

## Careful, Sundance, your Shadow is showing

**W**hen we dropped in for the annual long-lead preview at Chrysler's Michigan Proving Grounds last summer, only one thing was missing: new cars.

We saw better manual shift mechanisms, new low-pressure fuel injection, a new 2.5-liter engine with balance shafts, the California-only Lancer Pacifica, the usual bells and whistles, and some solid product improvements.

But no new iron. *Nada*.

The reason: Since import restrictions had eased and were likely to go away soon, Iacocca & Company had changed their small-car gameplan. The new P-car (Plymouth Sundance/Dodge Shadow) subcompacts, originally intended as replacements for

the veteran Omnirizon twins at the bottom of Chrysler's domestic lineup, would be repositioned a healthy notch upward to take on the likes of GM's J-cars (Cavalier, Sunbird, etc.) and the dreaded Corolla/Stanza/Civic/323 quartet.

The resulting re-think, re-contenting, and further development would take an extra few months,

# 1987 Chrysler P-Cars

by Gary Witzenburg

PHOTOGRAPHY BY BOB D'OLIVO



Yes, doctor, they do look similar, don't they? For your information, the Dodge Shadow (blue) has more subdued blackout trim, while the Plymouth Sundance (red) offers a tad more chrome. Both the 4-door and 2-door shapes are appealingly understated. The obvious target was the possible import buyer.

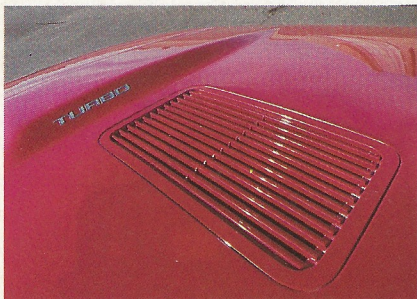




## We were pleasantly surprised at the P-cars' crisp steering and handling

hence, a mid-1986 intro as '87 models. With Omni and Horizon still selling well and the smaller Mitsubishi Colts playing stronger price-leading roles in Dodge and C-P showrooms, this move should prove worth the delay.

At first exposure, the P-cars impress. They're clearly much more car than the basic, boring little boxes we've come to expect from too many manufacturers addressing the low-buck market. They look good—not



pulse-quickenng exciting or trend-setting in any way—but good. Former GM Design Vice-President William L. Mitchell once complained that the smaller the car, the tougher the styling job. "It's hard to tailor a dwarf," he groused. Well, these are handsomely tailored dwarfs.

Both 5-door sedan and 3-door coupe (the former to hit the streets by mid-summer, the latter saved for a fall introduction) are roomy hatchbacks nicely disguised as notchbacks. Their hoods are sharply sloped, their flush-mounted windshields swept back at a fast 56° angle, their bodies finely detailed with integrated body-color, damage-resistant bumpers, protective side moldings, and large wrap-around taillamps. Their headlamps, while not the fashionable aero-flush

variety, are new, smaller rectangular halogen units to help keep the cars' noses low.

For the first time, the Plymouth is positioned slightly upscale from the Dodge. Both wear bright grilles with central Pentastars, the Shadow's quartered by single horizontal and vertical bars. But the Shadow's window moldings are subtle black, the Sundance's bright chrome. Both are "highline" in standard trim, and there are no additional "luxury" models. Unique to the Shadow line, however, is a sporty ES model (available in both body styles) with a body-color grille and fat 205/50VR15 Goodyear gatorback tires on 15 x 6-in. alloy wheels.

Inside, a near-complete set of readable round gauges occupy the shaded instrument binnacle, with the central fuel gauge flanked by a large 85-mph speedometer on the left, a matching



We liked the car's crisp steering and good throttle response, although we were a bit disappointed by the performance of its optional 146-hp turbo. (The hood scoop appears on turbo-equipped cars.)





