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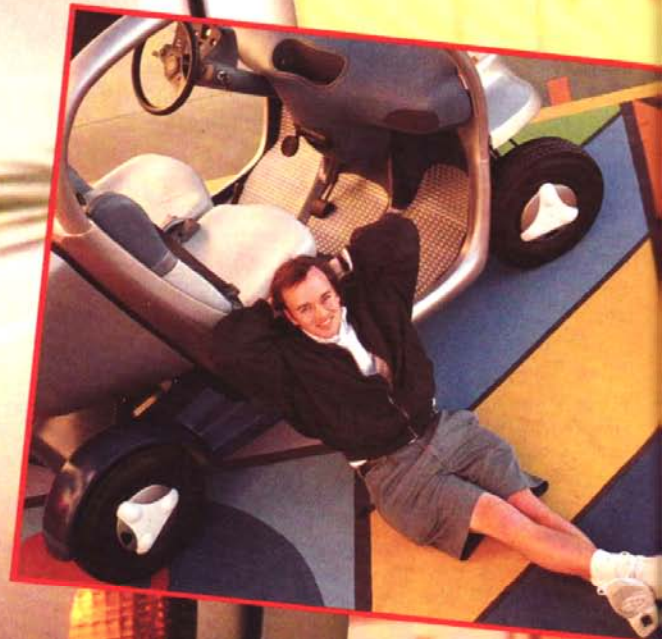
Dan Sturges article - 1994

GENGHIS DAN BUILDS A PEOPLE'S CAR FOR CHINA

BY ROBERT CUMBERFORD

PHOTOGRAPHY BY BILL CASH

*Dan Sturges designed the trans2,
an electric car, for the billion
potential buyers of China.
It's starting life as a golf cart,
but Sturges is persistent,
and he knows if he
keeps digging, he'll get
to China someday.*



Palm Desert, California—

So this is the China car—or maybe the hybrid seed of the China car. It's certainly not the ripe fruit, not yet. But the trans2 Neighborhood Vehicle is the fruit of a long and highly committed effort by designer Daniel Davies Sturges to create a new kind of car, one that is multivalent, efficient, and infinitely adaptable to the requirements of its users. And dirt cheap, of course. Exactly what the rural poor in China need to perform the democratization role the Model T Ford had in this country.

You've read about Dan Sturges in this magazine before. His ideas for a people's car for China were the subject of my November 1988 By Design column, in which his dream of doing good

by designing minimum-cost vehicles for the Third World was described. Then, tossing some cold water on his idealistic hopes, I pointed out that, although the Chinese might *need* what Sturges had in mind, what they *wanted* was cars like those that are constantly being stolen in Hong Kong and transported to the mainland on high-speed boats: Mercedes-Benzes, Rolls-Royces, BMWs, and other high-end cars that are as far from the minimalist rolling platform Sturges had conceived as it is possible to be. Which meant that getting his project into production was unlikely. He considered all that and kept right on going.

A successful designer must have a number of attributes that have more to do with inborn characteristics than with training or experience or luck. Talent,

for one thing. No problem there; Sturges has that in spades. Intelligence, for another. Again, no problem; Dan Sturges is a very smart guy. But of all the characteristics that count, probably none is as important as persistence, the will to keep going no matter what obstacles are put in your way, no matter how many "wiser" heads tell you that something can't be done.

Dan Sturges is persistent, which is why, six years after first meeting him, I'm driving down the main street of Palm Desert early this February morning in an electric vehicle, the trans2, that Sturges proudly tells me is not a car—and he has a NHTSA ruling to prove it. With a range of twenty-five miles and a 16-mph top speed, not many will argue. (Since our prototype drive, the trans2's



top speed has been increased to about 20 mph.) And the teeming masses yearning to roll free will have to wait for this non-car. Now the intended market consists of people over fifty years of age who are affluent enough to be able to avoid work entirely. The imagined modularity of the China car has been reduced to "golf cart capability," with a clever plug-in bracket-and-strap fixing system for that iconic object of American golden leisure, the golf bag.

