BMW C1 Press Kit
Contents

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1 Short Stories
BMW C1 - Sheer Driving Pleasure in the City (66 lines)

BMW's world-famous slogan "Sheer Driving Pleasure" is now being enriched by a new, very special means of transportation: Introducing the C1, BMW is presenting an all-new kind of vehicle combining the merits of a motorised two-wheeler with numerous safety features otherwise only found in a car. Driving in individual style through town on the C1 is quite simply fun - a genuine pleasure in every respect opening up a new world of experiences other vehicles are hardly able to offer. The C1 can nearly always find its way even through the most congested city streets where a normal car simply has no chance. And thanks to its very compact dimensions the C1 can be parked in spaces far too small for any car - directly next to your favourite café or just outside the post office. The safety concept of the C1, finally, allows you to drive without a helmet or any special protective clothing.

Even without such safety wear, you are of course well-protected at all times by the safety cell with shoulder straps and exchangeable deformation units, two seat belts, the special seat, and the headrest. And should the worst really come to the worst a crash deformation element above the front wheel and the BMW Telelever will minimise the consequences of a collision. The roof and windshield forming the safety cell, in turn, afford a certain degree of protection from wind and weather.

The BMW C1 comes in three model variants: The **basic version of the C1** is available in orange red non-metallic and jade non-metallic. The **C1 Family's Friend** comes in a combination of two colours, either Kalahari yellow non-metallic with frost blue metallic or orange red non-metallic with frost blue metallic. The standard fitments include a large storage compartment in the front fairing and a luggage case fastening kit. The **C1 Executive** version of the C1, finally, comes in graphite metallic, special C1 equipment for the businessman (and, of course, businesswoman) including a reading light, a mobile phone holder, an additional storage compartment, the luggage case fastening kit, a luggage net and luggage railing.

All models are powered by a 125-cc water-cooled four-stroke engine developing maximum output of 11 kW (15 bhp) at 9250 rpm. Maximum torque of 12 Nm or almost 9 lb-ft comes at 6500 rpm.

With this kind of power and torque being quite unusual for an engine of this size, the use of a fully controlled three-way catalytic converter is certainly even more exceptional. The "heart" of the fuel supply and ignition management system is the BMS Digital Motor Electronics.

The BMW C1 has a top speed of 103 km/h or 64 mph and consumes 2.9 litres premium on 100 km (97.4 mpg Imp). Measuring 2.08 metres in length and 1.03 metres in width, and weighing a total of 185 kg or 408 lb, the C1 accelerates to 50 km/h in 5.9 seconds, just right for speedy and efficient motoring in town. The travelling speed offered by the C1 on country roads and even on the Autobahn is however also quite acceptable. And last but not least, the C1 is also available with ABS in the interest of even greater active safety.

Either an emergency seat for a passenger (who is however required to wear a helmet) or a variable luggage system may be fitted as special equipment behind the safety cell. The fun audio system offers additional music pleasure and an on-board computer will keep the driver occupied whenever he does not have to concentrate on the road. A hardtop offers extra fresh air, a heating system provides a pleasantly warm atmosphere. The safety-minded driver, finally, can order his C1 with hazard warning flashers and/or an anti-theft warning system.

The driver of a BMW C1 is not required to wear the usual protective clothing you need on a motorcycle. But the range of C1 driver's equipment nevertheless offers attractive options for even greater driving pleasure, in particular a choice of trendy weather protection jackets as well as a T-shirt, sweat shirt, kerchief, and a cap.

The BMW C1 is built by Bertone S.p.A. in Italy and will be entering the European market in April 2000, with sales through most of BMW's car and motorcycle dealers.

BMW C1 - Sheer Driving Pleasure in the City (217 lines)

Let the good times roll: Bayerische Motoren Werke are presenting the BMW C1, the innovative synthesis of a motorised two-wheeler and a fully-fledged automobile. Series production started in autumn 1999, the European market launch will be in April 2000.

Driving the C1 is fun - particularly in town. And at the same time it is a very safe and relatively inexpensive means of transport (not to mention the time you are able to save with this efficient vehicle!). The sheer driving pleasure typical of all BMWs is combined here with the benefits only a small motorised two-wheeler is able to offer: The BMW C1 is very agile in flowing traffic and requires only very little parking space. This means quick and efficient motoring in the city under virtually all conditions, just as you will be able to park the C1 without wasting time and nerves.

Fun
Driving the C1 is comparable to driving a convertible with that proverbial wind flowing by as you proceed on your way, with a feeling of freedom and relaxed pleasure. The automatic transmission relieves the driver of any requirement to shift gears and enables you to focus on your surroundings. And the people around you, incidentally, will certainly cast more than one eye on the C1 - for the C1 is a genuine eye-catcher in every respect.

Driving the C1 is therefore a special experience no other two- or four-wheeler is able to offer. The ultimate highlight while enjoying C1 driving pleasure in town, of course, is quite simply the fact that you are not required to wear any special protective clothing. And BMW offers trendy driver's wear for the C1 as an option - good-looking clothes quite appropriate for going to your favourite café or for a shopping spree at the local boutiques. So you can drive the C1 while wearing your usual everyday, office or sports clothes, possibly together with a light jacket and a cap. The very big difference between the C1 and all other motorised two-wheelers is that you can drive this unique vehicle without having to wear a helmet. Which also means you can say goodbye to the old question as to where you should put your helmet when going for a walk in town.

Safety

The safety you enjoy when driving the C1 results from a unique system of safety elements and features carried over from the modern automobile: The body of a modern car is designed to absorb as much energy as possible in a collision through a controlled process of deformation, thus minimising the impact energy acting on the occupants. The seat belts, in turn, prevent or at least reduce the risk of the driver and his passengers hitting parts of the body, by holding them back safely within the car.

The body - that is the frame together with the various modules and the fairing - of a conventional motorised two-wheeler inevitably offers far fewer opportunities to provide such safety and protection. Not so with the C1 benefitting first and foremost from BMW's proven Telelever front-wheel suspension, which serves, first, to reduce the risk of a rollover and, second, to absorb energy through a controlled deformation process. In particular, however, it is the special crash deformation element above the front wheel which absorbs energy in a head-on collision and reduces the consequences of an accident accordingly.

The most striking feature of the C1 distinguishing this new vehicle at first sight from all other motorised two-wheelers is the high-rising roof frame with shoulder bars and the exchangeable deformation elements forming the driver's safety cell. This "cage" made up of pressed aluminium profiles holds two seat belts and a headrest. Together with the special seat preventing the driver from sliding beneath the lap belt in the event of an accident (submarining effect), this forms a genuine safety cell offering a standard of safety and protection no other motorised two-wheeler has ever been able to provide in the past. Indeed, this standard of safety is so great that the authorities in Germany, Spain, France, Italy, and Switzerland have already given their permission for driving the C1 without a helmet. And in Austria as well as the Benelux countries the chances of a similar exemption from using a helmet are very good indeed.

At the front end of the C1, the safety cell is rounded off by the windshield made of laminated security glass. Visibility is ensured even in heavy rain by a windshield wiper. The frame together with the roof (optionally available with a tilting or removable roof panel comparable to the vent roof in a car), the windshield, and the lower fairing similar to that on a motor scooter interact to provide a high standard of protection from wind and weather much better than on an open two-wheeler and, indeed, comparable to that of a closed car.

