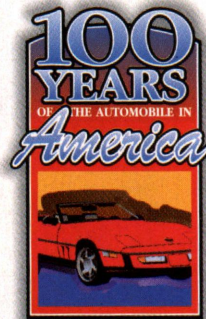


INNOVATION AND BRAND IMAGING



Sport/utility vehicles have been the trend of the '90s, and the Jeep Grand Cherokee (left) and the Ford Explorer have been the big guns.

1990 Onward

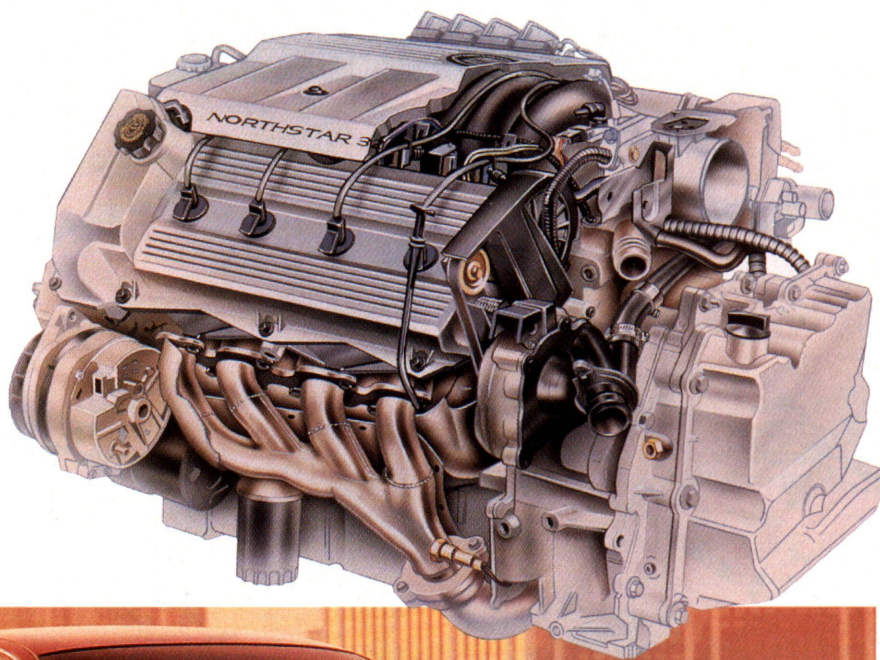


A historians will probably describe the decade of the '90s as the American comeback. For the first time since the import invasion, America was taking back market share. Many factors were at work, but undeniably the domestic manufacturers' success was due to building better cars and trucks. Sure, import cars were becoming more expensive, due to monetary exchange-rate fluctuations, but it was the consumer confidence

in American vehicles that turned the tide. It didn't hurt that the phenomenal trend to truck ownership was taking place and that no one was more competitive in the truck market than the U.S.

Exciting vehicles and performance will also be a legacy of the '90s. Sleek shapes, like the Camaro and Firebird, and the performance of high-compression, overhead-cam, multivalve engines, like the Cadillac

Cadillac's impressive Northstar system centers around this 32-valve, 4.6-liter V-8, but also includes the transmission and ride-control setups. Northstar incorporates some of the most sophisticated engineering in the industry.



The Oldsmobile Aurora was a distinct departure in design and technology for Oldsmobile and supposedly points the way into the next century for General Motors' oldest division.



The original Ford Taurus was, to some, a surprising big winner. The newest-generation Taurus, shown here, is as controversial as the original, but still has to prove it can make it big in the showroom.



Safety technology sells in the '90s. Mercedes-Benz was the first to offer door-mounted side impact airbags, shown here in the E-Class.

Northstar, are putting fun back into the driving experience. Even small-niche cars, like the Viper V-10 and Plymouth Prowler, signal the optimism that anything is possible. Technology is driving new-car development more than at any time in the automobile's hundred-year history in America.

The Northstar was a major development at Cadillac. Marketed as a system, the Northstar V-8 had the expected four-cam, 32-valve layout, but with careful detail engineering, about 80 fewer parts than did the similar Lexus V-8.

Cadillac combines the Northstar engine with ABS, traction control,

and torque-managed transmission controls (the transmission computer "communicates" with the engine computer to reduce engine torque, while the transmission is shifting). The Olds Aurora uses a four-liter V-8 substantially the same as that of the Cadillac engine.

Ford has a new family of engines similar in broad detail to the Northstar, but with the option of single- or twin-cam heads with a V-6 version rumored for the future.

