THE MERCEDES-BENZ since 1945

Volume 1: The 1940s and 1950s including 300SL, 190SL and Ponton models

JAMES TAYLOR
CHAPTER 5

The Ponton saloons

The four-cylinder models

The year 1951 was a turning-point in the history of the modern Mercedes-Benz, for not only did it see the introduction of the prestigious 220 and 300 models, but it was also the year when development work began in earnest on the next generation of medium-sized cars. Where the 170, 220 and 300 models had all been based on the cruciform backbone frame of 1930s origin, the new models were to put Daimler-Benz in the avant-garde of motor manufacturing once again by featuring the unitary construction which had already begun to supersede the older separate body-and-chassis designs.

The engineering teams under Fritz Nallinger worked like demons to get the first of the new range – the 180 saloon – into production for July 1953, and it would be surprising if they had not learned all they could from examination of existing German unitary vehicles like Opel's Olympia Rekord, Ford's Taunus 12M and Borgward's Hansa 1500. Yet they also drew on their own experience, and the main strength of the new unitary bodyshell lay in the deep pressings which formed its transmission tunnel and bore more than a passing resemblance to the deep oval tubes of the old backbone frame; but now a sheet steel floor section braced these pressings to closed box-section side-members. To this frame/floor construction was welded the body itself, consisting of sheet and closed steel pressings, plus a roof panel. The resulting structure enjoyed an even distribution of stresses and had great torsional rigidity, which ensured almost total freedom from the squeaks and rattles so familiar in separate body/chassis structures after high mileages had loosened up their joints.

At the front of the bodyshell, the central frame pressings bearing the inner wing panels reached forward to meet a front cross-member, and bolted to these box-sections by one sound-deadening metal-rubber bush ahead of the axle and two behind was a fabricated box-section pressed-steel subframe which carried the engine, suspension and steering assemblies. In the eyes of one German motoring journalist, this so resembled a pontoon bridge slung between the front wheels that he christened the new Mercedes-Benz cars Ponton models, after the German for pontoon. That name rapidly gained currency and was even adopted by Daimler-Benz themselves, so that the range of cars which grew from the 180 of 1954 is now universally known as the Ponton series.

Nallinger's engineers, of course, had not adopted unitary construction because it happened to be fashionable, but because it offered a number of advantages. The absence of a full chassis-frame saved weight and permitted lower body styling, as well as offering new opportunities to minimize road noise transmission. Costs were saved by the ease with which the subframe could be mated on assembly to the engine and front suspension components, and the whole unit then simply wheeled under the bodyshell and bolted up. Conversely, if major work was needed on any of these components, repair costs could be saved by the ease with which the subframe could be dropped from the bodyshell to give first-class all-round accessibility.

Styling as well as structure was new on the 180. It was a low-built, slab-sided design in the contemporary idiom, with the integrated wings suggested only by pressing-lines on the body sides. Yet it was dumpy and homely rather than svelte and streamlined to look at, and the retention of the upright
The arrival of the 180 Ponton in 1953 marked the entry of Daimler-Benz into the manufacture of unitary-construction saloons. However, the 1,767cc engine was an only slightly uprated version of that of the superseded 170Vb, resulting in a relatively modest performance. This is a 1955 model.

This early 180 was photographed by Colin Peck at an enthusiasts' gathering in West Germany. The foglights were not part of the basic specification and the whitewall tyres would not have been available when the car was new.
Mercedes-Benz radiator grille (actually a dummy which lifted up with the bonnet) made the styling look older than it was. Sensibly, the slab sides had not been adopted to the customer's disadvantage, and the wing panels were bolted rather than welded to the main shell in order to minimize accident repair costs. There were practical benefits associated with the new idiom, of course, and interior space actually increased by 22% as compared to the 170Sb, largely because the body was now full-width and the running-boards had disappeared. The three-box styling which had become popular after the Americans took the lead with the 1946 Studebakers also ensured that a large boot was available, in this case some 75% bigger than on the 170/220 models. Both boot-lid and bonnet were counterbalanced for ease of operation, while all the doors were hinged at their leading edges and had pushbutton handles. By later standards, the windows may have been small and the waistline high, but the Ponton body offered a very significant increase in glass area of some 40%.

