

Motor

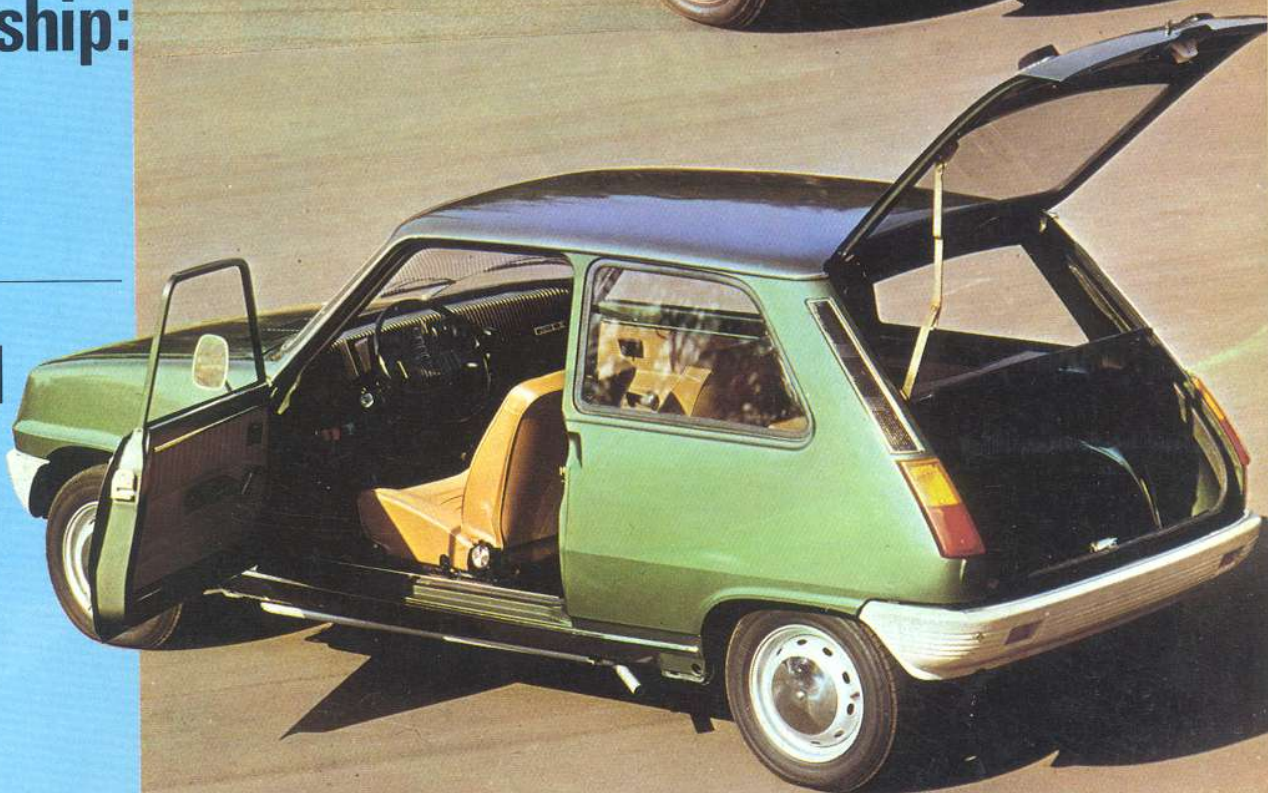
Monte Carlo Rally report

Peugeot 504 estate tested

Hillclimb championship: a colour review

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**NEW RENAULT 5:
SMALL PACKAGE, BIG DEAL**



ROAD TEST

PEUGEOT 504 FAMILY ESTATE

Peugeot trebled their sales in Britain in 1971 and they plan to treble them again within the next few years. The sales target for the new (since January last year) wholly owned Peugeot subsidiary is 18,000 cars by the end of 1974. So they mean business.

Their strongest weapon by far at the moment is the redoubtable 504, a car for which — with but few reservations — we have the highest regard. Since last October the range has been reinforced by a couple of estates, a five-seater which converts to one of the biggest load carriers you can buy, and (tested here) the seven-seat Family Estate with a smaller — though still pretty generous — luggage/goods carrying

capacity.

