The Road to a Roadster

The Buick Bengal is not yet a car you can buy, but it is a beauty -- one more example of Detroit’s rediscovery of the romance of design. By JAMES BENNET

Slide Show
• More Views of the Buick Bengal (8 photos)

1. Dave Lyon, head of the advanced design studio, generated this computer rendering early in the process. The eight-spoke wheels, oval grille and Art Deco molding hark back to the 1938 Y-Job, G.M.’s first concept car. Photograph from General Motors.

Inside the General Motors advanced design studios in Warren, Mich. -- past the security guards, past the sign reading "no cameras or image-capturing devices," through two sets of locked doors -- designers sketch cars on computers and race them in three-dimensional form, silent as phantoms, around the room. But the studios still have an earthy, elementary-school smell: wet clay, that primitive image-capturing device. It is a reminder that for all the lasers and digital power, something artistic and intuitive, even atavistic, happens there.

One brisk gray day last spring, five clay models of cars sat on worktables in one of the studios. Each model was done to one-third scale. Some had skins of silver plastic to simulate steel, while others, still being sculptured, looked like artfully nibbled blocks of milk chocolate. Only on second glance did I notice that each model was of only half a car, in profile: they were pressed against mirrors to give the illusion of a full vehicle.
Anterior and posterior views of a Bengal version produced several months into the design process. The elliptical tail light and oval grille are defining characteristics of Buicks. Photograph from General Motors.

The models were of roadsters. A few had sheer sides and clipped-off rear ends; others were so curvaceous, with bulging fenders sweeping down and rearward, that they might have appeared in a General Motors studio 50 years before, when the female form supplied the design metaphors. Only one would be chosen to go from clay to car, but all of them looked slicker than anything G.M. had put on the American road in years.

If you had to pick a vehicle to represent this age -- the way the Chevrolet Bel Air evokes the 50's or Ford's Mustang the 60's -- you would surely, sadly, go with a sport utility like the Ford Explorer or the Chevy Suburban, dismal antifashion statements of profound faddishness. But all the big trucks have overshadowed a more hopeful trend: the automakers have been designing cool cars again. The car industry is, in its way -- that is, slowly and not smoothly -- participating in the design revolution sweeping through industrial products, making art, or at least something easy on the eyes, out of laptops, teapots and toilet-bowl brushes. Auto executives have come to believe that as quality, technology and costs even out among manufacturers, design will be left as the most important selling point.

James Bennet is a staff writer for the magazine.

Dave Lyon is in charge of Buick's advanced design studio, and as he showed off the clay models, he seemed exhilarated by his new freedom at General Motors. "They've had both hands tied behind my back," he explained. Lyon, who is only 32, is white and male, but besides that, he looked less like a G.M. manager than any I had met. He had on a black zippered jacket over a black sweater, a gray shirt and gray wool pants. He and a team of young designers have been assigned the mission of reviving one of the industry's oldest and least venerated brands, of bringing back the days, as he put it, when "Buick was hot."

After covering Detroit in the mid-90's, I went back several times over the last year to try to understand how imagination had come back in vogue, to see who the designers were and why their ideas were surviving the industry's soul-deadening bureaucracies. General Motors interested me because it must travel so far so fast. Miles from being the design leader these days, it is anxiously, sometimes clumsily, trying to catch up. Last year, to try to focus the blurred identities of its various brands, G.M. killed off its Oldsmobile line. It is also trying to design its way out of the mess. Nowhere is G.M. aching for a captivating new look more than
at Buick, whose buyers, with a median age of 68, are the industry’s grayest. "Many of our owners," one of Lyon’s colleagues told me, "have bought their last car."

The roadster that I watched Buick design, build and unveil over the last year is a "concept car," as distinct from a "production car." Concept cars point the direction of a brand’s design, and in years past they ran to fantasies like rocket cars. More recently, concept cars have hewed closer to reality, for reasons of company politics: designers have used the resulting public clamor to get their concepts duplicated in the factories as production cars. Volkswagen’s bubbly New Beetle, Chrysler’s cartoonishly retro PT Cruiser and Ford’s 2002 Thunderbird all began life as concept cars.