The 180
The 180 saloon was both the first of the Pontons and – in its final development as the 180c and the 180Dc – the last. As launched in September 1953 to replace the 170Sb model, which it actually undercut in price, it was powered by an improved version of that car's 1,767cc engine. If the fitting of the old side-valve power unit demonstrated that neither the time nor the money had been available to develop a more sophisticated engine, the modifications at least were worthwhile. Tuned for economy rather than power, and capable of running on low-octane fuel, the 180 engine with its higher compression ratio and new carburettor was actually more economical than in 170Sb guise, and could give a remarkable 32mpg as well as a 78mph top speed.

Its 52bhp was transmitted through the same four-speed all-synchronesh gearbox as had been used in the 170Sb, albeit with changed second and third speed ratios, and gear-changing was effected by a similar column-mounted lever. A light and
smooth-acting clutch took the drive through a divided propshaft to the high-geared hypoid-bevel rear axle and, as usual, top gear was effectively a cruising gear in which acceleration was leisurely. The familiar double-pivot swing-axle rear suspension was employed, with the differential housing this time mounted to the bodyshell by a single sound-deadening rubber block, while rubber-bushed radius arms between the bodyshell and axle casing controlled the latter’s movements. This was probably the worst of all the Mercedes-Benz swing-axle designs, but the 180’s performance was fortunately not exciting enough to provoke the infamous rear-end breakaway in fast corners very often! Front suspension was essentially inherited from the 170Sb, with unequal-length wishbones and double-acting telescopic dampers running through rubber-mounted coil springs.

As for the brakes, Nallinger’s men really had tried to improve on the 170/220 set-up with wider twin leading shoes in the front drums and leading-and-trailing shoes at the rear, but unfortunately the 13in wheels brought with them smaller-diameter brake drums and consequently less opportunity for heat dissipation, with the result that the 180 was very prone to brake fade. Worse, high pedal pressures were still necessary and contemporary road-testers complained of a tendency for one wheel to lock. Steering was no great improvement on earlier practice, either, for although the recirculating-ball system was lighter than before, it was also noticeably vague about the straight-ahead position.

The central lubrication system had finally gone, to be replaced by an instruction to grease 19 points on the car every 1,250 miles – something which motorists in the 1950s were quite prepared to tolerate. They were no longer prepared to do without heating, however, and the 180 had independently controlled driver’s and passenger’s heater units as standard. Demister nozzles at the ends of the dashboard were intended to clear the side windows, but were barely effective without the optional blower. Instruments and controls were neatly laid out, with a large round speedometer directly ahead of the driver, which also offered a conservative guide to maximum permissible speeds in the indirect gears. Flanking this were smaller rectangular gauges for water temperature, oil pressure...
and fuel level, but other functions were reduced to simple warning lights, among which was a low-fuel light to warn the driver to switch to the 1\1/4-gallon reserve tank. The two-spoke steering wheel still bore the chromed horn ring which operated the turn indicators, and these were still not self-cancelling, while the handbrake had hidden itself, American-fashion, beneath the dashboard. Self-parking windscreen wipers were perhaps a modern touch, but the 6-volt electrical system on which they depended was an anachronism by 1953, and the combined indicator/parking lights perched on the front wings just ahead of the windscreen pillars certainly suggested that the principles of modern styling had not been fully assimilated at Stuttgart.

The 180's interior was in general an odd mixture of high equipment levels and spartan finish, and its clock, anti-dazzle mirror, cigarette lighter, three ashtrays and armrests on all four doors were in striking contrast to the heavyweight moulded rubber floor coverings and the absence of either a passenger's sun visor or a lock for the glove box. Upholstery came in wool-cloth or grained leathercloth, and the standard 180 was delivered as a four/five-seater with individual front seats, but a front bench seat could be specified at no extra cost to make it into an acceptably spacious six-seater, and reclining front seats were available at a price. In the boot, provision was made for carrying a second spare wheel, and a comprehensive tool-kit was standard. A four-piece fitted luggage set was made available in traditional Mercedes-Benz fashion, and other extra-cost options were twin fog-lights, a radio and a fabric sunroof.