Both have a longer wheelbase than the saloon (9ft. 6in. compared with 9ft.) and a longer Pininfarina-styled body (15ft. 9in. compared with 14ft. 8½in.). Apart from the rear suspension, though, saloon and estate are mechanically the same. Compared with the 404 estate, which is no longer sold here (but still in production), the 504's performance, ride, accommodation, fittings, finish and amenities are all superior, some significantly. Inevitably, the 504 is also more expensive though at £1795 (less for the five-seater) you get not only an enormous amount of car for your money, but also lots of refinement and comfort. In combination — capacity and comfort — these qualities we think make the Peugeot a class leader on a cost/accommodation basis, bearing in mind that the highly successful and perhaps more glamorous Volvo 145 is more expensive, and not quite so commodious, or quiet.

With a top speed of nearly 100 mph and an overall fuel consumption of 24 mpg, performance and economy have been well combined. But figures don't convey the quiet, fussless character of this big Peugeot — qualities enhanced by sound roadholding and brakes, but not by the (at times) ponderous steering which can make the car a handful to park.

PERFORMANCE AND ECONOMY

Both versions of the estate use the same engine as that in the ordinary 504 saloon, a 1971 cc "four" developing 93 bhp (net) at 5200 rpm. (Only the utility model, not available here, retains the smaller 1796 cc low compression engine and the injected

2-litre is not available in the estate.) An extra 1.3 cwt., most of it at the back, takes the edge off the performance, though you would scarcely notice up to 60 mph which is reached from rest in 13.7 sec., only one second slower than the saloon. Thereafter the difference is rather greater though the top speed of 96.7 mph is only two mph down on the saloon's.

Because the engine is particularly smooth and quiet, the performance is actually better than it feels — we were surprised to find that the figures were quite good after subjectively assessing them as mediocre. There's a diesel-like clatter when starting up, a slight boom period at around 75 mph, and a rather frenzied tone when the pushrod engine is really extended to high revs. But it runs so sweetly and quietly otherwise that you can press on without the car feeling at all stressed. Certainly an indicated 90 mph — nearer 85 mph in truth — is an easy, natural cruising gait, fan speed (and thus noise) being minimized by Peugeot's familiar electro-magnetic coupling. At the other end, the engine will pull cleanly and smoothly from 20 mph in top, though not very vigorously.

The saloon returned a disappointing 19.8 mpg overall perhaps, as we suggested in the test, because flat spots when running on the primary choke of the twin-choke Solex carburetter encouraged excessive full-throttle work. Neither this fault, nor the sudden, unprogressive transition from one choke to two, was evident in the estate which returned a respectable 23.6 mpg. Considering it carries less weight, the saloon ought to do even better.



The handbook specifies a minimum octane rating of 95 so the car should run on three-star petrol — we say should as we had no handbook at the time and therefore played safe on four-star fuel. There was certainly no pinking on this. A 13.2-gallon fuel tank gives a maximum range of just about 300 miles, allowing some reserve.