Variants

Production of the C1 by Italian manufacturer Bertone in Torino started in late September 1999, with three model variants entering the European market in April 2000. A majority of BMW's motorcycle and car dealers will be selling this new vehicle.

The three variants differ through various colours and design features as well as their different levels of equipment. The basic version of the **BMW C1** comes in orange red non-metallic and jade non-metallic as the ideal vehicle for the customer who wishes to benefit from all the C1's concept advantages without necessarily focusing on a superior level of fitments. This version will also be supplementing the fleets of vehicles offered by car rental companies at airports and large railway stations. So one might say that this version of the C1 is first and foremost a "utility vehicle". A special variant of this model will also come in white for the authorities, offering perfect conditions for adding special symbols, markings or letters.

As the name alone indicates, the **BMW C1 Family's Friend** is a good friend for the whole family. This variant is used mainly for private motoring and is finished accordingly: It is colourful and very youthful, since this is the version many safety-conscious parents will be buying for their teenagers as of the age of 16. The Family's Friend C1 always comes in two colours, combining either orange red non-metallic or Kalahari yellow non-metallic with frost blue metallic. Two extra-large decals adorn the side fairing at the front, a large storage compartment in the front fairing and a luggage case fastening kit behind the safety cell both come as standard. Featuring these fitments, the C1 is a truly versatile vehicle.

The C1 in graphite metallic appropriately bears the name **BMW C1 Executive**. This is the vehicle for the businesswoman and businessman driving to the office. It makes work a lot easier for the insurance agent visiting customers in town and will certainly be seen outside theatres and major exhibition centres. Its particular features include a reading light, a mobile phone support, an additional storage box, the luggage case fastening kit, a luggage net and luggage railing.

Technical features

All versions of the C1 come with a 125-cc water-cooled four-stroke power unit developing maximum output of 11 kW (15 bhp) at 9250 rpm. Maximum torque of 12 Nm or almost 9 lb-ft comes at 6500 rpm, power being conveyed directly to the rear wheel via an automatic transmission. This exceptional power and torque for an engine of this size is accompanied by equally exceptional emission management ensured by fuel consumption of only 2.9 litres/100 km

premium unleaded (97.4 mpg Imp) and a fully-controlled three-way catalytic converter. The "heart" of the fuel supply and ignition management system, finally, is the BMS Digital Motor Electronics.

The BMW C1 has a top speed of 103 km/h or 64 mph. Measuring 2.08 metres in length and 1.03 metres in width, and weighing 185 kg or 408 lb, the C1 accelerates to 50 km/h in 5.9 seconds, just right for speedy and efficient motoring in town. Travelling speeds are also quite acceptable on country roads and the Autobahn, and the C1 is also available as an option with ABS in the interest of active safety.

BMW deliberately opted for a 125-cc, 15 bhp power unit, since this allows a large number of enthusiasts to drive the C1 without any particular licence. Indeed, all you need, to take the German standard, is a class A1 licence even 16-year-olds are able to acquire. The only restriction, again in Germany, is that young riders between 16 and 18 have to make do with a top speed of 80 km/h. Some countries allow holders of a car driver's licence (a so-called B licence) to drive a motorised two-wheeler with an engine not larger than 125 cc and maximum output of not more than 15 bhp. In Germany this applies to motorists who received their car driving licence (B licence) prior to 1 April 1980.

Accessories
A wide range of accessories and special equipment serves to further enhance sheer driving pleasure C1-style (to the extent to which these features are not already standard on the various versions).

The space behind the safety cell of the C1 serves for taking along luggage or a passenger, who must however wear the same kind of protective clothing as on a motorcycle (which in all cases means a motorcycle helmet, while other special motorcycle garments are also advisable). Like the rear seats in some convertibles, this is a kind of "emergency" seat since it offers a lot less seating comfort than the "regular" seat inside the safety cell. To take along a passenger from time to time, all the driver has to do is fit the luggage case fastening kit and a passenger package to his C1.

In most cases, however, the driver will fit a topcase on to the fastening kit. With interior dimensions measuring 405 x 460 x 400 mm (15.9 x 18.1 x 15.7"), the topcase can house every standard crate of beverages and many other items of everyday use weighing up to 20 kg. A further alternative is to fit a luggage railing supporting, say, the C1 aluminium case. And last but not least there is also a clothes bag to be fitted on the roof of the safety cell.

Two storage compartments are available for the front fairing or dashboard: A large compartment which may be supplemented by a kit for fitting an audio player and a small compartment providing ample storage space for odds and ends. The fun audio system in the C1, in turn, comprises two active loudspeakers near the driver's head and the option to connect a walkman or discman. Volume control is through a toggle switch on the left-hand handlebar unit.

Since many people these days have to take along their mobile phone, the C1 is also available with a mobile phone support for all the usual phones sold in the market. And an adapter serves to take up specific mobile phone holders and cases.
Additional information - various time, distance and speed measurements - is provided by the on-board computer, which the driver may even remove from his C1 for use as a stopwatch or alarm clock.

The C1 driver enjoying his vehicle also in the cold season might opt for the heater package made up of the seat and handles electrically heated either separately from one another or all at the same time. The driver wishing to enjoy more fresh air, in turn, will choose the hardtop either tilting to a vent position to take in wind from the front or fully removable. The reading light is a useful accessory for the driver required to read documents in the dark, for example the C1 driver using his vehicle professionally as a service provider. Weather protection for the C1 is also available in the form of a seat cover and a garage the driver can take along wherever he goes. And last but certainly not least, a hazard warning flasher and anti-theft warning system further enhance the already comprehensive safety package that comes with the BMW C1.

Although driving the C1 does not require any speical motorcycle protection wear since the passive safety features a motorcycle rider has in the sleeves of his jacket and the legs of his trousers are featured here within the vehicle itself, meaning that you can drive the C1 in your usual street clothes, BMW offers a wide range of driver wear serving to further enhance your sheer driving pleasure and to ensure even better protection from wind and weather. All items thus guarantee superior function and wearing comfort, the generous style and cut providing maximum freedom of movement. The C1 jackets, for example, are designed to ensure that the seat belts do not rest on the jacket pockets, allowing the driver to conveniently put his hands into his pockets even while buckled up.

The two-piece rainsuit made of black nylon comes complete with a water-repellant coating and reflector stripes. Gloves and shoe covers, in turn, serve to protect the driver from wet weather and dirt, a forehead ribbon and a cap holding back his - or her - hair.

A number of items in the C1 Collection offer intelligent details: Stretching your arm through the sleeves of the short jacket, for example, with your thumb pointing to the side, you will conveniently convert the cuffs into finger-free gloves. And the short jacket comes with a material comparable to air conditioning: it stores your body heat and gives it back whenever necessary.

The C1 interchangeable glasses have everything it takes to become a genuine cult object, allowing the driver to choose either dark-tinted or orange-coloured glass, depending on the weather.

All C1 driver wear items can be combined with one another as required, a kind of "red line" in the literal sense of the word extending through the entire range: Everywhere you look you will see that typical C1 red - as a red C1 ribbon in the side slit, as a red grab tag on one of the zippers or velcro fastenings, or as a red seam on one of the jackets.