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Concept cars are marketing tools, but Buick’s roadster-in-the-making had more marketing urgency behind it than most. Buick was paying Tiger Woods millions of dollars to advertise its cars, Lyon explained as we walked through the studio. But it was hard to pretend that a guy like Woods would drive a snoozer like the LeSabre, your grandfather’s Buick. "You can’t force that match," Lyon said with chagrin.

This roadster would be the car that Tiger built. He did not dictate the design himself, though he reviewed early sketches of the car during a golf tournament last summer and then checked out a fiberglass mock-up in the fall. His interests, however, gave the designers direction. They studied his taste in sound systems and his golfing equipment to build a car that fit his style and, literally, his golf bags. In the Buick studio, the designers kept one of his regulation P.G.A. bags, a totem of Tiger, to ensure that it would fit.

3. Leather club chairs in the design studio inspired the car’s seats and front panels. The minimalist instrument panel contains a center analog clock, reminiscent of the 1950’s. Other traditional dashboard displays are to be projected onto the windshield and activated by voice
Designers must still resort to end runs like concept cars because culturally they do not quite fit in. They may not be artists -- fine artists mock them as slaves to the mass market -- but they are not gearheads either, and engineers can smell that a mile away. Designers love cars with a passion that they cannot explain, and that gains them respect within the companies. But they do not care much about what is under the hood, and that makes them less than normal. Lyon, who grew up outside Chicago, was 12 when he switched from drawing dinosaurs to drawing cars and began dreaming of the career he now has.

Instead of gushing about gear ratios, designers tend to talk, as Lyon does, about "the aesthetic of the car -- how they sound when they race, the smell, the look." They intellectualize cars as cultural artifacts or as expressions of a nation’s psyche. They think of them not just as transportation or even as racing machines but also as curved mirrors passing through their environment, gathering the light, reshaping it and giving it back. With all that abstract and aesthetic cogitation backing them up, they are astonished when the bean counters tell them that it would simply be too expensive to use 17-inch wheels on a particular vehicle or when the engineers tell them the factory could never reliably put that curve in a hood. But since all they care about is design, they rarely know enough to argue back. These are among the reasons that it is usually a bean counter or an engineer, and never a designer, who winds up running an auto company. Because they are nerds with style, the designers console themselves by making fun, behind their backs, of the way the engineers and finance guys dress.

Wayne Cherry, the fifth design chief in G.M.’s history, wants to restore Buick’s trademark portholes. He thinks of the portholes as jewels and as a way to express what he calls the "design-ness of Buick." Not everyone is thrilled with the idea. With reason, engineers cannot understand why anyone would cut holes in a perfectly good fender for something that might not fit well and will perform no function. "Trying to defend portholes to an engineer is..."
like trying to show TV to a dog," Lyon told me over dinner one night. "They just see a glowing box. 'Go away, styling boy!'"

Engineers and finance guys live in an objective world where cost and risk are plotted point by point. They crave data, which leaves designers like Lyon mumbling that they left their data in their other pants. Design is a subjective, risky business, and the industry is learning again to value that. As Lyon put it, "There is no data point for 'cooler'."

Once you enter the Buick advanced design studio, you pass into an alcove that is meant to remind the staff of the qualities that Cherry has assigned the brand to distinguish it from Cadillac, Pontiac, Saturn and the other squabbling G.M. siblings. Two leather club chairs sit on a floor of polished wood. In glass cases facing them is an array of signifiers for the gentry: an Olympus 35-millimeter camera wrapped in leather, a bottle of Knob Creek bourbon, a pair of wire-rimmed spectacles. Early one Saturday morning last May, Cherry gathered his top design executives with Lyon’s team to review progress on the roadster. These reviews can take hours, so the men -- of the 20 or so G.M. designers I met, all were male -- perched on hip-high gray chairs mounted on wheels. To move around the room, they pushed off with their feet and slid backward over the speckled linoleum floor, wheels squeaking.

