Enhance Your Braking With a CPP Modular Brake Kit and Spindles

POWERFUL STOPPERS

BY BRIAN BRENNAN

There's an old expression that states: "You shouldn't drive faster than you can stop." Notice we wrote, "shouldn't," given the fact many rodders don't always do what they should do when they should do it! But the smart ones realize getting out in front of a problem is the best way to avoid a problem. Something all of us should always closely watch is our hot rod's braking capacity. Knowing this we thought it a good idea to take a look at what's offered from Classic Performance Products (CPP) in the way of stopping power for one of the most popular brake systems used in our world.

One of if not the most popular swap in our hobby is the Mustang II front crossmember with IFS. It has shown up under every kind of hot rod imaginable and for good reason—it works. But you can always improve on a good thing if you know what to look for and how to accomplish the swap. That brings us to the CPP Mustang II Modular Spindle Wheel Brake Kit (PN M2SWBK-MOD-S) for stock height spindles that will fit the popular Mustang II IFS. CPP also offers a 2-inch drop one-piece forged spindle for this same kit (PN M2SWBK-MOD-D) that will work in the same applications. Should you go for the 2-inch drop spindle you will want to make sure that you have the proper wheel and tire clearance within the front wheelwell area for both suspension travel, turning, and ground clearance for the undercarriage.

To show off the CPP Mustang II Modular Spindle Wheel Brake Kit we used this 1941 Ford. The front suspension is the ever-popular Mustang II IFS that rolls on Coker Classic Firestone rubber mounted to Wheel Vintiques steelies.

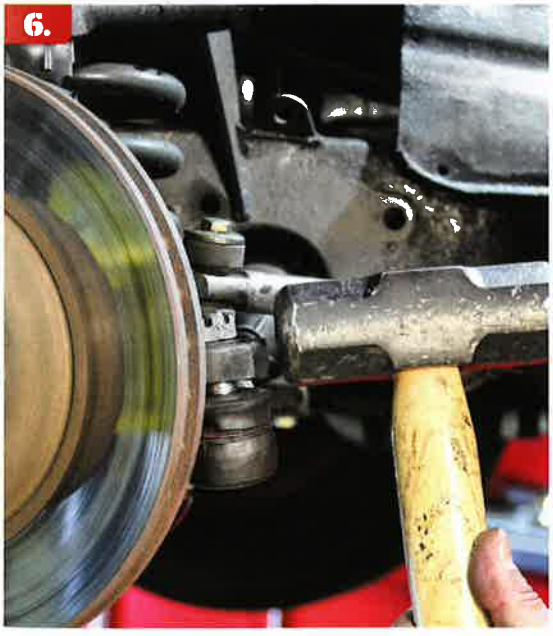
The CPP Kit

The CPP Mustang II Modular Spindle Wheel Brake Kit

1. Classic Performance Products (CPP) offers their Mustang II Modular Spindle Wheel Brake Kit in both a stock height (PN M2SWBK-MOD-S) and drop (PN M2SWBK-MOD-D) spindle. Particularly helpful is the kit comes fully assembled with all of the necessary hardware to make the swap quick and accurate.

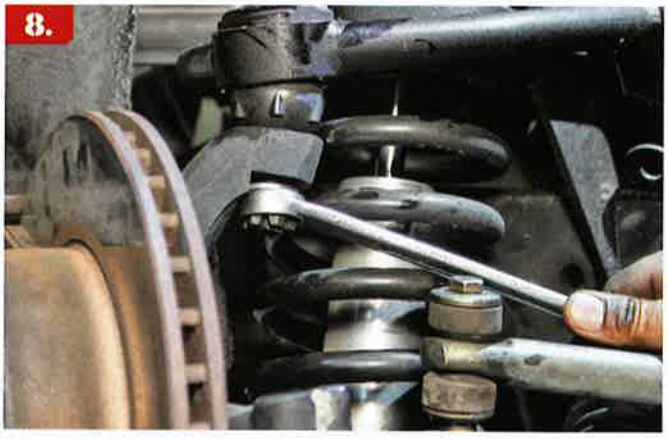
2. The spindles are bare from CPP; should you want them painted, you will need to disassemble and give them a coat or two of color before reassembly.