Despite such attractive options, the 180 was available only in five sober colours, which reinforced the 'workhorse' image with which it appealed to fleet buyers. In Great Britain, it nevertheless had something of a quality image, which was just as well since it was fearsomely expensive for a medium-sized family saloon at £1,694 0s 10d inclusive of Purchase Tax in 1954. Yet exports were a vital part of its success, and it proved especially popular in countries with poor roads, where its robust construction was highly prized. By the time it was replaced by the 180a model for the 1958 season, 52,186 had left the production lines in Stuttgart — many in component form for final assembly at overseas plants in countries as diverse as India.

The arrival of the 190 saloon in 1956 was the result of fitting a detuned 75bhp version of the overhead-camshaft 190SL engine into the Ponton bodyshell. The car was equipped with the single-pivot swing-axles, which became standard throughout the Ponton range at the same time. The trim strip below the windows was always a recognition point for the larger-engined four-cylinder Pontons.
1954: The 180D
Right from the beginning, Stuttgart had intended to use the Ponton bodystyle as the basis of more than one model, and since Mercedes-Benz were the undisputed world leaders in diesel-powered passenger cars it was obvious that diesel Pontons would be on the cards. The company did not wait until the 170S-D models had outlived their usefulness before introducing the first of these, but launched the 180D as soon as they could. Thus from March 1954 the OM636 diesel engine could be bought in a car which in every other respect resembled the new 180.

The 1,767cc three-bearing engine differed from the 170S-D unit only in its use of tougher bearing material to increase the already legendary durability. However, the 180D was lighter than its diesel predecessors, and so Stuttgart’s engineers had been able to mate the engine to high gearing – higher in fact than in the petrol models – without loss of acceleration and with benefit both to maximum speed and fuel consumption. Indeed, the 180D could return astonishingly good figures in this last respect, 44mpg being a not unrealistic claim. Of course, it was slow, taking all of 37 seconds to haul itself up to 60mph from rest and running out of steam at 68mph. It was also noisy, but its combination of low running costs with modern styling and generous interior accommodation made it irresistible to fleet buyers (especially taxi operators) and private buyers alike. To say it was an instant success would be an understatement: in its first year, the 180D accounted for 44% of all Mercedes-Benz passenger car production!

For a single season, Stuttgart was content to sit back and watch the booming sales of their three Ponton models – for the introduction of the 180D had been accompanied by the arrival of the 220, the first of the six-cylinder range which forms the subject of the following chapter. The 180D’s engine output was then put up by 3bhp for 1956 as the result of an increase in the governed engine speed; but the real improvement to the two four-cylinder models was held over until the 1956 season was
The diesel engine for the 190D was also a new overhead-camshaft unit. It was introduced into the Ponton range in 1958 with Bosch injection equipment and offered 50 bhp at 4,000 rpm.

already well under way. The 220 had been introduced with an improved version of the swing-axle rear suspension, and from January 1956 this was fitted to both the 180 and 180D models as well.

The single-pivot swing-axle, as the new rear suspension was called, was a development of the set-up first seen in the 1952 W196 Grand Prix car. Where the old system had used a rigidly-mounted differential from which both axle halves pivoted, the revised system had the differential housing mounted flexibly to the underside of the body so that it could swing with the right-hand half of the axle. A single universally-jointed pivot lay low down on the other side of the differential housing, and the left-hand axle half swung from this. The results were a marked reduction in camber change under cornering forces, and a more gradual transition to oversteer which gave the driver more chance to deal with rear-end breakaway, as well as an improvement in rear tyre wear characteristics. If the new system did not completely eliminate the oversteer which a careless driver could provoke from the swing-axles, it certainly protected him from disaster a great deal better than the earlier
system had done.

1956: The 190
With sales of the Ponton models booming, Stuttgart was confident enough to introduce three new Ponton models at once in 1956, of which one was a four-cylinder model additional to the 180 and 180D. The arrival of the 190 in May 1956 was accompanied by a cunning piece of price-cutting, for in fact the new car sold at the former price of the 180, and the price of the existing model was lowered. Since the 190 was a better-equipped model, with a larger engine and a number of trim and cosmetic improvements, this meant that both models were extremely competitively priced.

