



VOLVO 122-S AUTOMATIC

The familiar Swedish sedan is now available with automatic transmission

WHEN THE VOLVO 122 was introduced at the London Auto Show in 1957, it was a thoroughly new and interesting sedan that reflected the sound engineering practices and scrupulous attention to quality control for which the Swedish manufacturer was widely respected. These attributes, plus a pleasant appearance and better-than-average road manners, assured the new model a warm welcome. Since that time it has undergone a number of changes that have kept it mechanically up to date and has enjoyed continuing popularity among drivers to whom a car is more than a styling exercise. The latest change is to offer an automatic transmission as an option and this version of the 122-S is the subject of our test.

As it has been four years since we last tested a 122-S (the "S" stands for Sport, incidentally, and distinguishes it

from the lower-output version sold in the home market), a brief examination of the basic machine is perhaps indicated. The 122-S is offered as a 2-door or 4-door sedan and as a station wagon. In overall size, with a wheelbase of 102.5 and a length of 175 in., the sedan is about the size we think American compacts should be. It is big enough to be practical in U.S. driving conditions, small enough to be easy to drive and yet not so tiny as to be accidentally stepped on. The body/chassis is a welded-up unit and consequently displays both the vices and virtues of this type of construction. On one hand it is strong, rattle-free and durable, but there is also the inevitable kettle-drum effect which results in considerable noise inside even though extra-thick padding is used on the floor.

The front suspension of the 122-S is conventionally inde-



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AT A GLANCE

Price as tested	\$3015
Engine	4 cyl. ohv, 1780 cc, 90 bhp
Curb weight, lb	2510
Top speed, mph	90
Acceleration, 0-60 mph, sec	15.8
50-10 mph (2nd and 3rd gears), sec	11.6
Average fuel consumption, mpg	22

pended, with A-arms, coil springs, tube shocks and an anti-roll bar. There is a live axle at the rear, but a series of arms and links assures that the axle stays where it is supposed to be and it is consequently far more satisfactory than the average live-axle rear suspension arrangement. It behaves so well, even over rough roads, that it makes you wonder why anyone bothers with independent rear suspension on a front-engine sedan.

Since our last test the engine has been increased in displacement to 1780 cc (from 1586) by enlarging the bore, and there has been an increase in horsepower from 85 at 5500 rpm to 90 at 5000. In design the engine is a completely straightforward 4-cyl ohv with five main bearings and it is carbureted by a pair of 1.75-in. SU's. It is a beefy engine with reserves of ruggedness obviously built in. Other changes in the 122-S include the adoption of the now-popular disc/drum front/rear brake combination and these we found to be fully up to their job.

The driving position is good, the seats are high enough to afford a commanding view of what's going on and are adjustable enough to be comfortable for almost anyone. The steering is quick for a car of this size (3.25 turns lock-to-lock) and its accuracy contributes to the driver's feeling of rapport with the machine.

When the 122-S is driven hard there is considerable body lean and a pronounced understeer, but once the driver has become accustomed to these characteristics it is an easy car to handle at pretty near its limit.

Other features of the Volvo that we like include the over-the-shoulder-and-across-the-lap seat belts that are standard on all models, the impressive care with which everything is put together, and the heater which is one of the most effective in the business. We also heartily approve of the manufacturer's policy of making a genuinely useful range of accessories available. By this we mean that there is not only the usual assortment of sideview mirrors, floor mats, roof racks and convenience baskets, but also that one can obtain such items as a complete service manual (\$15), a tourist kit that includes basic spares (\$13.19) and even an emergency