Chrysler introduced America's only V-10 in the Viper sports car. Based on the 360 V-8, the huge V-10 has 500 cubic inches and enough torque to rotate the earth. It com-



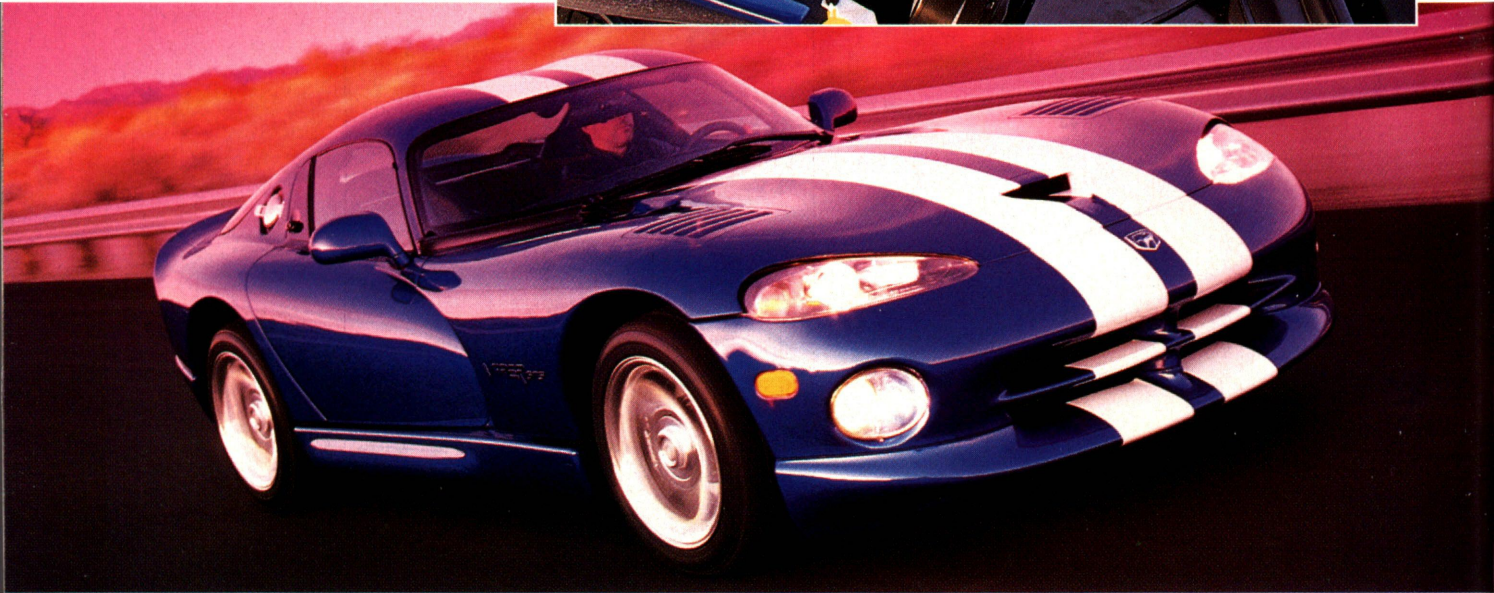
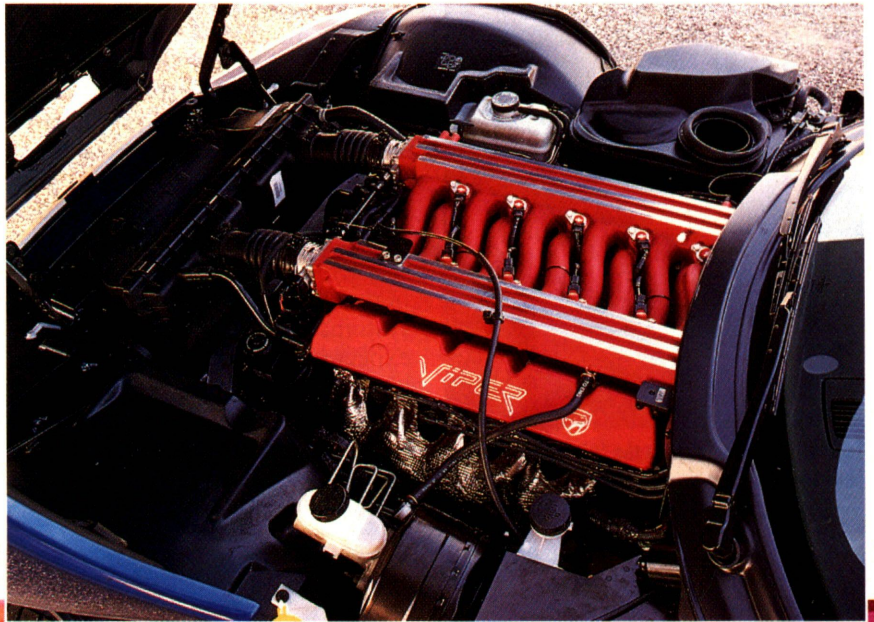
The exotic still plays well, and it doesn't get much more exotic than a Ferrari F50.