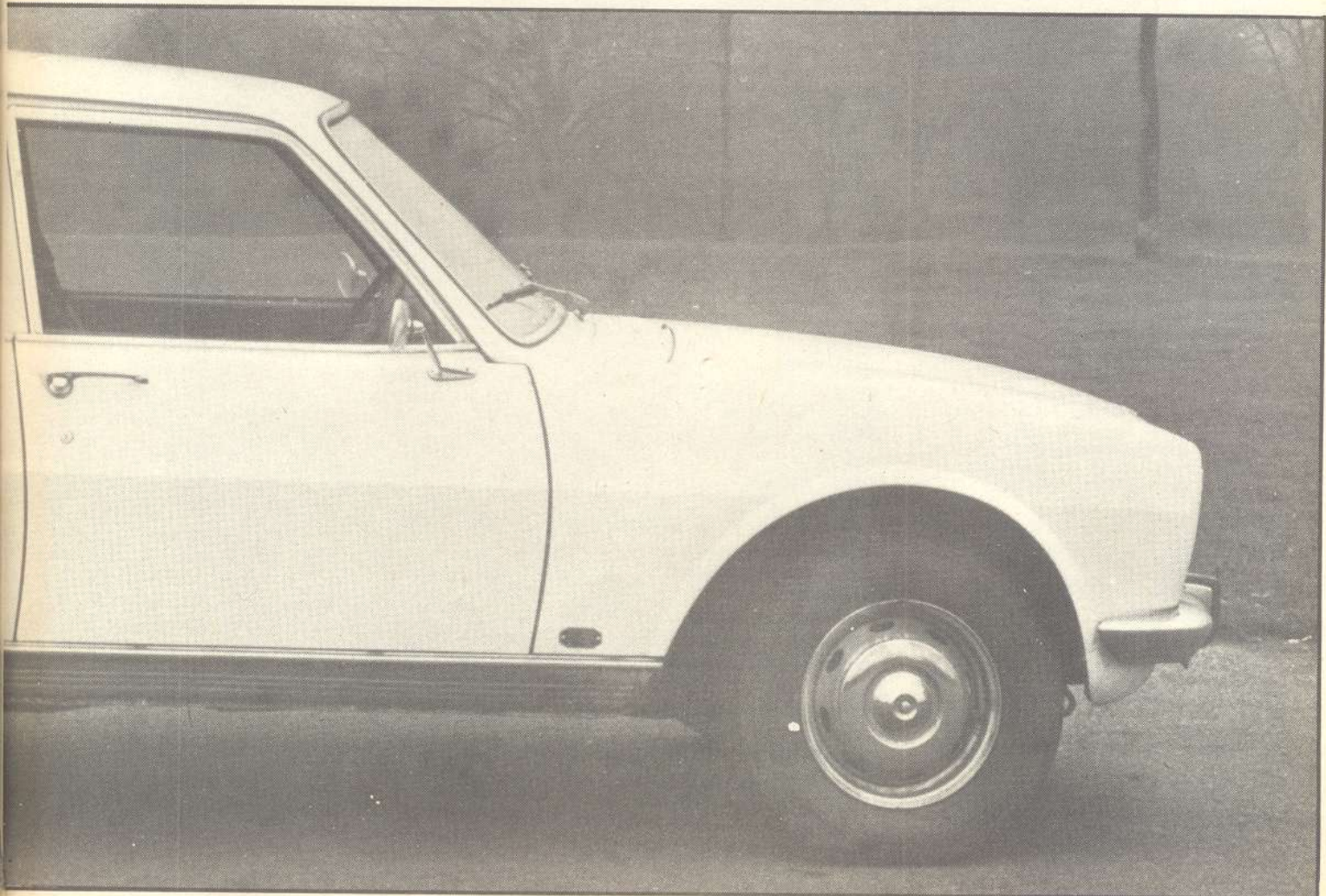
TRANSMISSION

504s sold in France (and all left-hand-drive markets for that matter) retain Peugeot's traditional column gearchange, the French remaining faithful to this anachronism after developing it to a high pitch. However, right-hand-drive cars are blessed, for installation reasons, with a floor-mounted shift that we prefer to the column one, good though it is. The rather long, cranked lever, topped by a sensibly shaped knob, doesn't look too promising, especially after the stubby remote control lever we liked so much on the saloon. But it works very well. First and reverse are sometimes difficult to engage at the first attempt but otherwise the lever slips into place very easily, provided you use a firm hand to overcome strong spring loading in the 3/4 plane when changing down to second. Conversely, second to third practically selects itself with a diagonal push. The synchromesh is powerful without being obstructive but transmission noise was slightly more prominent than in previous Peugeots.

Fine throttle control and a light, outstandingly smooth, progressive clutch make starts and gearchanges particularly easy. Some drivers complained that the angled steering column fouled their left foot



Below: the long rear overhang and stepped roof — to increase headroom and rigidity — emphasize the car's near-16ft. length, though we find the styling well proportioned. The aim of the headlights, above, can be adjusted. Massive rubber-faced overriders protect against clumsy parkers. The rear window, right, soon becomes opaque with dirty spray in wet weather





Above: the Family Estate is intended to carry people rather than goods. The full length of the car, below, is better utilized in the ordinary (and cheaper) estate



The seats get progressively higher and less comfortable from front to back. The front ones, right, are excellent — deep, fully adjustable armchairs with built-in headrests (pushed in here). The centre row, below, are good, those at the back, above, unshaped and rather hard



when depressing the clutch. We couldn't fault the gear ratios: first allows a re-start on a 1 in 3 hill (though maybe not with a load on board) and top relaxed cruising. The two in between are fairly even spaced. Automatic transmission (3-speed ZF) is available for an extra £181.

