

show room 19

Front Page
Report

WOLFE
SLOAN
HILL

19

Front Page Report

The "word" is out! Volvo has one helluva product for 1976. And millions are reading about it - all over the country.

It's easy to say how extraordinary the new Volvos really are; it's even easier when almost everyone agrees.

The comments and endorsements the '76 Volvos are receiving in newspapers and enthusiast magazines are outstanding.

We've reproduced news clippings that have appeared in local newspapers and syndicated columns. Test drive and product reviews appearing in *Road Test*, *Motor Trend*, *Car and Driver*, and *Road&Track* represent the most extensive response to Volvo ever.

Make sure your prospects test drive a Volvo, only then will they experience what everyone's talking about: Volvo's a truly quality, luxurious performance car.

Safety Design, New Engine Featured in Volvo



NEW FEATURES on the Volvo 244 Sedan [above] include improved engine torque and an optional electric overdrive.

"The unique design of the Volvo 240 Series front end, derived from the Volvo Experimental Safety Vehicle, instantly set the car apart from others when it was introduced on the 1975 model and is continued for '76", according to Gred Taylor of Taylor Imports, Keene.

The new 2.1 litre engine is distinguished by a belt-driven overhead camshaft, chosen for its exceptional efficiency. No pushrods or rocker arms are employed, which means very quiet running and fewer adjustments."

The Environmental Protection Agency reported fuel economy on the 240 Series Volvo average from 16-18 miles per gallon in the city to 23-28 miles per gallon on the highway, depending on body style, transmission an emission equipment.

With the triangle-split dual circuit brake system, both front wheels and one rear are served by two independent systems. Even if one system fails, a

Volvo will still keep about 80 percent of its full braking power, even though U.S. law requires only 50 percent. The master cylinder is so designed as to require little more than normal pedal pressure to bring the car to a safe, straight stop.

In the event of a collision, Volvo bodies protect the passenger compartment with a "cage" of steel pillars around the roof, box-section rocker panels, anti-intrusion bars in each door, a gas tank located close to the rear axle for protection, a unique break-away cushioned steering wheel and other design features which help reduce forces on impact.

Since 1959, long before laws were passed requiring them, Volvos have come equipped with one-piece lap/shoulder belts. The company feels their design makes them one of the most convenient and comfortable belt systems in the world and urges all passengers to wear them.

Exceptional knee and leg room for five adults is provided, and the two reclining individual front seats have an adjustable lumbar support. The seats in all 242/244 sedans are covered in soft, napped fabric which is cool in

summer and warm in winter.

"The Volvo 240 Series cars are designed and engineered to meet the demanding needs of today's auto market: reliability, durability, economy of operation, safety and comfort," Taylor added.

NEWARK, N.J.
STAR-LEDGER

D. 356,306—S. 560,261
NEWARK METROPOLITAN AREA

DEC 12 1975

Volvo settling in luxury class

By DAVID ALLEN

With the recent introduction of its 1976 models, Volvo has nearly completed its transition to a luxury car image. This is in sharp contrast to the low-priced economy car introduced to the U.S. market 20 years ago.

When the Swedish automaker AB Volvo and its Rockleigh-based U.S. subsidiary, Volvo of America Corp., introduced the 1976 line earlier this month, the firm came out with a new 260 series designed to compete with Mercedes, BMW and the Cadillac Seville.

Only five years ago, a Volvo sedan was priced in the \$3,000 range, but now the least expensive model costs more than \$6,000. Both the sedan and the station wagon in the new 260 series are priced near the \$10,000 level.

* * *

Volvo's move into the luxury car field was a conscious marketing decision on the part of the automaker, because company officials believed the higher-priced market to be much more stable and not as susceptible to changes in general economic conditions.

At a press briefing yesterday at its Rockleigh headquarters, Volvo of America President Bjorn Ahlstrom noted that Volvo entered the prestige luxury car market earlier this year with its 240 series and said "we now have an even stronger line-up for 1976" with the introduction of the high-priced 260 series.

Ahlstrom said Volvo expects to achieve record U.S. sales of more than 60,000 units this model year, adding that the industrywide sales slump that has plagued automakers for more than a year has had a much softer impact on sales of luxury cars. Sales this year are 15 per cent ahead of last year's figures.

Ahlstrom, who predicted Volvo of America would report 1975 sales of more than \$400 million, said the automaker expects to open its American assembly plant in Virginia in early 1977.

An Active Dealer at Age 71

At age 71, Ellard Winter is still very active in his automobile business.

Winter Motors, Inc. continues to grow and prosper as Winter continues to keep pace with new car trends after 27 years in the industry.

In 1948, he opened his first dealership, Winter Willy's Co., at 13th and I Streets. He promoted and sold jeeps until 1960 when, he says, "I began to see the value built into Volvo and Datsun automobiles. I decided then and there to begin handling the franchises."

Today, 16 years later, Winter Volvo, Inc. at 16th and J Streets, has three floors with 45,000 square-feet devoted to sales and servicing of the Volvo automobile.

At his 1707 J Street location, two stories are allotted to sales and service of the Datsun franchise. A used car lot is located at 16th and I Streets.

Winter Volvo, Inc. is currently introducing the five new 1976 models of the Volvo automobile.

According to Winter, the newest model to war the Volvo mark of prestige, model 265, is engineered like the finest of Volvo luxury sedans, has the toughness of a Swedish-built station wagon, and is powered by Volvo's energetic new 125 SAE net horsepower, light alloy, overhead cam V-6 engine. Designed for exclusivity, the Volvo 265 will be produced in limited numbers.

Ellard Winter calls the 1976 Volvo automobiles "the finest we've ever offered."

Fifty years of Volvo engineering is exemplified in the 1976 model year by the Volvo 264 GL — the most luxurious and one of the safest cars the Swedish company has ever offered.

The new engine gives the car an extremely favorable power-to-weight ratio compared to the conventional fuel-consuming cast iron engine construction common to most other passenger cars.

The 264, successor to the popular 164 produced from 1968 through 1975, "is a hallmark of elegant styling and efficient design in the development of the Volvo, in contrast to 20 years ago when it was introduced on American roads as a low-priced economy car," Winter said.

Today, luxury features that are optional on most other cars are standard on the 264GL, including power-assisted steering, power-assisted four-wheel disc brakes, power front windows, leather seating surfaces, tinted glass and air conditioning.

For six years, the Volvo has featured fuel injection (CI) system. It sensitively compensates for changes in engine load and ambient air temperature, assuring excellent driveability and economy at all times.

Every 264GL comes equipped with the solid state ignition system which produces a hotter spark and has no points to adjust or wear out, and greatly increases sparkplug life. The engine operates on 91 octane, regular leaded gasoline, except California cars which require unleaded fuel.

The 264GL offers manual and automatic transmissions. The manual is a fully synchronized, four-



The 1976 Volvo 265 with the V-6 engine.

speed stick shift with an electrically operated overdrive. The three-speed automatic has a floor-mounted shift lever and an illuminated quadrant with a PRND21 pattern.

The 264's attention to comfort and convenience will be particularly appreciated by its owners. Activate a rocker switch on the subtly elegant and conveniently designed dash and 150 watts surge through a rear window circuit to defog the window in minutes. The amazing heating/air conditioning system provides 12 outlets for fresh heated or cooled air — including special vents to defog front side windows.

Even the backrest and cushion of the driver's seat are electrically heated. A sensor triggers heat when the temperature is below 57 degrees and automatically turns it off when seat temperature rises to 79 degrees.

And the driver has complete control from his anatomically designed seat. A rear stabilizer bar and coil spring suspension at all four wheels give the 264 exceptional road holding and handling qualities, along with a quiet, rattle-free drive ensured by unitized construction.

The 264 continues the Volvo tradition of safety and durability. It incorporates many engineering features developed through research conducted with the Volvo Experimental Safety Vehicle. Winter said, "Owners of the 264 will enjoy peace of mind in the knowledge that the car has the maneuverability to help avoid dangerous situations yet, when an accident does occur, incorporates



The first imported luxury station wagon.

One of the world's most prestigious and luxurious station wagons is the Volvo 265. The new wagon has the same safety features and maneuverability as the Volvo sedan, yet its cargo space is a useful 77.6 cubic feet! Designed for exclusivity, the 265 will be produced in limited numbers; yet it is noted for its fuel efficiency with manual transmission achieving 15 miles per gallon in the city and 27 miles per gallon on the highway!

* * *

SACRAMENTO, CALIF.
UNION

D. 101,087 — S. 94,200
SACRAMENTO METROPOLITAN AREA

DEC 19 1975

Autoweek & Competition Press
RENO, NEVADA
W. 100,000
NOV 22 1975

V6-Powered:

Volvo Unveils Luxury Sedan, Wagon

Volvo of America has at long last introduced its new 264 luxury sedan and 265 station wagon. Both cars are powered by a 90-degree 125hp V6 engine developed by Volvo in concert with Peugeot and Renault.

The new all-alloy engine gives the car an extremely favorable power-to-weight ratio compared to the conventional cast iron engine construction common to most other passenger cars.

The 264, successor to the popular 164 produced from 1968 through 1975, is a hallmark of elegant styling and efficient design in the development of the Volvo, in contrast to 20 years ago when it was introduced on American roads as a low-priced economy car.

Today, many luxury features are standard on the 264GL, including power-assisted steering, power-assisted four-wheel disc brakes, power front windows, leather seating surfaces, tinted glass and air conditioning.

For six years, the Volvo has featured fuel injection. The 264 makes use of that experience with a refined continuous flow fuel injection (CI) system. It sensitively compensates for changes in engine load and ambient air temperature, assuring excellent driveability and economy at all times.

Every 264GL comes equipped with the solid state ignition system which produces a hotter spark and has no points to adjust or wear out, and greatly increases sparkplug life. The engine operates on 91 octane, regular leaded gasoline, except California cars which require unleaded fuel.

The 264GL offers manual and automatic transmissions. The manual is a fully synchronized, four-speed stick shift with an electrically operated overdrive. The three-speed automatic has a floor-mounted shift lever and an illuminated quadrant with a PRND21 pattern.

The 264's attention to comfort and convenience will be particularly appreciated by its owners. Activate a rocker switch on the subtly elegant and conveniently designed dash and 150 watts surge through a rear window circuit to defog the window in minutes. The heating/air conditioning system provides 12 outlets for fresh heated or cooled air—including special vents to defog front side windows.

Even the backrest and cushion of the driver's seat are electrically heated. A sensor triggers heat when the temperature is below 57 degrees and automatically turns it off when seat temperature rises to 79 degrees.



Volvo's new V6-powered 265 station wagon, which has a base price of \$9495.

Automotive Fleet
Glenview, Ill.
M. 15,913
DEC 1975

VOLVO

The new Volvo product leader is the 264GL, powered by Volvo's new light alloy, overhead cam, 125 SAE net horsepower V-6 engine. The new 264GL, which succeeds the 1975 top-of-the-line 164, is equipped with sun-roof and can be ordered with a lustrous metallic finish.

While it is three feet shorter than the average "full-size" American built



Volvo 264GL

sedan, the 264GL comes standard with power-assisted steering, power-assisted four-wheel disc brakes, tinted glass, air conditioning, power front windows and choice of a new three-speed automatic transmission or a four-speed manual with electrically activated overdrive.

Volvo also unveils the V-6 powered 265 station wagon which offers many of the features of the 264GL plus more than 77 cubic feet of cargo space. The power plant is the same as the 264GL.

Completing the 1976 product line is the four-cylinder 240 Series — the 242 and 244 sedans and the 245 station wagon — featuring a new Volvo 2.1 litre, overhead cam, fuel injected, aluminum head engine.



The 1976 Volvo 265 station wagon features an all aluminum fuel injected V-6 engine. In the Volvo tradition standard equipment includes air conditioning, power-assisted rack and pinion steering, four-wheel power disc brakes with ventilated front rotors, energy absorbing front end and more than 77½ cubic feet of cargo space.



Volvo for 1976

The 1976 Volvo 264GL four door-sedan includes sliding sunroof, power front windows, air-conditioning, rack and pinion steering, bucket seats — all standard equipment.

ALAMEDA, CALIF.
TIMES STAR
D. 9,000

DEC 12 1975



Volvo Luxury Car; 264GL Sedan

The 1976 Volvo 264 GL embodies major technical advances including the debut of the new aluminum alloy, overhead cam, fuel injected V-6 engine, developing 125 SAE net horsepower at 5500 rpm.

Today, luxury features that are standard on the 264 GL include power-assisted steering, power-assisted four-wheel disc brakes, power front windows, leather seating surfaces, tinted glass and air conditioning. A refined continuous flow fuel injection (CI) system compensates for

changes in engine load and ambient air temperature. The 264GL comes equipped with the solid state ignition system and offers manual and automatic transmissions.

The standard instrumentation on the 264 — speedometer, fuel and temperature gauges — is backed up by warning lights which instantly inform the driver of a malfunction in a vital system, including a warning light to indicate when key outside lights are burned out.

The 240 Series, in two-door and four-door sedans and a

station wagon, has a new 2.1 litre, four-cylinder, 102 SAE net horsepower engine for 1976 that features a light alloy cylinder head of a cross-flow design.

The 240 Series manual and automatic transmission for 1976 also contribute to performance and fuel economy. The four-speed manual transmission, with or without the optional overdrive, is new with the latest models. An improved optional three-speed automatic transmission in the 1976 240 Series will kick into low at speeds as high as 40 mph.

FORT WAYNE, IND.
NEWS-SENTINEL
—D. 76.058—
FT. WAYNE METROPOLITAN AREA
JAN 6 1976



The Citizen Register
 OSSINING, N. Y.
 (NEW YORK CITY MARKET)
 D. 9,179
JAN 23 1976

Volvo 265 wagon (left); Volvo 264GL (right)

264GL is newest Volvo

Volvo fans — and once you're one, it's for life — are eagerly waiting to see the new models which will bow tomorrow in the Volvo display area at the New York Coliseum.

Their brand new baby is the Volvo 264GL — the most luxurious and one of the safest sedans the Swedish company has ever offered. Elegant, stylish and looking more like a Mercedes or a Seville than the rather stodgy appearance Volvo normally projects, the 264 not only offers classy good looks, but a six-digit odometer. Obviously, the manufacturer relishes Volvo's reputation for lasting a lifetime.

When Volvo first introduced its rugged little cars into this country 20 years ago, Americans were told "Drive it like you hate it!" with the result that these Swedish autos have managed to maintain a reputation for endurance envied by all in the industry.

Today, the cars have grown up both production-wise and in size and now compare most favorably to all those cars being touted today as embodiments of economy, comfort and performance.

Powered by a new, light-alloy, overhead cam, 125-HP, V-6 engine, the 264GL succeeds the top of the line Volvo, the 164. Three feet shorter than the average full-size American sedan, it can seat five adults, and standard equipment includes power-assist steering, power-assist four-wheel disc brakes, tinted glass, air conditioning, power front windows and a choice of a new three-speed automatic transmission or a four-speed manual with electrically activated overdrive.

The new engine gives the car an extremely favorable power-to-weight ratio, operates on a high-octane gas (91, regular leaded), rather than the unleaded gas all new American cars call for, and has a solid state ignition system which produces a hotter spark and has no points to adjust or wear out.

To those with sensitivity to cold seats on winter days, the piece de resistance is an electrically heated driver's seat. A sensor triggers heat when the temperature is below 57 degrees and automatically turns it off when the seat temperature rises to 79 degrees — just so you don't get stuck on a hot seat.

Diversity of styles, sizes

'World' of cars for the viewer

When you walk into the World Wide Cars exhibit at the Fort Worth Auto Show you can look at automobiles from throughout the world.

One of the exhibit highlights will be the new Volvo models. The new Volvo product leader is the 264GL, the most luxurious of Volvo sedans, powered by Volvo's new light alloy, overhead-cam V-6 engine.

While it is three feet shorter than the average full-size American-built sedan, the 264GL provides exceptional knee and leg room for five adults.

Volvo also unveils the V-6 powered 265 station wagon, which offers many of the luxury features of the sedan plus more than 77 cubic feet of cargo space.

Completing the 1976 Volvo product line is the four-cylinder 240 series — the 242 and 244 sedans and the 245 station wagon — featuring a new Volvo 2.1 litre, overhead-cam fuel-injected, aluminum-head engine.



Fort Worth Star-Telegram
 FORT WORTH, TEXAS
 D. 143,268 (EVENING)
FEB 6 1976

SPEAKING OF CARS

Newest Volvo Shoots At Luxury Segment

By GEORGE MOORE

There have been a lot of interesting things come out of Sweden over the years — blonds and motor cars to name just two — but none is more intriguing than the \$10,000 surprise Volvo introduced on the local scene last week.

Marking three decades of bringing automobiles to American shores, the company has trotted out a real dandy to start off the next one. The model designation says 264GL and the window sticker says \$10,532, and between those two numbers is a piece of rolling stock that obviously fits right square in the luxury car field.

It's no particular secret what Volvo is wanting to do. The manufacturer is shooting at a segment of an import market held in the firm grip of Mercedes-Benz and is approaching it with a price structure possessed by Mercedes just a short time back.

For that amount of money, you might expect the 264 to be a pretty fancy piece of equipment, and it is. The company has gone the full route in attempting to build a better car than it ever has built before, and it appears it has succeeded.

THE -GUIDE lines for creating a luxury automobile are well established, consisting of including all elements which contribute to complete comfort and ease of motoring. In the case of the 264, this is accomplished without resorting to the overall size and weight which is so familiar in the larger American automobiles.

The wheelbase is 104 inches and he rated curb weight but 3,137 pounds, yet the 264GL four-door sedan which C. Bruce McConnell, president of McConnell Motors, provided for a test car last week had a smoothness of ride associated with a much larger automobile. Engineering has done a very good job with the suspension system on this car.

It also has hit a good lick with a new fuel injected aluminum overhead cam V-6 in that the engine doesn't have the vibration harmonics often found in powerplants of this design. It's smooth and devoid of shake when idling.

As with most European engines, the V-6 is of moderate size, displacing 162 cubic inches and producing 125 horsepower, but it's sufficient to give the sedan acceleration comparable to a 350

two-barrel V-8 in a standard sized chassis.

PASSENGER comfort is a critical item in an expensive automobile. As a consequence, Volvo achieves leg and head room by sitting the occupants fairly erect rather than spreading them out more which is the fashion with big American cars.

It is a comfortable way to sit, although those used to the sofa-type seats in the large American luxury cars probably will notice the firmer seating in the 264. In addition, the bucket seats are manually adjustable instead of by power.

Driving the car is a snap, especially with power accessories and a soft, easy shifting automatic transmission. In this respect it drives just like its USA counterpart, with a quite low noise level. Even with the sun roof open, there isn't a great deal of wind noise until you begin going fast.

A strong point of a moderately small V-6 is fuel consumption, and it meets emission requirements without a catalytic muffler so regular gasoline can be used. The 162 has a rating of between 15 and 27 miles per gallon with the test engine producing 16.4 overall for driving which mostly was in town.

IT WAS rather unusual to find a rather spartan instrumentation layout in an imported automobile of this price category. There is a reliance on lights rather than gauges. But all controls necessary to operate the machine are there within easy sight or reach, and the only spot of trouble we had was the coil wire worked out — killing the engine—due to the wire being stretched too tight.

The Volvo 264GL is represented in Indianapolis by McConnell Motors Inc.



(Star Photo By Frank H. Fisse)

VOLVO 264 ABSORBS BUMPS LIKE BIG, HEAVY CAR
New Model Demonstrates Much Improvement In The Ride

INDIANAPOLIS, IND.
STAR
D. 231.118—S. 374,569
INDIANAPOLIS METROPOLITAN AREA
DEC 7 1975



They Put Fun Back In Volvo

PORTLAND, ME.
TELEGRAM
—S. 112.577—
PORTLAND METROPOLITAN AREA
DEC 14 1975

One of the Volvo attributes most admired by car-watchers is that the Swedish firm steadily slips better engineering into its products, frequently without even mentioning it.

It doesn't take a particularly sharp reader to discover that for 1976 there are two new engines in Volvo cars (though Detroit has been known to spend millions promoting such comparatively insignificant changes as opera windows, never mind engines). But it does take a sharp eye to discover that there are two new transmissions: a radically improved automatic and a four-speed with electrically actuated overdrive unit optional.

Quite possibly Volvo thinks we're either too ill-informed or too indifferent to absorb the information.

Not having driven a car with the new all-aluminum overhead cam, 125-horsepower V-6 engine — developed jointly by Renault, Peugeot and Volvo and destined for all their cars — I will report on that later. But it should be noted here that this engine is available in a luxury station wagon, as well as being the standard powerplant of the luxury 260 series.

But I have driven both the automatic and the manual-with-overdrive 240 series versions of the spanking new B21 engine, which is closely derived in the cylinder block from earlier engines but which now features an aluminum overhead camshaft with a sophisticated cross-flow system of fuel feed and exhaust.

Either version will run the pants off Volvo's 1975 fours.

ALTHOUGH the new automatic transmission also



is a Borg-Warner, it is a far cry from the strong but primitive unit used for too many years previously. And more than that, it mates extremely well with the torque and power characteristics of the new engine.

That new engine is a 2.1 liter four that pumps out 102 horses and — more importantly — does its best job of twisting the mechanical bits at 2,500 revolutions per minute instead of the earlier 3,500 rpm. And that, fans, is where the new pep comes from.

Shifting is still not as smooth as the best of Detroit's units, but it will surprise and please owners of earlier models without upsetting even Detroit fans. I've never understood why anyone would buy a Volvo with an automatic, but at least now those who do so get one that is both good and modern.

On the automatic I drove there was extreme exhaust boom above 55 miles an hour (I didn't drive it above 65) that was most unpleasant. I assume that was a misfit of some sort, since the other car had none.

THE NEW manual is a delight, especially with the optional overdrive unit (at \$400, which for some obscure Swedish reason also

buys you a sunroof — whether you want it or not) The O-D switch on the shift lever takes a little getting used to, but it gives you an eminently worthwhile 20 per cent reduction in engine speed in fourth gear.

And the point of the combination is that it returns fun to Volvoland driving for the first time in years, the car having got heavy with the passage of time so that the engine had to struggle a bit.

The manual transmission version is much more fun — and much quicker on the uptake — than the automatic, of course. But both are a real step ahead. The feds claim an average (city and highway) fuel economy of 20 miles per gallon with either manual or automatic.

VOLVO claims a total of 30 engineering improvements for 1976, so I suppose they are there. Certainly the new cars do everything at least as well as the earlier ones, and the quality seems to be hanging right in there as the sticker prices soar.

The principal impression remains, however, that '76 buyers will get a lot more fun for their money than most recent Volvo buyers.

Volvo has plant coming in Virginia

Volvo's super luxury 264 model is the image-breaker that the Swedish carmaker is introducing to Americans this year, while next year the car may be coming from Chesapeake, Va., instead of across the Atlantic.

That's because Volvo has a plant abuilding in the United States which it says will eventually be able to put together 100,000 cars here, and they'll be American-type sedans, loaded with comfort and convenience items, but hoping to gain strong entry into the marketplace with Volvo's legendary dependability as the selling point.

The Swedish sedans aren't cheap anymore, in fact the new series has a station wagon that tips the pocketbook at \$10,000.

In the 264 you'll find a V-6 that was jointly developed by Renault and Peugeot with Volvo. It's a new aluminum alloy powerplant with an overhead cam that develops 125 horsepower, using fuel injection for added punch and longevity. The 264 GL comes standard with power-assisted steering, power four-wheel disc brakes, power front windows, leather upholstery, tinted glass and air conditioning — all at the sticker price.

The 264 will run on regular gas, has an electronic ignition, rear window defroster that runs 150 watts to the glass surface, and 12 vents for the air conditioning. The backrest and cushion of the driver's seat is individually heated, and the sunroof is also a standard item, as is a special light which tells if any key outside light bulbs are out. Unitized construction and a six-digit odometer are other key features.

And that station wagon, the 265. It will be produced in limited numbers, and you've already seen the first ads for them on television. Like the 264, the driver can choose which transmission he wants, a synchro four-speed or an automatic three-speed. The manual transmission has overdrive as an added economy feature, and is rated at 27 EPA miles per gallon on the highway.

Besides the standard rear defogger on the back window of the wagon, there's a separate washer/wiper blade as well. On the same wheelbase as the 264, the wagon has 78 cubic feet of workable space. Rack and pinion steering is used, and the passenger compartment is protected by a cage of closed box-section pillars.

Featuring a combination leather-vinyl upholstery and seating for five passengers, the buckets themselves have been orthopedically designed. The same standard equipment list as in the 264 applies.

A new engine is the highlight of the 240 Volvo series, the two- and four-door sedans in the standard range. It's a 2100cc four cylinder which puts out 102 horsepower utilizing a cross-flow light alloy head and continuous fuel injection with electronic ignition.

Burning regular gas, the new engine is rated at 28 mpg by the EPA on the highway cycle. Standard equipment includes power-assisted four-wheel disc brakes, energy-absorbing front and rear ends, tinted glass all around, electric rear window defroster, infinitely adjustable front bucket seats, child-proof door locks and a four-speed transmission.

Burning regular gas, the new engine is rated at 28 mpg by the EPA on the highway cycle. Standard equipment includes power-assisted four-wheel disc brakes, energy-absorbing front and rear ends, tinted glass all around, electric rear window defroster, infinitely adjustable front bucket seats, child-proof door locks and a four-speed transmission.

Optional is a three-speed automatic transmission and the overdrive four-speed. Volvo figures that drivers who are able to avoid troublesome road situations are less likely to be part of them, and besides the advanced stopping power you'll find coil springs at all corners and rack and pinion steering in the 240s. Seat belts are inertia reel type, and the seating is covered by a soft napped fabric that's cool in the summer and warm in winter.

The forced ventilation system has 12 outlets, and when combined with optional air conditioning functions the same way as the 264 unit does.

Volvo is a remarkable automobile, built by engineers to be safe, dependable and economical . . . and all of those considerations are held in supreme importance before the stylists get a crack at the car. Next year, they'll be in America to show us how to do it.

WEST CHESTER, PA.
LOCAL NEWS
—D. 28,733—
PHILADELPHIA METROPOLITAN AREA
FEB 16 1976

NEWS OF SAFETY

STEEL CAGE PROTECTS PASSENGERS.



The elegant styling of this four-door sedan includes a seat that is infinitely adjustable.

Safety and luxury have always been a combination that many of America's 100 million drivers look for in the car they drive. Many experts point out that a car body should not only be elegantly designed, but it should be built to protect the body that rides in it.

One car manufacturer, Volvo, for example, has protected the passenger compartment of the 1976 Volvo 264GL with a cage of steel pillars around the roof. In other words, the passenger is literally surrounded by a cocoon of steel in the event of a collision.

Other design features which help reduce forces on impact are anti-intrusion bars in each door, a gas tank located close to the rear axle for protection and a unique breakaway cushioned steering wheel.

Interestingly, the seat in this remarkably designed automobile is infinitely adjustable to the driver's dimensions, affording him complete control over the controls. These and other features, the result of 50 years of engineering, are part of the 1976 Volvo 264GL—a car which many experts believe to be one of

the most luxurious and safest that the Swedish company has ever offered. The 264, successor to the popular 164, which was produced from 1968 to 1975, is a hallmark of elegant styling and efficient design, a marked contrast to 20 years ago when Volvo was introduced to Americans roads as a low-priced economy car.

Today, luxury features that are optional on most other cars are standard on the 264GL, including power-assisted steering, power-assisted four-wheel disc brakes, power front windows, leather seating surfaces, tinted glass and air conditioning.

The 264 continues Volvo's tradition of safety and durability allowing owners of the 264 to enjoy peace of mind in the knowledge that the car has maneuverability to help avoid dangerous situations, yet when an accident does occur, incorporates restraint and construction features that provide excellent passenger protection.

All in all, it's an impressive combination of luxury and safety.

Volvo Means Luxury Travel

Volvo 264 GL

The new 264 GL fulfills the most exacting demands that might be placed on modern means of personal luxury transportation. Each element, from Volvo's new alloy overhead cam V-6 engine to its spacious luggage compartment, is part of an elegant, uncompromised automobile.

