

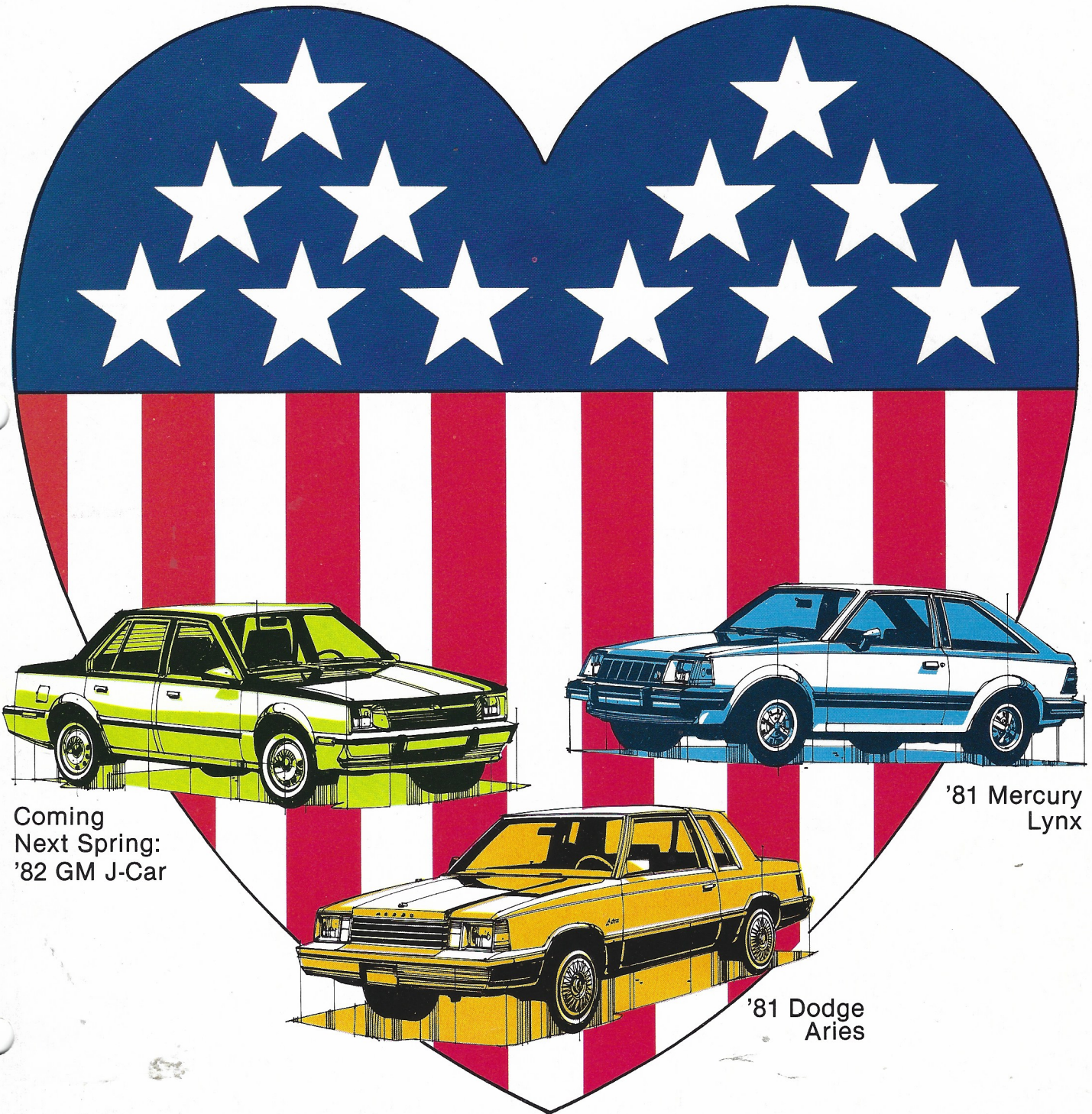
# WARD'S AUTO WORLD

OCTOBER 1980

\$2.50

SPECIAL REPORT  
**Drivetrain Update**

## '81s: Ratings/Marketing/Goofs & Goodies



Coming  
Next Spring:  
'82 GM J-Car

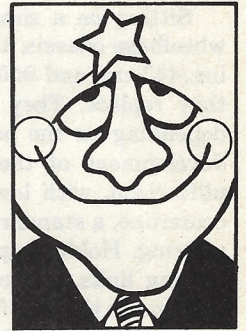
'81 Mercury  
Lynx

'81 Dodge  
Aries

### Will They Win Back The Hearts of Americans?



# Goofs & Goodies



by Gary L. Witzenburg

**A**ll right, gang, line up and get your gold stars for all those technical Goodies in the '81 cars. But don't be pushy; we also have some dunce caps for '81 Goofs and for blunders from previous years that still aren't fixed.

Fortunately, the gold-star brigade far outnumbers the dunce-cap contingent in this pivotal year for U.S. auto-makers. They've suffered humiliation in 1980 as imports hovered close to the 30% penetration mark, and their reputations and treasuries are dependent upon how the '81s are received by U.S. car buyers.

Close scrutiny inside and outside the '81 U.S. cars suggests Detroit has done its homework well. Chrysler Corp. and Ford Motor Co. win *WAW's* coveted Small-Car Goodies trophy for battling financial adversity and bringing to market a new series of front-wheel-drive (fwd), high-mileage cars to battle not only General Motors Corp. but imports as well.

**GM gets our Amazing Aerodynamics** award for reducing wind drag on specialty intermediates, picks up a gold star for Cadillac's variable-displacement engine and receives an Advance Publicity Superstar crown for its J-body fwd subcompacts that do not bow until next spring.

