

major European autoraces, consistently defeating Ford's major racing program. Shelby-American 1967, and only 348 of those were 427 Cobras, yet the sports car.

errari. Starting in 1964 Shelby was contracted to manufacture only a thousand Cobras from 1962-1967, and only 427 Cobras are still considered the ultimate American sports car.

Kirkham Motorsports

The Kirkham family has been in the car restoration business since 1988, when Thomas Sr. started a read-and-butter of the operation was restoring Ford Mustangs and other collector cars. T.K.O. earned a reputation as a very high quality restoration house. Later, Thomas Jr., an aeronautical engineer, left the (U.S.) Air Force to create Kirkham Motorsports. His brother David, who has a degree in Manufacturing Engineering from BYU, soon joined him in the Cobra restoration business.

In December 1994, David Kirkham was disassembling a TKO-owned Shelby Cobra, serial number CSX 3104, to replace some suspension pieces. He soon realized that to buy all the parts from the Cobra restoration guild was going to cost \$20,000. "This sucks," he thought, "I'll make it myself."

Over the years, the Kirkham family had blueprinted common parts needed to build an original Cobra after-market part suppliers, at high prices. T.K.O. had custom-manufactured a number of parts during earlier restorations, and had on hand a lot of original pieces given to them by others in the restoration trade. Eventually the Kirkham's began to ask, "Why don't we make an entire car?"

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Cobra Replica Manufacturers

The Kirkhams would not be first to the replica market. The first replica Cobra appeared in 1972, and there are now at least twenty, and perhaps as many as fifty companies making reproduction Cobras. All are privately held, and most are small "kit-car" manufacturers (a kit-car is a complete set of parts that allows an individual to assemble their own vehicle). Factory Five Racing, claims to be the first reproduction company, claims to have sold more than 1,000, and very few replicas live up to the expectation that the buyer will supply the frame and late-model Ford Mustang), but a few supply a complete engine. Curt Scott, who publishes The Complete Guide to Cobra Replicas, estimates that there are perhaps 40,000 Cobra replicas in existence. Replica prices range from \$10,000 for a bare-bones fiberglass kit (with no engine, transmission, frame, wheels, etc.) to \$100,000 for a fully assembled car. At the low end, a Cobra look-alike can be built for about \$22,000 and a few months labor. Prices for original Cobras start at about \$125,000, and can exceed \$500,000.

Replica manufacturers also include Carroll Shelby, the designer of the original Cobra. Since 1996, Shelby American has been reproducing the 427 Cobra using labor from a penitentiary near Las Vegas. As Shelby said, "I have stood by for twenty years watching other makers make knock-offs. Would people rather have [a reproduction Cobra] from Shelby American or one of those bootleg deals?"

People do not buy a replica Cobra as a commuter vehicle. David Kirkham describes the Cobra as "the most politically incorrect vehicle ever made..." Cobras are very loud and the ride is rough, and owners frequently burn their shin on the exhaust pipes when they step out of the vehicle. Cobras are fair weather vehicles that do not come with a top. Cobras are usually bought by replica enthusiasts to show the car off at car shows, or store them in their garage and only drive when the weather is fair. They are "functional" cars for wealthy professionals, retired race-car drivers and Saudi princes.

Most reproduction Cobras are made from fiberglass, and only a few have been made from aluminum. Usually, only the exterior is made to look like the original Cobra. The frame, suspension, engine/driveline and other sub-assemblies of reproduction Cobras are often a hodgepodge of parts adapted from more recent vehicles. Quality varies considerably. Yet the value of a reproduction vehicle, and the respect the owner

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After a handshake and signing a stack of paperwork across the Atlantic. Among the first shipments were from CSX3104, and a frame identical to the original Poland had begun. Virtually all of the communication had to be translated. David began studying Polish.

in Polish legalese, David began shipping Cobra pieces TKO's Shelby Cobra (CSX3104), the drawings made for a Shelby 427 Cobra chassis. Kirkham Motorsports of Ohio was done by fax and e-mail, which gave both sides a chance to ask questions. "It might come in handy," he thought.

Original, or New and Improved?

Polish engineers soon noticed what Cobra restorers always know: the original AC-built Cobras were any but perfect. "Did we copy these cars exactly?" asked David. "If you could see some of the original left-to-right measurements you would die. We're talking an eighth of an inch here, a half-inch difference there, in suspension measurements in non-wrecked vehicles." Rather than the original, the Kirkhams created a digitized computer model of the original, then modified the computer model to make it symmetrical, then milled a master buck for finished parts using a computer-controlled milling machine. All of the aluminum parts made in the Polish factory were hand-formed to the approximate shape, then pressed over the master-buck to produce a perfect fit.

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Many of the sub-assembly parts for the Kirkham reproduction Cobra restoration business. Reproduction gauges, lights, steering wheels, interior parts, and wheels were available, but many other structural parts that did not normally wear out were not. Building these parts was an expensive undertaking. Each additional part meant more tooling and mold had to be created to produce the part. But the Kirkhams knew there could be a lucrative business selling these parts to other Cobra reproduction companies and restorers.

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The Outcome?

As Kirkham Motorsports anticipated its first shipment ahead. They knew they would be able to sell the first few cars they produced, but they wondered what unexpected problems they might encounter in this international venture.

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