2 Concept

Most of the new vehicles developed these days are "just" improvements of existing concepts. Cars and motorcycles are becoming more comfortable, friendlier to the environment, and feature new, updated design from one generation to the next. BMW, on the other hand, has always added a special touch to this general trend more than any other brand through BMW's niche policy.

The best-known example of this unique character is the BMW 3 Series combining the features of a compact midrange saloon with the fortes of a sports model, thus creating a new class in the world of motoring for decades. And the most recent example is the BMW X5 offering the unique pleasure of a BMW-style executive express combined with offroad driving abilities in outstanding style.

Looking at BMW motorcycles, we see that the GS touring enduro has established a similar position for itself in the market, acknowledged among connoisseurs as the best all-round road machine highly suitable for both the toughest mountain passes and long tours in the country. And at the same time this unique motorcycle is also at home on rough terrain.

BMW has consistently taken this special approach even in the development of bicycles, again offering the customer riding qualities no other manufacturer is able to provide: With BMW bicycles it is the folding frame not to be found on any other bikes in this segment of the market. A further feature exclusive to BMW bicycles and giving them incomparable riding and suspension comfort is the Telelever front-wheel suspension.

More safety

It was precisely this constant quest for new solutions that prompted BMW to develop the C1. The starting point was to make the simple but unprecedented attempt to create a safer motorised two-wheeler than ever before. And indeed, this demanding description of a "motorised two-wheeler" certainly makes sense, since it was clear from the start that the objective was not only to build a safer motorcycle. Accordingly, the final result of such a development process had to be something really new, a new kind of vehicle quite different from the classic motorcycle and motorcycling the way it has

been known so far. The objective, in other words, was to create a new form of mobility.

The fundamental consideration was that active and passive safety have achieved a high level in the automobile these days. Suspension and body developments, supplemented by special safety features such as the seat belt, made the automobile so safe particularly in the '80s that we saw a decrease in the number of fatalities and severe injuries despite growing traffic density.

Motorcycle riders, on the other hand, did not benefit from this positive development since the motorcycle, through its construction, failed to offer any possibilities for such safety improvements. There was however progress in active safety such as the constant, ongoing improvement of riding dynamics and stability and, in particular, the introduction of ABS anti-lock brakes by BMW in the '90s. Growing passive safety was also provided to an increasing extent by special protective wear ranging from the helmet via jackets and trousers with protectors all the way to the rider's gloves. So here, too, BMW acted as the pioneer.

New mobility

The idea was thus to create a vehicle combining the merits of a motorised two-wheeler (the particular pleasure of riding a single-track vehicle, feeling the air rushing by, reducing space requirements to a minimum when riding and parking, and ensuring relatively low cost of purchase and cost of ownership) with the benefits of an automobile (comfort, safety, transport capacity). And this special combination of qualities had to be visible and tangible for the driver, meaning specifically that he or she should be able to drive without a motorcycle helmet and special protective wear, while nevertheless enjoying superior safety on the road. Another feature of the concept was to provide at least a certain standard of protection from wind and weather.

All of these ideas matured at a time in which BMW in particular was focusing very closely on the concept of mobility. The bottom line was that while the automobile will also be essential for mobility in future, it is not in a position to meet all demands and fullfil all requirements for mobility. This applies in particular to individual mobility in the city or, quite generally, in densely populated areas. Developing a vehicle with superior agility when driving and with very compact dimensions for parking, meaning that it is ideal for city traffic and at the same time offers a high standard of safety on the road, thus became one of the big challenges for the '90s. To allow a maximum number of people to use and enjoy this mobility, the idea was also to feature a suitable engine taking the driving licence

regulations in European countries into account. Engine capacity was not to exceed 125 cc, engine output was not to be more than 11 kW (15 bhp). While, in absolute terms, this would not appear to be very powerful particularly for a company like BMW, the development of such an engine was a major challenge especially as it was to be a four-stroke power unit with exhaust emissions reduced to a minimum.

The concept was presented to the public for the first time in 1992 and the BMW C1 ready for series production was to be admired at the 1999 Frankfurt Motor Show. Production then started in autumn 1999, with sales of the C1 beginning in April 2000.

3 Development

Everything started with a contest for ideas conducted by BMW Technik GmbH in 1990. The mission of this subsidiary of BMW is to find and try out new ideas. Bernd Nurtsch, himself a dyed-in-the-wool motorcyclist and one of the employees at this BMW think-tank, had spent a lot of time focusing carefully on accidents he and his friends had experienced themselves.

New project

As a result of this process of contemplation, he ultimately suggested the "Scooter" project with a number of objectives: The new vehicle was to offer a superior safety concept with a restraint system for the driver, it was to allow driving without a helmet and provide a generally higher standard of accident safety than a motorcycle, it was to protect the driver from wind and weather while at the same time ensuring a high level of driving stability thanks to the improved weight distribution, and it was to feature an ergonometric design for drivers of various sizes not requiring a special motorcycle licence to drive the C1.

This proposal was officially accepted and given the green light on 18 May 1990. The first step then taken by Bernd Nurtsch was to examine a safety seat on a ladder frame in a special series of tests. Detlef Helm, at the time the specialist at BMW Technik GmbH for complicated calculations, made a significant contribution to the ensuing feasibility study by his special computation model examining a frame support structure made of pressed aluminium profiles. Providing a kind of safety cell to protect the occupant, this structure with its special longitudinal and transverse stiffness was to be combined with additional deformation elements for the controlled absorption of energy, protecting the driver in a collision with a stationery or mobile object at a speed of up to 50 km/h just about the same way as in a car. And in a collision from the side this configuration was also to give the driver much better protection than on a motorcycle.

This feasibility study was presented within BMW Technik GmbH in summer 1991, leading to the Z-14 project, an initial advance development and the first 1:2.5 design model. Then, on 16 March 1992, BMW Technik GmbH presented its results to the BMW

Motorcycle Division where the decision was taken to introduce the concept at the Cologne International Bicycle and Motorcycle Show in September 1992 as a "new concept of transport for the future".

BMW's Motorcycle Design Studio therefore built a full-scale 1:1 design model presented to the public at the Show together with computer graphs of the frame concept. It was on this occasion that this innovative vehicle received its name: the BMW C1.
With the general debate on the C1 becoming part of the BMW mobility concept, the new vehicle obviously offered a lot of food for thought. And while this debate was proceeding, the BMW Motorcycle Division developed a concept for making the C1 reality, the first test model for driving trials being developed out of a conventional motor scooter but already using the frame concept previously calculated in theory. This model served as the starting point for ongoing tests, including studies of the belt system designed to give the driver optimum restraint on the C1.

New demands
Now Heidi Osendorfer of BMW AG's Safety Test Department assumed responsibility for ongoing development of the C1's safety concept. With ample experience from riding tests conducted on behalf of the Motorcycle Division, Heidi Osendorfer had also been involved in the past in automobile crash tests. Her experience therefore provided the starting point for defining the innovative mission of the C1, accident analyses conducted by BMW providing the basis for the first C1 crash tests using safety components and dummies of the same kind as in car tests. The results were promising, the concept convincing.

