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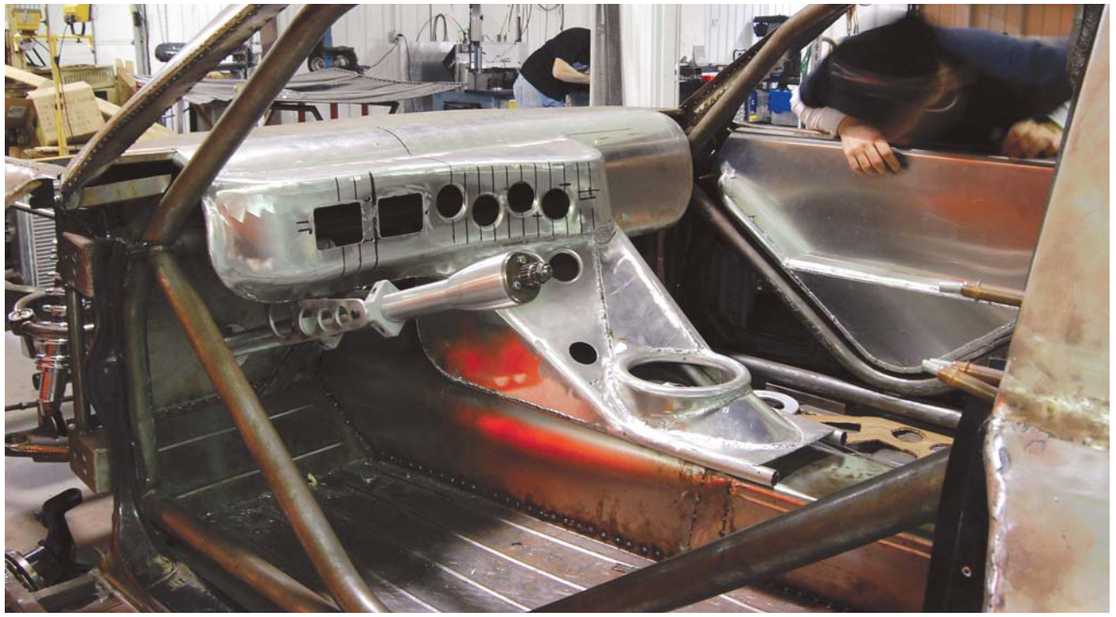

SMOKIN' SS:

PART 5

Filling in the Gaps, Finishing a Few More Details and Building a Custom Interior

If you've ever built a car from scratch, then you know that getting the basic body and chassis together is not the tough part. What's tough are all the details that eat up hours, days and weeks, but without this attention to detail, the project would suffer.

For the Metalcraft Tools SkillCenter crew, progress seemed slow on the Smokin' SS project, but tying up the loose ends and filling in the gaps is part of this extensive build, and Chris Wilson and Daniel Keys proved they were up to the task. They also proved they could be fabricators in the real world of getting things done and adhering to schedules, and meanwhile these two local car guys graduated Mark Davis' class in June. Even though the original members of the build team for the Smokin' SS project are no longer a part of the Metalcraft Tools SkillCenter, the project must go on, and new students were given the task of finishing the killer Monte Carlo.

The new students are Andy Smith, Keith McCart and Josh Phillips, and they are very interested in the old-car hobby. In fact, Phillips saw the Smokin' SS articles we were running and decided to enroll in the school. This is definitely a cool deal for him to be working on this car, and so far the new build team is learning the challenges facing an all-around car builder. This will be a great experience for all of them.

In this installment of the Smokin' SS build, the work done by Wilson and Keys will also be included, as they were responsible for the killer interior. We'll show you what it took to build that interior—from aluminum—and showcase some of the other metalwork to tie up miscellaneous loose ends.

Bodywork is taking place on the Smokin' SS Monte Carlo, and the car is residing in Metalcraft Tools SkillCenter's new spray booth, where it's being prepped for primer. The process includes lots of blocking to get the panels perfectly straight. DuPont urethane primer is being used on the car, and we'll show you that painting process later. As you can see, the project is moving right along, but there's still a lot of work to be completed by the new build team.

For now, take a look at the current progress on the Smokin' SS, and be sure to check out the project's website at www.smokinss.info for some great photos and even a live web cam in the shop. Next month, we show you the powerplant and drivetrain for the Monte Carlo and what it takes to put it all together. ***CR***

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1 In the earlier stages of the build, the crew fabricated floor pans and the entire body from basic sheet steel, which left gaps between the chassis and body panels. Crush panels will fill this void and will provide awesome aerodynamics, especially at higher speeds. **2** The rear panel is pop-riveted into place. The downward roll allows air to flow off the underside of the car as smoothly as it flows off the topside. This is yet another racecar trick that Davis incorporated into the Smokin' SS Monte Carlo.

3 The panel that connects the rear floor pan to the quarter panel is held in place with Cleco fasteners for initial fit-up. It will be riveted on later. It's bead-rolled for strength and matches the shape of the adjacent panels. **4** Up front there was a similar dilemma in the aerodynamics department. Check out the cool panel that fills the void between the hand-built front fenders and firewall. This not only helps air escape from the inner fender area, but it also cleans up the car's appearance. **5** With the crush panels fabricated and installed, the crew can finish up the exhaust system with custom outlets, which will exit just in front of the rear tires. Here, a cardboard template is used to mark the steel. **6** After cutting the basic shape out of steel, the crew ties it all together with tubing, which has been cut in half. It makes for a nice curve and a strong exhaust outlet, in combination with the five vertical sleeves.