The 190 was sufficiently altered from the 180 to merit the new type designation W121 (the same as that of the 190SL sports car), but it was basically a 180 bodyshell with a detuned version of the 1,897cc overhead-camshaft engine used in the 190SL. In terms of design this was really a four-cylinder variant of the 300 series’ M186 engine, and so traced its ancestry back to the early 1950s. With a lower compression ratio than in the 190SL, a milder camshaft and valve timing, different valves and manifolding, and a single Solex carburettor instead of the twins, the 190 engine put out 75bhp. Fuel economy had been one of its design aims, but it nevertheless gave the 190 quite respectable acceleration, plus a maximum speed of 86mph. Like the now superseded 220, the 190 was stopped by finned cast-iron drum brakes, which were additionally cooled by ventilating slots in the wheels (although 180-size wheel trims with a larger central star motif were used), and its improved performance was matched by the single-pivot swing-axles, which would henceforth be standard on all the Ponton models.

A more liberal sprinkling of brightwork helped to distinguish the 190 from its cheaper sister, though fortunately this had been applied with taste and discretion. The car looked wider at the front, thanks to its broader radiator grille, which was flanked by unequal-length bright strips on the air intake vents, with the bottom strip butting against the wing. As on the six-cylinder 220, a slim bright band under the windows and bright rain gutters gave the side elevation a less squat appearance, while front quarter-lights were an addition to the 180’s specification. From the rear, bigger tail-light units and huge chromed number-plate lamp housings on the boot-lid made the car recognizable to those not close enough the read its 190 badge. Equipment levels were also up on the 180, with a key lock on the front passenger door and a Sigla laminated windscreen as standard (the 180 now had a toughened-glass screen, the laminated type having been deleted as a cost-saving measure when 180 prices were cut). Interior appointments included a heater blower, a reading light, twin sun visors and coat hooks, while the interior door handles with a small curved pull to release the lock were a further welcome improvement. A headlamp flasher was also standard.

Sales figures rapidly proved that the introduction of the 190 had been a sound move. In addition to notchting up substantial home sales, the model proved a resounding export success at a time when success overseas was what Daimler-Benz wanted most. Something over half of all 190s produced were sold outside Germany, and it would be wrong to underestimate the importance of the model in Daimler-Benz’s postwar recovery.

1957: The 180a
A whole series of revisions to the existing Pontons were introduced in 1957 for the 1958 season, while prices were kept at their previous levels. In terms of actual production, the 190 was the first car to benefit, although as far as the customer was concerned the revised models all appeared together in the autumn of 1957, details being announced a month before the Frankfurt Show, which opened on September 19.

The major change was to the 180, which was redesignated a 180a when its ancient side-valve engine was pensioned-off and replaced in the 1958 models by a detuned version of the larger-capacity overhead-camshaft unit from the 190. With a lower compression ratio and a single-choke instead of a compound carburettor, 65bhp was available from this 1,897cc unit as against 75bhp in 190 form. This power increase – from 52bhp with the original 1,767cc engine – went a long way towards alleviating the 180’s lack of performance, and the 180a was nearly as quick as a 190 while remaining more economical and able to run on cheaper low-octane petrol.

The engine was not the only 190 feature inherited by the 180a, for its broader radiator grille, larger rear lights and overridermounted rear number-plate lamps all came from the same
source – and in April 1958 the 180a also gained the 190’s front quarter-lights – but it was always possible to distinguish the two models because the cheaper car retained the older wheel trims with their small central motif and did not have the 190-type bright trim on its front air intakes. Brighter interior colours and improved seat contours also arrived for the 180a as part of a cross-range policy which took in all the existing Ponton saloons – 180Da (so renamed to keep step with its petrol-engined sister), 190 (which was never renamed a 190a), 219 and 220S – and options now included a key lock on the passenger door, a reversing light, a heater blower, a headlamp flasher, leather upholstery and a fabric sunroof.

By 1957, petrol quality had stabilized in Europe once more, and Daimler-Benz felt able to delete the dashboard-mounted ‘octane selector’, which had permitted simple retarding of the ignition to cope with poor-quality fuels in the petrol-engined cars. Yet, as many Pontons were sold in export markets where petrol was invariably of low octane level, some means of ignition adjustment had to be retained, and so 1958-season models had a vernier adjustment on the distributor itself.

