

Z8: the ultimate roadster is a contemporary classic

With the Z8, BMW has created an exciting expression of automotive achievement. This unique and exclusive high-performance sports car embodies BMW's top technologies in a classically styled shape – and in so doing captures the best of past, present and future in an automobile that was available to fewer than 1000 fortunate U.S. buyers during calendar 2001:

Past. The Z8's design and powerful V-8 engine pay homage to the glorious BMW 507 roadster of the Fifties, one of the most beautiful sports cars of all time – and an extreme rarity, only 252 examples of the 507 having been produced during 1956-59. Like the 507, the Z8 is also built in small numbers.

Present. Today's amazing technology makes possible a roadster that does everything better than was possible in the Fifties. Performance, efficiency, low emissions, handling, braking, comfort, luxury – today's Z8 has all the romance of the classic 507, plus the dazzling capabilities of today's top BMW technology. The Z8 expresses intense emotions with all the means of contemporary technology.

Future. For all its classic looks, the Z8 points the way to the future with its advanced aluminum space-frame structure...the effortless, near-400-hp performance of its BMW M V-8 engine... its unique neon exterior lighting... run-flat wheel-tire system...and many other exciting innovations.

Upon its debut, the Z8 was welcomed by the world's critical media with rave reviews. So overwhelmingly positive are the Z8 reviews, in fact, that we recommend reading them all thoroughly. The following are a

sample of the praise accorded the Z8, including some of the most recent:

- *Car and Driver*, April 2001: "427 Cobra swagger with modern sophistication."
- *Road & Track*, January 2001: "If you have ever displayed addictive tendencies, you'd best stay away from the driver's footwell of BMW's Z8, as the skinny pedal down there reigns over the firebreathing 400-hp, 5.0-liter V-8 that also lurks in the M5's engine bay. Once experienced, you'll have repeated cravings for its shoulder-pinning thrust, near-telepathic response and chunky rumble that burbles from stout-looking chrome pipes."
- *AutoWeek*, November 13, 2000: "The design speaks to exactitude and precision machinery. Its slick and metallic surfaces, finely rendered details and crisp curves forecast the wonderful shifter, well-weighted steering and the rev-it-hard V-8 cranking out 394 hp. Driving a Z8 quickly is akin to wielding a high-grade surgical tool; exquisitely balanced, stunningly effective, but with a cold, sterile edge. The chassis sacrifices nothing to the open roof, a good thing for imprecise human beings seeking warm breezes."
- *Motor Trend*, November 2000: "Italian soul, American muscle, German quality."
- *Automobile Magazine*, October 2000: "True, a well-equipped [Ferrari] 360 Spider F1 can cost more than \$160,000, and the dealer may make you wait as long as two years for it. The BMW costs about \$35,000 less, is virtually as quick, is the better everyday car, is more sensible and better equipped, and has a more stylish interior."

- *Automobil Revue*, Switzerland, July 27, 2000: "The stuff dreams are made of."
- *Car and Driver*, May 2000: "Although the sticker price for the Z8 will be \$135,304, including gas-guzzler and luxury tariffs, the 400 Z8s allocated for the U.S. this year are already spoken for. In fact, BMW expects the Z8 to become a classic and is guaranteeing that it will supply parts for at least 50 years.
"That may seem presumptuous, but the Z8 proves that BMW is confident in its future as a modest-sized automaker. Besides, name another car that is both fabulous to drive today and likely to be found on the 18th green at Pebble Beach in 2025."
- *Automobile Magazine*, May 2000: "If your reference point is a Porsche 911, you'll find yourself troubled by the Z8's composure on the road, the silken but deliberate feel of its steering, and the sensation of driving a car from somewhere near the rear axle. But if you like to drive, you'll understand the Z8 as soon as you get to the end of the block."
- *Motor Trend*, May 2000: "Suffice to say that we're all witnessing the birth of an automotive legend. As with the Cobra 427, we'll all remember the first time we saw a Z8, the first time we heard one, and, along with a privileged few, the first time we drove one."
- *Road & Track*, May 2000: "While the Z8's cool-blue, brilliant modern xenon headlights and bright neon directional markers and taillights exemplify modern technology, it is the warm orange glow illuminating the few simple gauges inside the cockpit that brings a sense of nostalgia. This BMW roadster has succeeded in reinforcing the passion and enthusiasm we have for fine automobiles."
- *BMW Roundel*, April 2000: "A hundred miles behind the wheel of the Z8 was not enough. It won't be enough for anyone I know, either. Unfortunately, most won't ever get the chance to sample the latest BMW. I hope that you do; there is no question of anyone getting a chance to drive the Z8 and going away unimpressed. The styling will certainly be the closer for those intent on owning this latest model, but what they will get in the bargain is arguably the best driving BMW in current production."
- *auto motor und sport*, Germany, February 23, 2000: "The Z8's trump card is its colossal grip, combined with its great balance. Yet it can do more than just corner uncommonly fast – all the more impressively as road surfaces get worse. With its enormously rigid body, and astoundingly supple suspension, the Z8 sets new standards for roadsters."