Clean, distinctive lines are enhanced by the large expanses of lightly tinted glass which wrap around the passenger compartment, interrupted only by narrow, but strong pillars. All 264 GLs are equipped with a sunroof and power front windows, and lustrous metallic finishes are available at no extra cost.

A choice of plush velour or supple genuine leather are offered as facing material for the seats of the GL. Front seats are Volvo's famed adjustable individual buckets and as a lavish concession to the driver, that seat is automatically heated.

With the rear armrest folded, the 264 GL affords exceptional room for five adults who can all ride in complete comfort thanks to Volvo's Combined Unit heating and air conditioning system. In all there are 12 outlets in the ventilation system, two of which are under the front seats and distribute heat to rear-seat passengers.

Steel-belted radial, white wall tires are standard, as are four-wheel power disc brakes, (the fronts are ventilated) and, of course, there's Volvo's triangular-split safety braking system.

Power-assisted steering is standard as is either of Volvo's new transmissions, a three-speed automatic or four-speed manual with electrically-activated overdrive.

Volvo 242/244

By anyone's yardstick, the interior dimensions of the Volvo 242/244 sedans are spacious. Yet, overall a Volvo is about three feet shorter than the average "full-size" American-built sedan.

Exceptional knee and leg room for five adults are provided and the two reclining individual front seats have an adjustable lumbar support. The seats in all 242/244 sedans are covered in soft, napped fabric which is cool in summer and warm in winter.

Like the 264 GL, the heating and ventilation system of the 240 Series has 12 outlets, and if Volvo air conditioning is installed it will function in the same manner as the 264's advanced Combined Unit.

Powering the 240 models is Volvo's new fuel-injected engine. It features a belt-driven overhead cam, cross-flow cylinder head and solid state ignition. To complement this sporty, yet economical engine, Volvo also introduces two new transmissions.

The standard transmission for the 242/244 models is a rugged four-speed manual. Transmission options are Volvo's new smooth three-speed automatic and an electrically-activated

overdrive for the standard four-speed.

Of course, like all Volvo's, 242/244 models are equipped with four-wheel power disc brakes (with safety triangle-split system) and steel-belted radial, whitewall tires.

Volvo 265

The luxury Volvo 265 wagon offers many of the considerable features of the 264 GL sedan plus 50 cubic feet of cargo space—over 67 cubic feet with the rear seat folded flat.

The spirit of the distinctively styled 265 comes from the same new, energetic light-alloy V-6 that's found in the 264 GL. And like the 264, the 265 is equipped with fuel-injection and a solid state ignition system. Transmission choices are the same as well—either the silky smooth three-speed automatic (which can be shifted down to low at speeds as high as 40 mph) or the full-synchromesh four-speed manual with electrically-activated overdrive on fourth gear. Power-assisted steering and brakes are both standard as are steel belted radial, white wall tires.

Inside, the 265 offers Volvo's anatomically correct, individual reclining front seats. Seat covering material is durable leather-like vinyl or vinyl with a woven center insert.

Volvo's 12 outlet Combined Unit heating and air conditioning system, which permits the air conditioner to be operated simultaneously with the heater for warm, dehumidified interior air, is standard.

Volvo's unique system of warning lamps, including a bulb integrity sensor which lets the driver know instantly if a low beam, stop or tail light is out, and quartz crystal electric clock are features of the 265 instrument panel.

The rear door is equipped with a gas-cylinder lift mechanism, a child-proof lock and an electrically heated window with a washer and wiper.

Volvo 245

The Volvo 245 wagon is a logical alternative to the 244 sedan. It is efficient, thanks to Volvo's overhead cam, fuel injected cross-flow head engine, and practical, with over 67 cubic feet of cargo space.

The interior offers the same level of comfort and convenience as the 244 but the seats are covered with durable, easy to clean, vinyl.

The 245 also has the typically fine road manners that are expected of any Volvo, despite its heavy duty suspension designed to accommodate the extra loads that the 245 is capable of carrying.

Power-assisted steering is standard as are four-wheel power disc brakes and steel-belted radial, whitewall tires.

To make sure that the 245 stays new-looking for a long time, its body (like all Volvo's) is treated with rust-proofing fluids and compounds as well as extensive galvanizing before getting two applications of primer (one electro-dipped) and finish coats of enamel.

The 245 benefits from the structural strength and torsional rigidity of Volvo's rugged unit-body construction which forms the basis for overall passenger protection. Surrounding the passenger compartment itself is a protective "cage" of closed section pillars and braces.

The standard transmission for the 245 is the full-synchromesh four-speed with electrically-activated overdrive. When in overdrive, engine speed is reduced by 20%. It's like having a fifth speed, but you don't have to use the clutch—merely flick the switch atop the shift lever.



DOVER, N. H.
FOSTER S. DEMOCRAT
D. 14,500

FEB 13 1976

Overseas Motors Introduces New Volvo V-6 Luxury, Performance

See the new-type auto for '76!

"We are speaking of the V-6 models of the prestigious Volvo at Overseas Motors Corp., 1941 Texas Ave."

(The familiar 4-cylinder complete line still is available, of course, together with these sensational new introductions.)

A half-century of Volvo engineering, with two decades in the U.S. marketplace, is exemplified in the 1976 model year by the Volvo 264 GL, the most luxurious and one of the safest cars the Swedish company has ever offered. And one surely will appreciate the V-6 performance and economy.

According to Overseas Motors Corp., the Volvo 264 GL embodies major technical advances including the debut of the new aluminum alloy, overhead cam, fuel injected V-6 engine, developing 125 SAE net horsepower at 5500 rpm.

The new engine gives the car an extremely favorable power-to-weight ratio compared to the conventional fuel-consuming cast iron engine construction common to most other passenger cars.

The 264, successor to the popular 164 produced from 1968 through 1975, "is a hallmark of elegant styling and efficient design in the development of the Volvo, in contrast to 20 years ago when it was introduced on American roads as a low-priced economy car," it is said.

Today, "luxury features that are optional on most other cars" are standard on the 264GL, including power-assisted steering, power-assisted four-wheel disc brakes, power front windows, leather seating surfaces, tinted glass and air conditioning.

For six years, the Volvo has featured fuel injection. The 264 makes use of that experience with a refined continuous flow fuel injection (CI) system. It sensitively compensates for changes in engine load and ambient air temperature, assuring excellent driveability and economy at all times.

Solid State Ignition

Every 264GL comes equipped with the solid state ignition system which produces a hotter spark and has no points to adjust or wear out, and greatly increases sparkplug life. The engine operates on 91 octane, regular leaded gasoline, except California cars which require unleaded fuel.

The 264GL offers manual and automatic transmissions. The manual is a fully synchronized, four-speed stick shift with an electrically operated overdrive. The three-speed automatic has a floor-mounted shift lever and an illuminated quadrant with a PRND21 pattern.

The attention to comfort and convenience will be particularly appreciated by its owners. Activate a rocker switch on the subtly elegant and conveniently designed

dash and 150 watts surge through a rear window circuit to defog the window in minutes. The amazing heating/air conditioning system provides 12 outlets for fresh heated or cooled air — including special vents to defog front side windows.

Even the backrest and cushion of the driver's seat are electrically heated. A sensor triggers heat when the temperature is below 57 degrees and automatically turns it off when seat temperature rises to 79 degrees.

And the driver has complete control from his anatomically designed seat. A rear stabilizer bar and coil spring suspension at all four wheels give the 264 exceptional road holding and handling qualities, along with a quiet, rattle-free drive ensured by unitized construction.

New Station Wagon

Volvo introduces the "world's most prestigious station wagon"! The car buyer who yearns for a luxury car, but really needs a more utilitarian vehicle, like a station wagon, can now have both in one automobile from Volvo of America Corporation.

According to Overseas Motors Corp., the newest model to wear the Volvo mark of prestige is engineered like the finest of Volvo luxury sedans, has the toughness of a Swedish-built station wagon, and is powered by Volvo's energetic new V-6 engine. Designed for exclusivity, the 265 will be

produced in limited numbers.

To go with its new V-6 engine, the 265 offers a choice of two transmissions as standard equipment. The buyer can select a fully synchronized four-speed or a smooth three-speed automatic which can kick down into low gear at speeds as high as 40 mph — useful in low speed passing. As an added economy feature, the manual transmission comes with an electrically activated overdrive which saves gas by significantly reducing engine speed without decreasing road speed.

The new wagon has the same wheel base and maneuverability as the Volvo sedan — its turning circle is a tight 32 feet 2 inches — yet its cargo space is a useful 77.6 cubic feet.

The Volvo has rack and pinion power-assisted steering with a unique safety steering wheel design. The passenger compartment is protected by a "case" of close box-section pillars. There are also self-adjusting power-assisted disc brakes on all four wheels.

The 265 features leather-like vinyl upholstery and seating for five passengers. The front bucket seats, designed with the help of orthopedic specialists, incorporate lumbar supports to minimize fatigue. The driver's seat is infinitely adjustable. A third, rear-facing seat is an optional accessory.

See it now at Overseas Motors Corp., 1941 Texas Ave. in Lubbock.



VOLVO V-6: LUXURIOUS, PRESTIGIOUS, DURABLE — Overseas Motors Corp. in Lubbock introduces Volvo's sensational '76 V-6 station wagon and 264GL four-door sedan

(each pictured) among the complete line of Volvo models. The dealership reports major technical advances in the new models, together with added comfort, safety and economy.

LUBBOCK, TEXAS
Morn. Avolanche - Journal
D. 58,218 — S. 76,804
LUBBOCK METROPOLITAN AREA
JAN 5 1976

Bob Irvin



Car survey incomplete

What would you have in the ideal car? The Automobile Club of Southern California tried to answer that question with an ambitious car rating program

It set out to define a "Target Car" — one with the best combination of features, as defined in a survey of members. The purpose was to encourage development and use of such automobiles in the future.

However, the club, part of the American Automobile Association (AAA), admitted that its "Target Car" criteria left out some things vitally important in determining what model to buy. The chief omission was cost.

This might seem like a major oversight. But the AAA group said it did so because initially at least it wanted to develop the best design "free from rigid cost constraint."

The Club also did not consider durability and repairability, two other important features but "for which we have been unable to develop a useful form of evaluation."

The AAA said exhaust emissions were not considered because they have to be the same for all cars. Weight and styling also weren't included because they aren't performance characteristics, the club said. It also didn't consider braking, driver visibility and seating comfort.

It did consider fuel economy, interior roominess, acceleration and passing ability, noise levels, small exterior size, crashworthiness, luggage capacity, handling, ride quality, entry and exit and turning radius.

It assigned a certain number of points to each feature. They added up to a maximum 88 points, with 20 for fuel economy, 15 for interior roominess, nine for acceleration and passing, eight for noise reduction, seven for size, and so on.

A field of 29 cars was examined. The winner under this formula was the Volvo 164E, a six-cylinder model, with 68 points. The second was a Mercedes 300D five-cylinder diesel with 67, and the third an Audi 100LS with four-cylinder engine, 64.

The AAA group summarized that "each of these vehicles rated consistently high in most categories, even though they are not always outstanding, indicating that the manufacturers had struck a good balance among the key characteristics."

Like the first three, the next seven cars listed also were imports: the SAAB 99LE, Volkswagen Dasher and Toyota Corona II, 61 points, the Mercedes 230, 60 points, the Audi Fox and BMW 530i, 59, and the Datsun 610, 58.

The AAA said of this group: "Most of these vehicles are equipped with four-cylinder engines that provide

very good to excellent fuel economy at the expense of acceleration and passing ability. Most did very well in handling . . ."

The third group in order were the Buick Century, 55 points, Mazda and VW Rabbit, 54, and the American Motors Matador, 53. The study said "the outstanding characteristics of the group appear to be limited to engine performance."

The next group was the Toyota Corona, 50, Ford Granada and Dodge Dart, 49; AMC Pacer, 48, Dodge Coronet, 47; Ford Maverick, 46, and Chevrolet Nova, 45.

The last category consisted of three cars — the AMC Hornet, the Ford Torino and the Chrysler Cordoba; all with 44 points, one-half the "Target Car" goal.

The 10 highest ranking cars were all expensive imports.

The AAA group said the goal of the program is to "encourage the development and use of automobiles" with characteristics like its ideal car.

The group conceded that Detroit auto makers are already trying to improve some of the features listed. But it said the program was useful anyway.

However, it cautioned that it "is not a comprehensive guide for the new car buyer."

Nor will it ever be, until price and some of those other features are included in the ratings.

The Detroit News
DETROIT, MICH.
D. 699,652 SUN. 843,539
FEB 19 1976



By **BILL EMERY**
Associate Auto Editor

Volvo has introduced a new 2.1 liter 102-horsepower four-cylinder engine in the 1976 lineup of its 240 series cars. The light alloy cylinder head engine with cross-flow design replaces the cast iron overhead valve 2 liter engine which produced 98 hp at 6000 rpm in the two-door, four-door and station wagon 240 series.

The engine is distinguished by a belt-driven overhead camshaft, chosen for its exceptional efficiency. No pushrods or rocker arms are employed, which means very quiet running and fewer adjustments.

Fuel injection and electronic ignition is standard on the new engine for reduced maintenance and improved reliability.

New with the latest

models is a four-speed transmission with or without the optional overdrive. The electrically activated overdrive is like a fifth gear, engaged by a flick of a switch on the gearshift lever which reduces engine speed by 20 per cent. In highway driving, gas mileage is improved substantially.

Volvo's optional three-speed automatic transmission has also been improved for 1976. It will kick down into low at speeds as high as 40 mph. The advantages of this can be seen readily on hilly terrain and when quick acceleration is needed around town.

Volvo's four-wheel power-assisted disc brakes, with larger disc pads this year, have gained worldwide recognition and honors for design. The new brake lines are made

of copper alloy in the 1976 models for improved corrosion resistance. With the triangle-split dual circuit brake system, both front wheels and one rear are served by two independent systems. Should one system fail, the Volvo still keeps about 80 per cent of its braking power.

In event of a collision, Volvo bodies protect the passenger compartment with a "cage" of steel pillars around the roof, box-section rocker panels, anti-intrusion bars in each door, a gas tank located close to the rear axle for protection, a unique breakaway cushioned steering wheel and other design features to reduce impact forces.

Volvos are sold and serviced in Long Beach by Jim Gray Imports, and in Compton by Arrow Motors.

LONG BEACH, CALIF.
PRESS TELEGRAM
D. 145,330 — S. 137,564
LOS ANGELES METROPOLITAN AREA
DEC 5 1975

A reputation for endurance

Volvo fans — and once you're one, it's for life — are eagerly waiting to see the new models which will bow tomorrow in the Volvo display area at the New York Coliseum.

Their brand new baby is the Volvo 264GL — the most luxurious and one of the safest sedans the Swedish company has ever offered. Elegant, stylish and looking more like a Mercedes or a Seville than the rather stodgy appearance Volvo normally projects, the 264 not only offers classy good looks, but a six-digit odometer. Obviously, the manufacturer relishes Volvo's reputation for lasting a lifetime.

When Volvo first introduced its rugged little cars into this country 20 years ago, Americans were told "Drive it like you hate it!" with the result that these Swedish autos have managed to maintain a reputation for endurance envied by all in the industry.

Today, the cars have

grown up both production-wise and in size and now compare most favorably to all those cars being touted today as embodiments of economy, comfort and performance.

Powered by a new, light-alloy, overhead cam, 125-HP, V-6 engine, the 264GL succeeds the top of the line Volvo, the 164. Three feet shorter than the average full-size American sedan, it can seat five adults, and standard equipment includes power-assist steering, power-assist four-wheel disc brakes, tinted glass, air conditioning, power front windows and a choice of a new three-speed automatic transmission or a four-speed manual with electrically activated overdrive.

The new engine gives the car an extremely favorable

AUTOS '76

power-to-weight ratio, operates on a high-octane gas (91, regular leaded), rather than the unleaded gas all new American cars call for, and has a solid state ignition system which produces a hotter spark and has no points to adjust or wear out.

To those with sensitivity to cold seats on winter days, the piece de resistance is an electrically heated driver's seat. A sensor triggers heat when the temperature is below 57 degrees and automatically turns it off when the seat temperature rises to 79 degrees — just so you don't get stuck on a hot seat.

Another owner convenience is a light on the dash which lets you know when any outside lights (tail lights, headlights, etc.) aren't functioning. As for the defogger, this too has

something just a little extra to offer — special vents to defog the side windows in front.

With a price tag of \$9,895, the Volvo 264GL can become a serious competitor to the leading contender for those seeking a car in this bracket.

A new station wagon being unveiled at the Auto Show in this Volvo 260 series is the 265, a luxury wagon akin to the sedan, and produced in limited numbers in the U.S.

It has an EPA mileage rating of 27 miles to the gallon on the highway and 15 in the city. Rack-and-pinion steering, power disc brakes and the new 125-*SAE*-net-horsepower, light alloy, overhead-cam V-6 engine puts this car into the economy-with-luxury class.

NYACK, N. Y.
ROCKLAND-JOURNAL-NEWS
D. 45,576—S. 24,461
NEW YORK CITY METROPOLITAN AREA
JAN 23 1976

Volvo

The Swedes have been achieving well in this year's Winter Olympics, and it is recognized internationally that this is largely due to careful planning.

Planning and training closely adhering to a preconceived scheme is also evident in the way Swedish auto builders operate.

Take the Volvo for example.

Volvos are known for their lack of "bugs" and their excellent quality control. Many features accepted as a matter of fact by Swedish car owners come as delightful surprises to Americans driving their first Volvos.

Motorists in the cold Northeast, in particular, appreciate the way Volvos are built to start each below-zero morning and to keep running all day, every day, with a minimum of hitches.

Many Volvo features are evident from the outside. Pull

your car up behind a Volvo 245 station wagon at a traffic light and one of the first things you notice, right after the colorful paint job, is the rear window wiper, just like the one on the windshield.

For several years now Americans have been marveling commenting: "Why haven't American cars got those?"

That is, as we said, only a surface feature.

The tightly-constructed bodywork covers this year a new MacPherson strut front suspension, set on a wider-track longer wheelbase. On the road are wider, steel-belted tires which increase stability and cut body roll in turns.

Out of the \$46 million Volvo research center, has come the ultimate in steering systems.

Under every Volvo hood is a transistorized ignition system controlling the fuel-injected engine. Atop every automatic transmission is a shift lever

designed for easy use and safe operation.

The engine compartment is another model of sensible design, to save servicing costs. For example, you can even inspect the coolant, hydraulic fluid and windshield washer fluid levels at a glance.

One thing you won't find is a carburetor.

It has been replaced with a fuel delivery system that regulates gasoline flow according to the amount of air coming from into the engine.

At high revolutions per minute, this flow is considerable.

The regulation is very precise, to insure that only the fuel you need is the fuel you burn.

Anyone who has ever looked under a Volvo hood is impressed with the very organization of engine components, but inside this efficiency is much more intense.

The tolerances are much tighter than in most cars and thus everything hangs together so much longer.

Safety? Volvo invented it. The seat belt was standard on Volvo production models a decade before others took them up.

Safety to Volvo means more than 5 miles an hour impact bumpers. On the dash board things are placed so as to be handy

and non-distracting. Even the air flow is engineered to take exhaust fumes away from the passenger compartment.

The full Volvo line can be seen at Jaffarians's Setvice Inc., 312 River St. during the Washington's Birthday open house and all year round as well.

HAVERHILL, MASS.
GAZETTE
—D. 23,293—
BOSTON METROPOLITAN AREA
FEB 13 1976

Along Auto Row

Update of Volvo in U.S.

Peter Alper, third banana in Volvo Western (headquarters in Torrance) was in town this week to introduce Volvo's new public relations chief and to do a little tub-thumping for his company's position in the American car market.

Bill Baker, a personable and articulate young man, formerly with Ford, will now handle the P.R. responsibilities for Volvo on a national level from the home office in Rockleigh, N.J.

The Swedish manufacturer's top-of-the-line car now being marketed here is their 264 GL (2-the series number; 6-cylinders; 4-four doors). After checking the price tag (well over \$10,000) the customer might conclude the GL stands for Good Lord! Really? Actually, it denotes Grand Luxe.

Volvo's American assembly plant, now under construction at Chesapeake, Va., is scheduled to turn out Job One (that's trade talk) about one year from now.

Alper predicted that by the early 1980s Volvo car sales in this country will hit the 100,000 mark. (Last year's sales were 59,408.) This will include a new, small car that will be produced at the DAF plant in Holland, recently acquired by Volvo.

Names and Places—Lezlie (with a Z) Labadie, owner of East Bay Chevrolet, in Albany, again is lending her considerable talent and enthusiasm to the promotion of the Contra Costa County Mental Health Association program.

This year's main chari-



MOST LUXURIOUS VOLVO EVER MAKES APPEARANCE IN 264 GL
Sliding sunroof, air conditioning, four-wheel disc brakes among features



LEZLIE LABADIE
Charity chairman

ty fund event is the premiere showing of "One Flew Over The Cuckoo's Nest" Feb. 17, at Century

21 Theater, in Pleasant Hill. Mrs. Labadie, a long-time Orinda resident, will serve as chairman...

For the first time in three years American Motors has an advertising manager, Robert N. Lepre (let's hope he's newspaper oriented)...

Also from AMC comes word that Jeff Wright, who will be remembered here as Jeep's zone manager, back in the Kaiser days, has been appointed sales director for the Eastern Hemisphere...

Local-boy-makes-good dep't: Pete Biro. Born here 42 years ago. An alumnus of Fremont High and the California College of Arts and Crafts. His parents, a couple of ex-vaudevillians (they played



ED BARTLETT
Dealer award

THE Palace in 1930) still live on 35th Avenue.

Pete, who has made it big as an international motor racing photographer, now has an enviable record of 21 years of race coverage. His credits include trips around the Grand Prix circuit with Dan Gurney and Ritchie Ginther, 10 years as Good-year's race photographer

and by-line stories and picture spreads in practically every motor sports magazine on two continents.

His latest assignment is vice president-marketing of the upcoming Lung Beach American Grand Prix, March 28. (When you write him for a press pass, don't tell him Randolph sent you).

★ ★ ★

Checking The Local Action—Ed Bartlett's Golden Bear Ford (Berkeley) is the recipient of FoMoCo's annual Distinguished Service Award for excellency in all phases of the operation of a dealership...

Chevrolet has donated an El Camino truck to the automotive mechanic class at McClymonds High. This was one of 1,500 vehicles donated by Chevy to schools and colleges...

Oldsmobile got into the recently concluded Crosby Pro-Am Clambake by donating a Cutlass Supreme to the winner of the Closest-To-The-Pin contest. Johnny Miller drove it home...

The annual Northern California Recreational Vehicle, Sports, and Vacation Show is set for the Oakland Coliseum Arena Feb. 25 through the 29th...

Bob Woolverton reports that he is the first to stock his Crown Chevrolet store (Dublin) with the new Chevy four-wheel-drive K-van. The van, a Chevy G30 converted to 4 WD by the Pathfinder Co., will be featured on the cover of two national auto magazines in March and April.

—Hugh Randolph

OAKLAND, CALIF.
TRIBUNE
D. 174,717 — S. 204,262
SAN FRANCISCO METROPOLITAN AREA
FEB 5 1976

Volvo Unveils New Model And Two New Powerplants

ROCKLEIGH, NJ—Volvo, the Swedish automaker with a reputation for building conservative, indestructible automobiles, continues for 1976 the dramatic re-engineering of their lineup begun last year with the introduction of the new 260 series.

The 1976 Volvo 264 replaces the popular 164, produced from 1968 through 1975, and a 265 station wagon has been added. The two new models join the 240 series Volvos, which supplanted the 140 series in 1975, and which receive a new engine for '76.

From the first Volvos imported in 1955, when Americans were told to "drive it like you hate it," the Volvo 264 embodies major technical advances including the debut of the new aluminum alloy, overhead cam, fuel-injected V6 engine, developing 125 SAE net horsepower at 5500 rpm.

The new engine gives the car an extremely favorable power-to-weight ratio compared to the conventional fuel-consuming, cast-iron engine construction common to most other passenger cars.

Luxury features that are optional on most other cars are standard on the 264GL, including power-assisted steering, power-assisted 4-wheel disc brakes, power front windows, leather seating surfaces, tinted glass and air conditioning.

For six years, the Volvo has featured fuel injection. The 264 makes use of that experience with a refined continuous flow fuel injection (CI) system. It sensitively compensates for changes in engine load and ambient air temperature, assuring excellent driveability and economy at all times.

Every 264GL comes equipped with the solid state ignition system which produces a hotter spark and has no points to adjust or wear out, and greatly increases sparkplug life. The engine operates on 91 octane,

regular leaded gasoline, except catalyst-equipped California cars which require unleaded fuel.

The newest model to wear the Volvo mark of prestige is engineered like the finest of Volvo luxury sedans, has the toughness of a Swedish-built station wagon and is powered by Volvo's energetic new 125 SAE net horsepower, light alloy, overhead cam V6 engine. Designed for exclusivity, the 265 will be produced in limited numbers.

To go with its new V6 engine, the 265 offers a choice of two transmissions as standard equipment. The buyer can select a fully synchronized four-speed or a smooth three-speed automatic which can kick down into low gear at speeds as high as 40 mph—useful in low speed passing. As an added economy feature, the manual transmission comes with an electronically activated overdrive which saves gas by significantly reducing engine speed without decreasing road speed.

The 240 series, in 2-door and 4-door sedans and a station wagon, has a new 2.1 liter, 4-cylinder, 102 SAE net horsepower engine for 1976 that features a light alloy cylinder head of a cross-flow design. The B-21 replaces the cast iron overhead valve 2-liter B-21 produces its maximum torque at 2500

rpm, as compared to the B-20's 3500 rpm, for greatly improved low speed performance.

The engine is distinguished by a belt-driven overhead camshaft, chosen for its exceptional efficiency. No pushrods or rocker arms are employed, which means very quiet running and fewer adjustments.

The new B-21 engine features Volvo's continuous fuel injection (CI) system which is highly reliable and provides excellent driveability. Electronic ignition is standard, for reduced maintenance and improved reliability.



ROCKLEIGH, NJ—The 1976 Volvo lineup includes (from top): the 244 sedan, looking very much like its 1975 counterpart but equipped with the new 2.1-liter, overhead cam, aluminum head, fuel-injected engine; the brand new 264GL, with front end redesigned to be in line with the 240 series and equipped this year with a V6 engine in place of the old inline six; and finally, what many Volvo fans have been waiting for, a 6-cylinder station wagon—the 265, powered by the new all-aluminum, fuel-injected V6.

MOTORSPORTS WEEKLY
NEWPORT BEACH, CAL.
DEC 19 1975



The 1976 Volvo 264 GL sedan is being touted as the most luxurious Volvo ever.

THE RECORD
HACKENSACK, N. J.
D. & SUN. 160,000
DEC 12 1975

For people who think big. . .

Volvo goes luxury

By LARRY LIGHT
Business Writer

With the introduction of a \$10,000 luxury car this month, Volvo has redirected its marketing strategy toward upper income auto buyers.

That statement—made yesterday by Bjorn Ahlstrom, president of Volvo of America Corp., Rockleigh—comes at a time when foreign and domestic auto makers are scrambling to bring out low-cost products designed to attract the inflation-pressed average American.

The new luxury 260 series will put Volvo in the same class as BMW and Mercedes, two expensive German imports, Ahlstrom said.

In 1975, the Swedish car manufacturer brought out its 240 series, whose models are priced at about \$5,500 to replace its 140 line, which cost \$4,750 a car the year before.

As a result, Ahlstrom said, Volvo's U.S. subsidiary expects 1975 to be its best year ever. "We hope for sales of 60,000 units," he said.

So far this year, the company has reported sales of 57,272—13 per cent more than the same period last year.

November sales off

November 1975 sales of 3,131, however, were down from the 4,532 figure posted for

November 1974—a dip the company attributes to year-end model shortages and autumn enthusiasm for the new American cars, which always are introduced several months before their European competitors.

As Volvo executives see it, their decision to concentrate on wealthy car buyers is wise because those people are largely immune from bad economic times. "When there's a recession, it's the blue-collar workers who get laid off," explained one company official. "And when that happens, it hurts the small to intermediate car market."

When Volvos were first brought to this country 20 years ago, they were billed as intermediate priced cars that lasted a long time and could withstand rugged driving. Fine engineering and safety also were emphasized in Volvo ads.

