

Project Snake Charmer **Part 2**



We Go Back to School—and Like It!

Text and Photography by
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It was a chilly 26 degrees when we got off the plane in Flint, Michigan, as we prepared for the three-day build school that Factory Five sponsors at Mott Technical School in nearby Howell. The weather was a stark contrast to what we left behind in Tampa a few hours before, but nothing we haven't dealt with before in our travels.

Honestly, the cold didn't even represent a problem since we were so jazzed at the thought of getting elbow

Every graduation class has to have a class photo, right? Well, here we are on Sunday afternoon with our completed Mk III Roadster. Can you tell which one of the guys is from Hawaii?

deep in building a Factory Five Racing Roadster with 11 other like-minded individuals. The Flint airport was a nice change compared to flying into Detroit (and closer to Howell as well). A quick stop at the rental-car counter to pick up a Taurus and we were on our way.

Factory Five's build school is, in our opinion, the perfect way to determine whether building one of its Roadsters in your garage or home shop is right for you. It's not every day someone is willing to pull the trigger on a \$13,000 purchase of a pile of parts that will someday become a running and driving car. Sure, the school itself is an expense, but wouldn't you rather spend \$700 for the school to determine if a Cobra

replica like this is something you really want and will enjoy—or will even fit in? Factory Five will give you \$500 off the purchase of your kit when you attend the build school. That means your three-day build school would cost you only \$200 out of pocket in the end. Besides, you'd learn so much (as we did) and meet such great people, we can't see why you wouldn't do it if you were at all interested in the Factory Five replica.

Speaking of meeting people, the attendees of the weekend session were from all over the map. With students as close as Detroit and from as far as Hawaii, and with such diverse backgrounds (from contractors to engineers

and even retirees), we quickly made friends and had plenty to talk about between class sessions at dinner each night. By the end of the weekend, we had all traded e-mail address and phone

DAY ONE

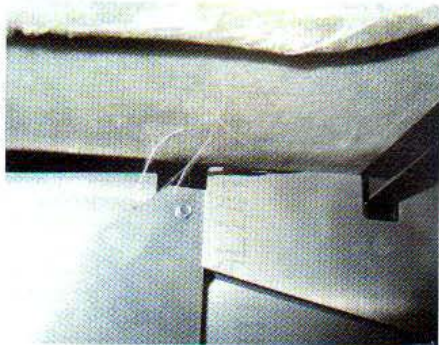
numbers and became "build buddies"—asking each other questions via e-mail or a phone call while we build our Roadsters. These are friendships that will last, and we hope to see many of our build buddies at shows next year

and see their finished projects.

Be sure to check out more photos and video from our build-school experience online, and don't forget to read our weekly updates with our online build diary.



After the aluminum panels have been checked and marked, the class is shown how to properly unbolt the body from the frame and remove it. While this step can be accomplished with as few as two people (if they know what they're doing), having half a dozen people (and another half-dozen pair of eyeballs) makes this step easy. Instructor Charles Markman looks on and offers tips to the class.



Here's a good reason to attend the build school before taking delivery of your Roadster. Our instructors showed us a great tip by running a Sharpie marker along the underside of the body and along the interior aluminum panels. If the Sharpie leaves any mark on the panel, the metal will need to be trimmed. If it is not trimmed, then later when the rubber seal is installed, the too-small gap between the body and aluminum will cut the seal. Guess who already had their body and aluminum removed before taking this class?



After removing the body, the aluminum panels that are shipped installed on the frame are marked for frame-member location and removed. Here, instructor Todd Baumann shows the class how to mark the panels and measure for proper rivet spacing.



You would think the three-day class was strictly about building the Mk III Roadster, but it also included basic automotive practices like tool safety, riveting, soldering, and more. Charles demonstrated how to use the included aluminum rivets in a sample aluminum panel and discussed rivet sizing and threaded inserts, often called riv-nuts or nutserts.

DAY ONE (cont'd)



As day one progressed, several of the aluminum panels and the front suspension were installed. The blue components are donor parts from a late-model Mustang. You can purchase a donor Mustang for your parts, buy the parts from a Mustang salvage yard like All Mustang Salvage, buy new Ford parts, or buy aftermarket equivalent parts from the huge late-model Mustang performance aftermarket.