What's new for 2002

As of 9/01 production:

- New exterior color: Stratus Gray Metallic
- Black interior trim now available for black interior with three exterior colors:
 - Titanium Silver
 - Topaz Blue
 - Stratus Gray.

In addition to its normal availability with the Black exterior, Black interior trim was formerly available only with Titanium Silver.

Z8 key features

The Z8 offers the following features:

Performance & efficiency

5.0-liter DOHC 32-valve BMW Motorsport V-8 engine

The V-8 engine that powers the Z8 is the great masterpiece of M Power, contributing mightily to the Z8's muscular character. Designated S62, this engine takes M Power to its pinnacle; its flexibility and smoothness in everyday driving reflect the care with which BMW M develops a full-on sports powerplant. The S62 develops 394 hp and 368 lb-ft. of torque; accelerates the sleek roadster to 60 mph in just 4.7 sec.¹ and is far more than sufficient for the Z8's electronically limited top speed of 155 mph. EPA mileage ratings are 13 mpg city/21 mpg city – quite respectable in view of the monumental performance this engine offers.

For full details on this ultimate BMW M engine, please see **BMW features**, pages 19-20.

6-speed manual transmission with heavy-duty clutch

The Z8's Getrag Type D 6-speed manual transmission is essentially the same robust, firm-shifting unit used in the M5, but its shift linkage has been modified to provide extra-short "throws" from one gear to the other – a sports-car tradition. It is just 2 inches from neutral to any of the forward gears. For details on BMW manual transmissions, see **BMW features**, pages 22-23.

Handling, ride & braking

Aluminum space frame

The Z8's structural foundation is the first aluminum space frame BMW has ever produced. It was chosen for a number of reasons:

- A space frame, with a backbone-like central structural tunnel element, is especially

suitable for an open-bodied car like the Z8 because it gives optimum structural rigidity.

- Aluminum construction saves significant weight compared to steel.
- Careful, targeted design of the space frame helped BMW engineers achieve not only high rigidity for precise handling and a quality driving feel, but also the energy management that promotes crash safety.
- This construction, which involves a relatively high proportion of handwork, is ideally suited to the Z8's limited production.

Full aluminum construction is rare among today's production automobiles. Among the few models with it are the Acura NSX, Audi A8 and Ferrari F 360.

Of these, the NSX structure is the most conventional, and probably least advanced, because it was introduced a decade ago. It is essentially an aluminum version of the steel unit chassis/body structures of most modern cars. The A8 and F 360 structures are closer to the Z8's, with space frames of extruded structural members and mostly riveted-on exterior panels. In both of these, it is the frame that carries most of the loads; in a unit structure, whether steel or aluminum, the body panels share more or less equally in the load-bearing.

Whereas the Ferrari F 360 Spider (roadster) has essentially the same lower frame structure as its coupe counterpart with additional reinforcement in the floor/tunnel area, the Z8 has been conceived from the beginning as a roadster. This is an important distinction for the Z8.

In the Z8, it is the central tunnel or “spine” that is, in effect, the car’s roof. It can serve this function because of its large depth. The tunnel’s two sides (each fabricated as an individual member) spread gradually apart toward the front, then at the engine bulkhead flare out sharply. At the point where the front members straighten out toward the front of the vehicle, other elements flare outward toward the rear, forming a “Y” at each side of the vehicle that help provide both rigidity and crash-energy absorption.