That may sound like a put-down of Sturges and his ambitions. It's not. He is doing exactly the right thing to push his project along toward his unchanged goal. Politics has been defined as "the art of the possible." Design, too, is constrained by practical matters—financial, social, and psychological. It is better to have something happening than nothing, and the chances of being able to start a zero-based vehicle project in China right now are essentially nil. It is much better to build a vehicle and gain experience than to wait for the perfect circumstances to execute the perfect project.

If you look at the history of "people's cars," you see that none of them sprang into existence full blown, resplendent in their final form. The Porsche-designed Volkswagen Beetle we know and love was preceded by several similar projects from other companies years before. The

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NSU and other *volks wagen* projects had elements of the final KdF—"Strength through Joy"—car, and the overall concept of a backbone chassis and swing-axle suspension was Hans Ledwinka's, not Ferdinand Porsche's. The Citroën 2CV of 1948 was derived from a radically different project that was ready for production in 1938, and it was strongly influenced by the Aluminium Français-Grégoire built in secret during the Occupation. The Model T Ford didn't just happen, either. Ford built a Model S

that looks rather like a nine-tenths-scale model of the T, with most of its mechanical layout in place, and although they are rare, the Owls Head Transportation Museum in Maine has one.

Remember that the T was built by Henry Ford's *third* Michigan-based car company. The wily patriarch moved out of situations where he had less than full control of events and reached his goal of making cars for Everyman many, many years after he began tinkering with the idea of an automobile. Remember, too, that most new ideas in the automotive world are accepted in a top-down manner. Automatic transmissions, power steering, air conditioning, and ABS—all the features of today's Hyundai—were first used and made desirable by the same socioeconomic class as the people Sturges now seeks as clients. So they're all running dogs of capitalism. So what? They alone will put Sturges and his ideas onto Chinese roads.

And in the meantime, even if he's not doing good for the people he had in mind when he started, Sturges is doing good all the same. His Neighborhood Vehicle doesn't pollute (locally, at least), it doesn't use a lot of scarce resources, and it provides ninety-some percent of the function of a real car. If the states of Arizona and California allow golf carts on any street where the speed limit is less than 25 mph, is it not



The electric-powered trans2 will have to prove itself to residents of U.S. Sun Belt golf resorts and other contained communities before it will reach China.



Sturges's car's tipped ovoid form, generated by the ellipse that will circumscribe a seated human, allows splendid visibility and easy ingress and egress. The instrument panel (above right) is simply functional.

DAN STURGES

better for someone heading from the condo down to the newsstand to use a trans2 than to fire up the Cadillac Coupe de Ville? Certainly it is more convivial, and if one judges by the tanned retirees in Palm Desert, outgoing conviviality is an important social attribute among the comfortably retired.

Sturges and his colleagues were in this desert community to show off their new vehicle in the setting where it would actually be used before sending prototypes to the state capital of Sacramento to become part of the state's program of encouraging low-pollution vehicles. Some public reactions I saw for myself, others in the videos trans2 people had made during their stay. The charm of the buglike little vehicle seemed to attract everyone from toddlers to octogenarians. Tom Kellogg, the brilliant designer who helped create the Studebaker Avanti for Raymond Loewy more than thirty years ago in nearby Palm Springs, happened by when the trans2 was on the street and was entranced by the non-car.

As well he might have been. Like the bug-eye Sprite of old or Renault's current Twingo, the trans2 is cute. Based on a tipped ovoid form generated by the ellipse that will circumscribe a seated human, the cabin form seems perfectly natural. First used on Hughes 300 helicopters in the late Fifties, it came to the automotive world with the Nissan Gobi concept pickup. In the open-sided

trans2, getting in is wonderfully easy, and the seating position is both comfortable and agreeable, with fine visibility.

Driving is simple enough. There is a switch to select forward or reverse and an ergonomically disastrous (up for off) hand brake. After releasing that, it's simply a matter of using the accelerator, the brake pedals, and the steering. The prototype's steering is awful, with the pivot axis well inboard of the tire, but the front-wheel-drive chassis is being redone by experienced automotive engineers in Michigan, so it will doubtless become more pleasant to drive once it has normal caster return.