But the marketing strategy has been changed to suit a different product today. The pitch about engineering, safety, and longevity remains, yet the appeal to the rough driving, middle income earner is gone.

New Volvo television commercials picture it sitting alongside a Mercedes and a BMW.

New 264GL model

The new Volvo 264GL includes such luxu-

ry standard features as power-assisted steering, power-assisted four-wheel disc brakes, power front windows, leather seating surfaces, tinted glass, and air conditioning. Added to an aluminum V-6 engine, that accounts for the \$10,000 price tag.

Volvo intends to upgrade its dealer showrooms to appeal to the well-to-do buyer. Its problem here is that, because imports only have a minority of the U.S. auto market—18 per cent—most sellers of foreign cars handle more than one company's product to keep their sales volume up.

Most imports are primarily economy cars like Datsun and Toyota, which attract a less wealthy clientele than Volvo seeks. By persuading dealers to drop other imports and sell only Volvos, the Swedish company believes its objectives will be accomplished.

Twenty per cent of Volvo's 500 U.S. dealers sell the Swedish cars exclusively. Two of Bergen County's four Volvo dealerships sell other imports as well. Englewood Volvo, which used to sell MGs and Jaguars in addition to Volvos, dropped the British products last March when it changed ownership.

A spokesman for the agency, previously known as Kingsfield Motors, said the decision has been made because Volvos sold better.



Volvo's Experimental Safety Car, a 'rolling laboratory' used to develop many safety features in the 1976 models.

From Sweden Volvo has new wagon, Saab has few changes

Volvo, whose 1976 models won't be in the dealers' showrooms until early next month, will have a new 265 station wagon among its offerings, which a spokesman called "the world's most expensive."

The 265 will contain Volvo's new aluminum fuel injected V-6 engine, with a capacity of 2.7 liters. Produced in limited numbers, frankly for "snob appeal," the luxury wagon will have as standard equipment air conditioning, power steering, four-wheel power disc brakes, cloth insert seating and metallic paint.

The 260 series initially will contain only the four door 264 GL, also with a V-6 engine. A two-door model will come along later.

The lower-priced 240 series will include a 242 two door, a 244 four door sedan, and a 245 five door wagon. All will be equipped with a new 2.1 liter overhead cam engine with fuel injection.

A number of safety features, derived from the research in Volvo's Experimental Safety Car, are incorporated in the 1976 lineup. Suggested price tags will range from approximately \$6000 to \$9000.

Saab, whose new models will also be unveiled in a few weeks, will show very few cosmetic changes, following the company's policy since 1969. But there will be about 40 specific refinements, mostly mechanical, throughout the car.

Saab notes it is among only a handful of cars allowed to operate in environmentally conscious California without the use of either catalytic converters or thermal reactors.

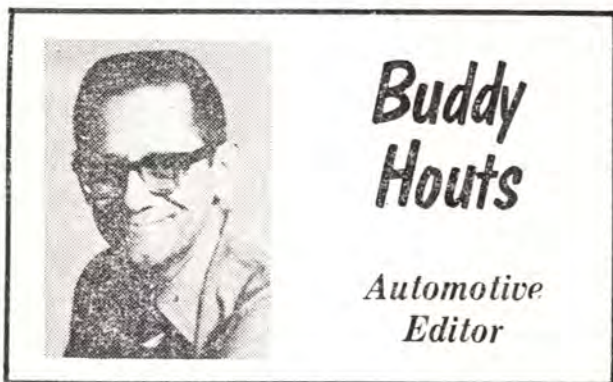
The overhead cam four-cylinder engine (121 cubic inches) has mechanical fuel injection and generates 115 horsepower, running on regular fuel — leaded or unleaded.

Saab's 1976 lineup contains the 99LE, in two and four-door models; the 99 WagonBack, a hatchback version of the 99; and the 99 EMS, a sporty version available in silver or black, with options including a sunroof and a Rally package.

BOSTON, MASS.
EVENING GLOBE
D. 180,389—S. 611,946
BOSTON METROPOLITAN AREA
NOV 2 1975

264 GL Road Test

Volvo Takes On Mercedes And BMW



Talk about nerve.

Volvo, that four-wheeled aristocrat of Sweden, is taking on Mercedes, BMW, Cadillac and other fine cars and making no bones about it.

You say you think the Volvo folks have been eating too much raw fish?

So did we. . . until we drove the 264 GL, the top of the Volvo line.

As we got in our test car at Doc Gilbert's Volvo, Doc said, "After you drive this baby you're going to tell me this

"Driver's Seat Is Heated To Warm The Back Of Your Lap. . ."

is one of the finest cars in the world."

We just grinned and thought, "Sure, Doc. . . sure."

We've never really been a Gung Ho Volvo fan.

They're good cars. . . well-built, comfortable, lots of room, safe, economical and dependable. . . but they've never really turned us on.

That is, until the 264 GL.

You were right, Doc. This is some baby, but can it compete with Mercedes, BMW, Cadillac and other fine cars?

Let's see.

First, the slab-sided body is no paragon of streamlining. It's boxy design is functional for interior room, the strong roof supports and the crush zones for both the front and rear end give great passenger protection.

The passenger compartment is even protected by a steel cage built into the body.



CHATTANOOGA, TENN.
NEWS-FREE PRESS
D. 62,075—S. 55,350
CHATTANOOGA METROPOLITAN AREA
JAN 18 1976

Inside is plush as any car made with your choice of leather or velour upholstery as standard equipment. And if you haven't heard about Volvo's famed anatomically-designed seats, you've either had amnesia for 10 years or have been in solitary confinement in some slammer.

If you fall in one of those categories, we'll tell you that Volvo's seats were designed by orthopedic specialists and feature lumbar supports and are completely reclining.

"Base Price Of Ten Big Ones May Give You Heartburn. . ."

As a lavish concession to the driver, the backrest and cushion feature heating coils that automatically come on when temperature drops to about 57 degrees.

This warms your back and the back of your lap.

Volvo's dashboard has that BMW and Mercedes look, although it doesn't have enough gauges to suit us. It features a 130 mph speedometer, fuel gauge and engine temperature gauge.

All the Volvos we've driven have had a tendency to "lean" a little too much on curves due to the soft suspension.

Not so with the new 264 GL.

The front suspension has been changed to a spring-strut type coil springs and telescopic shock absorbers in one unit, just like BMW and Mercedes.

And brother, it works. Combined with the huge sway-bars front and back, the 264 GL really straightens out curves with a minimum of body lean without sacrificing riding comfort.

The suspension is new and really great, but it has to take a back seat to the new engine.

It's a V-6, fuel-injected with overhead camshafts and it really gets the job done.

Smooth as silk, this 162 cubic inch beauty puts out 125 horsepower with a compression ratio of 8.2 to 1.

It is so efficient it doesn't require a catalytic converter and uses regular gas (not unleaded).

The EPA estimate for fuel economy was 15 miles per gallon in town and 23 on the highway.

Cont'd on next page

Our test car exceeded these figures. In town we got 17.4 miles per gallon and on the freeway at a steady 50 mph we got 24.1 mpg.

And this was with the automatic transmission. Automatic or a four-speed stick with overdrive is standard equipment.

Volvo was one of the first sedans to feature four-wheel, power-disc brakes as standard equipment and they're just as good as ever!

Power steering (rack and pinion, what else?) is standard also, and has one of the best feelings of the road possible. Not too easy. . .not too tough.

By now you've probably figured out that we were pretty well pleased with the 264 GL, right?

And you've probably figured out that you can't buy a car this good for peanuts. The only thing that may give you heartburn about the Volvo 264 GL is its base price of \$9,895.00.

But, wait a minute. While you're "plop, plop, fizz, fizzing," think about this. Ten big ones is a lot of loot to put out for a car, no argument about that.

But for a car with the features of others that cost \$4,000 to \$8,000 more?

EVERYTHING is standard on the 264 GL. Leather seats, electric rear window defroster, air conditioning, power windows, sun roof, tinted glass, steel-belted radials, power door locks, and at least 50 other things too numerous to mention.

Our test car did have one option, and it was something we've never seen before.

An AM-FM stereo radio, eight track stereo tape player, AND 23-channel citizens band radio...ALL IN ONE UNIT. Installed, it's priced at \$450.

The \$450 includes installation and the CB antenna. It's worth a visit to Doc Gilberts just to see this unit. . .but while you're there, take a look at the Volvo.

The factory calls it "The car for people who think." We think they're right.



Safety Car Bears Fruit in '76

By DANIEL BOONE
Herald-Examiner Automotive Editor

The VESC, Volvo Experimental Safety Car, was conceived as a project in 1972 and was designed as a rolling laboratory for Volvo engineers who were told to find out what makes a car "safer" using today's technology. The VESC was not part of the U.S. Department of Transportation's Experimental Safety Vehicle program.

There were several characteristics in the VESC, however, that paralleled ESV demands, including the ability to withstand a 50-mph barrier crash with a good protective potential for the passengers. The American ESV program has gotten mixed reviews, but there is general agreement that it was unsuccessful. The collision requirements were simply too severe to be complied with without a tremendous increase in the weight of the car. However, the concentrated efforts made by many manufacturers on safety brought about several developments. Volvo has adapted many VESC research findings to its 1975 240 Series cars.

The company was able to determine the optimum balance between crashworthiness and cost-effectiveness. The ESV standard for a barrier crash was 50 mph. In Sweden, Volvo investigated every fatal accident involving its

cars for a period of several years. It learned that only two per cent of severe frontal collisions exceeded a speed of about 31 mph.

The research produced other 240 Series benefits:

Energy-dissipating front and rear structures which, in combination with a very rigid center bod structure, adequately maintain passenger compartment integrity at 50-mph barrier impact speeds while significantly reducing deceleration loads on the occupants;

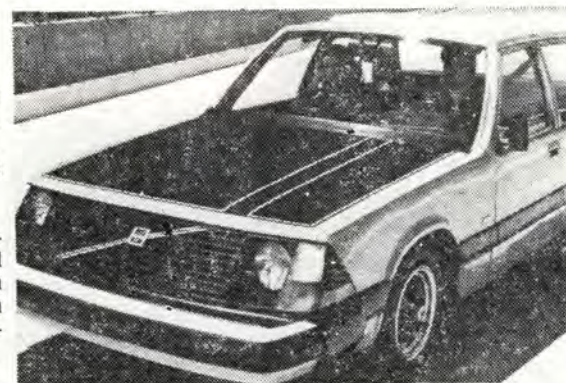
Bumpers that easily comply with the federal 5-mph impact standards;

The fuel tank was moved away from the rear of the car in 1974 and will withstand a 30-mph rear moving barrier crash without significant fuel spillage;

In a frontal collision the engine and gear box are designed to be forced down and under the car to provide greater crush- or energy-absorbing ability;

Accident avoidance, i.e., maneuverability, was a prerequisite of the VESC, and lessons learned there were incorporated into the suspension of the 40;

240 head restraints designed for better visibility.



Volvo Experimental Safety Car, above, was used to develop features in the 1976 Volvo.

Volvo's Safety Car Spawned 240 Series

AUTOWEEK
OCTOBER 25, 1975



Volvo's Experimental Safety Car provided several features of the 240 series cars, most obvious is the front end treatment.

The VESC (Volvo Experimental Safety Car) was conceived as a project in 1972 and was designed as a rolling laboratory for Volvo engineers who were told to find out what makes a car safer using today's technology. The VESC was not part of the DOT's ESV program, a program which produced some incredibly large and heavy vehicles and received mixed to bad reviews from the American press.

The Volvo safety car provided many side benefits and several features of the safety car were incorporated into current Volvo 240s. Some of the ideas transferred to production Volvos were: energy

dissipating front and rear structures in combination with a very rigid center body structure; 5mph safety bumpers; fuel tank relocation away from the rear of the car; front end designed to force the engine and transmission down under the car in case of a frontal collision; arrangement of interior and exterior lights, mirrors, and overall visibility; improved head restraints; the one-piece lap/shoulder belts and an improved steering wheel hub originally designed to hold an airbag although the airbag was never implemented.

Externally, the 240 series received a front end treatment very similar to the VESC for additional front end protection.

CLEARWATER, FLA.
SUN
D. 38,872—S. 42,442
TAMPA METROPOLITAN AREA
FEB 3 1976



1976 Volvo

Volvo's distinctive lines are enhanced by the lightly tinted glass, which is interrupted only by narrow pillars. Volvos are powered by fuel-injection engines.

Sun Staff Photo

Club Proves It: Perfect Car Hasn't Been Built

BY HARRY ANDERSON
Times Staff Writer

Research done by the Automobile Club of Southern California has found that many cars now on the road—24 different 1975 models, both imports and domestics—fall far short of being "ideal" automobiles in terms of safety, efficiency, comfort and utility.

Even the car which came out on top in the ACSC's "target car" tests—the Volvo 164E sedan—averaged 23% below the optimum levels which the club established for 11 key characteristics desired by gasoline-short, safety-conscious and efficiency-minded car buyers of the 1970s and beyond.

The worst scores—recorded by the American Motors Hornet, Ford Torino and Chrysler Cordoba—were 50% below the "target car" level.

The club asked a random sample of 5,800 members to list the desirable vehicle qualities they wanted. Then engineers, over the past two years, determined the 11 most significant qualities and established a means to test existing cars against the "per-

fect" vehicle which would have them all—in the right proportions.

A club spokesman said the purpose of the test is to influence government, the auto industry and consumers toward automobiles which have the right balance to preserve independent personal mobility while responding to criticism of present cars.

Characteristics tested included passing and acceleration, low interior noise, small exterior size, crashworthiness, handling, luggage capacity, ride quality, ease of entry and exit and maneuverability. Initial cost of the vehicles wasn't a factor in the test, and as a result the expensive, smaller imports tended to come out ahead of the American intermediate and compact cars tested.

The 10 highest rated cars were all fairly expensive imports. Behind the Volvo 164E were the Mercedes 300 (diesel), Audi 100LS, Saab 99LE, VW Dasher, Toyota Corona II, Mercedes 230, Audi Fox, BMW 530i and Datsun 610.

The highest ranked American-made car was the Buick Century, rating 38% below the optimum level on average. Each of the cars had strong and weak points, the club noted, and none ranked perfect in all categories.

The test was also limited to 24 models, and hence isn't an all-encompassing test of cars now on the road.

★

Fuel economy may be one big reason people are buying smaller cars, but ironically many buyers are ordering bigger engines for them to improve performance.

That's the conclusion of a survey released by Ward's Automotive Reports, an industry journal. Ward's found in a study of 1975 new-car registrations that a record 42% of U.S.-built new car sales last year were compact-size or below.

But the percentage sold with four-cylinder engines fell to 74%, compared with 86% in 1974. On subcompact cars, sales of V-8 engines accounted for 16% of the total last year. The big engines weren't available in subcompacts in 1974.

Ward's concluded that the trend shows, "an insatiable desire by the public for performance in virtually all U.S. cars regardless of size."

★

While most of the British auto industry crumbles around it, Rolls-Royce has been enjoying the best years in its history.

Rolls said its profits, when officially reported next April, may top 1974's profit of almost \$4.5 million. In line with record sales of most luxury cars last year, Rolls reported record production of 3,134 cars in 1975—including a record 860 sold in the United States.

A new Rolls costs between \$30,000 and \$60,000, and one reason for its increased business has been a flock of orders from oil-rich Mideast sheiks, the company said.

Rolls' boom is in marked contrast to most other British auto makers. Only Ford of Britain is expected to show a profit for 1975 when figures are announced. Others such as British Leyland and British Chrysler are likely to post record losses.

And the Rolls achievement marks a complete turnaround from 1971, when the company was near collapse—largely because of its involvement in building jet engines for Lockheed Aircraft Corp. L-1011 jumbo jetliners.

★

What should you expect a mechanic to do when you take a car for a "tune-up?" You can get a wide variety of answers.

The Ignition Manufacturers Institute, representing the people who make many of the parts replaced during a tune-up, recommends that a tune-up consist of replacing the spark plugs, points, condenser, and positive crankcase ventilation (PCV) valve, setting the dwell and timing, adjusting the carburetor, replacing the air filter, and testing other parts and replacing those which are defective.

Parts such as ignition wires and the distributor cap and rotor ought to be good for two years or more, the institute advises.

The cost of a tune-up as described by the IMI may run \$50 for a medium-sized car, and more for the big models. But the institute said fuel savings may amount to 10% or more a year if a regular schedule of maintenance is followed.

Volvo: Durable, Strong and Safe

The 1976 Volvo 240 Series cars continue the Volvo emphasis on durability, strength and safety.

The 240 Series, in two-door and four-door sedans and a station wagon, has a new 2.1 litre, overhead cam, four-cylinder, 102 SAE net horsepower engine for 1976 that features a light alloy cylinder head of a cross-flow design. The new B-21 engine features Volvo's continuous fuel injection (CI) system; electronic ignition is standard.

The 240 Series manual and automatic transmissions for 1976 also contribute to performance and fuel economy. The four-speed manual transmission, with or without the optional overdrive,

is new with the latest models. The electrically activated overdrive is like a fifth gear, engaged by the flick of a switch located in the gearshift lever. Engine speed is reduced by 20 per cent using the overdrive, substantially improving gas mileage in highway driving.

An improved optional three-speed automatic transmission in the 1976

240 Series provides smooth, quick operation which will kick down into low at speeds as high as 40 mph.

For 1976 Volvo's power assisted disc brake lines are made of copper alloy for improved corrosion resistance.

Exceptional visibility is provided by large areas of tinted glass and over-size, glare-reducing side view and rear view mirrors.



THE 1976 VOLVO 240 SERIES

Los Angeles Times
LARGEST CIRCULATION IN THE WEST
D. 1,009,719 SUN. 948,746
FEB 2 1976

Seattle
Post-Intelligencer
D. 206,733 SUN. 259,237
FEB 12 1976

U. S. to get two new models

Volvo upgrades '76 lineup

STOCKHOLM. — Meeting American emission control standards on the home market has been the main concern of Swedish automobile manufacturers for the 1976 model year, and that means few styling changes for the U. S. market.

Only Volvo is launching what might be called new models this fall. The 264 model replaces the 164-E model on the U. S. market, and there is an all-new 265 station wagon, which is a 245 with a six-cylinder engine.

Volvo detail changes include more corrosion-resistant brake fluid pipes, partly aluminized exhaust systems, redesigned brake cylinders for lower pedal forces and a new mechanical gearbox.

Saab is introducing electrically heated rear windows and more luxurious luggage compartment trim on its sedan versions and wider wheel rims for all its fleet.

In the small car field, competition between Volvo and Saab is sharpening on the Scandinavian market.

Volvo is dropping the DAF name and making the former DAF look like a genuine small automatic-transmission Volvo. Saab is giving a special treatment to its 25-year-old V-4 model.

• Volvo now has ceased production of its 164-E model and has replaced it with the 264. A 265 station wagon has been added, so there now are two versions of Volvo's prestige model. They are similar to the Volvo 244 and 245, but are equipped with the 2.7-litre V-6 engine that Volvo is

building in France together with Peugeot and Renault.

Since introducing it one year ago, Volvo has used only fuel injection for its 264 line. Now there will be a single carburetor version for the 265 and the 264 in the cheapest DL version, while the 264-GL continues with fuel injection.

In the U. S. it is expected that all the Volvo six-cylinder engines will have fuel injection to cope with the more stringent emission control standards.

Saab's new electrical rear window heater will be combined with the original warm air duct system in the rear.

The luggage compartment of the 1976 Saab 99 Sedan has a richer trim in dark brown. Even the wheel arches are now trimmed, and the lid over the tool compartment at the rear has been dropped. The carpet now forms a recessed part of the floor.

On the home market, both Saab and Volvo have to meet more stringent emission control standards, roughly corresponding to U. S. 1973 rules. Both Swedish producers have been able to pass the test without losing significant power or fuel economy.

Volvo even claims to have boosted its B-21 overhead camshaft engine by three extra HP to a round 100 HP by introducing a new camshaft.

More overlap results in an internal exhaust gas recirculation, while an external EGR device is needed at the older B-20-A engine.

Fuel economy for this engine is slightly lower in city driving, while the overhead camshaft engine is said to be about as economical as before.

During 1975, this engine has given Volvo quite a lot of fuel economy problems, so any loss here would have been really serious.

• The fuel injection version of the V-6 engine passes the emission control test with flying colors, and the single carburetor version has met the standards with small improvements, partly designed by Volvo.

The piston of the U. S. carburetor is carried by ball bearings, and a vacuum device ensures lean fuel mixture when the engine operates at low load.

Saab has had to install an external EGR device for its automatic transmission versions, while standard shift models manage to do the job with small corrections in timing and slightly more complicated carburetors. In general, 3 to 4 percent loss in fuel economy eats up most of the 5 percent improvement on 1975 models.

Since Volvo took over an interest in DAF of Holland and especially since it became majority owner of DAF's passenger car factory last year, it has sought to integrate DAF's product line.

DAF 60 has a Volvo front and the typical rubber-covered Volvo front and rear bumpers.

Inside, the main difference is a new shift layout, more adapted to what is used on conven-

tional automatic transmission cars.

Forward position is now marked "D" in a conventional RND scheme.

• An electric device stops the centrifugal clutch from engaging the transmission before 2,500 RPM of the engine flywheel when starting the engine or changing direction. During normal start and stop driving the clutch cuts off or engages the transmission at around 1,200 revolutions.

Saab met the sharpened Volvo competition in the small-car field by updating its 25-year-old model, the Saab 96 (95 in station wagon version).

New are rubber-covered bumpers of the same type as on the Saab 99. For both versions, the 96 and the 95, Saab has managed to get two inches more leg room at the rear together with new rear seats.

Ford of Germany, which has supplied the V-4 engine since late in 1966, when Saab switched from two-stroke engines, is still working on the new carburetor needed to pass the 1976 emission test.

The problem, however, is merely a production problem. It is already clear that Saab will be able to cope with the new emission standards at a sacrifice of 3 HP.



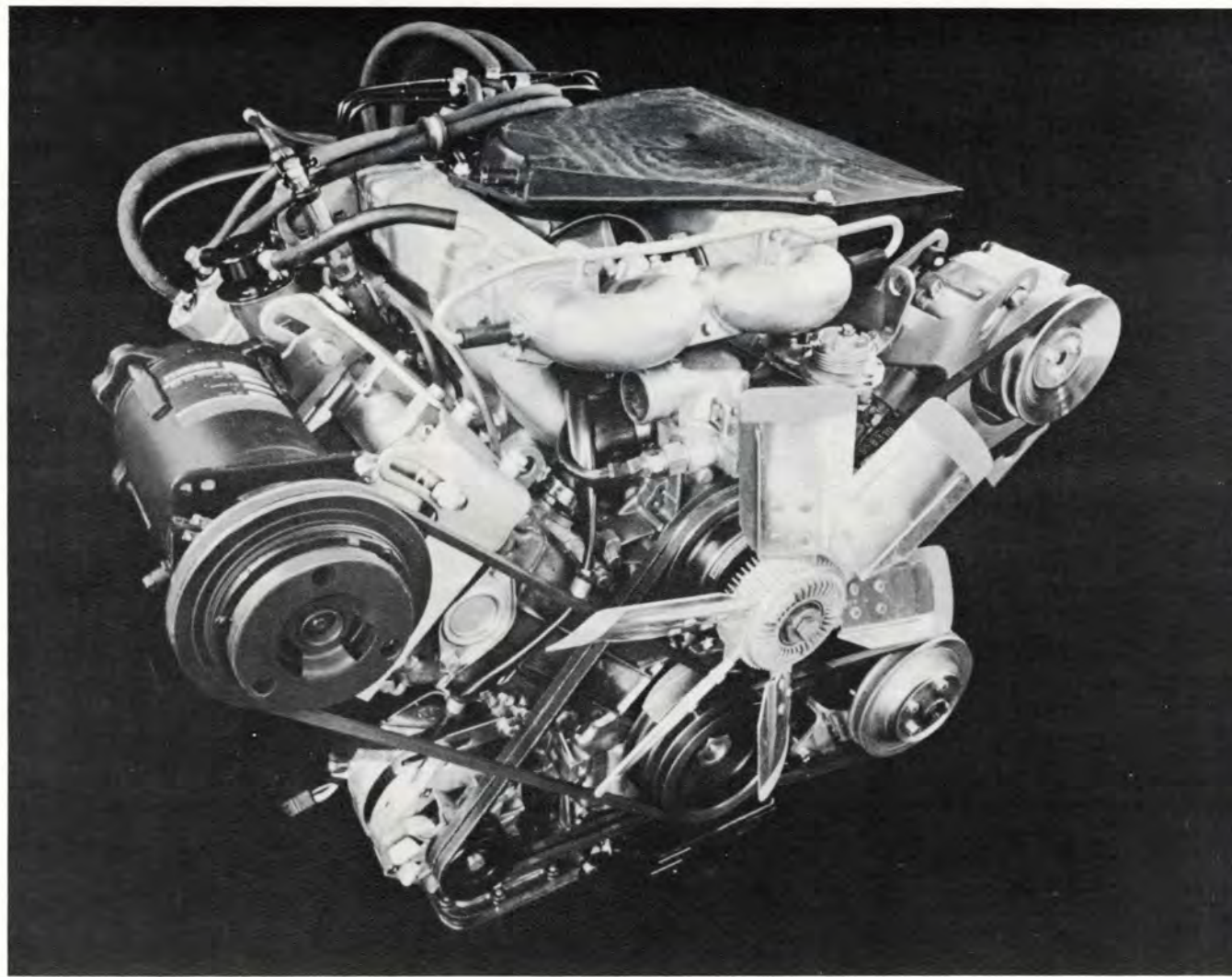
DAF becomes a Volvo

The new small Volvo 66 is actually a DAF in Volvo dressing. The small Volvo, equipped with automatic transmission, is intended for the Swedish home market and for European export markets. Volvo upgraded the car in other ways, like giving it rubber-coated front and rear bumpers.



Volvo 265 wagon

Volvo has introduced a 265 station wagon with a V-6 engine. The V-6, which weighs about the same as the four-cylinder engine, is also used in the Volvo 264 sedan.



The all aluminum B-27 2.7 litre V-6 engine, featuring continuous flow fuel injection, electronic ignition, slip couple fan, hemispherical combustion chambers.



Volvo Seeks Luxury Trade With Its New 260 Series

By MICHAEL LEVY

The new Volvo 260 series is a little like a Hasselblad camera. Both are made in Sweden, both look almost stodgy in their no-

frills way, both offer performance that is only slightly better than cheaper tools and both are very expensive.

The reason both products

continue to sell well is because they are subtly better, their performance solid and reliable and their competitive edge perceived only by people of truly sophisticated taste.

Volvos are about the size and have about the room of a small American compact car. They offer about the same mileage and essentially the same engineering.

The cheaper 240 series, powered by a 4-cylinder engine (enlarged and peppier this year) starts at about \$6300 for the 2-door and peaks near \$8000 for the wagon.

The 260 series, a 4-door and 4-door wagon sells for just under \$10,000. These come with air conditioning, your choice of automatic or 4-speed plus overdrive, and plenty of other touches including superb finish.

The only problem is, unless your neighbors read this or are into Volvos, they won't realize that these cars are in the luxury class.

There is no question that Volvos, with either engine, are

roomy, comfortable, reasonably long-lived and rust resistant.

There is no question that the seats (fronts are adjustable fore and aft, up and down, for seat back rake and for support for the small of your back) are about the best available in a production car.

There is no question that the cars are sensible and understated. And, with the new quest for luxury, there is no question that they are going to become dream cars, instead of the college graduation presents they used to be.

Buffalo Evening News
D. 281,982 SAT. 297,247
MAR 9 1976



Volvo 264

• What's this? Is staid old Volvo, that paragon of Scandinavian social responsibility, really about to compete with BMW and Mercedes in the big-buck/big-performance sedan market? Well, yes and no. Yes because the new 260-series sedan has been fitted with a fuel-injected version of the 2.7-liter engine that powers the Peugeot 604 and the Renault 30; no because Volvo will never tell you how well the 264 really performs. The marketing types, you see, are delighted with the responsible image of safety and durability that Volvo has created for itself over the years, and the last thing they need is performance-related hype. "The car for people who think," they suspect, may not be the car for someone who enjoys fast, responsive, cross-country travel.

