

## You can actually carry on a conversation without shouting while you watch the cows go by at the ton

the throttle to get the rear around, get the nose pointed at your apex and back on the gas. Stone predictable and remarkably free of any real handling vices. How more horsepower would affect this setup, of course, is a question we'll have to leave till later.

Power steering is neither available nor necessary. Due to the miniscule amount of weight over the front wheels, all parking maneuvers and slow-speed parking lot situations can be handled without Popeye forearms. The amount of steering feel and road input is noteworthy. The tactile sensations from the wheel feel more like a Formula Ford than a Chevette, which is surprising and laudable. High-speed stability on the other hand leaves something to be desired, at least at certain velocities. On a quick five-hour blast down I-5 from San Francisco to Los Angeles, fuel stop included, the Fiero would get light in the front, and felt sensitive to crosswinds as a result, at speeds between 80 and 90 mph. Curiously, however, at the absolute top end, calculated to be around 120 mph, the car would settle down and feel as stable as it did at 60 mph. Just for the record, you *can* pass an 18-wheeler at high speed without having the plastic body panels blown into the next county.

But perhaps the most revealing thing about that blast down the interstate was the mileage. At those elevated cruising speeds, with the occasional run to the redline in top gear, the Fiero returned an admirable 30.7 mpg. Conceived as a high-mpg commuter and aimed at the sports car market only later, the Fiero's fuel miserliness certainly can't hurt it in the marketplace.

You'll be surprised by the lack of wind roar and road noise at elevated speeds. You can actually carry on a conversation without shouting while you watch the cows go by at the ton. The fuel economy and low noise intrusion, of course, are brought to you courtesy of the Fiero's 0.37 Cd. The car spent more than a few hours getting its surfaces shaved in the wind tunnel and the results reflect the effort.

The cockpit environment, whether you're frying the interstate or slogging through commuter traffic, is as pleasant as you could want. It reaffirms your faith in American styling ability and packaging efficiency. The styling could best be described as Italian minimalist, technoid, providing everything you need, with none of the gimcrackery or an ounce of unnecessary decoration. The analog gauges are mounted in a pod on the steering column, set forward of the dash. The speedometer and tach dominate the cluster, with the speedo on the left and tach on the right. Inside the speedo is a small trip odometer,



Built by Pontiac, the SD-4 will be eligible for SCCA and IMSA classes next year.

with the conventional odometer mounted above the speedo. Inside the tach is an oil pressure gauge calibrated in kilograms per square centimeter. Just above that is a battery-condition idiot light. In the center between the speedometer and the tach is a temperature gauge reading in degrees Fahrenheit, and below that, a fuel gauge.

On either side of these are warning lights for door ajar, high beams, handbrake, belt, and oil pressure, plus turn indicators. There's also an upshift indicator, similar to VW's E-light, which tells you when to upshift for maximum fuel economy. The gauge module is compact and attractively finished in muted brushed aluminum.

### Fiero Tech: A Revolution You Can See

**N**ew technology is almost old hat. Virtually every new car touts some fresh technological advancement—in aerodynamics, engine controls, or materials. This progress is almost always evolutionary in nature, each step a small enlargement on what went before.

In Pontiac's new Fiero we have an exceptional situation. At first glance, the car shows the trappings of exotic engineering—a mid-ship engine, electronic fuel injection, 4-wheel disc brakes, and plastic bodywork. On second glance, you realize that—delightful as it is—none of this really represents new technology because it's all pickup: the drivetrain from the X-body, the front suspension from the Chevette, the Iron Duke engine.

But then on *third* glance, you find technology that is not only genuinely new, but startling enough to go beyond the evolutionary and qualify as revolutionary. The Fiero embodies a whole new way of looking at the construction of an automobile.

First, a little background: The Fiero's structural member is a complete space frame welded up of stampings, much like building race cars in high-volume production. The frame carries all the loads; a completed chassis—without any body panels—is fully driveable by itself, and in fact will withstand the fed-

eral government's barrier crash tests.

Separate skins make up the bodywork. Sheet-molded compound (called SMC) is used for areas of least stress and greatest need for a good surface finish. For places that might incur damage, reaction injection molding (RIM) is employed, with reinforced RIM (RRIM) in areas of maximum vulnerability. The rocker panels are made of thermoplastic olefin (you guessed it: TPO) for its resistance to chips and dents. All these fall under the general heading of "Enduralflex."

The significant technology is in the attachment of the body to the frame. Body panels were heretofore stamped out in huge presses, with all mounting holes punched at the same time. Manufacturing realities being what they are, the mounting holes for those panels had to be large enough to provide for adjustments so things could fit. On the assembly line, the fit of one panel to its next-door neighbor—pun intended—was left up to the worker. But the same large holes that allowed for panel adjustment also encouraged misadjustment; the results were seams you could poke a pencil through and doors that didn't seal.

The trick to solving all this was to drastically reduce those manufacturing tolerances. And the problem lay in the concept of punching holes in panels