American Motors Corp. earns a Blizzard of '81 plaque by expanding its 4-wheel-drive (4wd) offerings to include a 4x4 subcompact Spirit. Volkswagen of America Inc. won't reveal its '81s until late this month, but nothing dramatic is anticipated. VWA is a shoo-in, however, to repeat as winner of the Best Cars Built in Pennsylvania medallion.

Chrysler's compact Plymouth Reliant and Dodge Aries, available in 2-door, 4-door and wagon variations and powered by an all-new 2.2-liter (134-cid) 4-cyl. engine, are fully competitive with GM's revered X-car compacts and are even better in some respects.

Ford's brains-across-the-ocean design and engineering program combines the best talents of its finest technical minds on both sides of the Atlantic to create the most import-like U.S. small cars ever built. Known here as the Ford Escort and Mercury Lynx, Ford's first world car since the Model T boasts a brilliantly conceived hemi-head, crossflow 4-cyl. engine and the world's first "split-torque path" small-car automatic transmission.

Here's a closer look at the good — and the bad — in the '81 cars.

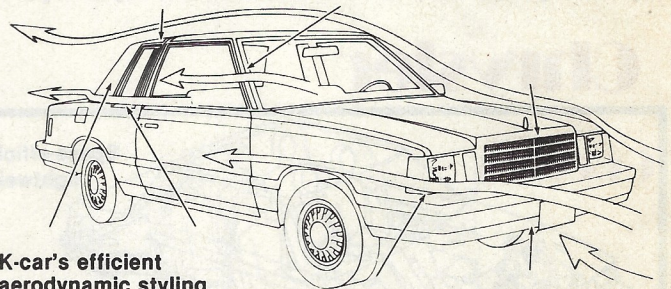
## Chrysler's K-cars

Chrysler Executive Vice President Harold K. Sperlich emphasizes that Reliant and Aries, which replace the little-loved Volare and Aspen, are "new from the ground up . . . not derived from any other vehicles . . . not shrunken models of larger cars already on the market. In concept and design, they are signs of a profound and lasting change in our markets and our industry. These are the cars that America has been waiting for."