Behind the seats are integral rollover tubes; the windshield frame also contributes significantly to rollover strength. All principal structural elements are made of so-called extrusion-pressed profiles; they and the stamped panels are connected by about 1000 rivets and 187 feet of MIG (metal-inert gas) arc welds.

Another important distinction of the Z8 body is that nearly all its exterior body panels are bolted on, and therefore can be replaced easily when damaged.

Production and repair of the Z8 frame and body

Production processes and repair arrangements for the structure and body are also important and fascinating aspects of the Z8 story.

Production. The space frame and body shell are constructed by a team of skilled BMW craftspeople at the company’s Dingolfing, Germany plant, which has been recognized internationally for its exceptional quality standards. For a year before production actually began, this team of about 50 had been schooling and working on pre-production Z8 structures and bodies.

The Dingolfing factory also has special qualifications for the Z8, in that there was already an aluminum center there for production of the 3 Series convertible’s aluminum hardtop, 7 Series hood and fenders, suspension components for the 7, 5 and 3 Series, and the M3 hood. Because the convertible top, hoods and fenders are painted components, the Dingolfing paint shop is also versed in finishing aluminum panels.

Final assembly of Z8s is at the Munich factory, with relatively little automation. Approximately 100 team members work here; each of them applied for this special assignment and, once chosen for their skills and teamwork aptitude, went through a specific Z8 training course lasting several weeks.

The team is international, consisting of members who speak various languages. BMW expects that many Z8 clients will be interested in the car’s production and come to witness their own car being assembled; the workers will be able to speak to many of them in their own language.

In all, there are 31 steps to the assembly process, beginning with the complete, painted body shell from Dingolfing and taking approximately 10 times as long as does assembly of a 3 Series vehicle.

Repair. BMW’s body engineers have provided for expert repair in case of accident damage. The front and rear bumpers have 5-mph impact-absorption capability. Structural damage at impact

1 – BMW’s claim may be on the conservative side. *Car and Driver* (May 2000) recorded a 0-60 time of 4.5 sec.; in the same month *Motor Trend* reported just 4.2 sec.

Z8 key features

The Z8 offers the following features:

speeds up to approximately 15 mph can be repaired by means of “cold” joining technologies. The entire front end is bolted on, as are the rear fenders.

Repairs of damaged Z8s are classified in three levels:

- **Level 1** – “light-duty” repairs. If necessary repairs are confined to the replacement of external panels and trim, and/or paint-work, they will be carried out locally in the usual manner by a competent BMW or BMW-approved sublet repair facility.
- **Level 2** – “medium-duty” repairs, including replacement of frame sections, epoxy bonding and riveting, and any work requiring frame/body fixtures or dimensioning tools. The vehicle will be transported by BMW to and from the closest of three special repair centers: in Montvale, New Jersey; Spartanburg, South Carolina; or Oxnard, California.
- **Level 3** – “heavy-duty” repairs, including replacement of major frame sections or structural panels, welding, and/or any of the work steps of Level 2; also carried out at BMW’s special repair centers.

Z8 suspension concept

The suspension is based on the best of established BMW concepts, specially adapted for the roadster’s aluminum space-frame structure and low center of gravity and equipped with massive 18-in. wheels and tires that deliver its spectacular capabilities to the road.

And what capabilities! The highly respected Swiss publication *Automobil Revue* reported in its February 24, 2000 issue that “After extensive test driving in the rain and on dry roads, where the Z8 showed superb handling and downright unbelievable

cornering speeds, we could only confirm [BMW’s] claims.” American publications backed up their subjective impressions with objective measurements: Both in their May 2000 issues, *Road & Track* measured 0.92g in its skidpad cornering test, *Car and Driver* 0.90g.

The Z8’s accomplishments are by no means limited to amazing handling. BMW’s top roadster also offers its occupants a relatively comfortable ride – thanks to the combination of its highly rigid structure, the precise geometry of its suspension, and the extensive use of aluminum for suspension components.

Aluminum front suspension system

The Z8 front suspension system follows BMW’s established principle of strut-type front suspension with double lower arms; it is an evolution of the system employed in 5 Series models with rack-and-pinion steering, with an entirely new subframe and other components either new or modified from their 5 Series counterparts.