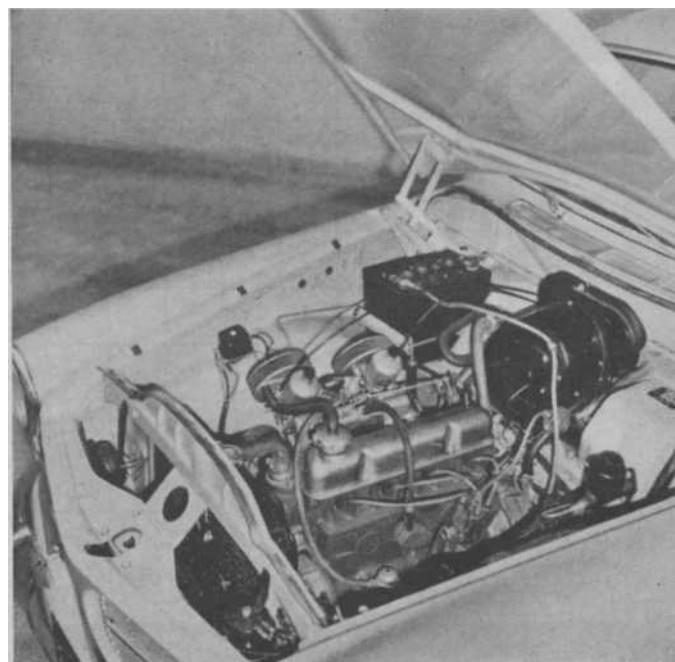
gas can that fits into the spare wheel (\$7.50). Good practical stuff.

The automatic transmission that is now available in the 122-S is the Borg-Warner Type 35, a torque converter with 3-speed planetary gearbox. This is not the finest type of transmission ever built, in our opinion, but it is available to European manufacturers at a reasonable price (\$180 more than the manual gearbox in the 122-S) and is adaptable to such widely different machines as the Sunbeam Alpine and the Jaguar 3.8-S sedan. From the enthusiastic driver's point of view, there's simply too big a gap between the three gears, the shifts are relatively slow and, when this transmission is used with a typically small-displacement, low-torque European engine, there is an annoying lurch and a noticeable loss of steerage way after each shift.

We covered a total of about 3000 mi in the 122-S automatic and were able to drive it in conditions that varied from downtown rush-hour creeping to hours of flatland cruising and hundreds of miles over an assortment of mountain roads. Only in heavy downtown traffic could we see any advantage to having the automatic, where it relieved the necessity of rowing through the gears. In highway cruising, where only high gear is used, the automatic was neither a plus nor a minus, but it demonstrated better than average efficiency as we consistently got 23 mpg in this kind of driving. On mountain roads we found the automatic a damned annoyance as it buzzed back and forth from gear to gear and we wished we had a manual box so we could stick it in third and leave it there mile after mile.

We realize that the manufacturer didn't add the automatic transmission to the option list expecting that the experienced enthusiast would become rapturous over it. The automatic is offered because there is an ever-growing segment of the auto driving public that has never learned to use a manual transmission and isn't going to learn. So the manufacturer sells cars that he would not have been able to sell otherwise. It's good business. And, as we've said so many times in the past: a few days spent in the heavy traffic of most of our larger cities will convince anyone that there is an advantage to an automatic transmission.

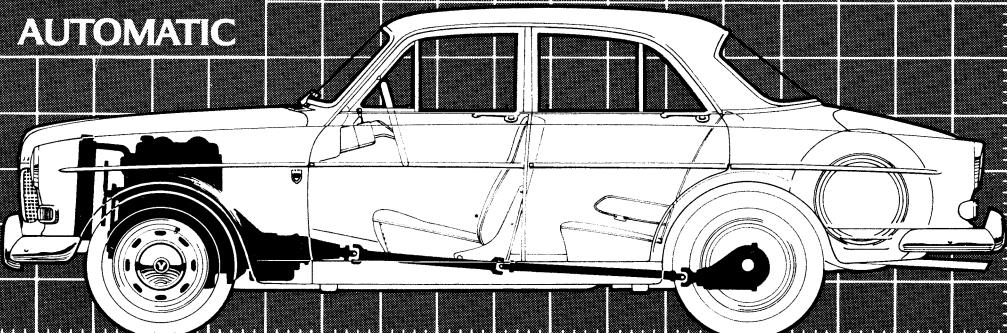
But don't let us give you the impression that we didn't like the 122-S automatic. It's just that we think the prospective shiftless buyer is missing part of the fun and pleasure that the 122-S can be.