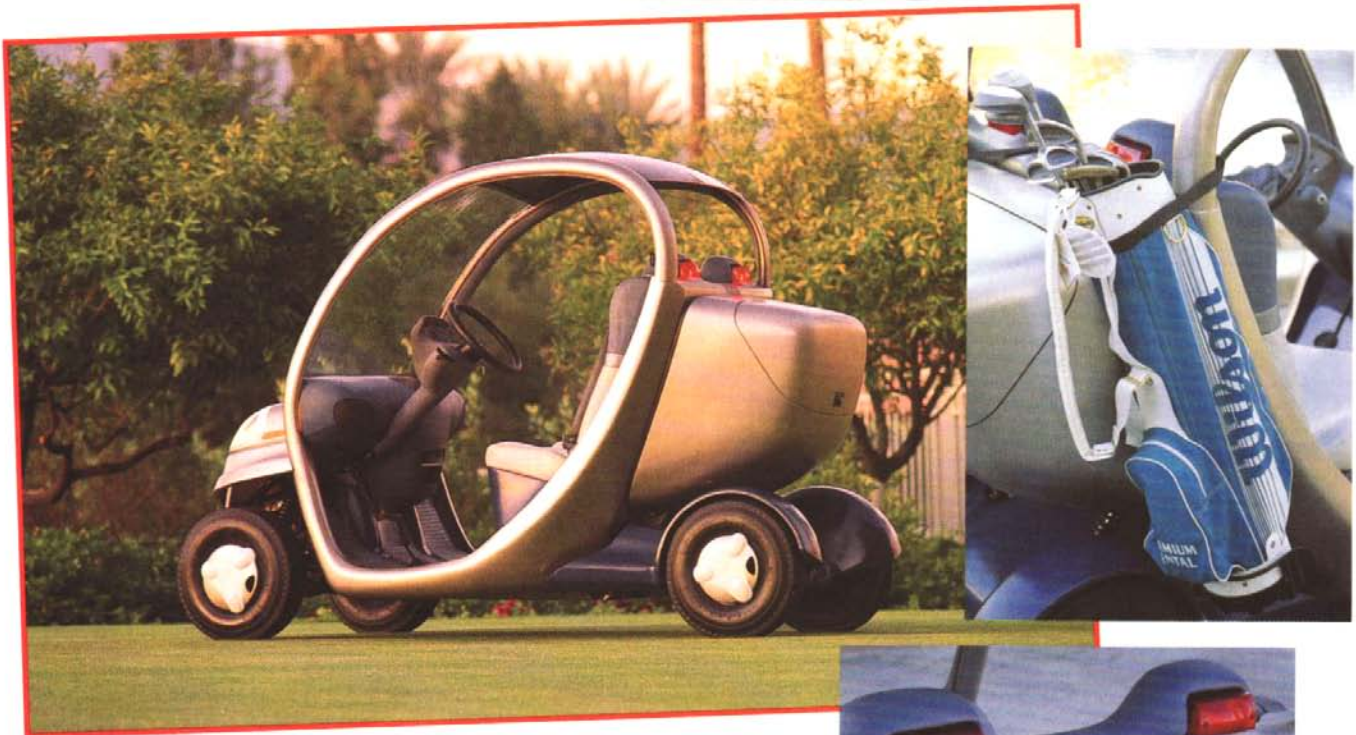
Even in the sunny California desert, it is cool on a February morning, so some of the people out early asked about doors. A complete weather-protection package is in the works, with doors, glass in the back window space, and a windshield wiper. Providing heat is problematical in any electric vehicle, and it likely won't be available for the electric trans2. Air heated by the front-mounted motor and controllers may provide windshield defrosting, but this is essentially a fair-weather machine.

The composite knapsack on the back of the vehicle is removable and interchangeable. Sturges imagines doing some color coordinating by changing the module, and he sees great potential with different shapes for different purposes. Pizza delivery comes to mind immediately, but there are dozens of other

commercial roles that can be filled by a vehicle that can be recharged in four hours for a quarter. And once the chassis is perfected, many of the body concepts from the China car project can be adapted with little additional cost.