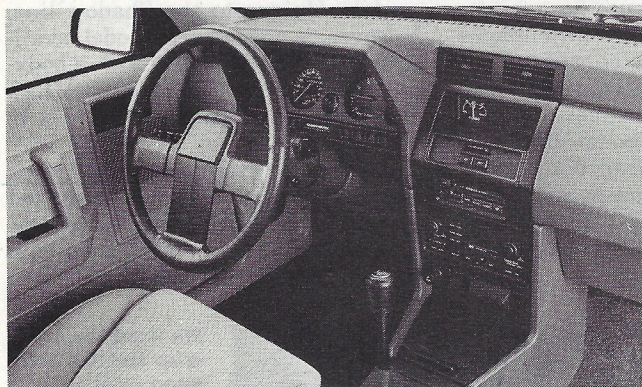
## Chrysler engineers and planners ran the extra mile to ensure the P-cars' competence right out of the box

7000-rpm tach on the right, and volt and temperature dials outboard of those. A 125-mph speedometer, a vacuum/boost gauge, and a warning center (door or liftgate ajar, low fuel and washer fluid) are added with the optional turbo engine. All that's missing is an oil-pressure gauge.

The reclining bucket seats, straight from the GTS/LeBaron, are nicely contoured and padded to provide adequate lateral support for fairly seri-

ous cornering. There's good interior room in all dimensions, and the driving position suited us fine—except the steering wheel seemed too close to the seatback set where we like it. Slightly longer adjustment tracks would help.

Interior materials are surprisingly nice, with cloth and vinyl seat trim in the Shadow, full cloth in the Shadow ES and Sundance. The headliner, sunvisors, headrests, and upper door panels are also fabric-covered, and the lower door panels are carpeted. Dual remote outside mirrors and (on the 5-door) childproof rear doorlocks are among the standard amenities, and the rear seat (split 60/40 in the Sundance and Shadow ES) folds down



## Sundance/Shadow Design

**Y**ou don't have to be too astute to pick up the family resemblance. Though they sport 2-window profiles instead of 3, there's a lot of Lancer/GTS in the Sundance and Shadow. This is intentional, of course—part of the plan as Chrysler defines its design philosophy into the '90s.

According to Design Vice-President Thomas C. Gale, three basic elements defined the P-car's appearance: timeliness, quality of surface, and appropriateness for the segment. Timeliness means the look must be contemporary and not look dated a few years later. Appropriateness simply that small sedans should look like small sedans, not try to come across as sports or luxury cars.

Surface quality is harder to define. "Surfaces with accelerating radii, as opposed to mechanical radii,"

Gale explains, "have a dynamic quality and character all their own. Imagine a line in side view: instead of a swung arc that is purely mechanical, which tends to become boring and over-soft, it would be a sweep that runs out and continually changes in radius. The way the quarter panel sweeps into the rear hatch; the way the bumpers are integrated to the body form. We think there's a certain quality of surface there that's a signature, unique to that car."

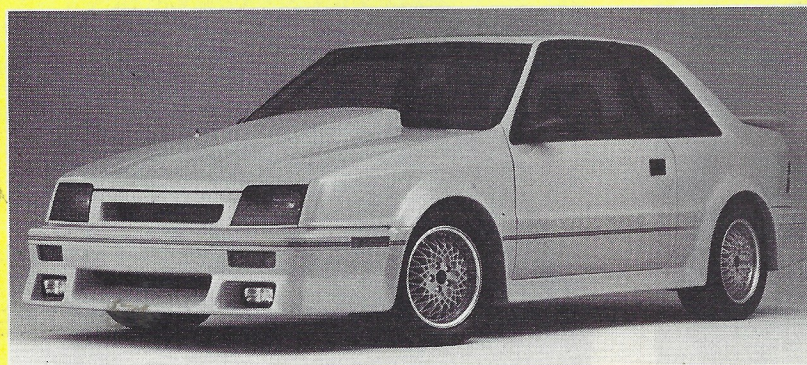
Such meticulousness required going back and remodeling various surfaces. "We weren't satisfied with the way the corners of the front end were coming together at the hood and headlamp intersections, for example." So they did them again. It meant "literally pouring over the surface of the car and trying to make it as good

as anything we had ever done."

Gale insists that whatever consumers may say about their purchase priorities, appearance still comes first in the back of their minds. "If the product doesn't pass muster," he says, "you won't even be given consideration." He adds that Dodge cars are being slanted more aggressively and sporty, "whereas the Plymouth side is going more upscale, more value, with a brighter approach to the ornamentation. Moving the image of Plymouth upscale is something we were working very hard on, and the P-car is the first step."