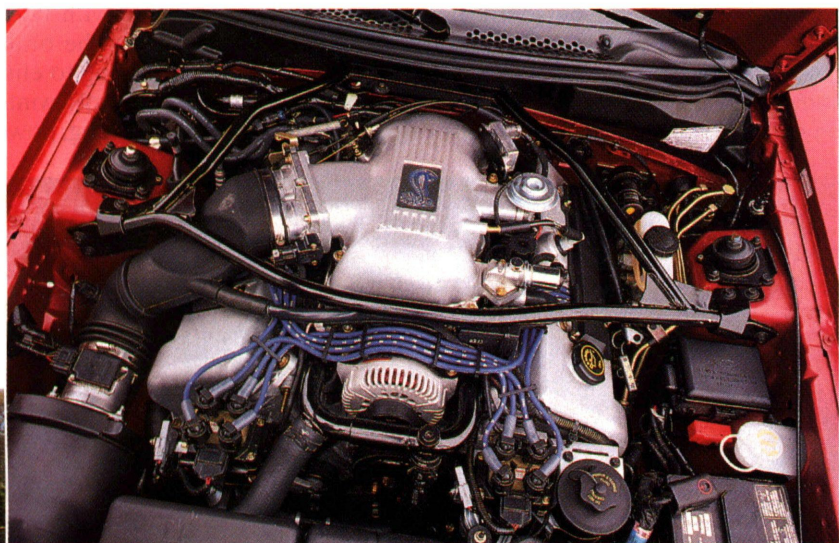
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bin's '60s pushrod technology with the modern electronics and fuel injection required by all cars sold in America.

One step at a time, since the earliest electronic ignitions appeared in the mid-'60s, the electronic controls on cars have been growing more elaborate and comprehensive. A good engine-management system today will compensate for extremes in altitude and air density, will allow an engine optimized for 92-octane

Chrysler, once known for its engineering skill and innovation, lost its way for a while, but is back in the '90s with the Dodge Viper GTS (center) and the Plymouth Prowler (bottom). The Viper uses a basic pushrod engine that has a non-basic 10 cylinders.





gas to run on 87 or worse. It will compensate for temperature difference, even turning the engine fans on and off, for the additional loads imposed by air conditioners and power steering. It will consult with the computer that controls the transmission to make shifts smoother. The OBD II (On Board Diagnostics) function will store dozens of different engine-trouble codes that will permit a technician to locate a



The performance aspect of the Mustang has ebbed and flowed with economic and social trends. Right now, the Cobra, with its 4.6-liter, DOHC, 300-horsepower V-8, shows performance is once again flowing nicely, thank you.



With high performance making a big comeback, aftermarket tuners have been busy. Steve Saleen does tweaks on Mustangs (right), while Rod Millen is known for his work on Nissan's 300ZX.

fault that happened in the past but is no longer in evidence.

The Aurora, for example, uses two 128-kilobyte microprocessors—about four times the power of the

original IBM PCs. Seat memory, steering-wheel-position controls, elaborate security systems, traction controls, ABS systems—a variation on traction control that combines

steering wheel position with lateral acceleration and applies the brakes or reduces throttle opening to eliminate skids—throttle controls, winter/summer transmission setting, power/



Pickup trucks continue their unbelievable popularity, many of them the only vehicle in a family. Ford's F-series truck—the F-150 (above) is all new for 1997—has been the best-selling vehicle of any kind in the U.S. for 13 years, with the Chevrolet CK-series right behind.





economy setting, automatic/manual transmission settings, cruise control, brake-wear indicators; these functions are currently computer controlled. No single car yet combines all of them, but the capacity is there.

Body rust is virtually forgotten, exhaust systems are using increasing amounts of stainless steel for vastly improved durability, spark plugs last up to 100,000 miles. Oil-change intervals are extended. Buying

Pontiac has been GM's design leader for several years with cars that are never conventional. Ram-Air induction and six-speed manual transmissions offer incredible performance.