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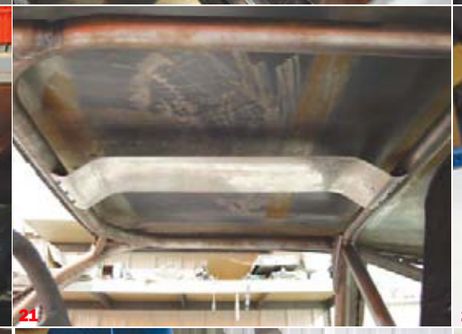
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7 The students then mounted the mufflers and outlets and connected the two with exhaust tubing. The square tubing used to support the body also serves as the mounting point for these exhaust outlets, which give it additional NASCAR style. **8** Though the main focus is on metal-shaping and fabrication, Metalcraft Tools SkillCenter also teaches its students about body and paintwork. It was Davis' first time using U-Pol body filler, and he was pleased with the ease of sanding and finishing. **9** The Smokin' SS Monte Carlo is disassembled and the entire suspension is out from under the car. Here, Davis uses special tape to protect the splines on the custom truck-arm mount from the powdercoating material. **10** McCart blasts the black powdercoating on the suspension components, including the truck arms and spindles. Before the DuPont powdercoating is applied, all the parts must be thoroughly sandblasted and cleaned. **11** McCart applied one coat of powder and rolled the cart into the oven, where it baked for 30 minutes before a second coat of black powder was applied. Here's a finished spindle, which looks great and has a super-strong finish. **12** The Winters rearend housing features a cast-aluminum centersection, which has a rough texture for greater heat dissipation. The housing is freshly sandblasted, and the centersection will be masked off to protect its coarse design and prevent the need for a rearend cooler. **13** Back to the disassembled car. You can see the tinwork being done in the engine bay. The radiator cover will be combined with a complete enclosure, which will provide great looks, aerodynamics and heat shielding. **14** Here's a close-up view of the radiator cover. All of these engine bay panels will be secured with quarter-turn fasteners, giving the Smokin' SS Monte Carlo another race-inspired feature that will make for easy access to important components. **15** Last month we followed along as the awesome Wilwood braking system was installed. Because of interference with the chassis tubing, the crew fabricated an external brake fluid reservoir to provide easy access to the master cylinders. **16** With the mounts finished for the Wilwood pedal assembly, you can see how it was mounted. The pedals look awesome and will work as designed with the new, strong mounting system that will stand up to plenty of pedal stomping.

17-18 Last month we saw the steps taken to fabricate custom racing seats. Here's a look at the seats, which are securely mounted to the floor and rollcage using trick mounting brackets. **19-20** The custom interior door panels were also hand-formed from aluminum sheet. The "V" shape fits perfectly into the rollcage door bars and provides a great area to incorporate a stylish armrest—this is cool stuff. **21** Davis and the students plan to hide the electronics and wiring overhead, and they built a custom console to house the electrical equipment. After making the first panel, Daniel Keys bolted it into place and began making the template for the side panels. **22** Keys marked the sheetmetal using his paper template and a felt-tip pen, and made his initial cut with an air-powered cutoff wheel. Later, he will trim the details using a pair of tin snips, to make a perfect fit. **23** Needing only a little more trimming around the rollbar provision, the first side panel is nearing completion. Now Keys can duplicate this panel and weld the entire assembly together. **24** Keys used aluminum for the overhead console to save weight, so he carried his panels to the welding station and fired up the TIG welder. He had it welded in a matter of minutes and test-fit the assembly after the aluminum cooled. **25** Here's the finished product, mounted to the rollcage. The welds have been smoothed, providing a perfect place to stow the wiring and electronics for the Monte Carlo. **26-27** Davis usually doesn't have his students fabricate parts simply for appearance, but he made an exception with these cool doorsill plates. The students milled the plates from aluminum, because if it's going to look pretty, it needs to be light, too. The aluminum plates were first powdercoated and then milled to get the perfect black inlay.


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28 Davis and the crew wanted a cool, modern-looking dash in the Smokin' SS, so they began bending aluminum tubing to build the structure. Obviously, the skin is aluminum, too, and it's being welded together here. **29** After roughing in the dash and getting the basic form welded together, Wilson and Keys began marking and drilling the holes for the Auto Meter gauges. Here, Wilson marks for the cuts necessary to mount the Racepak gauge panel. **30** Though the students haven't smoothed the welds yet, the dash is looking awesome with the cool shifter provision and slick lines. Notice the marks to the left of the Auto Meter gauges—two rectangular cuts will be made here to house the Racepak. **31** With the cuts complete, Wilson used a die grinder to de-burr the holes after test-fitting each of the gauges. After smoothing the holes, Wilson can reinstall the gauges and test-fit the dash inside the car. **32** Wilson and Keys used large adjustable clamps to hold the dash in place and stepped back to get an overview of the progress. The dash is definitely stylish, but it's also lightweight, because it's made of sheet aluminum and tubing. **33** At the rear of the dash/console, Davis and the crew ran into a problem with fitment, as the shape simply did not match the transmission tunnel. Here, Davis trims a paper template to obtain the desired shape. **34** After transferring the dimensions to a piece of aluminum, Wilson gave the new panel a roll to match the contour of the console area and TIG-welded it into place. Now he needs to trim around the new panel and weld the flat console portion onto the dash. **35** Behind the hand-formed racing seats and main rollcage hoop, the students fabricated interior panels to fit against the rear wheel tub. The bead-rolled design is strong, and the panel bolts to a small flange, which is welded to the wheel tub. **36** After Wilson and Keys completed the interior components, they put them all together and this is the result. Not only does the interior look awesome, but because it is all built from aluminum, it's obviously light and super strong, too.

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