

**728i 732i
735i**



The large BMW: The range that sets a contrast.

Only very few cars possess the engineering sophistication and quality of the large BMW. And even then, those cars are based on quite different psychological and design concepts. As a result, they appeal, quite understandably, to an entirely different type of purchaser.

The large BMW, in contrast, shows very clearly that luxury cars of today have given up an obsolete luxury of yesterday: the pretentious display of status is a thing of the past. So an increasing number of motorists now regard even high-class luxury cars as a kind of highly efficient tool. A tool which – in the case of BMW – has something more crucial to offer in addition to its progressive concept that paves the way into the future: responsiveness and agility instead of sheer mass and clumsiness, casual and relaxed styling instead of ostentation, understatement instead of exaggeration. The large BMW is a genuine alternative – an alternative that offers the purchaser the very best in automotive engineering and, at the same time, the new freedom of enjoying this unprecedented standard in a new, unconventional style.

The necessity to apply this active automobile concept in the luxury car range stems from the traffic conditions on today's roads. For even the most comfortable and exclusive car must comply with the road traffic laws, the objective therefore being to have a highly efficient symbiosis of man and machine.

This is why the large BMWs combine all the features that make driving or being driven a luxury with a unique system of design elements which ensures that the driver and his car will always be a perfect match. This gives the driver an immediate feeling of confidence the minute he takes the wheel, and allows him to handle his car with absolute confidence. The result is a new feeling of self-assuredness and security at the wheel.

The large BMW: A concept of luxury motoring that reflects today's conditions and paves the way into the future.

Although the motor car has become a kind of natural commodity in our day and age, a tool to be measured by rational standards, good motoring nevertheless requires a certain amount of

involvement and critical enthusiasm – not as a purpose in itself, but rather to achieve perfection in the art of motoring. Because the old rule that only dedication and complete concentration will provide success also applies to motoring.

Numerous motorists obviously have difficulties in developing this – highly essential – involvement. And then their lack of dedication can often prove dangerous to other motorists on the road. Cars that make you forget reality and common sense, because they are designed to isolate the driver and give him the feeling of being driven instead of driving himself, will obviously not contribute to overcoming this lack of dedication. Quite the reverse.

More success thanks to more dedication.

Unlike those manufacturers who concentrate on building cars that will simply move the driver and his passengers as luxuriously as possible from point A to point B, BMW have always applied the concept of building driver-orientated and dynamic cars. This concept is ideally suited for the traffic conditions of today and, even more so, of tomorrow. Because it appeals to people who do everything with complete concentration and genuine dedication. People who, as a result, are unusually successful in life.

People who have the economic and financial freedom to choose from the very best now possess an even stronger feeling than others for the necessities and essentials in today's world. And with the new large BMWs, people of this calibre have an even better and more suitable car to meet their particular demands.

Note:

Some of the fittings and metallic paintwork colours shown in this brochure are only available as optional extras and at extra charge. All cars shown are left hand drive.





BMW 735i
Optional extra: headlight wiper/washer system

BMW open up a new future to the most demanding motorist: BMW 728i, 732i and 735i.

The future requires motor cars with new concepts and technologies. And this applies particularly to the top class motor car. Since the environment of the future will require luxury saloons to meet new and tougher economy standards, we have developed the large BMWs to meet the demands of tomorrow. These cars have many improvements built in; they feature new parts

and components and have been optimized in all important areas of automotive engineering. Because the future potential for outstanding automobile luxury lies in the thought that goes into such luxury. And it is for this reason that the 7 Series BMWs constitute an essential step into the future in the class of international luxury cars.



BMW 732i
Optional extra: outside mirror on front passenger's door

The large BMWs confirm the fact that only one kind of luxury will be successful in future: Luxury that is created from an advanced concept.

The large BMW offers a concept that is perfectly suited for traffic conditions of today and, even more so, of tomorrow. This concept shows that the signs of the times do not neces-

sarily compel you to accept any compromises. So while the highest standard in automotive engineering is still available, it just takes a bit more intelligence to bring it in line with the requirements of the future. As a result, the large BMW appeals to motorists with a very definite outlook on life: motorists who are very demanding but not merely prestige-minded. Motorists who demand a high standard

of exclusivity, but also have a feeling for today's requirements.

Concentrating on the essential does not mean the acceptance of a compromise. Rather, it means the manifestation of the intelligence it takes to anticipate the future. And this is also an expression of one's personal calibre.

The large BMWs: We have combined luxury and economy to make a concept for the future.

The large BMWs offer the right ideas and technical features for the tough demands of the 80's in three different versions: the BMW 728i, BMW 732i and BMW 735i. The entire range as a whole and each individual model has been designed to fulfill the requirements of tomorrow. All the engines have fuel injection – because compared with an equally powerful carburettor engine and assuming the same style of motoring, electronic fuel injection reduces fuel consumption by about 7-8% due to its far greater accuracy in determining the exact amount of fuel required.

Further benefits are the simple and inexpensive maintenance, the clean exhaust emissions throughout the engine's entire running life, better starting and warming-up characteristics, and a high standard of smoothness at all speeds. BMW's fuel injection engines not only offer a progressive concept tailored to the requirements of the future, but are also superior to other fuel injection engines due to the use of the electronic L-Jetronic fuel injection system. This system, which injects fuel as a function of air intake, uses sophisticated electronics such as the unique Digital Electronic System featured exclusively by BMW in the 635CSi, 732i and 735i.

The large BMWs: The optimum synthesis of economy and agility.

The engines of the large BMWs are now more powerful and more economical at the same time. And despite considerable improvements in comfort, quality, interior fittings, and safety, additional weight has been saved thanks to suitable design refinements. As a result, no other standard-production saloon can fulfill the same extreme criteria in terms of safety, comfort, and interior space

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Power output kW (BHP)	135 (184)	145 (197)	160 (218)
Dry weight in lbs	3263	3329	3351
Acceleration 0-60 mph (in sec)	8.9	7.8	7.2

combined with low vehicle weight and, when driven intelligently, outstanding economy.

The claims we make are justified by a new standard of engineering. And not simply by a new body.

Ever since their introduction, the 7 Series BMWs have offered technical and electronic features not always found even in the most expensive saloons: for example the BMW Check Control (from the BMW 732i), the power-assisted steering related to engine speed, the double-joint spring-strut front suspension used for the first time in automotive engineering, and the hydraulic brake servo.

Ultra-modern automobile electronics: A technology typical of BMW that places the new 7 Series cars ahead of their time.

With the advent of the large BMW, we have entered new and even more advanced areas of automotive engineering: BMW feature the Digital Electronic System in the 732i and 735i. This new technology, which we have developed in association with Bosch, optimizes exhaust emissions, fuel economy, engine performance, and running characteristics under all driving conditions to achieve a standard of motoring perfection previously unknown.

The Digital Electronic System and Check Control – features which, along with many other achievements, prove that BMW cars have a leading position in the use of electronics.

The overdrive-type 5-speed gearbox – a mechanical contribution to progressive automotive engineering.

Power units that develop very high torque at low engine speeds provide the best conditions for running at low revolutions where good fuel economy is achieved. Now, in the top-of-the-range BMW 735i for example, this traditional asset of BMW power units has been combined as standard with an overdrive-type 5-speed gearbox that perfectly matches the engine and reduces engine speed quite considerably. The result is extreme motoring comfort even at high speeds and genuine economy at both high and medium cruising speeds.

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BMW 735i
Optional extra: TRX 220/55 VR 390 extra-low profile
tyres on forged BMW light-alloy rims







The BMW 7 Series constitutes a range of well-proven cars. Because the 7 Series BMWs combine progressive engineering based on years of experience.

To a standard rarely found in any other luxury car, the styling of the large BMW combines up-to date and sober design with genuine aesthetic appeal. And this superior styling is complemented by an unusually high standard of reliability: the large BMW is based on more than two years of production experience with a total output of almost 80,000 vehicles. At the same time, it also profits from the thorough and consistent improvement of design and construction quality.

BMW have introduced the most up-to-date production facilities and brand new control systems to guarantee the constant maintenance of a very high standard of quality. The investments made by BMW for securing quality to the very last detail are greater than the investments made by far larger manufacturers for all kinds of purposes.

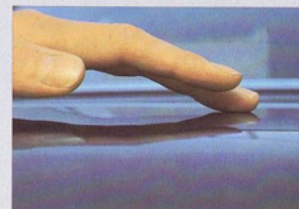
Prior to their introduction, the large BMWs were also thoroughly checked and cross-checked in long-term endurance tests. And, thanks to a comprehensive programme of

research and development, we have been able to apply our great experience with racing engines to the extremely high standard of a unique luxury saloon: a leader amongst leaders. The engine of the 728i has been performing successfully for two years in the 528i. The engine of the 732i is a developed version of the 733i engine. And the engine of the 735i has already achieved excellent results in the 635CSi – including astonishing road test results even against 4.5 litre or 5-litre V-8 engines made by our competitors. All this guarantees an extremely high standard of quality based on a wealth of experience.

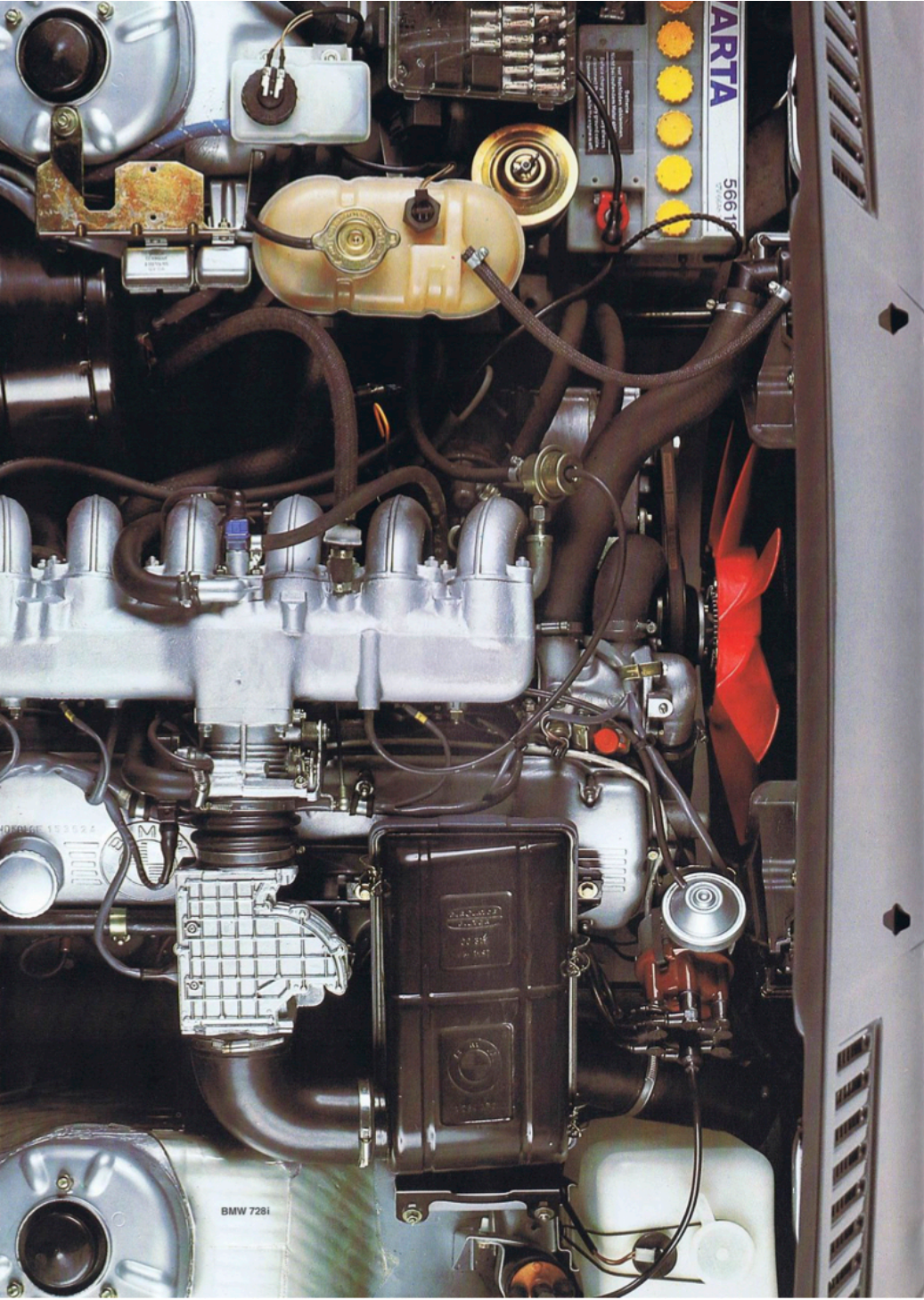
The extremely elegant appearance of a BMW results, not least, from the excellent paintwork and the high-quality finish.