HANDLING AND BRAKES

The only major mechanical difference between the saloon and the estate is the rear suspension — independent by semi-trailing arms on the saloon, a live axle with a torque tube, triangulated location and twin coil springs on the estate, a simple more robust set-up better able to cope with the greater payloads imposed upon it. Surprisingly, neither the ride nor the handling have suffered much as a result.

As on the saloon, we found the steering cumbersome when parking or rounding sharp corners: on such manoeuvres it feels as awfully low geared as it is (a massive 1.6 turns are needed to prescribe a 50ft circle), as well as rather heavy. So negotiating, say, a tight multi-storey car park calls for lots of strenuous effort which most women will find very wearing. Power-assisted steering would certainly be a welcome option.

On the move, these deficiencies are far less apparent, in fact barely evident at all. The steering feels very much lighter and is also a lot more responsive than you'd expect, largely because understeer has been kept to a minimum at all normal cornering speeds. This is presumably as a result of the revised rear suspension which is stiffer in roll than that of the saloon. The extra weight at the back must also contribute to the neutral handling.

Even so, it is ultimately understeer, as it should be on such a car we feel, that normally sets the respectable cornering limit, the Michelin ZX radials hanging on well even on a wet surface. On a dry one, no amount of abuse will make them squeal, adding to the car's unfussed, well-mannered nature. Body roll is evident but not excessive for such a car, and straight-line stability, even in a strong crosswind, is excellent. In short, a very safe, stable vehicle which may not inspire brisk driving (just the opposite in fact) but which responds to it well when the need arises. Even with a load in the back, the car still feels safe and predictable, though there is an inevitable tendency for the tail to slide more easily when laden.

The servo-assisted disc/drum brakes passed all our tests, the pressure rise of 19 lb. after 20 1/2g stops being well within acceptable limits. Compared with the 404's brakes, which we always found to be over-servoed to the point of being unpleasantly touch sensitive, those of the 504 are completely progressive in their response.

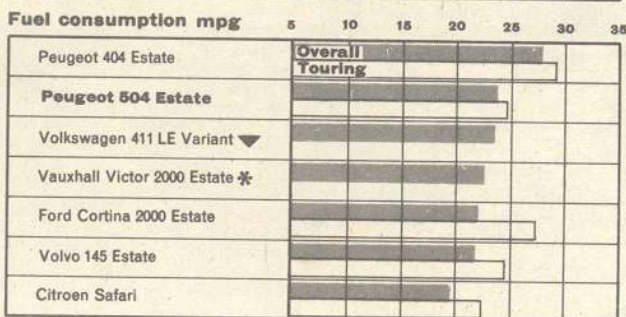
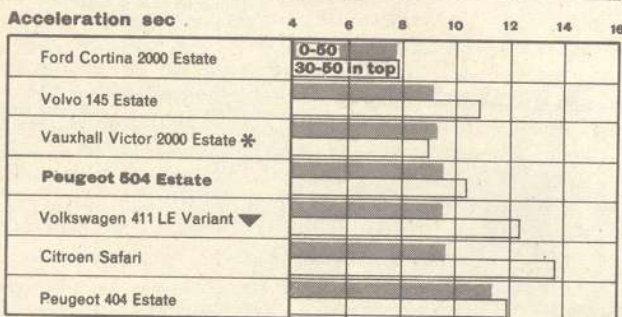
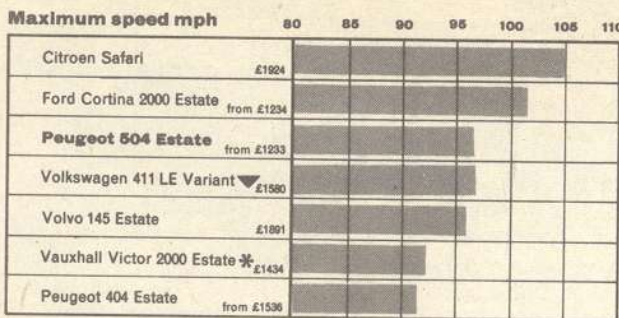
COMFORT AND CONTROL

Although the rear suspension is not unlike that of the 404 estate's, the ride is very much better, the restless, fidgety movement of the earlier car having been all but eliminated. Despite fairly stiff springs to cope with a maximum payload of 1400 lb., the suspension absorbs shocks well. Predictably, the ride improves still further with a load on board as the sprung/unsprung weight ratio improves — though the car never becomes wallowy.