Three clay models remained, but Cherry was focusing on just one. Viewed head on, the car had a dramatic tumble-home; the sides were shaped like parentheses, but at its apex each curve was abruptly chopped down and in, toward the car’s cabin. The effect was to create a sharp edge at the top of the curve and to take a sense of weight out of what might otherwise seem a tubby car. The design, seen in profile, also incorporated a Buick hallmark called the "crosscheck" or "sweep spear": the crease that formed the top of the parentheses started in the rear and rose up along the door before dying beneath the side-view mirror; a second crease intersected the first one’s downstroke and carried the curve out over the headlights, which were slashed across the front end. The design called for three portholes on each side of the hood, one for each cylinder of the V-6 engine.
5. A traditional clay modeler does finishing work at the base of the windshield frame on a one-third-scale version, guided by engineering diagrams overhead. The model, cut down the middle, is then aligned against a mirror for full effect, as seen below. Photograph from General Motors.

The design was the work of Sang Koh, a 28-year-old graduate of the Center for Creative Studies in Detroit, who started at G.M. last January. At his high school in suburban Maryland, Koh’s guidance counselor urged him to pursue architecture. But buildings do not move, so they did not move Koh. He did some research on his own and discovered that he could make money by drawing cars. Now, silent, arms folded, Koh hovered expressionlessly by Cherry’s shoulder as his design chief gently rejiggered his baby.

Buick has another studio devoted to redesigning its existing cars, like the Regal. The role of the advanced studio is to confect novel products that might join the lineup. In all the studios, design is an amorphous process. Once the company determines what type of vehicle is needed -- a Regal redesign or a new roadster -- junior designers compete to sketch the new look. Countless sketches were presented for the roadster, of which five were chosen to become the clay models I saw in the studio. But while the car’s design begins with the victorious clay model, it changes, often significantly, as senior designers weigh in. It changes further as engineers, accountants and even potential customers have their says. Cherry, the design chief, has the final word in the studios, but ultimately his superiors will decide if any design should be manufactured. Cherry had already ordered Koh to combine a front end that he designed for one of his clay models with a back end that he designed for another.

6. Before the concept car goes into production, a full-scale clay “interior buck,” or mock-up, is used to make necessary tweaks. Designers and engineers, who in this phase simulate reality by wrapping the steering wheel and seats in leather, can sit in the model to evaluate passenger comfort. Photograph from General Motors.

Cherry is trying to fight G.M.’s reliance on market data, to restore the emphasis on a junior designer’s execution of the senior designer’s vision that unearthed the cars of the 30’s through the 60’s. Ideally, one of his top allies explained, design decisions should be based one-third on data and one-third on intuition. "The other
"third," he told me, "is guts." This approach puts tremendous weight on the aesthetic sensibility of one executive. As tall and rangy as the roadster was snub, Wayne Cherry is an imposing figure who is rumored by underlings never to have taken a vacation. He wears small rimless glasses and dresses in grays and blacks. Last spring, I saw him react in horror at the New York auto show to a light purple ’57 Bel Air, tarted up to full "American Graffiti" fatuousness. The car, he said, should properly be painted black and celebrated for its power. This one had the wrong wheel covers and two antennas sticking out the back. "They’ve got the fuzzy dice, which drives me nuts," he said. "They even put a gold emblem on it."

Cherry grew up in Indiana, a Chevy guy arguing with the kids who loved Fords. He spent 26 years in G.M.’s European subsidiaries, where he developed a clinical detachment from American culture and auto design, with its tradition of sculptural improvisation if not excess. In Europe, for its narrow roads and high fuel prices, the auto companies have for generations built smaller cars without our prized tail fins and chrome doodads.

