

Building a 2004 Mustang Cobra

Follow Terry McCoy's new Cobra down the assembly line.



Text by Greg Burkowski and Terry McCoy
Photos by Bob Egleston, Terry McCoy, and Ford Motor Co.

Just when you thought the 2003 10th Anniversary Cobra was the rarest of the rare, in 2004 John Coletti had one more surprise for us all with 390 tire-smoking horsepower and 390 lb-ft of torque—The 2004 Mystichrome Mustang Cobra. Dupont's chromaflair pigments created this color effect. Depending on the outside light, the Mystichrome paint shows three dominant colors of purple, blue, and green, and a touch of teal, gold and even black. Unlike the '96 Mystic Cobra, the 2004 Mystichrome Cobra carried the color-shifting paint into the interior, including the front and back seat inserts, and steering wheel. This beautiful beast is powered with a 4.6 liter, 4-valve engine supercharged by an Eaton M-112 with 8 lbs. of boost. The crankshaft is machined from forged steel. It is equipped with forged aluminum pistons. The two-person team signs each Cobra motor. A new hood was developed to accommodate the supercharger. SVT went with a cast iron block and Manley connecting rods to handle the boost. Another upgrade was the gearbox. A Tremec six-speed manual handled the chores, along with a 3.55:1 rear gear. The IRS had improvements over years past, including heavy-duty half shafts, harder bushings, and spring rates to handle more power. It is equipped with 4-wheel disc brakes. The front has 13-inch Brembo rotors, while the rear has 11.05-inch rotors. It comes with 17X9-inch chrome five-spoke wheels mated with 275-40-17 Goodyear tires. The 2004 Cobra is

equipped with a Mach 460 watt stereo system with a 6-disc CD changer. The only option that could be deleted on the Mystichrome package was the rear spoiler. Ford only produced 1,010 Units of this model with 515 hard tops and 495 convertibles. Put this package together, and you have a fire-breathing hot rod Cobra Mustang that is a late model collectible car, and the last year of a legend, built at Dearborn Assembly Plant.

My goal was to order a Limited Edition Mustang for the last year at the DAP. I wanted a Shaker Hood Mach 1 Convertible, but obviously, they were only available as a hardtop. During a previous visit to the plant, I noticed a changing color Mustang Cobra. At that time I had no idea what it was. I inquired and found out it was a Limited Edition Mystichrome pre-production Cobra destined for the 2004 model year. The first question I asked was, "Will it be available as a convertible?" The answer was affirmative. The next step was to find out how much it would cost. Could I afford one? So, I contacted SVT to get some prices.

During the build of Barry's 2003 Mach 1, we stopped at Jack Demmer Ford, in Wayne, MI, and met with Jim Demmer. We were able to see his low mileage, mint condition 1990 Limited Edition Mustang LX 5.0 Convertible. I never forgot his willingness to take time from his busy schedule to meet with us and talk Mustangs. I called Jim about my desire to order a 2004 Mystichrome Cobra Convertible. He

already had two orders for the same car ahead of me, but would try to see if he could accommodate a third. I immediately sent a deposit on the Cobra, hoping it would move the order to a production vehicle. This was July of 2003.

In the fall of 2003, a call came from Jim Demmer confirming that my order had the green light. As time went on, I was busy contacting Ray Lucarelli and Al Frank, at Ford's Dearborn Assembly Plant, to see if I could follow the car down the assembly line at DAP. That was not an easy task, because DAP was closing down soon. Many employees had already moved to the new Dearborn truck plant, and DAP was short handed at the time. But Ray and Al came through for me, and were able to arrange for Greg and me to come and film the entire car down the assembly line. Tom Sea was also a big help. He was in charge of scheduling the Mustangs and kept in communication with me when my car would drop on line.

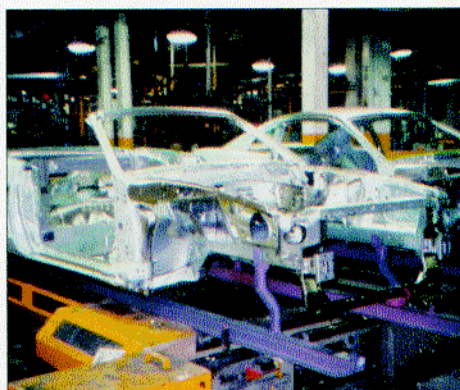
While at the Assembly Plant, I wanted to document various stages of the car, such as the line sheets. Mustang enthusiasts get excited when we find a line sheet during a restoration or a major detail. Line sheets have codes (various letters and/or numbers) that indicate to employees what part or item goes on that particular car. Even though the window sticker tells us the optional equipment the car had at the time it left the factory, the line sheet has much more detail than the

window sticker such as a code for the engine, transmission, radio, speaker, speed control, tape stripe, etc. That's why line sheets are so essential during restoration, to know what the car was equipped with from the factory.

