

CARBON DIET

SLIMMING DOWN AN S550 BY 60 PLUS POUNDS!

Words and Photos > Cam Bentley



In racing circles—the power to weight ratio is the key that gives one vehicle the performance edge over another. If you can increase your drivetrain's horsepower output, that's a performance advantage over the competition. But, as every racer knows, if you can lighten the load but reducing overall vehicle weight, that's equally beneficial to beating the other guys. While carbon fiber panels certainly add an aesthetic benefit to your vehicle, they also deliver a major weight savings over the factory-installed steel components.

Our subject vehicle is the pride and joy of Kurt Burris who campaigns his 2015 S550 in an array

of autocross events along with the OPTIMA USCA, NMCA West, and Falken Tire Racing Byrds competitions. The car features a 5.2-liter Ford Performance Aluminator 52 XS engine fitted with many of the components found in the GT350. The 52 XS Cobra Jet intake was swapped out for the added low-end torque of a 2018 GT intake and is backed with the MT82 six-speed transmission and 3:55 gears out back. A big fan of Anderson Composites parts from his previous experience installing their hood, rocker, trunk lid, and front fender pieces, Burris was excited to find out how big the weight savings would be with the Anderson Composites doors.

Anderson Composites offers a wide range of carbon fiber parts for late model domestic performance vehicles. Their carbon fiber parts feature a black and gray pattern and use 3k, 2x2 twill fabric throughout to ensure the ultimate in durability. They require no additional treatment prior to installation, but you can cover them with a wrap, paint or protective coating if you desire. We should note that these doors are purely for off-road use, as they do not offer the crash resistance of the factory steel parts. Regardless, the Anderson Composites carbon fiber components deliver a cool, race-ready look and greatly

reduces weight over the factory sheetmetal.

The Anderson Composites carbon fiber doors shown here is one of their products introduced in 2015 and, in our case, carved 60 plus pounds of weight from the vehicle (30-pounds per side). The amount of weight savings you achieve may vary since each door is hand-built; weight savings of up to 40-pounds per door have been achieved over the factory steel doors with use of their dry carbon fiber product offering.

The installation procedure first requires disassembling the factory door and removing its contents right down to the window regulator, glass,



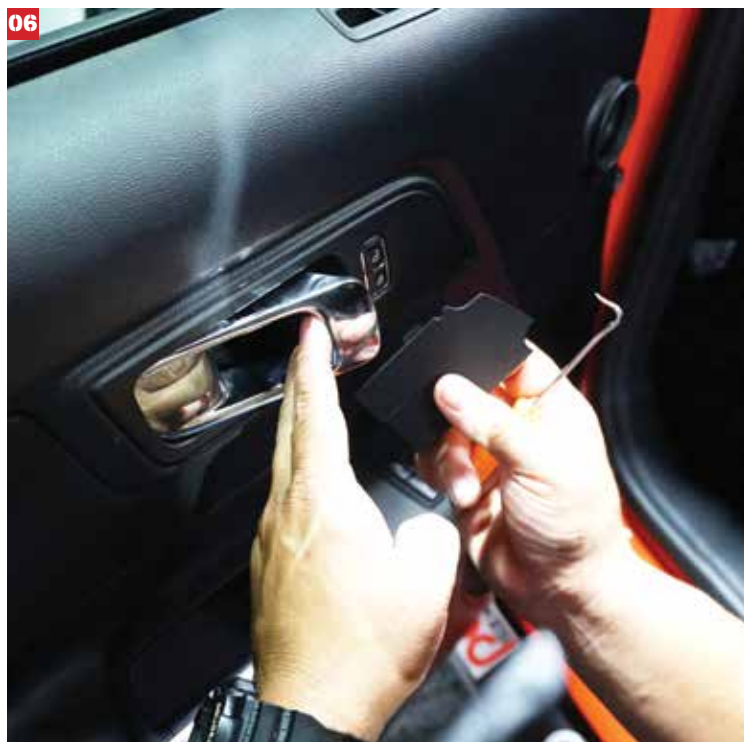
01 In race trim, Kurt Burris' 2015 Ford Mustang is a full 60 pounds lighter courtesy of these Anderson Composites carbon fiber doors—that go nicely with the hood, trunk lid, rockers and front fenders that had been installed earlier.