1958: The 190D
The Frankfurt Motor Show had become the traditional launch time for new Mercedes-Benz models, and aficionados of the marque were not disappointed when two more Ponton variants were introduced at the 1958 show. The 220SE described in the next chapter was a new top-of-the-range model, destined to be for an exclusive clientele, but the other car was an additional diesel model.

By 1958, although the Daimler-Benz lead in the diesel passenger car field remained undisputed, sales figures had begun to drop, and the 180D now represented only 35.7% of total Mercedes-Benz car production – a substantial figure still, but markedly lower than it had been a few years earlier. It was pretty clear that this decline in market interest could be attributed to the model’s distinctly lethargic performance. So a decision was taken to supplement the 180D by a higher-performance diesel model, and Heinz Hoffmann was given the job of developing a diesel unit from the 1,897cc overhead-camshaft petrol engine of the 190SL, in exactly the same way as he had developed the 180D’s 1,767cc unit from the old side-

The engine compartment of a 190D with the diesel injectors and pump readily accessible. The lift-up radiator grille forming an extension of the bonnet was to become a standard feature of most Mercedes-Benz models from the 190 onwards.
A 190D demonstrating the slogging performance of its diesel engine. Note the fitment to this 1958 car of the optional folding roof.

This photograph by Colin Peck of a 180Dc shows the fatter bumpers and broader grille of the b-suffix and c-suffix cars, which were introduced in 1959 and 1961, respectively.

valve petrol engine of the same dimensions.

The finished article was known as the OM621 engine. Its block was exactly the same as that of its parent petrol engine, with an oil cooler in the water jacket and an external oil filtration system, but although its overhead-camshaft arrangement was unchanged, the cylinder-head was cast-iron rather than light-alloy and contained the pre-combustion chambers and glow plugs of an indirect-injection diesel engine. The OM621 could muster 50bhp at 4,000rpm, or 7bhp more than the contemporary 180D power unit. Dropped into the Ponton 190 shell as the motive power for the new 190D model, it could hardly be described as a transformation of the diesel-powered Ponton, but it did put acceleration up to levels approaching those of the petrol 180 (itself no road-burner), and it was both smoother and quieter than the smaller diesel power unit.

Generally speaking, the 190D was otherwise quite simply a 190 with a diesel engine. It had a key starter switch with a glow
A four-cylinder Kombi dual-purpose vehicle with bodywork by Binz photographed by Colin Peck at a Mercedes-Benz gathering.

The same camera captured this line-up headed by a Miesen high-roof ambulance based on one of the later broad-grille models.

plug position instead of the separate ignition and starter switches found in the 180D, and it had the 3.7 axle of the 180D, together with that model’s plain brake drums instead of the contemporary 190 items. In its original form it only lasted a single season, but as the sales figures of 20,629 show, it was a considerable success.

1959: The 180b, 180Db, 190b and 190Db

Although the six-cylinder Ponton range was cut back to a single model at the close of the 1959 season to make way for the new W111 models, the full four-cylinder range of 180 and 190 in both petrol and diesel forms remained available. All four models benefited from substantial improvements for 1960, and from the autumn of 1959 they were given new designations, all with a b-suffix.

This b-suffix – only the 180a had ever borne an a-suffix – denoted cars with a lower bonnet line and the broader radiator grille of the W111 model 220b, which was introduced at the same time. The fatter bumpers of the new Pontons were also
clearly designed to resemble those of the new W111 model. The 180 and 180D now gained the larger wheel trims of the 190, and all the four-cylinder models were given enlarged rear light clusters, which now incorporated the rear reflectors formerly slung beneath the bumper overriders.

As the W111 models showed, vehicle safety was Stuttgart’s latest preoccupation, and the b-suffix Pontons had benefited to some degree from that aspect of the Daimler-Benz research programme. Thus the dashboard now had extra padding and deformable plastic switch gear, while a W111-type steering wheel with padded boss was fitted. This signalled the demise of the familiar horn ring which doubled as a turn indicator control, and now the horn ring operated only the horns, while the indicators were operated by a stalk-type control mounted on the steering column, which also did duty as a headlamp flasher. Doors on all models could now be locked from the inside, and the 180 and 180D were upgraded with neater seat and door trims, and a screen washer was standard (operated by a pedal, which also switched the wipers on if fully depressed). Even the optional extras came in for attention, and what had been a four-piece fitted luggage set became a five-piece through the addition of a matching hat-box!