A thorough and consistent system of rustproofing guarantees that this elegance is maintained throughout the entire running life of every BMW. By applying a method unique to BMW, the complete body is dipped vertically into an electrophoretic immersion bath, where the entire surface is coated with a corrosion-proof treatment. Next, the multi-layer paintwork is baked on at high temperatures to provide excellent consistency and surface quality. The careful application of underfloor protection and the

BMW Hollow Cavity Preservation Method, which reaches even the most isolated spots, then guarantees that every BMW will remain in good order and maintain a high resale value throughout its life.



BMW 725i
Optional extras: steel sliding vent roof, BMW Bavaria
cassette stereo, reverse radar, with automatic sensor for
road traffic noise, 22X 220/55 VR 390 extra-low profile
tyres on forged BMW light-alloy rims.



The BMW 6-cylinder inline engine – the most convincing, the most sensible and the most progressive concept in the market.

We have built a V-12.
We have built a V-8.
And now the future has determined our decision for us.

Even more than the present, the future will demand optimum economy of all cars – including the largest and most expensive models. As a result we feel we must concentrate on the essential by providing an optimum synthesis of outstanding performance and driving characteristics on the one hand, and low fuel consumption, reasonable car weight, and sensible dimensions on the other.

Considering the time it takes to design and develop a car, conscientious manufacturers who are aware of their responsibility have to think and plan 10 years ahead. With this in mind we have therefore studied the requirements of car engines of the future and the potential that various concepts offer in providing the solutions of tomorrow.

In future even luxury saloons must provide an important asset: optimum economy.

To make sure that we take the right decision for the future based on comprehensive practical tests, we have developed various research engines at BMW to standard production level. Two of these engines are a 4.5-litre 12-cylinder (1) and – based on years of experience with our former V-8 models – a 3.8-litre V-8 (2). Incidentally, BMW's famous V-8 engine of the 1950's was made entirely of aluminium and was even then a good example of progressive automotive engineering.

Looking for a better solution:
A battle of engine concepts.

In fulfilling the requirements of the future and thus confirming their progressiveness, all engine concepts must succeed in combining outstanding performance and dynamic acceleration with very low fuel consumption.

And the combination of these assets must be perfect if it is to beat BMW's current 6-cylinder concept. At the same time, the engine of the future must also offer optimum driving characteristics and flexibility combined with minimum weight and small dimensions.

The output these engines are able to provide is clear proof of the high standard of automotive engineering offered by BMW: 160 DIN kW (218 BHP) in the BMW 735i, 204 DIN kW (277 BHP) in the road version of the M1, more than 353 DIN kW (more than 480 BHP) in the normal-aspiration Group 4 version, and more than 588 DIN kW (more than 800 BHP) in the turbocharged Group 5 version.

As a result, the performance of a car and the achievements of a manufacturer do not depend on the number of cylinders you have. Rather, everything depends on what the manufacturer gets out of those cylinders. From this perspective, therefore, BMW had no reason to introduce a V-8 or a V-12.

V-12: Fascinating but too expensive.

The fascinating thing about BMW's V-12 power unit is its perfectly-balanced torque curve and complete running smoothness right up to maximum engine speeds. These advantages, however, are inseparably linked with a number of disadvantages: considerable weight, large dimensions, high production costs, and complicated service and maintenance. And since the environment requires optimum fuel economy and relatively light engines, particularly in the future, the 12-cylinder concept does not provide the solution we and the world are looking for.

V-8 versus inline 6-cylinder:
A comparison of fundamental characteristics.

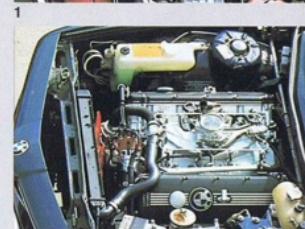
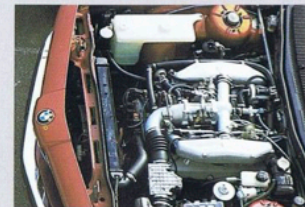
In the improvement of the characteristics of car engines, there is a large and important step up from 4 to 6 cylinders. In contrast, there is only a minor difference in driving characteristics between an inline 6-cylinder and a V-8 engine. So there are not any technical arguments in favour of the two extra cylinders. On the contrary: only the inline engine can be mounted at an angle that provides ample space for the fuel input system and thus guarantees good and powerful torque.

The inline 6-cylinder power unit:
The perfect basis for the technologies of the future.

With increasingly stringent exhaust emission laws, the inline 6-cylinder will offer essential advantages. As an example, the inline engine lends itself to the use of a lambda probe far better than does a V-engine. Another very important point is that the inline engine can be fitted far more easily with a turbocharger. These advantages of the inline 6-cylinder concept thus ensure a high standard of progressiveness and guarantee that this concept offers the best solution for the future.

In future, car engines will be measured by the yardstick of reality. And as soon as efficiency becomes the sole criterion, there can be nothing better than an inline-6-cylinder power unit.

The BMW inline 6-cylinder engine is more than just a first-class power unit for luxury cars. Its principal asset is that it fulfills all the requirements of the future.





BMW 735i
Optional extras: headlight wiper/washer system, steel sliding/vent roof

BMW 735i – a sporting engine concept and its road to success.

BMW's famous 3.5 litre racing engine has been extremely successful – not only on the race track. To an ever-increasing extent, therefore, it has become the basis for a fascinating standard of sheer driving pleasure on normal roads. BMW use this 3.5-litre racing engine not only for the two normal-

aspiration versions of the M1, but also for the BMW 635 CSi coupe, where it develops an ample 160 DIN kW (218 BHP). And this 6-cylinder inline power unit also provide a new standard of sporting and comfortable motoring in a luxury-class saloon: the BMW 735i.

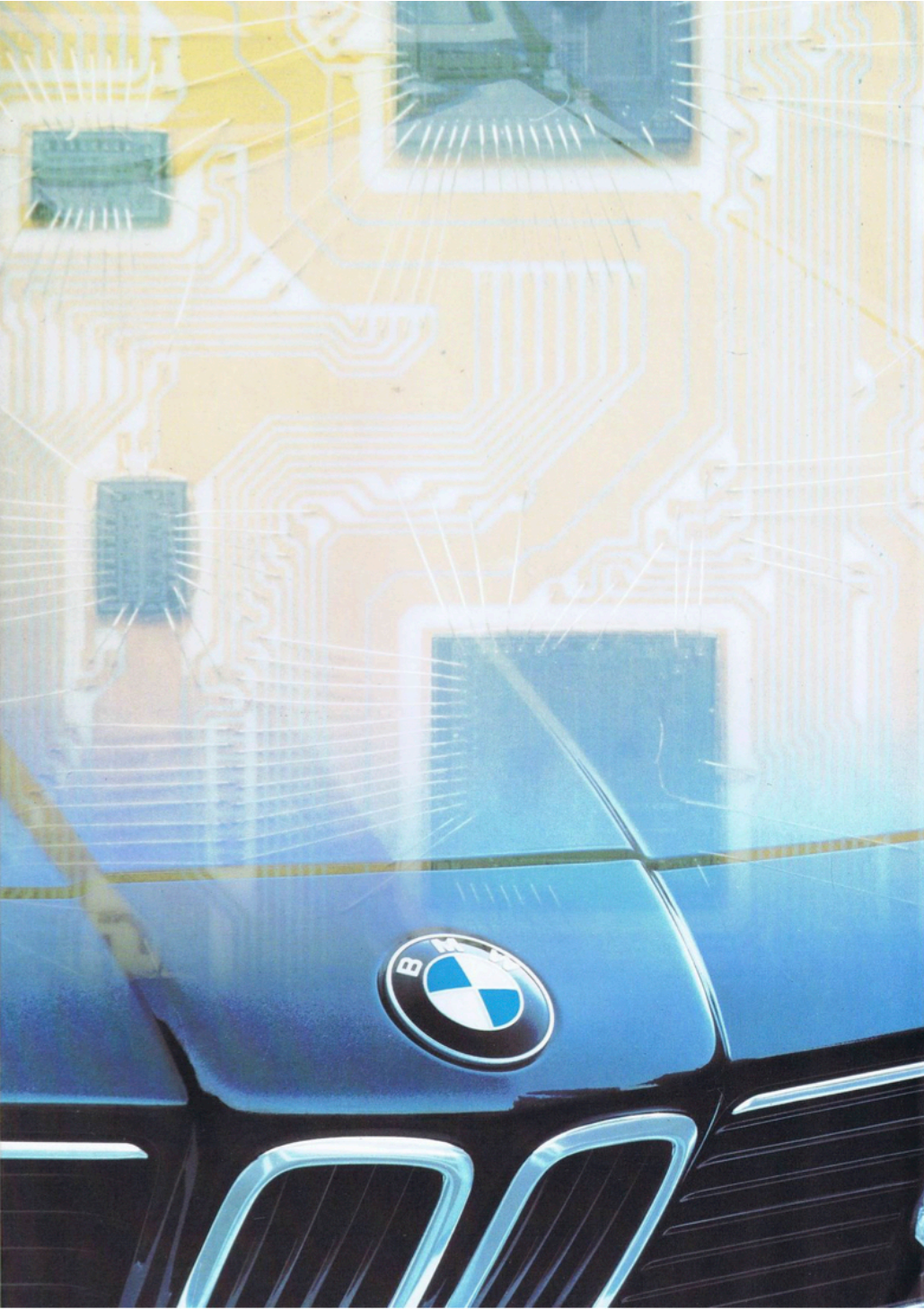
The BMW 735i is nevertheless far more than just a well-known saloon with a powerful engine. Rather, it possesses an entirely new concept that offers an outstanding combination of highly superior performance on the

one hand, and luxurious comfort on the other: Careful balancing and tuning of all components throughout and the integration of the improved Digital Electronic System with an additional injection control programme for optimizing the supply of fuel. As a result, fuel consumption is reduced considerably to an even lower level. The torque-to-speed ratio of this engine is further enhanced by the standard 5-speed gearbox with an overdrive-type 5th gear. The relatively

low speeds at which the engine provides its maximum output and maximum torque and the unusually wide revolution range over which a very high torque is maintained, are an ideal match for this gearbox and provide exceptional motoring comfort even at top speed. As an alternative to this 5-speed gearbox, the BMW 735i may also be fitted with a close-ratio 5-speed sports gearbox or a 3-speed automatic transmission, both of which are available as optional extras.