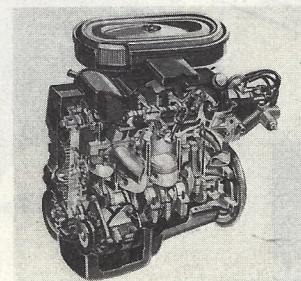
Reliant/Aries should woo buyers back into Chrysler's fold and help reduce defections to imports, but they are not "import fighters" that satisfied import owners will come running back to. Despite their thoroughly modern transverse fwd layout and interior efficiency, these still are very "American" cars in feel, content and character. There's not a multiadjustable, orthopedically designed seat in sight or even a simple recliner, and there's not a 5-speed manual gearbox or any sort of youthful sport version. Given the lead time involved, extreme pressure and limited manpower and resources available,

continued next page

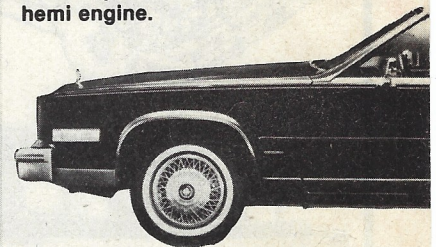
## Goodies



K-car's efficient aerodynamic styling.



Escort/Lynx compound-valve hemi engine.



Under Cadillac's hood, V-8-6-4 modulated-displacement engine.



# Goofs & Goodies

we give Chrysler an understanding, qualified Goody for the K-car's design and concept — and a little more time to complete the job.

Sitting on a simple but well-developed 99.6-in. (253-cm)-wheelbase chassis, the Ks are about two feet shorter (at 176 ins./447-cm) and 900 lbs. (405 kg) lighter than the compacts they replace. They get 41% to 53% better fuel economy, depending on the powertrain. Front suspension is a further development of the "iso-strut" design first used on Omni/Horizon, with low-rate coil springs offset from the strut centerline, a standard antiroll bar and precise rack-and-pinion steering. Holding up the rear is a "flex-arm beam" axle with trailing links, a lateral track bar, coil springs and a torsion tube inside the axle for roll control.

**The 2.2-liter, 84-hp four** — Chrysler's first all-new engine in many years — is designed primarily for compactness, light weight, durability and low emissions with high economy.

Equipped with either the standard 4-speed manual (.88:1 overdrive fourth gear) or optional automatic transaxle, its performance is acceptable but not exciting. In base form it returns an impressive 25/41-mpg (10.6/17.4-kml) in EPA city/highway tests. Emissions control is attained by use of a 3-way catalyst with electronic exhaust sensing and feedback to the carburetor.

For those who want considerably more performance, the optional Mitsubishi Motors Corp. Ltd. 2.6-liter (159-cid) 4-cyl. engine gets a gold star. It features unique twin silent shafts to dampen vibration, a hemi-head and an MCA-Jet three-valve combustion system. For some reason, though, it's rated at only 92 hp in the K (vs. 105 hp in Mitsubishi's Challenger and Sapporo), and it's available only with automatic transmission for now. Both automatic and manual transaxles are Chrysler-designed and built.

Inside a K-car a typical American driver will feel right at home. Seats are flat, unsupportive and adjustable in traditional fore-aft mode only (optional power seats still neglect the needed seat-to-backrest angle adjustment). The instrument panel is pedestrian — devoid of instruments beyond speedom-

eter and fuel gauge — and totally lacking in handy shelves, bins or pockets in which to put things. An optional console contains two storage bins, but the tiny glovebox offers little usable space. The large blank area above it is wasted to leave space for air bags if they become mandatory. And at least one WAW evaluator offers a dunce cap to those who designed the K-car interior door handles. They're "too tiny and have sharp edges," he says.

**Front-seat room is adequate** and comparable to GM's X-car, but more seat travel would be appreciated to allow additional stretch-out space for long-limbed drivers. Surprisingly, those same long-stemmers can sit in the rear fairly comfortably with knees straight ahead, even with the front seats moved fully back. While Chrysler bills the K as a 6-passenger car and provides belts for six in bench-seat versions, it's actually a comfortable 4-seater with room for five or six in a pinch. Incredibly, rear-door glass in 4-doors is stationary — even after all the negative reaction GM has received for fixed rear glass in its 4-door intermediates. A serious Goof!

To our jaundiced eyes, the only "body" Goof is an outdated opera-window roof design on the 2-door that looks as though it was lifted directly from Ford's sagging LTD. Usually seen in the questionable company of a "half-vinyl" roof, this tacky cliché seems out of place on a "car of the '80s." Put on your caps and head for the corner!