02 Introduced in 2015, these carbon fiber doors come in a gray and black pattern and fit perfectly without modification.

03 Burris had already been impressed with the Anderson Composites parts that he had installed previously. In each case, the parts were high quality with pre-installed hardware so they could be simply bolt up like the factory steel bodywork.

weatherstripping, and all internal components. The second part is, of course, inserting all of the original door contents into the carbon fiber door and mounting it to the vehicle. While the removal of the factory steel door's inter-





nal door mechanisms is a big job, the mounting of the door to the car could not have been easier. On late-model Mustangs, there is no hinge adjustment possible or required. Two threaded studs exit the door and fit through the

door hinge, while two nuts hold the door onto the hinge. The Anderson Composites door was a perfect fit, not only matching the Mustang bodylines, but also accepting all of the factory door parts and systems.

Remember that this swap is an “advanced class” installation, simply gutting the factory doors of all their contents took us a couple of hours alone, spending plenty of time chasing hidden clips and brackets and working to slide out the door mechanisms through existing holes in the door. Expect to break at least a few of the factory plastic pop clips along the way as part of the experience even if you work slowly; it’s just that kind of job. Should you need them, replacement parts are easily found at the local dealership—follow along as we demonstrate the highlights of the Anderson Composites carbon fiber door installation.



04 This specialty tool kit from Anderson Composites is designed to work with interior parts that can become scratched or damaged using more standard tools. This tool kit was extremely helpful.

05 Part of the challenge when installing the new carbon fiber doors is finding and releasing the large number of clips that retain the door panel and other door components. In an effort to achieve a clean overall door appearance that is free from obvious fasteners, Ford used many hidden clips that can be a challenge to find and release.

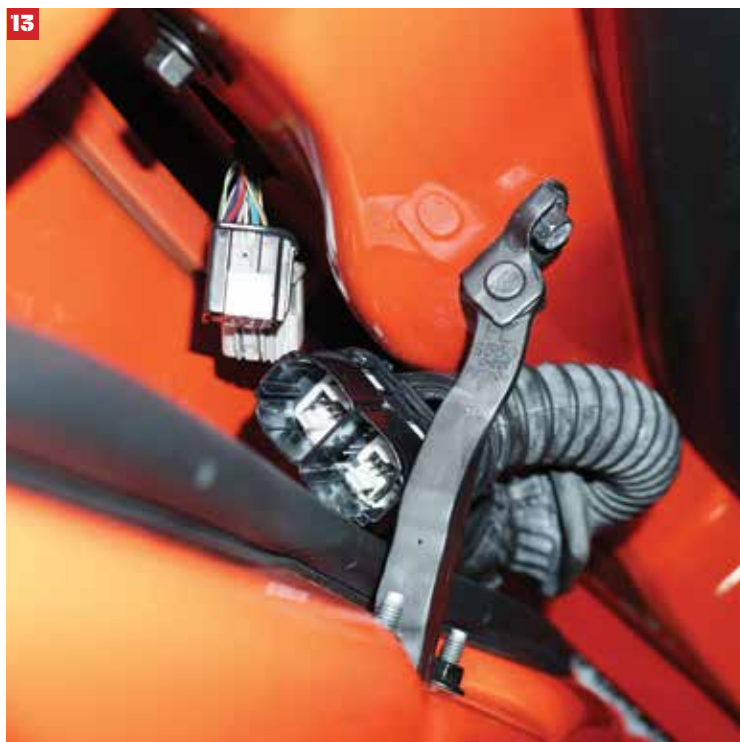
06 Using this hook tool, the panel behind the door handle is released. Take note of how the door comes apart, as it will require the opposite technique to reinstall them in the carbon fiber door.