The large armchair front seats have built-in, adjustable head restraints/rests and fully reclining squabs so you can lie back in great comfort. It is not possible to form a full-length bed as in a Maxi though, as the squabs of the seats behind are fixed. Excellent though they are, we didn't rate the front seats quite so highly as those of the last saloon we tested which had cloth upholstery (leathercloth is used in the estate) that provided better support. Some drivers also thought that the cushions were too flat and provided insufficient support under the thighs.

The driving position is good. Four spokes in the large steering wheel (too large for our liking, though you need the leverage it affords) give alternative positions for your hands, and the pedals are comfortably arranged: you can heel and toe easily. A stout column stalk on the left operates the lights (in Peugeot's familiar quadrangle gate) and an excellent wash/wipe service. In contrast, the other stalk on the right is a flimsy plastic twig, unpleasant to use, that operates the horn and indicators. The main switch for the two-speed wipers, a nasty little rocker, is mounted a lot less conveniently on

Motor Road Test No. 7/72 Peugeot 504 Family Estate



* four-speed gearbox and overdrive
 ▼ performance figures for saloon

Make: Peugeot
Model: 504 Family Estate
Makers: Automobiles Peugeot, Sochaux, France
Concessionaires: Peugeot Automobiles (UK) Ltd., Hadley House, 79-81 Uxbridge Rd., Ealing, London W5
Price: £1435 plus £360.63 purchase tax equals £1795.63

Performance tests carried out by Motor's staff at the Motor Industry Research Association proving ground, Lindley.

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Conditions

Weather: Fair, cold and damp, wind 0-12 mph
 Temperature: 36-39°F
 Barometer: 29.7 in. Hg.
 Surface: Damp asphalt
 Fuel: 98 octane (RM)
 4 Star rating

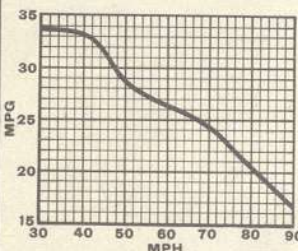
Maximum Speeds

	mph	kph
Mean lap banked circuit	96.7	156
Best one-way 1/4-mile	100.0	161
3rd gear	30	48
2nd gear	51	82
1st gear	71	114
"Maximile" speed: (timed quarter mile after 1 mile accelerating from rest)		
Mean	93.8	
Best	94.8	

Acceleration Times

	sec.
0-30	4.1
0-40	6.3
0-50	9.5
0-60	13.7
0-70	19.4
0-80	28.3
0-90	45.6
Standing quarter mile	14.2
Standing Kilometre	36.0

mph	Top sec.	3rd sec.
10-30	7.4	7.1
20-40	10.3	7.0
30-50	10.3	7.5
40-60	10.9	9.6
50-70	12.5	—
60-80	15.5	—



Fuel Consumption

Touring (consumption midway between 30 mph and maximum less 5% allowance for acceleration) 24.6 mpg
 Overall 23.6 mpg
 (= 11.9 litres/100km)
 Total test distance 1020 miles

Brakes

Pedal pressure, deceleration and equivalent stopping distance from 30 mph	lb.	g.	ft.
25	0.39	77	
50	0.62	48	
75	0.70	43	
100	0.95	31	
Handbrake	0.33	91	

Fade Test

20 stops at 1/2g deceleration at 1 min. intervals from a speed midway between 40 mph and maximum speed (= 68 mph) lb.
 Pedal force at beginning 26
 Pedal force at 10th stop 42
 Pedal force at 20th stop 45

Steering

Turning circle between kerbs: ft.
 Left 32.1
 Right 32.4
 Turns of steering wheel from lock to lock 4.5
 Steering wheel deflection for 50 ft. diameter circle 1.55 turns

Clutch

Free pedal movement 1/2 in.
 Additional movement to disengage clutch completely = 3 1/2 in.
 Maximum pedal load = 27 lb.