## Imperial

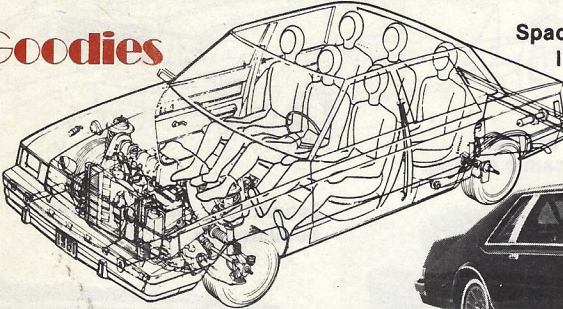
Although only 25,000 units are scheduled for 1981 production, Chrysler's new Imperial coupe (the first use of that name in six years) has plenty of technical interest. A plush and prestigious boulevardier, fully equipped and adrip with Cartier crystal and Mark Cross leather, it's intended as a \$19,000 new-image flagship. As such, it gets a quality-control program just this side of Rolls-Royce including a road test and on-lift inspection (and retorquing afterward) and a unique two-year, 30,000-mile (48,000-km) warranty that includes nearly everything except air in the tires.

Its sensuous body carries off our Best New Face for 1981 award and is blemished only by a bustle-back rear deck (no, they didn't intentionally copy Cadillac's 1980 Seville) that is controversial but not entirely unpleasant.


Under the carrier-deck hood and inside the country-club cockpit, however, there's some real new-decade electronic sophistication. What Chief Engineer-Engine Electrical E. W. Meyer Jr. labels as the "first continuous-flow, single-point,

## Chrysler

**Goodies**

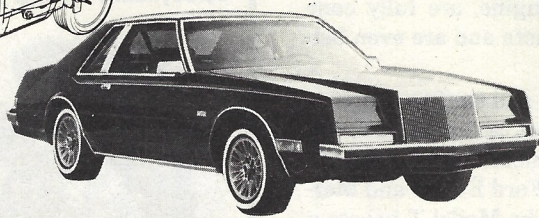


Space-efficient, lightweight K-body.

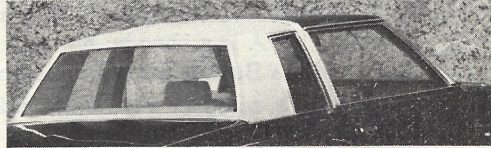


Aries' refined suspension, precise steering.

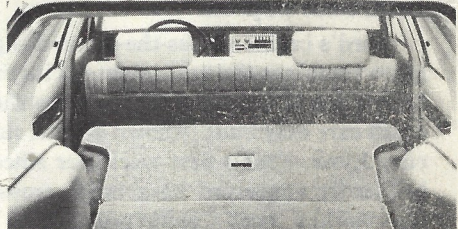
**Goofs**



Imperial: 'Best New Face' award.



Reliant Custom half-vinyl roof/opera-window cliché.



K-wagon's rear seat won't fold flat.

fully electronically controlled" fuel-injection system keeps things happily stoichiometric through a vast network of engine and environmental sensors continuously reporting to the digital-combustion computer, which also controls spark advance.

## Ford Escort/Lynx

"This year we've got the fuel-economy numbers, the engineering and European-type design to go head-to-head with the imports, and that's exactly what we are going to do," a Ford executive tells *Ward's Automotive Reports*. "Prime targets for Escort and Lynx are lower-price, high-volume models such as Datsun 210 and 310, Toyota Corolla and Tercel and Honda Civic."

Maybe so, but it takes a lot more than fuel economy and fwd to go head-to-head against the imports. It also takes a high level of quality, both mechanical and visual, which Ford should be able to achieve; and it takes competitive product content and a certain indefinable feel and driving character, which Ford, sadly, so far has not chosen to emulate.

Yet, Escort/Lynx is undoubtedly a well-designed and sophisticated little car that makes the Pinto/Bobcat it puts to pasture seem like Middle Ages machinery by comparison. It's the company's first domestic fwd car and is — except for VW's U.S. Rabbit — the closest thing to an import manufactured here. It's built on a 94.2-in. (239.3-cm) wheelbase and weighs 2,005 lbs. (902 kg). In 3-door hatchback and 5-door wagon variations at the outset (a sport version comes next spring and a 4-door sedan next fall), its looks are European-clean and wind-tunnel smooth.

