

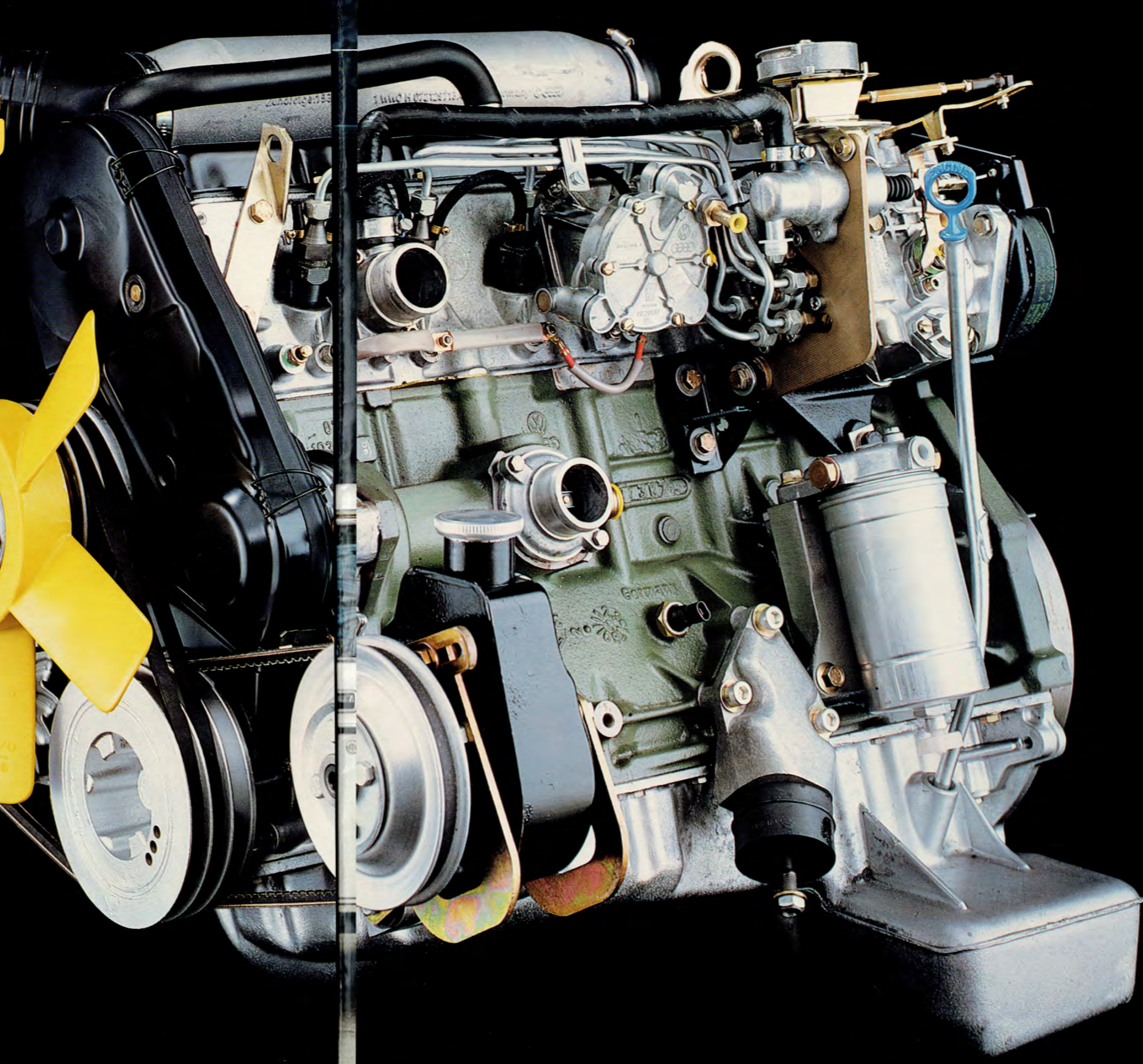
# VOLVO

## DIESELS





**INTRODUCING  
THE BEST  
THING  
TO  
HAPPEN  
TO  
DIESEL  
ENGINES  
IN OVER  
FORTY  
YEARS.**





**THE VOLVO DIESEL SEDAN,  
AND THE VOLVO DIESEL WAGON,  
THE ONLY PASSENGER CARS  
POWERED BY SIX-CYLINDER  
DIESEL ENGINES.**

**THE SIX-CYLINDER DIESEL  
DIFFERENCE:  
BETTER PERFORMANCE,  
LESS NOISE, AND A  
SMOOTHER RUNNING ENGINE.**

Ever since Rudolf Diesel's technology was first applied to passenger cars, diesel devotees have endured several idiosyncrasies in the name of good fuel economy: engines capable of underwhelming power, unforgettable noise levels, and plenty of shake, rattle, and roll.

Yet, until recently, the diesel engine was thought to be good enough. That is, until fuel consumption in 1973-74 began to outstrip supply, and people started sitting in gas lines. Here was motivation to overcome the diesel's drawbacks—to increase its performance, quiet its noise, and smooth out its ride—while maintaining its miserly fuel consumption.