Though the system’s design is a major factor in the Z8’s amazing handling capabilities, the materials of which it is made are also important. Specifically, the use of aluminum in the system’s moving parts (the lower arms and steering knuckle) is beneficial to the customer in terms of:

- **Riding comfort**, particularly on rough surfaces.
- **Handling**, also particularly on rough roads.
- **Fuel economy and performance**.

These components are **unsprung weight**, and are the ideal place to reduce weight because lighter unsprung components improve

the suspension's ability to respond to bumps and other road irregularities.

The use of aluminum for fixed components, such as the subframe and steering-rack housing, benefits **fuel economy and performance**.

Safety is not compromised in any way by the weight reductions in these areas; on the contrary, it benefits active safety because of its positive effects on handling.

4-link Integral rear suspension

The Z8 rear suspension is a multi-link system, with four links per side, designed to control rear-wheel angles precisely for stable, yet highly responsive handling **without** unwanted effects under load changes (such as when lifting off the accelerator while cornering) and **with** riding comfort that is remarkable for a high-performance sports car.

A steel subframe carries the entire rear suspension system and the final drive (differential). It is mounted to the main space frame via four large rubber bushings which help absorb road shocks. In turn, the final drive unit is mounted to the subframe through its own rubber bushings. Thus with two stages of vibration and noise absorption between it and the vehicle structure, the differential is acoustically decoupled from the body, reducing any gear noise from it to a minimum inside the car.

Rack-and-pinion steering with variable assist and variable ratio

This is no "ordinary" rack-and-pinion system; rather, it is a type used in BMW's highest-performance models in recent years. One of its distinctive features is **variable ratio** (not to be confused with variable assist,

which is found in all current BMW power-steering systems). The steering rack's teeth are profiled in such a way that the steering ratio becomes "quicker" (that is, more steering effect for a given steering-wheel motion) as the wheel is turned outward from its center position. The result is a fine-tuning of steering response according to the situation one is in, be it on a fast straightaway or maneuvering into a parking space.

Aside from this specific variable-ratio feature, found in few rack-and-pinion systems, the fundamental argument for rack-and-pinion steering is that it virtually eliminates any slack or "free play" at the steering's center position. This enhances steering precision – especially appropriate in a sports car and the overriding characteristic of the Z8 steering system.

Z8 brake system

With hefty ventilated disc brakes all around – 13.1-in. diameter at the front with dual-piston calipers, 12.9-in. at the rear – the Z8 has stopping power to match its performance.

Car and Driver recorded an outstanding 165-ft. stopping distance from 70 mph; this compares to the same magazine's results of 179 ft. for the Porsche Boxster, 170 ft. for the Porsche 911 Carrera and 159 ft. for the Ferrari F 360 coupe. *Motor Trend* tested the Z8's brakes another way: from 100 mph in just 318 ft., taking only 4.3 sec. "Do the math," added *MT*, "and you'll learn that it takes only 14.5 seconds to run the famous 0-100-0 test, placing it fifth on our list of cars we've tested in this way – behind a McLaren F1 LM (11.5 sec.), the Dodge Viper GTS and Porsche 911 Turbo S

Z8 key features

The Z8 offers the following features:

(both 13.7 sec.), and a Ferrari 550 Maranello (13.9 sec.). These are the Z8's supercar peers, the pack with which it hunts lesser, mere sports cars."

18-in. wheels in differentiated front/rear sizes with run-flat performance tires

Massive 18-in. alloy wheels – 8.0 in. wide at the front, 9.0 in. at the rear – in Double Spoke design are a key element of the Z8's immense road capabilities, and a strong design statement confirming those capabilities.

Fitted to these wheels are low-profile performance tires incorporating advanced run-flat technology. Sized 245/45R-18 front and 275/40R-18 rear, the tires are W-rated for 167 mph, higher than the Z8's electronically limited maximum speed of 155 mph.

The Z8's **Run-Flat Combination (RFC) wheel-tire system** is an important step forward in safety, convenience and space utilization. The system consists of self-supporting tires, special wheel rims, and a Flat Tire Monitor.

In their design and configuration, the self-supporting tires are distinguished primarily by their special sidewalls, which include specific inserts and highly heat-resistant rubber compounds. These features allow a deflated tire to maintain its essential shape and guidance characteristics for a considerable distance, so that the driver can continue on until reaching a place to have the tire repaired or replaced.

