

The divided grille is a distinguishing feature of the Amazon. Two-colour paintwork and whitewall tyres are standard



*The Autocar* ROAD TESTS 1686

## Volvo Amazon

**A** HIGH quality family four-seater of modern appearance, giving a comfortable ride and having an 85 b.h.p. engine producing a top speed of 94 m.p.h. with acceleration to match: these are qualities which help to make the Volvo Amazon one of the most interesting cars in the up-to-1,600 c.c. class. Sensitive steering, a fine four-speed gear box with central lever, and good road-holding qualities are further attractions.

The Amazon was first driven by *The Autocar* staff in its native Sweden just before its announcement in 1956, and again in the same country earlier this year. The introduction of the car to production was not hurried, but now the assembly lines in Gothenburg are in full swing, and it has been possible to complete the first comprehensive test of the Export model. The Volvo company arranged for their Dutch agents to provide a car from their stock, run it in, and hand it over in The Hague for test. So Holland and Belgium became the testing grounds after *Automobil Maatschappij "De Nieuwe Haagsche," NV., 10-11, Koninginnegracht, The Hague,* had delivered the car, appropriately on the day which saw the outright victory of a PV444 Volvo in the Tulip Rally.

Evolution of post-war Volvo models was seen in a series of PV444s, culminating in the announcement of the Amazon, each being an improved successor or alternative to the one already familiar. The engine size was originally 1.4-litre giving, when tested by *The Autocar* early in 1954, 44 b.h.p. In 1956 a 444 California saloon having similar body shape and engine size but developing 70 b.h.p. was tested in Sweden. Then, in June of last year, a test was made of the 444, with sports engine giving 85 b.h.p. from the new, larger 1.6-litre unit. This is the engine used in the Amazon. It is available on the Swedish home market in detuned, 60 b.h.p. form, but the Export model has twin S.U. carburettors, and the 85 b.h.p. output is standard. The 444 may still be obtained with the same engine and, partly because the car has been in production with virtually unchanged chassis layout and suspension for many years, it is cheaper.

Among the attractions of the Amazon the performance must rank as the most outstanding, not only because of the impressive data recorded in full on another page but

because, unlike so many of its rivals, the Volvo engine appears prepared to give maximum power for long periods with consummate ease. During the test, which covered several hundred miles of really fast roadwork, including runs over the length of the Brussels-Ostend motorway at or near maximum speed, the oil consumption was so slight as to make topping-up unnecessary. When the car was returned in The Hague after a total mileage of more than 600 no more than a cupful of oil would have replenished the sump.

It is fair to point out that there is no other full four-seater family car of like engine size even to challenge the Amazon's performance. Coupled with the attainment of a 94 m.p.h. mean maximum are a standing quarter-mile in 19.9sec, and from standstill to 30 m.p.h. in 3.7sec, 50 in 9.7, 70 in 20.0 and 80 m.p.h. in 28.9sec. To put such a performance in perspective, it may be recalled that most family cars of well over 2,000 c.c. engine size could be promptly left behind, and that one must aspire to the much larger-engined sports machine to outperform the Amazon with any ease.

The engine proved smooth throughout the speed range; its noise characteristic was soft, sweet and unobtrusive in normal driving, hard and fierce when the throttle was snapped right open. This was attributed in part to the



Overriders are standard. The combined side lights and winking indicators can be seen clearly from the sides as well as from the front

The Volvo Amazon has been renamed the Volvo 122S.  
The specification is unchanged

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*All the brightwork, including the long horizontal rubbing strip, is of stainless steel. The rear window wraps well round, and there is a swivelling ventilator in each door window. Mud flaps are fitted behind the wheels*



will take the speed up to more than 30 m.p.h. if required; second runs up to a maximum of just over 50 while being low enough to cope with the steepest main road hills, and third will get the car cracking up to 76 flat out, or into the 60s without fuss. The only difficulty experienced with the box on the car tested was reluctant engagement of first or second when the car was stationary or moving very slowly. The car concerned had done but some 2,000 miles, however, and this particular fault might be reduced after further use. The remainder of the transmission was silent, and free from any kind of vibration or jerkiness regardless of speed or driving technique.