Cherry came back to the States in 1992, the leader in a return migration of American auto designers that occurred as the American companies rediscovered style. J. Mays, credited with the design of the New Beetle, was hired by Ford, and Freeman Thomas, who styled the lovely Audi TT roadster, is now at the Chrysler unit of DaimlerChrysler. All three have shown they can cater to American tastes. The nonfunctional portholes on the Buick are kin to the equally gimmicky, if gorgeous, chrome vents on the hood of the ’63 Corvette, which Cherry pointed out to me at the auto show. "That’s part of the American thing," he said of the vents.
With its fealty to celebrity and golf, the Buick Roadster he was examining under Koh’s watchful gaze was indubitably an American thing. Cherry was insisting that the roadster’s interior convey as much a sense of the new Buick aesthetic as its exterior. This meant, for example, that the seats would resemble those club chairs in the alcove. But it also meant that the interior would have an advantage hidden by its exterior: the small back seat, designed for humans or custom-made golf bags. Cherry thinks that the practical addition of a back seat -- to the most impractical of car designs -- will close the sale with Buick’s target audience of 30- and 40-something parents by giving them "permission" to buy.

8. The hood and fenders -- in prepainted form -- are about to be lifted onto the car’s front end, visible in the background. The sheet metal still lacks the signature oval grille, which will be one of the last features added to the roadster after it has been painted. Photograph from General Motors.

Cherry spent most of that morning silently appraising the exterior. He was concerned about the mock-up of the convertible top. "Why is it retro?" he asked. It needed sharper edges, he said, more structure. Cherry was also troubled by the aggressive way the lines along the sides of the car were stretched up over the rear fenders, flattening the fenders on top as the lines tucked inward to produce a narrower rear. The form was too stark, not as graceful as he wanted Buicks to be. But he did not say anything, knowing from long experience that the art of car styling would ultimately yield to the demands of function. Once his young designers thought about having to fold that roof away, he knew, they would realize that the back end had to be broader than Koh had designed it. Otherwise, the roof would never go down.

It is fitting that the man who created mass auto styling began his career customizing cars for Hollywood stars, who were themselves retailing glamour and style to the masses. Harley Earl, the first chief of what was then called Art and Color at G.M., dressed in flashy suits and kept a direct line to the chairman so that his authority would go unquestioned. He could not draw well himself -- at least no one ever saw him pick up a pencil -- so he spouted profanity and sexual metaphors to direct his staff. It was during the late 50’s, as he was comparing deck lids to women’s rears and pointy bumpers to their breasts, that Earl canceled a brief experiment with female designers for car exteriors.

In designing his own version of the roadster, Lyon had turned for inspiration to Earl’s ’38 Buick "Y-Job." Believed by G.M. to be the
first concept car, it was a sinuous machine of black-painted steel and chrome that, perhaps because of the war, never made the leap to production. Lyon argues that those old G.M. designs connect to the American psyche: "We’ve got the biggest bank account in the world, and for years we were afraid to write checks on it."

But while Koh also looked over the Y-Job, he did not have much sense of Buick’s history and did not seem much interested. Instead, he set out to draw a Buick convertible that he would want to drive. Those initial drawings, done on a computer, show dreamy visions of the car lighted in lilac against a black background, with a silver grille like shark’s teeth incongruously gripping the staid Buick badge. But Cherry’s insistence on following the Buick hallmarks, and his subsequent fiddling, resulted in a car unmistakably descended from the Y-Job.

Senior designers rely on green designers in the hope that they will import an exciting idea from beyond the high company walls. Men Lyon’s age now run most of Cherry’s advanced design centers. "They haven’t had 20 years of people saying no to them, like me,” said Tom Peloquin, a 44-year-old member of Lyon’s team.

Over a hamburger in Warren one afternoon, Peloquin explained another of Cherry’s goals for the roadster: stance. “This is why an Audi looks good,” he said, reaching for a pen and a sheet of notebook paper. Volkswagen and its Audi luxury brand are widely admired for their clean sedan designs. Each car is recognizable as a member of the same family because each has a curving roof line that appears taut, bent into place, as though energy is stored there. It is excellent "product" design -- uncluttered, simple, derivative inside and out of the machine’s function -- which is why some American car designers dismiss it.