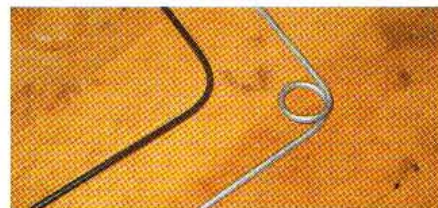


Charles and a student check the toe settings on the steering rack, while the frame sits on a 4x4 chunk of wood to simulate 4 inches of ride height. The Roadster is now a "roller" with its front and rear suspension installed and the donor wheels and tires fitted.

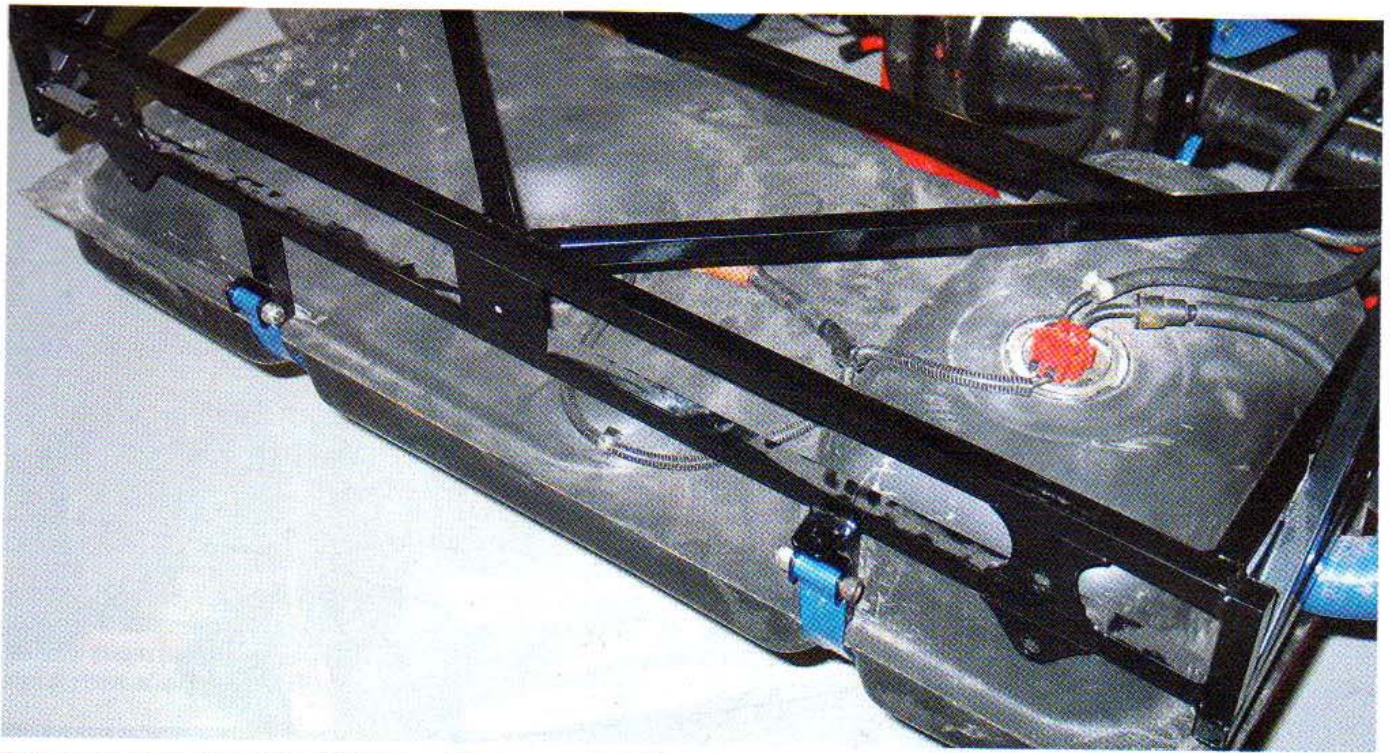


Before wrapping up the first day, the class installed the master cylinder (again using a donor part). Due to time constraints, most of the brake lines (and the fuel lines) were prefitted to the chassis before the class began.