A comfortable ride is maintained when rough dirt roads are taken quickly, firmness on hard surfaces being approximately the same as that of most other European cars of similar size. The road surface can be felt, which is no bad thing; there is no pitching on indifferent surfaces. On certain stretches of undulating road of the close-pitched washboard type, the Amazon behaved exceptionally well even at high speed. The amount of roll on corners was not excessive, but seemed a little greater than that of the 444 models, and there was a degree of front-tyre squeak on smooth surfaces that amounted to a fault, even though

customary fitting of small, individual air cleaners on the brace of S.U.s, as opposed to the big cleaner-silencer normally used on the single-carburettor installations usually found on family models.

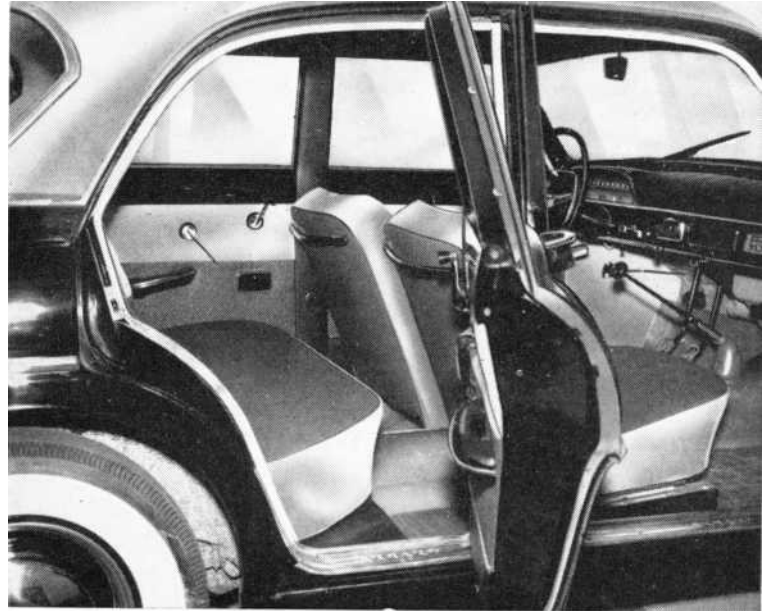
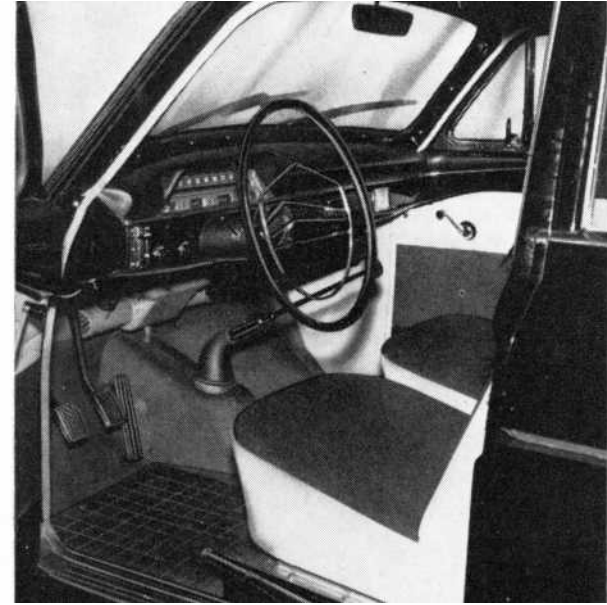
In the fairly warm spell which lasted throughout the test, the engine fired from cold without use of the choke; this is, perhaps, appropriate to a car which has to respond promptly in a Swedish winter. A radiator blind is fitted as standard, but in the weather described the engine warmed quickly without its use.

The degree of flexibility is entirely satisfactory for a family car-in top gear the engine pulls strongly and without a trace of snatch from about 20 m.p.h., but the majority of drivers in a car of this character will prefer to use the delightful gear box. There are three- and four-speed boxes available, the car tested having four forward speeds. The central change lever is placed conveniently for a driver of any height, and the synchromesh mechanism on the upper three ratios is unbeatable. Even in the artificially severe conditions of acceleration testing, there was no protest from the gear box; indeed, the lever could be pulled through with the throttle wide open.