Cadillac is making a major marketing move by importing the Catera from Opel in Germany. The Catera will be the intro-level Cadillac and is expected to draw younger, European-oriented buyers.

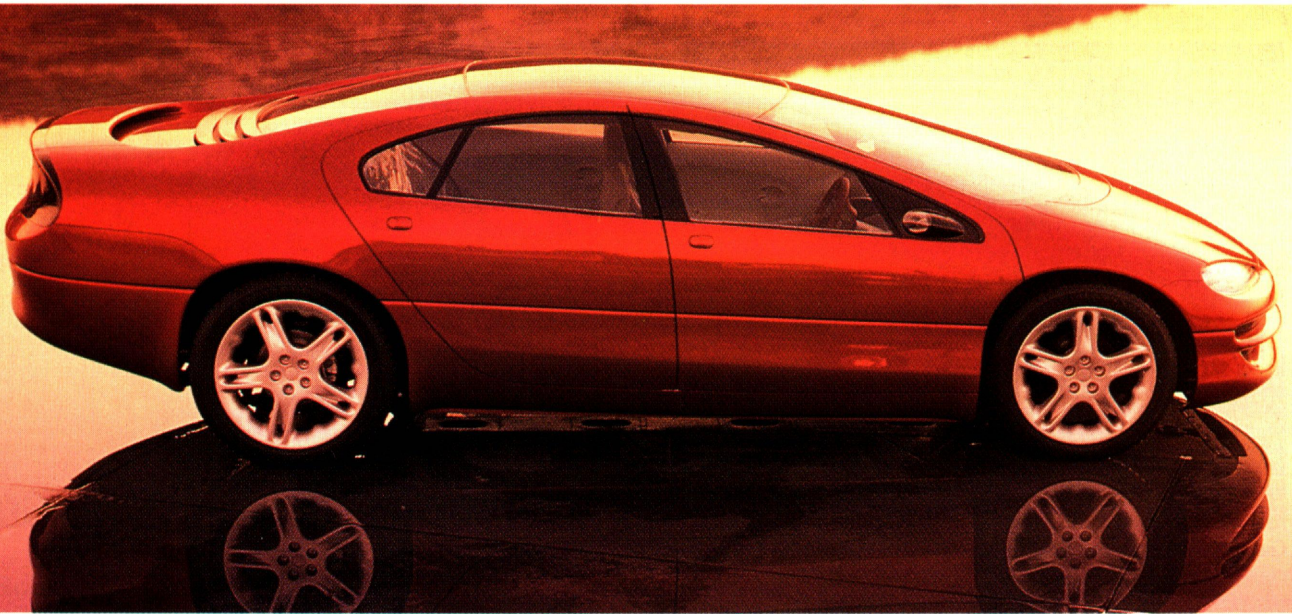


And still champion. Chrysler's minivan started the trend and, despite entries from virtually every manufacturer selling in the U.S., still controls some 50 percent of the market.

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habits are changing. Cars will last longer with minimal maintenance, but most repairs or high-mileage service have become very expensive. Cars are being turned over, often from a lease, when the warranty expires. The federal government continues to increase required

GM has promised it will soon be selling the electric EV1 (right) through Saturn dealers, despite a \$35,000 speculated price and limited range. Concept cars, like the Dodge Intrepid ESX (below) are very likely production cars of the near future—or close to them.



The sport/utility niche subdivided into a performance sport/utility niche with the turbo'ed AWD GMC Typhoon. Consumer response was lukewarm, so it was discontinued.



equipment, making cars more expensive. Manufacturers look for new processes and places of manufacture that will reduce their costs, but prices inevitably rise.

After internal reorganization for improved efficiency, manufacturers now look outward. The current hot button is brand imaging intended to give the public an understanding of what a specific "brand" means—its lifestyle, its values, its spirit. This is marketing in a new way.

And enter the mega-used-car-store. Some major organizations—such as Blockbuster Video—are in the process of opening huge used-car supermarkets with low-hassle/no-haggle selling. This may have a far-reaching impact on how all cars are sold and bought in this country. Nothing stays the same.

It's been a long road from the Duryea's first production run. It is unlikely any other form of human endeavor will see such profound and dramatic change in the same period of time. ●



The sport/utility trend mentioned at the beginning of this section continues unabated. Toyota's RAV4 (top right) is new to the market, and the Mercedes-Benz All-Activity Vehicle concept car (shown here) will come to us slightly modified a few months from now as the M320.