The BMW M1 is one of the few sports cars that really deserves the attribute 'sports', for it has been conceived and designed as a genuine racing car for motor sport. Following design principles that constitute the highest level of race engineering, each part and component is built to the toughest and most stringent standards. The best example of this concept of concentrating on the essential is the 3.5-litre 6-cylinder inline power unit: an extremely 'oversquare' 24-valve engine

that guarantees maximum power and performance due to its optimum fuel supply and combustion process. While this engine therefore offers the same fuel/air throughput as a 12-cylinder double-valve engine, it is far superior in terms of low weight, minimum frictional losses, smaller dimensions, and greater fuel economy.



the accelerator pedal even at low running speeds, in other words considerably improved engine flexibility. This enables the driver to run the car at low speeds in top gear, thus contributing to fuel economy.

– Automatic shut-off of the fuel supply when coasting down to a speed of 1200 rpm – another contribution to fuel economy.

– Further reduction of consumption by minimizing the fuel enrichment at full throttle as a function of engine speed and the pinking limit.

– Excellent fuel-saving starting and warming-up characteristics due to the optimum setting of the ignition advance angle also for starting.

– Optimization of the ignition advance angle under extreme driving conditions (e.g. stop-and-go driving in very hot weather or operation of additional equipment such as the air conditioner) to provide perfect engine cooling.

– Stable idling characteristics – a particularly important asset in the case of cars fitted with automatic transmission.

– No mechanical drive components and, as a result, no wear and tear.

– Complete freedom of maintenance, since the ignition timing remains unchanged throughout the engine's entire running life.

These benefits all underline BMW's concept of progress in the luxury car class: to use what we have more economically and more intelligently.

Two sensors serve to generate the impulses required by the Digital Electronic System; by means of a reference point on the flywheel, the first sensor determines the position of the pistons, i.e. the current firing order. The second sensor, in turn, determines engine speed by counting the rotation of teeth segments on the starter gear (1). A prerequisite for the introduction of this extremely progressive system, developed jointly by BMW and Bosch, was the electronically controlled L-Jetronic fuel injection that provides an accurate measurement of the air intake volume: without the L-Jetronic, there would be no Digital Electronic System. Now, the new system also controls the L-Jetronic fuel injection process.

The principal feature of the Digital

Electronic System is that it replaces linear ignition advance angle control, which is the only control function that conventional transistorized ignition can provide, by an extremely accurate three-dimensional ignition advance angle control grid. This control grid is subdivided into 16 throttle positions and 16 engine speed positions, thus providing a total of 256 memory points. And each of these points can be determined individually to provide an optimum combustion process. An additional computer programme then allows an interpolation with the 8 adjacent throttle and engine speed positions, which, in effect, means an individual – and thus optimal – ignition advance angle calculated and checked anew after each engine revolution.

Efficiency perfected: The second-generation Digital Electronic System.

The BMW 735i features the second-generation Digital Electronic System: The ignition advance angle control grid of this system is geared to a second, so-called mixture control grid (fuel: air mixture) based on the same 256 memory points. The duration of injection is therefore further adjusted by the mixture: In addition to ideal ignition timing, this second-generation Digital Electronic System is also able to control the injection time and, accordingly, the fuel: air ratio. By making this ratio leaner or richer, the system guarantees an optimum mixture at all engine speeds and under all loads. As a result, the second-generation Digital Electronic System reduces fuel consumption again quite considerably, provides a further reduction of exhaust emissions, and ensures a perfect response of the 3.5-litre engine combined with outstanding running culture even at low engine speeds.

A special mixture control grid which provides an even leaner fuel/air mixture has been developed for the automatic-transmission version of the BMW 735i. This control grid uses the merits of the automatic transmission – the hydraulic torque converter keeps the engine running smoothly in bumper-to-bumper and slow city traffic – to compensate any additional fuel consumption and even provides greater economy in city traffic than a manual-gearbox version.

Electronics BMW-style: A comprehensive System.

The diagram (2) shows the concept of this ultra-modern technology and its consistent application in the BMW 7 Series cars. This concept is able to fulfill the following fundamental requirements: –

– Electronics provide important information and take over routine jobs.

– Electronics provide a higher standard of economy and protect the environment.

– Electronics increase road safety.

– Electronics improve driving comfort.

Electronics BMW-style: Innovation all the way.

● Digital Electronic System (A): An optimization of engine performance thanks to the setting of the ignition advance angle (standard from the BMW 732i) and the additional mixture control grid (735i).

● Automatic speed control (B): An electronic accelerator pedal in conjunction with the automatic transmission (optional extra).

● ABS (D): The BMW anti-lock braking system (optional extra).

● Check Control (E): The guarantee that all systems are working perfectly (standard from the BMW 732i).

● Automatic self-levelling system for the rear suspension (F):

A system that always keeps the car in a perfect horizontal plane (optional extra).

● Automatic screen wash/wipe (G): Perfect visibility at your fingertips.

● Headlight wash/wipe (H): The guarantee for a powerful headlight beam (optional extra).

Automatic air conditioner (I): Keeps the interior temperature at the pre-selected level (optional extra).

The new BMW 732i and 735i are the result of careful improvements and consistent refinements introduced on the basis of the BMW 733i. The engine has been revised for the use of the Digital Electronic System and the exhaust has been optimized to provide even better results. The engine offers numerous economic benefits coupled with optimum performance and power characteristics. And the Digital Electronic System naturally represents the highest standard in automobile sophistication achieved so far: the car responds instantly to the accelerator pedal, particularly at low engine speeds, and has a perfect torque curve. This, in turn, signifies a considerable improvement in engine flexibility.

The three-dimensional ignition advance angle control grid is a perfect match for the famous spherical BMW combustion chamber, which provides an optimum flow of the fuel/air mixture and perfect combustion. This combustion chamber, which has been derived from the BMW hemispherical swirl-action combustion chamber, thus guarantees an optimum combustion process, a powerful torque, and a very low rate of exhaust emissions (3).



BMW 735i
Optional extra: sliding/vent roof

The Digital Electronic System in the BMW 732i and 735i: a huge step into the future of automotive engineering.

Every motor car consists of an unusually large number of independent technical systems that have to be perfectly matched to fit together – systems, therefore, which require accurate and reliable control. By applying the most progressive and sophisticated achievements in electronic engineering, BMW have enhanced this control and information function to a new level hitherto unheard of: With the introduction of the Digital Electronic System, BMW hail the advent of a new era in the design and construction of combustion engines.

Today, every BMW incorporates numerous electronic components and systems which have the dual objective of making motoring safer and more comfortable and of helping the driver to respond quickly to any situation by relieving him of many routine functions. Now, with the introduction of the BMW Digital Electronic System, electronics are making an important contribution to the preservation of the environment and the economic use of energy on the roads of today and tomorrow.

The engine of the future must be a champion in many disciplines.

For reasons of safety it is imperative to maintain or even increase engine power, since only a car with adequate power can provide the manoeuvrability and agility required for obtaining maximum safety. At the same time the rate of exhaust emissions must be further reduced in order to preserve and indeed improve our environment to the greatest extent possible. And all these objectives must be reached more economically, that is with a smaller consumption of energy. It is obvious that all efforts made to provide progressive solutions that meet the needs of the future must be greater in the case of more sophisticated and powerful cars than in the case of smaller and less elaborate ones. And the BMW Digital Electronic System is the kind of progress that shows how electronics can provide an answer for the future while at the

same time avoiding compromises.

An optimization of performance according to the laws of the future.

The ignition advance angle of the ignition system is crucial to the performance of an engine and its running characteristics. The behaviour of the engine under various running conditions and at different speeds thus depends largely on the ignition advance angle. At the same time it is also crucial to fuel consumption, the degree of engine efficiency, and to the exhaust emissions.

The optimum ignition advance angle always differs according to driving conditions: Whenever there is the optimum ignition advance angle, there are also optimum running characteristics, optimum fuel economy, and optimum exhaust emissions. The problem, however, lies in the fact that even the smallest difference in engine speed and engine load requires a completely different ignition advance angle. So the more freedom there is in selecting the best ignition advance angle and the more parameters that can be taken into account by appropriate functions, the greater the improvements are in engine performance, economy, running smoothness, and exhaust emissions. And thanks to a high-speed computer that operates

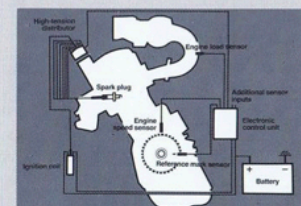
with extreme accuracy, the Digital Electronic System always provides the best ignition advance angle from an incredible range of different possibilities.

From data acquisition to data processing.

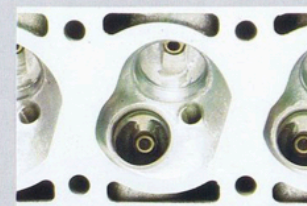
In simple terms, the System consists of a micro-computer that recalculates the optimum ignition timing – the ignition advance angle – after each ignition/combustion phase. The computer performs this calculation on the basis of various data it receives, – such as engine speed, the position of the pistons relative to firing order, the position of the throttle butterfly, and the air intake volume and temperature. All these data are then processed and analysed by the computer, which then takes the optimum decision as a function of running conditions.

The Digital Electronic System therefore offers the following principal benefits:

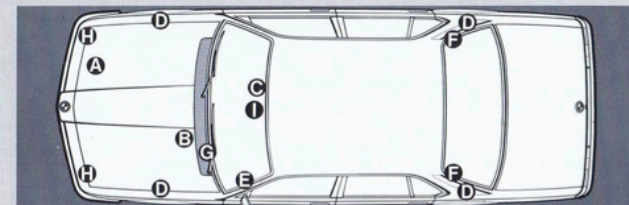
- An optimum compromise between low exhaust emission and extremely good fuel economy.
- Operation of the engine just below the pinking limit, where the fuel/air mixture becomes too lean.
- Perfect response of the engine to



1



3



2

Optional extras: automatic transmission, BMW Bavaria cassette stereo reverse radio with automatic sensor for road traffic news, leather steering wheel; electric window lifts front and rear, front passenger's seat adjustable for height and angle



The large BMWs:
Among the best cars in the world, these cars have the most unique concept you will find.

Manufacturers of exclusive motor cars have to conduct intensive and elaborate research in order to improve design concepts that are already outstanding and provide an optimum standard of quality. But while these manufacturers all have roughly the same know-how and technologies at

their disposal, the results of their efforts – the cars they build – are certainly not the same. Perhaps, however, this difference is due to the difference in mentality of these manufacturers' customers – and the fact that they have different opinions on the role of the driver within the man/machine system.

Because BMW cars have always been preferred by drivers who demand manoeuvrability and performance on the road. And since BMW regard the driver as the leading element within the man/machine system, we concentrate our research on designing and constructing cars that are a perfect

match for the driver in every respect. At the same time, the large BMW incorporates the latest findings in modern safety research: The entire concept keeps the driver in close touch with his environment and relieves him of all routine jobs. As a result, the driver and his passengers benefit from an opti-

mum standard of safety, fatigue-free motoring conditions, and absolute comfort on the road.

Try out the large BMW for yourself. Because sitting in the cockpit of a BMW, you will experience this concept and its fulfillment the minute you take the wheel.

The concept of the man/machine system. Draws another distinction between the large BMW and other technically outstanding cars.

In introducing technological innovations and refinements, BMW's first and foremost objective is to support the driver and relieve him of all routine jobs. This does not mean, however, that the car should be over-automated and the driver reduced to the role of a passive dummy. For one of the greatest risks in motoring is monotony. If the stimuli that attract the driver's attention are subdued because the driver is sealed off from his environment or just sits at the wheel without performing an active role, the driver's senses and his "feel" for motoring will start to decline. He will start to overlook traffic signs and signals and he will take longer to recognize obstacles and obstructions. His response will become slower and his driving skill will degenerate, as it does when the driver is tired after many hours of motoring.