Spacing of the ratios is without fault. Second can be used for starting from rest, though first, the natural choice,

*The spring-loaded locker lid swings right out of the way. There is plenty of room for luggage of orthodox shape, little of which need be removed for access to the spare wheel. To the left of the wheel are stored the well-finished tools*





*A combination of leathercloth and fabric is used for the upholstery, while the flooring is of synthetic rubber. There are armrests and support straps in the rear compartment. Gear lever and handbrake are conveniently placed*

adhesion was not affected. Even in town driving, tyre squeal was heard occasionally.

Thoroughly in keeping with the model's virtues is the steering which is very light to the touch, and gives instant, precise response. It seems almost that the car begins to adopt the right line on a corner before the driver has given movement to the wheel. For a turning circle of 32ft there are but 3.5 turns of the wheel from lock to lock. There is no appreciable kick-back.

The Wagner brakes are similar to those of the 444, but lining area at the front has been increased. A servo mechanism is available at extra cost, but it was not fitted to the test car. In commenting that the brakes are not so impressive as, for example, the performance, it must be made clear that they cope adequately with it. The maximum efficiency of 75 per cent could be improved, but the 95 lb pedal pressure required to get the best retardation is within the capability of any driver. Additional pressure results in the front wheels locking. Brake pedal travel increased a little during the test—this may have been a result of completing the bedding-in process—but the braking power did not flag at any time; there was neither fade or unevenness. The hand brake lever is floor-mounted at the driver's side; it is well placed and works powerfully on the rear wheels. To avoid inadvertent release while the driver is getting in or out, there is a small circular shield round the locking button.

The driving position is comfortable, and the speedometer and auxiliary instruments are easily seen through the upper half of the cross-spoke wheel; the top arc of the horn ring is flattened to avoid obstructing vision. Minor controls are mostly on the fascia, near enough for them to be reached easily. The driver's left hand (in this left-hand drive car) operates the standard heater-demister controls, choke, and indicators—whose operating lever also flashes the head lamps for signalling. To the right are the ignition and starter switch, lamps, and cigarette lighter. The main pedals are well placed, but the dip switch is much nearer the front of the car than the clutch pedal; if the driving seat is correctly adjusted, the reach to the dip switch is inconveniently long. There is ample adjustment of the seat location; driver's height, one might say, is no obstacle, although rear leg room inevitably is affected when the seat is well back.

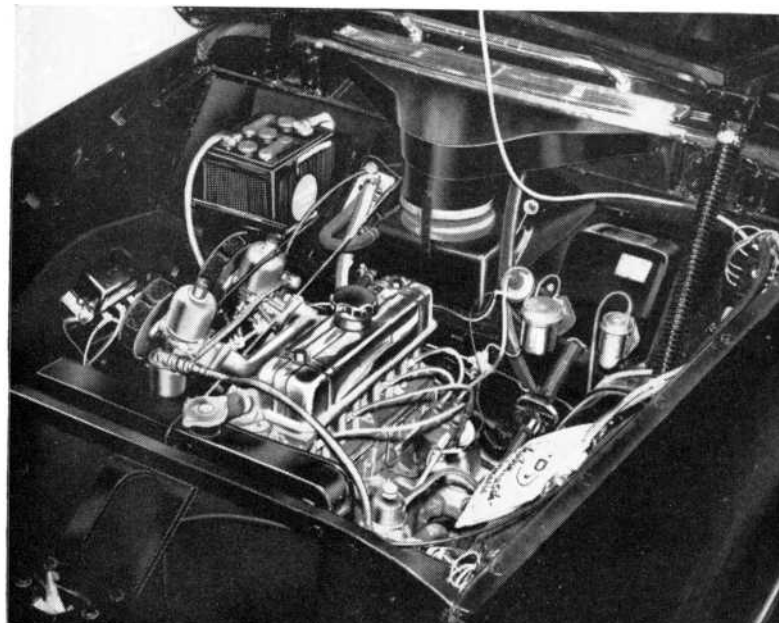
Interior dimensions give adequate room for four people, with a child additionally in the rear compartment. The driver has the elbow room he requires, and for people of average height, leg room at the rear is sufficient.