As you will see, the goal is fully realized with the introduction of the six-cylinder engine found exclusively in Volvo diesels—a sedan and a wagon whose time is just beginning.

Unquestionably, the Volvo diesels are among the most responsive diesels you can buy: the engine pumps out 78 hp @ 4800 rpm (S.A.E.) and its maximum torque is 102 @ 3000 rpm (S.A.E.). In high-speed federal acceleration tests, Volvo diesel sedans and wagons actually outperformed the Mercedes-Benz 300D.

The Volvo diesel idles somewhat louder than a gasoline-powered car. But, unlike many diesels, Volvo is quiet out on the road.

The in-line six-cylinder configuration also provides the same balance and, accordingly, the same smooth running characteristics as many V-8 gas engines.





**NO MATTER HOW YOU LOOK AT IT, THE DIESEL ENGINE IS NO LONGER A CURIOSITY, BUT A PRACTICAL ALTERNATIVE TO THE GASOLINE ENGINE.**

While your decision to join the ranks of diesel owners in a Volvo will give you the advantages of a unique six-cylinder engine, many diesel benefits remain a shared experience.

Due to the basic difference between the combustion in gas and diesel engines, the diesel has to be tougher, more reliable, better built. In a gas engine, combustion occurs when air and fuel, mixed in the cylinders, are ignited by electric spark plugs. A diesel doesn't have any spark plugs. Instead, the pistons compress the air in the cylinders with such force that they super-heat the air. When the right amount of diesel fuel is then sprayed into the cylinders and hits the hot air, spontaneous combustion occurs. The powerful stroke of the diesel piston achieves a compression ratio nearly three times greater than that in a gas engine. To withstand the constant thermal pressure created by this method of

combustion, engine construction in the diesel simply has to be rugged.

You'll get good gas mileage. A Volvo sedan with manual transmission and overdrive has been rated at 28 MPG in the city and 38 MPG on the highway by the EPA. (Of course, your mileage may vary depending on the model and equipment you select, your driving habits, weather conditions and the length of your trip.)

Also, the diesel engine is a comparatively simple machine. You won't need a conventional tune-up, so the cost of maintenance will be less than you're used to.

Item	Diesel Engine	Gasoline Engine
Spark Plugs	None	4, 6 or 8
Distributor	None	Yes
Coil	None	Yes
Condenser	None	Yes
Ignition Wiring	None	Extensive & complex

Nor will your diesel suffer the indignity of a gasoline engine that is stifled by emission controls—difficult starting, stalling, and hesitation.

How does a diesel start without the kind of complicated ignition system required by a gas engine? Glow plugs protrude into swirl chambers, and when you first turn the key on, these heat up. Within a few seconds, a light on the dash signals you to

turn the key the rest of the way, and the engine starts, even in the coldest weather.

What about the heavy exhaust smoke people associate with diesels? Frankly, this is a myth. A properly tuned diesel won't smoke much more than a properly tuned gas engine.

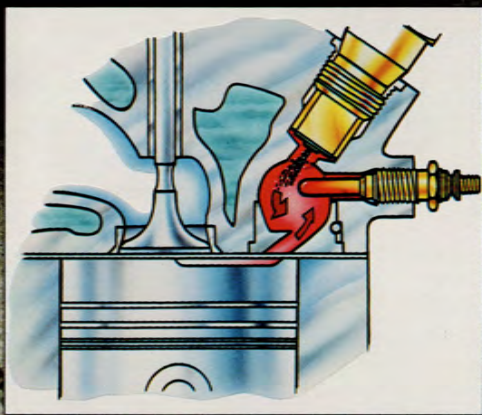
Diesel fuel isn't hard to find anymore, either. Growing demand for it increases the number of service stations with diesel pumps all the time. Besides which, Volvo diesel owners receive a directory listing over 8,400 stations throughout the United States, Canada and Mexico.

**TAKE A VOLVO DIESEL OUT FOR A TEST DRIVE.**

It doesn't matter whether you're interested in buying a sedan or a wagon. They both speak for themselves. Quietly, of course.







**THE VOLVO DIESEL'S INDIRECT-INJECTION SWIRL CHAMBERS MIX FUEL AND AIR QUICKLY AND EFFICIENTLY TO INCREASE THE ENGINE'S PERFORMANCE. A GLOW PLUG PROTRUDES INTO EACH SWIRL CHAMBER TO PRE-HEAT THE AIR FOR EASY STARTING.**



# VOLVO. A CAR YOU CAN BELIEVE IN.

This is the reason Volvo owners become Volvo owners. They want good old-fashioned value for their money. And they get it.

To start with, every Volvo is a study in the science of ergonomics—making machinery more efficient and more comfortable for us all to use. For example, a 23-degree-angle steering wheel (maximum knee room and a comfortable grip); a left foot rest, so the driver's feet are on the same plane (reduces muscle tension while providing a more stable driving position); orthopedically designed seats with adjustable lumbar support (to relieve pressure on the spinal discs of the lower back); and, better than 90% all-around visibility (the

front door pillars are no wider than the distance between your eyes, so you look around them, not through them).