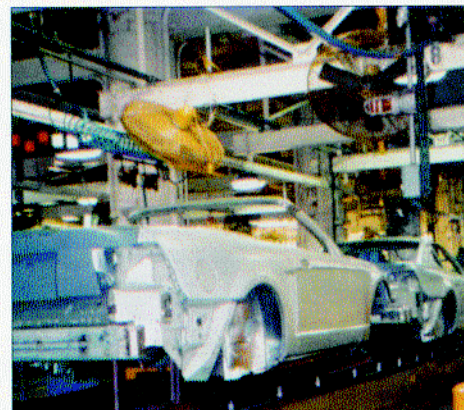
When I ordered the Cobra, my intention was to keep it a show car. With that in mind, I wanted to document how a Cobra was built at DAP from an unrestored perspective by filming its assembly, to document the process from the time the floor pans were welded together through the drive-off at the end of the assembly line. The only Cobras built on line during that time were Mystichrome. That is because Ford wanted the Mystichrome Cobras built and shipped out in a reasonable amount of time. The Cobras were not built consecutively. They shared their build with GTs and V6 base models.

Upon completion, my Cobra was shipped to Jack Demmer Ford. The white protective covering was removed to ensure there was no damage. At my request, the stickers on the window, and plastic on the seats and carpet were left alone.

Jim Demmer offered to have the Mustang put on a hoist for an undercarriage detail. Jim even helped on the detail. What a dealership—I never had that kind of treatment before! *MT*



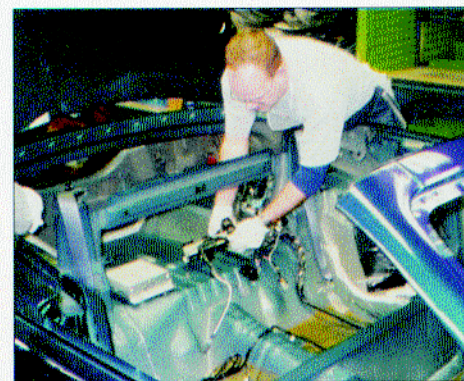
Mustang waiting for installment of doors, hood, and rear deck lid.



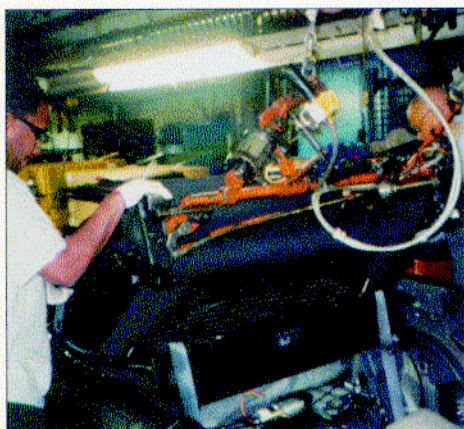
This line of Mustangs is ready for paint.



Installation of the heat extractors on hood, to let hot air out of engine compartment.



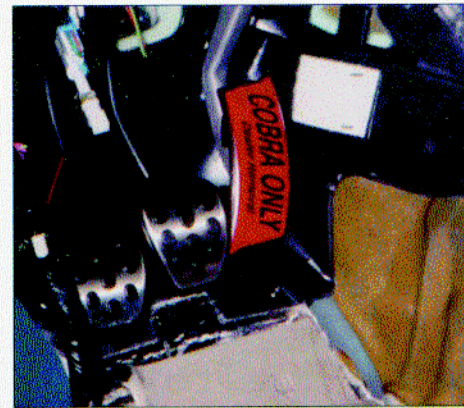
Convertible top motor and stereo amplifiers installed.



Installation of the convertible top.