Inside is a mixture of good and bad. Ford continues its annoying habit of limiting front-seat travel in favor of back-seat legroom dimensions, so surprising room and comfort in back is achieved at the questionable expense of adequate stretch room for taller front-cabin occupants. The base instrument panel is stark and has no center vent outlets, but is made from a semi-soft "elastomeric" material that gives a quality look and feel and eliminates the usual econocar dashboard squeaks and rattles. There's a handy flat dashtop shelf, but, as in Chrysler's K, the large space where a good-sized glovebox should be goes to waste in favor of the phantom air bag that may never have to be there, and the tiny bin-box behind the large glovebox door below that is near-useless. The higher-line dash features a

nice soft-feel, 4-spoke steering wheel, tachometer and temperature gauge, dashtop digital clock, a graphic warning display and a small ashtray that's often blocked by the gear-shift handle. Convenient stalk controls operate wiper/washers, turn signals, horn and headlamp dimmer — the latter complete with an import-like flash-to-pass feature. Some believe Ford continues to blunder in using stalk-mounted horns. "Who thinks fast enough to take his hands off the steering wheel in an emergency and make two motions to push the horn button?" says a *WAW* test-driver. "Put the horn back in the center of the steering wheel where God meant it to be," he says.

High on the Escort/Lynx Goody list, under "hardware," is the innovative compound-valve hemispherical (CVH) overhead-cam 4-cyl. engine. Carefully designed for maximum performance with minimum emissions and fuel consumption, after an exhaustive research program proved crossflow hemispherical combustion chambers the most desirable configuration, this design cleverly skews the valve centers at compound angles about the spark plug to allow large valve heads and single-cam actuation. The base 58-hp 1.3-liter (79-cid) version has been dropped, but the standard 69-hp 1.6-liter (98-cid) with manual transmission delivers a respectable 28/44-mpg (11.9/18.7-kml) rating.

Unfortunately, what should be a peppy little engine is emasculated by Ford's Goofy wide-ratio 4-speed transaxle, an economy-only design that puts driving the Escort/Lynx right up there on the excitement scale with counting flowers on wallpaper. First gear gets you off the line OK and the .8:1 fourth is plenty economical, but the dimly spaced second and third gears seem good for little except leisurely acceleration on level ground.

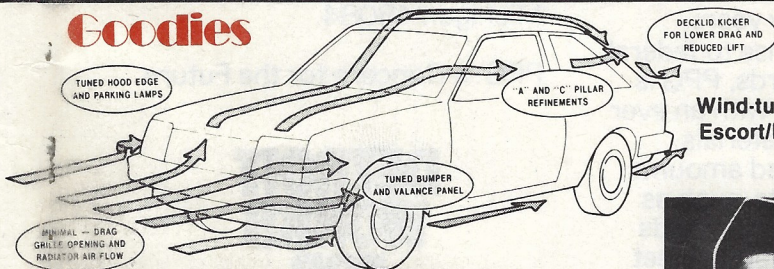
Conversely, Escort/Lynx's optional automatic transaxle is an engineering piece of art. Using a unique "splitter" gear, it transmits torque through parallel mechanical and hydrokinetic paths in second and third gears, with 93% mechanical transmission in third.

Lamentably, however, the automatic floor-shift gate in the cockpit apparently was designed by lawyers and accountants. Presumably a cheap imitation of the excellent Mercedes sectioned gate, which allows convenient manual down- and up-shifting for passing or whatever, it inexplicably prevents that very action by requiring an awkward downward motion on downshift, and has nothing to prevent a slip past drive into

continued page 79

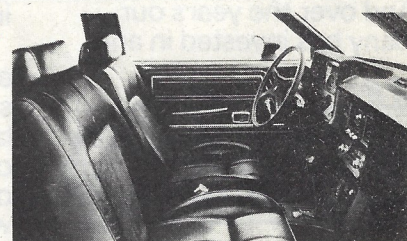
## Ford

### Goodies

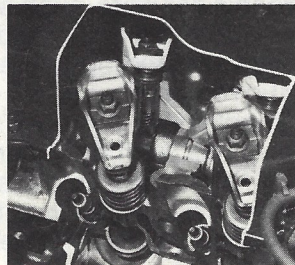


Wind-tunnel-smooth Escort/Lynx design.