A variety of integrated engineering features insure performance without surprises. A power-assisted, rack-and-pinion steering system for maximum steering response. A suspension system that functions well in adverse weather conditions, at highway speeds, and in accident avoidance maneuvers. Four-wheel disc brakes, with Volvo's pioneering dual triangular split brake circuit system (each circuit controls two front brakes and one rear brake, so that if one should fail, braking action on the remaining circuit maintains

approximately 80% of normal braking effectiveness), and "stepped-bore" master brake cylinders that maintain pressure even if one chamber is emptied of brake fluid.

Quality isn't bolted or sprayed onto a Volvo, it's built into every step of the manufacturing process. Proof is the fact that the life expectancy of a Volvo is now up to 17.9 years—in Sweden! A longer life than any other car you can think of.

And naturally, Volvo diesels come fully equipped with the amenities you've come to expect from Volvo.

All this, and a diesel in the bargain. Little wonder that Volvos are cars people swear by. Not at.

## THE 1980 VOLVO DIESELS AT A GLANCE.

### DIMENSIONS AND WEIGHTS

Wheelbase	104.0 in.
Overall Length	192.5 in.
Overall Width	67.3 in.
Overall Height, Sedan	56.3 in.
Wagon	57.5 in.
Front Legroom, Sedan	40.7 in.
Wagon	40.7 in.
Rear Legroom, Sedan	36.6 in.
Wagon	36.4 in.
Seating Capacity	
Sedan and Wagon	5 persons
Sedan Trunk Capacity	13.9 cu. ft.
Wagon Cargo Capacity	
Rear Seat Up	41.1 cu. ft.
Rear Seat Down	76.0 cu. ft.
Approx. Curb Weights	
Sedan	3119-3131 lbs.
Wagon	3240-3252 lbs.

### BODY

Unitized. Central passenger safety cage with energy-absorbing front and rear ends. Rustproofing includes use of galvanized steel in susceptible areas; anticorrosive coating inside doors, rocker panels, etc.; extensive undercoating and special stone-chip resistant paint. Aluminum tailpipe and muffler.

### D24 ENGINE

Fuel injected, in-line, six-cylinder

diesel with overhead camshaft, swirl chamber.

Displacement: 2.4 (145 cu. in.)

Compression Ratio: 23.5:1

Horsepower:

78 @ 4800 rpm (S.A.E.)

Torque:

102 ft. lbs. @ 3000 (S.A.E.)

Sealed cooling system: 9.9 qts.

Fuel tank: 15.8 gallons

### ELECTRICAL SYSTEM

12V, 55 Amp alternator, 90 amp hour battery.

### DRIVETRAIN

**Manual:** Four-speed fully synchronized transmission. Electrically-operated overdrive is standard.

Gear ratios: 1st 4.03:1, 2nd 2.16:1

3rd 1.37:1, 4th 1.00:1

Overdrive 0.80:1.

Final drive ratio: 3.54:1

**Automatic:** Three-speed with a floor-mounted shift lever, with an illuminated PRND21 pattern. Final drive: 3.54:1.

### STEERING SYSTEM

Rack-and-pinion gear. Servo-assist is standard on all models. Turning circle 32'2". Turns lock to lock: 3.5.

### SUSPENSION SYSTEM

**Front:** McPherson struts incorporating coil springs and telescopic shock absorbers. Stabilizer bar.

**Rear:** Rigid "live" axle located by longitudinal control arms and torque rods. Lateral location by track rod. Coil springs and telescopic shock absorbers. Stabilizer bar.

**Tires:** Steel-belted radials.

Size: sedans 185/70 SR 14

wagons 185 SR 14.

### BRAKE SYSTEM

Self-adjusting disc brakes on all four wheels. Tandem type power-assist. Ventilated front discs are standard. Each circuit of the dual triangular-split hydraulic brake system connects both front wheels and one rear wheel. Stepped bore master cylinder maintains near-normal pedal effort should one circuit fail. Handbrake operates mechanically on separate rear wheel drums.

### STANDARD EQUIPMENT DIESEL SEDANS AND WAGONS

Cloth upholstery, tinted glass; 12-outlet heating and ventilation system; intermittent windshield wipers; dual outside mirrors with remote control levers; electric rear window defrost-

er; full interior and trunk carpeting; reclining front bucket seats with lumbar support and height adjustment; four three-point, self-adjusting safety belts (one rear lap safety belt); child-proof rear door locks, quartz crystal clock; vanity mirror; day/night rearview mirror; trip meter; light integrity sensor; rear seat center armrest; warning buzzer for key; headlights and safety belts; luggage compartment light; stereo door speakers; radio antenna and central door locking. Sedans with sliding steel sunroof and metallic paint are available in limited quantities.

Wagons have in addition; vinyl upholstery, electric rear window wiper/washer; twin tailgate gas cylinders and a storage space under the cargo area floor. The tailgate is controlled by central locking. Metallic paint available in limited quantities.

The factory reserves the right to make changes at any time, without notice, in prices, color, materials, standard equipment, specifications, and models; and also to discontinue models.

# VOLVO