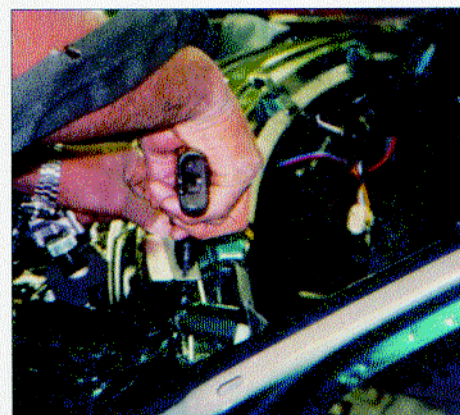
The floor pan and door panels just have a light coating of paint.



The pedal assembly was Cobra only. The gas pedal was larger for better heel and toe shifting.



Mustang Terminator was internal code name for the '03-'04 Cobra



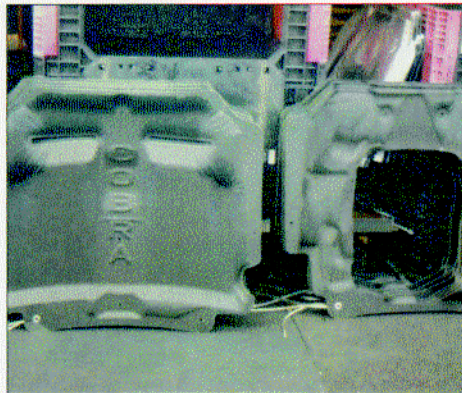
The VIN tag is riveted on near the windshield.



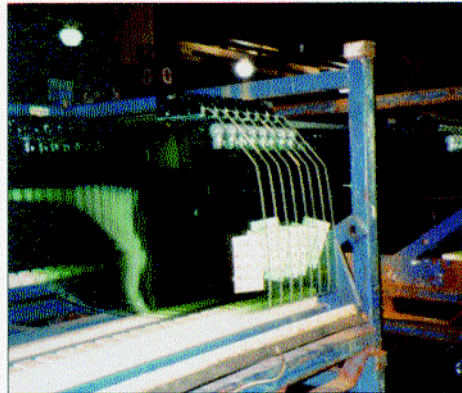
Ray Lucarelli along with a Dearborn Assembly worker posing for a picture.



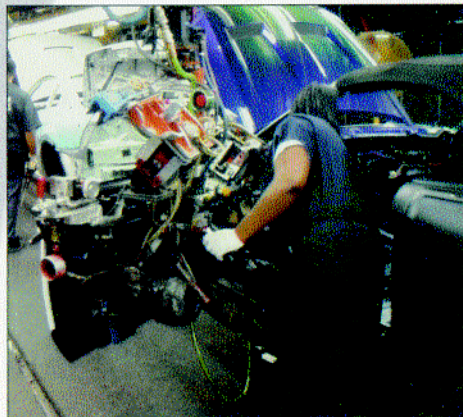
Installation of rear spoiler.



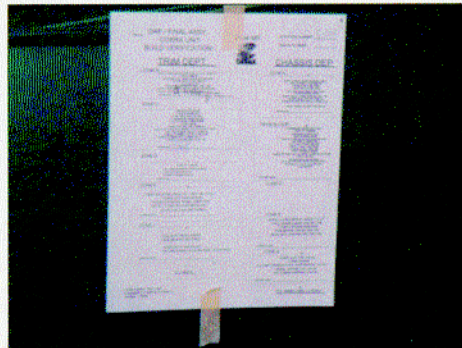
Notice the difference between Cobra & Mach 1 hood insulators.



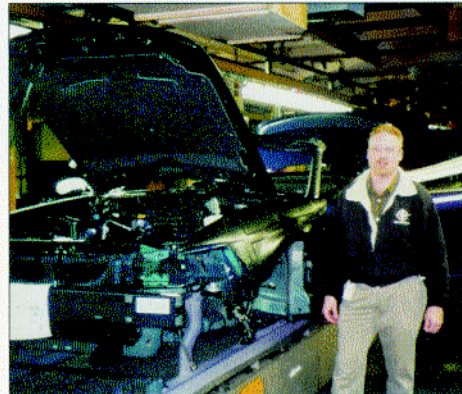
Several driver's side door windows waiting for installment.



Aligning the side door glass.



Each supervisor signed off in their department when the car met Ford's criteria. Next, the car was moved downstairs to the chassis department where they followed the same procedure.