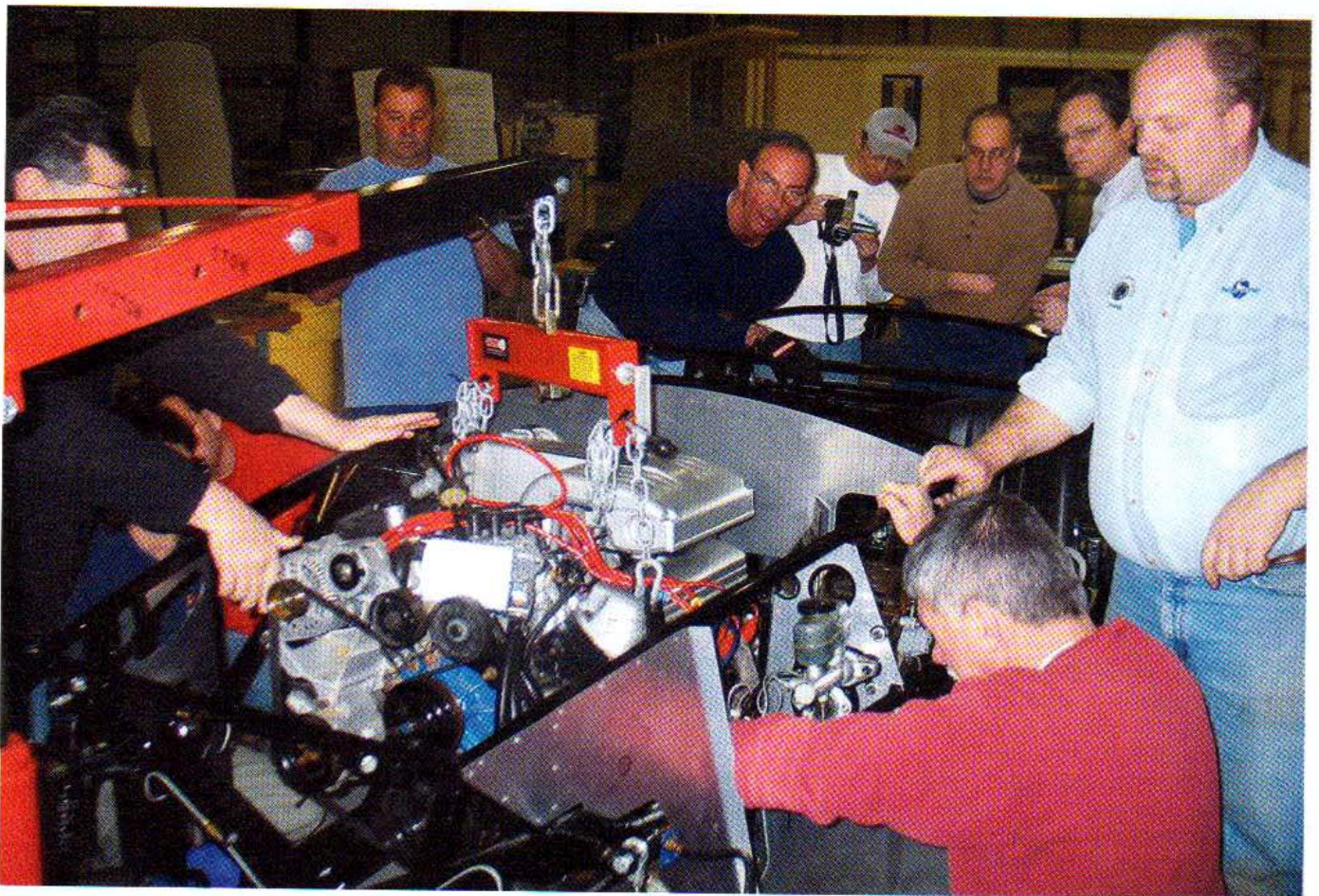
DAY TWO



Getting right to it Saturday morning, our first bit of classroom instruction was to finish the brake lines. Charles and Todd showed us how to flare brake lines and make any bends necessary to install them. While a tubing bender is a small investment, as Todd showed us, even a vise and a couple of sockets will get the job done. Note the difference in a simple bend versus a complete loop. The loop offers more vibration protection, and when used at the fitting end allows for servicing a bad flare or stripped fitting without replacing the whole line.



The fuel system on the Roadster is designed around the donor usage of a late-model Mustang. Here, the class has installed the fuel tank with the internal fuel pump and connected the new FFR-supplied fuel lines. Again, the blue parts in the photo come from your donor or need to be purchased, as they are not included in the kit.