Peloquin sketched a head-on view of a car with a window disappearing into a door; he added a tire that stuck slightly outside both. "You subconsciously perceive that the car is firmly planted on top of the tires,” he explained. The car’s cabin was contained within its tires, conveying a sense of security and stability if sacrificing interior volume. Peloquin drew a familiar comic-book figure of a man with hands on hips and enormous calves and feet. "It’s like Mr. Salty on your bag of pretzels," he said. "He’s got good stance." As we left the restaurant, Peloquin gestured at a Honda Civic.
customized so that its tires poked out like thrown elbows: "See what kids do with their Hondas? Every teenager in America understands stance."

To give it a solid stance, the new Buick roadster was designed to have mammoth 20-inch wheels at its edges, wheels that to my eye look too big. In addition, the wheels are pushed forward and back, toward the corners of the car. Though it is a front-wheel-drive car -- a fact bound to dismay enthusiasts -- it carries a new six-speed automatic transmission that sits ahead of the engine instead of behind it. That enabled the designers to eliminate eight inches of front overhang, giving the car solid proportions.

Peloquin and I drove south past Detroit to a company called A.S.C., a contractor that was converting the roadster design into a working model. In a workshop there, sculptors were molding a full-scale clay model of the car. The work was a jarring mix of high and low technology. Once the clay model was finished, a laser would pick its surface, marking a new point every four millimeters -- millions in all -- to determine the precise measurements for manufacture.

But the sculptors were using old-school methods to check the model. The car was lined up parallel to overhead fluorescent lights. Periodically, a sculptor would wet the clay surface with a sponge, then smooth a piece of black plastic against it. The plastic reflected the narrow fluorescent tubes, revealing whether, as Koh intended, the light bent in a bow along the side of the car as though it were being sucked down into the vortex of the front wheel. Any zigzag in the lines meant a dimple or bump in the surface, perhaps as small as one millimeter, which the sculptor filled in or shaved off with a thin length of bendable steel.

A terrifying number of things can go wrong in a car design, setting aside basics like whether the tires will hold up, basics with which the industry has trouble enough. Will the engine fit under the hood? Is there room for chains to go over the tires in snowy states? There sure is a lovely, squashed-oval shape to that side-view mirror -- it does nicely echo the grille and the tail pipes -- but, um, when you open the door with the window up, will the glass actually clear it? (In one version of the roadster, it did not.)

Peloquin had come to A.S.C. to confront a recurring headache. Working with an overall budget of only about $2 million to take the roadster from initial sketches to concept car, the designers were cutting costs by borrowing parts from other cars. The modified Corvette windshield they had chosen was turning out to be a tough fit, requiring repeated tinkering with the A-pillars, the forward pillars supporting the roof. Mike Hutchins, a G.M. engineer on the team, told Peloquin he had spotted another problem that the designers had overlooked. When the design moved from clay to steel, a small gap -- four or five millimeters -- would appear where the hood met the car’s body. That gap could be visible either from the front, where it would alter the line on top of the grille, or from the side, in the form of a slight overbite. Peloquin knew how important the face of the car was to Cherry. "It should line up in front view," he replied. "I just don’t want anything where lines jog. I mean, Wayne will go crazy."

"You probably didn’t expect to see that from Buick," Dave Lyon declared in November as he whipped the cover off a
sky blue model of the roadster, now named (in a nod to Tiger) the Bengal. We were inside the Design Dome, a windowless cavern in G.M.’s Warren complex within which the company’s chiefs for 45 years have exercised final say over whether to stamp out hundreds of thousands of copies of a designer’s dream or to toss it aside. G.M. was giving journalists a first look at the concept cars it intended to roll out during 2001. What the reporters saw that wintry day was a fiberglass mock-up. The real car still lay in unpainted pieces on the cement floor of the A.S.C. workshop.

Of the seven cars and trucks displayed, the Bengal stood out. It was pretty. It had a pillowy shape in a room full of jagged edges; it had an easy elegance beside the Robocop severity of the Cadillac Vizon and a piscine grace next to the grunting, buglike hulk of the H2SUT from Hummer, another brand that G.M. recently added to its dysfunctional family.