The diesel engines of the 180D and 190D remained unchanged for the b-suffix cars, but the engines of both petrol variants were modified. A new carburettor added 3bhp to the 180, while a higher compression ratio for the 190 added 5bhp and around 3mph to the top speed. Although the 180’s improved performance scarcely warranted better braking, the stopping ability of the four-cylinder Pontons had always been so poor that it seems unlikely any customers complained about the fitting to the two cheaper models of the finned front brake drums from the 190s – and their addition to the 190D contributed to standardization if nothing else. On the two petrol-engined models, it became possible to specify vacuum-servo assistance as an optional extra, although the insufficient vacuum available on the induction side of the diesel engines denied that option to the 180D and 190D, where it was admittedly less necessary.

During the two seasons of b-suffix Ponton production, sales figures of the petrol-engined versions showed a marked swing
towards the cheaper 180, which was a clear reversal of the earlier position. Actual production figures of the 190b at 28,463 were only marginally lower than 180b totals, but averages of 14,000 a year were very much down on the 20,000 or so average of the original 190. The fact was that the 1960 and 1961 model petrol 190s simply did not offer enough over the upgraded 180 to justify the extra initial cost and higher running costs, and so there were no doubt signs of relief in the sales and marketing department at Stuttgart when the W110 model 190 came along in August 1961 to replace the elderly Ponton. None of that, however, prevented the 190D in its b-suffix form being a great success, selling 61,309 units in the two seasons of its production as against 24,676 of the contemporary 180D. In earlier years, the 180D had actually sold some 25% more annually than its more expensive sister, but by the standards of 1960 it had become a desperately slow car, while the 190D offered both tolerable performance levels and a higher level of equipment, and in fact represented an extremely good buy.

1961: The 180c and 180Dc
Changes made for the 1962-season Pontons were less significant than usual when a new model designation was allocated, but the 180 sold during the final year of production was known as a 180c. Perhaps the c-suffix was intended simply to parallel the re-engined but otherwise similarly barely altered 180Dc, or – possibly – the ‘c’ was meant to show that the car was a contemporary of the new befinned 190c W110 model. One way or the other the swansong of the petrol Ponton won no new market, and only 9,280 were made in its single season of production. Visually indistinguishable from the 180b models, the cars nevertheless enjoyed better roadholding through widened rear tracks, and better fuel economy from a new camshaft accompanied by valve-train changes and a new carburettor.

The diesel version, however, sold better until the last, and 11,822 of the 180Dc model were built between June 1961 and October 1962. Like the 180c, it was visually indistinguishable from its predecessor, but it did have an extra 5bhp from its new engine, which was essentially a detuned version of the 1,988cc unit offered in the W110 190Dc and described in Volume 2 of this book. The 180Dc was still no racing car, but the new diesel engine offered further gains in flexibility, and the 180Dc retained its traditional pre-eminence among taxi operators in spite of a price increase, for it was still 1,000 Deutschmarks cheaper than the new 190Dc.

The kombi models
Before passing from the story of the four-cylinder Pontons to that of their six-cylinder brethren, it is worth taking a look briefly at the kombi models – the word means dual-purpose vehicle or estate car – built by independent manufacturers. No small degree of expertise went into the adaptation of the unit-construction frame-floor unit, although Binz, of Lorch, had at least had the experience of performing similar transformations on the separate-chassis 170 models. Christian Miesen, of Bonn, however, was new to the game, at least as far as Mercedes-Benz were concerned. The conversions offered by both firms were approved by Stuttgart, and were sold and serviced through the Daimler-Benz network.

Most of the conversions were fitted out as ambulances, but there were also hearse and a few vans, and prices were between 30% and 50% higher than those of the saloons, depending on the type of body and the internal fittings specified. Production began in 1955 by Binz, but their version was soon joined by Miesen’s, which offered a higher roofline and was thus instantly recognizable. Assembly of both versions stopped in 1959, but unfortunately exact production figures are not available. On the bases of figures available for the delivery of frame-floor units from Stuttgart, it would seem that around 4,000 were made. The vast majority stayed within the borders of West Germany.