



# What makes a good towing car?

The Volvo 200 series has an enviable reputation as a strongly built and reliable car. In Sweden something like 80% of Volvo owners use their cars for towing boats or trailers and for this reason Volvo has always made a practice of designing into their cars certain features which make them particularly suitable for towing.

There a number of factors common to all cars which govern their suitability as towing vehicles. Here is a breakdown of those factors one should consider when choosing a car with holidays and hobbies in mind:

**Manufacturer's Gross Towing Limit** — Is the manufacturer's suggested limit for the *ALL UP WEIGHT* the car is capable of towing.

For caravans this includes food, bedding, clothes and any other equipment normally carried.

**Torque** — The twisting force the engine exerts to turn the crankshaft. It is a measure of pulling power and thus towing ability.

Maximum torque is usually developed at half to two-thirds of the engine's top speed. If this involves high engine revolutions (e.g. 3500 or over) the car is capable of high speed but will be unwilling to pull from low speed in top gear.

Starting on a hill with a trailer or caravan demands lots of torque at the lowest possible engine speed. If maximum torque is produced between 2500-3000 revs the engine characteristics are good for towing.

The torque diagrams overleaf show how suitable the VOLVO 200 series is for towing, as the torque curve rises fairly steeply at low engine revs and then flattens out over a fairly wide spread of revs.

**Kerbside Weight** — The weight of the car including towing bracket, full supply of fuel and water, tools and equipment with which the car is normally supplied, but excluding driver and passengers.

*THE HEAVIER THE CAR THE*

## *HEAVIER THE OUTFIT THAT CAN BE TOWED.*

**Brakes** — Although heavy caravans and trailers (over 5 cwt) have their own overrun brake system, the total load places a temporary stress on the car's braking system, especially when stopping downhill or from high speeds. Therefore it is much better if the car is equipped with disc brakes on all four wheels and also has a dual circuit system.

**Turning Circle** — It is very useful if the car used for towing has a small turning circle as a 'U' turn is often easier than reversing with a caravan or trailer attached, particularly for beginners.

**Rear Suspension** — The type of rear suspension is an important factor to consider. There is nothing wrong in principle with independent rear suspension systems for towing, but there is a tendency for some independent and coil spring systems to be softer than conventional leaf springing. *SOFT SYSTEMS SHOULD BE AVOIDED.*

**Towing with an Automatic** — Most automatic transmissions incorporate a torque converter, which has the advantage of being able to deliver full torque to the road wheels at zero mph. Automatic transmissions have a maximum safe operating temperature of about 130°C, but if the trailer is too heavy for the car on a steep gradient then the gearbox will overheat. To counteract this, a number of automatic transmissions are fitted with an oil cooler as standard.

The Table overleaf shows how the Volvo range of cars meets all these requirements compared to other cars of a similar size and price.



# General hints on towing.

**Loading the Roof Rack** — The Volvo roof rack has a maximum capacity of 220 lbs which should be distributed as evenly as possible. Contents should be securely fastened including the rack itself.

If the load consists of long items then a flag should be hung on the ends if they project more than 3' from the front and rear bumpers. If panels are attached they should not project too far in front as the slipstream will try to lift them off.

The roof rack should be removed as soon as possible when not in use so as to minimise fuel consumption by reducing drag.

**Stowing in the Boot** — It is best to put as much as possible in the boot rather than have loose articles inside the car which can become dangerous projectiles when cornering or braking at speed. Stow bulky items in the bottom of the boot so that the lid can be closed and not impede your rear view.

**Stowing in an Estate** — The cargo should be placed as near to the front seat squabs as possible with the heaviest items nearest the front. If the rear seat is folded down it is often easier to begin loading through the rear side doors.

**Towing a Heavy Caravan** — It is recommended that one of the first things to do when towing a heavy load is to reinforce the rear suspension by use of genuine Volvo towing accessories. This will avoid any realignment of the headlights and give a more comfortable ride.

Other advice — before starting off check the tyre pressures, these should be 35 psi in the rear tyres and 27 psi in the front of the Volvo 200 series. The caravan tyres should be inflated to the manufacturer's recommendations. The headlight alignment should be checked and reset if necessary (see owner's handbook) when the car is fully loaded. The tail lights, brake lights and indicators should be checked both on the car and on the trailer.

All the doors and the skylight on the caravan should be securely fastened.

Ensure that the weight of the caravan contents is evenly distributed over the axle, and that the noseweight does not exceed 1½ cwt.