A deceptively large luggage locker is shaped so that big, ordinary suitcases may be stored easily without wasting appreciable space. The spare wheel stands vertically in

the left side of the locker, and the tools are stored in the cavity between wheel and body side. Though the number of tools is limited, their quality of construction and finish is exceptionally high. The locker lid is spring-loaded, and below its lip is its release button and the fully exposed petrol filler cap.

Curiously, the fuel consumption of the Amazon in hard driving is appreciably higher than that of the 444 with similar engine. This is partly explained by the Amazon having been required to cover long distances at very high speeds on Continental motorways, whereas the 444 had England as a testing ground. Even so, the quiet driving figure is also less favourable. Yet, 22.5 m.p.g. is not unreasonable when it represents long journeys covered at speeds consistently around the 90 m.p.h. mark, and for cruising at about 50 to 60 m.p.h. the figure rises to an impressive 36 m.p.g. In normal driving one could reasonably expect not less than 26, probably more. With a tank capacity of nearly 10 gallons the cruising range is, therefore, comfortably in excess of 200 miles.

The head lamps are powerful, and the dip cut-off gives a wide spread. On the car tested there appeared to be a faulty contact in the flashing system operated by hand. A gentle pull on the indicator lever with the finger-tips should cause the lamps to flash automatically while pressure on



*The pushrod-operated o.h.v. Volvo engine has twin S.U. carburetors in its 85 b.h.p. Export form. The electrical system is six-volt*

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the lever is maintained; in practice they flashed at reduced intensity and then stopped.

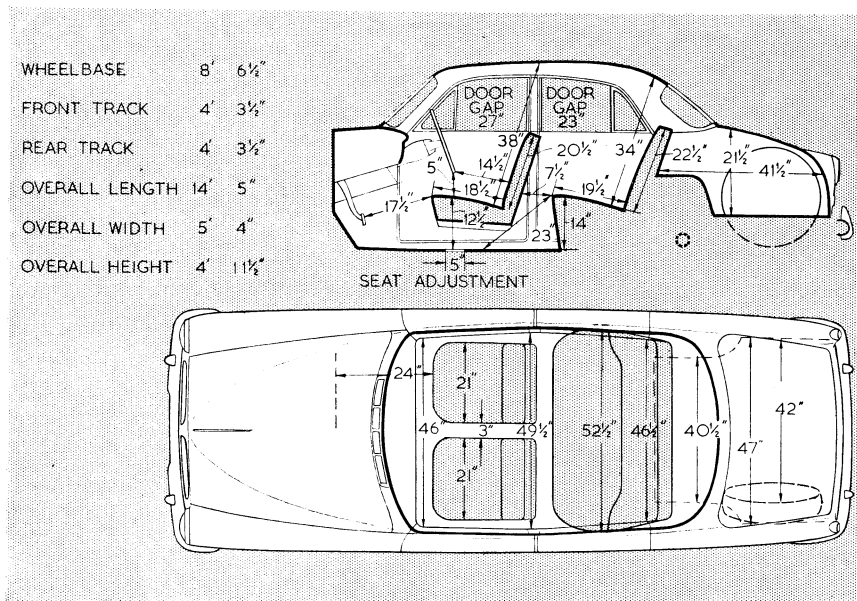
Underbonnet accessibility is first rate, both for routine checking and for servicing. This aspect of service and repair has been given a large measure of priority in the 444 models, and it appears that this policy has been continued in the Amazon.

On the car tested two leaks from the exterior into the luggage locker, one of which resulted in the toolbag getting soaked, were noted; quality of the coachwork as a whole, however, is of a very high standard of construction and detail finish. The two-colour paintwork is well executed, and all the external bright metal is of brightly polished

stainless steel. The manufacturers wisely use a lighter colour on the roof in their two-colour schemes. To British eyes, only the use of synthetic rubber flooring in the Continental manner seems to let down a car of this class. The car is completely treated with bitumastic undersealing at the factory. All Volvos are given this protection, but the Amazon has a specially de luxe type of specification, for included as standard are also the heater, two-speed wipers, clock, overrides, cigarette lighter, and tubeless whitewall tyres, and other, more minor, improvements over the 444 specification.

It was mentioned earlier that, in effect, if one were to put into competition all the comfortable family four-seater cars of up to 1,600 c.c. engine size, the Amazon would quickly take itself a clear stride ahead. To that comment no addition or qualification is required.