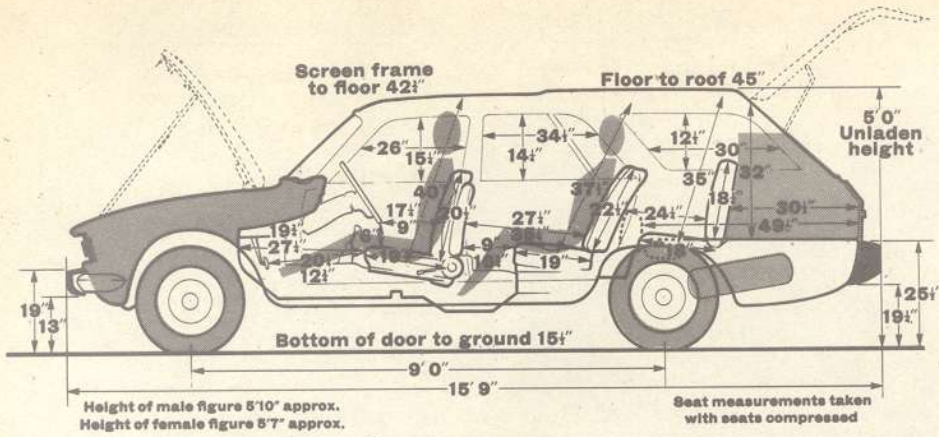
Speedometer

	30	40	50	60
Indicated	30	40	50	60
True	29	38.5	48	57.5
Indicated	70	80	90	
True	66	74	84	

Distance recorder 5% fast

Weight

Kerb weight (unladen with fuel for approximately 50 miles) 25.6 cwt.
 Front/rear distribution 48.8/51.2
 Weight laden as tested 29.3 cwt.



Engine

Block material	Cast iron
Head material	Light alloy
Cylinders	4 in line
Cooling system	Water
Bore and stroke	88mm (3.45in.) 81mm (3.19in.)
Cubic capacity	1971 cc (120 cu.in.)
Main bearings	5
Valves	ohv pushrod
Compression ratio	8.35:1
Carburettor	Solex 32-35 SE IEA
Fuel pump	Mechanical
Oil Filter	Full flow
Max. power (DIN)	93 bhp at 5200 rpm
Max. torque (net)	117.8 lb.ft. at 3000 rpm

Transmission

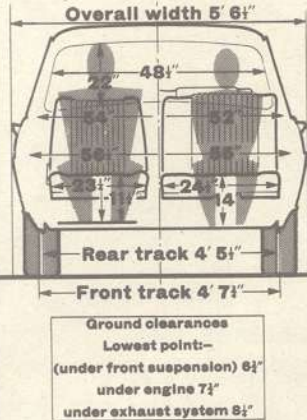
Clutch	Sdp diaphragm spring
Internal gear box ratios	
Top gear	1.0:1
3rd gear	1.366
2nd gear	2.104
1st gear	3.555
Reverse	3.634
Synchronesh	On all forward gears
Overdrive type	None
Final drive	Hypoid bevel 4.111:1
Mph at 1000 rpm in:	
Top gear	17.8
Third gear	13.0
Second gear	8.5
First gear	5.0

Chassis and body

Construction Unitary body/chassis

Brakes

Type Discs/drums with servo assistance
Dimensions 10.7in. diameter



Suspension and Steering

Front Independent by MacPherson struts and coil springs; anti-roll bar
Rear Live axle with twin coil springs located by torque tube with triangulation arms and Panhard rod; anti-roll bar
Shock absorbers: Peugeot telescopic
Steering type Rack and pinion
Tyres Michelin 185 SR 14 (185 x 355) ZX
Wheels Perforated steel disc
Rim size 5J

Coachwork & equipment

Starting handle No
Tool kit contents Wheelbrace
Jack Scissor screw
Jacking points Under front or ahead of rear wheels
Battery 12 volt negative earth 45 amp hrs capacity

