

Chapter One

A Legacy of Leadership

Since we began designing cars in 1929, BMW has been known as a pioneer of automotive engineering. We're one of the few companies in the world that can make a luxury vehicle perform like a sports car. Indeed, the leading BMW sedans of the past fifty years are the very definition of high performance, design and technology. With the introduction of the new 2002 7 Series, BMW continues this unbroken chain and boldly affirms its legacy of leadership.

The lineage of modern BMWs begins with the 501, introduced at the 1951 Frankfurt Auto Show. Curvaceous yet stately, it served as BMW's "calling card" for large, luxury sedans. Originally powered by a six-cylinder engine, it included a fashionable wraparound rear window, high-quality cloth interior, chrome trim to set off the flowing curves of the body, and even a Becker radio as standard. These cars were affectionately nicknamed the "Baroque Angels," after the voluptuous, rather fleshy ladies carved into the cornices of so many Bavarian churches.

In 1954, the "ultimate angel" appeared - the classic 502. Powered by the first BMW V-8 of its generation, the 502 set a precedent for high performance virtually unheard of in its time. This all-aluminum V-8 featured overhead valves and - for the day - an impressive output of 100 horsepower. That enabled it to cruise Germany's new Autobahn high-speed road system at nearly 100 mph. Over the years of its production, the 502 evolved further, taking new model names. Eventually, the series offered as much as 160 horsepower and, starting in 1959, front disc brakes.

In 1968, BMW introduced the new and exciting Sechszylinder series, a pair of six-cylinder sedans and a classically handsome sport-luxury coupe. These 2500 and 2800 models - named for their engine size - set new standards for smooth, powerful and sonorous engine performance.

"The all-new six-cylinder engine is a jewel," reported Road & Track magazine in its May '69 road test of the smaller-engine 2500 model. "In through-the-gears acceleration, the 2500 is as impressive to the clocks as it is to the ear, producing quarter-mile times that any self-respecting Detroit engineer would say can't be done with 2.5 liters..."

Beginning with the first 733i model, these smartly contemporary sedans became a launching pad for groundbreaking BMW technologies: Digital Motor Electronics, driver and passenger airbags, the BMW V-12, Dynamic Stability Control, BMW on-board navigation system, Coded Driveaway Protection, VANOS "steplessly" variable valve timing, the world's first side-impact Head Protection System... and much more. Though many of these innovations seemed radical at first, they quickly became as indispensable as the steering wheel.

Now, the new 2002 7 Series takes this tradition even further. Over 60 new engineering breakthroughs will make their debut in the new 7. To name just a few:

- Active Roll Stabilization - a high-tech suspension innovation that reduces body roll in cornering, thereby improving handling, agility and steering accuracy.

- iDrive - an ergonomic, driver-oriented cockpit design that makes operating your vehicle easier, less distracting and more exciting.
- Stunning Design - a larger, more powerful presence, both inside and out, without sacrificing the famous BMW performance.

The new 2002 7 more than honors the BMW tradition of high-performance, state-of-the-art technology, and unabashed luxury - it elevates it. Over the next few months, we will reveal more details about these and other innovations that make the new 7 Series a watershed of automotive engineering.

Chapter Two

Still The Driver's Car

Not unexpectedly, the new 7's 4.4-liter V-8 is a marvel of automotive engineering. Though its size and displacement match the previous 7 Series V-8, it delivers 15% more power - 325 to be exact. This means that the new 7's 0-60 time rivals that of many sports cars - in the low six seconds*. Yet it delivers greater fuel efficiency and even lower emissions, primarily due to BMW's new Valvetronic technology and a fully variable intake manifold.

Valvetronic: a new engine "breathing" concept

Valvetronic is one of the greatest advances in gasoline engines in decades.

Seamlessly integrated with BMW's Double - VANOS "steplessly" variable valve timing, Valvetronic makes the BMW V-8 more powerful, more responsive, smoother, more fuel efficient, and excellent at cold starting.