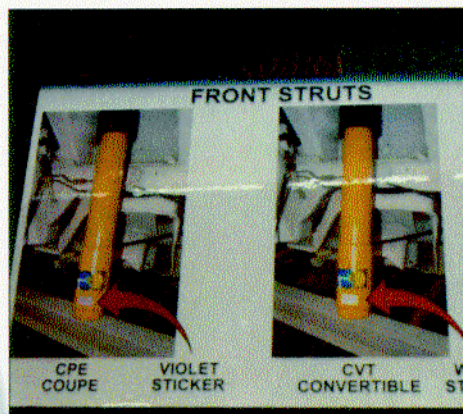
Dan Kliebe, our tour guide, ensured everything went as planned.



Notice the instrument panel is equipped with a red protective cover over the steering wheel. All other Cobra's had blue coverings. The steering wheel for Mystichrome Cobras had the Mystichrome color changing effect, designated by a red cover, so there wouldn't be a mistake.



The car is being checked out by Quality Control.



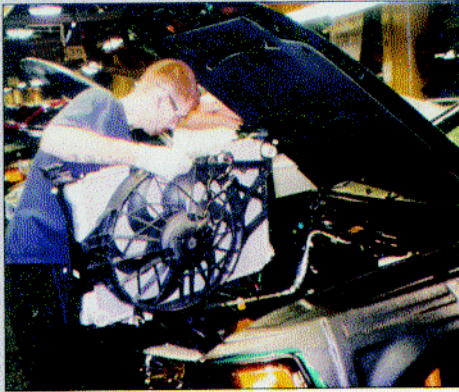
Cobra-unique front struts.



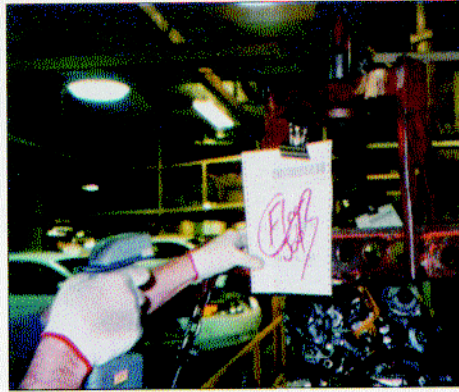
Rob Webber (right), former DAP Plant Manager, with Terry McCoy.



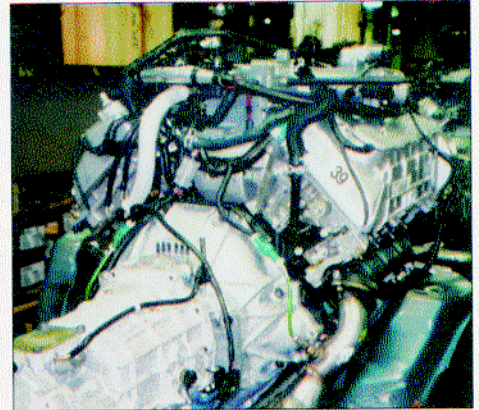
The ever-famous running horse being installed.



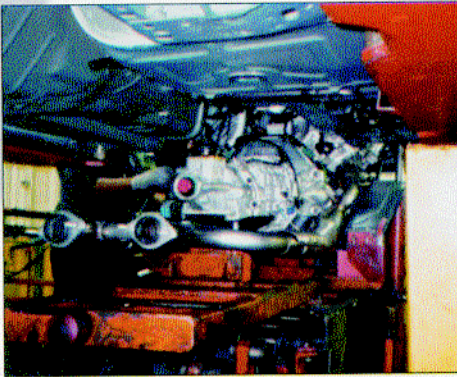
Aluminum radiator and electronic-driven dual-speed 6-blade fan ready for bolt in.



Scanning the engine line sheet to make sure the proper engine is installed in Mustang.



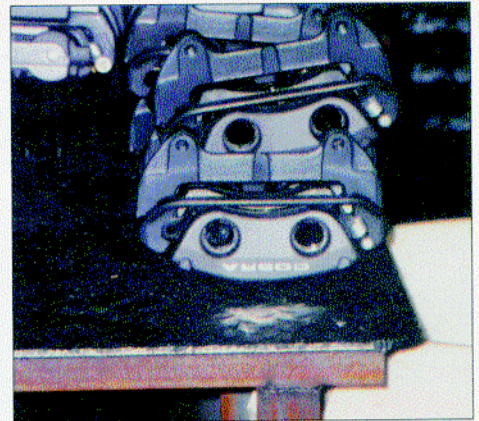
The engine's ready for installation.