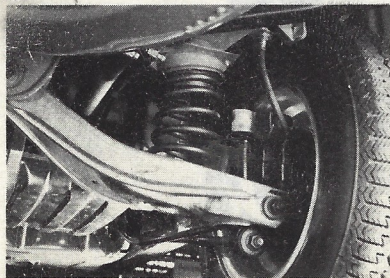
### Goofs



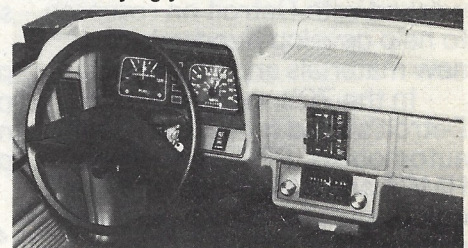
E/L's annoyingly limited front-seat travel.



E/L hemi-head, crossflow engine.



E/L fully independent rear suspension.



Stark, center-ventless E/L base panel.



# Goofs & Goodies

continued from page 77

neutral on the upshift. Zounds! At least the exaggerated "park" slot ensures it'll never slip out of that position.

Under the nicely contemporary bodies, Ford took the trouble and expense to fit a fully independent rear suspension consisting of one-piece forged spindles on transverse arms with fore-aft control from a pair of tie rods. Coil springs are between the transverse arms and the body/frame, while shocks are separate twin-tube strut units. This arrangement is terrific for ride and permits a low load floor for cargo efficiency, but its very compliance permits an uncomfortable side-to-side wallowing feeling in hard cornering (similar to Ford's larger cars).

The stiffer optional handling suspension — higher-rate springs, shocks and front antiroll bar — feels better, but what it really needs is a rear antisway bar for which, engineers say, there's no provision. Front suspension is a fairly conventional MacPherson-strut setup designed for maximum durability and serviceability, while steering is rack-and-pinion with an optional power assist. One Goody: The cargo-area security shade, standard in the wagon, operates like a window shade. Another: a flexible plastic piece that keeps gas caps permanently attached to the car so they can't be forgotten at self-serve stations.

## Granada/Cougar and More

Speaking of names, what's a Cougar this year? Well, it's Mercury's sister car to the new Granada, and it used to be called Monarch, but don't confuse that with XR-7, which is L-M's version of the Thunderbird and used to be a Cougar, too.

Luckily, the Fox platform that spawned these spinoffs, plus Mustang/Capri and Fairmont/Zephyr, is good, solid, up-to-date and efficient, considering its driving wheels are in back. So it matters only to the midsize-car customer that '81 Granada/Cougar are a bit smaller and lighter and more space-efficient inside than the cars they replace, and return up to 4 mpg (1.7 kml) better fuel economy with standard 2.3-liter (140-cid) 4-cyl. engines.

Other Ford Goodies for '81 include expansion of the 4-speed overdrive automatic transmission (AOD) to 4.2-liter

(256-cid) V-8 T-Birds and XR-7s, and addition of standard reclining seats, optional T-tops and 5-speed transmissions to the sporty Mustang and Capri.

But the Goof of the Year trophy has to go to those automatic-driving Ford engineers who designed the aforementioned 5-speed transmission. Give them credit for finally doing it; then confiscate their pocket calculators for putting that much-needed overdrive fifth ratio to the right and back from the normal "H" pattern, instead of right and forward like the rest of the world.

## General Motors

With no all-new products to show until spring, GM concentrates this fall on aerodynamically restyled specialty-intermediate coupes and a host of engineering and feature improvements. Realignment of standard engines, all 3.8-liter (232-cid) V-6s; slicker, low-nosed, high-decked bodies; some strategic weight reductions; and the same sort of low-rolling-resistance treatment administered to full-size B- and C-cars a year ago result in more appealing and more economical entries across the board in the midsize market.

GM becomes the first U.S. automaker to go to microprocessor-controlled engines across the board. Called Computer Command Control (CCC), this Goody sounds like a video game, but in reality handles the tricky business of monitoring and controlling virtually everything under the hood for the best possible performance, driveability and economy at much tougher 1981 emissions levels.