BMW's progressive concept of automotive engineering therefore has two primary objectives: first, to systematically support the driver and relieve him of routine jobs. Second, to keep the driver in touch with his environment and to make sure he is not sealed off from what goes on around him by a car designed merely for exaggerated comfort and nothing else.

The passenger compartment:
Designed and developed to provide a genuine Life Preservation System.

One of our objectives in optimizing the large BMWs is consistently to refine and perfect the entire passenger compartment. The uncompromising, driver-orientated, and ergonomically designed passenger compartment therefore sets entirely new standards. The BMW cockpit has received prizes for outstanding design and styling and has also set a new, progressive trend in the philosophy of motoring through its discreet and functional appearance. And now BMW's designers have once again increased this lead and brought the BMW cockpit up to a new standard.

Vision and visibility

Quick actions and reactions require perfect vision and visibility. This is why, proceeding from the level of the driver's eyes (1), the driver's line of vision to the front and sides (2), through the interior and exterior driving mirrors, and to the instruments and control systems has been optimized to a new standard of perfection.

Seat and steering wheel adjustment

The positions of the steering wheel and pedals on the large BMW can be adjusted to meet the requirements of each individual driver (3). The steering wheel adjusts axially (4) and the driver's seat can individually be adjusted in all directions: the seat allows for simple and convenient backward and forward adjustment, and it can be adjusted for rake and height (height adjustment by 1.4") (5). This always guarantees the best seating position to avoid fatigue and keep the driver in perfect control. As an optional extra, the front passenger's seat may also be adjustable for rake and height.

Pedal arrangement

The arrangement and operation of the pedals has also been optimized to guarantee smooth and effortless control. This allows a very fine application of pedal pressure even over long distances and keeps the driver free from fatigue (6). The clutch pedal is fitted with a dead centre spring that considerably reduces pedal and holding forces and allows the driver to operate the clutch smoothly and accurately.

Seat quality

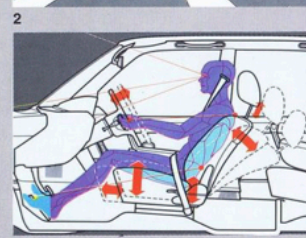
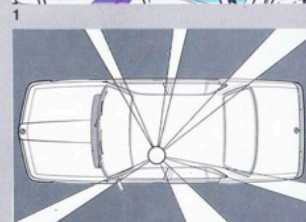
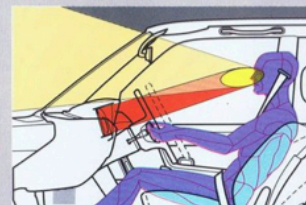
Thorough safety research conducted by the car industry and neutral institutes has shown that the seats are always an essential element within a car's passive safety system. In introducing the 7 Series models, BMW have considerably improved the design of the seats, thus ensuring an optimum standard of seat safety and comfort unparalleled by conventional standard-production cars.

The backrest supports the entire back of each passenger and provides the best possible distribution of pressure and holding forces. Lateral stability has been optimized by in-

creasing the body contour of the backrests, while at same time the thigh support area has been enlarged (7). The seat springs, vehicle suspension, and shock absorbers have naturally been carefully matched to act together in providing maximum comfort. Knee room on the rear seats is more than ample even for the most demanding passengers.

In conjunction with the improvement of the front seats, we have further refined the three-anchor inertia-reel seat belts: the anchorage points of the seat belts are now built into the seats themselves both on the inside and the outside (8). This considerably enhances the standard of safety in the event of a collision: the belts are always kept in an optimum position and provide perfect belt geometry for all body sizes and seating positions.

Head restraints on the front seats with individual adjustment for height and angle are fitted as standard (9).



The built-in heating either for the driver's seat alone or for the driver's and front passenger's seats, which is available as an optional extra, is operated by a switch on the centre console.

The heating, ventilation, and air conditioning system of the large BMW will give even the most demanding motorist maximum satisfaction. Based on thorough research into interior air flow, the large BMW features a highly refined and individually adjustable heating and ventilation system for the front and rear seats. This guarantees draught-free fresh air zones at face level and warm air zones around the body (10).

The air distribution of the heating and ventilation system is controlled by six push buttons (or seven push buttons with the optional air conditioning) and two horizontal selector wheels for the air temperature and blower volume (11). Air flow can therefore be

controlled individually by five push buttons: for defrosting, air flow up, air flow down, air flow to the rear, air flow through the central nozzle in the instrument panel. The open/closed button allows the driver to switch off the air supply completely, for example when driving in very congested traffic.

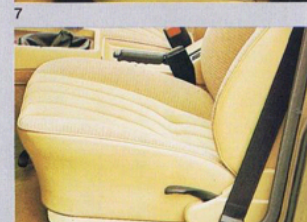
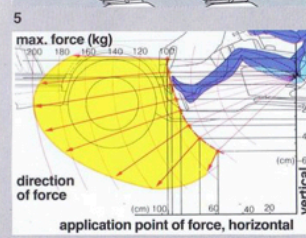
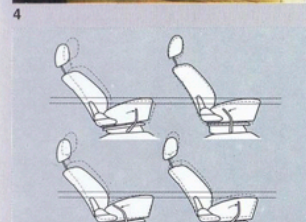
Due to their ergonomic improvements, these new heater controls offer the following important advantages: ease of operation and very clear air distribution, clear instrument and control readings, rear seat heating and ventilation separated from the front seat system. All the control buttons are of course illuminated and have their own on/off lamps to provide maximum clarity at night.

If the car is fitted with air conditioning (optional extra), the 'smog control button' automatically switches the air conditioner to interior air circulation, thus providing a constant air flow inside the car without drawing in air

from the outside. The defroster button interrupts all the other functions and automatically switches the blower to maximum output.

Automatic air conditioner: the automatic air conditioner developed by BMW combines the functions of the heating and air conditioning. Its electronic control unit guarantees that the predetermined interior temperature and air distribution will be controlled automatically irrespective of weather conditions.

The front side windows are defrosted by direct air flow nozzles in the front doors (12). This air flow also provides a pleasant temperature in the elbow and shoulder area.





BMW 735i
Optional extras: electric window lifts front and rear,
BMW Bavaria cassette stereo reverse radio with
automatic sensor for road traffic news, 5-speed sports
gearbox



Progressive engineering designed to give the driver greater freedom of action.

The power steering, with a degree of power assistance that varies in relation to engine speed, makes an important contribution to motoring pleasure both at low and high speeds. This power steering, which is fitted as standard on all models, provides relative power assistance geared to engine speed by the amount of hydraulic fluid that is allowed to flow through the servo pump. This gives maximum assistance when parking and thus enables one to steer the car with two fingers, while assistance is then progressively reduced as engine revolutions, and the speed of the car, increase. In this way the direct 'feel' of the steering – and thus of the road – is preserved at all times, even when the

car is travelling at high speed and just requires minor corrections of the steering wheel.

For the driver who wants the assistance of the best co-pilot modern automotive engineering can offer: the BMW automatic transmission.

Due to the increasing stress of driving in congested traffic, motorists are now required more than ever before to use their skills and abilities rationally and economically. And this is where they can be helped by progressive engineering: as an optional extra, the 728i, 732i and 735i may be fitted with automatic transmission. As a result, it can reduce the psychological and physiological stress of motoring in city traffic by about 25%.

The BMW automatic transmission is perfectly integrated into the entire drive system and therefore provides a perfect match with the torque curve of the large BMW engines. The automatic selection of the best gearratio reduces engine speed and, consequently, the noise level for the driver and his environment. At the same time it minimizes mechanical wear throughout the entire power train, thus ensuring an even longer engine life and less tyre wear.

Particularly in stop-and-go city traffic, the optimum selection of gears by the automatic transmission may also reduce fuel consumption.

Since it also allows the driver to start smoothly on uphill gradients, the BMW automatic transmission offers particular merits when the car is towing a trailer.

A perfect interior which leaves nothing to be desired.

The large BMWs are carefully and consistently improved both outside and inside: All their standard features and optional extras are thus always kept up-to-date. In conjunction with the new paintwork colours introduced for all the 7 Series models, we have therefore also developed new interior colours that harmonize perfectly with the paintwork. Thus, there is the choice of selecting similar matching colours or a distinct colour contrast.

Even the 'basic' model in the outstanding 7 Series range, the BMW 728i, guarantees a considerable improvement of all-round comfort in addition to its thoughtful design and engineering.

The seat covers with tufted nylon

upholstery in the middle and tufted nylon side strips in matching tones, provide an even more pleasant and luxurious atmosphere inside the car (1). The door linings have a padded frame on all sides with centrepieces again made of tufted nylon. Leatherette seats are now available in five colours for all the large BMWs. Leather seats are available for the BMW 728i in five colours, with two additional and highly exclusive colours being available as optional extras from the BMW 732i.

All the large BMWs from the 732i have extra-thick velour wool seat covers and striped side panels to match the thick velour carpets in the foot well and on the rear shelf (2). The door cappings of the BMW 7 Series are finished in the finest quality walnut.

The doors of the BMW 728i and 732i are finished round the edges in the finest quality walnut (3) with additional chrome strips on the 732i:

Soundproofing at its very best.

The large BMW excels by achieving very low noise levels, even when measured by the demanding standards applicable to luxury saloons. This highly effective soundproofing is provided by the specially designed rubber engine mounts; by the particularly elaborate gearbox suspension and the exhaust system, which helps to reduce the noise level considerably in addition to its primary purpose of maximizing the power of the engine. These consistent measures for reducing the noise level are then further supplemented by the single-piece floor cover and roof lining (from the BMW 732i, unless the car is fitted with a steel sliding roof).

The overdrive-type 5-speed gearbox helps not only to reduce fuel consumption at high speeds, but also makes the ride far more comfortable by minimizing the noise level inside the car. The synchromesh reverse gear – fitted as standard on the BMW 735i – allows the driver to shift to reverse quickly and silently. This gearbox is incidentally available as an optional extra for the BMW 728i and 732i. The 4-speed manual gearbox automatically brakes all rotating parts, thus allowing quick and smooth parking thanks to the fast-response and silent gear shift also when moving to reverse. And for the sporty driver, the sports-tuned 5-speed gearbox can also be provided as an option for the BMW 728i-735i.



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**The BMW 735i:
ultimate perfection also in the
interior.**

Starting with the BMW 735i, the class and calibre of the large BMW Series is enhanced to an even higher level of perfection. Two ingredients that go into this perfection are the brown tinted glass (1) and the light-alloy wheels (2), both fitted as standard. Then there is the further refinement of the interior through the lavish use of specially selected wood cappings on the doors, along the instrument panel, and round the ashtray (3). This wood is specially chosen for the quality of its grain and receives further treatment to provide a perfect finish. The exclusive character of the car is then also underlined by the leather gear knob (3) and the leather-rim steering wheel (4), which is available as an optional extra for the BMW 728i/732i.

The added comfort and safety of a central locking system also comes as a standard feature with all the BMW 7 Series; the four doors, the luggage compartment, and the fuel tank filler cap are all locked and unlocked electrically. Thanks to the low power consumption of this electrical locking mechanism, it can be used almost indefinitely from the driver's door, the front passenger's door, and the luggage compartment lock, even when the engine is not running. To provide additional safety, the central locking system is also combined with an emergency switch designed to unlock the doors automatically in the event of a collision, thus allowing them to be opened from the outside.

In addition to the windscreen washer/wiper system, the 735i is fitted with a separate intensive cleaning system with a special cleaning agent as standard equipment. This allows the removal of stains and other spots, which cannot be removed with normal water but greatly obstruct visibility through the windscreen and cause a dazzling effect at night. With the help of a special pump fitted in front of the washer jets, the cleaning agent is added to the normal water flow simply by a separate stage on the standard windscreen wiper control stick.

The interior light incorporates a time relay that keeps the light on for 12 seconds after the driver and his passengers have got in. This allows the driver to insert the ignition key before the light goes out.