By mid-day the class was ready to install the engine and transmission, which were already assembled and waiting for each class, again to expedite some of the work. For safety reasons, only the instructors are allowed to install the engine and transmission themselves. Some students kept their eyes on the assembly as it was lowered into the chassis, while others took video, pictures, and notes. We took almost 200 pictures, a half hour of video, and three pages of notes over the course of the weekend.

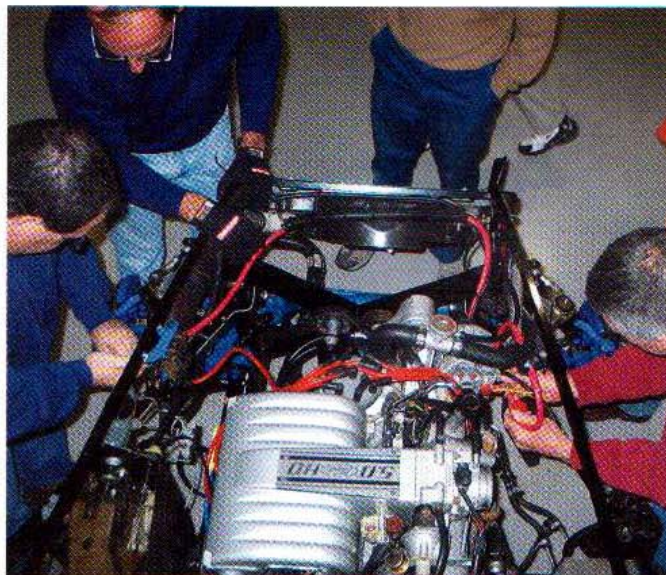
DAY TWO (cont'd)



Editor Houlahan was glad he could give the class a laugh as he riveted some of the trunk aluminum in place. Notice he was working while everyone else watched. [I felt like part of a roadside repair crew!—Ed.]



Wiring is a big part of the FFR Roadster build. You'll have to trim and run the donor wiring harness and modify it to connect the body lighting, or if you use an aftermarket harness, you'll need to terminate many of the wiring ends on that harness as well. Custom gauges or any aftermarket items require extra wiring, too. Jim Jennings, another Mott instructor, was visiting for the day, and he jumped right in and showed the class several aftermarket wiring options and how to properly crimp connections, use shrink wrap, and to solder—all good things to know working around cars.

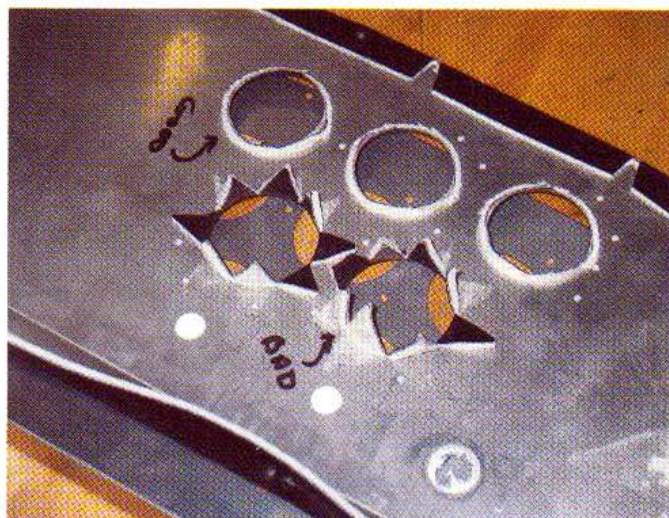
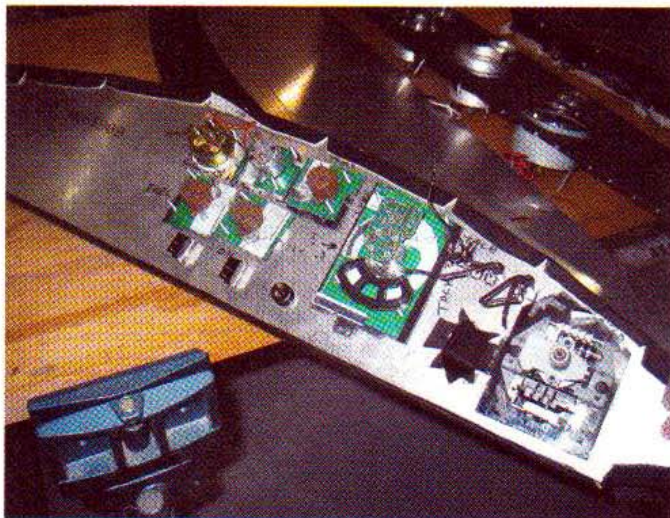