A paradox of this burst of imagination in car design is that it is happening as the industry consolidates. As a Hummer is now a G.M. product, a Chrysler, Dodge or Jeep is a Mercedes sibling. A Jaguar is a Ford, and the same goes for a Volvo or a Land Rover. Each of these brands has historically had unique qualities. But to realize economies of scale, automakers are using some of the same components, like brakes and engines, in cars of different brands. In the best case, the resulting efficiency can encourage a company to take a flier on a daring design, since the risk is reasonable even if the vehicle winds up selling in low volumes of, say, 30,000 a year. That kind of thinking resulted in the PT Cruiser, which is a Dodge Neon sporting its granddaddy’s zoot suit (really someone else’s granddaddy, since it resembles Fords of the 30’s more than any Chrysler).

This approach could veer toward "badge engineering," which was General Motors’ downfall. Alfred P. Sloan Jr., G.M.’s visionary leader from the mid-20’s to the mid-50’s, envisioned a company that would make cars for "every purse and purpose." Car buyers would start out in a Chevrolet, and then as their fortunes improved and their yen for status sharpened, they would graduate to Pontiac, then to Oldsmobile and Buick and finally to Cadillac, the luxury brand. Sloan also introduced the idea of the annual model change to keep drivers yearning after something new. To ensure that so many evolving brands would stay distinct, this system put a premium on investment in design and engineering. In the 70’s and 80’s, as Americans turned to Japanese cars, G.M. struggled to cut costs and compete. Along with its vehicle quality, its branding discipline collapsed. The only difference between Cadillac and Chevy models of one car, besides their badges, was that the Caddy had leather seats and a luggage rack.

To differentiate the brands again, Cherry is assigning specific design qualities to each one. The mandates are as detailed as how many spokes must appear in the wheels (for Buick it is eight) and as vague as what ephemeral qualities the designers are trying to capture. Chevrolets are supposed to be low cost and "functional but spirited," while Buicks are trying to become "romantic" and "graceful" and Cadillacs are trying something called "art and science," the most avant-garde styling of the bunch.
There sure is a lovely, squashed-oval shape to that side-view mirror, but, um, when you open the door with the window up, will the glass actually clear it?

The G.M. concept cars could certainly not be accused of looking alike, which means badge engineering may not be inevitable. But as I looked around the Design Dome that day, I wondered whether G.M. might be creating a new problem for itself. Its cars might look too different from anything else on the road.

As we drove to A.S.C. that afternoon, Lyon said that he and his colleagues joked sometimes about designing Buicks rather than Porsches. But, he said, "you know, maybe we’ve moved the needle a little bit." Still, he fretted about whether the Bengal would ultimately go into production. "We’re still a very data-driven company," he said. "We need a lot of reassurance." Once the decision to go forward is made, the actual car could be available within two years. But, he said, "that decision making is the toughest part of the business right now." And the slowdown in the economy, should it last, will make things tougher.

Last month, with a dopey skit by company executives, flashing lights and a techno beat, General Motors presented the Bengal at the annual Detroit auto show as "a performance roadster" with "easy access to two custom golf bags -- or seating for two additional passengers," presumably even if they are not shaped like golf bags. The car got the welcome that G.M. hoped for. The Bengal won AutoWeek’s award for "best concept." Automobile Magazine put it on its cover and used it as a prime example for a story about how G.M. design got "its groove back." Autoextremist.com, a gimlet-eyed critic of G.M., called the Bengal a reminder of "the design talent that resides at General Motors" and said it would be "a worthwhile addition to G.M.’s production car portfolio, as soon as possible." G.M. continues to hint that it will ultimately build the car, but its top bosses have not made the final decision.

The Bengal is proof that G.M. can conceive something more imaginative than a retro version of what came before or the realization of a focus group’s muddled demands. Whether G.M. will follow through by developing an affordable version of the design is the next test of the company’s turnaround.

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