3-5. Disassembly of your front brake and spindle package will require your old brakes, spindles, and separation of tie-rod end related to steering.



6. Odds are you will need a hammer to "shock" the tie-rod ends in order for them to loosen and then remove. At this point leave the castle nut in place so that the tie-rod end doesn't fall to the ground.

7. Before removing the caliper make sure to disconnect the brake line. In this case our project car had stainless flexible brake lines that we wish to retain. The kit comes with rubber lines. Your choice but we like the flexible look and performance.



8-9. Working on the upper control arm here we are loosening the ball joint. Hand tools will get this job done—and a good hammer!

10. Here we are positioning the CPP stock height spindle between the A-arms and held in location by the upper and lower ball joints.

11-12. If the hole in the ball joint is oriented in a way that makes it tough or impossible to install a cotter pin (or key as it is sometimes called), you can use a small screwdriver to rotate the ball joint stud to your liking.

13-14. Next, tighten the upper and lower ball joints with the castle nuts and cotter pins. The castle nut should be tightened until snug, then backed off slightly, about maybe an eighth of a turn or until you can slide the pin into position. Remember to bend each length of the pin back around the nut.

can be ordered with stock or 2-inch drop spindles. While the kit comes with a "solid face" two-piece rotor (forged aluminum hub and slip-on rotor) the kit can be ordered with drilled-and-slotted rotors for enhanced performance and looks. It also comes in all of the popular bolt patterns: 5x4.5, 5x4.75, 5x5, 5x5.5, and 6x5.5. The 11.75-inch rotors offer 32 percent more stopping power than industry standard (other kits offer 9-inch rotors) for a Mustang II brake kit. The spindles themselves are proprietary to CPP and are part of their modular spindle line that can be used with the 11.75-inch rotors and the CPP Big Bore calipers or other popular aftermarket big brake kits. The kit itself comes with a pair of rotors, hubs, spindles (stock or 2-inch drop), calipers and brackets with hardware, rubber brake lines with hardware, and bearings and seals to upgrade your Mustang II IFS.

Brake Lines

This 1941 Ford has already been tinkered with and over time we have installed stainless steel brake lines. The CPP kit comes with traditional rubber lines so we have opted to stick with our stainless steel lines.

It should be noted that over time with exposure to the elements heat braking generates and the rubber hose can become expended. Hence, it's always a good idea to replace the brake lines you have with the fresh set provided in the CPP kit. In our everyday cars a rubber brake line is designed to last for up to six years (yes, all of us have much older on our daily drivers) so be on the lookout for cracks, tears, or even loose-hanging threads—this all means the hose is on the verge of developing leaks or failing.

You can always upgrade through CPP to braided stainless steel brake hoses. Historically, the braided hose will withstand the pressure associated with the brake system and it doesn't swell. As a result, the lifespan of braided hose is much longer than rubber hoses. Again, for the most part, we don't drive our hot rods that often or subject them to the trials and tribulations as that of our "daily drivers." However, the use of braided hose is more of a "it looks good" accessory rather than necessity, but that's OK.

Follow along with the photos to see how we performed the swap to the latest from CPP. In the meantime, let's take a look at several important areas of service when it comes to properly functioning brake systems.

Brake Fluids

When it comes time to bleed your brakes you will want to use new brake fluid. Always use fresh brake fluid and stay away from brake fluid containers that are open, especially if they have been open for any time. Brake fluid can attract moisture (water) and that's a no-no.

What to use? Odds are you are familiar with either DOT 3 or DOT 4. What's the difference? DOT 3 brake fluid will absorb less water than DOT 4 from the air over time, meaning you'll change the system's fluid less frequently. DOT 4 brake fluid has higher dry and wet boiling points, making it safer for higher operating temperatures.

15-16. Should you purchase the complete CPP kit the wheel bearings come pre-packed but should they be "dry" the bearing will need to be packed with wheel bearing grease. This can be done the old fashion way by hand (which I'm sure all of us have done at some time) or you can purchase an inexpensive and nifty wheel bearing grease tool such as the Harbor Freight universal bearing packer (PN LNL145).

17. Once the bearings are packed with the proper grease you can then install them into the hubs.

18. Shown is the installation of the seal on the rear of the hub. If you purchased the complete CPP kit then this step is already handled for you.