In keeping with the exterior, the P-car's interior theme boils down to putting more value in front of the customer: "How you handle the instrument panel, the air conditioning ducts, the cluster binnacle, the gauges, the center console. Instead of tacking these things on over the years, they were planned right from the beginning, so a much better job of integrating the surfaces and making the pieces more harmonious is done."

Once the basic car was done, the design team took on the Shadow ES. "One of the things we went after," says Gale, "was a great wheel and tire combination that would really enhance the car. That meant going for 15-in. wheels and the biggest damn tires we could get on it. I think that says more than any other single thing." Amen. —G.W.



The Dodge Direct Connection Shadow is a styling and engineering exercise that might soon see product.



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**This pretty Sundance convertible could see production as early as next year—if it generates enough reader response**

to expand cargo capacity from 13 to a fairly cavernous 33 cu ft.

A removable cargo cover, a lockable cable-type hatch release, and another lock on the rear seatback combine to keep unscrupulous parking lot attendants from inspecting your luggage. Safety belts are a new corporate design with end-release buckles and softer, more comfortable webbing, and the sedan's front shoulder belts have several tension-lowering features that eliminate the need for a tension reliever.

We were pleasantly surprised at P-cars' very crisp steering and handling, even with the standard 185/70R14 skins. A peek underneath explains why: They share the Laser/Daytona's 97-in.-wheelbase platform, 14:1 power rack-and-pinion steering, and much of its suspension. The front

gas-pressure struts have medium rate, variable-pitch springs for a comfortable ride, but they're tied together by a hefty 27mm anti-roll bar. The beam-type axle in back is well controlled by trailing arms, a lateral track bar, a 28.6mm anti-roll bar, and standard gas shocks.

Brakes are disc/drum and very effective, with good balance (a fixed proportioning valve biases initial lockup to the front), linear modulation, and little discernible fade. Thanks to a decision to go with standard 14-in. wheels, the fronts benefit

greatly from big 54mm ventilated rotors.

The basic engine is Chrysler's 97-hp throttle-body-injected OHC four, good for a bit over 12 sec 0-60 with the 5-speed manual. Optional in all models is the famous 146-hp port-injected turbo version of the same 2.2-liter four, complete with water cooling for the turbo bearings to keep them from cooking after a hard run. It comes with a subtle sloping hood bump and tasteful "Turbo" graphics.

Frankly, we were a bit disappointed with the subjective performance of both engines, the same ones that *seem* so lively in other Chrysler products. The 5-speeds weren't bad (the turbo reportedly good for 0-60 in the 9-sec range) but automatic versions seemed especially sluggish off the line. One reason is that the P-cars are





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heavier than they look (about 2500 lb base). But their economy is good: 25 EPA city/35 hwy. for the 2.2 5-speed, 24/27 for the automatic; 19/28 for the turbo 5-speed, 20/24 with automatic.

These may be small family cars first, performance cars second in their rookie year on the market, but it's clear Chrysler engineers and planners ran the extra mile to ensure their competence in either mode right out of the box. They have a tight, precise, solid feel—much like VW's similarly sized Golf and Jetta—however hard or easy they're driven. Other than the too-close steering wheel, the (improved but still less-than-precise) cable-type manual shifter, and the decidedly non-enthusiast foot-operated parking brake Chrysler insists on putting in all of

its cars, there isn't much about them we would change.

Standard content is complete enough that bottom-line buyers won't need much else, but the short option list does include some niceties never available in the more Spartan Omnirizon. Besides the usual air conditioning, automatic transaxle, various sound systems, and convenient lighting, you can check off such luxuries as power windows, doorlocks, and mirrors, and a tilt steering column. Base models are expected to start in

the \$7500 range, fully equipped versions around \$9000.

As for future performance potential, it's amply demonstrated by the sizzling 180-hp intercooled "DC" Shadow that was available for brief test drives at the January Desert Proving Grounds preview. It was conceived and built by Chrysler's Direct Connection aftermarket group, the same guys who develop Chrysler's very successful small-bore racing parts, and we can't wait until they're turned loose on some hot street machines that are actually saleable, a la Ford's SVO.



Interior of the Sundance convertible reveals tweed check upholstery and the car's no-nonsense sport steering wheel and well-packaged gauges.



Shown exclusively to *Motor Trend*, this Plymouth Sundance convertible is a swoopy remake of the standard P-cars. It features aero headlights, front air dam and side skirts, plus a rear spoiler. The ragtop fits under a beautifully integrated plastic-fiber tonneau.