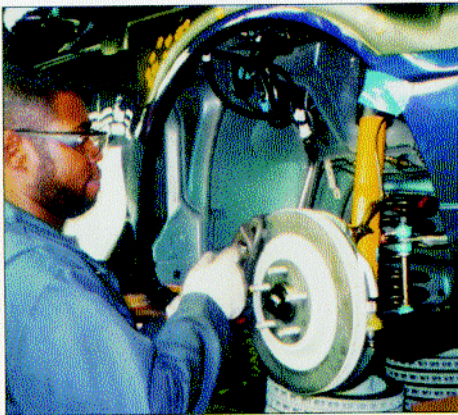
The engine installed in a Mustang Cobra from underneath. (1979-1993 Mustang engines were installed overhead.)



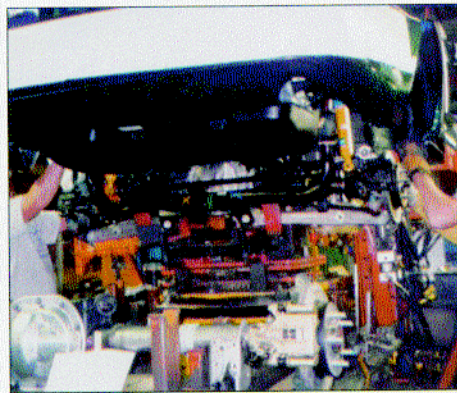
The gas tank is ready to be bolted in place.



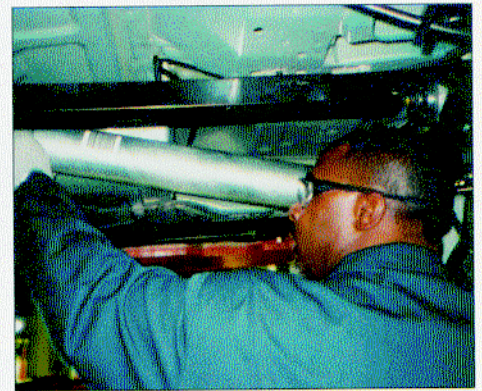
Cobra calipers waiting to be installed.



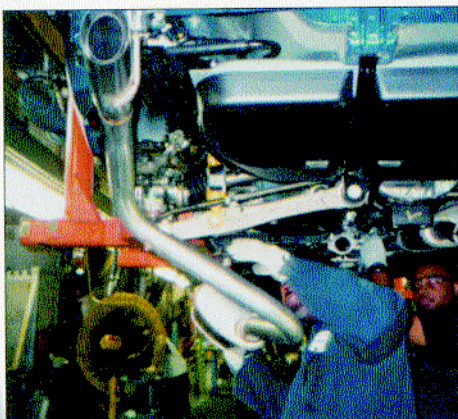
Installation of Front brake caliper.



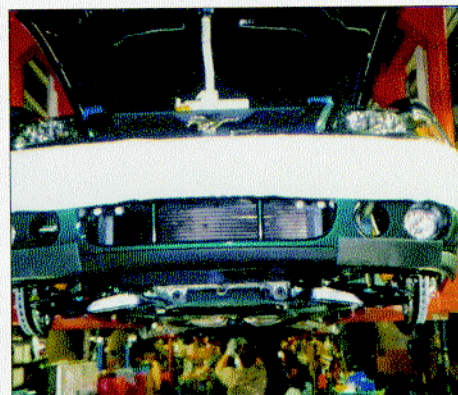
IRS (Independent Rear Suspension) being installed on Cobra.



Bright, shiny aluminum drive shaft being mounted. Notice the barcode.



Bolting on muffler and tailpipe one side at a time.



Cobra is ready to be lowered on to the last and final assembly line in the chassis department.



The engine accessories are being filled with the proper level of fluids.



All wheels are manually tightened and then re-tightened all at once with an impact wrench.



The back seat is being mounted.



Installation of center console after back seat is installed, but prior to the front seats.



Even the Cobra's plastic seat cover said Cobra.



The front seat is ready to be bolted in.



Shift knobs for full line of Mustangs.



I was able to start up my car for the first time and drive off the assembly line. What a thrill!



My car received a special alignment treatment that was exclusive to Cobras.



My Cobra is going for its first bath. You can't say your Mustang has never been wet. All production Mustangs go through this test.



The convertible top is being wrapped for vehicle shipment.



Cobra is ready to be shipped to Jack Demmer Ford. At customer's request, the stickers on the windows and plastic on the seats was left alone.