In the new 7, engine "breathing" is controlled entirely by the valves - not by throttles. Valvetronic determines how far each of the engine's 16 intake valves is lifted (opened), how much air/fuel mixture the engine breathes, and how much power it produces. By eliminating throttles, Valvetronic increases engine efficiency. That's because throttles cause "pumping losses," i.e., they create a restriction that partially blocks incoming air. At low speeds, when the throttle is partially closed, pumping losses seriously tax the engine's fuel efficiency. (Note: official EPA ratings not yet available.)

Valvetronic increases power with its precise timing of valve lift. High valve lift helps to develop high-power output. But a traditional engine cannot increase valve lift without decreasing efficiency and responsiveness at low speeds. With Valvetronic, valve lift is maximized for the driver's immediate power needs - extra-high at the top, and progressively lower at lesser speeds.

Fully variable intake manifold

The new 7 also debuts BMW's first fully variable intake manifold. This technology delivers air to the engine in precisely controlled measures, as needed, for maximum fuel efficiency and engine response.

Traditionally, a two-stage intake manifold would send air along one of two paths to the engine - a short one for low loads (improving torque and response) and a longer one for high loads (improving top-end power). The fully variable intake manifold uses a single path throughout the engine cycle, but varies its length steplessly. The fuel injection system receives just the right amount of air under virtually every condition.

Six-speed automatic transmission

The new 7 Series also features the world's first production six-speed automatic transmission. Advanced electronic and hydraulic internal controls make shifting so smooth that the driver and passengers barely notice shifts, yet keen ears still enjoy the BMW engine music.

Along with this new transmission comes a new way to operate it. The traditional, mechanical gearshift lever is gone. Instead, an electric selector is positioned near the steering wheel. The driver presses upward, downward or inward to engage Reverse, Drive or Park, respectively. Select Low range via a button on the steering wheel, and the driver can downshift gears with fingertip buttons near the wheel's rim.

This new way of controlling the transmission is just one part of the "iDrive" concept in the 2002 7 Series. In our next installment, we'll tell you how iDrive creates a more driver-oriented cockpit.

*BMW AG test results. Actual acceleration results may vary, depending on specification of vehicle; road and environmental conditions; testing procedures and driving style. These results should be used for comparison only and verification should not be attempted on public roads. BMW urges you to obey all posted speed laws and always wear safety belts.

Chapter Three

The BMW iDrive Concept

As technology advances, BMW integrates purposeful technology-rich features into its vehicles - navigation, telephone, climate control, audio, etc. The new iDrive concept is designed to give you quick, intuitive access to all the technology you need and want to maximize your driving experience - from the navigation system to climate control to hands-free telephone operation. iDrive optimizes the vehicle's ergonomics, giving you greater freedom and choice.

In the new 7 with iDrive, controls are carefully divided into two zones. Controls that pertain directly to the operation of the vehicle are located on or around the steering wheel - in the Driving Zone. Those related to the occupants' comfort can be accessed on an in-dash control display that sits at eye-level with the road - in the Comfort Zone. The driver can control nearly all vehicle systems on the central display monitor without moving a hand any further than the iDrive Controller located on the center console.

And because there are some basic controls that you just "instinctively" want to control by button or knob, the basic climate and audio controls are still in their customary positions on the dash.

The Driving Zone

iDrive puts all the driving function controls on or around the steering wheel. This collection of systems creates The Driving Zone, composed of:

- Electric Transmission Selector - The gearshift has returned to the steering column, but now the transmission is controlled electrically rather than mechanically. Without ever taking your hands off the wheel, you can select the appropriate gear. Need more torque? Use the two selector buttons on the multifunction steering wheel to downshift.
- Programmable Cruise Control - In addition to normal cruise control operation, you can preset six desired speeds. The driver can set them to various speed limits or driving preferences to be retrieved at any time.
- Peripheral Systems - Controls such as turn signals, windshield wipers and cruise control are in their familiar places. As with the transmission selector, these functions are controlled electrically.
- Electromechanical Parking Brake - Instead of the driver physically engaging the mechanical linkage, the parking brake is now electronically controlled. The driver needs only push a button to engage it.
- New, Multi-Function Remote Control - Instead of putting a key in an ignition, you simply place the remote itself into a slot. Familiar and powerful, the remote key allows you to: lock and unlock the vehicle, arm and disarm the alarm system, open the trunk and even turn on the interior lights remotely to help you find the car at night.
- Start/Stop Button - Similar to that found on the BMW Z8 sports car. Once the remote is placed in its slot, you simply hit this button to turn the engine on or off.

The Comfort Zone

The iDrive Controller was first seen on the Z9 cabriolet concept car. It builds off of BMW's proven navigation system to intuitively control vehicle systems. Analogous to a computer mouse, the controller operates a color central display atop the dashboard. Situated on the front of the center console - well within the reach of both the passenger and driver - the iDrive joystick is designed to fit comfortably in the palm of your hand when you rest your arm on the center console.

Literally hundreds of operations are possible, yet it is incredibly simple to use. In the next installment, we'll discuss more detailed descriptions of iDrive's comfort functions.

Chapter Four

The Art of Comfort

Take a seat in the 2002 7 Series and discover new frontiers of comfort and convenience. The sleekly designed cabin of the new 7 is rich in welcoming details - from comfortable New Classic leather and rich wood trim, to inspired interior styling cues, and uncommon roominess. Everything reflects impeccable craftsmanship.

Take for example the new "scarab"-design center storage console. Its opposite-opening dual lids cover a climate-controlled, lighted interior that includes a coin box, mobile phone handset mounting, and trunk-release lockout. The lids are lockable, so valuables can be securely stored when using valet parking.

Bright ideas in lighting increase the comfort and aesthetics of the new 7. Front and rear, inside and out, the sedan positively glows on command. Reading and courtesy lights, lighted storage areas, a swiveling visor vanity mirror, ground lighting and exterior handle illumination, and even exit/entry lighting in door panels help keep everything in clear and easy sight.

Of course, you don't have to sit behind the wheel to enjoy this vehicle's comforts. Owners have long praised the 7's spacious, well-appointed rear passenger area. It's the perfect space - intimate, yet with generous head, shoulder and leg room.

The new 7: modern comfort designed for your pleasure.

Chapter Five

Visual Language of The New 7

"BMW does not build cars as consumer objects to just drive from point A to point B. We build mobile works of art that express the driver's preference for quality, and satisfy the needs of the individual."

--Chris Bangle, BMW Design Chief

The past decade has witnessed a great renaissance in automotive design. Under the leadership of Design Chief Chris Bangle, BMW has explored new formal possibilities, and introduced some of its most unique and ambitious designs, including the Z3 roadster, the Z3 coupe, the Z8 roadster, and the Z9 concept car. These cars prefigure the innovative interior ergonomics featured in the new 7, and experiment with new shapes for the exterior.

A graduate of the renowned Pasadena Art Center College of Design, and the first American to serve as BMW Design Chief, Chris Bangle leads with a vision of the automobile as a work of art: "The timeless masterpiece is the fruit of long, patient, and loving research. Cars are only reproduced by machines; it is the hand of man that creates and sculpts every surface."

A BMW is literally "sculpture in motion." Inside and out, from kidney grille to rear lights, its proportions, lines, colors and textures join in a single, harmonious expression of BMW values.

The "sculptural" quality of BMWs can be attributed in part to the fact that their surfaces are first formed by hand, using three-dimensional, clay modeling techniques. Chris Bangle's team includes highly specialized modelers who can transform a designer's computer renderings into tangible material forms.