Other corporate-wide efficiency improvements include proliferation of high-pressure P-metric tires, low-drag disc brakes, and lockup automatic-transmission torque converters to additional models as supplies permit. There also is a new 4-speed overdrive automatic transmission, with lockup in third and fourth, either standard or available in most of the full-size B-cars. A "resume" feature finally is added to GM's cruise control, self-sealing tires become available on most models, and the popular fwd X-cars get a new multifunction stalk control and a floor-shift console for the optional automatic transmission.

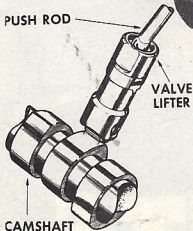
Cadillac Div. gets a leg up on the automotive world by bringing to market the first variable-displacement engine. Dubbed Modulated Displacement by engineers and V-8-6-4 by marketing geniuses, this system deactivates two or four of the 6-liter (366-cid) V-8's cylinders on command from an under-hood computer when power demand decreases by allowing

continued page 81

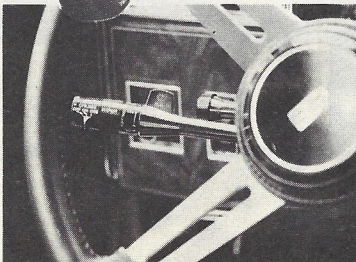
## General Motors

### Goodies

Aerodynamically restyled specialty-intermediate coupes such as Buick's Regal Sport.

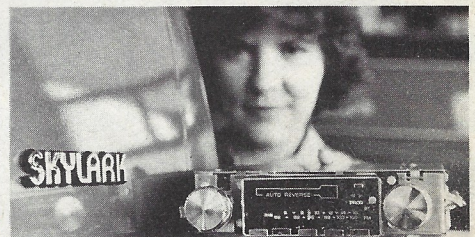


Roller-hydraulic valve lifters in V-8 diesel.



Multipurpose stalk control on X-cars.

### Goofs



Stereo radio's neat, but not so the orange-peel paint job on Skylark.



Olds Cutlass Supreme takes 'Jimmy Durante Ugly Nose' award.



# Goofs & Goodies

continued from page 79

both intake and exhaust valve-lifter fulcrums to move while valves remain closed. It is standard on all gasoline V-8 Cadillacs and includes a new feature for the cockpit, "MPG Sentinel," that informs the driver how many cylinders are functioning at any given time. But the monitor is far to the right and low on the instrument panel, making it extremely hard for drivers to read and operate. Take a dunce cap. Shifts in displacement (from 6 to 4.5 to 3 liters and back) are nearly imperceptible while driving. Collect a gold star.

Cadillac's sophisticated digital electronic fuel injection, also standard with the gasoline V-8, is combined with the corporate CCC system and further refined for 1981 with a significant expansion of its self-contained diagnostic capability. For those who can afford it, the big Cadillac V-8 this year is a veritable masterpiece of electronic wizardry. Other Cadillac Goodies include a new "Memory Seat" that records and recalls favored seating positions for two different drivers at the touch of a button, and automatic seatbelts (available in the Sedan De Ville) for those too lazy or foolish not to buckle up and want the car to do it for them.

Buick Div. has an improved electronic knock sensor for its V-6 turbo engines that detects detonation sooner than the previous system and eliminates almost all annoying audible knock. Two other Buick Goodies are a carefully programmed, very European-feeling GT handling suspension for sporty models and a graphic equalizer for audiophiles available in the Skylark X-car.

Oldsmobile Div. has been busy improving its diesel V-8 engine in light of adverse publicity concerning alleged durability troubles. Foremost among these improvements are a larger-capacity water-separation system in the fuel tank, combined with a dashboard warning light to prevent water damage to the fuel-injection system, and roller-hydraulic valve lifters to

extend the oil-change interval from 3,000 to 5,000 miles (4,800 to 8,000 km) without danger of camshaft damage.

Pontiac Div. has boosted its sagging youth image a bit by at last certifying the turbo V-8 TransAm for sale in California and restoring the manual 4-speed transmission to its sporty Firebird line — but only with the 5-liter (305-cid) nonturbo engine. There's also a handsome monotone paint scheme for the SJ Phoenix and optional front and rear spoilers for the coupe. Frontal styling of the midsize A-car (LeMans) is retuned for less wind resistance, and the 4-door picks up the formal notchback roofline from the Buick and Olds version.

