat. These two features result in more consistent braking and heat dissipation of the rotor.

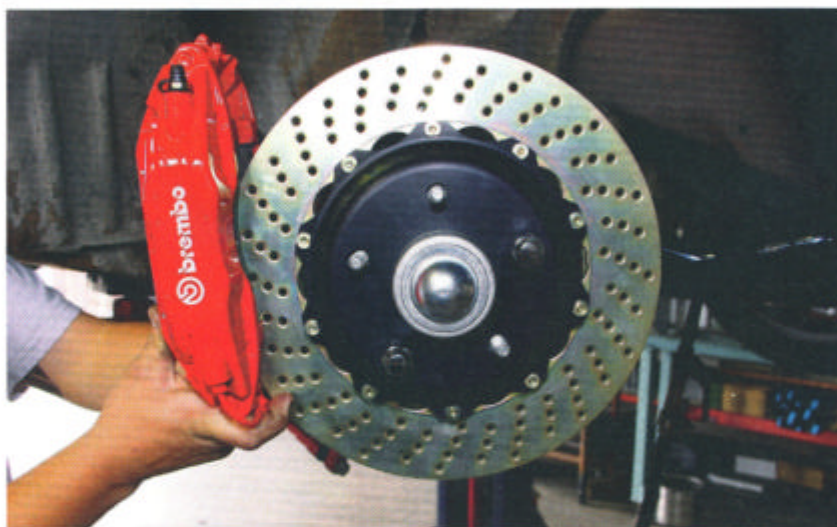


# BRAKING EFFECTS

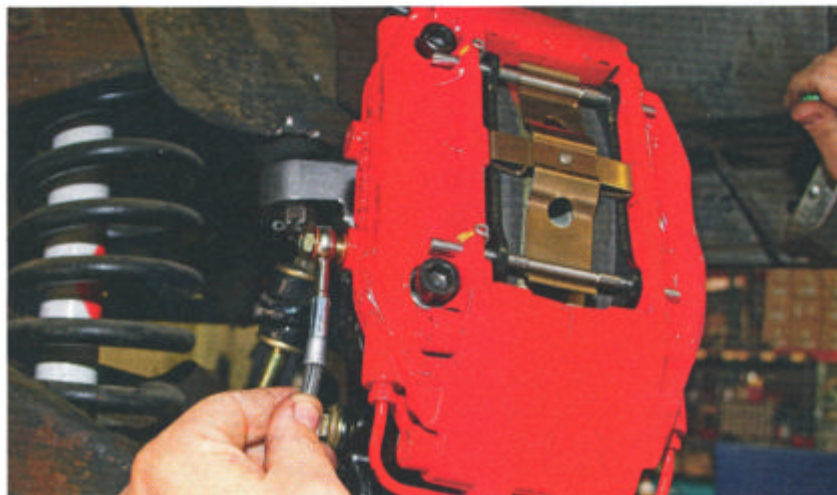
## JUST THE FACTS



When upgrading any braking system on a vehicle, you should always take wheel size and caliper clearance into consideration. Due to the size of the Brembo rotor and caliper, a minimum 17-inch wheel is required to work with this kit. However, depending on the wheel manufacturer and model, some 17-inch wheels could still have clearance issues. In the image to the left, the white arrow represents a straightedge laid across the brake hub. The caliper is just slightly taller than the aluminum hub by 1 inch. Depending on the wheel, a 1/4-inch wheel spacer will more than likely resolve any fitment issues.



The performance-built two-piece aluminum calipers have four sequentially sized pistons (40 and 44 mm), resulting in even pad wear during all types of braking. The pads included in this kit are Ferodo performance pads, great for high-end street use and even limited track applications.



If you have OE rubber hoses, you can toss them. New braided steel lines are included. Another interesting aspect of the Brembo fixed caliper is the tension clip that applies just enough pressure on the pads and keeps them floating off the surface of the rotor. The spring in no way affects the caliper pistons, just the pads.



Finishing up the job, we simply attached the tie rod to the spindle's steering arm and this brake upgrade is almost done. Keep in mind that you will need to bleed the system. The greatest brakes in the world won't do anything if there is air in the line.

## JUST THE FACTS



Currently, Brembo only offers a front disc brake kit for the '64-'72 Chevelle and BOP, '68-'74 Nova, and '67-'69 Camaro. A rear disc kit is currently under development, so keep your eyes open.



Large and in charge, these brakes fit perfectly when matched to a set of 17-inch Coy wheels. The good news: You'll notice how you can come to a stop much more quickly. The bad news: The guy behind you may not be able to. **CHP**

## GET THE HOOKUP

**CLASSIC PERFORMANCE PRODUCTS**

800.522.5004 • classicperform.com