To properly simulate the complex accident configurations to be examined on motorcycles or motorised two-wheelers, the next step was to produce special dummies. A further requirement was to examine and assess patterns of motion and injury criteria different from those in a car, for example the risk of the driver breaking a leg and the fact that he has his hands on a handlebar, not on a steering wheel.

The measuring technology required for this purpose was installed directly inside the dummy. Special computer simulation programs and a program for developing an internationally valid standard allowing the assessment of safety features on a motorcycle were determined at the same time, requiring an exact definition of the specific dummy used, as well as its integrated measuring technology and the test configuration. The latter were derived from real-life accidents, and then, together with the computer simulation,

transposed to the more complex situation when driving a motorcycle.

The various parts and components of the C1, finally, called for fine tuning and a process of adjustment to the greater requirements made of an open vehicle, as well as the specific standard of comfort required in this case. It was found that the brace-type belt configuration originally planned would only be able to provide the necessary anti-submarining effect if combined with a crotch belt. But BMW's specialists soon realised that the need to re-adjust this belt system to different drivers each time created too great a safety risk. The task, therefore, was to find a familiar system preventing the submarining effect, offering a better ergonomic fit, and allowing an exact combination with the seat.

For a while a combination of two three-point seat belts crossed over one another appeared to be the solution. But ultimately only the combination of a two-point shoulder belt preventing the driver from sliding out sideways and a three-point belt on the other side retaining the driver's hips on the seat served to ensure the desired result. A further advantage is that the two belt systems can be opened together in the interest of extra comfort and safety.

New standard
Proceeding from the motorcycle ISO standard developed in the meantime, further tests were then conducted with the special motorcycle dummy, now without a helmet. This showed that with the dummy - or, of course, the driver - properly buckled up, the loads acting on the neck were lower without a helmet than with a helmet. The objective of these tests was to find out whether it would be possible to exempt the driver of the C1 from wearing a helmet in the first place, which was one of the targets. Facilities in the USA were used for this purpose, since only a few institutes worldwide are able to master the complex test procedures involved in such trials.

Over the years the BMW Motorcycle Division built five generations of prototypes, with test programs consisting of accident analyses, the motorcycle ISO standard, and experience carried over from car tests. With the belt system, for example, catapult tests as well as pendulum tests focusing on the frame padding were very important. Here again, it was difficult to find institutes able to carry out such tests, which in Germany involved both the TÜV and DEDRA technical testing authorities. In all cases the specific test array and the evaluation process remained the task of BMW's safety engineers.

The tasks and requirements facing BMW's engineers are clearly shown by the inertia-reel belt system as just one example: The inertia-reel systems used in cars - and no other systems were available at the time - locked up on a motorised two-wheeler much too quickly, for example when hitting a bump on the road. The activation threshold was not to be too high, however, since this would have impaired the necessary level of activation safety. And then, once this problem had been solved, new approval procedures were required since the test facilities used up to that point in time were only for cars.

Additional tests were subsequently developed in cooperation with the German Federal Institute of Road Traffic, with a view to obtain the desired exemption from having to wear a helmet. The first step at this point was to develop new shoulder brackets, creating a complex structure with a bolted-on foam section. Then, on 30 May 1998, the German Federal Ministry of Transport gave official approval for riding the C1 without a helmet, since BMW was successfully able to meet all the necessary requirements, as the German TÜV Technical Inspection Authority had also confirmed.

Applying the knowledge gained in comprehensive tests, the initial frame structure was consistently modified and further improved. The seat ramp and the roof/windshield frame both became part of the overall frame structure, thus deviating from the original concept.

The introduction of BMW Telelever front wheel suspension marked a decisive change in the development process. The Telelever prevents the front end of the C1 from diving while the driver is applying the brakes, ensures an even higher standard of driving stability, and improves the C1's behaviour when hitting an obstacle (see also the chapter on Safety).

New design
The C1 project was obviously a very different challenge for BMW's designers. Since the C1 was conceived as a vehicle based on both the motorcycle and the automobile, motorcycle and automobile designers alike were involved in the design process. Following the initial model study no less than five different design models were developed, quickly showing that while nearly all the C1's technical components and features were covered by various body panels, the wind and weather protection elements as well as the seat belts stood out clearly as obvious proof of the C1's safety concept.

The front silhouette of the C1 is reminiscent of a touring motorcycle with a windshield. The side view, in turn, is characterised by the unusual height and small wheels of the C1, BMW's designers being

required to integrate the technical features of the safety concept, the optimised weather protection, and the looks of a new type of vehicle in one all-round solution.

The result is a colour and materials concept quite unique in the motorised two-wheeler market, clearly underlining the special character of the C1 (see the chapter on Variants). The same designers were incidentally also responsible for the accessories conceived for the C1 in this phase, ranging from the topcase all the way to the mobile phone holder and carefully matched to the unique looks of the C1 (see the chapter on Accessories).

An entirely new approach had to be taken in providing the wind and weather protection. While BMW's motorcycle designers already had a wide range of experience in the design and styling of highly functional tourer bodies, both the frontal and side areas on the C1 are larger and the centre of gravity is higher. The flow of air and water was determined and optimised in wind tunnel tests, one result being the special mirror holders and lips on the rubber footrests.

On test drives the prototypes responded quite sensitively to wind gusts, turbulence and sudden crosswinds, that is conditions impossible to verify precisely in the wind tunnel. Inevitably, this once again led to general considerations on whether the project could become reality at all. But then the solution was provided by a mathematical airflow model never used before in automotive engineering, since it was taken over directly from aerospace studies.

The amount of computation involved becomes clear once one considers that 110 hours of calculation were required on a super-computer in order to determine the dynamic flow conditions on a total of 1.1 million surface "cells". Here again, a development centre in the USA served to provide the necessary input. Leading to only minor modifications of the body itself, these calculations nevertheless provided very effective changes in driving characteristics. The underpressure zone around the roof of the C1, for example, gives the vehicle the necessary directional stability at high speeds.

New technology
Since the Motorcycle Division of BMW AG had already gained good experience in joint ventures with the F 650, the same kind of cooperation also appeared appropriate with the C1. As the basis for the power unit of the C1, BMW chose a modern single-cylinder four-stroke engine built by Bombardier-Rotax, the Austrian engine manufacturer. Driving a motor scooter, this engine transmitted its power to the rear wheel via an infinitely adjustable belt drive called Variomatic - and at the same time it formed the drive unit swinging

arm to be found on many motor scooters in conjunction with the rear swinging arm suspension.

BMW's objective was to give the engine additional power (taking the higher weight of the C1 and its larger frontal surface due to the windshield into account) and make it cleaner in terms of emission management. Accordingly, the cylinder head, cylinders and pistons were all redesigned by BMW's engine specialists. Various parts of the engine block were also renewed, the former four-valve cylinder head with one overhead camshaft now being replaced by a new dohc four-valve engine with a narrower valve angle and valves operated by cup tappets, the compression ratio increasing as a result of the re-designed combustion chamber to 13.1. This then provided BMW's power target of 11 kW or 15 bhp at 9250 rpm, the increase in torque to 12 Nm or almost 9 lb-ft at 6500 rpm being even more impressive.