Which is a shame because the 264 is a lot better car than Volvo will ever let on. The 125-hp, all-aluminum six has enough

punch to move the car through the four forward gears plus overdrive quickly and smoothly (a three-speed automatic transmission is available as a no-cost option).

The 264's handling is sure-footed and stable. Under duress, however, the car tends to understeer with a vengeance—something that Volvo engineers protest is a built-in safety feature. But the big news is that the wounded-whale rolling motion that afflicted earlier Volvos is gone, and back-country roads can now be viewed as a delight rather than a chore.

The one sour note in the 264's song is its price: just under \$10,000. Despite standard equipment like air conditioning, sun roof and a choice of leather or velour upholstery (a radio and trick wheels are the only options), 10 grand may seem like a lot to pay for a car as, well, un-exotic as a Volvo. But then the company wouldn't have it any other way. —David Abrahamson

Importer: Volvo of America Corporation
Rockleigh Industrial Park
Rockleigh, N.J. 07647

Vehicle type: front-engine, rear-wheel-drive, 5 passenger sedan

Price: \$9895.00 p.o.e.

ENGINE

Type: V-6 water-cooled, aluminum block and heads, 4 main bearings

Bore x stroke 3.46 x 2.88 in, 88.0 x 73.0mm
Displacement 163 cu in, 2664 cc
Compression ratio 8.2 to one
Carburetion Bosch K-Jetronic fuel injection
Valve gear single overhead cam, 2 valves per cylinder
Power (SAE net) 125 bhp @ 5500 rpm
Torque (SAE net) 150 lbs-ft 2750 rpm

DRIVE TRAIN

Transmission 4-speed, with overdrive
Final drive ratio 3.73 to one

Gear	Ratio	Speed in gears
I	3.71	29 mph (5500 rpm)
II	2.16	49 mph (5500 rpm)
III	1.37	77 mph (5500 rpm)
IV	1.00	105 mph (5500 rpm)
V	0.80	111 mph (5500 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase 104.0 in
Track, F/R 55.9 / 53.1 in
Length 192.6 in
Width 67.1 in
Height 56.5 in
Curb weight 3114 lbs
Weight distribution, F/R 55.0 / 45.0
Fuel capacity 15.8 gal
Oil capacity 6.9 qts
Water capacity 11.5 qts

SUSPENSION

F: ind, MacPherson strut, coil springs, anti-sway bar
R: rigid axle, 4 trailing links, Panhard rod coil springs

STEERING

Type rack and pinion, power assisted
Turns lock-to-lock 3.5
Turning circle curb-to-curb 32.2 ft

BRAKES

F: 10.4-in ventilated disc, power-assisted
R: 11.1-in solid disc, power-assisted

WHEELS AND TIRES

Wheel size 5.5J x 14-in
Wheel type stamped steel, 5-bolt
Tire make and size DR78-14

CAR and DRIVER
February 1976

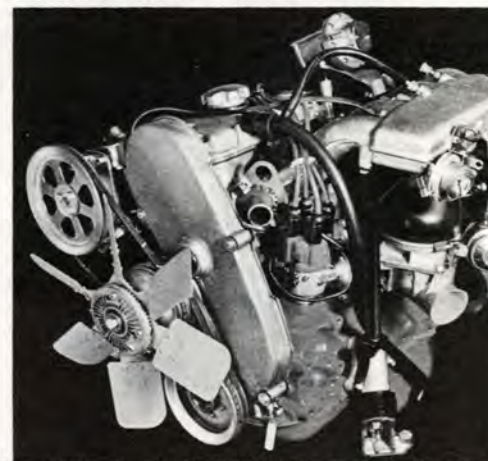
New from Sweden VOLVO'S 240 & 260 SERIES

*The practical safety car becomes
a sophisticated luxury car*

ROAD & TRACK
March 1976

BY TONY HOGG
Editor

New Volvo 4-cylinder has aluminum head.



NEW FROM VOLVO for 1976 are the luxury 264 model and the 265 station wagon—which has the distinction of being the most expensive production station wagon in the world—and two new engines. To introduce these cars and engines, a small group of journalists was invited by Volvo to visit Sweden where we had the opportunity to drive the cars under the conditions for which they were designed.

Before describing these new cars and engines, it might be opportune first to review how Volvo's system of number designation works so that we all know what we are talking about. Taking a 245 as an example, the 2 means that the car is one of the 240 series cars, which were introduced last year and supersedes the 140 series that have been sold since 1966. The 4 means that it has four cylinders and the 5 means that it is a 5-door station wagon. The 260 series works in the same way except, of course, that the cars have six cylinders.

Taking the two engines first, these are an aluminum V-6 to replace the old iron inline-6 of the 160 series and an overhead-cam four to replace the pushrod engine in the 240 cars.

The V-6 engine, designated the B-27, was developed by Volvo, Peugeot and Renault for mutual use and we described it in our story on the Peugeot 604 last October. It has a single overhead camshaft for each bank of cylinders with the camshafts driven by chains, and the characteristic roughness of the 90-degree V-6, which is caused by irregular induction strokes, is partially smoothed out by a difference in valve timing for each bank of cylinders. This aluminum engine is fuel injected using the Bosch K-Jetronic system, and the power output is 125 bhp SAE net at 5500 rpm and 121 bhp at 5500 rpm for California cars.

The new 4-cylinder engine is designated the B-21 and it replaces the earlier B-20. Readers may recall that the B-20 was a cast iron, pushrod engine of extremely sturdy construction and that it had been getting a bit long in the tooth for several years. The B-21 retains the rugged bottom-end characteristics of its predecessor, but the cylinder head is now aluminum and of the crossflow type, valve actuation is by a belt-driven overhead camshaft and Bosch continuous flow fuel injection is used. Engine capacity has been increased from 1990 cc to 2127 cc and the power output has gone from 94 bhp at 6000 rpm to 102 bhp at 5200 rpm (99 bhp at 5200 rpm for California). But more important, the torque figure is now 114 lb-ft at 2500 rpm compared to the previous 105 lb-ft at 3500 rpm.

Improving the low-speed torque was a major objective in the design of this engine, and it is most noticeable when one drives the car. We tested a 242 with the old engine last July and found it to be woefully underpowered, but I am pleased to say that this fault has now been corrected, although I wasn't able to obtain any performance figures while I was in Sweden.

As far as transmissions are concerned, the 242 and 244 come with an automatic or a 4-speed manual with an optional overdrive. In the case of the 245, 264 and 265 models the same two transmissions are offered for the three cars, but



the overdrive is standard with the 4-speed transmission.

Volvo has been in the U.S. market for 20 years, and the company's image has changed considerably since the early days when the cars were sold on the slogan "drive it like you hate it." Unfortunately, so has the price. Today the Volvo range encompasses 11 models ranging from the 242 at \$6295 through the 265 at \$9495. On the other hand, the cars are much more



to drive them at Volvo's proving grounds and also on a 200-mile trip over everything from dirt roads to freeways. Flogging the hell out of what amounts to a \$10,000 station wagon down a dirt road in the rain seemed to be somewhat sacrilegious, but that's what they wanted us to do, and so that's what we did.

Basically one can say that the cars have a heavy and safe feel to them. They are most luxurious and comfortable and give a sense of security that results partly from a high seating position. The styling results from Volvo's experiments with safety vehicles and might be described as "Swedish solid."

On the road the cars are a great improvement over the 140 and 160 series mainly because of the use of MacPherson-strut front suspension and rack-and-pinion steering along with sundry detail modifications. The handling is strictly neutral although understeer predominates when one starts to reach the limit. I was able to drive a 244 with conventional steering and

luxurious and when one gets to the top of the line, such items as power steering, air conditioning, tinted glass and power front windows are standard. "Going up market," as it is called in today's terminology, seems to be the only way for smaller manufacturers to survive under today's economic conditions. Volvo seems to be surviving well but, in order to get back to mass market prices, Volvo recently acquired the Dutch Daf company, which makes the minicar with the rubber-band transmission. Actually, it is a very clever little car, and the only car I have found that you could drive around Silverstone without ever lifting your foot at all, although you could come close to door-handling it in one or two places.

There is a very good chance that a Volvo/Daf version of this car will be offered in the U.S. in about a year, and meanwhile it provides Volvo with an opportunity for coming into the bottom of the Scandinavian and European markets with a really low-price car. Actually, there is more to the Daf acquisition than that because, according to Volvo Vice President Åke Nilsson, Daf is currently producing about 60,000 cars a year and has a capacity for 200,000. It is also in the heavy truck business and so is Volvo, and Volvo acquired about 200 experienced automobile and truck engineers in the deal.

As far as the current models are concerned, we were able

a 264 with power steering on a twisting section of the test track wetted down by sprinklers (why the sprinklers I don't know because it poured with rain practically the whole time we were in Sweden). The adhesion was excellent and the handling neutral, but the 244 was definitely faster and gave a greater feeling of security than the 264.

On our 200-mile drive across southern Sweden, the reason why Volvos are designed and built as they are became apparent. Sweden is a vast country but very thinly populated, and the winters are long and severe. As a result, it is virtually impossible to maintain very high standards of road surface on anything more than the main highways, so that extremely rugged construction is essential for longevity. For these reasons, a Volvo would be an excellent choice for those people who live in more remote parts of the country with climatic conditions similar to those in Sweden.

Volvo has come a long way in the last 20 years and the 240 and 260 series cars are infinitely more sophisticated than they were even five years ago. However, sophistication has its price and in the case of these new Volvos the price is somewhere between \$6500 and \$10,000. If this is too much for you, perhaps you should wait until a Daf comes along with a Volvo badge on it.



VOLVO 264 GL: The Price of Success

With its sights firmly fixed
on the luxury-car market, Volvo steps into the
arena with the heavyweights.

BY PATRICK BEDARD

• Here's a flash: Volvo has a new V-6 model called the 264, and the company is sending it out into the marketplace telling people that it will compete with BMWs and *Cadillacs*. Are you ready for that?

Volvo, you will remember, sold its first car on these shores—a kind of 8/10-scale replica of a '47 Ford—a mere 21 years ago. It was not what you'd call a class piece, that car, and the company would probably have been driven back into the sea were it not for the reputation for durability that came to surround the PV444. The pavement would wear out sooner, people said. More recently, Volvos have attracted quite a following among the seat freaks. They reckon that

Volvo buckets are the next best thing to Stratoloungers. But while these are two very nice things to have people saying about one's cars, they don't exactly add up to an escape-proof ambush for Cadillac.

More likely, what Volvo means is that the 264 costs as much as a Cadillac. Which it most certainly does. A nice, round \$10,409.25 would put you into our test car. But that is not the same as *competing* with Cadillac. In fact, we're going to stick our editorial necks out and say that people who aspire to Cadillacs will have little enthusiasm for the Volvo, and vice versa. Because Cadillacs—with the exception of the Seville—are still sold to those who measure prestige in acres of

The difference between Volvo
and all the other luxury cars is that
Volvo puts function first.

sheetmetal. When they spend big money, they want a big car. And it had better roll down the road with the ride motions of the *QE II* and the silence of a cathedral on Thursday afternoon. If they really had their druthers, the damn thing would drive itself; spare them the bother.

For people like this, the Volvo is hopeless. Any way you look at it, it's a compact car—a tall, skinny, Swedish Dodge Dart with headroom for basketball players. From the windshield aft, the 264 resembles every other Volvo of the last 10 years, and the all-new front looks a little like an electric razor with headlights; a car like this will never knock them dead at the country club. If you buy it, you are obviously buying it for yourself, because nobody *else* is going to ooh and aah over it.

But the difference between the Volvo and all of the other cars in the world that nobody oohs and aahs over is that Volvo puts function ahead of everything else. The 264GL is totally without pretense. It is a motorcar, not some piece of exotic mobile sculpture, and everything about it has been designed for hauling people rather than dazzling them. While that may not offer much competition for Cadillac, it's a rare and insightful way to build a car, particularly if you're trying to avoid competition. And Volvo has the high-priced-functionality corner of the market pretty much to itself.

The pleasure of a Volvo's utility begins with its upright body. No contortions are necessary to enter it, front or back. The doors are tall, the seats are chair height; you just walk in and sit down. It's as natural as bellying up to the dining-room table. The seats are also high enough to hold you in a position that is more comfortable than what you'll get in almost any other contemporary car. And the room is just where you need it. The car is actually quite narrow—only 67.2 inches wide compared to 74 for a Granada—but there is space for three abreast in back with plenty of clearance around the heads and knees. The front has seats for two passengers, and they have an exceptional view. The height of the seats allows you to look down on almost any other car built after 1956, and there's enough glass that anything small enough to fit in the Volvo's blind spot is hardly worth seeing.

Once you grow accustomed to the Volvo's interior dimensions, you begin to notice the intensely functional nature of every piece of equipment that confronts you. A close look at the instrument panel tells you the whole story about this car. It's black—matte-finish non-glare black—from one side to the other and all the way down to the tunnel-top console. Even the steering wheel is a dull, light-absorbing black, and none of the instruments are blocked by its rim. There is no wood or bright metal moldings for decoration and no die-cast script on the glove box door spelling out Premier or Special Edition or whatever the marketing men thought would ease your conscience after spending so much money on a car. You are, however, provided with a tachometer at the center of your gaze. All of the switches and small controls are easily reached on the aircraft-style console, and four high-level vents are on duty to supply you with air in whatever quantity





PHOTOGRAPHY: DOUGLAS MELLOR

and direction you choose. What you get in this car is all business, not baloney.

That theme is evident in the front seats. No tuck-and-rolled lizard skin with mohair frieze accents in this car. The 264GL offers two choices of seat coverings: leather and velour. It's what's under the covering that counts. The padding is firm for good support on long hauls, yet the cushions are not deeply contoured. These are comfortable but not confining seats. Naturally, you get the benefit of Volvo's adjustable lumbar support. Additionally, the driver's side has an electric heating element in the cushions and a lever-controlled height adjustment in the supporting frame. Almost any personal seating preference has been anticipated in the Volvo.

If you are the sort of driver who prefers to shift your own gears, Volvo offers options in that department, too. A four-speed manual transmission is standard equipment, overdrive

and automatic are options. The test car had the overdrive—in effect a fifth gear available at the flip of a switch on top of the shift knob. It's a nice device, much more convenient than a straight five-speed gearbox and especially appropriate to a manual-transmission car priced above \$10,000; after all, drivers with that kind of money might like to avoid a shift once in a while. With the overdrive, you don't have to work the clutch or move the shift lever to slip into the cruising ratio. In fact, you don't even have to lift off the gas. Just flip the switch and you've reduced engine revs by 20 percent. And should you need a little extra punch for passing, just flip it the other way and you're back in fourth gear.

Regardless of which transmission you choose with the 264, you get a 90-degree V-6 engine of 2.7 liters. This engine is the result of a joint effort between Renault, Peugeot and Volvo, and although each of the companies uses it in its top-of-the-



‘
 If you like to shift your
 own gears, Volvo is the only high-dollar
 sedan with the right options.
 ’

line model, Volvo is the first to import it into the U.S. The design seems to be both original and brave. From the rocker covers down to the bottom of the block, the engine is cast in aluminum. Wet liners are used in the cylinders. Each bank has a chain-driven overhead camshaft, which operates the angled valves through rocker-arm followers. Nestled in the valley between the banks is the metering apparatus for the Bosch K-Jetronic fuel-injection system. Judging from the quantity of aluminum used, one would expect this powerplant to be quite light. Volvo quotes 330 pounds including fuel injection and electrical equipment—29 pounds lighter than the 2.1-liter four-cylinder (which has been given an aluminum head for the 1976 model year) used in the 240 series.

Even knowing all of this, one tends to take a dim view of 90-degree V-6s because of the unequal firing interval. In reality, these engines are V-8s (either they once were or the designers hope they someday will be) with two cylinders missing, and even though the arrangement of the crank throws has been changed to bring the balance back into line, it's impossible to completely compensate for the absent cylinders. The time between firings is longer for some cylinders than others. You can feel it, particularly at low speeds and

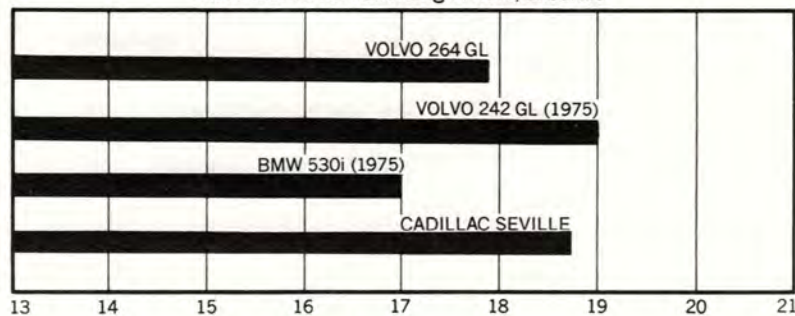
when you engage the clutch to move away from rest, there is a sort of chattering vibration. Fortunately, tuning of the driveline and engine mounts pretty well masks it in the Volvo. Chances are that if you didn't know enough to look for the unsteadiness, you'd never notice it.

Even though the V-6 is about 300cc smaller than the in-line six of the old 164 sedan, performance of the two cars is nearly the same and generally comparable to Volaré/Granada-type Detroit compacts with small V-8s. (It must be understood, however, that we are comparing a manual-transmission Volvo to a domestic automatic; an automatic Volvo would be somewhat slower.)

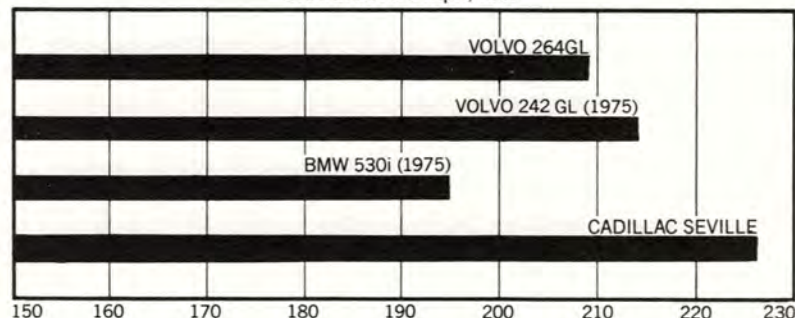
In the braking test, the Volvo's performance was a disappointment. The rear wheels locked up early, well before the fronts would generate their full retardation. As a result, stopping from 70 mph required 209 feet (0.78 G). Going over the results of past Volvo tests, it becomes apparent that rear-wheel lock-up has been a traditional problem. It could be fixed by using a different adjustment on the proportioning valves (Volvos have two)—a step so easily accomplished that the factory apparently has reasons for doing otherwise. Very likely, the valves have been biased for either heavy loads or slippery roads or perhaps some combination of both. That's fine as far as it goes, but when you're driving to work all by yourself some sunny day and suddenly the freeway ahead glows red with hundreds of brakelights, it's not much consolation.

There are a number of cars on the market that stop no better than our test car, but it seems a shame when Volvo uses such an elaborate and thoughtful braking system. All four corners have discs, and the hydraulic lines and calipers are arranged in such a way that no matter which of the dual
(Text continued on page 95, specifications overleaf)

ACCELERATION standing ¼ mile, seconds

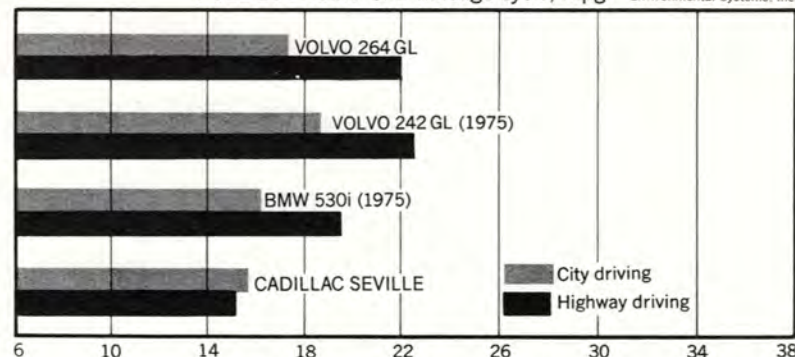


BRAKING 70-0 mph, feet

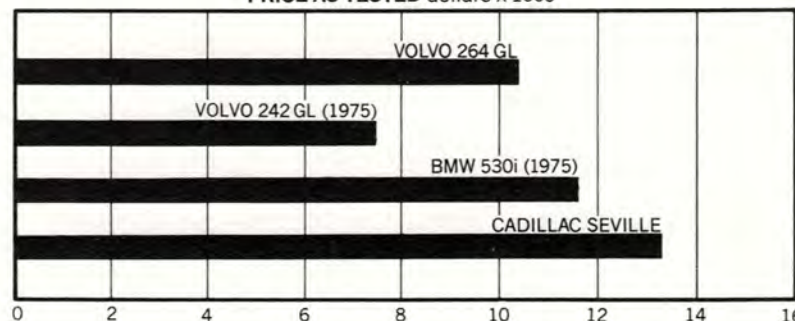


FUEL ECONOMY C/D mileage cycle, mpg

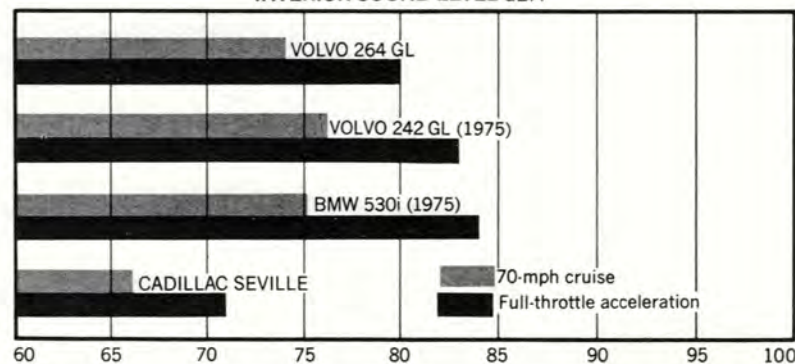
Tested by Automotive Environmental Systems, Inc.



PRICE AS TESTED dollars x 1000



INTERIOR SOUND LEVEL dBA



HEINZ MAURER



VOLVO 264 GL

Importer: Volvo of America Corporation
Rockleigh, New Jersey 07647

Vehicle type: front-engine, rear-wheel-drive, 5-passenger 4-door sedan

Price as tested: \$10,409.25

(Manufacturer's suggested retail price, including all options listed below, dealer preparation and delivery charges, does not include state and local taxes, license or freight charges)

Options on test car: base Volvo 264, \$9895.00; GT road wheels, \$239.80; AM/FM stereo radio/cassette player, \$262.50; center console tray, \$11.95

ENGINE

Type: V-6, water-cooled, cast aluminum block and heads,
4 main bearings

Bore x stroke 3.46 x 2.87 in, 88.0 x 73.0 mm
Displacement 162.3 cu in, 2660 cc
Compression ratio 8.2 to one
Carburetion Bosch K-Jetronic fuel injection
Valve gear chain-driven overhead cam
Power (SAE net) 125bhp @ 5500 rpm
Torque (SAE net) 150 lbs-ft @ 2750 rpm
Max. recommended engine speed 6000 rpm

DRIVE TRAIN

Transmission 4-speed, with overdrive
Final drive ratio 3.73 to one
Gear Ratio Mph/1000 rpm Max. test speed
I 3.71 5.4 32 mph (6000 rpm)
II 2.16 9.3 56 mph (6000 rpm)
III 1.37 14.6 88 mph (6000 rpm)
IV 1.00 20.1 103 mph (5100 rpm)
O/D 0.80 25.1 103 mph (4100 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase 103.9 in
Track, F/R 55.9/53.2 in
Length 192.9 in
Width 67.2 in
Height 56.5 in
Ground clearance 7.1 in
Curb weight 3248 lbs
Weight distribution, F/R 55.9/44.1 %
Fuel capacity 15.8 gal
Oil capacity 6.9 qts
Water capacity 11.5 qts

SUSPENSION

F: ind, MacPherson strut, coil springs, anti-sway bar
R: rigid axle, 4-trailing links, Panhard rod, coil springs,
anti-sway bar

Steering

Type rack and pinion, power assisted
Turns lock-to-lock 3.5
Turning circle curb-to-curb 32.0 ft

BRAKES

F: 10.4-in vented disc, power assisted
R: 11.1-in solid disc, power assisted

WHEELS AND TIRES

Wheel size 5.5x14-in
Wheel type cast aluminum alloy, 5-bolt
Tire make and size Michelin X, 185R-14
Tire type steel-belted radial ply, tubeless

PERFORMANCE

	Seconds
Zero to 30 mph	3.5
40 mph	5.2
50 mph	7.3
60 mph	10.2
70 mph	14.3
80 mph	22.2
90 mph	40.1
Standing ¼-mile @ 75.3 mph	17.9 sec
Top speed (observed)	103 mph
70-0 mph	209 ft (0.78 G)
Fuel economy, C/D mileage cycle	17.0 mpg, urban driving 22.0 mpg, highway driving

VOLVO 264 GL

(Continued from page 58)

circuits fails, the car still has operative brakes on two front wheels and one rear wheel. A system as good as this deserves the final tuning it requires to live up to its potential.

Despite the disappointing brakes, the 264 is still the best Volvo ever. It's not really a new model but rather a refitted old one, shored up where past models needed help. Right now, you have a choice of a four-door or the 265 station wagon. A 262 two-door sedan will be available in late spring. Those who have followed this marque will remember that the 164 luxury sedan was made from the 144 sedan by stretching the car's front sheetmetal and wheelbase to make room for an in-line six-cylinder engine in place of the old four. But with the new V-6, the extra length wasn't necessary, so now both the four- and six-cylinder 200-series Volvo sedans have the same external dimensions. Since the main body section was common to both four- and six-cylinder cars, they've always had the same interior dimensions, which are continued in the 264.

The new models, first the 240 series and now the 264, have a revised suspension, the most conspicuous change being a MacPherson-strut arrangement in front to replace the old control-arm type. And although it's not intrinsic in MacPherson struts, the new cars handle much better. The 264 walks the middle ground between the agile and enticing road behavior of a BMW that makes you want to flog it and the mindless straight-line cruising capability of a Cadillac that encourages you to sit back and listen to the radio. The 264 is definitely a driver's car—but more businesslike than sporting. It seems well suited to any type of road, but it is particularly impressive on rough surfaces, where its shock absorber damping does an excellent job of keeping ride motions within reasonable limits. And the increased roll stiffness reduces the ponderous, tippy feeling in turns that characterized past models.

If you prefer Volvos over any other leading brand, all of this should be enough. But the 264's appeal is broader. There are very few rugged and roomy sedans on the market that encourage participation on the part of the driver. And fewer still that value function over fashion. Even though Volvo is asking you to pay a high price for motoring's fundamental verities, it's good to know they are available if you want them. ●



WHILE SOME imported car companies cannot seem to do anything right, Volvo apparently cannot do anything wrong in the American market. With prices going higher and higher, Volvo increased its United States sales from 52,000 in 1974 to 59,500 in 1975. The American consumer believes firmly in Volvo quality and its safety features, and does not mind paying for it. Volvo dealers, some 500 strong, have experience in selling this type of car, and are equipped to give service. Volvo backs its product with a warranty period of 12 months and unlimited mileage.

Volvo has new engines for 1976, and they are units of uncommonly high efficiency, giving a commendable combination of fuel economy and performance. Before looking at the EPA test data, it is necessary to define the various Volvo models. The P-1800 sports models have been discontinued. The 164 with its 6-cylinder in-line engine is out of production. Now, there is the 240 series, with a 2-door sedan, 4-door sedan, and station wagon, powered by the new B-21 4-cylinder engine. There is also the 260 series, powered by a V-6 engine, available as 4-door sedan or station wagon.

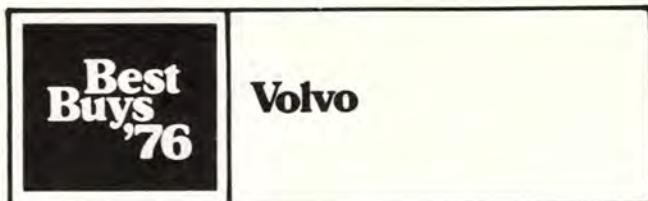
Now to explain the Volvo designations: 242 means a 4-cylinder 2-door sedan, 244 its 4-door companion, and 245 the wagon. The last digit refers to the number of doors, the middle digit refers to the number of cylinders, and the first digit is the generation number. Volvo is now in its second generation since this numbering system started. The 264 then becomes a second-generation car with a 6-cylinder engine and four doors. The 265 is its station wagon partner. All models are available with manual or automatic transmission. Volvo makes its own gearboxes, but buys the automatics from Borg-Warner, in England.

