

THE FIERO. PONTIAC'S P-car, has arrived. After a 5-year development period in which the only major problems were temporary cut-backs in project funding (twice), Hulki Aldikacti's team has brought the 2-seat mid-engine coupe in as a 1984 model, available in mid-September. And—enthusiasts give three cheers—the car is pretty much what its 49-year-old, Turkish-born creator had in mind from the beginning.

Something of a maverick at General Motors, Aldikacti (whose name is pronounced almost like it's spelled, but with the "c" sounded as a "ch") worked at Packard before joining John DeLorean's advanced project engineering group at Pontiac in 1956. The P-car project began in the late Seventies as a high-fuel-economy commuter car (to mollify GM executives during that critical period), but Aldikacti's design staff had sports car handling and performance in mind all along.

Working without interference, the P-car staff concentrated on the car's structure and manufacturing process. After deciding that it *had* to be mid-engine, for reasons of handling and (for later!) the application of high power outputs, the engineers developed an independently driveable all-steel space frame chassis, an extremely rigid structure with excellent crash-barrier characteristics. Believing that a car's success must depend upon the effectiveness of the manufacturing process, what he calls "productionizing," Aldikacti conceived a unique assembly method. Using plastic body panels of different weights and flexibility, he ensured their tight fit on the space frame by employing a large "mill and drill" machine on the assembly line. As each space frame passed under it, the huge Gilman-built machine would simultaneously mill 39 different body attachment points to the correct height and then drill them precisely. This would ensure that the molded plastic skins aligned with a tolerance of 1/64 in., despite any minor discrepancies in the welding of the basic space frame, assembled from six modular units.

The body panels were molded from two basic types of plastic. Those requiring great rigidity, such as the horizontal pieces—hood, roof, upper rear quarter panels and rear deck—were made of sheet molded compound (SMC), while those subject to frequent contact—bumpers, front fenders, doors and lower rear quarter panel—used the reaction injection molded urethane (RIM) process, also called RRIM when reinforced with fiberglass for greater strength. The entire space frame-cum-plastic body system has been seen as economic for 100,000 units annually, possibly 150,000.

While the concepts for the structure

and manufacturing process were being refined, the mechanical components were under consideration. In its original guise as a commuter, the P-car had to be an economic proposition, using an existing drivetrain. The X-car's "Iron Duke" 2.5-liter 4-cylinder transverse package was chosen for the initial P-car series, although the engine compartment was designed from the outset with room for larger units of Vee configuration. The X-car axle shafts dictated the P-car's rear track at 58.7 in., while the engine and passenger accommodation called for a fairly long wheelbase at 93.4 in.

The first space frame was built by a 4-man crew at Entec, a special Pontiac facility in Troy, Michigan, beginning in October 1979. The prototype bodywork, conceived by the Pontiac advanced studio under Ron Hill, was built of fiberglass, with proportions ultimately retained on the production model but differing in many details. This first running car, of which the purpose was to convince GM executives of its viability, was completed on March 15, 1980, only five months from inception.

Followed by 16 pre-prototypes with plastic skins (also using the original body design, as seen in R&T's preview in the May 1981 issue), the original car demonstrated its promise and the package was approved on April 16, 1980 and turned over to the Pontiac production design studio under John Schinella for styling refinement on April 24. Pontiac's older Plant 8, being used for Grand Prix production, was selected as the site for P-car manufacture, requiring a complete renovation (including robot welding as well as the mill and drill machine), while detail engineering continued at the Entec facility under Jay Wetzel and, later, Ron Rogers.

Still known as the P-car within Pontiac, the car also received the code designation 2M4 (2-seat, mid-engine, 4-cylinder) and the temporary name Pegasus. The emblem, based on the Pegasus theme and barely discernable as a winged horse, was first sketched in the Pontiac interior studio by Jon Albert.

Because of the X-car track dimension, the Fiero had a wide structure and this allowed the engineers to position the 10-gal. fuel tank in the middle of the car, between the two passengers, where it would have the best protection and affect the weight distribution the least. To keep the car as short as possible, the tail was designed to house only a moderate amount of luggage. In front, T-car suspension arms were employed, using a different crossmember, of course, while disc brakes were fitted all around, a favorable result of moving the X-car front-drive layout to the back. Most of the nose was taken up by radiator and spare tire, with some room around the edges

for incidental parcels.

Once the majority of production details were pinned down, 30 additional pre-pilot prototypes were assembled before pilot cars were started directly from production tooling. Full-scale manufacture began in July 1983 for a September 14 introduction.

As a product, the Fiero is still the high-mileage commuter it was intended to be, but the improving economic climate has permitted Pontiac to stress its sporting characteristics by referring to it in press material as a driver's car. As the following full road test shows, this description is completely justified.

Although the 92-bhp 4-cylinder engine doesn't propel the 2500-lb car at a startling rate, Pontiac is making modification information and part numbers available for customers wanting to bring the four up to a super-duty configuration of over 140 bhp. Three transmission options are offered: a 4-speed manual with a 4.10:1 final drive ratio, the same gearbox with the high-mileage ratio of 3.32:1 (for which Pontiac claims a highway consumption figure of 50 mpg), and a 3-speed automatic with a 3.18 ratio. The all-independent base suspension includes 13-in. slotted steel wheels, with finned cast aluminum wheels as an option, while the WS6 handling package, comprising different springs and shock absorbers front and rear, is mated with extremely handsome 14-in. cast aluminum wheels and P215/60R Goodyear Eagle GT tires.

With the stock 4-cylinder engine, the only one available on production cars for the 1984 model year, the Fiero is a 105-mph car with 0-60 mph acceleration in the 11-second class (see road test). For 1985 the 2.9-liter V-6 engine will be available, including a turbo-charged version with 180 bhp, nearly double the base output, and expected 0-60 times around 6 sec. That will please the high performance enthusiast, but for now Pontiac is understandably concentrating on getting the basic car right. Considering that probably 80 percent of the estimated first-year market of 75,000-85,000 units will be composed of less performance-oriented customers, this would seem to be a good priority. The potential market for the Fiero is vast; with an expected price tag of \$9000-\$10,000 it should appeal to a wide spectrum of buyers wanting unique styling, good handling and a luxury interior, for commuter or pleasure driving.

After the attractive exterior, the wide, comfortable and extensively equipped interior may be the key to the car's ultimate acceptance. This comes in two configurations, the base Fiero (or entry-level, as Pontiac calls it), and the much better appointed Fiero S/E version, with 3-spoke padded urethane steering wheel, →