Most manufacturers have abandoned this practice for cheaper, computerized modeling techniques. But BMW persists, in the belief that the human hand is the best tool for creating emotional, dynamic sculptures. Machinery is only used during the final stages of the clay modeling process - to reproduce the forms shaped by human hands. This painstaking design process ensures that every detail of the new 7 reflects BMW's core values. BMW designers literally run their hands over every inch of the vehicle's surface, inside and out, until it looks and feels exactly the way it was envisioned.

Chapter Six

The presence of greatness

The new 7 expresses a commanding, sporty dynamic in every detail. The look on its face says, "This is the future of luxury performance."

Though still unmistakably BMW, the new 7 embodies revolutionary design features. To name just a few of the most prominent:

- Vehicle body is longer, wider and taller than its predecessor.
- Passenger cabin is set back, making it clear that there is Power up front.
- Wheels are big: standard 18" with 245/50 tires all season tires and optional 19" with 245/45 front, 275/40 rear performance tires.
- "Rocker panels" or side sills underscore the big-wheel look.
- BMW kidney grilles are positioned high and assertively.
- Coupe-like roofline.
- Adaptive brakelights.
- Quad headlights featuring "eyebrow-like" turn signal indicators.

All things considered, the new 7 represents a major leap forward in the design of luxury performance sedans - a bold statement of BMW's leadership in defining the future of this segment.

Chapter Seven

The new paragon of safety

Remarkably nimble reflexes and state-of-the-art protective features make the new 7 Series one of the most secure vehicles BMW has ever built.

The new 7 offers all of its predecessor's renowned active and passive safety features - and takes them to the next level. It will help you avoid accidents with technology like Dynamic Stability Control, massive brakes, and quick engine response at all engine speeds. And when an accident is simply unavoidable, the BMW will help protect you and

your passengers with a carefully orchestrated system of airbags, crumple zones, safety belts, and much more.

To endow the new 7 with these safety systems required "brains." Specifically, it required ISIS - BMW's all-new Intelligent Safety and Information System. Fourteen sensors precisely assess crash situations and determine the best deployment strategy for safety restraints throughout the vehicle. ISIS helps provide the most effective and efficient use of devices such as the Advanced Head Protection System (AHPS), front-and side-impact airbags, and safety-belt pretensioners. Among its many benefits, ISIS helps to prevent the unnecessary use of airbags, minimizing repair costs.

Special new safety features for knee and head/neck protection also appear in the new 7 Series. The world's first Active Knee Protection system uses dedicated airbags to offer extra protection for the knees of the driver and front-seat occupant, going far beyond standard government regulations. When two sensors detect a rear-end collision, pyrotechnic Active Head Restraints (included in the Active Comfort seat) rapidly and automatically pivot forward, supporting the heads of the driver and the front seat occupant.

With innovations and enhancements to nearly every aspect of driver and occupant safety, the new 7 represents BMW's - and the world's - new paragon of safety.

Chapter Eight

A seductive interior

Imagine yourself behind the wheel in one of the most alluring interiors on earth. BMW has made the new 7 cabin so inviting, so luxurious, you might never want to leave. Fine materials, lavish details, and unexpected conveniences make this the perfect space. From the unique look and feel of its cockpit, to its advanced communications options, amazingly comfortable seats and large trunk, the new 7 puts an uncommon degree of luxury right at your fingertips.

A host of thoughtful features add to your sense of well-being in the new 7 Series. There are the visual and tactile pleasures of sumptuous Nappa leather, accented with generous amount of wood trim. The crisp, sweeping lines of BMW's ergonomic cockpit. And unexpected conveniences, such as the power outlet in the front passenger's side footwell area. BMW's communication systems keep you in touch with the world through a standard portable digital-analog cellular phone, cradled in the center storage compartment. BMW gives you a choice of three ways to dial a number: you can use hands-free Voice Activation; dial the number on the Telecommander keypad stored in the dash; or access the number through the dash-mounted control display.