While retaining the handling and safety standards expected of high-performance tires, the RFC system offers the following advantages:

No roadside tire changes. The driver does not have to stop and change a damaged tire. Even

with no air in the tire – a condition revealed to the driver via the Flat Tire Monitor – one can continue driving at 50 mph for up to 300 miles.

Tire stays on rim, thanks to specially developed Extended Hump wheel rims.

Stability systems remain functional. All Dynamic Stability Control benefits remain fully functional, even with a deflated tire.

Increased trunk space. A spare wheel and tire take up considerable space. The Z8 needs no spare tire, so that space is available for a trunk that is larger than would be the case if a spare tire were present.

Weight savings. The weight of a spare tire is eliminated.

A key element of the system is the **Flat Tire Monitor**. Whenever tire pressure drops by 30% or more, the tire's rolling radius changes; this means the wheel will turn at a different speed from the other tires on the vehicle. FTM measures wheel rotation via the ABS sensors, compares each wheel's rotational speed with the average of the other wheels, and recognizes any major deviation in wheel speed (and therefore tire pressure). Within a very short time of 1-3 minutes, the system triggers a pressure-loss signal via an indicator in the tachometer face and an audible warning.

Exterior & aerodynamics

The Z8 look: a contemporary classic

Is the Z8 a retro-styled car? "Of course," says Christopher Bangle, BMW's Chief Designer, expressing a clear view on the newest sports car from BMW. "The classic BMW 507 [the great BMW roadster of

the Fifties that the Z8 recalls] was our reference car, a very special car by all means. And since there is only one 507 in the history of the automobile, the Z8 is most definitely a retro design. A retro design full of romantic passion.”

BMW has invested a lot in creating the Z8's pure emotion, focusing deliberately on a classic line. In Bangle's words, “Only a carmaker with genuine history can create such an homage to a classic heritage model.” Clearly, BMW is such a carmaker, and the BMW 507 is amply deserving of homage. At the same time, the Z8 design incorporates a full range of contemporary elements that not only keep it from being a mere copy of the 507, but also help give it thoroughly contemporary capabilities.

The front end

The Z8 front end is a masterpiece of classic and contemporary themes. Its dual horizontal grilles – in contrast to the established, essentially vertical BMW “kidneys” dual grilles of all other BMW models – decisively recall the BMW 507. The openings include an “eggcrate” grid in black, just as those of the 507 did.

Yet these grilles also introduce contemporary design and functional elements. For one, they incorporate the halogen high-beam headlights; for another, they are part of the fully integrated, deformable front bumper unit, which provides damage protection in 5-mph impacts.

The main lighting units, behind aerodynamic covers, include Xenon low beams with **dynamic auto-leveling**. (Dynamic auto-leveling keeps the lights aimed correctly not just with changing vehicle loading, but also as

vehicle attitude changes with acceleration and braking.) The low beams are outboard; the inboard lamps are the parking lights. High-intensity liquid jets pop up from the covers' lower edges to clean these lighting units.

The most futuristic element of the Z8 front end is its **neon turn signals**, the first ever on a production automobile. Aside from their slender, distinctive appearance, neon has a convincing functional advantage: it illuminates approximately 10 times as quickly as conventional bulbs for an earlier signal of the driver's intentions. These lighting units also serve as side markers, operating at lower wattage than they do as turn signals.

In profile

This is perhaps the Z8's most classic view. Particularly notable are the side “gills,” which recall those of the BMW 507 roadster.

The gills' contemporary functional element is their fiber-optic turn-signal indicators: As on all recent BMW models, the side indicators flash with the front and rear turn signals to help give motorists driving alongside an early indication of the BMW driver's maneuvering intention.

Located on the right side (also as on all BMW models) is the fuel-filler door. It is electrically released via the same cockpit button that releases the trunklid: Press one half of the button to open the trunk, the other half to open the filler door.

Classic decorative elements seen in the side view include the chrome door handles and chrome exterior mirrors. With the lined softtop up, the Z8 loses none of its classic roadster look.

Z8 key features

The Z8 offers the following features:

At the rear

The Z8 rear view is unabashedly classic, with rounded, low lines that pay no tribute to modern wedge shapes.

