



Down to the Bone

Getting a perfect finish on a 1964 Mazda R-360

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Suppose you owned a high-end body shop in Fountain Hills, Arizona, just east of car-rich Phoenix. After 20 years in business, you might decide you needed a car as a showcase for your body and paint skills, something that would illustrate for your exotic-car-owning customers just how good you were. You'd choose something that would be a perfect foil for your ambition, a rolling work of art to which you could forever point and say: "I did that, there is none better. All shall look upon it and marvel." You wouldn't pick one of the Ferraris, Porsches or even Ford GT40s that passed through your shop.

You would, if you were Glenn Roberts, choose a 1964 Mazda R-360 coupe.

It was 1986, and Glenn, longtime owner of The Finishing Touch body shop in Fountain Hills, was at a Kruse auction in Scottsdale. Glenn was in a car-buying mood that year, and had bought three cars out of the Lindvig Museum collection, which Kruse was liquidating for the sale. "It was about the last car to be run through for the day, and my group of friends and I had a few too many drinks at the bidders' bar," said Glenn. "We all thought the Mazda was the cutest car, and the next thing I knew the auction employee was

handing me the clipboard to sign for my latest purchase!" That, friends, is a car-sized hangover.

We don't believe Mazda's first passenger car was ever imported into the U.S., so you may be wondering how it got here, and more, for whom they were building left-hand-drive cars. It turns out they were building them for Americans, just not for America.

As Scooby would say, hruh? "According to a Mazda employee whom I met at the Mazda design center, very few left-hand-drive cars were produced in Okinawa for U.S. servicemen stationed there in



Rebo coupe

RESTORATION



the early '60s," said Glenn. The Lindvig Museum had acquired the car in San Diego, where it was displaying a U.S. military window sticker, and Glenn assumes it came back with a returning serviceman. Of the 65,000-plus that Mazda built, about 700 were LHD.

Glenn had to store the car outside when he brought it home, "Where the Arizona sun did it no favors." It's not surprising that it had only accumulated 12,000 miles on the 16hp, air-cooled, 356cc V-twin, but it was odd that it had been repainted in that time, and poorly at that. As he researched it, Glenn found the interior was incorrect, and the chrome was clearly very tired and original. At—get this—837 pounds (it sounds even better as 380 kilograms), the R-360 keeps weight down through, among other things, a plastic rear window, then badly fogged.

After three years of looking at it, "I decided to repaint the car and proceeded

to take the car apart," said Glenn. The size and simplicity of the Mazda meant that was a one-day project. He got as far as chemically stripping the exterior and giving it a protective coat of epoxy primer, but, "As typical with me, taking things apart is easy, then I lose interest in the project or a more interesting project takes priority," so the shell sat for a dozen years after that, with parts in a storage unit. He kept major sub-assemblies (such as each corner's torsion-tube suspension) intact, and says that he can easily move the all-alloy engine by himself.

In 2002, Glenn was feeling bored, and his wife suggested he restore the little car sitting at his shop. He discovered that via the Web, he now had access to far more information than he could have dreamed of in the 1980s. He hooked up with the first of many contacts in Japan, Mr. Kazuhiko Oki, whom Glenn credits with helping motivate him, and providing his Mazda R360 magazine, as well as a copy of the factory parts book.

He started by sending it out for media blasting with iron oxide, taking off all his now-ancient primer and undercoating at low pressure to reduce the risk of warping or just discoloring the body. When it came back, his body specialist at The Finishing Touch worked out a few dents with hammer and dolly, and Glenn reassembled the bare shell to check for panel fit, then took it back apart. "All of the factory flaws that I found, as in welding spatter and spot welds and gaps, were left in it, as I wanted it to be original," he said. They spent almost a week in the shop cleaning

up the bare metal in preparation, including painstaking removal of all the media residue from the crevices. Even so, he still finds a little trickle of dust emerging every now and then.

Glenn was then ready to prime. "During all of the priming and painting steps, I had the luxury of [letting it sit] for a few weeks before blocking and sanding, which is very beneficial for the primer and paint to settle...minimizing the chance of shrinkage in the paint job," he said. "Paint shrinks as it dries by evaporation of solvents." He did all the painting in a DeVilbiss downdraft paint booth.

The first step was two coats of Spies Hecker Priomat 3688 transparent etching primer, to put down a tightly adhering base for the rest of the finish. He followed that up with four more coats of primer, Perma Solid HS Premium surfacer, and block-sanded it with 240-grade paper "to make it straight." To conform to the car's contours, he used a 12 x 2-inch Plexiglas sanding block, and crosshatched his sanding at an angle. Because the 240-grade could con-





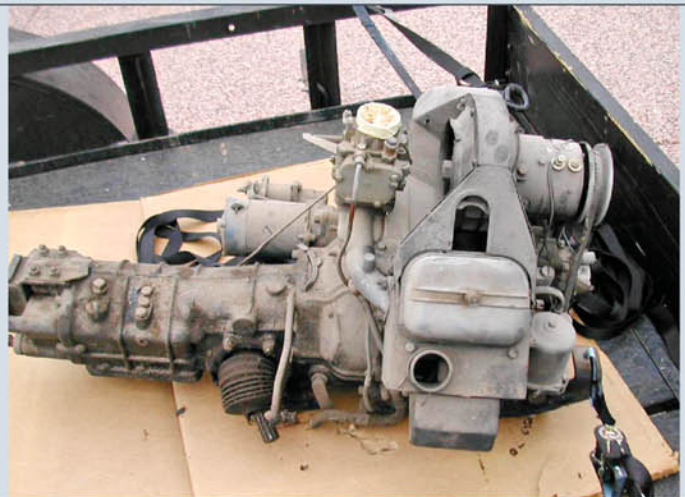
It's a unibody, but not much of one; aside from fenders, almost everything comes off. Low-pressure iron oxide blasting used for stripping