How do the Volvos do in EPA tests? The 240 series cars do all right. In the urban driving cycle, the EPA reported 17 miles per gallon with the manual transmission and 18 mpg with an automatic drive. In simulated highway driving, 27 mpg with the manual and 24 mpg with the automatic was recorded. The 260 series was not far behind. Both versions got 15 mpg in the urban driving cycle, and the 4-speed stickshift car equaled the 242's highway performance at 27 mpg. Mileage in the highway cycle for the automatic-drive 264 fell to 23 mpg.

How does Volvo do it? Well, the B-21 engine is a very modern development, with a cross-flow light alloy cylinder head and an overhead camshaft. It is a milestone in Volvo's engine history, because ear-

lier engines have always relied on side camshafts, switching from side valves to overhead valves in 1945. All earlier units have had cast iron cylinder heads and blocks. The camshaft is belt-driven, electronic ignition is standard, and Bosch K-Jetronic continuous fuel injection is used. The 264 and 265 models are powered by an all-aluminum V6 engine built in France in a cooperative setup with Renault and Peugeot. It is laid out in a 90-degree V-angle and has a single overhead camshaft per bank. This B-27 engine also has fuel injection and electronic ignition.

Let's look a little more closely at Volvo's claim to safety. In terms of active safety, the cars have superb brakes: power-assisted 4-wheel discs, with copper-alloy brake lines for long life. The hydraulics are split in a triangular pattern for the dual circuits, so in case of hydraulic failure, the car retains 80 percent of full braking (U.S. safety standard requires 50 percent).



THE VOLVO line of cars is what might be called CONSUMER GUIDE Magazine's "safe" choice. It is a well-established car in the United States, that has a deserved reputation for durability, dependability and quality. Best features of this car are its roominess—both for passengers and baggage—its simplicity of design, high quality of assembly and dependability. Among Volvo's drawbacks are its uncompromising ride, and relatively poor handling. If buyers want dependable transportation, however, then Volvo is a good choice among imports.

Volvo's strong, well-located dealer network has the capability to service all the cars Volvo has on the road in America. Parts and service are not a big problem. The car is built to withstand rugged Scandinavian winters, so easy starting in cold weather and dependable operation in inclement weather are two of its lesser recognized features. While the ride is not pleasant—it has been compared to riding in a strongbox—passenger accommodations are excellent. The Volvo also features chair-height seats and a higher roofline which provides better head room. Visibility is much better than what buyers could find on comparable American cars.



VOLVO 244 SEDAN

Volvo offers sedans and a station wagon with a 4-cylinder engine, and a 4-door and station wagon powered by a 6-cylinder engine. Fuel economy of all cars is good. Actually, it is outstanding when compared with the economy offered by American intermediates and compacts.

The 240 line that uses a 4-cylinder engine averages 27 miles per gallon in highway driving, according to EPA estimates, and 17 mpg in city driving. CONSUMER GUIDE Magazine's test shows that owners can easily top 23 mpg in average driving, which includes both city and highway conditions. With the automatic transmission, which CONSUMER GUIDE Magazine recommends, highway economy drops to 23 mpg, but city economy is increased to 18 mpg, still head and shoulders above the domestic counterparts.

The new V6 engine that is offered in the 260 series is marginally good in fuel economy. Still, in both the sedan and wagon, buyers can expect to get 20 mpg or better in average driving conditions.

Volvo is the biggest volume import in the intermediate market, a well-established firm that treats the American car market as a valuable sales outlet. In 1975, 60,000 Volvos were sold in the United States, a very strong showing for a car of this type. Volvo believes that its success will continue and looks to sell 70,000 units in 1976.

Both of Volvo's lines, the 240 and the 260 have been completely redesigned in the past two years. Both borrow heavily from the design of the Volvo Experimental Safety Car, as is evident from the appearance of the specially designed grille and front-end structure.

The new 264GL 4-door sedan is the most luxurious Volvo ever produced, and presents an excellent buy for those shoppers who want luxury and are still concerned about fuel economy. The 264 has such special features as 4-wheel disc brakes and an electrically heated seat for the driver.

Volvo makes a big pitch about the longevity of its products. In one survey it was claimed that the average Volvo in use in Sweden was 10 years old. This is no accident. Volvo takes great pains to see that its products are built to last. Current models are specially treated to resist body corrosion. Inner fenders and shock-strut towers, splash pan, cowl and other highly exposed parts are galvanized to resist rust. Two separate undercoats are applied. In addition, an electro-dip primer and spray primer are applied. Combine these prevention steps with the protective-cage safety design of the body, and you have a rugged, long-lasting car that is well suited to buyers who are looking for long term ownership.

What makes Volvo a better buy than the competition? Its reputation for building a solid, dependable, long-lasting car counts most. That plus the fact that Volvo has the most extensive dealer network where service is easier to come by. The fuel economy of the sedan models also makes Volvo a standout.

Volvo 242 SRO

You think Volvos are about as exciting as refrigerators? Think again.





If a Cadillac Eldorado is a rolling credit card, then a Volvo—*any* Volvo—is a rolling credit reference. Traditionally conservative in design and appearance, the cars Volvo has built since the '20s have been better and better in that regard . . . and if, in the course of the last five or six years, they have lost much of their appeal to “enthusiasts” as a result of a genuine interest in safety, then the results of that interest have been worth the loss: the Volvo is one of the safest cars around.

But now, onto this tableau of enthusiasts at one end and bankers at the other comes the car to shake up the whole scene: the 1976 242 SRO. Powered by the new sohc 2.1-liter inline four, the SRO (for Sun Roof Overdrive) is the wild card in Volvo's deck, one that should bring those disaffected “enthusiasts” back into Volvo's game. Why? Because, despite its 3000-lb. weight, despite its safety-oriented body and styling and despite its conservative image, the Volvo 242 SRO is a hell of a fun car to drive, right up there with the BMWs and Fiat X 1/9s. In fact, it may be 1976's best bet for Sleeper of the Year.

Now, you may be one of those who think of the Volvo as about as exciting as a four-speed Norge, but suspend your disbelief a moment and have a look at the spec page. What do you see? Well, first of all, an acceleration curve on the modest side of average: 0-60 in 12.1 seconds is hardly neck-snapping. But keep looking: the 242 stopped (on Firestone Steel Radials) from 60 mph in 141 feet, managed 21.5 mpg on our driving cycle, jiggled the meter to a low 73 dBA at 70 mph in our noise test, and whistled around the 200' skidpad at an average 0.73g. Now, crank this into your computer: Except for a change of tires, the 242 showed up on our test strip exactly as it had finished our grueling 4200-mile coast-to-coast mid-winter drive (see page 52). Begin to get the picture?

What the numbers can't tell you is how the car felt after all its thrashing, and that's too bad, because if they could there'd be no need for us to use adjectives like *solid* and *unflappable* and the like. At the end of our month-long session with the 242 it ran, cornered, stopped and felt just as well as it had the day we stepped into it . . . and there is a reason for all that, a reason not based on some mysterious force. It's called engineering.

Volvo—along with a few other companies, like BMW, Mercedes and Saab—is a manufacturer of high-dollar, quality work. When you look at a Volvo price tag, you'll see a lot of big numbers; our 242 SRO was nearly \$7500. And if you think in conventional terms about the numbers (“What? 7500 bucks for a car with a live axle, four-cylinder engine, two doors and not even air conditioning?”) you'll be missing the point of a Volvo. All those big numbers may not buy you opera windows and Interior Decor Groups, but they will buy you proven engineering and a car that will last a good deal longer than most. It's something you can *feel* in the car; in the way everything fits, in the way the doors shut, in the simplicity of the controls and accessibility of everything you'll need to get at. You drive a Volvo like the 242 SRO and at the end of your trip you get out wondering why GM or Ford or Chrysler isn't building it. It seems to be the right size, has the right power and can seat five people with no difficulty.

But back to Sleeper of the Year. Sure, it's solid, big enough for five and all the rest, but why should all those BMW 2002 drivers sweat when they see a 242 SRO in their mirrors on that back road?

That's where the mystery comes in. This latest four-cylinder engine and slick four-speed-plus-overdrive transmission shouldn't be all that much better than the old ones, but they are. And the old Volvo trait of leaning *waaay* over in a corner (remember how we used to call 142s Door Handle Scrapers?) is virtually gone in the 242 SRO; crank into a bend and—surprise!—the car just hunkers down and hauls through. No more scraped door handles. The new engine revs freely (although it runs short of breath at about 6500 rpm) and the ratios in the new gearbox give you enough drive in each gear to keep the whole thing hustling along in spite of its fairly low power-to-weight ratio. And when you need to stop, the four discs haul you down quick: 141 feet from 60 mph (with no sideways stuff, either) is *short*, sports fans.

Our 242 SRO did not have any power accessories, and we think it's better that way. Certainly the positive feel of the steering contributed greatly to making the Blue Streak quick through the winding bits. And while an automatic transmission (also new) is available, the four-speed seemed to suit the power characteristics of the B-21 engine so well that using it took hardly more effort than an automatic, especially considering the smooth, light action of the clutch. And if you get really slick, you can use the minimum-lag electric overdrive (operated by a sliding switch on the gearshift knob) as a real fifth gear, dropping in and out for good acceleration on mountain roads. Using it drops the engine speed about 600 rpm at 55, just about what you'd like in a close-ratio five-speed box, and since the small delay as it engages and disengages is fairly constant, you can use it with confidence as another gear rather than just a cruising aid.

Careful suspension tuning has contributed greatly to the much better cornering ability of the 242. Last year's car (on Michelin X tires) managed a slow 0.64g on the skidpad, accompanied by much body roll and understeer. This year's reworked suspension produced much less body roll and understeer, and the engine produced the power to make the car usable for power-oversteer driving, something almost unheard-of in the old Door Handle Scrapers. The transient response course speed of 22.9 mph puts it slightly ahead of most cars in its weight class, another sign of the change in the car's cornering abilities.

All of the driveline and suspension tweaks have made the 242 into an entirely new Volvo, something you can't appreciate fully until you drive it. Perched high up in the old cars, you would try to hurry down some beautiful back lane and the body lean and understeer would just wear you out. Thus the real difference in driving the 242 isn't just that it corners well or stops well but that it *encourages* you to try it on, to speed up the tempo and get the old juices flowing.

Assuming that you've got those juices going already, you may be interested to know that the Volvo 242 SRO is also one of the most comfortable cars on the road. Our test car was the DL version, which means that it was not the ultimate luxury model, but even so its features were impressive. Buying the SRO gets you the sunroof (manually operated by the usual crank) and the standard clothlike interior; if you want extra luxury, opt for the GL. Base price on our car was \$6998, and it was optioned with an AM/FM radio/cassette player, extra goodies like mats, trim rings, storage bins, and the like, but was still basically a stock 242 SRO.

One thing standard on all Volvos this year is superb ergonomics. When you step into the cockpit, you are confronted with a dashboard and center console that are immediately



understandable and usable. Every control is right where you'd like it, and each one is clearly marked. You could loan your 242 to your friends without worrying about whether or not they'll be able to find the lights no matter where they come from, whether it's Timbuktu or Toledo.

Seating position in Volvos has always been a prime selling point; "orthopedically designed" seems to be a phrase permanently stuck to the Volvo trademark. But for some reason, this year's car seems even better than previous models. The driver's seat bottom raises and lowers both in the front and rear, the seatback reclines fully and Volvo's famous lumbar support adjustment makes it possible for you to slump or sit at attention according to how late you were up last night. The synthetic cloth contributes to the comfort simply by not demanding your attention: in Minnesota it wasn't too cold in the morning and in California's sun it wasn't too hot in the afternoon. The electrically-heated driver's seat also connected to Volvo's name is missing on the DL version of the 242, and it would have been nice in the midwestern winter we took the car through.

Seating comfort for the passenger is less infinitely adjustable, but the seat seems to be built about right for most people anyway. And the wide doors and low sills make getting into the car easy, even for the rear seat passengers, who also have good headroom and legroom, even with a tall driver. Their bench seat even supports the thighs, a thing of wonder in these days of abbreviated back seats.

The 242 is tall, and much of its height is in window area.

Even though it is possible for the driver to assume a reclined driving position, in the 242 he has a virtually unimpaired view of his environment. The huge outside mirrors (only the Toyota Corolla has one nearly as big) and skeleton headrests also contribute to the driver's ability to keep track of the traffic around him. The standard rear window defogger worked quickly in the subzero eastern weather, and the small side vents built into the dash defogged the side windows as quickly.

The same boxy shape that has contributed so much to the conservative flavor of the Volvo also gives it that excellent packaging that assures occupant comfort and a huge trunk all within a 192" length. As a comparison, the Ford Granada—also built on a 109" wheelbase—is five inches longer than the Volvo 242, but has a trunk only about half the size of the Volvo's. And you can imagine the differences in interior room.

Normally, at about this point we'd be winding up a road test report, but this wasn't a normal road test. When we finally—and reluctantly—gave up our California-specification 242 SRO (it had a catalyst and thus required unleaded fuel while delivering slightly less horsepower) we had put over 5000 miles on it in a month. That month covered a cross-country trip in the worst of conditions, from freezing ice and snow to desert heat, as well as our usual local driving environment, which, loaded with airborne gorp as it is, can foul the cleanest plug. And in all that time, through all those conditions, the Volvo never missed a beat. Not in the blizzards of Indiana, not in Death Valley and not on the San Diego Freeway at rush hour. It started every time with the first twist of the key, used less oil than we could measure with the dipstick and malfunctioned not at all (except for when the old geezer pumping gas in South Bend mixed the windshield washer solution too weak and the pump jammed the next subzero morning . . . something aided perhaps by the location of the washer pump right behind the headlight nacellé where it was exposed to the wind and its attendant chill factor).

But maybe more important than the car's reliability record was what it did for its drivers. Once you fiddled with the seat adjustment to get that final, fine touch, you could slide into the seat and drive literally all day with less fatigue than it takes to watch TV for a few hours on your favorite reclino-lounge. And what that did for our alertness should be obvious.

Moreover, obvious is probably the best word to describe the Volvo 242 SRO. If you look at the car and evaluate it item by item, design by design, it seems to be so obviously right, from that love-it-or-hate-it ESV nose to the huge trunk. We know that the Giants of Detroit will never build a zillion independently-sprung super coupes powered by dohc four-valve-per-cylinder midships engines, but it would sure be nice if they could build something like the Volvo 242 SRO. But there is hardly any chance of that happening, is there? After all, it hasn't even got opera windows. ■





ROAD TEST DATA

VOLVO 242 DL

SPECIFICATIONS

ENGINE

Type	OHC L-4
Displacement, cu in	129.8
Displacement, cc	2127
Bore x stroke, in	3.62 x 3.15
Bore x stroke, mm	92.0 x 80.0
Compression ratio	8.5:1
Hp at rpm, net	99@5200
Torque at rpm, lb/ft, net	114@2500
Carburetion	fuel injection

DRIVELINE

Transmission	4-spd manual w/O.D.
Gear ratios:	
1st	3.71:1
2nd	2.16:1
3rd	1.37:1
4th	1.00:1
O.D.	0.80:1
Final drive ratio	4.10:1
Driving wheels	rear

GENERAL

Wheelbase, ins	104.0
Overall length, ins	192.6
Width, ins	67.3
Height, ins	56.5
Front track, ins	55.9
Rear track, ins	53.1
Trunk capacity, cu ft	13.8
Curb weight, lbs	2945
Distribution, % front/rear	51.6/48.4
Power-to-weight ratio, lbs/hp	29.7

BODY AND CHASSIS

Body/frame construction	unit
Brakes, front/rear	disc/disc
Swept area, sq in	407.1
Swept area, sq in/1000 lb	138.2
Steering	rack & pinion
Ratio	17.1:1
Turns, lock-to-lock	3.5
Turning circle, ft	32.2
Front suspension: independent, MacPherson struts, lower control arms, coil springs, tubular shocks, anti-roll bar	
Rear suspension: live axle, trailing arms, Panhard rod, coil springs, tubular shocks, anti-roll bar	

WHEELS AND TIRES

Wheels	14 x 5.5
Tires	CR78-14
	Firestone Steel Radial 500
Reserve load, front/rear, lb	507/618

INSTRUMENTATION

Instruments: 10-130 mph speedo, trip odo, 0-7000 rpm tach, coolant temp, fuel level, clock
Warning lights: directionals, high beam, parking brake, brake failure, oil press, amps, bulb failure, EGR service, overdrive indicator

PRICE

Factory list, as tested: \$7,549.20
Options included in price: AM/FM stereo-\$262.50; side console trays-\$39.95; center console tray-\$11.95; floor mats-\$17.90; tachometer-\$54.95; wheel trim rings-\$26.95; dest. chg.-\$140.



TEST RESULTS

ACCELERATION, SEC.

0-30 mph	4.1
0-40 mph	6.4
0-50 mph	8.8
0-60 mph	12.1
0-70 mph	16.7
0-80 mph	23.7
Standing start, 1/4 mile	18.93
Speed at end 1/4 mile, mph	72.46
Avg accel over 1/4 mile, g	0.17

SPEEDS IN GEARS, MPH

1st (6500 rpm)	29
2nd (6500 rpm)	52
3rd (6500 rpm)	83
4th (5500 rpm)	97
O.D. (4300 rpm) (observed)	96
Engine revs at 70 mph (4th)	3900
Engine revs at 70 mph (O.D.)	3150

SPEEDOMETER ERROR

Indicated speed	True speed
40 mph	37 mph
50 mph	46 mph
60 mph	55 mph
70 mph	64 mph
80 mph	74 mph

INTERIOR NOISE, dBA

Idle	52
Max 1st gear	79
Steady 40 mph (O.D.)	63
50 mph (O.D.)	65
60 mph (O.D.)	70
70 mph (O.D.)	73

HANDLING

Max speed on 100-ft rad, mph	33.2
Lateral acceleration, g	0.73
Transient response, avg spd, mph	22.9

BRAKES

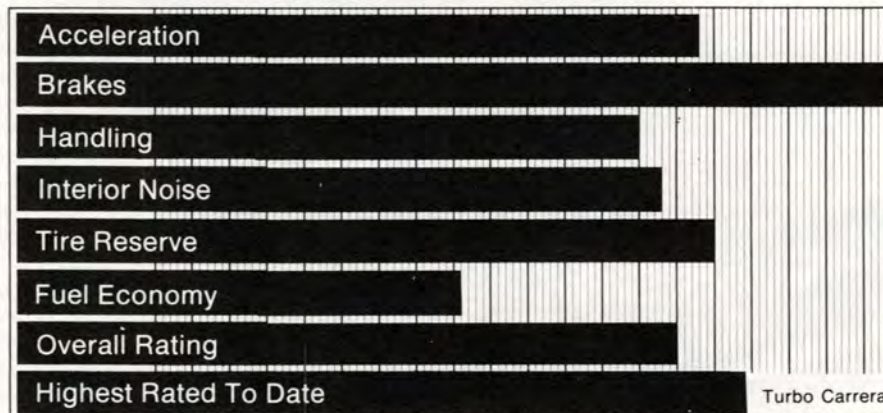
Min stopping distance from 60 mph, ft	141
Avg deceleration rate, g	0.85

FUEL ECONOMY

Overall avg, RT cycle	21.5 mpg
Range on 15.8 gal tank	340 miles
Fuel required	unleaded

Graph Of Recorded Data Expressed in Percentage of 100 (100 = best possible rating)*

0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100



*Acceleration (0-60 mph): 0% = 34.0 secs., 100% = 4.0 secs.; Brakes (60-0) mph: 0% = 220.0 ft., 100% = 140.0 ft.; Handling: skidpad lateral accel. 0% = 0.3 g, 100% = 0.9 g, transient response, 0% = 20 mph, 100% = 25 mph (average skid pad and transient response for overall handling percentage); Interior Noise (70 mph): 0% = 90.0 dBA, 100% = 65.0 dBA; Tire Reserve (with passengers): 0% = 0.0 lbs., 100% = 1500 lbs. or more; Fuel Economy: 0% = 5 mpg, 100% = 45 mpg or more. Test Equipment Used: Testron Fifth Wheel and Pulse Totalizer, Lamar Data Recording System, Esterline-Angus Recorder, Sun Tachometer, EDL Pocket-Probe Pyrometer, General Radio Sound Level Meter.



GOTHENBURG RISING

New engines, new trim and new prices push Volvo into the unknown:
 "personal-safety-economy-luxury cars?"

by Steve Thompson



□ There were four cars in the little convoy, all '76 Volvos and all going absolutely flat-out. Nose to tail we slashed through the dark forests of Sweden's central lake country, down the deserted winter roads, rooster-tailing huge clouds of water in the gray light. For 214 miles, between Borås and Kalmar, we thrashed the new Volvo 240- and 260-series cars, trying to see if Volvo's remarkable claims were based on fact.

"We believe in making the car understeer to eliminate any sudden surprises a driver might have if he suddenly jumped on the brakes in the middle of a turn, or simply panicked and froze at the wheel." On a little Swedish back road, half-clay and half-granite, the unflappable road manners of the new 2.6-liter V-6 powered 265 luxury wagon had proved that point: I hadn't crashed.

"The car should always brake smoothly, predictably and easily, without surprising the driver." At the Volvo test track outside Gothenburg, slamming the brake pedal of a 242 sedan to the floor while doing over 100 mph proved *that* one; in the long slide that followed, the car slowed down with hands-off controllability, even on top of the inch of rain on the track.

"The car should be tough, and should last a long time." Volvo reliability is leg-



end, and a brief ride with one of Volvo's top rally drivers on the rally test track showed how that philosophy evolved: Swedish roads are *not* up to Interstate standards.

Volvo had chosen this method of introducing its 1976 cars to the American press for obvious reasons: there is no better way to understand the design philosophy of a manufacturer than to experience, first-hand, the variety of input sources used to formulate the philosophy. And while Volvo has very healthy sales here in America, most of the design stimuli originate in Sweden, and all of the assembly (until the new plant in Chesapeake, Va. is completed) is done there.

So much effort on Volvo's part is justified by what's new for the lineup in 1976. Both the 240 series and 260 series are really new cars, since the 240s get a new 2.1-liter sohc four-cylinder engine and the 2.6-liter V-6 (developed jointly by Renault, Peugeot and Volvo) powers the 260 series. Until the arrival (in 1977 according to latest spy reports) of the 1.6-liter Rabbit-fighter hatchback, Volvo is confining its sales to those two engines and a single basic chassis, shared by all the "big" sedans.

In addition to the engines, there have also been quite a few detail refinements in the cars for '76. An all-new four-speed manual transmission with electric overdrive and a much-improved three-speed automatic (which allows kickdown into first gear as high as 40 mph) head the list, along with trim changes (new steering wheels and seat coverings) and continued longlife procedures (double undercoating).

Body styles available for '76 are: (with the B-21F four-cylinder engine) the 242 two-door sedan, the 244 four-door sedan and 245 wagon (by now you should see where the model number comes from: 5 doors, see?). Available with the 2.6-liter V-6 are the 264 GL sedan (which comes with every luxury feature necessary to the American driver, from sunroof to standard power-assisted rack-and-pinion steering to electrically heated driver's seat) and 265 DL wagon. Later on this year, a DL version of the 264 will be added (which will sell slightly cheaper and carry less standard equipment) along with a 262 two-door sedan.

The list of standard safety features on all Volvos is long indeed, but this year the appearance of the cars is getting attention as well; with each model jump more goodies—electric windows, special paint and so on—are available. Surprisingly little difference can be found in the acceleration and top speed of the cars powered by the two engines, but the additional torque and smoothness of the V-6 will appeal to many Americans.

Until the hatchback appears, none of the new Volvos are going to be cheap. No numbers are concrete at press time, but if you count on the 240 series starting around \$7500 and the 260 series around \$9000, you'll be close. The 265 wagon (which is a swift, capable automobile by any standards) will cost over \$10,000, and Volvo is rushing to position the car as "the luxury alternative" for people who want a "prestigious" car but who also need

The Ultimate Factory?

□ Any relationship between the cities of Chesapeake, Virginia and Kalmar, Sweden, may at first seem unlikely. But they are—or will be soon—tied together by the fact that both will produce Volvo automobiles.

Volvo is planning on using the Virginia plant to assemble 260-series cars (they will come in from Canada as partly-built or PKD—partially knocked down—and will be mated to the major components), and at present, the Kalmar factory is building 240-series cars for Europe only. That Volvo will be the first major European automaker to build cars here is in itself a novelty, but something else about the relationship between Kalmar and Chesapeake may turn out even more novel: the way the cars are built.

The possibility exists—remote at this time because of cultural and legal differences—that the unusual method of building cars pioneered by Volvo at Kalmar may be used at Chesapeake. Here's how it works: Instead of building cars using the conventional assembly-line techniques of the Henry Ford model, Volvo/Kalmar workers assemble cars in small (15–20 workers) groups, each group being responsible for a major system of the car. And each car, instead of riding on the conveyor belt, is carried by a self-powered rolling platform which can both turn the car along any axis for work and move at a rate controlled by either the worker or the central computer guiding the operations of the triple-hexagon shaped plant.

Each group is free to set its own working rules, and members can "cross-train" at will—provided the majority agrees. There are no line foremen as such, only quality control monitors, who are linked constantly to the computer. The system is intricate—for instance, each team has its own pre-assembly people and parts gofers—but it works; at present, Volvo is making a profit from the operation, due in no small part, it believes, to the job enrichment such a plant offers. The idea is that a person with a direct personal involvement in both his own management and product will produce better work, longer—and so far (after only nine months of full operation) it seems to be working.

It took Volvo ten years to design and build the Kalmar plant, and Volvo planners are the first to point out that the special cultural conditions existing in Sweden made such a plant uniquely suited to Kalmar, and that because of the American way of life, it might not work here. It seems certain that whatever the UAW says about the "team" concept, the robot carriers will be in Chesapeake, and that should liberate quite a few people from the conveyor belt . . . although it is quite possible that one man's job enrichment may be another man's boredom.

Volvo is making no wild claims for either facility, but it seems clear that half a decade after Henry Ford started the ball rolling, someone with a new idea has picked it up, and is carrying it . . . all the way from Kalmar, Sweden, to Chesapeake, Virginia.

—S.T.

room for hauling kids, wood, lawnmowers or even (considering the price) platinum ingots.

This gradual creep upward of Volvo's prices has caused much eyebrow lifting among analysts and even those who remember the Volvo of the past—"drive it like you hate it," and it was clearly a prime concern of Volvo's to show us that there is a solid foundation for the asking price. After all, in specification, a Volvo is a front-engined car riding on a live axle with

a decidedly unFerrari body . . . indeed, just like a Ford or Chevy. Which was why we were encouraged to try and kill the cars. After we found out that they could be driven right to their limits—which are high, but still not in the supercar class—without drama, we should have been able to see the point. Shouldn't we?

Well, after we climbed out of the cars in the ancient city of Kalmar (where Volvo's newest—and most radical—assembly plant is located: see sidebar)

in the gathering damp darkness, there seemed to be more than a little merit in Volvo's approach. Because despite their unexciting mechanicals, the cars all proved themselves to be tough, reasonably economical, moderately fast and almost impossible to get into trouble with. And considering the dubious qualities of some of the other \$7000+ cars around (will a vinyl roof save you in a panic stop? Will opera windows keep you from spinning?) maybe that's not such a bad viewpoint. ■

Swedish Movers

□ The real stars of the Volvo show this year are the two new engines, coded the B-21F and B-27. Both are technically interesting, and both have been tested at great length in Volvo's tech center in Torslanda.

The B-21F is the replacement for the old B-20 four-cylinder engine used in the 140 and last year's 240 series. Whereas the old engine was all-iron with pushrods, the B-21 is made with an iron block and aluminum head carrying a single cam. The cam operates directly on the valves with no rockers and is driven by a toothed belt. Having started from scratch with this head, Volvo engineers made it a crossflow design, making it possible to get better breathing.