Are they compatible? Yes, DOT 3 brake fluid is compatible with DOT 4 brake fluid. However, you should really never mix brake fluids, thereby avoiding dilution and contamination of the braking fluid properties. (Do not mix DOT 5, synthetic, brake fluid with any other, especially DOT 3 or 4.) Something else to keep in mind: Never reuse brake fluid and never mix old with new. Flush your system of the old before installing fresh fluid.

Bleeding Brakes

Bleeding one's brakes can be easily achieved with any one of the numbers of vacuum brake bleeding kits that are on the market. Give a look-see in the Harbor Freight catalog for affordable options.

They typically work in this fashion. Instead of forcing air and fluid out of the caliper via the brake pedal, it is sucked out with a vacuum pump hooked to a bleeder bottle (container). Next, fill the master cylinder, suck out the old fluid and any air, and close the bleeder. Then move onto the next wheel.

What order should I bleed the brakes? It's common in cases to begin with the wheel furthest away from the master cylinder. Typically, this is the passenger rear. From here you move to the driver rear, then the passenger front, and then the driver front. Check the brake fluid after bleeding each corner.

If there is air in the line that will be readily noticeable because you will have the sensation of a soft or spongy pedal. It's the bleeding of the brakes that removes this air and gives you back the firm pedal feel.

Given we were changing just the front brakes on the 1941 Ford that was by no means an excuse to not fully bleed the system and remove the old brake fluid and then refill with fresh DOT 3 fluid. You have now accomplished two projects: You have brand-new front brakes and you have performed brake maintenance by flushing out the old brake fluid from the system and replacing with fresh fluid.

Breaking in New Brakes

This is a step that we are all aware of but because it does require time and effort, we tend not to properly break in our brakes. Breaking in fresh brake pads and rotors is called "bedding." There are several ways of doing this but below is an accepted way to handle our street-driven hot rods. Probably best to do this early on a Sunday morning when there's an absence of traffic. Odds are you most likely performed the brake project on a Saturday, so the timing is perfect. If you can find a country-like road you will be better off, or find yourself a really large parking lot.

19-21. Many of us have probably done this step a time or two: the tightening of the outer wheel bearing. It entails installing the flat washer, spindle nut, the nut cage, and cotter pin. Tighten nut to 12 lb-ft, then spin hub to endure bearings are seated. Is the nut still tight (yes)? Then back off nut until it's "just" loose. The cotter pin goes through the hole in spindle while the cage nut backs up against the pin. This allows enough "play" but pin cannot back out. Last step install the dust cap.

22. Install the disc brake caliper bracket to the back side of the spindle.

23-24. Here Louis installs the rotor. There are also drilled-and-slotted rotors, if so desired. Use a pair of lug nuts (wheel nuts) to hold the rotor in place before beginning the caliper installation.

25-26. Install the calipers and tighten to specifications provided by CPP in their instructions.

27. Use the provided banjo bolt with its copper compression washers (two, one each side of bolt) to install the brake line to the caliper bottom. Once done, spin the rotor and make sure all clears the caliper and brake line.

You will want to accelerate up to 35 mph and while using moderate brake pressure slow down to 5 mph. You will want to repeat this process two to three times. Next, you will speed up to 55 mph and then use "strong" brake pressure to slow down to 5 mph, repeating this step four to five times.

Lastly, while driving moderately for 10 minutes plus this will allow the brakes to slowly cool down. After you have accomplished this then you can park your hot rod for at least an hour or so until the brakes fully cool. After this you should have bedded pads and rotors and you are "good to go."

Experience has taught us that having new, high-quality brakes, is an immediate "feel good" situation. You don't have to go out and get yourself into a "panic" situation as even the most mundane of driving will allow you to immediately feel the value of quality brakes. Remember, you really shouldn't be driving any faster than you can safely stop! **MR**

28. Don't forget to install the bleed screw, it goes on top of the caliper.

29. Next you will retighten the brake at the chassis contact point.

30-31. Make sure to now reinstall the tie rod as it's always a good idea to use a new cotter pin.

32. With new brake pads and rotors it's important to properly break them in. The process is called "bedding." The idea is to put a layer of brake material onto the surface of the rotor from the brake pad.

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