While the first C1 engines received the fuel/air mixture through a conventional carburettor, it soon became clear that the demanding objective BMW was setting in terms of clean and efficient emission management could only be achieved with the help of a fully controlled three-way catalytic converter. And that meant fuel injection.

The Department for Power Generation and Fuel Supply within BMW's Motorcycle Division and the Electronics Development Department within the Car Division subsequently developed BMW's new system of engine management, giving it the abbreviation BMS. This comprises an electronic engine management system with combined map control of the ignition, fuel injection, oxygen sensor, and idle speed. The control unit itself is built by Hella.

The scooter drive system was also developed to a new standard, the centrifugal forces clutch being reinforced and the belt drive featuring a new venting concept.

The next step was to adjust the exhaust system to the fully controlled three-way catalytic converter, making sure that the C1 was able to remain significantly below the noise level of 80 dB setting the standard for motorcycles. The objective, indeed, was 77 dB, just half the 80 dB norm. And the inevitable price which has to be paid for this environmentally-friendly improvement is the increase in silencer weight to 7 kg.

New partners

After years of concept development in the Safety Testing, Design and Motorcycle Development Departments, the prototype had reached a level in 1996 from where the project could be further

enhanced to series production. The question BMW now faced, therefore, was who should build the C1 as a partner in the production process. Asked this question by Italian journalists, Bernd Pischetsrieder, BMW's Chairman of the Board at the time, provided the clear answer that "the C1 will be built in Italy. But we are still looking for the right partner." Soon afterwards BMW received an offer from Bertone S.p.A., with the first talks being conducted in December 1996 and the joint venture being signed on 4 September 1997.

Established as a coachbuilder in 1912, Bertone has made a great name for itself particularly since the '50s through successful car design. And to this day car design for various manufacturers as well as industrial design in general remain major activities of Bertone. The company's largest operation is however Carozzeria Bertone, an independent automobile plant building cars on behalf of other brands, in particular convertible and coupé versions. Bertone has also worked for BMW in the past, manufacturing the 3200 CS coupé from 1962 - 1965, a beautiful car based on the BMW V8 and designed by Nuccio Bertone.

After BMW had developed the design of the C1, the baton was passed on to Carozzeria Bertone for development of the series body. The joint venture also included the process of industrialising the C1, that means the provision of production facilities and, as the next step, the actual production of the vehicle at Bertone's plant in Grugliasco near Torino. It was at this point, therefore, that the C1 project became a genuine development partnership.

A C1 core team was established in Munich as a steering committee in 1997, Reinhard Schadt from the Motorcycle Division assuming direct responsibility in his position as General Project Manager for the ongoing development of the C1 and BMW's cooperation with partners. In his work he was supported by Project Managers from Carozzeria Bertone and Bombardier-Rotax. From this point onwards, decisions regarding the approval of parts and components were taken in conjunction with three of BMW's Module Managers responsible for the suspension and passive safety, body and electrics, as well as the drivetrain. The Safety Testing, Product Management, Product Planning, Quality Management, Sales Management and Controlling Departments within the Automotive Division also remained part of the project.

All components are sent to Grugliasco, in some cases in pre-assembled form. The drive unit, wheels, front wheel fork and further components are first connected to the frame on the assembly line. Then, like in automobile production, comes the "wedding", the

integration of the drivetrain and the body of the C1. Once all parts have been fitted, the C1 is put through its paces on a rolling road and is then packed for shipping.

Due to the exceptional dimensions of the C1 a new type of packaging has been developed, with a special film being shrunk on in order to protect the paintwork. Batches of 13 C1s on one truck subsequently leave for Germany, from where the C1, the C1 Family's Friend, and the C1 Executive go to BMW dealers all over Europe.

4 Driving Pleasure

The C1 certainly adds new flair to BMW's famous slogan "Sheer Driving Pleasure". Apart from the elegant design and the high safety standard offered by BMW cars and motorcycles, aficionados of BMW products are particularly appreciative of the way in which a BMW develops its power and performance. Under normal road conditions, of course, you are able to experience the sheer joy of accelerating more often than the extremely high top speed of a BMW. Another ingredient creating this sheer driving pleasure is the particular sound of a BMW engine. But all these fortes offered by a BMW car are inevitably restricted in practice as long as your are stuck in a traffic jam at the wheel of your BMW 328i or 740d, or are unable to find parking space after driving all the way through town.

Even the BMW motorcycle rider able to avoid many a traffic jam and most probably finding parking space for his two-wheeler after a ride through town, will not experience all the riding pleasure he would like to enjoy in city traffic: Special motorcycle wear and the helmet will soon make him sweat and after arriving he will have to peel his way out of his special clothes or at least find somewhere to put his helmet.

This is precisely where you will start enjoying that sheer driving pleasure on the C1 in town or densely populated areas. The C1 is agile and does not require any more space than a motorcycle, while at the same time it does not call for special motorcycle wear, since the safety features on the C1 are all integrated within the vehicle itself - like in a car. And the C1 also offers a certain level of protection from wind and weather, a topcase fitted behind the safety cell serving last but not least to accommodate a fair amount of shopping. Clearly, all these features add up to provide genuine fun on the road.

While the car driver is still desperately looking for a place to park his car, the C1 driver will already be sitting comfortably in his café, his C1 parked directly outside, in an official parking area, or - quite legally - on the pavement, that is in a pedestrian area where two-wheelers are generally accepted as long as they do not clearly obstruct pedestrians and passers-by. For this is a situation where mutual consideration and fairness replace strict laws and legislation.

The driver of the C1 can also enjoy the driving pleasure so typical of BMW. True, the output and torque of the C1 power unit will not move mountains. But the C1's acceleration and top speed are quite sufficient for speedy motoring in town, where the process of consistently moving forwards, whether at 20 or 50 km/h, is already worth a lot in comparison with cars stuck in traffic jams.

Thanks to automatic transmission, the driver of the C1 need not bother about shifting gears - instead, he can enjoy all the pleasure of breezing along in style. And the exceptional design of the C1 creates a great deal of awareness, the driver who likes to be in the limelight certainly experiencing the best of life on his - or her - C1.

Driving without a helmet not only offers the advantage of not having to leave your helmet somewhere when you reach your destination. A further point is that the driver of the C1 will really feel that proverbial wind rushing by on the road, an experience you simply no more have when riding a motorcycle and wearing an integral helmet. So it is fair to say that driving the C1 is reminiscent of driving a convertible, albeit at a much lower price ...

Many people - most of them young or young-at-heart - love listening to their favourite music while on the road. So again, the C1 makes this dream come true when fitted with the optional fun audio system consisting of two active loudspeakers near your head, a connection for a walkman or discman in the large storage compartment, and volume control on the left-hand handlebar switch unit.

Talking about younger or older people, the BMW C1 is a vehicle for all age groups. Displacing 125 cc and developing maximum output of 15 bhp, it is already at the reach of 16-year-olds, provided they do not drive at a speed of more than 80 km/h or 50 mph. So all you need is a class A1 licence. Older drivers who already received their car driver's licence prior to 1 April 1980, in turn, are qualified to drive the C1 without any further driving test in Germany. And the rules in other countries are similar. So that once again the C1 offers driving pleasure for the whole family.