With the wiring complete and a few gallons of gas on board, Charles hopped into the Roadster while it was still on jack stands, and gave the ignition key a twist. The battery wasn't up to par, and with a quick battery swap from the other school car, the high-mileage donor 5.0 fired on the second try. Even with stock exhaust (which is quieter than the optional Factory Five 4-into-4 headers), the bark from the side pipes got the class jazzed, and we all erupted into cheers and applause. Now on to the home stretch.

After the bench session on wiring, the class gathered around the school car and worked to wire the fuel injection harness and body wiring. We wanted to hear the engine come to life before wrapping up for the night.



DAY THREE



With the school-built Roadster running and all fluids topped off—what many FFR owners refer to as the “go-kart” stage—it was simply a matter of installing the dash and the exterior body parts (lights and so forth). The build school has several dash assemblies to show students the various options. From using the donor gauges (shown here) to aftermarket gauges, and how to cover the dash, the discussion took half an hour before we could get to the tools and start day three of our project assembly.



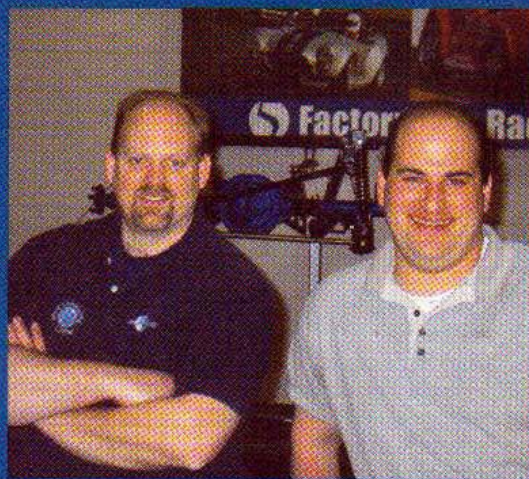
Once the students reinstalled the body, it was simply a matter of connecting the lights, installing the windshield, and fitting the rollbar. With the final bolt installed, Charles fired up the Roadster and took it outside for a horsepower show. We were amazed at how the stock 225hp Mustang engine moved the Roadster with ease. Then again, the completed Roadster weighs a good 1,000 pounds less than a late-model Mustang.

Teacher's Pet

The instructors for our small-block build school really made learning fun, and were great about answering everyone's questions. Charles Markman (right) turned out to be a long-time reader of Primedia's various Ford magazines, including *Mustang & Fords*, and like the proud car owner he is, easily shared photos and stories with us of his '71 Mach 1 and his modified late-model Thunderbird daily driver. Todd Baumann (left) another long-time Mott instructor, joined Charles this weekend to lend a hand with the class. Todd owns an FFR Roadster and brought it to the class for us to see (show and tell?).

Charles and Todd were both great instructors. Because Charles lives more than an hour away (while Todd is local), he opts to stay at the host hotel while teaching, and each evening there was an interesting round of war stories and garage tricks and tips.

These instructors put everyone at ease, and we're sure for those attending that hadn't purchased their FFR Roadster yet, Charles and Todd surely helped sway their decision to pick up the phone and place that order.



DAY THREE (cont'd)



What's nice about the build school is that most of the available Factory Five options are also stocked at the school for you to see and try firsthand. From optional suspension systems to different seats, wiring kits, and more, the school gives you a chance to see these options up close before ordering and to take plenty of pictures of these options and how they are assembled.



Since Factory Five's new Mk III Roadster was designed to use any V-8 Mustang drivetrain up to '04, the chassis was reconfigured to allow the use of the wider modular engines available in the '96-and-later Mustang, including the Four-Valve Cobra engines. To that end, FFR and Mott have begun a modular engine-specific build school, and when we were there in late February of this year, they had just built their first school car with donor parts from All Mustang Salvage. So if you're thinking of going with this newer engine, there's now a class curriculum specific to those builds. **MF**

SOURCES

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