As at the front, 5-mph bumper protection is smoothly integrated into the overall shape. The license plate is flanked by two red lenses: at left a rear foglight, at right one that illuminates white as the backup light.

Also as at the front, neon lighting units are the most futuristic element here. They are used for the turn signals and both outer brakelights, as well as the high-mounted center brakelight.

The faster illumination of neon means that a driver following a Z8 at 80 mph would see the brakelights about 21 feet sooner than with conventional lights – a potentially decisive factor in reacting quickly enough to avoid being rear-ended. The wrap-around form of the tail/turn-signal/brakelight units also helps ensure visibility from a wide range of angles.

Large, polished exhaust outlets, emerging through the lower apron/aerodynamic diffuser, make a powerful statement about the Z8's performance potential.

Under the smooth trunklid, opened electrically from an interior switch or the remote, is a beautifully finished trunk large enough to accommodate two golf bags. See **ergonomics & luxury** for details on the trunk's features.

Aerodynamics

A classic roadster does not achieve a very low coefficient of aerodynamic drag (C_D); however, it does have a relatively small frontal area, so its overall aerodynamic drag (wind resistance) is not high.

The Z8's C_D , measured with its top up, is 0.43; with the hardtop the C_D becomes 0.39. These are excellent numbers for a roadster.

In the Z8, the driver and passenger will notice moderate wind effects with the top down; with the standard wind deflector in place, there is even less buffeting around the occupants' heads. With the roadster top up, its interior lining helps keep wind noise down to a moderate level.

Finally, the Z8's aerodynamics have been carefully developed to ensure stability at all speeds.

Ergonomics & luxury

Z8 cockpit concept

The Z8 cockpit truly breaks new ground for BMW – yet does so by paying unflinching tribute to classic values.

Don't look here for every last luxury feature found in BMW sedans, coupes and sport wagons. Instead, BMW designers and planners have carefully cultivated a feeling – and reality – of the classic sports-car cockpit.

There are, of course, many of the contemporary conveniences: power seats and steering-wheel adjustment, 1-touch windows, a premium audio system. Yet in the spirit of re-creating the classic sports-car experience, BMW has been careful not to go too far with these: the seats are 6-way, for example, the steering-wheel adjustment is telescopic only, the climate-control system manual (and without labeling or numbers on its rotary knobs). A GPS Navigation system and state-of-the-art phone system are standard, but both are normally hidden from view and the navigation system is in compact form, without color monitor.

The steering wheel, while incorporating BMW's latest airbag technology, appears in a delightful re-creation of the vintage "banjo" wheel. Main areas of the dash are painted. The instrument cluster is centrally positioned. Genuine aluminum graces surfaces, handles and knobs. The array of controls has been kept to a minimum, and many of them are intentionally not labeled.

Of course, all materials are of the very highest qualities. All in all, the Z8's approach to ergonomics, luxury and convenience is at once new and nostalgic.

Z8 instrument cluster: classically centered

While remaining true to BMW's tradition of easily readable white-on-black main instrumentation, the Z8's instrument cluster has a new (yet vintage) graphic look. Even bolder is the cluster's position in the center of the dash, with the dials angled toward the driver.

Here, BMW designers wanted to create a special vintage feel – and to give the Z8 driver a direct view of the road as in no other contemporary vehicle. The cluster's contents are as in other BMWs, with a large speedometer and tachometer and smaller dials for fuel level and engine temperature. A special Z8 touch is the black-on-white analog clock in the tachometer face. At night, all four dials are illuminated in a unique way, from their dial centers outward (See *Road & Track* quote, page 295).

BMW's Service Interval Indicator, with miles-to-service readout as in the 3 Series, appears along with main and trip odometers in the speedometer face. Warning and indicator lamps are positioned in the speedometer and

tachometer faces, as well as along the bottom of the cluster. Appropriately, the fuel and temperature gauges contain their own warning lamps.

Power telescopic steering wheel in classic "banjo" style

The Z8's steering wheel is a work of art. Classic simplicity is expressed by a round hub with color-keyed center and brushed-aluminum outer ring. Three spokes in a metal "banjo" style that was popular in the Thirties are a surprising, delightful design element.

Power telescopic adjustment of the wheel is controlled by a switch on the underside of the steering column.