Last but certainly not least, the driver of the BMW C1 will also feel more than happy when driving up to a filling station, where the economy-minded driver will find that his C1 has not consumed more than 2.9 ltr/100 km equal to 97.4 mpg Imp. And even if you choose a somewhat more dynamic style of motoring, fuel consumption will not exceed a "3" before the decimal point. Plus, of course, the fact that the exhaust emissions reduced to a minimum are also cleaned to a maximum thanks to the fully-controlled three-way catalytic converter.

5 Variants

All variants of the C1 offer an innovative synthesis of the motorised two-wheeler and the automobile, thus establishing an all-new category of vehicles introduced by BMW. The **BMW C1** without any additional name is the "basic" model with all the essential features. This is the vehicle for the customer wishing to use all the concept benefits of the C1 without going for a higher level of equipment. Naturally also being the most affordable version, this **BMW C1** appeals to both young people and to car rental companies at airports and major railway stations. Serving primarily as a "utility vehicle", this variant of the C1 comes in orange red non-metallic with a black seat and jade non-metallic with a blue seat. The authorities and fleet customers can also have their **BMW C1** finished in white for adding symbols and special markings afterwards.

The **BMW C1 Family's Friend** clearly reveals its target group through its name alone. And indeed, this C1 can easily become a good friend for the whole family. Being used primarily as a private vehicle, the **BMW C1 Family's Friend** is designed accordingly: It is colourful, almost a bit "freaky" and thus really appeals to teenagers - provided Mum and Dad are willing to give them the money to buy one. The **BMW C1 Familiy's Friend** is the vehicle for going shopping or driving to the fitness studio, for a date or for driving to work. The Family's Friend is always finished in two colours, with a combination of orange red non-metallic or Kalahari yellow non-metallic with frost blue metallic and the sills in body colour. Two extra-large decals adorn this version on the front side fairing, the **BMW C1 Family's Friend** also featuring a large storage compartment in the front fairing and the luggage case fastening kit behind the safety cell as standard.

The third version comes exclusively in graphite metallic, features sills in white aluminium metallic and the interior in graphitane metallic. Proudly bearing the name **BMW C1 Executive**, this model is for the businesswoman or businessman driving to work, the manager going to the office, and the insurance agent visiting his clients. You will certainly also see the Executive parked outside major theatres and exhibition centres. The wide range of standard features offered in this case includes a storage compartment, a mobile phone holder, a reading light, the luggage case fastening kit, a luggage net, and luggage railing.

6 Technical Features

Engine

The heart of every vehicle - and particularly of every vehicle proudly bearing the white-and-blue BMW logo - is the engine. Even if it displaces a mere 124.91 cc. Why BMW is willing to make do with this modest capacity on the C1 has already been described in detail in the chapter on the C1's concept.

The four-valve power unit of the C1 is a water-cooled single-cylinder four-stroke engine newly developed by BMW on the basis of a Bombardier-Rotax engine. Like no other engine in the 125-cc class, this power unit comes as standard with a fully controlled three-way catalytic converter and Digital Motor Electronics, an engine management system especially developed for single-cylinder engines under the name BMW Engine Control (BMS compact). The microelectronic "brain" within the extremely compact engine management housing reliably controls the optimum ignition timing and injection volume for all running conditions.

Apart from its electronic choke and idle speed control with a charge balance function whenever battery voltage is inadequate, the BMS system incorporates power modules for direct activation of the fuel pump, the blower motor, and the oxygen sensor heating system. In conjunction with the BMW MoDiTeC diagnostic unit, BMS engine management can be fully diagnosed and comes in addition with a self-monitoring and self-control operating mode. For the first time, the self-diagnosis function of the control unit also monitors the most important data leaving the system.

At 13:1, the engine of the BMW C1 has a high compression ratio ensuring a high level of efficiency on minimum fuel consumption (2.9 ltr/100 km or 97.4 mpg Imp at a steady 90 km/h). Designed for unleaded 95 RON premium, the engine develops its maximum torque of 12 Nm or 8.8 lb-ft at 6500 rpm. Maximum output of 11 kW (15 bhp) comes at 9250 rpm, accelerating the C1 to 50 km/h in 5.9 seconds and providing a top speed of 103 km/h or 64 mph.

The four valves are operated via two camshafts within the cylinder head (dohc) and cup tappets. The camshafts are driven by a toothed

chain, a maintenance-free hydraulic chain tensioner serving to keep the timing chain properly tensioned at all times.

Drive unit swinging arm
The drive unit swinging arm combines the engine and its ancillaries with the automatic transmission (belt drive), the centrifugal force clutch, the rear axle differential, final drive and rear axle swinging arm. This drive unit swinging arm configuration is the typical drive system on a motor scooter, since it also performs various suspension functions.

The BMW C1 comes with a continuously variable transmission (CVT) conveying power from the engine to the rear wheel, without the driver having to shift gears or operate a clutch. The coupling starts to intervene at approximately 3400 rpm and operates without slip from roughly 6000 rpm. When accelerating, the C1 runs on the smallest transmission ratio up to a speed of approximately 30 km/h. From 30 - 80 km/h engine speed remains almost unchanged, the transmission ratio changing within this range from 3.0 - 0.9. As of 80 km/h the transmission ratio then remains consistent, the ongoing increase in road speed being provided by the higher engine speed.

The rear axle differential of the C1 is made up of a two-stage helically-toothed spur gear integrated in the swinging arm drive unit.

Wheels and tyres
The two three-spoke light-alloy wheels are die-cast in a counterpressure process. Measuring 3.5"x13", the front wheel weighs 4.8 kg and comes with a 120/70-R-13 tyre. The rear wheel measuring 3.5"x12" weighs only 4.3 kg and runs on a 140/70-R12 tyre. The two H2 double-hump rims are appropriate for tubeless tyres, the low unsprung mass of the wheels contributing to the C1's superior agility.

The front and rear wheel brakes incorporate brake discs operated by two brake levers on the handlebar. The brake linings, in turn, are made of an organic, asbestos-free friction material.

An option absolutely unique on a motorised vehicle of this size is the ABS anti-lock brake system offered by BMW. In this way BMW is continuing the Company's pioneering role in supreme active safety on motorised two-wheelers, which dates back several years to BMW motorcycles. Indeed, riders of BMW motorcycles have benefitted from ABS as either a standard or optional feature for many years now. Today BMW's two- and four-cylinder motorcycles come with ABS II, the second generation of anti-lock brake technology for such machines incorporating a plunger system to control ABS pressure.

The BMW C1 obviously called for a lighter ABS brake system taking up less space, consuming less power, and allowing production at lower cost. The good news was that BMW had only recently developed such an ABS brake system for light motorised two-wheelers in cooperation with Bosch Braking Systems, one of BMW's system suppliers, for the new F 650 GS. Weighing a mere 2.1 kg, this new unit is simply perfect for the C1.

The technical difference between this system and the ABS II unit featured on BMW's two- and four-cylinder motorcycles is that the C1's lighter ABS features digital control of the valve system. The driver, in turn, will feel this difference through the slight pulsation of the hand levers whenever ABS is operating.