Carburetion is by Bosch continuous injection (see *RT*, Dec. '75: *Fuel Injection—The Imports* for details), which gives the 2127cc inline four 102 hp at 5200 rpm (99 in California cars, which are equipped with a catalyst) and 114 ft/lbs. of torque at 2750 rpm. This represents a gain of only four hp over last year's engine, but qualitatively the engine is much better. Not only is it quieter, but it also pulls much more cleanly from lower revs and doesn't run out of breath quite so fast at higher rpm. Smoothness—also a sore point of last year's engine—is clearly better in the B-21.

How much better the whole drivetrain package really is can be readily seen by comparing top speeds of the 242 GL we tested in February of '75 and the California-certified '76 242. Our '75 car would do no more than about 85 mph in either top or 4th overdrive, while the '76 would pull easily to 80 and then slowly make it over 100 mph. Thus the new engine is obviously an improvement, even in mileage: the EPA rates the 242 (California) at 18 city and 27 highway mpg . . . which should give it about 25 mpg on the RT Driving Cycle, 2 mpg better than last year's car.

Since the new 2.6-liter engine is all-new for Volvo this year (in automobiles built for America, anyway) it has no such comparative data base. The old top-of-the-line engine was the 164's inline six, which was—for all its apparent sophistication—a slow-revving, rather dull performer. The 264 engine will prove to be much better.

Built in a 90° vee, the B-27 *should* be a rough engine: V-6s are supposed to be smooth only in 60° or 120° configurations. However, this all-aluminum ohc engine seems to belie that, since not one of the cars powered by it displayed any roughness even remotely comparable to that of the GM V-6 used in our test Skyhawk last year. Careful attention to balancing must be responsible (certainly Peugeot, Renault and Volvo have spent huge sums to insure its reliability, smoothness and power), because there is nothing unusual about its straightforward design. Chain-driven cams ride in the heads, and the liners are of the screw-in wet type. A third chain drives the oil pump, and all use conventional sprockets and tensioners.

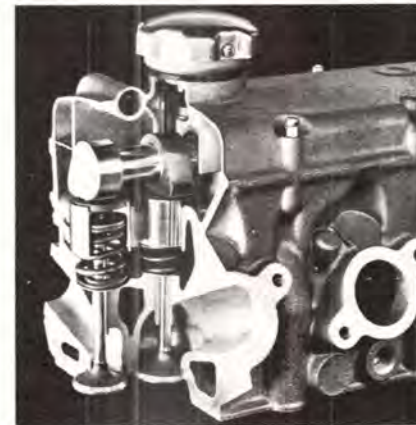
Unlike the B-21's valves, the B-27's are operated by small rocker arms, and the combustion chambers are hemispherical. Power output is rated at 125 hp at 5500 rpm (121 California), and torque at 150 ft/lbs. This translates into an observed top speed for the 264 GLO (four-speed with overdrive) of just over 108 mph, and it allowed a 0-60 mph time (with a hand-held on-board watch) of 12 seconds and some change. Clearly no hotrod engine, the B-27 seems to have been engineered for smoothness, torque, and mileage: the EPA says it rates 15 mpg in the city and 27 on the highway.

Probably the most interesting aspect of the B-27 is its international heritage. For two French companies to cooperate with a Swedish manufacturer for the common good of each is something of a feat in itself. So far, no serious bugaboos have developed in the B-27 in any of its forms, and it would seem to bode well for its—and the idea's—future.

—S.T.



B-21F sohc four; cam is belt-driven.



Cutaway view of the B-21F 4-cyl: note crossflow design.



The B-27 2.6-liter V-6 has overhead cams, is all-aluminum and uses Bosch CIS fuel-injection.



VOLVO 265DL

ROAD & TRACK
April 1976

The world's first mass-produced \$10,000 station wagon



THERE ARE DEFINITE automotive landmarks, some technical, others in styling and even a few in pricing. Unfortunately, that latter group has made great strides lately—the \$5000 Volkswagen, the \$13,500 small Cadillac, the \$26,000 Porsche and now, staring at you from this page, Volvo's \$10,000 station wagon.

You would expect the Swedes, of course, to assume that it takes more than pure audacity to charge 10Gs for a type of vehicle many Americans have always assumed should be used to haul groceries, potted plants and large families. Remember that the station wagon is an American phenomenon, a vehicle that makes pretenses at being a delivery van in the guise of a sedan. Of course those two aims are not necessarily compatible and the sedan stylists have usually won out over those fanatics who assumed a wagon should be utilitarian. Perhaps the prime example is the present line of large General Motors wagons.

European wagons are an outgrowth of commercial vehicles. As such they are built for utility first, for style second, which is why some European wagons go to the opposite extreme of the GM wagons and end up overly boxy and often with a roof bulge in the cargo area. Actually the emergence of the European station wagon more closely parallels our vans than our station wagons. Like vans, the imported wagons pick up one excellent rub-off from their more commercial counterparts, that being the fact that business vehicles are usually built to take rugged use and last longer.

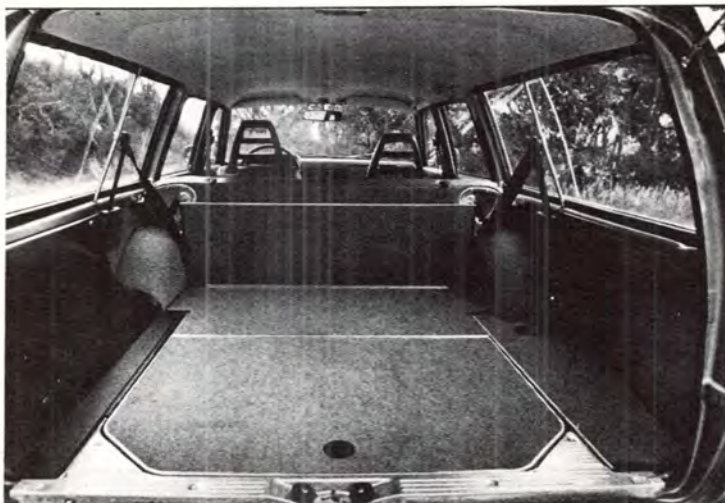
So where does the Volvo fit in? Remember Henry Manney's

story in our March issue, the one about driving the Volvo Express? Leaf back through the article and you'll get some idea of what a commercial Volvo wagon looks like allowing, of course, for the many options on the Express.

There have been a few changes since that vehicle was built, most of them coming last year. We've explained those differences before, the 140 series becoming the 240 series, the 160 model series moving up to 260. What is most significant here is that while the 160 series had no luxury station wagon, the 260 line-up does: the 265. With all Volvos now being built on the same basic chassis, that makes the 265 really a luxury version of the 245 wagon, but with the V-6 engine and standard air conditioning. All the external dimensions are identical, the only measurable difference between the Volvo wagons and sedans being an extra inch in height.

The 240 series had all this in 1975, since that new model was introduced here just as it was in Europe, less the overhead cam 4-cylinder engine. The 260s, though, were held off the U.S. market until this year, no doubt to make sure of the V-6 engine's availability and reliability. Now we have the whole 260 package, new sheet metal, MacPherson strut front suspension, revised rear suspension, new dashboard, seats and interior appointments and the V-6. In total, it is an entirely new car with only the basic shape of the body being retained; the similarity of design belies what's underneath.

Main point of interest is the V-6. As we've mentioned before, this engine is the result of a Peugeot-Renault-Volvo combine ➤



The 265 has 53.2 cu ft of usable space. Underfloor compartment can be used for hiding or stowing chains.



in Douvrin, France. It is a 90-degree V-6 rather than the inherently smoother-running 60-degree design, with a cam in each head working the valves through rocker arms. Fuel system is the Bosch continuous-flow injection, the whole unit neatly tucked in the valley between the cylinder banks. Unfortunately, that is the only neat thing in the underhood area, which is crowded with tubes and hoses. At 2673 cc, the V-6 produces 125 hp at 5500 rpm (121 hp at 5500 in California) and 150 lb-ft of torque in the 49 states and 148 lb-ft in the California version, which is the only one needing a catalytic converter and unleaded fuel.

The V-6 has sufficient power and a crispness to hide the fact that it is a fully certified 1976 engine. The injection starts the car easily from cold, with no driveability problems in our California winter climate. Even with a cold engine, just put your foot in it and the V-6 reacts with no stumbling or hesitation.

The only times we were able to feel the uneven firing pulses of the V-6 were at idle, when the car shuddered a bit and later, under full acceleration. Even then, it was very mild, almost more aural and virtually nil compared to the pronounced shake of a few of the General Motors V-6 powered vehicles. We also drove Volvo's V-6 automatic wagon for a few days and there the torque converter smooths the shudder out even more.

We have no earlier 6-cylinder Volvo wagons to compare this

one to, but the acceleration was quite respectable: 0-60 mph in 13.5 sec and the standing quarter mile in 18.7 sec. Fuel economy was a bit disappointing at 16 mpg on our fuel run.

The 265 has a surprisingly light and maneuverable feeling and the quick rack-and-pinion power steering gives the car a turning circle of 32 ft 2 in. The wagon will turn inside such cars as the Saab 99, Fiat 131, Toyota Corona and Porsche 911. We're used to excellent brakes from Volvos, but the 265's still caught us a bit unawares. The four-wheel discs hauled the car down in 146 ft from 60 mph and in 249 ft from 80 mph. The only thing that marred its performance was the necessity to modulate the pedal to keep the back end from swinging around.

There is nothing on the dashboard that wasn't seen in last year's 240 series, but we have to say the instrument panel is a bit barren. There is only a speedometer and fuel level and temperature gauges. Since our test car came with the smooth-shifting 4-speed manual transmission with standard electric overdrive (the automatic is a no-cost option) we would have liked the optional tachometer included. Of course, there is the optional rallye dash available, but for the price . . .

Ventilation was up to the usual Gothenburg standards, with plenty of dashboard vents and the ability to direct the airflow with the push of a button. As before, the ergonomics are excellent with only the radio a bother, mounted so low the dial is unreadable. The Volvo seats just seem to get better and for ➤➤➤

**R
&
T**
**ROAD TEST
VOLVO 265DL**


SCALE: 10" DIVISIONS

PRICE

List price, all POE \$9495
 Price as tested \$9900
 Price as tested includes AM/FM
 stereo (\$170), roof rack (\$80),
 floor mats (\$30), dealer prep
 (\$125)

IMPORTER

Volvo, Inc
 Rockleigh, N.J. 07646

GENERAL

Curb weight, lb 3320
 Test weight 3660
 Weight distribution (with
 driver), front/rear, % 53/47
 Wheelbase, in 104.0
 Track, front/rear 55.9/53.1
 Length 192.6
 Width 67.1
 Height 57.5
 Ground clearance 7.1
 Overhang, front/rear 38.9/49.7
 Usable trunk
 space, cu ft 27.8 + 25.4
 Fuel capacity, U.S. gal 15.8

ENGINE

Type sohc V-6
 Bore x stroke, mm 88.0 x 73.0
 Equivalent in 3.46 x 2.87
 Displacement, cc/cu in. 2673/163
 Compression ratio 8.2:1
 Bhp @ rpm, net 121 @ 5500
 Equivalent mph 137
 Torque @ rpm, lb-ft. 148 @ 2750
 Equivalent mph 69
 Fuel injection Bosch CIS
 Fuel requirement ..unleaded, 91-oct
 Exhaust-emission control equipment:
 catalytic converter, exhaust-gas
 recirculation, air injection

INSTRUMENTATION

Instruments: 130-mph speedo,
 999,999 odo, 999.9 trip odo,
 coolant temp, fuel level, clock
 Warning lights: oil press., brake
 system, parking brake, alternator,
 overdrive, rear-window heat, bulb
 failure, exhaust-gas recirc, seat-
 belts, hazard, high beam, direc-
 tionals

CHASSIS & BODY

Layout front engine/rear drive
 Body/frame unit steel
 Brake system 10.3-in. discs
 front, 11.0-in. discs rear, vacuum
 assisted
 Swept area, sq in. 420
 Wheels steel disc, 14 x 5½J
 Tires Michelin X, 185-14
 Steering type rack & pinion,
 power assisted
 Overall ratio 17.1:1
 Turns, lock-to-lock 3.5
 Turning circle, ft 32.2
 Front suspension: MacPherson struts,
 lower A-arms, coil springs, tube
 shocks, anti-roll bar
 Rear suspension: live axle on trailing
 arms & Panhard rod, coil springs,
 tube shocks

DRIVETRAIN

Transmission .. 4-sp manual with OD
 Gear ratios: OD (0.80) 2.98:1
 4th (1.00) 3.73:1
 3rd (1.37) 5.11:1
 2nd (2.16) 8.06:1
 1st (3.71) 13.84:1
 Final drive ratio 3.73:1

ACCOMMODATION

Seating capacity, persons 5
 Seat width, f/r 2 x 20.0/51.0
 Head room, f/r 37.0/35.5
 Seat back adjustment, deg 80

MAINTENANCE

Service intervals, mi:
 Oil & filter change 7500
 Tuneup 15,000
 Warranty, mo/mi 12/unlimited

CALCULATED DATA

Lb/bhp (test weight) 30.2
 Mph/1000 rpm (OD gear) 25.0
 Engine revs/mi (60 mph) 2400
 Piston travel, ft/mi 1150
 R&T steering index 1.13
 Brake swept area, sq in./ton .. 230

RELIABILITY

From R&T Owner Surveys the average
 number of problem areas for all
 models surveyed is 12. An average
 of 7 of these problem areas is con-
 sidered serious enough to constitute
 reliability areas that could keep the
 car off the road. As owners of ear-
 lier-model Volvos reported 10 prob-
 lem areas and 4 reliability areas we
 expect the overall reliability of the
 Volvo 264 to be better than average.

ROAD TEST RESULTS
ACCELERATION

Time to distance, sec:
 0-100 ft 3.8
 0-500 ft 10.3
 0-1320 ft (¼ mi) 18.7
 Speed at end of ¼ mi, mph 70.5
 Time to speed, sec:
 0-30 mph 4.5
 0-40 mph 6.5
 0-50 mph 9.1
 0-60 mph 13.5
 0-70 mph 18.5
 0-80 mph 25.5

SPEEDS IN GEARS

OD (4230 rpm) 108
 4th (5300) 108
 3rd (5500) 82
 2nd (5500) 51
 1st (5500) 29

FUEL ECONOMY

Normal driving, mpg 16.0
 Cruising range,
 mi (1-gal. res) 237

HANDLING

Speed on 100-ft radius, mph 31.9
 Lateral acceleration, g 0.678

BRAKES

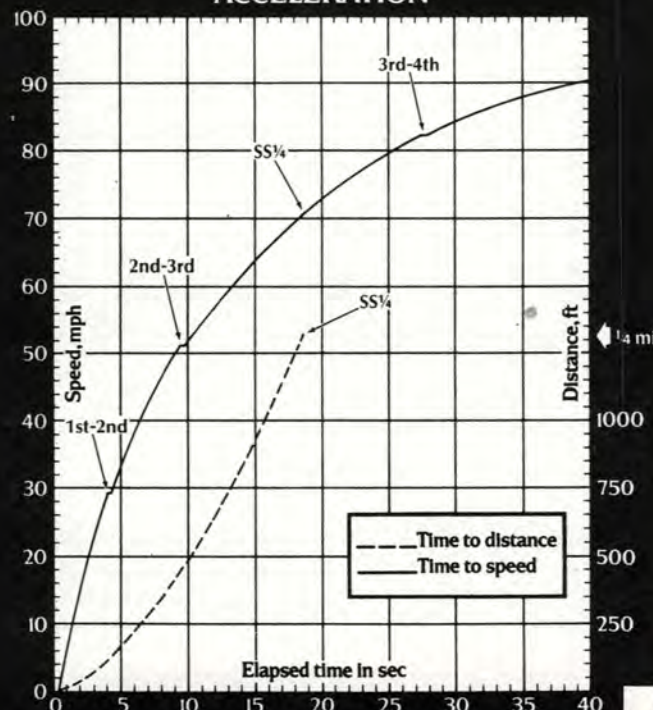
Minimum stopping distances, ft:
 From 60 mph 146
 From 80 mph 249
 Control in panic stop good
 Pedal effort for 0.5g stop, lb 23
 Fade: percent increase in pedal effort
 to maintain 0.5g deceleration in
 6 stops from 60 mph 26
 Parking: hold 30% grade? yes
 Overall brake rating very good

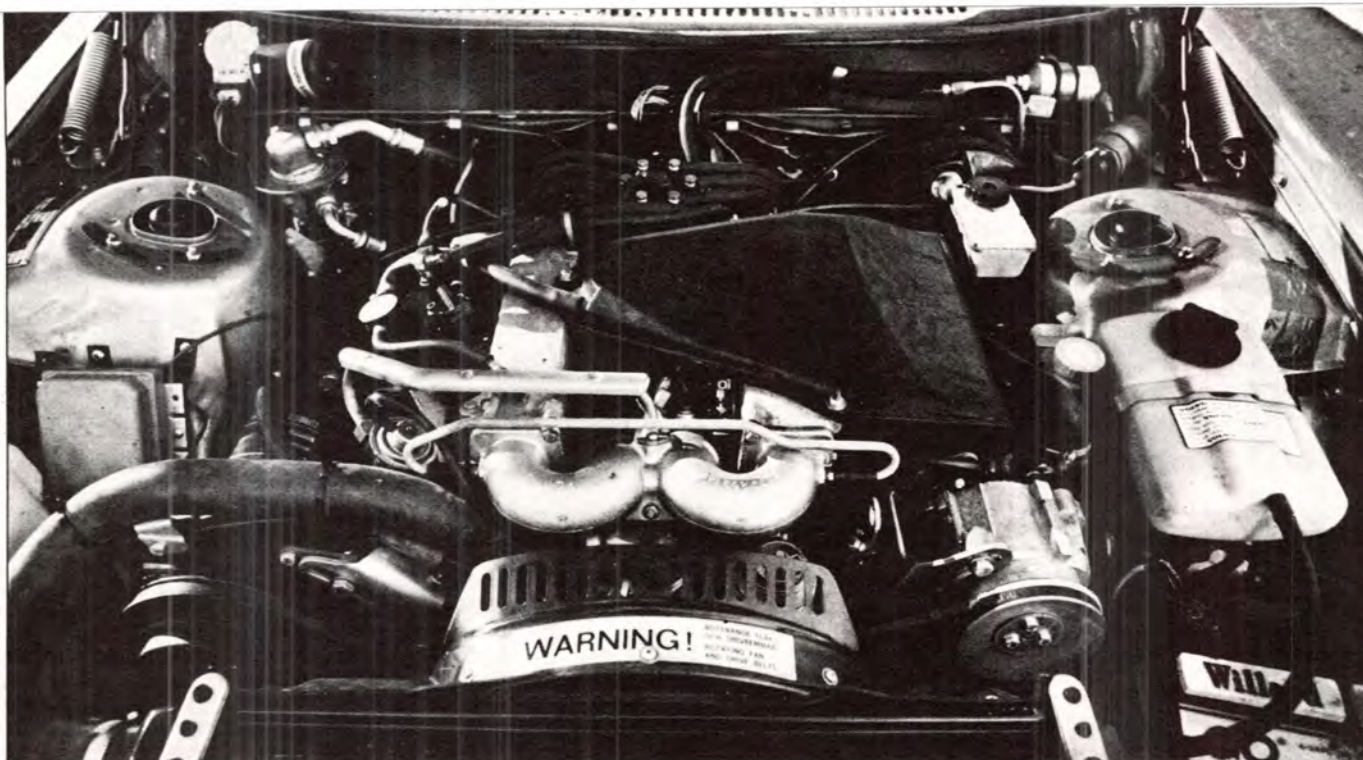
INTERIOR NOISE

All noise readings in dBA:
 Idle in neutral 56
 Maximum, 1st gear 78
 Constant 30 mph 67
 50 mph 71
 70 mph 75

SPEEDOMETER ERROR

30 mph indicated is actually... 31.0
 50 mph 51.0
 60 mph 61.0
 70 mph 70.0
 80 mph 80.0
 Odometer, 10.0 mi 10.0


ACCELERATION




PHOTOS BY JOHN LAMM

someone with a bad back, sitting in them is like putting on a pair of old, friendly shoes.

The business end of the Volvo wagon shows its commercial heritage, with 53.2 cu ft of usable space and strong, close-fitting floor panels that are edged with aluminum and swing on strong piano hinges. They are cut precisely and when you fold the second seat (a rear-facing third seat is optional) forward, everything fits into place easily, leaving a flat, smooth load surface without disturbing the range of adjustment in the front seats. The spare is tucked neatly behind the left wheel well, with extra space available behind the right well and under a floor panel at the extreme rear. The fifth door opens easily and props up positively with a locking strut. Hinged at the top, the door opens down to the bumper so you needn't climb over a tailgate. It's all very well finished and efficient.

But does all that make the Volvo 265 worth \$10,000? Everyone on the staff who drove the wagon seemed to enjoy it. The package size is excellent, the performance more than adequate, and the 265 may have the best ride-handling compromise of any wagon made; the very concept hooked our imaginations. But then we don't have to shell out the \$10,000. Taken in that light, the 265 is an answer to a question we've asked, but at a price we couldn't have envisioned just two years ago. It is probably as good as that mythical Mercedes-Benz station wagon the inveterate M-B fans long for, but it lacks the Mercedes star. So when you consider the cost of such vehicles as Volvo's own 245 wagon (\$7495 base price), Peugeot's 504 wagon, the Dasher and Fox wagons, the Hornet Sportabout and even a well outfitted van, the 265 wagon becomes a very expensive way to satisfy one's imagination. 





ROAD & TRACK
April 1976

VOLVO 242DL

Volvo's new 4-cylinder gets a chance to prove itself

PHOTOS BY JOHN LAMM



WELCOME TO PART TWO of a 10-month-old road test. The first half was printed last July with the test of the 1975 Volvo 242GL, in which we offered our opinion of the closest thing to a new Volvo Gothenburg has produced since the 140 series debuted in 1966. Only the basic 140 sheet metal from the bulkhead rearward remained, with the front end design now closely approximating that on Volvo's safety car. Underneath was a MacPherson strut front suspension and rack-and-pinion steering and even the rear suspension had been revised. Inside the dash and instrument panels were new, as were the seats and interior trim.

That was an extensive updating from a company that thinks in decades and still uses odometers with six figures. Yet they left out what was perhaps the most exciting part of the new 240 series—the engine. Still up front, looking slightly lost in the now-larger engine compartment (thanks to the strut suspension) was “the old four,” as the overhead valve B20 was affectionately known. We didn't really mind the engine, since there are few pieces of hardware in the automotive business that are as old as we are, so we felt a certain kinship to the 30-year-old solid-iron 4-cylinder.

However, the old girl was, as they say, a bit long of tooth for 1976 . . . to say nothing of noisy and slow. Just meeting 1975 emissions regs had drained another 11 hp from the Federal B20 and as Volvo added still more options and weight, the

end became inevitable. But being conservative, Volvo also figured that a company that touts its reliability shouldn't rush into an important market like America with an untried engine, so for 1975 they made the new 4-cylinder a European exclusive and gave us the older engine.

All that's resolved now and with the new B21F four, the Volvo transformation is complete. To refresh your memory, the new powerplant has an iron block (though the bottom end is similar to the old engine), capped with an aluminum crossflow head. The head contains the cogbelt-driven camshaft, which works the valves directly through tappet buckets. The same basic Bosch continuous-flow injection system the B20 had is continued on the B21F and to allow sufficient room for it, the engine is canted about 15 degrees to the right. At 2127 cc, with a compression ratio of 8.5:1, the B21F manages 102 hp at 5200 rpm (99 at 5200 rpm in California with a catalyst) with 114 lb-ft of torque for all U.S. engines. With the B21F comes a new manual transmission (M46) with the option of the electric overdrive which has a shift lever-mounted switch as in 1975.

Most important, though, is the feeling the engine adds to the Volvo line, which seemed to be drowning in corporate conservatism. The car has some flair and is not just getting by anymore. The 240s are able to get up a freeway ramp with authority and not run out of breath too early. We aren't back

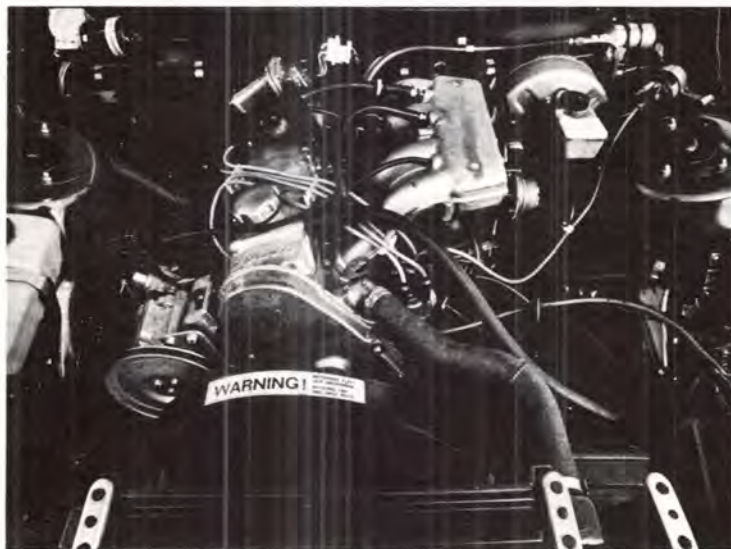
to the days of the 122S, but at least there is a little Viking blood back in the cars.

Next most important improvement is acceleration, the new car beating last year's 0-60 mph time of 14.2 sec with a clocking of 13.0 flat. The 1976 quarter-mile time undercuts the 1975 mark by 2.3 sec, with a 18.8-sec timing. Last year's car, by the way, had a final drive ratio of 4.30:1, while our new California car had a 3.91:1 gear combined with higher numerical gear ratios for 1st and 2nd in the gearbox. You'd expect that to show in the gas mileage figures and it does, the new engine getting 21.0 mpg versus 18.5 mpg in 1975.

Now, though, the engine seems to enjoy revving, able to go right to the 6000-rpm rev limit without sounding strained. The final form of the overhead valve engine was good for about 4000 rpm and then left the impression it was about to seize. What's more, you don't have to run this to the limit in each gear since the flexibility given the B21F by its broader torque curve allows you to pick a gear and stay and not be continually thrashing about in the gearbox.

Since the aluminum keeps the weight of the new, larger engine to about that of the older iron model, the handling hasn't changed appreciably since 1975, but that had been enough of an advance over the previous year; we aren't about to complain. The car still isn't a street racer and takes a slightly ambiguous set in a hard corner, thanks to the softer springing between 1974 and 1975. Yet, the improved ride over the Volvos of the early Seventies makes it worth it.

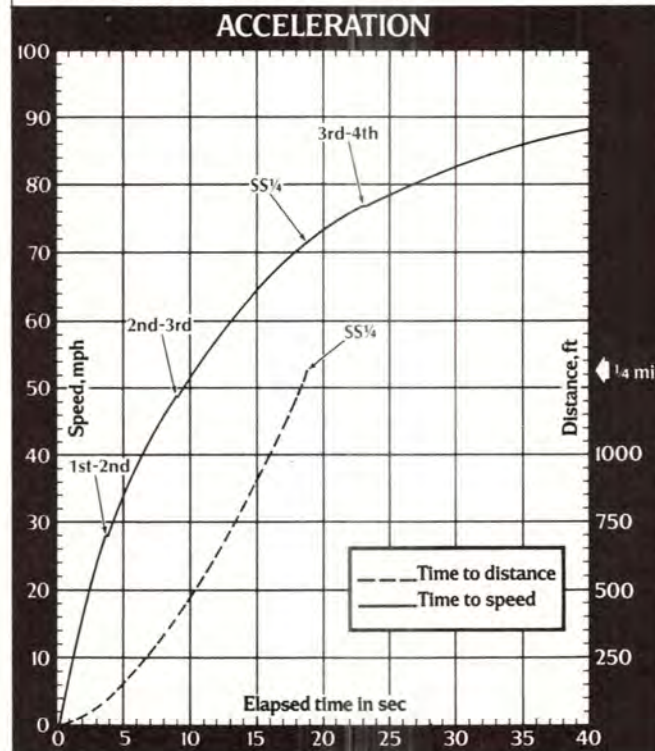
Besides, if you care to go beyond stock, Volvo has an interesting variety of semi- or full-competition options. The 240 sedans already have anti-roll bars front and rear so they would be easy to replace and a variety of shocks are available if the standard tubes are a bit soft for you. Our test car had two extra items: a smaller, leather-wrapped GT steering wheel and



the very complete replacement instrument panel. As little frivolity as there is in the standard dash, it is sparse on instruments and this option more than makes up for it, with speedometer, tach and oil pressure, voltmeter, fuel level and temperature gauges. Oddly enough, despite their very serious appearance, both the tach and speedo weren't particularly accurate.