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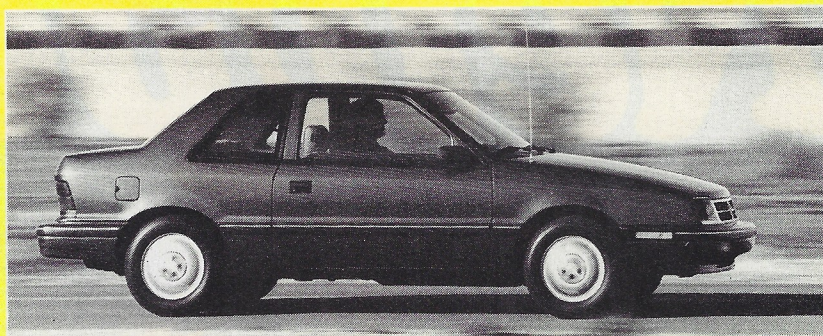
## Sundance/Shadow Engineering

**S**undance and Shadow are the first Chrysler products developed under new corporate guidelines for buzz, squeak, and rattle (BSR) control. Every BSR-sensitive part was subjected to periodic review by noise and vibration engineers throughout its design process. "We do not regard BSR as minor annoyances," says Vehicle Evaluation Chief Engineer Bob Ludwig. "We treat them as defects."

The BSR team, formed when the first prototypes became available, found 42 problems to be corrected, followed up on pilot vehicles, and will stay with the P-cars throughout production. Examples of fixes include additional slotted "fingers" on the shift cable sleeves to correct a buzz, and foam pads on the air conditioner mode door to prevent both a rattle and potential air leakage whistle. The turbo boost gauge housing was changed from plastic to brass to kill a rattle, and wedges under the rear hatch were Teflon-lined to eliminate a squeak.

For noise and vibration control, the carpeting is backed by a resin sound barrier over an acoustical pad, as are the cargo-area trim panels. Mastic packings and acoustical stuffers fill body openings, while foam liners on the inner panels seal off the doors. Windshield and backlight moldings have foam inner liners, side windows are double-sealed, and A-pillars have both secondary and tertiary seals. Bumper structures are tuned to absorb engine idle shake, and a damper in the steering hub isolates the driver from idle vibration.

Computer-aided design (CAD) was used extensively to ensure quality surfaces and fit. Body panels are stretch-drawn before being formed to better hold their shape, prevent wrinkling, and provide accurate surfaces for hardware mounting. The panels on the door and hatch are one-piece stampings bonded together. Most sheetmetal is galvanized, chip-resis-



### DATA

1987

### Dodge Shadow SE

#### POWERTRAIN

Vehicle configuration.....Front engine, front drive  
 Engine configuration.....L-4, SOHC, 2 valves/cylinder, turbocharged  
 Displacement.....2200 cc (135.0 cu in.)  
 Max. power (SAE net).....146 hp @ 5200 rpm  
 Max. torque (SAE net).....170 lb-ft @ 3600 rpm  
 Transmission.....5-sp. man.  
 Final drive ratio.....3.02:1

#### CHASSIS

Suspension, f/r.....Independent/independent  
 Brakes, f/r.....Disc/drum  
 Steering.....Rack and pinion, power assist  
 Wheels.....15 x 6.0 in. alloy  
 Tires.....P205/50VR15