The two-channel pressure modulator and the ABS control unit are combined within one compact module. A sensor fitted on the front wheel serves in addition to measure the speed of rotation. The rear-wheel sensor feeding data to the electronic speedometer also sends an appropriate signal to the ABS control unit, where fitted, and the two self-contained brake circuits for the front and, respectively, rear wheel each come with an electrohydraulic intake and outlet valve, a reservoir and a hydraulic pump.

Frame and suspension
The central component of the C1's suspension is the frame built in aluminium spaceframe technology. Ensuring a very high level of stability, this spaceframe offers optimum stiffness and, accordingly, ideal front and rear suspension.

The front wheel of the C1 runs on a modified Telelever system. This unique front-wheel suspension so far exclusive to BMW has proven its merits on more than 200,000 BMW motorcycles ever since 1993 and is now widely acknowledged as a very special design feature of BMW motorcycles. Obviously, therefore, it was only appropriate to fit the C1 with Telelever technology, too.

The Telelever principle separates wheel guidance, on the one hand, and suspension/shock absorption, on the other, thus providing optimum driving characteristics plus superior comfort on the road. In particular, it prevents the front end of the vehicle from diving down when applying the brakes, ensuring an appropriate anti-dive effect.

The rear wheel runs on the swinging arm drive unit, resting in the frame without any transmission of vibrations. Two spring struts serve to provide the necessary suspension and damping. The rear frame made of steel is bolted on to the main frame, carrying the passenger seat or luggage system.

Body

The looks of the C1 are characterised from the start by the safety frame and the front wheel fairing providing maximum protection from wind and weather around the driver's legs. The front frame section incorporates a laminated glass windshield extending all the way back over the driver's head into a sunroof at the top. Together with the front wheel and side fairings, this ensures an impressive standard of protection from wind and weather: The driver cannot get wet from beneath and is not exposed to wind or rain from the front hitting his face and upper body. But he still has the feeling of driving an open vehicle, with that proverbial thrill of convertible or roadster motoring.
Protection from the side is limited. Whenever the wind or the rain come from the left or right, therefore, the driver's sleeves are bound to get wet.

Visibility through the windshield remains good and clear even in - heavy - rain thanks to the screenwiper with an automatic wipe/wash function. The screenwiper operates in a parallel mode, giving the driver the choice of either intermittent or continuous operation. And as soon as the C1 comes to a stop, the screenwiper automatically switches to intermittent wipe. Two rear-view mirrors, finally, ensure good visibility to the rear.

The front wheel fairing is made of highly flexible polyurethane, the other painted fairing components are made of extra-strong but light ABS (acrylic butadiene styrene) plastic. The unpainted body components, finally, are made of polyproylene.

The fuel tank filler manifold is positioned beneath the lockable driver's seat, while access to the opening leading into the screenwasher reservoir is provided beneath the easily removable headlight cover.

The rear frame section of the BMW C1 is able to perform various functions. The basic version comes with lashing points for fastening small odds and ends. Then, using a carrier system, the driver can also fit a transport container or a passenger seat (see chapter on Accessories).

Driver's seat

The instrument panel with the instrument cluster right in the middle comes exactly in the driver's line of vision, comprising the electronic speedometer, the switchable LCD display (clock, mileage or trip counter), the fasten seat belts sign, fuel tank display (the reserve light comes on once the amount of fuel in the tank drops to 2.5 litres), left and right direction indicator lights, displays for oil

pressure, engine temperature and the high beam, as well as two ABS telltales if the C1 is fitted with anti-lock brakes.

The right handlebar houses the rotating gas handle, the lever for the front wheel brake, the starter switch, emergency-off switch, the screenwiper switch for intermittent or continuous operation, as well as the switch for automatic wash/wipe.

To his left the driver will find the lever for the rear wheel brake, the left/right/return direction indicator switch, the switch for the horn and light flasher, as well as the high beam switch all on the handlebar.

The ignition lock and lights switch are housed on the dashboard itself.

Beneath the handlebar centrepoint the C1 comes with two features not to be found on other motorised two-wheelers: First, there is a grab loop for opening the two belt latches simultaneously via a cable in the interest of both extra comfort and safety on the road. Second, there are two levers moving the side-stand into position for parking, without requiring the driver to get off his C1.

Electrical system
A 400 W alternator delivers electrical power to the C1 then stored in a 14 Ah battery. As soon as the voltage drops below 12 V, the charge balance manager integrated in the BMS control system increases idle speed by approximately 200 rpm.

The driver starts the engine of the C1 with a permanent magnet starter motor generating an output of 600 kW.

Both the low and high beam are provided by an H4 bulb fitted in a clear lens headlight in free-form technology. The housing of the headlight is made of polyamide with the reflector steamed on, the headlight lens is made polycarbonate. Headlight range, finally, can be controlled by a separate adjustment bolt.

7 Safety

The main feature giving the C1 such a unique position as a motorised two-wheeler ranking between the motorcycle and the automobile is its unique safety concept. Indeed, this was the fundamental idea right from the beginning of the C1 development process (see the chapter on Development), the safety concept reaching all the objectives set by BMW now that the C1 is entering series production. As a result of this superior safety, riders of the C1 were already exempted from wearing a helmet in Germany back in 1998 - and in the meantime Spain, France, Italy, and Switzerland have followed this example, with Austria and the Benelux countries being close to a helmet exemption decision, too.

The safety concept of the BMW C1 is made up of five main components:

- Crash deformation element above the front wheel
- BMW Telelever as an additional, energy-absorbing component
- Main frame serving as the driver's safety cell
- Special seat with headrest
- Two seat belts

Deformation unit
The deformation unit is housed beneath the front wheel mudguard and is made of polypropylene hard foam fastened to the frame to feed impact energy into the frame structure itself at exactly the level of the C1's centre of gravity. This prevents the C1 from rolling over forwards upon impact with another vehicle or object. Should the C1 hit a car, for example, some of the impact energy is converted into deformation, giving the driver buckled up in his safety cell a good chance to survive the accident with only minor injuries.

Telelever
This special front-wheel suspension gives the C1 not only outstanding driving characteristics, but also active safety on the road. And it plays an important role as part of the vehicle's passive

safety system. The sliding tubes come with a predetermined fracture point and the longitudinal support is fastened to the frame so as to provide an exactly defined transmission of power into the main frame in the event of an impact. Last but not least, the Telelever system also offers an anti-dive effect helping to prevent the C1 from rolling over.

Safety cell
The entire frame of the C1 serves as one complete safety cell made of pressed aluminium profiles drawn into the appropriate shape. Acting as a rollbar, the roof frame is connected by clamps directly to the main frame. The shoulder bars at the side, in turn, are bolted on to the main frame, two exchangeable deformation elements providing a 70 mm safety gap between the driver's head and shoulders, on the one hand, and the road, on the other hand, should the C1 topple over to the side.

Stable panels are welded on to the side fairing at foot level, providing a certain standard of leg protection also in a collision from the side. The inner area of the roof frame and the handlebar cover are padded by hard foam to reduce the risk of injury.