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ROAD TEST

VOLVO AUTOMATIC



SCALE: 10' DIVISIONS

PRICE

List price.....	\$2875
Price as tested.....	\$3015

ENGINE

No. cylinders & type.....	4 cyl, ohv
Bore x stroke, in.....	3.31 x 3.15
Displacement, cc.....	1780
Equivalent cu in.....	109
Compression ratio.....	8.5:1
Bhp @ rpm.....	90 (@ 5000)
Equivalent mph.....	88.1
Torque @ rpm lb-ft.....	105 (@ 3500)
Equivalent mph.....	61.7
Carburetors, no. & make.....	2-SU
No. barrels & dia.....	1-1.75
Type fuel required.....	premium

DRIVE TRAIN

Transmission type: Borg-Warner	Type 35 automatic (torque converter with 3-speed planetary gearbox).
Gear ratios: 3rd (1.00).....	4.10:1
2nd (1.45).....	5.93:1
1st (2.32).....	9.51:1
Converter stall ratio.....	2.0:1
Differential type.....	hypoid
Ratio.....	4.10:1

CHASSIS & SUSPENSION

Frame type.....	unit with body
Brake type.....	disc/drum
Swept area, sq in.....	339
Tire size.....	6.00-15
Make & model.....	Goodyear G-8
Steering type.....	cam & roller
Turns, lock to lock.....	3.25
Turning circle, ft.....	34
Front suspension: independent, coil springs, tube shocks, stabilizer-bar.	
Rear suspension: live axle located by trailing arms, torque rods, and a Panhard rod; coil springs and tube shocks.	

ACCOMMODATION

Normal capacity, persons.....	4
Occasional capacity.....	5
Seat width, front/rear.....	2 x 19/52
Head room, front/rear.....	42/36
Seat back adjustment, deg.....	8
Entrance height, in.....	52
Step-over height.....	13.5
Door width, front/rear.....	33/29
Driver comfort rating:	
For driver 69-in. tall.....	94

FOR DRIVER 72-IN. TALL

For driver 75-in. tall.....	93
(85-100, good; 70-85, fair; under 70, poor)	

MISCELLANEOUS

Body styles available: 2-door and 4-door sedans, station wagon.

GENERAL

Curb weight, lb.....	2570
Test weight.....	2760
Weight distribution (with driver), front/rear, %.....	54/46
Wheelbase, in.....	102.5
Track, front/rear.....	51.7
Overall length, in.....	175.0
Width.....	63.75
Height.....	59.25
Frontal area, sq ft.....	20.9
Ground clearance, in.....	6.9
Overhang, front/rear.....	26.5/44.0
Departure angle (no load), deg.....	14
Usable trunk space, cu ft.....	9.2
Fuel tank capacity, gal.....	12

INSTRUMENTATION

Instruments: 120-mph speedometer, water temp., fuel, trip odometer.	
Warning lights: ammeter, turn signal, oil pressure, high beam.	

CALCULATED DATA

Lb/hp (test wt).....	30.7
Mph/1000 rpm (3rd gear).....	17.6
Engine revs/mi.....	3410
Piston travel, ft/mi.....	1785
Rpm @ 2500 ft/min.....	4760
Equivalent mph.....	84.0
Cu ft/ton mi.....	77.2
R&T wear index.....	60.9

MAINTENANCE

Crankcase capacity, qt.....	4
Change interval, mi.....	3000
Oil filter type.....	full-flow
Change interval, mi.....	6000
Chassis lube interval, mi.....	3000

ROAD TEST RESULTS

ACCELERATION

0-30 mph, sec.....	5.1
0-40 mph.....	7.7
0-50 mph.....	11.1
0-60 mph.....	15.8
0-70 mph.....	22.3
0-80 mph.....	31.7
50-70 mph (2nd & 3rd gears).....	11.6
Standing 1/4-mi, sec.....	20.6
Speed at end, mph.....	67

TOP SPEEDS

High gear (5100), mph.....	90
2nd (5100).....	67
1st (5000).....	43

GRADE CLIMBING

(Tapley data)

High gear, max gradient, %.....	10.3
2nd.....	18.3
1st.....	26.9
Total drag at 60 mph, lb.....	111

SPEEDOMETER ERROR

30 mph indicated.....	actual 27.9
40 mph.....	37.6
60 mph.....	57.6
80 mph.....	79.0

FUEL CONSUMPTION

Normal driving, mpg.....	20-23
Cruising range, mi.....	240-275

ACCELERATION & COASTING