07 The door grab handle comes off in this manner. Note the style of clips (blue) used to hold this panel in place.

08 The door panels and other door pieces are held in place with an assortment of clips that look like this. These white cone clips require the use of a specialty tool that pulls the door bracket away from panel.

09 Once the door panel is loose, it can be moved out of the way. Often there are other wires that need to be unhooked, so be careful when pulling the panel away from the door structure.

10 This view of the backside of the door panel gives you an idea as to where some of the key clips are located. This is where an assembly guide to your Mustang can come in handy.



to gently pull them apart.

14 After removing the door detent (this holds the door open when getting out of the car) the door is released by removing the two nuts that connect to the door hinge.

15 Total weight of our factory door was 67 pounds (less the door panel). Our Anderson Composites door tipped the scale at only 37 lbs.

16 We began installing our new door by attaching the two door studs to the original factory hinges (note arrows). There is no adjustment here, simply thread on the nuts over the studs that go through the hinge and you are done.

17 As you can see from this, no door adjustment is required. Note that the door seam is slightly higher than the rest of the body seam, however when the door is full of window glass, regulators and paneling, we found the door seam was perfectly aligned with the rest of the car.

11 We removed the door speaker in order to get a view of some of the internal door bracketing and window regulator mounts.

12 A large amount of wiring feeds through the weatherproof sleeve that is located in the door jam. Once you slide the protective sleeving out of the way, this connector is revealed.

13 When pulling the connector apart, release the retaining clip and work the two sides slowly back and forth





18 With our factory steel door off the car, it was easier to work on removing all of the parts including these little clips that hold an assortment of parts in place, including these that hold the speaker in place.

19 By using the Anderson Composites specialty pliers for certain tasks, we removed all of the door clips and then transferred them to the carbon fiber door.

20 The exception rather than the rule, in some cases we relieved the mounting point for a clip with a rasp. For our speaker clips, this technique was needed.

21 Our door had plenty of interesting connectors, this one used to pop the door lock when you depress the unlock button. Labeling the wiring harness when you are disconnecting the parts

can be helpful to keep track of exactly where things go during the transfer to the carbon door.

22 The side view mirror is a key piece of the doorframe and requires some chasing of hidden bolts that will require removal.

23 The mirror itself is held in place with this series of structures. Along

with a clip that connects to the mirror control motors, these studs hold it to the doorframe.

24 With the window glass out, the guides can be removed and transferred to the new lightweight piece. The guides are a perfect fit within the carbon fiber door using the original hardware.





25 The door latch mechanism is an easy transfer; a series of easy to find screws hold the entire system in place.

26 This cap covers the access hole that allows you to pop the door latch mechanism off using a Torx wrench.

27 Step one to removing the door latch is to open the handle like this and hold it. Note: this is a two-person operation.

28 A Torx head wrench like this is required to reach the release mechanism behind the door handle. Insert the

wrench through the access hole previously mentioned and turn the wrench counter clockwise while pulling on the handle until the door latch pops free.

29 Once the door latch is released, all of the component pieces will fall into your hands.

30 Here is a better view of the door handle from a different angle. We left the door handle orange, but you can wrap the handle with aftermarket vinyl if you want to match the rest of the door.

31 Snaking the door regulator out of



the door can be a real challenge. We removed brackets that connected to the regulator, noting where they fit by photographing the pieces as they come apart. This is one of the more challenging parts of this door swap. The good thing is that the new carbon door is identical to the steel door

with matching mounting bosses and connections.

32 The Anderson Composites carbon fiber door is a duplicate of the factory door except for the material used to create it. All of the door openings, structures and overall design are

exactly the same. Of course, with the exception of the fact that, the Anderson Composites door is 30 pounds lighter!

33 The final product is very impressive and aside from the carbon fiber exterior looks very much like the factory door, only significantly lighter! **TMH**

SOURCE

Anderson Composites
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