The foglamps (5) integrated in the front spoiler (which is made of a

material which returns to its original shape after minor impacts) and the heated exterior mirrors (6) are both fitted as standard: the rear side of the mirrors is automatically heated as soon as the ignition is switched on. This guarantees that the mirror will not mist or ice over in extremely cold weather, for example after a layer of ice has just been removed.

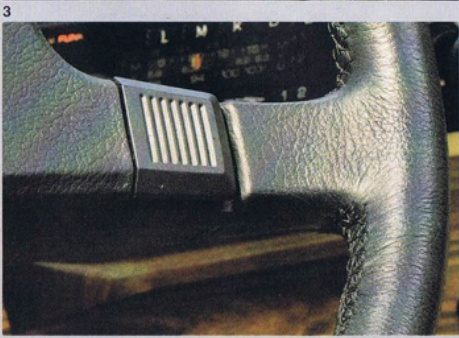
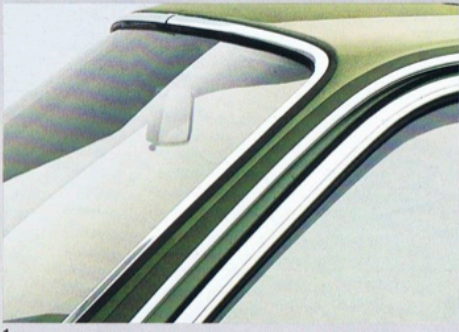
The BMW 735i has a heated lock on the driver's door fitted as standard. Depending on the outside temperature, a heating coil will heat the lock for 10-60 seconds after the door handle has been raised.

The main key incorporates a micro-torch which helps the driver find the door-lock. To switch on the torch merely press the top of the key.

BMW perfection goes right down to the very last detail: the vanity mirror (8) has anti-dazzle illumination from all sides, the luggage compartment carpet has leatherette strips round the edges, and the loudspeaker covers match the interior colour.

In conjunction with the automatic transmission, the 7 Series BMWs may also be fitted with automatic speed control (7).

This special control system, which comes as an optional extra, guarantees speedy and economic motoring at the same time. All the driver has to do to keep the car going at a predetermined speed is press a button. The electronic control mechanism then takes over and the driver can take his foot off the accelerator pedal – even if the car is running against the wind or going up a slight gradient. Depending on traffic conditions, the driver may naturally apply the brakes or accelerate whenever necessary, even with the speed control operating.



Interior comfort BMW style:
standard equipment or as an
option.

The BMW 728i and 732i are very comprehensively specified, however the BMW 735i has an even more impressive specification list, including such features as the 5-speed 'economy' gearbox, to provide the ultimate in driving pleasure.

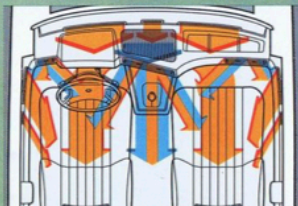
An air conditioning system (1) is also available as an optional extra and guarantees comfortable interior temperatures in all kinds of weather. An important characteristic of the air conditioner available for the large BMW is that it is fully integrated into the overall heating and ventilation system, thus providing a cold air flow through all the warm and fresh air outlet nozzles (2). Since the heater and the ventilation of the large BMW can be controlled individually for the front and rear seats, this full integration of the air conditioning system is a particular advantage.

The BMW 728i may be fitted with electric windows (3) as an optional extra, and low-profile tyres on BMW light-alloy rims are also available. The window control buttons are on top of the transmission tunnel.

Forged light-alloy rims (4) are standard on the BMW 735i and available as options on the BMW 728i and 732i.

The large photo shows the BMW 735i with various optional extras:

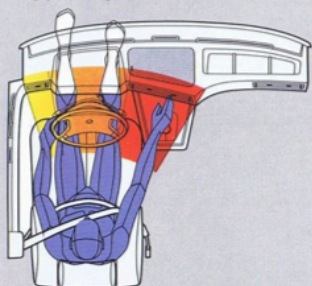
sliding/vent roof, cassette stereo
radio.





Driving efficiency and road safety depend primarily on the degree of perfection provided by the man/machine system.

BMW has always been convinced that one of the responsibilities of an automobile manufacturer is to optimize the human element in the man/machine system by providing the perfect car. The objective, therefore, is to design a car that not only supports the driver, but is also able, by reaching the highest standard of technical perfection, to correct mistakes the driver may possibly make.

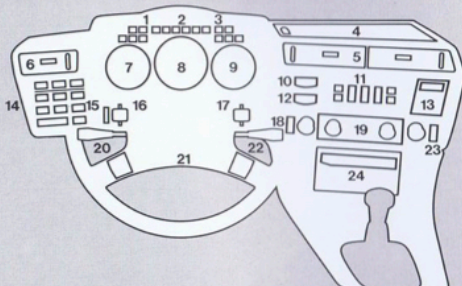


The BMW cockpit: An example of how the driver's freedom of action can be improved.

Superior action and fast reaction at the wheel require a system of perfectly integrated controls and instruments designed and built to complement each other. Because only such a system can really facilitate the process from recognition to reaction. To achieve this objective, the cockpit, controls and instruments of the large BMWs have been optimized according to the latest ergonomic research findings. This quickly gives the driver the typical BMW routine in handling and controlling his car, thus allowing him to master his vehicle without problems and to keep his full attention on the traffic around him.

Thanks to the functional arrangement and logical design of all the instruments and controls, errors in grasping information and operating the controls are precluded from the very beginning. The concave instrument panel is angled

1. Display area with indicator lamps for the direction indicators, rear fog warning light, and (728i only) brake pad wear.
2. Indicator for showing the position of the automatic transmission selector lever, with daylight/night illumination control (automatic transmission only).
3. Display area with indicator lamps for headlights on high beam, handbrake on (indication of the brake fluid level at the same time), and foglamps on (fitted as standard on the BMW 735i).
4. Fresh air and mixed air outlet grills for the face area: infinitely adjustable from ON to OFF by the air-flow selector wheel.
5. Two fresh air and warm air outlet grills to provide a direct airflow to the driver's body.
6. Fresh air and warm air outlet grill, with two additional grills on the front passenger's side. These five grills can all be adjusted individually in a horizontal and



- vertical direction and may also be switched on and off separately (5/6).
7. Fuel and coolant temperature gauge with warning lamps for fuel on reserve and coolant temperature too high.
8. Electronically controlled speedometer. A special sensor in the final drive provides an exact indication of road speed and the distance covered.
9. Rev counter with battery charge and oil pressure warning lamps.
10. Rotary knob for operating the quiet, high-output four-speed blower (positions 3 to 6), with a special indicator lamp to show when the blower is operating. This knob also serves for controlling the air flow volume (positions 1 to 3).
11. Air distribution push buttons (from left to right): smog button for switching off exterior air supply altogether, windscreen defroster, central nozzle in instrument panel, top and bottom air outlets, rear seat air supply nozzle.
12. Rotary knob for warm air/fresh air temperature control. With the BMW air conditioner fitted, this knob also serves to control the temperature of the cold air and check the warm and cold air supply. Next to this knob is the compressor switch for the air conditioning with a blue control lamp.

13. Digital clock (Fig. 3) with adjusting points for setting the hours and minutes and a push button that provides a digital time display also when the ignition key is not turned. Illumination of this digital clock varies according to daylight/electric light intensity.
14. Warm air duct for heating the front doors and defrosting the side windows.
15. Check Control fitted as standard from the BMW 732i: A special control system for checking the most important vehicle functions via a test button and with the ignition key turned. The green indicator lamps signify that everything is in good working order.
16. Toggle switch for parking and driving lights. The different intensity in the illumination of the symbols indicates which lights are currently switched on. Infinite adjustment of instrument panel illumination.

17. Toggle switch for rear fog warning light and foglamps, fitted as standard on the BMW 735i. The different intensity in the illumination of the symbols indicates which lights are currently switched on. Interior light switch.
18. Push-button for the heated rear window with control lamp to indicate operation.
19. Various radios available as an optional extra: stereo radios with balance control on the left for loudspeakers at the front and in the rear.
20. Control stalk for direction indicators, headlight flasher, and main beam.
21. Fully foam-padded 4-spoke safety steering wheel with adjustment for reach, large central boss, and with four horn buttons (on the 735i with leather-covered rim).
22. Control stalk for two-speed windscreen wipers, intermittent wipe, and automatic wash/wipe (with additional control function for intensive cleaning action on the 735i).
23. Push button for the hazard warning flashers with identification light and control lamp.
24. Illuminated ashtray designed for maximum safety.

BMW 735i
Optional extras: heated driver's and front passenger's seats, automatic air conditioning, BMW Bavaria cassette stereo reverse radio with automatic sensor for road traffic news, automatic transmission





towards the driver and thus allows him to reach all the controls comfortably, quickly and safely. The instruments and controls are illuminated by special anti-dazzle orange lights, the intensity of which may be varied as the driver desires.

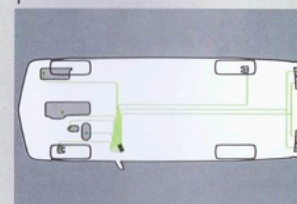
BMW have already started conquering the future: Electronic equipment does the routine jobs.

To relieve the driver of motoring stress and to provide an even higher standard of economy, environmental protection, road safety and comfort, BMW have already started with the extensive use of electronic equipment in cars designed for the present and the future.

A trend-setting example of this revolution is the BMW Check Control (1) introduced in the BMW coupe in 1976.



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And now this control system is fitted as standard in the large BMW starting with the 732i: simply by pressing a button, the driver can check seven important vehicle functions within seconds.

Without having to walk round the car or open the bonnet, the driver therefore knows before setting out that his car is 100% functioning and ready for operation. It is obvious that such a simple test procedure ensures that motorists will check their cars more regularly and, therefore, consistently.

The BMW Check Control checks the engine oil level (only with the engine switched off, so that the oil can collect in the sump), the coolant level, the brake fluid level (in addition to the warning lamp in the instrument panel, which automatically indicates any reduction in the brake fluid level below the minimum mark), the water level in the screenwasher reservoir, brake pad wear (on the front left and rear right wheels), the correct functioning of the stop lights (for which purpose the driver must press down the brake pedal), and the correct functioning of the rear lights (with the main light switch on). If all systems are operating properly, the green 'all clear' lamp will light up as soon as the driver presses the test button with the ignition key turned. Should one of the lamps not light up, the system or function concerned is deficient or not operating properly.

The contact points (2) that actuate the system have been designed to guarantee an adequate reserve, thus allowing the driver to proceed to the next service station without problems.

With a BMW, greater efficiency always goes together with better styling.

Particularly in the luxury range represented by the large BMWs, the cars built by famous manufacturers are becoming increasingly similar in terms of quality. Nevertheless, there are also very important distinctions between the models you can buy in this class - distinctions not only of a technical nature, but also as regards styling and appearance. And this is where the large BMWs show a subtle but nevertheless very clear difference both outside and inside; the passenger compartment of the large BMWs also indicates that the concept behind these outstanding automobiles is

based on a different interpretation of top-class motoring. In particular it is the cockpit, the point of contact between man and machine, which proves that BMW cars are designed and built for the more imaginative people in our society. For people whose taste is far from being mundane; people whose concept of quality is not limited to mere technical functions and a long running life alone. People, therefore, who also attach great importance to aesthetic styling.



BMW 735i
Optional extras: reading lamps at rear on both sides;
electrical adjustment of individual rear seats

The New Concept Passenger Compartment

Whether you drive yourself or whether you are driven, the large BMW will always offer you and your passengers an optimum standard of interior comfort, spaciousness, and easy access through all doors (4).