Leather/aluminum shift knob

In aluminum and color-keyed leather, the shift knob is the perfect control for the Z8's 6-speed manual transmission.

6-way power sport seats

The Z8's seats are contoured and padded for the exceptional support needed in a sports car of the such dramatic capabilities. In particular, the cushions' and backrests' side bolsters are prominent for a high degree of lateral support.

Six-way power adjustment is controlled by two ergonomic switches on the outboard side of each seat, in zinc with matte-chrome finish.

Power windows & outside mirrors

Power-window and -mirror controls are combined in a switch group on the driver's door. The window control is at the front of the switch escutcheon, the mirror control at the rear; a vertically sliding switch between the two selects left, right or both as follows:

- Left (up) position – left window and mirror

Z8 key features

The Z8 offers the following features:

- Center position – both windows, no mirrors
- Right (down) position – right window and mirror.

1-touch open and close operation is provided for the left window, 1-touch open for the right window.

With the selector switch in the center position, both windows have 1-touch open operation.

The windows have BMW's power door-window sealing system:

With the windows and top raised, the windows seat securely into their weatherseals. When a door is opened, its window drops slightly to clear the seal; when the door is closed, the window again rises to seat in the seal.

The inside rearview mirror is auto-dimming and includes separately switched left/right reading lights.

Colors and trim

A striking aspect of the Z8 cockpit is its use of color-keyed painted areas and elegant metal trim and components.

With the addition of Stratus Gray Metallic for '02, the Z8 is now available in five exterior colors: Black, Bright Red, Titanium Silver, Topaz Blue and Stratus Gray. Interior color schemes are Black, Sport Red/Black, Cream, and Cream/Black. In a specific design connection with the BMW 507 roadster, the sweeping upper dash panel is painted in a color that either matches the exterior color or is coordinated with it, as are the console panel with radio cover, seat side trim, back of seat backrests, and a center panel behind the seats.

With Black and Topaz Blue exteriors, these panels exactly match the exterior. With the Titanium Silver exterior, they are finished in Titanium Silver Dark

for a subtle contrast. With the Bright Red exterior, the dash panel is in Black. Available on special order are non-standard combinations, such as Black interior panels with a Titanium Silver, Topaz Blue or Stratus Gray body.

Nappa-leather upholstery

The Z8's seats, head restraints, rollover-protection bars, doors, upper and lower dash, steering wheel, shift knob, shifter and handbrake boots, and center console are all leather-trimmed; the seats themselves are in premium-grade Nappa leather, with color-keyed painted trim on their sides and backs. In 2-tone interiors (Red/Black and Cream/Black), the seat upholstery carries through the 2-tone theme.

Special Z8 climate-control system

The Z8's manual climate-control system meets contemporary expectations for heating, ventilation and air-conditioning performance, yet also harmonizes with the Z8's classic esthetic values.

Minimally labeled controls are grouped in an attractive aluminum panel at dash center, which also includes center air outlets for individually controlled face-level air distribution. From left, the main rotary knobs are:

- **Blower**, with marks indicating five speeds.
- **Temperature**, with clockwise progression from cold to maximum heat.
- **Air distribution** –
 - maximum counterclockwise = dash vents
 - vertical = defrost
 - maximum clockwise = footwells
 - progressive adjustment of air flaps between settings, so that users can choose any intermediate distribution mix.

- **Program selector**, with four settings –
 - left = recirculating air, air conditioning off
 - vertical = fresh air, a/c off
 - 1st step right = fresh air, a/c on
 - right = recirculating air, a/c on.

Two pushbuttons, placed between the two pairs of rotary knobs, are used to select defroster settings and rear-window heating (hardtop only).

The Z8 system includes microfilters to cleanse incoming air of dust, pollen and odors. These are located under the hood near the windshield and easily replaced, as required periodically by the BMW maintenance schedule.

It is recommended that the BMW Client Advisor explain the climate-control system thoroughly to the Z8 client, and call his or her attention to the section of the Owner's Manual covering it. Though the system possesses contemporary capabilities and advanced internal electronics, its operation may not be intuitive to every customer.

Power lined softtop

An electrohydraulic mechanism provides convenient lowering and raising of the softtop, which is lined for neat interior appearance and low wind noise when it is raised.