Chevrolet, meanwhile, has created an honest-to-Andretti miniperformance car for the fuel-conscious 1980s, the first from any domestic maker. The slick Citation X-11 for 1981 features a 135-hp version of the 2.8-liter (171-cid) V-6, a well-massaged suspension and exciting visual appeal to put fun back into the domestic-car vocabulary. Unfortunately, it's automatic-only at the outset. Other Goodies include an optional driver-seat recliner for Citation (correcting an earlier Goof), a weight-saving (33 lbs./15 kg) fiberglass rear leaf spring for Corvette and a notchback roof for 4-door Malibus. Also, a 1.8-liter (110-cid) diesel engine and a 5-speed manual transmission (both from GM-partner Isuzu Motors Ltd. of Japan) will be welcome midyear enhancements for Chevette. One Goof will be dropping the unique and attractive "slantback" coupe Citation model to make room for the J-car.

## American Motors

Thanks to its French connection with Regie Nationale des Usines Renault and some clear, farsighted thinking by its engineering department, AMC's long-term prospects look better than ever. And two strong new-product Goodies — small, fairly fuel-efficient 4wd autos and a pair of sharp, highly economical midrange (96.1-in./244.1-cm-wheelbase) Renaults called 18i — are going to make AMC dealerships happy places to be doing business in 1981.

The Eagle Kamback and SX/4, which were code-named Eaglet during development and should've kept that label, are essentially the subcompact Spirit sedan and hatchback married to a shortened version of the same clever and effective viscous-drive full-time 4wd system that transformed the tired old Concord into the exciting Eagle a year ago.

A fuel-saving part-time 4wd system will come soon, but addition of a 4-speed manual transmission and the Pontiac-built 2.5-liter (153-cid) 4-cyl. engine as base equipment gives the standard Eagle a respectable 22-mpg (9.4-kml) EPA city figure.

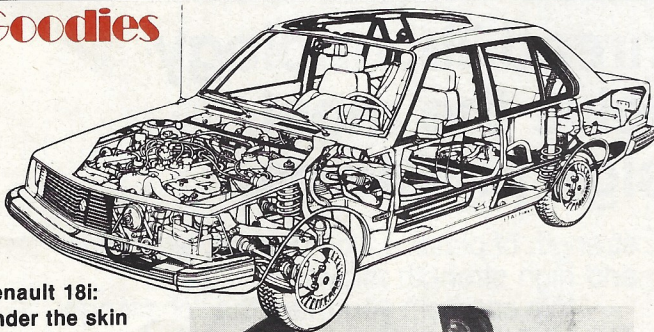
While Eagles are not intended for off-road bashing like their cousin the Jeep, they will get you through almost anywhere, any time with remarkable ease. Congratulations, again, to AMC for mining a potentially fertile market in which the Big Three haven't yet had the time or interest, let alone the hardware, to think about.

The second half of the AMC/Renault one-two punch for '81 is U.S. introduction of the latter's fwd 18i 4-door sedan and wagon, both Goodies throughout. Already hugely popular in Renault's home market, it's tough to fault these Gallic charmers. The standard 4-speed and optional 5-speed manual transmissions are sure and crisp, the automatic is smooth and quiet, the interior is roomy, and comfortable front and rear seats are wonderfully supportive.

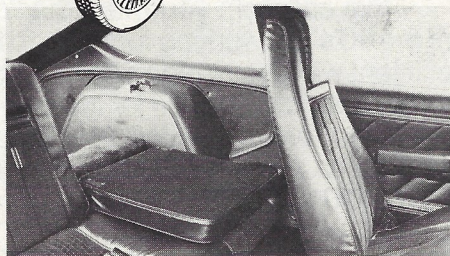
Looking at new U.S. products and significant improvements to the old ones, it's hard not to believe that the domestic industry's big comeback is about to begin. Most important, there should be little reason left for American people not to buy more American cars. □

## American Motors

### Goodies



Renault 18i:  
Under the skin  
a Gallic charmer.



Eagle SX/4  
split-folding  
rear seatback.

### Goof



Useful but unsightly  
Concord/Spirit/Eagle  
underdash shelf and  
hard-to-see gauges.