**Towing a Boat** — If you are towing a sailing boat, make sure that the mast is securely lashed down so that it cannot break loose and spear an oncoming car. The hull should be located so that all the support points are evenly loaded. The jockey wheel should be retracted so that it does not bump against the road surface. The safety chain between the trailer and the car should be made fast.

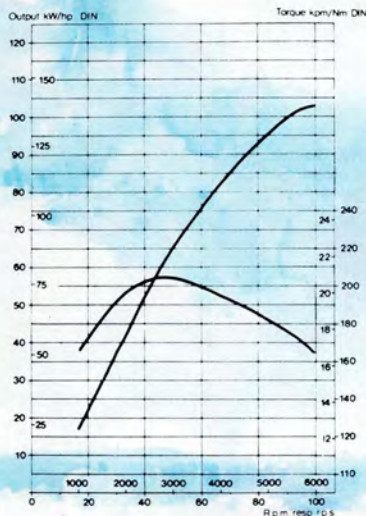
## HIGH SPEED TOWING

The improvement in suspension design of both caravans and cars and the efforts of some car manufacturers (notably Volvo) to adapt their vehicles to towing have made high speed cruising a really safe proposition. On autoroutes, for instance, it was possible to tow a 14 feet Sprite with a Volvo 264 at over 65 mph without any hint of the snaking which can be so dangerous.

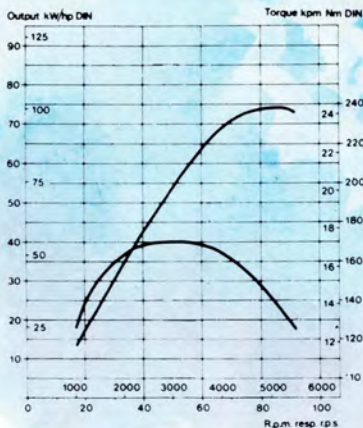
*Financial Times.*



# Why the Volvo(240/260)range of cars are excellent for towing.



B27E



B21A

Throughout this brochure "Range" refers to the 244 Saloon, 245 Estate, 264 Saloon, 265 Estate.



**1** It can be seen from the table and from the torque curves shown above how well the VOLVO range compares with its competitors on maximum torque.

**2** The VOLVO range has a gross towing limit of 29.5 cwt which means VOLVOs can tow over 90% of all towing caravans made, or a double horsebox.

**3** 200 series cars have an excellent turning circle of only 32'2" kerb to kerb which is smaller, in fact, than that of a Renault 5 or VW Golf.

**4** Featuring a triangle split dual circuit braking system, even with one circuit out of action, driving a VOLVO you can still obtain 80% of braking power. All 240 and 260 series VOLVOs have disc brakes on all four wheels, with the handbrake operating on a separate rear drum.

**5** Automatic versions of 200 series cars are fitted with a gearbox oil cooler as standard.

**6** The large VOLVO saloon boot of 21.5 cu. ft. gives excellent storage space for all equipment needed when camping, caravanning or boating. The VOLVO 245 and 265 also take a large load. The rear seat can be dropped to create a cargo area over six feet long with 70 cu. ft. of load space. With the seat in position, there is 42 cu. ft. available, and a concealed cavity in the floor gives another 2.1 cu. ft. which can be used for storing valuable items. There are also three fittings on each side of the load area for straps to tie the cargo down.

It is also possible to carry more equipment if a VOLVO roof rack is fitted, which has a carrying capacity of 220lbs.