Special seat
The ergonomically designed and very comfortable special seat of the C1 is moulded in its design ensuring superior softness and comfort around the actual seating area, as you would expect of such a seat, but with energy-absorbing foam padding at the front. Through its shape and hard substance, this front seat section makes sure that the driver cannot slip beneath the hip belt in a frontal collision (anti-submarining effect).

This safe seating position is supplemented by a headrest acting in conjunction with the backrest to prevent stretch forces on the driver's neck in both a head-on and rear-end collision.

Seat belts
The two seat belts on the BMW C1 are among the most unusual components for a motorised two-wheeler. The belt system is made up of a three-point inertia-reel belt on the left and a two-point inertia-reel belt on the right side. The two belts rest crosswise on the driver's body, thus making sure that he cannot spin sideways out of the C1. The two belt latches, in turn, are located conveniently next to the seat and to unbuckle both belts comfortably and easily the driver just has to open the central latch on the handlebar.

With the C1's elaborate safety concept forfeiting its effect as long as the driver fails to buckle up, the vehicle comes with a starter lock

only released when both belts are properly fastened. Otherwise the starter motor will not reach the starting speed required for the automatic transmission.

By nature, the C1 is designed and built for the driver alone - and the high standard of safety described in the foregoing can only be offered to the driver. Should you nevertheless wish to take along a second person on the C1, you have to fit an emergency seat behind the safety cell on the luggage compartment fastening kit. Since the passenger on this seat is not protected by the C1's safety concept, he has to wear a helmet and should also wear suitable motorcycle clothing.

8 Accesssories

Although the BMW C1 Family's Friend and BMW C1 Executive offer a higher level of practical value than the "basic" model thanks to their wider range of equipment, and are also more of an eye-catcher on the road, the owner of a C1 still has a sufficient margin to further enhance his driving pleasure through special equipment and accessories.

Enhanced loading options
Whenever you use the C1, regardless of the specific version involved, for shopping at the supermarket or when buying a whole crate of bottles, the topcase fitting behind the safety cell is a very practical asset. Especially as it "clicks" on to the fastening kit and off again very easily indeed. Measuring 405x460x400 mm inside (15.9x18.1x15.7"), the topcase accommodates all kinds of standardised crates for beverages, for example a big crate of beer or mineral water (not to mention all your bags, parcels, fruit and whatever else). It also takes gym shoes or a bag with all your swimwear, providing a total capacity of 20 kg.

Instead of the topcase, you can also fit a luggage railing at the back then serving to hold the C1 aluminium case the manager or insurance agent wishes to take to the office (or, of course, a tennis racket or a backpack). And if you would like to take along a suit or costume without anything getting wrinkled, the clothes bag to be hung on the roof of the safety cell like in a cloakroom is certainly very convenient.

The driver wishing to take along a passenger, in turn, just has to fit the "emergency seat" available as special equipment on to the fastening kit, as well as footrests for the passenger. This second person must then wear a helmet.

Storage compartments in the front fairing and the instrument panel as well as luggage nets in the shin area of the front fairing take up small odds and ends ranging from your keys to your lighter. And the larger of these two compartments also accommodates audio players such as a walkman or discman.

Better sound quality
Taking along such players on the C1 is only really worthwhile, however, if the driver also opts for the fun audio system with sound coming from two active loudspeakers incorporating one 100-mm aluminium membrane fitted close the driver's head in the interest of excellent sound quality. Volume is controlled by a button on the left-hand handlebar switch and adjusts automatically to your road speed.

Better be silent
The modern individual these days not only wishes to listen to music while travelling, but also has a mobile phone. So where should it go on the BMW C1? The answer is simple - into the C1's mobile phone holder able to accommodate all the usual phones in the market and with an adapter for fastening any phone-specific bags or supports. Still, you should never use the phone while driving, regardless of whether it's legal or not, since the risk of neglecting traffic conditions around you is simply too great. Precisely this is why the mobile phone holder comes in the right-hand A-pillar where the driver operates the accelerator.

Better information
The driver wishing to receive additional information during or after his trip has the choice of a BMW on-board computer able to tell him the time, the distance covered, and his average speed. And the on-board computer also serves as a stopwatch and alarm clock, although you will probably only require the latter function after having removed the computer from the vehicle ...

Better reading
Another feature not intended so much for use while on the road but rather for checking maps while at a standstill and in the dark is the reading light in the roof of the safety cell. Particularly messengers and other service providers required to check documents at all times of night and day will appreciate this practical accessory.

Better protection
Warning flashers and an anti-theft warning system further enhance the C1 safety package already very comprehensive to begin with. In an open vehicle like the C1 the seat is exposed to all kinds of weather whenever parked outdoors. So to do the seat of the C1 and yourself a favour, the special seat cover will come in very handy. Indeed, you can even protect the entire vehicle with the help of the large transportable bag serving as a kind of mobile garage.

Better heating

Most drivers probably think first of themselves and then of their vehicle. Precisely this is why the heating package is bound to prove very popular, at least with drivers using their C1 also in the cold season. Consisting of a warm seat and heated handles, the heating package offers pleasant warmth either on the handles and the seat simultaneously or just on the handles alone.

Better cooling

The opposite, of course, is also possible: Should you regard the normal flow of fresh air behind the windshield and beneath the roof of the safety cell as inadequate, just go for the optional hardtop serving both as a vent roof drawing in air from the front and as a sunroof to be removed completely.

9 Rider's Equipment

The safety concept of the BMW C1 allows the driver to enjoy his vehicle without a helmet and without motorcycle protection wear, since the passive safety elements protecting the driver have been moved on to the vehicle itself, and are no longer required on your jacket sleeves and trouser legs. So you can enjoy the C1 in normal street clothes, wearing a tracksuit or even a pinstripe business suit like in a car, without being careless in any way.

Real driving pleasure, however, still requires the driver to wear functional clothes specific to the C1 and offering special comfort. After all, you can also drive a convertible wearing normal street clothes, but it's more fun wearing the right gear here, too.

Precisely this is why BMW offers driver wear for the C1 providing extra driving pleasure and improving your protection from wind and weather. The various C1 garments all come in generous style and offer maximum freedom of movement. The C1 jackets, for example, are designed to ensure that the seat belts do not rest on the jacket pockets, but rather allow the driver to reach into his pockets even when buckled up.

The two-piece rainsuit made of black nylon is finished with water-repellant coating and comes with reflector stripes. The shoe or boot covers, in turn, are intended to protect the driver from wet weather and dirt. The gloves, cap or forehead ribbon allow the driver to brave cool temperatures and even gusty winds. The jackets and vests excel through high-quality materials, special design and intelligent details: Stretching your arms through the sleeves of the short jacket, for example, with your thumbs facing out, you will automatically convert the cuffs into finger-free gloves. The short jacket also comes with a material comparable to air conditioning: it stores your body heat and gives you back extra warmth whenever required.
The C1 interchangeable glasses have everything it takes to become a cult object. Depending on weather conditions the driver can choose either dark-tinted or orange-coloured lenses.

All C1 rider wear models may be combined with one another. And a red line extends quite literally through the entire collection, with that typical C1 red being featured everywhere: as a red C1 ribbon on the

side slit, as a red grab tag on the zippers or velcro fastenings, or as a red seam around the jackets.

10 Specifications BMW C1