That was our only possible complaint about this newest Volvo. It is pleasant to report that Gothenburg has finally managed to bring the Volvos out of the Sixties and the total car is now as advanced and complete as we expect from Volvo. That metamorphosis hasn't made the cars any cheaper, but it has kept them in the tradition of the "11-Year Car" and "Drive it like you hate it." That is what the public expects from Volvo and judging by the fact that 1975 was the best year Volvo has had in the U.S., the public is willing to pay for it.

PRICE		ROAD TEST RESULTS	
List price, all POE	\$6995	ACCELERATION	
Price as tested	\$7770	Time to distance, sec:	
GENERAL		0-100 ft	3.9
Curb weight, lb	2915	0-500 ft	10.3
Weight distribution (with driver),		0-1320 ft (1/4 mi)	18.8
front/rear, %	51/49	Speed at end of 1/4 mi, mph	71.5
Wheelbase, in.	104.0	Time to speed, sec:	
Track, front/rear	55.9/53.1	0-30 mph	4.2
Length	192.6	0-50 mph	9.5
Width	67.1	0-60 mph	13.0
Height	56.5	0-70 mph	17.8
Fuel capacity, U.S. gal.	15.8	0-80 mph	26.5
CHASSIS & BODY		SPEEDS IN GEARS	
Body/frame	unit steel	OD (4250 rpm)	98
Brake system	10.3-in. discs front, 11.0-in. discs rear; vac assist	4th (5100)	98
Wheels	steel disc, 14 x 5 1/2	3rd (6000)	77
Tires	Michelin X, 185SR-14	2nd (6000)	49
Steering type	rack & pinion, power assisted	1st (6000)	28
Turns, lock-to-lock	3.5	FUEL ECONOMY	
Suspension, front/rear	MacPherson struts, lower A-arms, coil springs, tube shocks, anti-roll bar/live axle on trailing arms & Panhard rod, coil springs, tube shocks, a-r bar	Normal driving, mpg	21.0
ENGINE & DRIVETRAIN		BRAKES	
Type	sohc inline 4	Minimum stopping distances, ft:	
Bore x stroke, mm	92.0 x 80.0	From 60 mph	180
Displacement, cc/cu in.	2127/130	From 80 mph	287
Compression ratio	8.5:1	Control in panic stop ... very good	
Bhp @ rpm, net	99 @ 5200	Pedal effort for 0.5g stop, lb	30
Torque @ rpm, lb-ft	114 @ 2500	Fade: percent increase in pedal effort to maintain 0.5g deceleration in 6 stops from 60 mph	27
Transmission	4-sp manual with OD	Overall brake rating	good
Gear ratios: OD (0.80)	3.13:1	HANDLING	
4th (1.00)	3.91:1	Speed on 100-ft radius, mph	31.7
3rd (1.37)	5.36:1	Lateral acceleration, g	0.673
2nd (2.16)	8.45:1	Speed thru 700-ft slalom, mph	53.0
1st (3.71)	14.51:1	INTERIOR NOISE	
Final drive ratio	3.91:1	All noise readings in dBA:	
CALCULATED DATA		Constant 30 mph	60
Lb/bhp (test weight)	32.8	50 mph	65
Mph/1000 rpm (OD)	23.0	70 mph	72
Engine revs/mi (60 mph)	2610	SPEEDOMETER ERROR	
R&T steering index	1.13	30 mph indicated is actually	31.0
Brake swept area, sq in./ton	258	60 mph	60.0
		70 mph	69.0



Comparison: 6 Luxury Compact Wagons

MOTOR TREND
March 1976

Clockwise, from foreground: Volvo 245 DL, Peugeot 504, Plymouth Volare, Hornet Sportabout, Toyota Mark II. In center, Mazda RX-4.



In case you've forgotten, the original station wagon was exactly what the name implies: a commercial wagon-type vehicle more car size than truck size, specifically designed to carry passengers and their luggage to and from railroad stations. Although the basic design is still very much with us, the concept has undergone some changes.

Granted, station wagons are still designed to carry both passengers and cargo, but their use has been extended beyond travelers and steamer trunks to include carrying everything from that typical group of Cub Scouts to that standard 4 x 8 sheet of plywood. And just about everything in between. It's probably safe to assume the vast majority of wagons on the road today seldom carry more than a few toys, an occasional suitcase or a few sacks of groceries. Today's station wagons are primarily people movers, with that extra space a handy convenience, an extra-cost option. Like mad money in the dresser drawer, it's nice to know it's there, even though it isn't used very often.

There also has been a size change in the world of station wagons. They now come in a variety of wheelbases, from the Pinto/Vega class all the way up to full-size like the Impala and Ford LTD. And there is another factor in the mix: Station wagons are very popular.

So when we decided to do a station wagon comparison, there was little doubt it would enjoy a pretty

widespread readership interest. The only real question facing us was which group of wagons to test. We settled that in two ways. First we decided to do more than one wagon comparison within the next few months, and then we decided to make the first comparison among a particularly popular segment of the wagon offering: compacts.

This group of compact wagons—Mazda RX-4, American Motors Hornet, Toyota Mark II, Peugeot 504, Volvo 245 DL and Plymouth Volare—have marked similarities and differences. They all fall within a general wheelbase category. The shortest, the Mazda, is 99 in. The longest, the Peugeot, is 114 in. They are all basically designed to carry five passengers, or when converted to cargo carriers, roughly the same amount of cargo. They all have four doors. They also are strikingly similar in the way they are equipped as tested. In fact, by virtue of standard equipment, extra-cost options or both, all six wagons can safely be called luxury compacts.

They are most dissimilar mechanically, which is good, because that makes the comparison test all the more valid for the serious wagon shopper. We have here a selection of rotary, 4-, 6-, and 8-cylinder engines with their concomitant trade-offs between economy and performance. Although five have automatic transmissions, there is a 4-speed thrown in. The reason for that you will find in the report. There also are marked differences in steering, brake and suspension systems, and in passen-

Compact Wagons

ger packaging, comfort, attention to detail and, of course, personality.

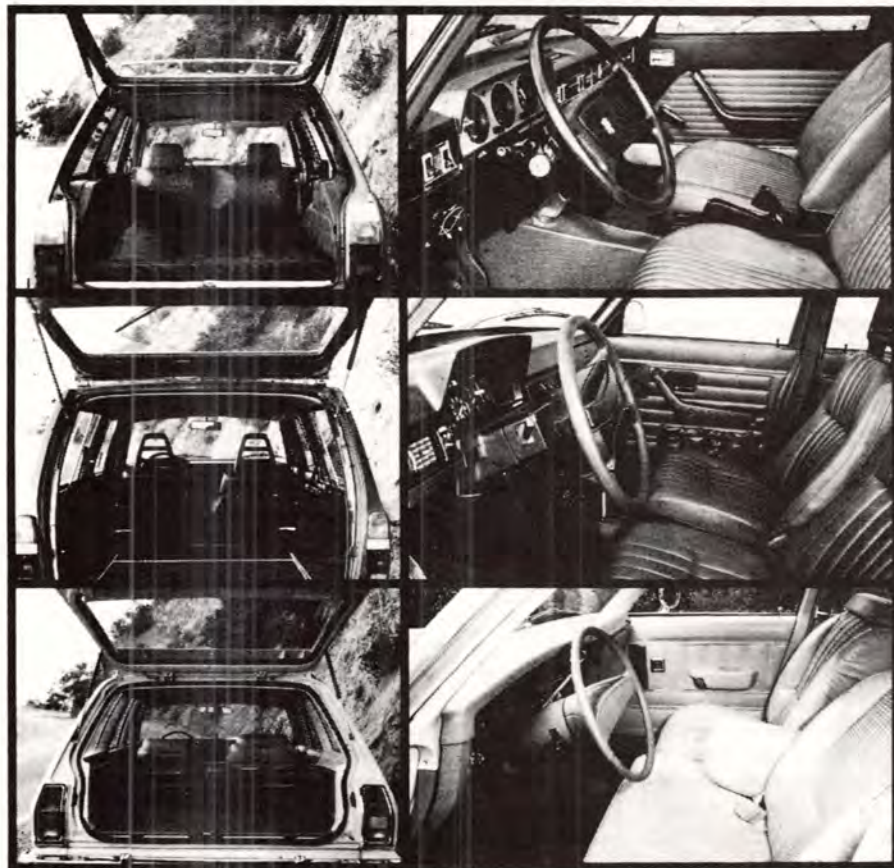
One final thing. You won't find a winner and a loser at the end of the comparison. That wasn't our goal. Rather, we wanted to evaluate each wagon separately, present the information and then let you decide. Each has its weak points and its strong points. It's up to you to decide which has the best combination of the things you want in a compact wagon.

• • •

The twin rotor Mazda engine has been the subject of much controversy since early EPA fuel consumption figures were released. Recent improvements in carburetion, ignition and reliability have raised the gas mileage and extended the engine warranty by the manufacturer. The engine is very smooth, practically vibrationless, and has enough torque to work well with automatic transmissions. Gas mileage with this combination on our 73-mile fuel test loop was 19.46 mpg, almost the same as the Volvo.



Mazda's cargo area (top) features lockable storage compartments on either side, under-car spare storage. Slide-in access to Hornet's cargo area (center) is hampered by raised end of rear body section. Space Saver spare is housed in covered compartment at right. Like Hornet, the Toyota (bottom) has large wheelwell intrusion that narrows floor width in that area.



Peugeot (top) has the greatest cargo area height and floor length. Removable, foam-filled vinyl pad provides soft base for fragile cargo or reclining passengers. Volvo (center) stows spare in covered compartment at left, has extra cargo area beneath hinged floor section. Volare (bottom) has smallest wheelwell intrusion and greatest usable width. Spare stows beneath rear floor.

Interior appointments might be termed posh or plush, depending on how one looks at the seat upholstery. It looks sticky but is very soft and smooth, so sliding in and out does not grab at the clothing, and it breathes well. Individually adjustable front bucket seats recline fully, but the leg room for 6-foot drivers is a bit on the short side. The center console has a hinged, padded arm rest that covers a small storage compartment and extends forward and up to the lower dash, with the vertical section housing an AM/FM radio. Center-mounted parking brake and shift controls are conveniently located, but the radio dial is hard to see with the shift lever in Park position.

Instrumentation includes a large and well-placed speedometer, tachometer and an illuminated vertical gear position indicator. Smaller gauges and lights are used for fuel, oil pressure, temperature and alternator. A tachometer is an important instrument for rotary-engined cars, as over-revving severely raises the wear factor on the rotor lip seals. Normal driving with an automatic transmission keeps engine revs under control with the proper shift points, but those who like to manually shift their automatics had better mind the 7000-rpm redline.

A rotary power plant, good sound



Specifications:

POWER UNIT	Mazda RX-4	Hornet Sportabout	Toyota Mark II	Peugeot 504	Volvo 245 DL	Volare
Type.....	2-rotor Wankel	OHV 6-cyl	SOHC 6-cyl	OHV 4-cyl	SOHC 4-cyl	OHV V-8
Bore&Stroke.....	N.A.	3.75 x 3.90 in./95 x 99 mm	3.15 x 3.35 in./80 x 85 mm	3.46 x 3.2 in./88 x 81 mm	3.62 x 3.15 in./92 x 80 mm	3.91 x 3.31 in./99.3 x 84.1 mm
Displacement.....	80 cid/1308 cc	258 cid/4229 cc	156 cid/2563 cc	120 cid/1971 cc	130 cid/2127 cc	318 cid/5212 cc
Maximum Net HP.....	110 @ 6000 rpm	120 @ 3600 rpm	108 @ 5000 rpm	88 @ 5500 rpm	99 @ 5200 rpm	150 @ 4500 rpm
Maximum Net Torque.....	120 lb/ft @ 4000 rpm	200 lb/ft @ 2000 rpm	135 lb/ft @ 2800 rpm	110 lb/ft @ 2900 rpm	114 lb/ft @ 2500 rpm	255 lb/ft @ 3000 rpm
Compression Ratio.....	9.2:1	8.0:1	8.5:1	8.0:1	8.5:1	8.5:1
Carburetion.....	4-bbl	2-bbl	2-bbl	Dual 1-bbl	Elec. injection	2-bbl
DRIVETRAIN						
Transmission Type.....	3-spd automatic	3-spd automatic	3-spd automatic	4-spd manual	3-spd automatic	3-spd automatic
Final Drive Ratio.....	3.64:1	3.08:1	N.A.	4.11:1	3.91:1	2.71:1
CHASSIS						
Body/Frame.....	Semi-monocoque	Unit body	Unit body	Unit body	Unit body	Unitized
Suspension, Front.....	Independent strut type, coils, torsion bar	Independent, coils, shocks	Independent, coils, torsion bar, shocks	MacPherson struts, anti-sway bar	Independent, coils, shocks	Transverse torsion bars, anti-roll bar, tubular shocks
Suspension, Rear.....	Rigid axle, semi-elliptic leafs, shocks	Hotchkiss, leafs, shocks	Live axle, leaf springs, shocks	Rigid axle, coils, shocks, anti-sway bar	Live axle, coils, shocks	Live axle, leaf springs, tubular shocks
Brakes, Front.....	Disc	Disc	Disc	Disc	Disc	Disc
Brakes, Rear.....	Drum	Drum	Drum	Drum	Disc	Drum, Power
Steering System.....	Recirculating ball	Recirculating ball	Recirculating ball	Rack & pinion	Rack & pinion	recirculating ball
Steering Ratio.....	N.A.	12.0-16.0:1	19.3:1	22.2:1	17.1:1	18.7:1
Tire Make & Size.....	Goodrich BR70 x 13	Goodyear DR70 x 14	Bridgestone 175 x 14	Michelin ZX 185 x 14	Michelin X 185 x 14	Goodyear GR78 x 14
DIMENSIONS						
Wheelbase.....	99 in./251 cm	108 in./274 cm	101.8 in./259 cm	114.0 in./289 cm	104.0 in./264 cm	112.5 in./285.8 cm
Track, Front.....	54 in./137 cm	57.5 in./146 cm	53.5 in./136 cm	54 in./137 cm	55.9 in./142 cm	60.0 in./152.4 cm
Track, Rear.....	54 in./137 cm	57.1 in./145 cm	53.0 in./135 cm	52 in./132 cm	53.1 in./135 cm	58.5 in./148.6 cm
Length.....	183 in./465 cm	187 in./475 cm	182.9 in./465 cm	194.4 in./494 cm	192.6 in./489 cm	201.5 in./511.8 cm
Width.....	65 in./165 cm	71 in./180 cm	64.4 in./164 cm	66.7 in./169 cm	67.1 in./170 cm	72.8 in./184.9 cm
Height.....	56 in./142 cm	52.2 in./132 cm	55.9 in./142 cm	61 in./155 cm	57.5 in./146 cm	54.8 in./139.2 cm
Weight.....	3100 lb	3530 lb	3082 lb	3275 lb	3220 lb	3975 lb
Payload.....	775 lb	925 lb	800 lb	1410 lb	1120 lb	1100 lb
Fuel Capacity.....	17.4 gals.	22.0 gals.	14.5 gals.	15.8 gals.	15.8 gals.	18.0 gals.
PERFORMANCE						
0-30 mph.....	5.9 sec	4.5 sec	4.7 sec	5.8 sec	4.7 sec	4.0 sec
0-60 mph.....	14.3 sec	15.3 sec	14.0 sec	20.2 sec	15.5 sec	14.3 sec
40-60 mph.....	7.1 sec	9.3 sec	7.8 sec	11.9 sec	9.0 sec	8.3 sec
Quarter Mile.....	19.5 sec	20.1 sec	19.5 sec	22.7 sec	19.9 sec	19.0 sec
MPH.....	73.23	68.5	72	64.6	71	71.03
Braking, 30-0 mph.....	33.3 ft	34.9 ft	38 ft	36.6 ft	30.9 ft	24.2 ft
Braking, 60-0 mph.....	146.9 ft	156.5 ft	136.25 ft	142 ft	143.5 ft	131.0 ft
Fuel Economy, 73-Mile Loop.....	19.46 mpg	20.3 mpg	19.8 mpg	22.2 mpg	19.5 mpg	16.3 mpg

Compact Wagons

and road noise insulation, and a firm suspension combine for a smooth, quiet ride with good handling, positive steering. All controls are well-placed, and large glass areas with thin pillars provide excellent all-around visibility.

Rear seating is most comfortable for two but will accommodate three with the center rider straddling the driveshaft tunnel. Knee room is adequate for persons of average height, with space for the feet under the front seats. With a full passenger load there is 3 ft, 6 in. of usable cargo floor length, and the width between wheelwells is 3 ft, 4 in. Dual rear seatback latches have coupled release handles, so the seat may be unlocked from either side and folded forward to increase rear cargo floor length to 6 ft, 1 in. Seat padding does not allow a flat floor, but weighted cargo will push the forward section down to a near level position.

A pair of compartments with hinged covers are located on either side and rearward of the wheelwells for stowing the bumper jack, lug wrench and a small set of tools, with some extra space for additional small items. The spare is located on a cradle under the rear of the chassis, accessible without the need to unload cargo. Built on a 99-in. wheelbase, the Mazda wagon is the shortest of the six test cars and has the lowest payload, yet efficient use of interior space and a very short engine combine to provide competitive interior room.

Exterior styling is clean and unadorned. The grille, flanked by dual headlights, hints of some Mercedes influence, and the chromed bumpers blend well into the overall body lines. Slant-back styling in the rear lift gate area eliminates the boxy profile of many current compacts but takes little from interior space.

The Mazda RX-4 is one of the most compact of the compacts, with overall dimensions within fractions of an inch of the Mark II Toyota. At 3100 lb curb weight, it is less than 20 lb heavier than the Mark II and gets very close to the same gas mileage. Pleasant to drive, with ample space for a small family and luggage, it fills the bill for a compact multipurpose passenger car.

Compact passenger cars are nothing new to American Motors. Its production of small vehicles goes back

- MAZDA RX-4
- HORNET
- SPORTABOUT
- TOYOTA MARK II



- PEUGEOT 504
- VOLVO 245 DL
- PLYMOUTH VOLARE



many years. So, with the increasing demand for a compact wagon, there was no need for a crash development program. AMC already had the Hornet sedan, and it was a relatively simple process to stretch it into a wagon.

Sharing the same 108-in. wheelbase with the 2-door Hatchback and sedan, the Sportabout wagon can be fitted with almost every option offered for the Hornet sedan. Our test wagon came with the optional 258cid six coupled to a 3-speed Torque-Command automatic transmission with column shift control. It entered the luxury class with the addition of air conditioning, deluxe interior with reclining front bucket seats, custom fabric and vinyl upholstery, AM/FM multiplex stereo radio, roof rack, custom wheel covers, rear window defogger, power steering and brakes with front discs, tilting steering wheel and the trim that comes with the appearance package option.

The Sportabout is pleasant, quiet and comfortable to drive. It has ample leg and head room for an average size adult, but there is a feeling of being more closed in than with the other wagons tested. With the lowest overall height of only 52.2 in., the head room for 6-footers is just about adequate, which contributes to the feeling of being in a small car despite the good interior room. Visibility of the road and instruments is excellent, and there is good side and rear vision. The 3-spoke custom wheel with soft, padded covering readily adjusts to the desired position without impairing the view of the center-mounted instruments. The bucket seats have good back support but are a bit short in the seat for the thighs. The padding and breathable

fabric eliminates that clammy feeling after a long drive.

Steering, with the power assist, is very easy with quick response and a very short turning radius; great for angling into short parking spaces. Wind, engine and road noises are well-insulated from the passenger compartment at highway cruising speeds. The 6-cylinder engine responds well to the throttle despite the rather heavy 3530-lb curb weight, getting to 60 mph from a standing start in just a fraction over 15 sec. Even at full throttle, automatic shifts are smooth yet positive, and our 73-mile fuel test loop showed more than 20 mpg.

With the column-mounted shift lever, low and uncluttered transmission tunnel and individual front seats that meet well at the center, there is ample seat width for three passengers and enough leg room on the right side of the tunnel hump. Passengers on the rear bench seat will find knee and leg room a bit snug, with the usual leg room for the center rider hampered by the driveshaft tunnel. Cargo area length with a full passenger load is 3 ft, 7 in., and the usable width between wheelwells is 3 ft, 5 in. The wells are nicely finished with a smooth hard coating, and a covered compartment on the right rear side houses a Space Saver spare tire and inflator bottle. Additional storage space is located under a hinged section of the cargo floor, a nice place for hiding small valuables from prying eyes.

Folding the rear seatback forward increases the cargo floor length to 5 ft, 2 in., but it does not extend completely to the back of the front seats, leaving a gap of about 10 in. The

continued on page 102

floor does not lie perfectly flat due to the meeting of the seat-cushions, but the gap behind the seats is rather handy for stowing items one might want to get to easily. It also allows use of some seatback tilt, not possible with cargo platforms that butt against the seatbacks. The bottom of the lift hatch does not extend down to the level of the cargo floor, leaving a 7-in.-high lip above the floor itself.

A nice feature is the aircraft-type overhead combination dome and reading lights. Individual switches allow either the driver or front passenger to beam a non-glare spot of light over the shoulder for nice reading illumination.

The Sportabout styling is distinctive, though it shares front sheet metal with the Hornet sedans.

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The Toyota Mark II is an excellent example of the complete luxury compact station wagon. Its standard equipment includes items listed by most other makers as extra-cost options. Powered by a 256cid (2563cc), overhead-cam, 6-cylinder engine, the Mark II is available only with automatic transmission, air conditioning, power front disc brakes, ESP, reclining front bucket seats, AM/FM multiplex stereo radio, whitewall bias-ply tires, rear window defogger, full carpeting, deluxe upholstery and interior trim with simulated wood grain inserts and exterior siding, just to name a few of the standards. The only extra-cost option listed for this model is an 8-track stereo tape deck.

It is less than an inch longer and higher than the 4-door Mark II sedan, with which it shares the same 101.8-in. wheelbase. Efficient use of available interior space gives the feeling of being in a much larger vehicle. The 6-cylinder power plant provides good performance for the designed passenger and cargo load, with the automatic transmission valved to shift smoothly to throttle demands.

The front bucket seats with reclining backs for both driver and passenger are comfortable, with good thigh and back support, yet wide enough to allow one to move around a bit. The 6-footer, however, might find the pedals a little too close for prolonged comfort. Large, round speedometer and instrument clusters are nicely located for easy viewing, and the center-mounted shift control and console are conveniently placed. The full-width rear bench seat skimps on knee room, and any center-riding passenger will have the driveshaft tunnel to straddle.

Several years ago, Toyota introduced the Electric Sensor Panel (ESP), a system of lights that indicated a failure or the need to service various components. A modified version is set in a section of the Mark II wagon's console and notes low brake fluid level, vacuum booster pressure, failure of a brake light and a warning that there are only a few hundred miles left on the front brake pads.

The Mark II is smooth and quiet, with low wind noise, good sound dampening from road and engine noise, and a fairly quiet air conditioning blower. Handling qualities will more than satisfy the average driver, with some understeer on fast, sharp corners. Steering is easy at both slow or cruising speeds, with no tendency to wander off course or wallow around on curves.

With the rear seat in position for a full passenger load, the cargo floor length is 3 ft, 6 in., with a width between the wheelwells of 3 ft, 3 in. As these wheel housings extend well into the interior, the width behind them adds another foot of usable space. With the rear seat folded, the load capacity increases to 6 ft, 1 in., but the seat and back cushions do not allow a completely flat floor unless this section is pushed down with heavy cargo. The seatback locks securely and rattle-free in the upright position and can be unlatched with one hand from either side. The spare tire is carried in a cradle under the rear end, and it can be removed without unloading the rear cargo area. Raising the top-hinged lift gate is eased by torsion bar assist. There are no struts or locks to hold it in the open position. The cargo floor extends flat out to the end for convenient slide-in loading.

Exterior styling is neat and trim, with interior finish and attention to detail evident in the lack of raw edges and poor fits. Inside there is the same quality of workmanship that allows long use with negligible signs of wear. Chromed bumpers meet current impact standards but blend well into the overall lines without the added-on look. Dual headlights and a center-divided grille are topped by a sloping, sculptured hood. At the rear, taillights extend from the rear fender ends into the lift gate.

On the road or in traffic, as a luxury passenger car, cargo carrier or a combination of both, the Mark II offers a fully equipped package for the motorist who wants a multipurpose car in a compact package that is comfortable, performs well, gets rea-



MAZDA RX-4

sonable gas mileage and eliminates the problem of trying to select from a long list of options.

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A small, 120.3-cu.-in., OHV, 4-cylinder engine, laden as federal laws require with power- and efficiency-robbing emission controls, is not the best choice as a power plant for a vehicle designed for a GVW of nearly 3 tons. Such a load may not be common practice, but with a curb weight of 3275 lb, four adults and a pile of luggage can add considerable weight. To couple the Peugeot 4-cylinder engine to an automatic transmission would further hamper performance, so for extracting the best from this power plant, our test wagon was equipped with a 4-speed, all-synchro, manual gearbox. This proved to be a nice combination, smooth and quiet, but the floor-mounted shift control was rather stiff with some searching required for the correct gear off the neutral position. A bit of practice solved the problem, with the fairly short stroke handy for fast downshifts.

A look at the wheelbase and overall length dimensions of the Peugeot wagon will show that it is not just a boxy version of the passenger car. A foot longer and with a 6-in.-greater wheelbase, the wagon has plenty of room for passengers and cargo. The Peugeot imparts the feeling of being in a much larger wagon, without that closed-in cramping too often associated with compact vehicles. Front seats are of the wide bucket type with full reclining and intermediate adjustments that give good thigh and back support. They sit high enough for good all-around visibility. The 8000-rpm tachometer and matching mph/kph speedometer that flank the cluster housing fuel gauge, temperature and battery voltage indicator are easily viewed through the top section of the horizontally spoked wheel. Lights are used to in-

dicating high beam, low oil pressure, turn signals and choke. Yes, the Peugeot uses a manual choke for assisting the twin Solex carburetors on a cold start.

The rear bench seat is wide enough for three adults, with adequate knee room, but a bit uncomfortable for the center rider, who must straddle the driveshaft tunnel. Rear cargo area with a full passenger load is the best of the test group, with 4 ft, 6 in. of length from seatback to lift gate. A 3-ft floor-to-ceiling height is also the greatest, due to the upsweep of the roofline in this area.

Passenger capacity is reduced to two by folding the rear seat, but flat cargo floor length is increased to 6 ft, 7 in. Width between the rear wheelwells is 3 ft, 6 in., and the spare tire is stowed in a cradle under the rear of the chassis. The mechanism for folding the rear seat is a bit different than the customary latch and hinge arrangement. A pair of levers on either side of the rear seat are used to raise the seatback out of securing slots on each top corner. This allows the bench section to swing forward against the front seatbacks, providing room for the rear seatback to fold forward and flat. Quite an easy operation, that can be done from either side with little effort.

The cargo floor is most unusual for a modern station wagon. Instead of carpeting, metal-based rubber strips atop the hard, glossy, simulated wood make the flooring look much like the bed of a customized pickup. Very practical for cargo, but a bit uncomfortable if one plans to use the wagon for sleeping. The practical French have solved this problem, however, by supplying a nice, thick, foam-padded cover that folds when the rear seat is up, lays out flat when it is down.

Driving the Peugeot is a pleasant experience. The ride is smooth and quiet with a feeling of solidity. It handles well, with positive steering response from the rack and pinion, but sharp turns or parking require a bit more muscle on the wheel than required at cruising speeds. Driving any vehicle for the first time takes some getting used to, and the Peugeot has its own peculiarities. The steering column/ignition lock, for example, is in a difficult-to-see position under the wheel hub and on the left, while the turn signal lever is right-hand operated. But the other switches are well marked and easily accessible.