**7** A high driving position gives 'see through' vision with most caravans. On a VOLVO all doors

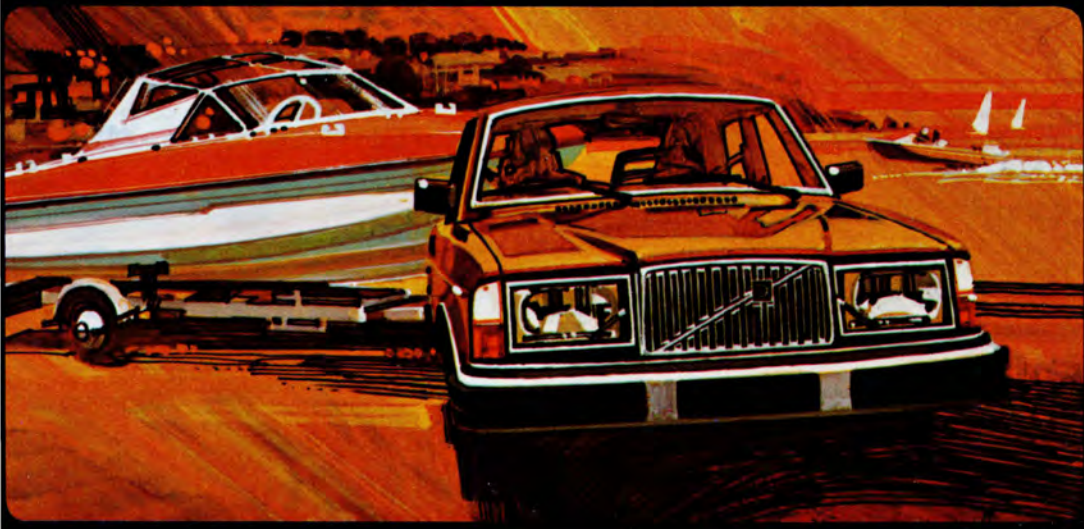
and window frames are of closed section box design and the windscreen pillar profile has been turned so that its narrowest edge faces the driver. This helps to improve all around visibility.

**8** Large wheels and radial ply tyres give VOLVO 200 series models very good grip on soft ground. The VOLVO 200 series models also have a good ground clearance (5.5" with maximum load).

**9** The four speed manual gearbox fitted to the VOLVO 240 range has overdrive as standard on the 244GL and 245DLE and also on all the 260 range of cars.

Designed to handle VOLVO's highest engine outputs, these gearboxes feature a 3.71:1 first gear ratio. This, combined with the VOLVO engine's excellent torque characteristics ensures that moving off whilst towing, particularly on hills, is achieved with the minimum of fuss. In addition, the low ratio means that clutch loading is also low, thus prolonging clutch life.





# The table on this page shows how the Volvo range of cars meets all the necessary towing requirements compared to other cars of a similar size and price.

	Mfrs. Gross Towing Limit (cwt)	Max. Torque at RPM (lbs/ft)	Max. BHP at RPM (din)	Kerb Weight (cwt)	Engine (cc)	Type of Brakes	Type of dual circuit system	Turning circle (ft/ins)	Load capacity Saloon (cu ft)	Load Est. (seats up) (cu ft)	Load Est. (seats down) (cu ft)
Volvo 244 DL	29.5	125/3000	100/5250	25.0	2127	Discs F/R	Triangle Split	32' 2"	21.5		
Volvo 244 GL	29.5	125/3000	123/5500	25.0	2127	Discs F/R	Triangle Split	32' 2"	21.5		
Princess 2200 HLS	22.0	124/3500	110/5250	23.9	2227	Discs F Drum R	Triangle split	37' 10"	19.0		
Citroen CX 2400	17.7	135/2800	115/5750	25.6	2347	Discs F/R	Axle split	35' 9"	16.8 cu ft		
Saab 99 GL	29.5	121/3300	108/5200	22.9-23.7	1985	Discs F/R	Axle split	35'	11.9 cu ft		
Peugeot 504	25.6	119/3000	96/5200	22.8	1971	Discs F/R	Axle split	35' 8"	19.3 cu ft		
Audi 100 LS	23.6	116/3500	115/5500	22.6	1984	Discs F Drum R	Axle split	37' 8"	22.7 cu ft		
Ford Granada 3 litre	29.5	174/3000	138/5000	27.8	2994	Discs F Drum R	Axle split	34' 6"	15.7 cu ft		
Mercedes 200	23.6	116/3000	94/4800	26.4	1988	Discs F/R	Axle split	36' 11"	17.7 cu ft		
Volvo 245 DL	29.5	125/3000	100/5250	26.0	2127	Discs F/R	Triangle Split	32' 2"	—	42 cu ft	70 cu ft
Volvo 245 DLE	29.5	125/3000	123/5500	26.0	2127	Discs F/R	Triangle Split	32' 2"	—	42 cu ft	70 cu ft
Volvo 265 GL/GLE	29.5	150/3000	140/6000	28.1	2664	Discs F/R	Triangle Split	32' 2"	—	42 cu ft	70 cu ft
Peugeot 504 GL Est.	29.5	119/3000	96/5200	26.2	1971	Discs F Drum R	Axle split	37' 5"	—	39 cu ft	64 cu ft
Ford Granada Est.	29.5	174/3000	138/5000	27.8	2994	Discs F Drum R	Axle split	34' 6"	—	41.7 cu ft	75.5 cu ft
Toyota Crown Est.	29.5	134/2400	107/5000	28.3	2563	Discs F Drum R	Axle-split	—	—	28	52
Datsun 260 C Est.	24.1	159/3600	118/5200	28.3 M	2565	Discs F Drum R	No Dual circuit	39'	—	40	75
Citroen CX 2400	17.7	135/2800	115/5750	27.8	2347	Discs F/R	Axle split	35' 9"	—	39.37	71.69
Volvo 264 GL	29.5	150/3000	140/6000	28.1	2664	Discs F/R	Triangle Split	32' 2"	—	—	—
Volvo 264 GLE	29.5	150/3000	140/6000	28.1	2664	Discs F/R	Triangle Split	32' 2"	—	—	—
Mercedes 280 E	23.6	172/4500	177/6000	28.7	2746	Discs F/R	Axle split	36' 11"	17.6 cu ft		
Jaguar XJ 3.4	25	189/3500	161/5000	33.2	3442	Discs F/R	Axle split	36'	17.0		
BMW 528	23.6	172/4000	170/5800	24.8	2788	Discs F/R	Axle split	41' 3"	22 cu ft		
Rover 3500 M	20.0	198/2500	155/5250	26.8	3528	Discs F Drum R	Axle split	34' 3"	—	11.9	35.4
Peugeot 604	29.5	153/3500	136/5750	28.6	2664	Discs F/R	Axle split	37' 9"	17.6 cu ft		