## VOLVO AMAZON



Measurements in these 1/4 in to 1 ft scale body diagrams are taken with the driving seat in the central position of fore and aft adjustment and with the seat cushions uncompressed

### PERFORMANCE

**ACCELERATION:** from constant speeds.

Speed Range	Gear Ratios and Time in sec.			
M.P.H.	4.6	6.0	9.9	15.7
	to 1	to 1	to 1	to 1
10-30	—	7.5	4.1	2.9
20-40	9.5	7.4	4.0	—
30-50	9.7	6.9	5.2	—
40-60	11.4	7.9	—	—
50-70	12.5	9.4	—	—
60-80	15.5	—	—	—

From rest through gears to:

M.P.H.	sec.
30	3.7
50	9.7
60	14.0
70	20.0
80	28.9
90	41.3

Standing quarter mile, 19.9 sec.

**SPEEDS ON GEARS:**

Gear	M.P.H. (normal and max.)	K.P.H. (normal and max.)
Top	(mean) 94 (best) 94	151.2 151.2
3rd	60-76	96.6-122.3
2nd	42-51	67.6-82.1
1st	24-33	38.6-53.1

**SPEEDOMETER CORRECTION: M.P.H. (converted from k.p.h.)**

Car speedometer:	10	20	30	40	50	60	70	80	90	94
True speed:	8	18	27	38	48	57	68	78	91	94

**TRACTIVE EFFORT:**

	Pull (lb per ton)	Equivalent Gradient
Top	190	1 in 11.7
Third	270	1 in 8.2
Second	435	1 in 5.0

**BRAKES:** (at 30 m.p.h. in neutral)

Efficiency	Pedal Pressure (lb)
20 per cent	25
46 per cent	50
59 per cent	75
75 per cent	95

**FUEL CONSUMPTION:**  
26 m.p.g. overall for 669 miles (10.9 litres per 100 km.).  
Approximate normal range 22.5-36.0 m.p.g. (12.5-7.8 litres per 100 km.).  
Fuel, Premium.

**WEATHER:** Sunny, slight cross breeze. Air temperature 62 deg F.  
Acceleration figures are the means of several runs in opposite directions.  
Tractive effort and resistance obtained by Tapley meter.

### DATA

**PRICE** ex works (in Sweden) with saloon body, 12,600 Kronor = £868 approx.

**ENGINE:** Capacity: 1,583 c.c. (96.58 cu in). Number of cylinders: 4. Bore and stroke: 79.4 x 80 mm (3.12 x 3.15 in). Valve gear: o.h.v., pushrods. Compression ratio: 8.2 to 1. B.H.P.: 85 at 5,500 r.p.m. (B.H.P. per ton laden 70.8). Torque: 87 lb ft at 3,500 r.p.m. M.P.H. per 1,000 r.p.m. on top gear, 16.2.

**WEIGHT:** (with 5 gals fuel), 21 cwt (2,352 lb). Laden as tested: 24 cwt (2,688 lb). Lb per c.c. (laden): 1.7.

**BRAKES:** Type: Wagner. Method of operation: hydraulic. Drum dimensions: F, 9in diameter; 2in wide. R, 9in diameter; 2in wide. Lining area: F, 81.6 sq in; R, 72.1 sq in (128 sq in per ton laden).

**TYRES:** 5.90-15in. Pressures (lb sq in): F, 20; R, 24 (normal).

**TANK CAPACITY:** 10 Imperial gallons. Oil sump, 6 1/2 pints. Cooling system, 13 pints (plus 2 pints if heater is fitted).

**TURNING CIRCLE:** 32ft 6in (L and R). Steering wheel turns (lock to lock): 3 1/2.

**DIMENSIONS:** Wheelbase: 8ft 6 1/2 in. Track: F, 4ft 3 1/2 in; R, 4ft 3 1/2 in. Length (overall): 14ft 5 in. Height: 4ft 11 1/2 in. Width: 5ft 4 in. Ground clearance: 7 1/2 in.

**ELECTRICAL SYSTEM:** 6-volt; 85 ampere-hour battery. Head lights: Double dip; 45-40 watt bulbs.

**SUSPENSION:** Front, independent, wish-bones and coil springs, with anti-roll bar. Rear, live axle controlled by torque arms with coil springs.