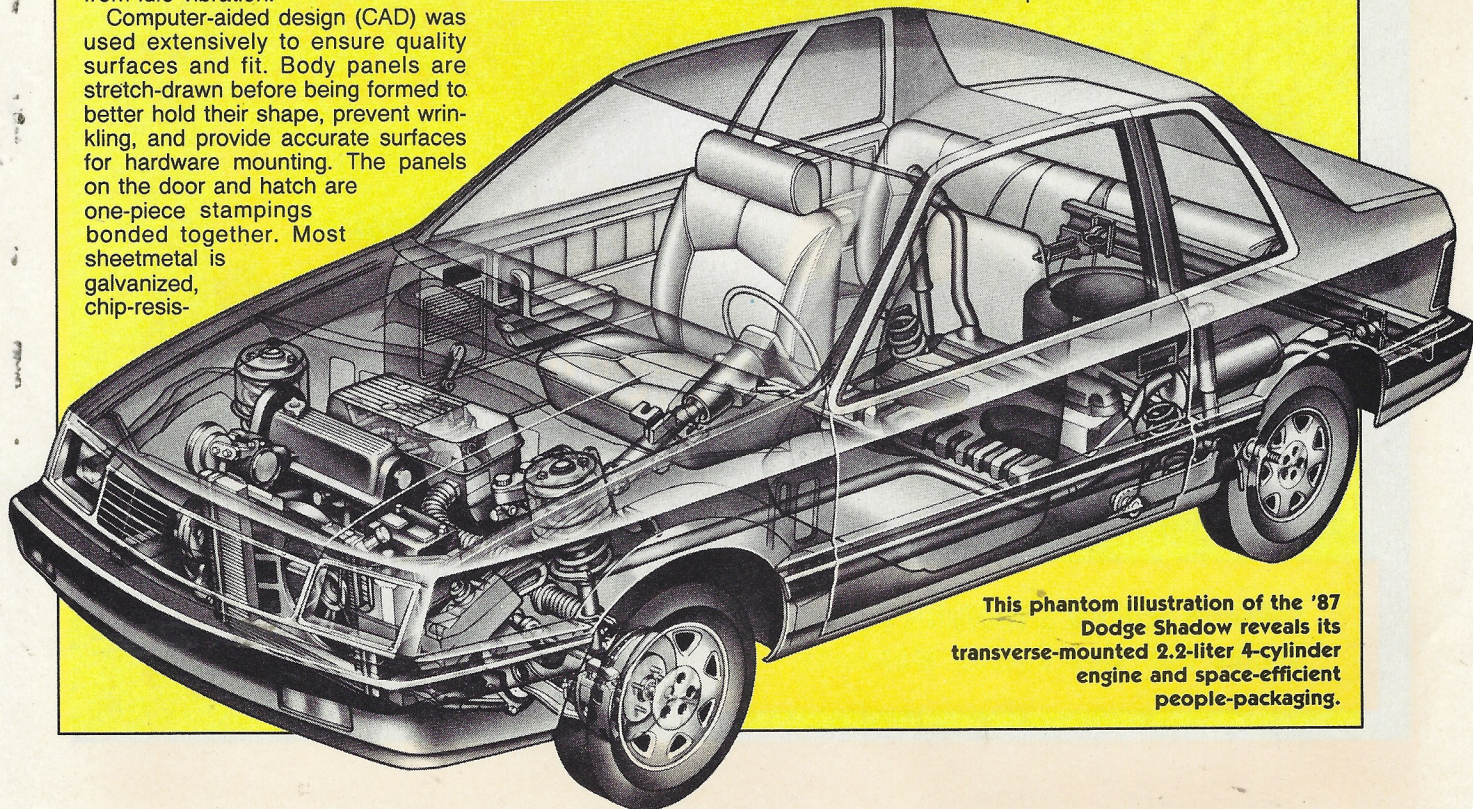
#### DIMENSIONS

Wheelbase.....2464 mm (97.0 in.)  
 Overall length.....4361 mm (171.7 in.)  
 Curb weight.....1149 kg (2533 lb)  
 Fuel capacity.....53.0 L (14.0 gal)

tant urethane primer protects the lower body sides, and all exterior paint is clear-coated. The rust-through warranty (like the powertrain's) is five years/50,000 miles.

The standard throttle-body injection gives precise idle control and compensates for fuel temperature. Its low-pressure (14.5 psi) in-tank pump sits in a reservoir to prevent fuel starvation during hard cornering, even with a low fuel level. The cylinder head has swirl-inducing contoured intake ports and shrouded chambers to speed combustion, which enhances both economy and idle quality, and allows a high (9.5:1) compression ratio. Shrouds in the turbo engine have 8° conical cuts for increased flow at a small sacrifice in burn rate. The turbo's compression ratio is 8.2:1, and maximum boost is 9.0 psi with the 5-speed, 10 psi with automatic. On-board diagnostics for all electrical and electronic systems store 33 fault codes and include a memory for intermittent problems.

—G.W.



This phantom illustration of the '87 Dodge Shadow reveals its transverse-mounted 2.2-liter 4-cylinder engine and space-efficient people-packaging.