Styling gives the Peugeot an identity all its own, with a high rear roof-

line and massive black bumpers that extend well out front and rear. What the Peugeot lacks in power is more than made up for by the large cargo capacity, good passenger comfort, ease of driving and the feeling of being in a solid vehicle.

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The Volvo 245 DL wagon was equipped with two features not shared by the other test vehicles: fuel injection and 4-wheel power disc brakes. Instead of carburetors, the single-overhead-cam, 130-cu.-in. engine with aluminum cross-flow head is an all-new power plant this year (MT, February '76). It is fueled by a continuous-flow Bosch FI unit. Coupled to a 3-speed automatic transmission, also new for '76, it provides a smooth flow of power and good low-end torque, with a horsepower rating of just a hair more than 100. This can move the 3220-lb wagon from 0-60 mph in 15.5 sec, and to 70 mph in a quarter mile acceleration run. At this weight and size, it also is pretty conservative on fuel, logging 19.5 mpg on our 73-mile test loop, about even with Toyota and Mazda.

Wide front bucket seats, separated by the center parking brake, have good thigh support, recline fully and have adjustments for seat-to-pedal distance, height and, of course, Volvo's famous lumbar support. Padded open-frame headrests protect against whiplash without completely blanking out the rear view for the driver or forward vision for rear seat passengers.

The instruments, including an easy-to-read tachometer, are located in a hooded section of the dash, easily visible to the driver through the top section of the steering wheel. A center console extends up to the lower dash and houses the AM/FM stereo radio and heater controls. The radio speakers are mounted flush in each front door, behind sturdy metal grilles, and the entire front interior is laid out to eliminate internal reflections from the various lights and instruments. The control for the automatic transmission is floor-mounted and has well-illuminated position indicators.

Rear seat passengers will like the Volvo's leg and knee room, the best of our test group. Volvo wagons, like the sedans, enclose the passenger compartment with a strong cage consisting of closed box section pillars and similar longitudinal members. Anchored to these are vertical steel bars for mounting the upper shackle of the rear seat's one-piece lap/shoulder belts (the Volvo is the only



HORNET SPORTABOUT

wagon in the test group to provide rear seat shoulder straps). With the rear seat up, the rear cargo floor length is 3 ft, 10.5 in., with 3 ft, 6 in. width between wheelwells. To extend the rear floor length to 6 ft, 4 in., the rear seat flips forward, allowing the back to hinge down, forming a flat cargo bed. Double seatback latches that can be unlocked from either side prevent rattling when the rear seat is unoccupied.

The spare tire is housed in a covered compartment on the left rear side, and there are two storage compartments beneath hinged sections of the cargo floor. The smaller of these contains the jack and tire tools, and the reservoir for the rear window washer fluid.

On the highway at cruising speeds or in city traffic, the Volvo is smooth, quiet and a pleasure to drive. Power-assisted rack and pinion steering is light and fast, requiring little effort or wheel movement for sure-footed change of direction. Throttle response is not neck-snapping but is fast and smooth enough for touring and traffic needs. Automatic shifts are well-spaced, and the gear changes are only mildly detectable. The suspension is firm but not harsh on rough pavement, and there is a feeling of solidarity and spaciousness inside the vehicle. Sure-footed stopping, especially in the wet, is assured with the Michelin X tires and those power-assisted discs on all four wheels.

Overall styling might be termed square—not in the vernacular, but in the shape. The Volvo is designed for maximum utility and interior space for both passengers and cargo. The Swedes did not waste valuable inches on sweeping streamlines. However, the finished product, a husky, comfortable passenger mover, is pleasing in appearance, with rounded corners where they needed



TOYOTA MARK II

rounding, and sculptured metal to break up large flat surfaces or lend stiffness where required. Chrome is used sparingly, both in the grille and around lighting units, and the rubber-faced bumpers look overly bulky yet massive enough to survive mild impacts with a variety of other bumper heights. The 245 DL wagon looks solid, and it *is* solid, built for many miles of comfort and utility.

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Chrysler has gone all-out with the Plymouth Volare and its twin, the Dodge Aspen, with a station wagon designed to fill the existing gap between the large models and the often-too-small compacts. The Volare is the largest wagon in this six-vehicle selection and the only one with a V-8 engine. Carrying the Premier designation, top of the Volare line, our test car was loaded with just about every one of the 50 or so options available for it and the sedan and coupe models except air conditioning. A TorqueFlite automatic transmission, 60/40 front seats with power adjustment for the driver's side, power door locks, rear window defroster, power windows, AM/FM stereo radio, clock, roof rack, radial tires with special wheels, and automatic speed control were among the extra-cost optional items that make the Volare something special in a deluxe, multipurpose passenger car.

The 318cid V-8, coupled to an automatic transmission, drives through a rear axle ratio of 2.71:1, which seems quite high for a vehicle curb weight of nearly 2 tons. High rearend ratios are great for good gas mileage at cruising speeds on level roads, but climbing hills with a full load will require frequent automatic downshifts. There are optional rearend ratios of 2.94 and 3.21 for the buyer who wishes better acceleration and hill-climbing performance.

The Volare interior is bright, with



PEUGEOT 504

seats upholstered in a combination of beige fabric and soft vinyl, and matching side panels topped by an eggshell white headlining. There is always a cool feeling with light interiors, especially on a hot day when the car has been sitting closed up for a couple of hours. The 60/40 front seat, with folding center arm rest, is wide enough for three adults, and the column-mounted shift control leaves the floor uncluttered in the transmission hump area.

Three can ride on the rear bench seat, but the center passenger will have to straddle the driveshaft tunnel, and all may find knee room a bit on the skimpy side.

Driving the Volare puts a lot of enjoyment back into motoring. A well-positioned steering wheel provides a good forward view of both the road and dash instruments; large glass areas, thin pillars and a power seat to raise the driver to the proper height give excellent all-around visibility. With the new transverse torsion bar front suspension system, responsive power steering and good front-to-rear weight distribution, handling is excellent. The ride is smooth yet firm, without that wallowing feeling one gets with mushy springing.

With the rear seat in full passenger load position, the usable rear cargo floor length is 3 ft, 10 in. Some extensive design work has gone into reducing the intrusion of the wheelwells into the cargo area, resulting in 3 ft, 8 in. of width between them. Making use of every inch of available space are a pair of lockable storage compartments on either side to the rear of the wheelwells. Carpeted like the floor and sides, they are hardly noticeable from the outside and provide a good place to hide small valuables. The spare is housed under a hinged section of the rear cargo floor, and any cargo in this area must be removed for access to it. >

For the maximum cargo floor length of 6 ft, 5 in., a single release button located in a recess atop the rear seatback allows it to swing forward and down, locking perfectly flat.

Even with a wheelbase 2 in. shorter than the Peugeot wagon, the Volare was the longest overall at 201.5 in., making it the largest of the compacts. But it's easy to drive and park and small enough to fit the average garage without overcrowding it. This luxury wagon will more than satisfy the needs of the average family that needs a multipurpose passenger car.

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To select any one of these six station wagons and say it is the best would be very difficult. The likes and dislikes of the staff members involved in the driving evaluations and test runs were varied, with much of the comment involving personal preferences and opinion. The features of each make and model typify the engineers' and stylists' ideas as to what is mechanically sound, pleasing to the eye and the best way to provide for maximum passenger comfort and cargo capacity.

Basing a first choice on price, as many buyers do, one must weigh the worth of those extra-cost options against standard equipment, evaluating on the basis of true need rather than desire—and if they are worth the extra cost in the long run.

It is interesting to single out the individual features of each wagon to show the wide selection a potential buyer must consider. The Toyota Mark II, as tested, was the most complete package, with only a stereo tape deck offered as an option. It was also the lightest in weight, had a low, 800-lb maximum payload and, like the Hornet, was powered by a 6-cylinder engine.

The Volare, largest and heaviest and the only V-8 powered wagon in the test, had the highest horsepower and the best convenience options, including power seats, windows and door locks. Comfort, plenty of power and smooth ride and drive were impressive. The Hornet Sportabout, second only to the Volare on the weight scale, had the higher payload of the two domestics and got excellent gas mileage, bested only by the Peugeot, which led the field in this category. The Hornet's styling made it look longer, lower and more compact than the other wagons. Interior space, passenger comfort and cargo area were adequate.

The Peugeot had the smallest piston engine, the lowest horsepower, and was the only wagon equipped

with a 4-speed manual transmission. The Peugeot's fuel economy was the best of all the test cars, and it led the field in longest usable cargo space and highest payload.

The Volvo's all-new 4-cylinder engine with aluminum crossflow head was the only fuel injected power plant in the test, and Volvo also was exclusive with 4-wheel disc brakes and power-assisted rack and pinion steering. The Peugeot, the only other vehicle with this type of steering, did not have power assist, so its rack and pinion system required a bit more steering effort, especially at lower speeds. Volvo also topped the price scale with the most expensive base and as-tested price. All of the other test wagons were equipped with front disc and rear drum brakes, folding rear seats and reclining front seats. Volvo's front seat adjustments with the lumbar support selector were the most comfortable.

All of the wagons featured top-hinged lift gates with either torsion bars or air pistons to ease one-handed raising. All of the folding rear seatback latches were coupled for unlocking from either side, with the exception of the Hornet, which required two-handed operation. The Hornet also was the only wagon whose cargo floor ended in a lip that required lifting rather than a straight slide-in to load.

Electronic ignition systems with breakerless distributors that require no point or condenser replacement were standard on the Volare, Volvo and Hornet.

Mazda's rotary engine was very smooth and quiet, but improved engine mounts, soundproofing and vibration dampening of the Volare and Toyota in particular made them equally smooth and quiet. Engineering improvements to the rotary engine have increased reliability and gas mileage considerably. Extended warranties, longest in the industry, express the maker's confidence in these improvements.

Interiors ranged from Mazda's plush-like upholstery to either a very functional all-vinyl or equally durable combinations of fabric and vinyl. Cargo areas were well-finished with protection against scuffing cargo or the interior itself, and spare tires were stowed either under the vehicle or with a minimum sacrifice of cargo area.

The fuel crisis and the national economy have changed the criteria for multipurpose vehicles from large, gas-guzzling monsters that owners planned to trade for new ones every



VOLVO 245 DL

year or so, to smaller, more efficient fuel savers, built to be driven longer and with less maintenance. Regular tune-up, oil change and lubrication intervals have been extended over the past several years, which helps reduce operating costs. The six luxury compacts tested span a wide range of sizes, weights, engines, load capacity, performance, fuel economy and optional equipment. The imported test wagons are sold with no optional engines, but the Volare is available with a 6-cylinder power plant, and the Hornet has a smaller six as standard and an optional V-8. Automatic transmissions and air conditioning, with the exception of the Toyota Mark II, are extra-cost options



PLYMOUTH VOLARE

on all the test models. Basically, these 4-door station wagons are passenger and cargo carriers, and with the exception of a roof rack, there is no option to increase either capacity. What options to buy is largely a matter of personal choice or need, plus the amount one wishes to invest to satisfy these needs.

All of the test wagons, the American-built Hornet and Volare, the Swedish Volvo, French Peugeot and the Japanese Toyota and Mazda, meet both federal and California safety and emission standards. Each offers something special that may be more attractive in styling, payload, fuel economy or performance to the individual prospective buyer. ■



The value of many small changes in transforming the character of a line of cars has never been better illustrated than by the greatly improved '76 range of Volvos from Sweden



Editor's Note: *The above photos did not appear in the original article.*

Two new engines, and an inside look at a new luxury series

by Karl Ludvigsen

Volvo is one of those companies that can't afford to build a bad car. I don't mean by that that there are auto makers that set out to make bad ones. Rather, the big firms of the world have so many car lines and so many marques on the market, they can survive if they miss the boat for a few years on the styling or engineering or both on just one of their models. No so Volvo. The Volvo line in the U.S. consists of basically one car, with refinements. (With the exception of the DAF-based Volvo 66, a smaller car, it's the same way in Europe, too.) If that one car isn't just right, Volvo can count on a bad year for its Car Division, which accounts for 60 percent of its sales volume.

With that background you can understand why Volvo doesn't indulge in sweeping shakeups of its designs every three years. If it has a design that works, it's likely to stay with it. "We must move very slowly and cautiously," admits Ake Nilsson, deputy manager of Volvo's Car Division. He and his associates are determined to ensure that when the changes can be made, they are in exactly the right direction. This, I believe, they've done admirably in the 1976 lineup of U.S. Volvos.

The unchanged aspect of these new Volvos is the body shape from the firewall back, which is little different from that of the 144 model that was introduced 10 years ago. It offers a clean profile that has borne its years well. Blended into this body

The 1976 Volvos

Impressions of the new models, including the \$10,000 wagon

by Mike Knepper

Is the U.S. ready for a \$10,000 station wagon? Volvo is convinced it is, and to prove it has the strength of its corporate convictions, you will very shortly be able to purchase just such a high-buck wagon at your local Volvo store. By model number it is the 265DL. At \$9495 list plus \$140 destination charge, the new V-6 Volvo will soon hold the distinction of having the highest base price of any wagon sold in this country. That's a lot of money, but it's a lot of wagon. More on that later.

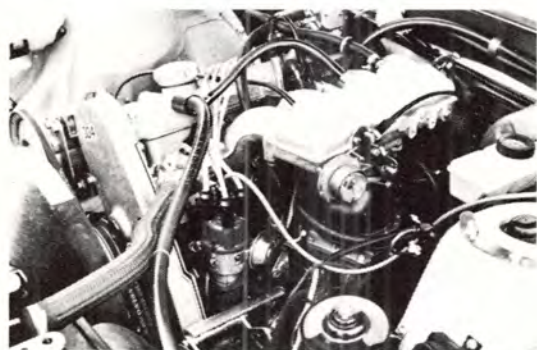
On the surface, Volvo's lineup of cars for 1976 appears unchanged. The ESV-inspired styling introduced for the 240 series last year has been carried over for the new models. However, there is something new in

the 4-cylinder Volvos: the 4-cylinder engines. Gone is the rather anemic push-rod design, replaced by an all-new overhead-cam unit.

Joining the familiar 240 series on showroom floors this year is a pair of new Volvos. The luxury 164 with its in-line 6-cylinder engine is gone. Now there is the 260 series, and the U.S. market will get a 4-door version along with that super-wagon mentioned before. The 260 series carries the new overhead-cam V-6 engine Volvo has jointly developed with Renault and Peugeot.

In profile the 260 Volvos are indistinguishable from the less expensive 240s. You'll have to walk around to the front to notice the different grille and headlight treatments.

Late last fall I spent a week in



The new overhead-cam 4-cylinder engine in the 240 series is fed by a Bosch CIS fuel injection system.



The velour upholstery of the 264GL is the only concession made towards a high-priced image.



This is the instrument panel of the 264GL, the most expensive Volvo. Functional, but not really a luxury car design.

Sweden with examples of all of Volvo's latest offerings. It was much more than a simple, "Here they are, press people. Want to take some pictures?" kind of press showing. Volvo has always been extremely proud of its automobiles, and with the two new engines and the new 260 series cars, that pride has become almost boastful. Volvo wanted us to drive the cars, and drive them we did, from one side of Sweden to the other.

There may be some folly in presenting a collection of U.S. automotive journalists a set of maps, pointing them towards several cars and then turning both journalists and cars loose on an unsuspecting populace. But never mind all that. Volvo did it, and the result for me was a rather complete indoctrination in things Volvo for 1976.

Although there are 10 "different" Volvos available this year, there are really only five basic cars: the 242, (2-door sedan), 244 (4-door sedan),

and 245 (4-door wagon), all with the new 4-cylinder engine; the V-6-powered 264 (4-door sedan), and the 265 (4-door wagon). These five cars become 10 by virtue of interior trim packages and such. There are DLs and DLAs, and there are GLs and GLAs. It's all a little confusing to try to explain. Better you should work it all out at a Volvo dealer, where you can see the actual cars.

As expected, the fit and finish of the cars I drove in Sweden—which were U.S. spec cars bound for U.S. dealerships—was excellent. Volvos may be the epitome of understated luxury. Almost too understated. At first glance the dash looks spartan. The carpeting is simple, the interior trim nothing to marvel about. "This," you likely would say, "is not what the inside of a \$7000 (or \$8000, or \$9000, or \$10,000) car should look like."

But after spending some time in there, you'll begin to realize that's

Volvo's way. Its cars don't have those grabber items like simulated teak inserts on the glovebox door, or digital clocks, or ankle-high carpet pile or molded-in-plastic scroll work behind the door pulls. You begin to realize (appreciate?) how well everything fits, how comfortable those famous Volvo seats really are, how durable that carpeting must surely be and how well all the controls work. (In an era of heater system controls, for example, whose complexity rivals that of a computer, Volvo has devised an exquisitely simple system. You want heat to come out through the floor vents, you push a button marked "floor," turn a control knob to "heat" and turn the knob marked "fan" to one of three speeds.)

But all that aside, the big news from Volvo this year is the engines. Both the 4-cylinder and 6-cylinder are new, as I said earlier, and both are very welcome changes. A friend of mine used to say, "Volvos don't

(but not entirely at home with it) are new sloping noses of safety-car derivation, fronted by bold and effective bumpers. We had the 4-cylinder model's new front end in 1975. Now the six gets a new look, too, becoming the first Volvo with four headlamps. The sixes with top-level GL trim have a chrome-finish grille, while those with the DL trim have black grilles.

Before we get deeper into these Volvos, let's review what their designations mean. The first of three digits (as in 242) stands for the basic design series, which in these cars is the 200 series, launched in the U.S. in 4-cylinder form last year. The second digit indicates the number of cylinders in the engine, and the third the number of doors in the body. The 265, for example, is the 200 series, 6-cylinder, 4-door station wagon.

Both the 4- and 6-cylinder 200 series Volvos were introduced in Eu-

rope in August, 1974. Both now come to the U.S. in full-fledged overhead-cam form after an interim year in which the older 6-cylinder 164 was still offered and the 240 series cars were equipped with the old push-rod B20 engine. In 1976 the six is no longer 3 inches longer in wheelbase than the four. Both versions now share a 104-inch wheelbase and the same basic running gear that was found under the 240 series cars in America in 1975. (*Motor Trend* tested and described the 1975 Volvos in the April '75 issue.)

Now that both the fours and sixes have the same underpinnings, it's worth reviewing what those are. They've changed from 15-inch to 14-inch wheels—tough steel wheels, ventilated for cooling—to lower the car and also to permit fitting the wider range of tires that are made today in the more popular 14-inch size. For smoother running and better balance, the wheels are centered by the

hubs rather than the studs. Behind those wheels are the fine Volvo 4-wheel disc brakes, vacuum-boosted. To keep that boost at a high level, each engine has a separate vacuum pump.

Volvo put belted radial-ply tires on these wheels to increase the "stiffness" or quickness of the car's handling response. Toward the same end, the new chassis was given rack and pinion steering. It's power-assisted in all the 260 series cars and in the 240 series models with automatic transmissions. The steering gear was placed just ahead of the new front suspension, which is a MacPherson strut design that cleared more room in the engine compartment and permitted an increase in the fore-and-aft flexibility or compliance of the suspension.

In planning the 200 series cars, Volvo experimented with independent rear suspension of the BMW/Mercedes-

continued on page 102



accelerate, they slowly gather momentum." When I repeated that little homily to a couple of Volvo engineers, they grudgingly acknowledged the truth, if not the humor, of my friend's statement. But I'm pleased to report the new power plants go a long way toward rectifying that problem.

The new 4-cylinder, OHC engine does not produce appreciably more horsepower than the old push-rod unit: 102 vs 98. It does, however, have a dramatically rearranged torque curve which makes the 240 series considerably more responsive to the throttle. Not head-snapping stuff, mind you, but very pleasant acceleration. The 4-cylinder cars I drove got off the mark with briskness and got up to cruising speed with authority. Even the 3-speed automatic didn't seem to sap too much of the engine's vigor. (All 4-speed Volvos, by the way, can be ordered with an electric overdrive, which I strongly

des-Benz type but stayed with a live axle, because it provided a constant rear track and less of a tendency to switch to tail-sliding oversteer at its cornering limits. Volvo sought to tune the 200 series chassis toward understeer in all cornering conditions, even arranging the rear-axle locating links so they'd add to the roll understeer when the load in the extreme rear of the car was increased. Anti-roll bars are fitted at both front and rear.

Heavy surgery was naturally required to adapt the new front suspension to the existing Volvo body. It was appropriate to both engines, because the four and the six weigh about the same: 340 pounds. This is a tribute to the lightweight design of the six. Its 2673-cc displacement (88 x 73 mm) is 25 percent larger in swept volume than the four. Known as the B27 by Volvo, the 90-degree V-6 is made at Dourvrin, France, in a factory operated jointly by Peugeot, Renault and Volvo. Thus nicknamed the "PRV" engine, it's used by Peugeot in the new rear-drive 604 and by Renault in its luxury front-drive R30. All of these are expected to come to the U.S. with induction and emissions systems developed by Volvo, which was the first to put this PRV engine on the market in Europe and will be the first to do so in the U.S. as well.

The PRV engine owes its lightness to compact design and the use of

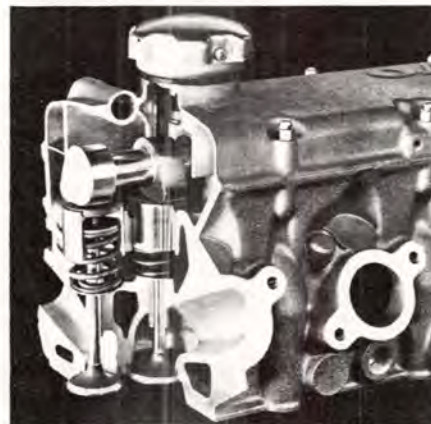
aluminum for all its main components, including the cylinder block (with wet cylinder liners), the crankcase and the heads. It has shallow hemispherical combustion chambers with inclined overhead valves opened by rocker arms from a single overhead cam driven by chains at the front of the block. The wide vee angle frees plenty of room between the cylinder banks for the complex-looking pipework of the Bosch K-Jetronic fuel injection system.

Tuned for smoothness and torque rather than peak power, the B27 reaches its maximum output at 5500 rpm. It's rated at 125 net horsepower except in California, where an Engelhard catalyst cuts that figure to 121 bhp. Peak torque for federal cars is 150 lb/ft at 2750 rpm, and only 2 lb/ft less in California. This is the same torque as the old and larger in-line B30 6-cylinder offered in the 164, and only 5 horsepower less in a car that, thanks to the aluminum engine, is significantly lighter.

The strongest competition for the B27 V-6 is Volvo's own new B21 four. In 1971 Volvo decided to build a completely new plant for making 4-cylinder engines. Since the plant was new, the engine could be, too. The basic design features of the connecting rods and crankshaft were carried over, but otherwise the bigger 2127-cc B21 (92 x 80 mm) differs greatly from the push-rod B20 four.

A key objective was to get more

A cutaway view of the new 4-cylinder shows the cross-flow head design and the overhead cam.



Volvo worked with Renault and Peugeot to develop this new OHC V-6.

recommend.) The automatic, by the way, is a new design which shifts with much more precision, and the gearing seems to be just right for the new engine. If you were put off in the past by the performance of the 4-cylinder and automatic combination, you owe it to yourself to try this new combo.

So the 240 series cars are basically the same with improved engines and transmissions. That makes the new 260 series cars Volvo's newsmakers. Understand going in that these two cars—the sedan and the wagon—are expensive luxury cars. But remember that understated luxury in the 240 series? Well, it's certainly with us in the 260 series, and for all the same reasons.

The wagon has a base price of \$9495; the 4-door sedan is \$9895. Both are standard with air conditioning, power windows, power-assisted brakes and steering, and tinted glass. Upholstery is either "leather-like" vinyl or velour, with the velour certainly getting the nod for looks.

The 260 series cars have a new front end treatment which happily

abandons the slope-nosed ESV look of the 240s.

As with the new 4-cylinder, the V-6 engine's forte is not increased horsepower. In fact, at 125 SAE net horsepower, the new engine is rated 5 hp lower than the old in-line six. Again, it's torque better spread along the power band. Both the sedan and wagon move off with vigor and will cruise easily at 100 mph.

At first you can spot very little that would seem to warrant the much higher price tag the 260 series carries. But start adding up those standard "extras" and then throw in that V-6, and it starts to make sense.

Now comes the really subjective part of this piece. Since the passing of the Volvo 122S, I have bemoaned the lack of performance in Volvos. I have also noted with regret Volvo's very obvious marketing scheme to take its cars out of the performance-image/enthusiast-driver market and slide them into the high-priced luxury-car class. It's too bad, because Volvos handle and brake with the best the world automotive market has to offer in sedans. And now

there is some performance gain to enhance the picture. But Volvo has decided on its market niche and is going after it in a sedate tooth-and-nail manner.

As for the 265 wagon: Volvo will import only a relatively few this year and will undoubtedly have little trouble selling them. There's enough snob appeal in a wagon worth 10 Gs to move a few thousand of them. Add to that the number that will be sold to discerning buyers who understand what a Volvo is all about, and you have instant waiting lines at the showroom. Is the U.S. ready for a \$10,000 station wagon? You decide.

I may personally feel Volvo is doing itself a disservice by not selling its cars, or at least a portion of them, to discriminating enthusiasts on the cars' performance merits. And I may think Volvo's designers could do something with that stark dashboard and interior while still maintaining high quality. Those are personal preferences, and you may see things altogether differently. But one thing I'm sure we'll agree on. Volvo is still building very good cars. ■

torque with an enlarged displacement and, at that higher torque, improve the reliability. All imaginable forms of combustion chambers and valve gear were studied, but none were found that offered a real advantage. Volvo concluded that, "Our old bathtub was as good as anything." (Some Volvo engineers admit to liking the 4-valve, twin-overhead-cam layout, which is now being tested on the B21 block, but it would have been too costly for a Volvo sedan.) The valves remain in-line, under a single-overhead-camshaft driven by a cogged rubber belt. This is enclosed by a die-cast aluminum shroud to keep out the small stones that can critically wound a rubber belt.

Between the cam lobes and the valves of the B21 are cup-type tappets that have thick removable shims in their upper surfaces, rubbed by the cams. Tappets of this design have been used in Fiat engines for some time; and I was under the impression that they were covered by a Fiat patent. So was Volvo, but that wasn't the case. Still, Volvo consulted with Fiat on the details of the design, which is also used by the Audi Fox and VW Dasher and Rabbit engines. Volvo even used the same tappet diameters as Fiat, not because they couldn't think for themselves, but because this would create a larger market for cold-extruded tappets of a certain size that would attract more suppliers and help keep the price down. That's the way you have to think if, like Volvo, your plant and volume aren't big enough to make all the parts you need yourself.

New to Volvo-built engines is the B21's aluminum cylinder head. It has a cross-flow layout, with inlet ports on the left and exhausts on the right. To lower the engine slightly and to

make room for induction equipment on the left side, it's inclined to the right by 10 degrees. The space that makes is well filled in the U.S. versions by a high, 4-branch aluminum intake manifold and, below that, the big updraft air-flow sensor of the fuel injection system. Like its sister six, this four has a transistorized ignition system.

Volvo developed the B21 to be dead reliable at speeds of up to 6500 rpm and could have tuned it to its peak power at 6000 rpm. But the engineers didn't do so, principally because an engine's noise output rises sharply as its speed increases. In federalized trim the B21 delivers 102 bhp at 5200 rpm and 3 horsepower less in California. At 2500 rpm the maximum torque of 114 lb/ft is developed, but this is only the gentle peak of a very flat, full torque curve.

In the American market these engines are offered with a 4-speed manual transmission. An electrically operated overdrive on top gear only is standard with the sixes and optional with the fours. Optional with either engine is a 3-speed automatic transmission from England, the Type 55 Borg-Warner. This uses multi-disc clutches instead of bands to make its internal gear changes, giving shifts that are much smoother than those of the older Type 35, yet no less positive.

That completes the list of the main changes that bring Volvos into the new "200" era. It's a notable list, for it contains many items that are authentic product improvements, not cost-cutting measures masquerading as improvements. Many people have come to expect that Volvo will make its cars a little bit better every year. They won't be disappointed by what they find in 1976. ■

VOLVO

MERCHANDISING

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