Number of electrical fuses	5
Headlamps	Sealed beam
Indicators	Self cancelling flashers
Reversing lamp	Yes, standard
Screen wipers	2 speed equipment
Screen washers	Electric push button with wiper action
Sun visors	2
Locks:	
With ignition key	Doors
With other keys	Boot
Interior heater	Air mix fresh air unit
Upholstery	Leathercloth
Floor covering	Carpet
Alternative body styles	Saloon
Maximum load	1400lb
Maximum roof rack load	165lb
Major extras available	automatic transmission

Maintenance

Fuel tank capacity	13.2 galls
Sump	7 pints SAE 20W 30/40
Gearbox	2 pints SAE 20W 30/40
Rear axle	2.8 pints SAE GX80
Steering gear	Grease
Coolant	14 (2 drain taps)
Chassis lubrication	Every 3000 miles
Maximum service interval	3000 miles
Ignition timing	5° bt/dc
Contact breaker gap	0.016 in.
Spark plug gap	0.024 in.
Spark plug type	AC 44 XL
Tappet clearance (cold)	Inlet 0.004in Exhaust 0.010in.
Rear wheel toe-in	Nil
Front wheel toe-in	3mm ± 1mm
Camber angle	0° 38' ± 30'
Castor angle	2° 40' ± 30'
King pin inclination	8° 54' ± 30'
Tyre pressures:	
Front	21 psi
Rear	35 psi

the facia, along with the heater controls and choke, neither of which are within easy reach when you're wearing the infuriatingly cumbersome seat belts. Their central U-bar anchor and "rip cord" release show signs of intelligent thought behind the design but the belts themselves — all loose ends, it seemed — were difficult to adjust and tension.

As the wipers are set for left-hand drive, there's a large unswept wedge which can obscure vision on right-hand corners. The view aft is sometimes even worse as the back window soon becomes quite opaque with dirty spray in wet weather. Peugeot should fit a wiper, like Volvo do on their 145: on its own, the (standard) demister element is pretty useless. Two excellent outside mirrors (also standard) fortunately relieve the rear view problem. That on the inside we faulted at night because the whole mirror had to be re-aligned when you switched to the dip reflector. The excellent lights can be quickly adjusted if a heavy load upsets their aim. Reversing lights are standard.

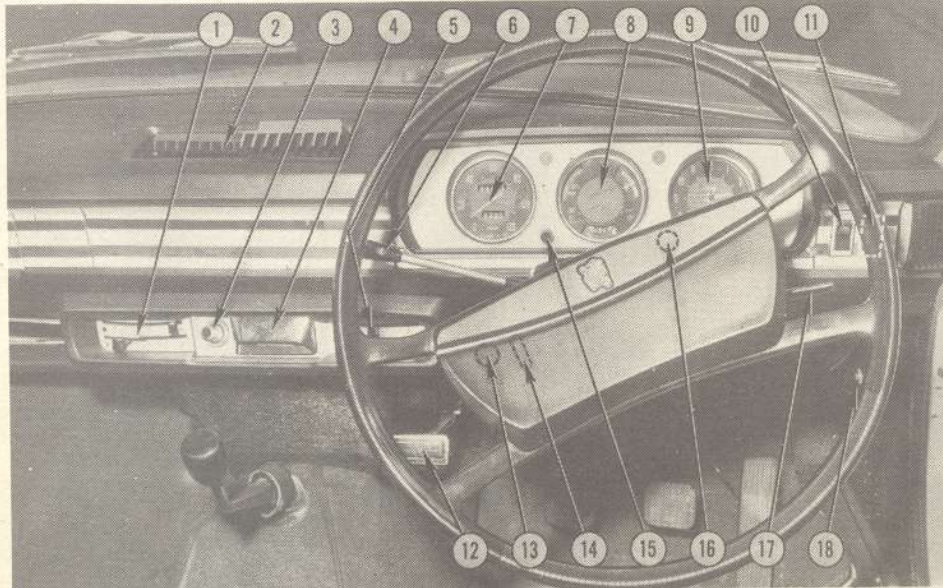
Surprisingly (for a French car) the heater's output was far from volcanic and some of our more cold-blooded passengers actually suffered from chilly feet, perhaps because the enormous interior gives the heater twice as much work to do as normal. The controls do allow fine, progressive control, though, and we liked the odd but effective vent grilles on top of the facia, and the rheostat-controlled fan which could be finely adjusted. Side outlets demist the side windows.