Despite its active and dynamic driving characteristics, the large BMW nevertheless offers utmost sophistication and refinement throughout the rear seat area and thus makes being driven a particularly comfortable and relaxing pleasure.

Like the front seats, the rear seats have also been designed to the highest ergonomic standard. From the 732i, the rear seats of the large BMWs all have an individual body contour to provide complete seating comfort. As an optional extra, the rear seats may also be fitted with an electrical adjust-

ment mechanism that allows passengers to adopt a perfect position for resting or reading (5). Leather upholstery is naturally available as an option.

The BMW 728i has a bench seat with a slight, but not pronounced, body contour. Three-point automatic-recoil belts are fitted as standard for the outer seats, with a hip belt in the middle. The centre armrest (6) also houses the first-aid kit (which comes as standard equipment with the BMW 735i). Head restraints adjustable for height and rake (from the BMW 732i (7)), armrests with grab-handles, and roof grab-handles at the rear, are all fitted as standard.

The heating and ventilation system of the large BMWs can be adjusted and operated individually for the rear seat area. The warm and cold air flow has therefore been carefully studied and optimized not only for the entire passenger compartment, but also, and above all, to provide a perfect atmosphere and accurate temperature control for the rear passengers.

Air outlet grilles directed straight at the rear seats and adjustable both horizontally and vertically are fitted into the upper section of the transmission tunnel (8). An additional lever allows passengers to switch off the footwell nozzles at the sides, thus directing the full air flow at their bodies.

The air conditioning system, available as an optional extra, is fully integrated into the heating and fresh-air system and has thus been taken into account in the design and arrangement of the air flow ducts.

The heating wires in the rear window cover almost the entire window area. As an option, a laminated-glass rear window with almost invisible heating wires is also available.

Various radios (11), either in mono or stereo with cassette player are also available as optional extras. The rear stereo loudspeakers are housed directly in the parcel shelf (7).

Recaro seats with an adjustable thigh support and special upholstery to match the colour and pattern of the anthracite interior, are also available on the list of options. The perfect body contour and ergonomic design of these seats, as well as their excellent upholstery, guarantee fatigue-free driving conditions and add a particular touch for the sporting driver.

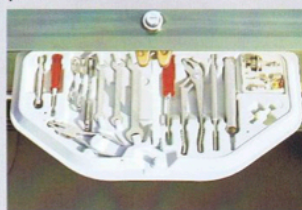
Another optional extra for the BMW 728i and 732i is the automatic headlight wash/wipe (9). Since even the best headlights will lose their effect under a dirty lens, this wash/wipe system provides a particular benefit: whenever the windscreen wipers and the headlights are switched on, the automatic headlight wash/wipe ensures that the headlight lenses will be cleaned at the same time. (Fitted in conjunction with the special cleaning system on the 728i/732i.)

A look inside the luggage compartment (1) shows the same standard of perfection and refinement. The luggage compartment has a special lining all round, a fully-carpeted floor, and, from the BMW 732i, a large toolbox (2) housed conveniently in the luggage compartment lid (optional extra: warning triangle).

The steel sliding roof (10), available as an optional extra may be operated either manually or electrically. In its elevated position, it avoids draughts and keeps the noise level very low even at high speeds.



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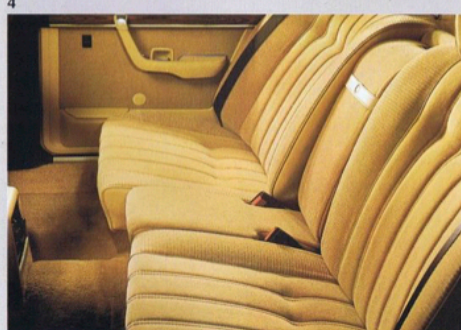
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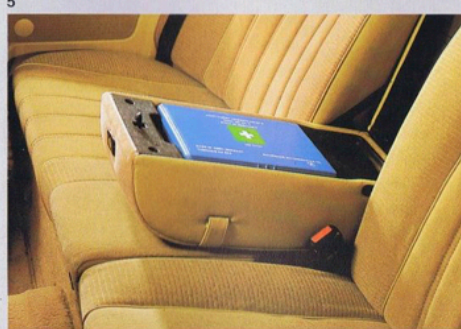
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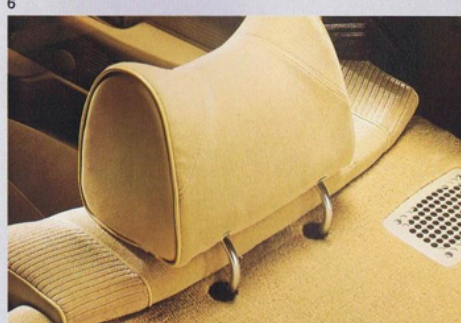
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9



10



11

Another element of the future: the chassis of the large BMW.

The BMW chassis, with its spring-strut front suspension and semi-trailing arm rear suspension, has already made a great name for itself as one of the world's safest and sportiest chassis concepts. In introducing the 7 Series BMWs, we have carefully revised and improved this concept to an even higher standard. As a result, the BMW chassis has entered completely new terrain in automotive engineering.

The chassis of the large BMW fulfills two seemingly contradictory objectives: it combines the excellent driving characteristics, performance, and, consequently, active safety of a sporting and truly dynamic competition car with the high standard of comfort of a genuine luxury saloon.

This outstanding achievement is provided, not least, by the specially developed and very sophisticated BMW double-joint spring-strut front suspension. The benefits offered by this system are improved lateral stability, even greater directional stability, insensitivity to bad roads, a small positive roll radius, and an anti-dip effect when the brakes are applied.

The BMW double-joint spring-strut front suspension is formed by two swivel joints placed one above the other to create an ideal pivot effect under all conditions (1/2). The crucial advantage, however, is provided by the extremely versatile system of steering kinematics and the highly variable camber angle.

Because improvements in driving safety need not necessarily imply disadvantages elsewhere, for example in terms of the steering characteristics. Considering the rear suspension design of the large BMWs, we have therefore chosen a small positive camber angle for the front suspension, which guarantees optimum driving and braking characteristics and, as a result, perfect road contact. At the same time, the small positive camber prevents the car from pulling to the side when the left and right wheels are running on different road surfaces, and it gives the driver the right kind of feel for the steering.

The ABS anti-lock braking system:
A revolutionary step taken by BMW to optimize the man/machine system (optional extra, in preparation).

Every BMW features a highly efficient braking system able to make full use of the BMW chassis and its perfect roadholding in all conditions.

Nevertheless, applying the brakes safely in emergencies also requires a lot of experience, quick reflexes, and a genuine feeling for how to brake properly. As soon as the car runs out of control when the brakes are applied too hard so that the wheels lock, it will follow its momentum and run straight off the road. And since the grip of the wheels on the road will then vary, the car will start to skid and lose its driving stability.

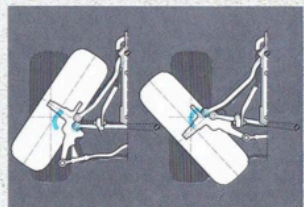
As a result, the driver cannot steer round obstacles in front of him, as the wheels, once locked, will not respond to the steering.

In association with Bosch, BMW have developed a braking system that makes full use of physical laws with the help of an absolutely reliable electronic/hydraulic brake control mechanism.

Not only does this mechanism operate more accurately, effectively and reliably than a human being ever could – it also guarantees that none of the wheels will ever lock, no matter how hard the brakes are applied.



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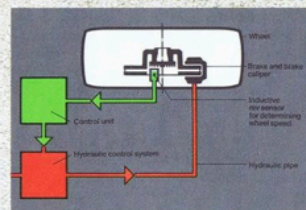
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In conjunction with the new suspension kinematics, the brake system of the large BMWs is able fully to cope with the power developed by the engine and can use the superior qualities of the chassis whenever necessary.

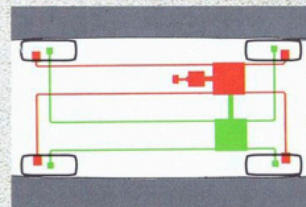
The diagonal twin-circuit brake system ensures that even if one brake circuit fails to operate, the full effect of the brakes will still act on one front wheel and the diagonally opposed rear wheel, thus preventing the car from swerving.

The large BMWs have four disc brakes (inner vented at the front) whose performance has been maximized with the help of special computer programmes conceived to simulate thermal requirements in extreme conditions.

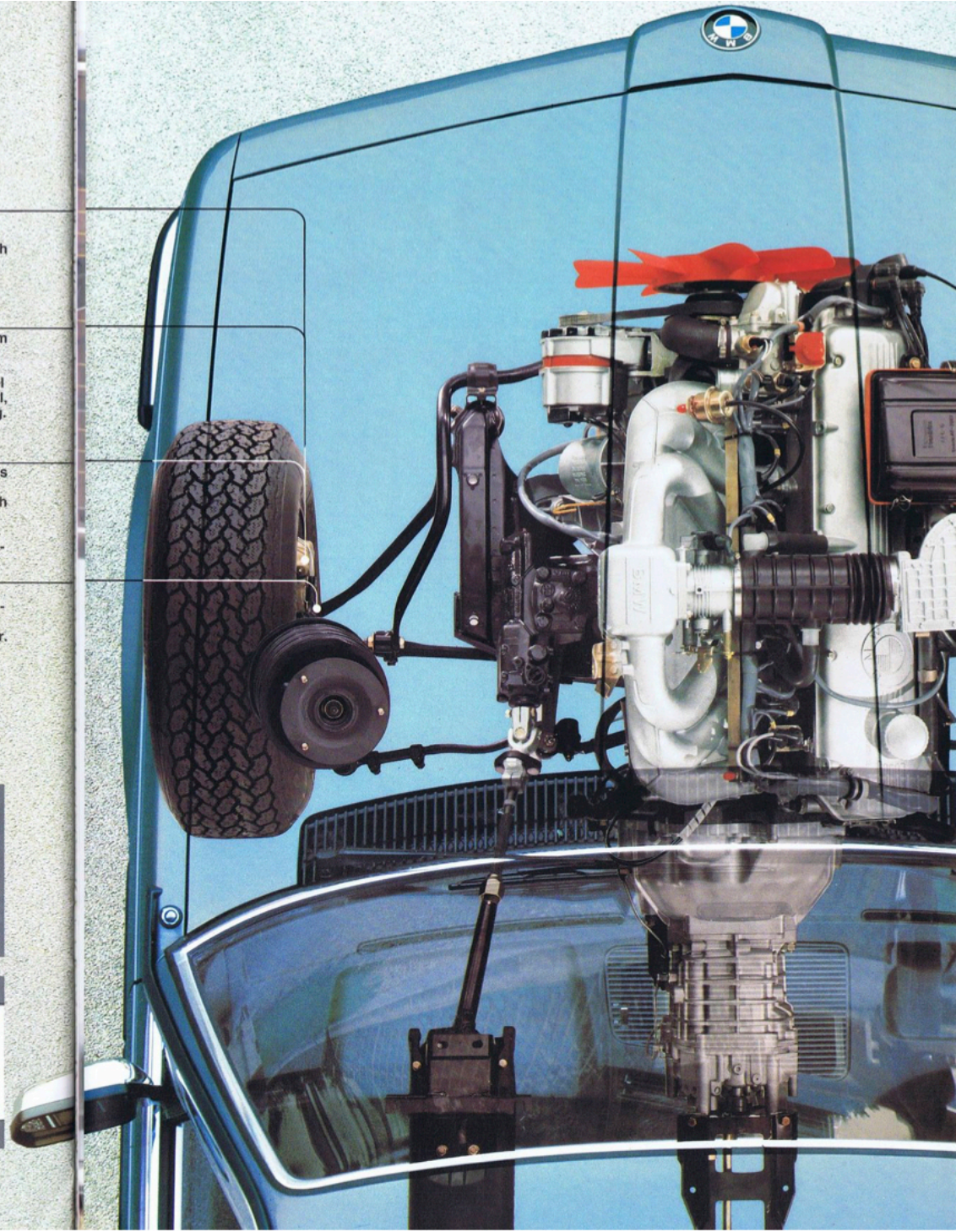
The BMW 728i has a sensor on the front left and rear right wheels to indicate excessive brake pad wear via a warning lamp in the instrument cluster. From the BMW 732i, this control function is performed by the BMW Check Control.