The optional Active Ventilated Seat Package pampers drivers in several ways. The Active seat feature keeps spine and hip muscles gently moving, helping to reduce stiffness on long trips; the Ventilated seat feature circulates cool air through microperforations in the leather upholstery to keep you cool and dry in hot weather; and three-way heating adds welcome warmth in cool weather. A rear armrest with storage compartment is included as standard.

The new 7's innovative layout and trunk-lid hinge create more trunk space - enough room for four sets of golf clubs - and facilitates a newly available feature, "automatic trunk closing." To close the trunk with this option, one simply presses a button in the light strip across the trunk lid. (For safety reasons, the trunk cannot be closed from inside the vehicle or via the remote control key.)

These are just a few of the luxuries that make the new 7 a uniquely BMW driving experience.

Chapter Nine

Advanced stability systems

BMW does its level best at creating a smooth ride in the new 7 - especially in sharp turns, thanks to the new technology Active Roll Stabilization and Dynamic Stability Control (DSC).

BMW's new Active Roll Stabilization (ARS), standard in the 2002 7 Series, reduces body lean when cornering, helping to maintain a level cabin and smooth ride, even in tight curves. Whenever the 745i/745Li enters a curve, the ARS system measures the degree of leaning and modulates the hydraulic pressure that's applied to the active anti-roll bars. The cabin remains comfortably level, and the 7's stellar handling is noticeably improved.

Like every new BMW, the new 7 comes standard with Dynamic Stability Control (DSC). This system ensures a smooth, controlled drive, free from wheelspin. DSC continually monitors your steering angle, lateral acceleration, yaw, and brake pressure to determine your desired path. In a turn, if it detects over- or understeer, All Season Traction (AST) modulates engine power and applies the brakes individually to help keep the vehicle on track. And new Dynamic Traction Control (DTC) is specially calibrated to improve mobility when driving on slippery or loose surfaces.

The new 7's lightweight aluminum suspension deftly reduces unsprung weight. This improves the 7's ability to respond to rough roads, and provides consistently excellent ride comfort and handling. With its aluminum subframe, lower arms (links), strut housings and other parts -- including even brake calipers -- the 745i/745Li is light enough to use highly responsive rack-and-pinion steering which, in the 7, is specially engineered to insulate the steering wheel from road shock.

Road-gripping handling; smooth, level turns; outstanding comfort - BMW's performance heritage endows the new 7 with a ride unlike any other luxury sedan.

Chapter Ten

Logic 7: You won't believe your ears.

The cabin of the new 7 is exceptionally well insulated against exterior noises like wind, traffic and rough road. No matter what's happening around the vehicle, you can roll-up the windows and hear yourself think. This creates the perfect acoustic environment to listen to music, and enjoy the superior performance of the optional Logic 7 audio system.

Like the finest home theater systems, Logic 7 creates a true Surround Sound environment. In fact, BMW's Logic 7 system is the world's first automotive application of

this multi-channel surround sound technology. Its Digital Signal Processing (DSP) system converts conventional two-channel stereo signals into a seven channel, 360 degree sound field. This provides stunning musical accuracy, true to the original studio master recordings. You're not simply listening to an orchestra; you could be at the live performance.

Logic 7 is designed to provide the best possible sound at all times and includes sophisticated speed relative equalization circuitry. For example, the system compensates for increased wind, engine and road noise by automatically adjusting the sound quality to maintain the proper balance of bass, mid-range and treble frequencies within the interior. Manually fine-tuning the acoustic qualities of Logic 7 is also quite easy using the iDrive control display and controller.

A remarkable 420 watts of sound is delivered using the latest Metal Matrix speaker technology through 13 components, including two sub-woofers mounted beneath the front seats. To enjoy your CDs on the road, the new 7 is equipped with a dash-mounted, single-disc CD player. For the ultimate in convenience and refinement, an optional in-dash six-disc changer is available as a factory-installed option.

Logic 7 delivers an acoustic experience previously available only in the world's finest home theater systems. The only more exciting sounds will be from the silky V-8 under the new 7's hood.