Good window and door sealing keeps wind noise commendably low — lower than in previous Peugeots we've tested. Or it did until a rear quarterlight catch worked loose, allowing a hiss to develop. Engine noise is also well isolated and road noise approaches the legendary low level of the 404 so it follows that the 504 is unusually quiet.

FITTINGS AND FURNITURE

Although well equipped, the 504 estate is not lavishly furnished or appointed. The plastic facia is cheapened, in our view, by the bright metal strips on it and the door and seat trim is in simple leathercloth. Carpet covers the passenger compartment floor but some of it is rather loosely fitted (the five-seater has rubber mats).

Comfort and amenities decrease the further back you sit. The high individual middle seats — good for viewing from — are



1 and 5 heater and ventilation controls. 2 air vents. 3 cigar lighter. 4 ash tray. 6 lights/flasher/wash and wipe. 7 speedometer with trip and total mileage recorders. 8 fuel, battery charge and engine temperature gauges. 9 clock. 10 rear window heater. 11 wipers. 12 handbrake. 13 choke. 14 ignition/starter/steering lock. 15 trip reset. 16 instrument light rheostat. 17 horn/indicators. 18 vent control



excellent by normal "rear" seat standards, though they don't recline like the front ones. They have no headrests and legroom, though quite generous, is not as good as in the front. The stepped roof ensures adequate headroom. The back bench seat, reached by tilting the middle ones forward (infuriatingly, they have to be held up while you get in as they won't support themselves), is a lot less comfortable — hard and not contoured for support like those ahead. Despite the intruding wheel arches, there's room for three teenagers here (justifying the seven-seater claim), leaving space right at the back for, say, a couple of large dogs to lounge in comfort, or a fair amount of luggage — if not enough for seven people on holiday. Disappointingly, the 504 estate does not have the built-in roof-rack anchors of the 404. The rear seat can be folded forward into a vertical position after releasing a central pair of lock levers on the back, to double the luggage space while retaining four seats.

We feel that more could have been made of the car's exceptional length by making the middle seats fold as well. This was brought home when we wanted to transport a normal

sized single bed: it wouldn't fit and we had to wait until a (shorter) Cortina estate came along to do the job. True, the alternative and slightly cheaper five-seater 504 would have coped easily with its 6ft. 3in. deck, but we're puzzled why Peugeot should stop short, literally, of greatly increasing the seven-seater's versatility.

The counterbalanced tailgate, which can be released without a key (unless locked of course), lifts well clear to form a useful loading umbrella. Although the wheel arches and counterbalance covers encroach on the width, the spare wheel and fuel tank are slung out of the way beneath the rubber-matted deck.

Interior stowage space is much better than that in the 404 which had practically nowhere to put anything. There's a slim shelf on the passenger's side, a fascia locker and a central bin with a lid that doubles as an armrest. Two pillar-mounted lights and one on the ceiling which comes on when the tailgate is lifted, provide unusually good interior illumination. Lighting for the three clear instruments, rheostat controlled, is also good.

SERVICING AND ACCESSIBILITY

The servicing schedule is based on the need to change the engine oil every 3000 miles — more frequently than recommended by most other manufacturers now. Beneath the self-supporting bonnet (by over-centre catches), all the regular service items are easy to reach. To free the luggage bay of all encumbrances, the scissor-screw jack and wheelbrace are also clamped in the engine compartment.

The car is very well protected against clumsy parkers with massive rubber-faced bumpers and over-riders: they don't wrap round the corners, though, to protect against side swipes. Other thoughtful details are a rubber cup beneath the (stiff) screw filler cap to catch any spills, a fuse box inside where it is easy to reach without getting out, and a battery equipped not only with a master cut-out switch but also built-in sockets for, say, an inspection lamp.

Peugeot have increased the dealer network from 47 to 124 in the past year, so servicing is much less of a problem than before. Most highly populated areas in Britain are covered. □



As a four /five seater, the luggage deck is four feet long as long or longer than that of any rivals. But you can't extend it further in the family Estate. As a seven-seater, below, there is still quite generous room for luggage or goods