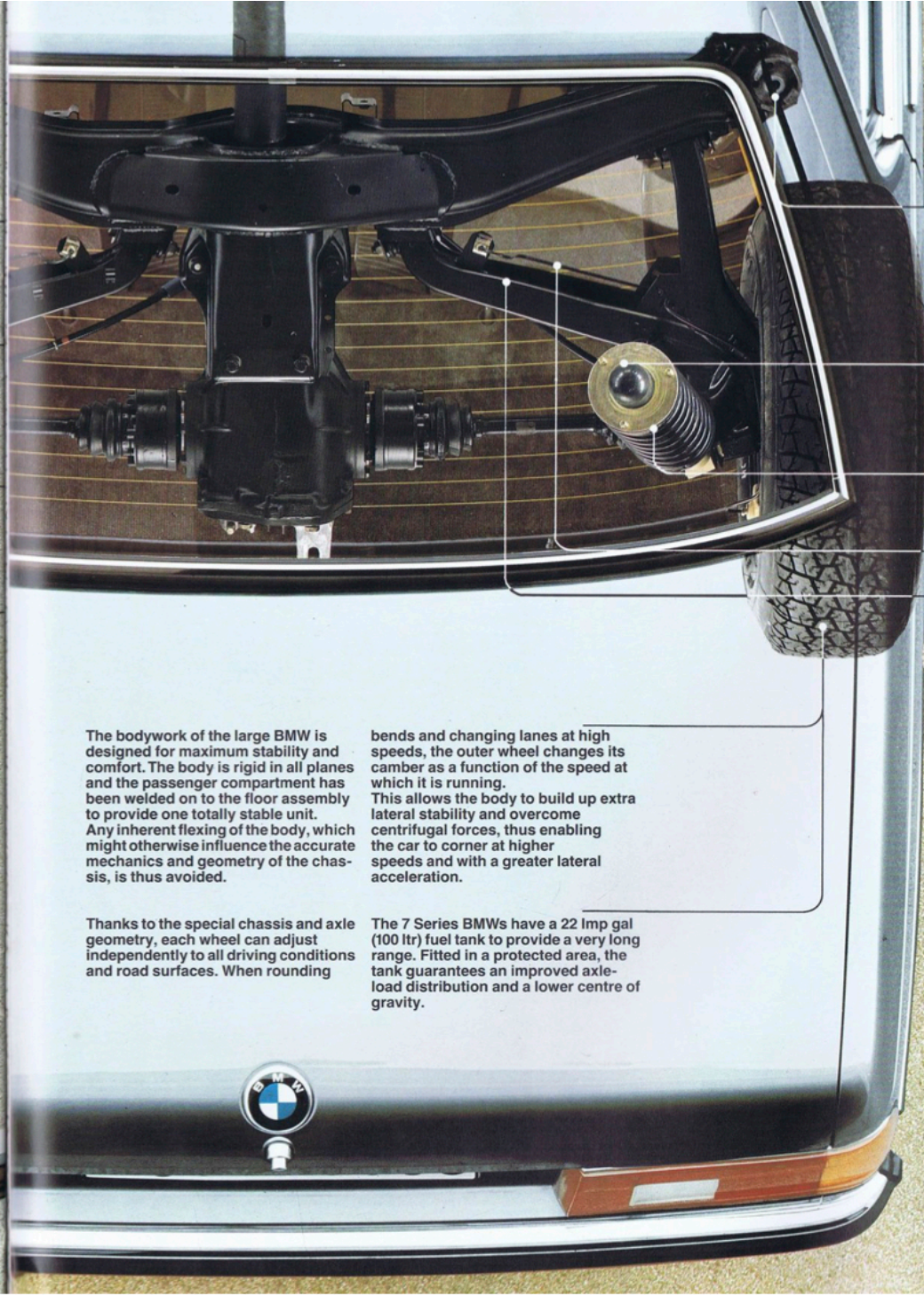


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The bodywork of the large BMW is designed for maximum stability and comfort. The body is rigid in all planes and the passenger compartment has been welded on to the floor assembly to provide one totally stable unit. Any inherent flexing of the body, which might otherwise influence the accurate mechanics and geometry of the chassis, is thus avoided.

Thanks to the special chassis and axle geometry, each wheel can adjust independently to all driving conditions and road surfaces. When rounding

bends and changing lanes at high speeds, the outer wheel changes its camber as a function of the speed at which it is running. This allows the body to build up extra lateral stability and overcome centrifugal forces, thus enabling the car to corner at higher speeds and with a greater lateral acceleration.

The 7 Series BMWs have a 22 Imp gal (100 ltr) fuel tank to provide a very long range. Fitted in a protected area, the tank guarantees an improved axle-load distribution and a lower centre of gravity.

To the very last detail, the chassis is designed to provide an optimum combination of dynamic driving characteristics and complete driving comfort. This is why all the rubber support elements between the axle assembly and the body have metal sleeves on the outside in order to minimize any tolerances.

The rear suspension spring struts are supported by special rubber mounts at the top. These insulate the passenger compartment from any noise made by the suspension assembly when cold.

Ample spring travel on the rear suspension increases comfort and prevents the rear body section from dropping too far under heavy loads.

All the brake pipes are protected by sleeves to avoid corrosion.

The BMW semi-trailing arm rear suspension automatically compensates the nose-dip effect when the brakes are applied.

To comply with the numerous refinements introduced for each model, the suspension and shock absorbers of the large BMWs provide perfect damping action. Up-rated suspension for very hard driving is available as an optional extra.

The 7 Series BMWs can be fitted (as an optional extra) with a self-levelling mechanism on the rear suspension. Apart from improving motoring comfort, this mechanism ensures above all that the camber of the rear wheels will hardly be affected by varying loads. It thus enhances the safety provided by the chassis to match the outstanding performance of the large BMWs. This self-levelling mechanism incorporates an electronic control unit which, whenever the position of the axle is affected by changes in load, operates the hydraulic pump and the magnetic control valve.

The intelligent electronic control unit of the large BMW does not respond to changes in load caused when cornering, braking, accelerating, and as result of dynamic suspension movements while the car is running.

ABS: A system that offers obvious benefits.

The most important advantage of ABS is that it prevents the car from skidding even in emergencies with the left and right wheels running on different surfaces and the brakes being applied under full pressure. And with ABS the full power of the brakes is available in bends without any loss of the car's perfect steering characteristics. As a result, the driver can avoid obstacles and drive out of the way of accidents.

Since ABS makes full use of the frictional coefficient of each wheel, it also guarantees the shortest possible stopping distances. On icy roads it can therefore reduce the car's stopping distance by up to 41%, and on wet concrete surfaces by more than 40%.

The concept and design of the BMW Anti-Lock Braking System.

ABS consists of a road speed sensor on each wheel (3) and an electronic brain which takes in and processes the data provided by these sensors. The hydraulic unit, which is controlled by the electronic brain, then serves to adjust the brake pressure on each wheel (4). Whenever a wheel is about to lock, it reduces the pressure and allows the wheel to spin faster, thus preventing it from locking.

The hydraulic unit then builds up the pressure in the brake system once again, until the wheels again reach the point of locking. This constant cycle of increasing and decreasing brake pressure is fully automatic and does not depend on how much force the driver puts on the brake pedal. In emergencies it therefore allows the driver to apply the brakes in full from the very beginning – and it does not require him to “pump” the brakes in order to avoid skidding. This saves precious seconds and above all reduces the car's stopping distance.

The BMW Double-Joint Spring-Strut Front Suspension.

This special design does not only provide the possibility of using extra-large and thus very efficient disc brakes, but also guarantees effective nose-dip compensation when the brakes are applied. This stops the front section of the car from dipping, makes

the suspension softer, and improves driving characteristics in general, since the anti-dip function is similar in effect to a stabilizer bar. It goes without saying that the BMW Double-Joint Spring-Strut Front Axle also has a displaced caster, i.e. a large caster angle in conjunction with small caster travel. This reduces steering forces and improves driving characteristics through the negative camber of the outer wheel in bends.

Hydraulic brake servo.

The hydraulic system for the brakes and power-assisted steering is controlled by one main servo pump. Compared with conventional, vacuum-controlled brake pressure boosters, BMW's hydraulic brake servo offers some essential benefits: it guarantees smooth and constant braking power instantaneously, even when the engine is still cold after starting, and provides greater safety reserves in the event of a defect in the brake system. As a result, therefore, safety in the large BMW means absolute safety in every situation.

The BMW Life-Preservation System: Exceptional even in this outstanding class of luxury cars.

At BMW there are thousands of specialists who produce vehicles to the very highest standard of quality. And there are a few hundred specialists whose one and only job it is to destroy this quality as systematically as possible. Part by part, component by component, car by car.

This is why the BMW body testing department has one of the most modern crash test facilities (1) for studying the various elements of car safety: in highly-specialised test stations, using the most modern and advanced equipment, and on test tracks, comprehensive live and simulated tests are carried out on complete assemblies and individual components, which are thus tested for their stability and reaction in the event of rollovers, front/rear, front/side, and head-on collisions.

One of the most critical situations for a car and its passengers is a complete rollover. In the BMW rollover test, therefore, the car is thrown off the side of the test bed at a speed of about 50 km/h (31 mph) (3) and rolls over several times. But even here the BMW Life-Preservation System works reliably. The roof pillars (4) and the rollover bar, which have all been carefully and thoroughly tested, maintain the rigidity of the passenger cell. Even after such an extreme accident, therefore, all the doors can be opened without difficulty.

Some further examples of the crash test performed by BMW and the installations used are as follows: Head-on collisions against a solid obstacle at 50 km/h (31 mph) (1). Bumper tests on an impact generator (2). Door stability and rigidity tests (5). Optimization of the seat belts and seat belt anchorages by simulated collisions on a test bed (6). Load tests on the seats and head restraints, which are regarded as one integral unit (14). Impact tests against the instrument panel (15).

The BMW Safety System:
Numerous outstanding features co-ordinated to provide the maximum overall effect.

The superiority of the BMW Life-Preservation System results not only from the outstanding quality of the individual features this system incorporates – such as the highly effective crumpling behaviour of the front section, the fully integrated roll-over bar, or the carefully designed and thoroughly tested safety cell. Rather, what counts even more, is that all these components and features have been coordinated to provide an optimum overall effect – a safety system that gives the driver and his passengers the very best that modern automotive engineering can offer.

The energy balance: Intelligence instead of sheer mass.

The bodywork of the large BMW has been designed with a view to the latest findings in safety research. Safety criteria have therefore left their definite mark on the styling of the large BMW's: one example is the sturdy, almost vertical central roof pillar which forms one unit together with the stable rollover bar – a special design feature that protects the passenger compartment even in extreme conditions. Another example is the extremely strong but nevertheless elegant rear roof pillar which is connected directly to the longitudinal support elements.

The passenger cell is adequately protected at three levels (7): At the bottom of the car by reinforcement members in the bulkhead, special longitudinal supports along the sides, and reinforcement bars behind the rear seats and in the luggage compartment. In the central area by the special, maximum-safety design of the instrument panel and its support, the carefully constructed doors, hinges, and lock reinforcements, and the support in the parcel shelf. And at the upper level by stability profiles in the roof and the rollover bar connected directly to the roof pillars.