# Volvo accessories for towing.

As you would expect with a car so well designed for towing, Volvo also offers you a wide range of genuine quality, tailored, towing accessories:

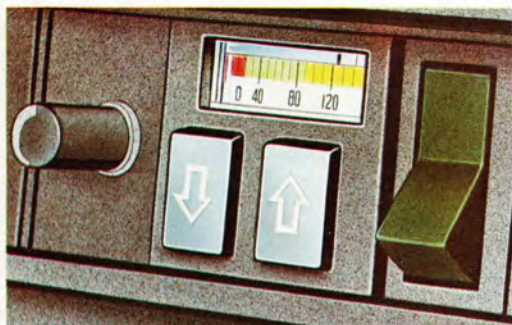
- A Tow ball guard.
- B Caravan shock absorbers.
- C Level regulators, either automatic or semi-automatic.
- D Roof racks.
- E Caravan wiring kit.
- F Tow bars, the only tow bars approved by Volvo, including one with a removable tow ball.
- G Splash apron.
- H Caravan mirrors.



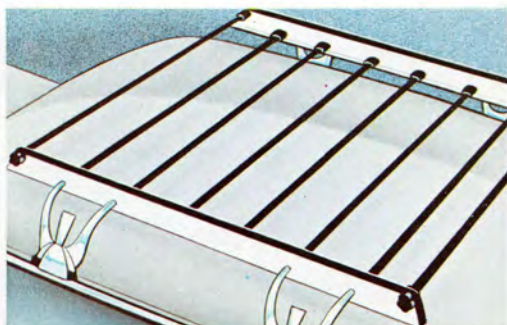
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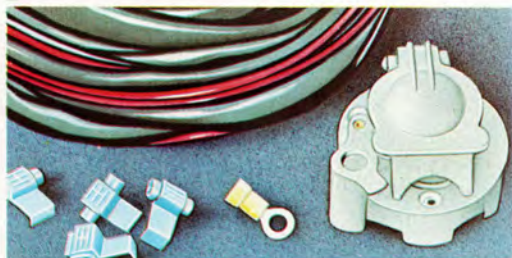
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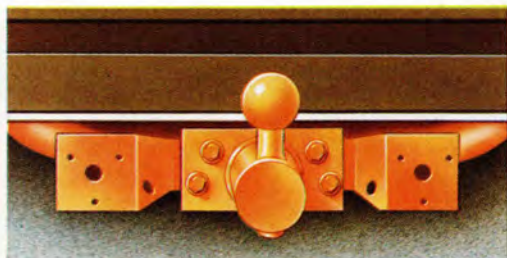
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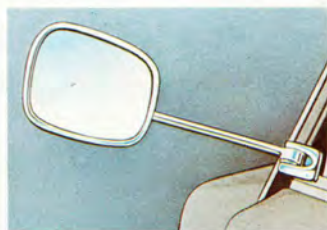
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