No rotisserie needed when a body shell is around 150 pounds; owner was able to tilt it by hand and prop it up for undercarriage work



Simple rubber-filled torsion tube suspension was in great shape. Re-assembly of bare shell meant that fit after painting was guaranteed



Moving an engine half the size of a VW Beetle's is a one-person job. With only 12,000 miles, only cosmetic work was required

ceivably leave visible lines under the color coat, he added two more primer coats and wet-sanded them with 500-grade. He likes the better feel and ease of wet-sanding primer, but cautions you to be sure it's completely dried out before moving on to a color coat. On the R-360, that's a single-stage Spies Hecker series 257 acrylic urethane, applied with a SATA-jet 2000 HVLP spray gun. He put on four coats, allowing it to flash dry between each application.

Because of the ultra-quick drying paint, he painted the unibody in three sections over three days, as he felt that by the time he reached the end, it would be dry where he started and result in an uneven finish. Once the fourth coat of color was down, he wet-sanded off orange peel with 1000-grade sandpaper wrapped around a

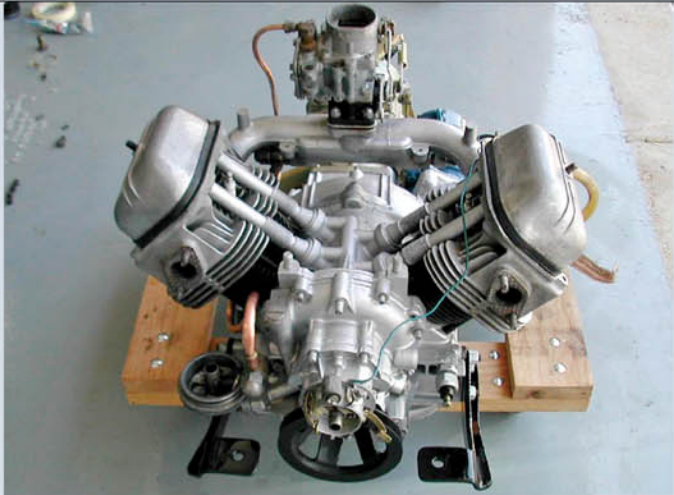
3M sanding block/sponge, to avoid leaving any lines created by bare fingers. He topped that off with 1500-grade wet sanding with a rubbing wheel to smooth the way for polishing.

To bring out the shine in a finish without a separate clear coat, Glenn started sanding the car by hand. "That's why my shoulder is bone-on-bone," he said, and cites a new knee, another on the way, and two replacement shoulders upcoming as evidence of a long career of finishing cars. "But you get a better feel of things, you can feel an imperfection in the palm of your hand," he said. You can make your own cost-benefit analysis.

He machine-polished with an aggressive 3M compound, using a soft sponge to eliminate any fine scratches from the color

sanding. That was followed by 3M Finesse-It™ II Glaze, applied by hand with a soft wool pad to remove compound scratches, and a final hand polishing after he reassembled the body (but before reattaching the trim). "I don't like splashing compound around on trim," he said. After two or more weeks of curing, the finish was now quite hard, and he worked very slowly and carefully to avoid putting in a hard-to-remove scratch. Each tiny exterior door skin, for example, took four hours of hand finishing. "By the time you're done, you can get a little sore," he said.

Under the hood, Glenn refreshed the all-alloy engine himself. He says it still had cylinder hone marks intact, so it was a matter of "mostly WD-40 and steel wool" to bring back its shine, which also worked



Amazing what you can do with WD-40 and steel wool on aluminum. Air-cooled 356cc V-twin makes 16hp, but the car is only 837 pounds



Air shield sprayed with wrinkle-finish paint, baked on, with rocker arm covers sticking through. Air filter is original, including decals



Interior black is straight black toner, sprayed on. Interior sheetmetal got the same priming and painting as exterior, minus polishing



well on the minute magnesium transmission housing. He noticed the period bolts all had thicker heads than any currently available, so he individually glass bead-blasted them, and sent all the nuts and bolts to Phoenix-local Collins Metal Finishing for zinc plating.

The rest of the running gear was in similarly good shape. "The brake shoes were like new, but the wheel and master cylinders needed to be sleeved due to corrosion," he said. He had brake lines custom-bent at a local shop, which computer-modeled the originals for an exact fit, and had new rubber lines made.

Inside the car, he was able to reuse the wiring harness, and for the upholstery, found a couple of fragments of original upholstery left behind in the crevices of

the seats. He took those to a local shop, which created a new set for him. "The interior is very simple, so I was able to install the headliner, door trim panels and seats at my shop, instead of taking the car to the trim shop," he said. He also bought every original sales brochure he could find, and used those to help get interior details correct.

He had less luck with chrome plating of bumpers and exterior trim, and after they took a year and a half with the job, changed vendors. Late in the restoration, his wife ran across a JDM small car parts store online, www.irex-jp.com, where he saw a list of about 100 NOS R-360 parts. "I need every single one of those!" he told her. None of them were cheap: A replacement for his incorrect electronic fuel pump

ran him \$250; a new steering wheel assembly with horn button was \$250; and a reproduction rear window \$500—all plus shipping from Japan.

Glenn completed the car a week before the big Japanese car show in Long Beach in 2004, where he collected a First Place in the Microcar class, and he's been slowly accumulating awards ever since. Next up is an engagement at the Petersen Museum in Los Angeles from June or July through early 2008; he's pleased as punch that the car will be available for a larger audience to see.

"The car needs to be shown for other people to appreciate it," he says. Call it cute if you must—he did in 1986—but today, it's the very best that the very best can do. 🌐