The front bodywork section of the large BMW comprises numerous safety features coordinated to prevent the passenger cell from damage in the event of a head-on collision. Apart from crumpling to absorb impact energy, the front body section is also designed systematically to pass on the forces generated in a collision from one part of the car to another. Here, the rigid wheel arch area and the spring-strut/axle combination play an

The padding and upholstery inside the large BMW is based on the latest findings in collision research and thus constitutes a typical example of the high standard of safety provided by BMW: both below the window line and in the head and shoulder area, the driver and his passengers are fully protected by all-round impact-absorbing padding and upholstery.

Ample padding is also provided in the head area around the sun visors and on the front roof pillars. And from the BMW 732i, the same padding is also provided on the other roof columns and on the side and rear roof-frame sections.

Again, starting from the BMW 732i, the roof lining is made of resistant, one-piece upholstery which fully covers all the profiles and structural elements. (The roof lining is subdivided into separate sections if the car is fitted with a steel sliding roof.)

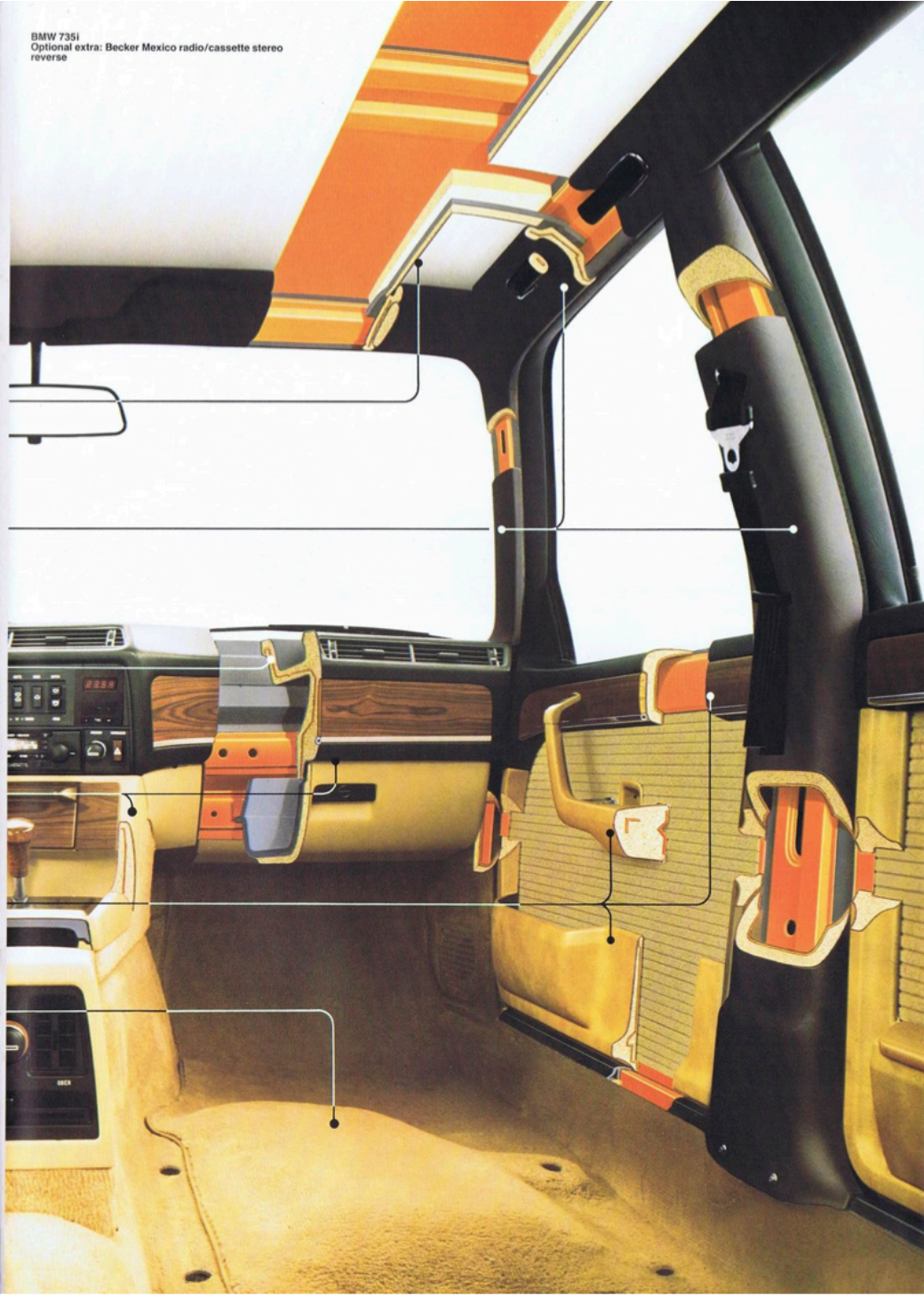
The metal reinforcement profiles in the instrument panel are all carefully cushioned by special padding, and the edges point away from the car's interior.

The glove compartment and centre console are amply padded and upholstered and have been integrated with knee protection elements below the instrument panel.

Thick strips of upholstery with integrated storage pockets are provided on the doors. This thorough padding throughout the entire door area is a particular safety feature in the event of collision from the side.

All the materials used inside the passenger compartment comply with fire prevention regulations and are non-combustible.

BMW 735i
Optional extra: Becker Mexico radio/cassette stereo reverse



important role in this BMW safety system: The wheel support in the wheel arch can absorb a considerable amount of energy, which can then be passed smoothly on to the front roof pillars and longitudinal supports without impairing the safety cell as the core of the BMW Life-Preservation System.

The engine support elements are connected directly to the longitudinal supports that run along the sides of the car. This improves the smooth transfer of impact forces past the rigid passenger cell (10).

The deformable front section (8), for example, has predetermined crumple zones designed to interrupt the impact in a head-on collision, thus ensuring that the seat belts have their full effect. As a result, the passengers will not be thrown forward too abruptly in the event of an accident and the strain they are subjected to will remain within bearable limits.



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The bonnet also has predetermined crumple zones which guarantee that it will buckle also at the right points without coming through the laminated windscreen (8). A special safety lock is also fitted on the bonnet (9).

The highly stable transmission tunnel and the rigid front bulkhead ensure that the engine and gearbox are not pushed back into the vehicle interior in a head-on collision (11).

The steering system is located away from the crumple zone, and the telescopic steering column stops impact forces from being passed on to the interior of the car (12).

To provide added protection in the event of a rear-end collision – incidentally, a type of accident that is increasingly becoming more common – the large BMW has special reinforcement members beneath the luggage compartment floor that act in conjunction with the bumper supports. Through special profiles in the wheel arches,



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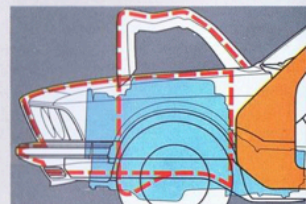


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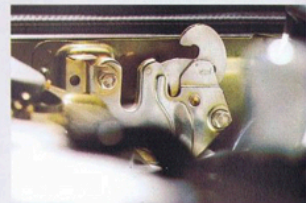
these reinforcements pass on impact forces to the longitudinal supports. An additional crumpling effect is then provided by the predetermined crumple points in the reinforcements themselves, the luggage compartment floor, and the luggage compartment lid. The fuel tank is located in a protected area: it is fitted entirely beneath the floor assembly and cannot, therefore, be damaged by the luggage compartment floor in the event of a rear-end collision. At the same time the tank is also protected by special support members at the side. This position of the fuel tank provides a better axle-load distribution and a lower centre of gravity. The fuel tank itself is surrounded by a free space and all adjacent parts have been designed to avoid the risk of damage. The fuel tank filler pipe is not connected rigidly with the body panel and cannot, therefore, be ripped off when the body crumples.



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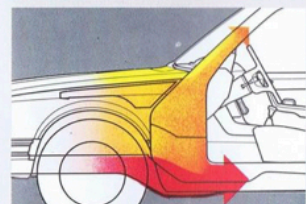


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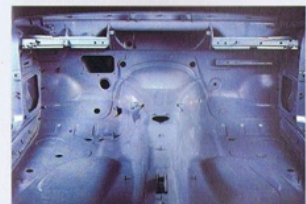
Part of the safety cell is constituted by special-profile reinforcements, such as the reinforced front and rear roof pillars, the rigidity of which have been systematically designed and carefully tested (4).

In designing this special safety cell, BMW have given particular attention to the head area (13): the roof can never be crushed too far should the car roll over. This is why the extra-strong central roof pillars are combined with a rollover bar and special-profile front and rear roof pillars, all of which act together in guaranteeing particular rigidity of the roof.

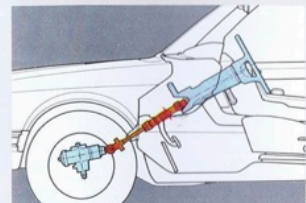
The interior has ample padding and cushioning, and the instrument panel, handles and mirror are flexible and thus give way in the event of an impact. The wide upholstery strips on the door merge directly into the instrument panel. The roof pillars have large and well-cushioned plastic covers and there is additional padding around the



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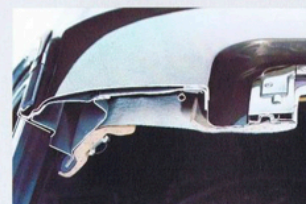
sun visors. To reduce the risk of head injury even further in this all-round safety system, the instrument panel is rounded-off and deformable (15), while the centre console also has special padding all round.

It goes without saying that even the head restraints have also been designed and tested to provide maximum safety inside the passenger compartment (14).

Due to their special safety locks, the doors remain closed in the event of a collision – and can then be opened without difficulty from the outside and inside. And the rigid safety cell avoids any deformation of the doors (16).

The safety steering wheel is fully cushioned all round and has a large tulip-shape centre pad to protect the driver in the event of a collision (17).

The starter/ignition lock has been carefully integrated in the steering column to keep the key away from the driver's knee. This eliminates the risk



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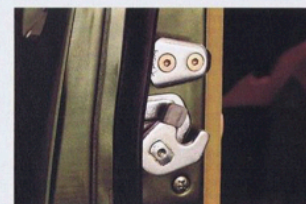


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of injury while the lock remains within easy reach (18).

Safety: also a matter of common sense.

Since the highly efficient BMW safety systems depends on the proper use of the seat belts, wearing the belts is absolutely essential for the sake of obtaining maximum safety. The automatic recoil belts can be locked and released easily with one hand. They also have a dual retention function by responding not only to the deceleration of the car but also to independent tension on the belt. As the belt anchorage points on the large BMWs are integrated directly with the seats, the belts always provide an optimum fit and perfect belt geometry irrespective of body size and seat position.



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The positive outlook on life.

Experience shows that purchasers of top-calibre cars do not select the vehicle of their choice on the basis of technical arguments alone. Rather, another equally important aspect is the compliance of the driver's outlook on life with the concept offered by his car.

The large BMWs do not deny the fact that they are produced by a company that advocates a dynamic philosophy. They are designed and built by people

who make it a rule to regard current standards as a stimulus for new activities. It is not surprising, therefore, that purchasers who prefer the large BMWs are individuals with a positive outlook on life. As a result, it is not what you have achieved so far that makes you a BMW driver. Rather, it is what you still plan to achieve in the future.

The experience of sheer driving pleasure.

The first thing you will experience with the large BMW is the sheer

pleasure provided by the latest standard of design and construction. The thrill of ultimate all-round performance, sophisticated automotive engineering, and a perfect finish. And the maximum synthesis of performance, comfort, safety, and high-quality craftsmanship.

The next thing you will experience is that BMW service is conducted with the same know-how, the same diligence, and the same – nowadays exceptional – urge for perfection that has gone into the development, design, and construction of the large BMW.