In his many years of pushing his concept, Dan Sturges has dealt with an amazing list of characters. Some were out-and-out scoundrels, some were idealists themselves. When he mentions Malcolm Bricklin, Michael Milken, and Lee Iacocca in the same sentence, you know that he has been through a lot of fascinating discussions. When you see the list of the founders of trans2 Corporation, you realize that he has been as farsighted as Henry Ford. Chairman William MacAdam was an automotive banker in Michigan. President and chief executive officer Douglass Query (Dan Sturges's stepfather) ran a 6000-employee IBM manufacturing facility. Donald Morrissey, a director and consultant on product development, was at Chrysler for thirty-five years, heading up import and special vehicle activities. William Brussow, who helped launch the Kawasaki Jet Ski and Saturn during a distinguished career with several top advertising agencies, has served as a marketing consultant.

Sturges, 31, is about half the age of his experienced colleagues, but it is amply clear that he is the energy source for the company. His drive and enthusiasm have made things happen, things that



More than a golf cart but less than a car, the trans2 Neighborhood Vehicle is presently suited only for fair-weather duty, but a weather protection package is planned. Above right: The \$5495 trans2's current raison d'être is its ability to carry a golf bag, but it can mingle with pedestrians and bicyclists in other venues such as campuses and progressive residential communities.

DAN STURGES

would never have been realized without his furious desire to turn his talent to account. His focus on goals rather than means, on accomplishment rather than ego satisfaction, can be seen from his insistence that Erik Blatter, one of his classmates at Art Center College of Design, be credited as design director for the prototype we drove.

Sturges could easily be a standard car designer. He was an intern at Ford during his time at Art Center. He worked at the GM Design Center twice, the first time immediately after leaving school. He was in the Advanced 1, Pontiac 2, and Truck and Bus studios and could no doubt have stayed as long as he liked, but he made an impassioned plea to Hartmut Esslinger, head of Frogdesign (Altensteig, Germany, and Sunnyvale, California) to let him join Esslinger's product design team, hoping to design intelligent cars. Frogdesign is best known for its work for Apple Computer and Sony, but the firm has also worked for Ford and Volkswagen. Sturges further broadened his experience by working in Germany and Japan.

Sturges's drawing style is loose and free, but every detail is present. His suggestion for a new Porsche 911 is by far the best I've seen. The rear view says "911" as clearly as any of the factory

variations over the years, yet it is completely new, with a thin, elegant, glassy roof that maintains the Porsche profile. But cars like the 911 are not what he wants to work on, so Sturges left Frogdesign for a second stint at GM, this time at its Advanced Concepts Center in California, where he had been led to believe he could pursue his ideas for small, simple cars. That illusion lasted only a short time, and then the great China car adventure took over his life full time.

It hasn't been easy. Not long after he'd left GM the last time, Sturges invited me to visit a cramped workshop in one of Southern California's many industrial suburbs, where he had built an unpowered version of the three-wheeled China platform. It was amusing to be pushed up and down the alley between the shops, and I was torn between admiration for his enthusiasm and distress at the thought that he was so deeply involved in such a difficult project. I needn't have worried. Sturges has since surrounded himself with capable people, and he has accepted the need to proceed in stages on the long road to China.

The \$5495 trans2 Neighborhood Vehicle is far from where Sturges wants to go, but it's another vital step on the way there. His company recently secured a major investor, CID Equity, and the

trans2 will be sold beginning next summer through a network composed of existing automobile retailers, chosen without regard to the marques they already sell, that have appropriate premises and the attitude necessary to attract and satisfy the demanding clientele trans2 Corporation is seeking. With more than 60 million Americans over fifty years of age today (who incidentally possess about 75 percent of assets in private hands) and with the retirement of the first of the baby boomers in 1996, the target market will continue to grow.

By 2010—a science-fiction-sounding date only sixteen years away—there are expected to be about 100 million such people. As electronic networks reduce the need for commuter travel and as ever more stringent pollution regulations restrict the use of cars as we know them now, many of those people will embrace non-cars like the trans2 and the many variations of it that Sturges has in mind. And when the world sees the richest Americans as satisfied users of these new transport devices, it will be more open to such things than is now the case.

In 2010, Dan Sturges will not be much older than Henry Ford was when he started the present Ford Motor Company. I'd say you can look for him in China about then.