Lowering the top is fully automatic. With the ignition switched on and the vehicle stationary, all one has to do is press and hold the console switch until the top is folded into its space behind the seats. If the windows are up, they lower automatically; the audio system is automatically set for top-down operation.

Raising the top is semi-automatic. Once the top reaches a certain point on the way up, it stops. At this point, reach up to the header, pull forward gently, and press the switch there; then the header locks automatically into the windshield frame.

A molded cover, made of fine leather, covers the folded top. It must of course be removed before the top can be raised.

Wind deflector

Carried in its own bag in the trunk, the wind deflector attaches easily to the rollbars and hooks under the molded cover to reduce turbulence around the occupants' heads.

Multi Information Radio

The Z8 takes a novel approach to audio and information systems with the **Multi Information Radio (MIR)**. All systems are commanded from a compact control panel, normally hidden from view by a panel at the top of the center console. When pressed inward, this panel glides smoothly upward to reveal the controls.

At the center of the panel is a compact liquid-crystal display (LCD). A main menu here lets users select the audio system, GPS Navigation, phone functions or outside-temperature display via a turn-and-push button. Preselect buttons under the display serve various purposes according to which system has been selected for control at the moment.

Harman Kardon audio system.

The audiophile-quality AM/FM/CD audio system includes a Harman Kardon speaker network consisting of –

- Wide-band speakers beneath the seats (2)
- Woofers in the footwells (2)

Z8 key features

The Z8 offers the following features:

- Tweeters and subwoofers in the doors (2+2)
- Subwoofers behind the seats (2+2).

With the four subwoofers, much emphasis has been placed on bass capability – especially important in an open-bodied vehicle. BMW of North America does not quote audio power, but wattage is more than adequate for demanding audio tastes and the open-air driving environment.

A 6-disc CD changer and the Navigation System's CD player are in left/right compartments behind the seats for convenient changing of discs. Locked for security, they are accessible only with the vehicle key; specific lighting is provided to facilitate CD changing by night.

GPS Navigation. As in the Onboard Navigation System of other BMW models, the push-and-turn knob controls GPS Navigation functions. The GPS Navigation system operates just like the monitor-based system of other models, but does not offer map displays. Turn-by-turn route guidance is shown on the screen and given verbally as well.

BMW Cellular Phone System. BMW's newest, most advanced Cellular Phone System – the CPT 8000 digital/analog in-car/portable unit – is standard. Its handset is carried in the compartment at the rear of the

center console. It is of course hands-free, and certain dialing functions can be controlled from the MIR panel. For further information on this phone system, see **BMW features**, page 37.

Outside-temperature display. Selectable at any time, no matter which system is in use.

The Dynamic Stability Control (DSC) de-activation switch is also in this area.

Trunk features

Thanks to the omission of a spare (see **handling, ride & braking**), the Z8 has a surprisingly large trunk for a trim sport roadster. Germany's *auto motor und sport* magazine (February 23, 2000) found the Z8 trunk adequate for "the weekend luggage for two persons," and it can also carry two golf bags.

True to the Z8's character (and BMW tradition), the trunk is also beautifully and fully finished in red, black or cream according to the cockpit color scheme. A toolkit is carried there in a traditional soft bag, as is the wind deflector.

Safety & security

Safety features

BMW's customary emphasis on active safety – steering, suspension, brakes and stability-enhancement systems that can help the driver avoid accidents – endows the Z8 with an uncanny

ability to obey the driver's commands. For details on these aspects of the Z8, please refer to **handling, ride & braking**, beginning on page 296.

In terms of passive-safety features, the Z8 incorporates a range of contemporary BMW concepts, including automatic safety-belt tensioners and force limiters, a dual-airbag Supplementary Restraint System with 2-stage Smart Airbags and occupant detection (the Differentiated Deployment system described on page 45), body sides and doors designed to meet current U.S. standards for side impacts, and side-impact airbags in the doors.

Rollover Protection

Occupant safety in a rollover is enhanced by two fixed structural hoops behind the seats. The hoops' internal construction is strong tubular steel; they are padded, and covered in color-coordinated leather. Adjustable head restraints are positioned just ahead of the hoops.

Security features

The Z8 includes a wide range of standard security features. The alarm system includes a tilt sensor, and is controlled by a multi-function remote in the head of the master key. For built-in theft deterrence, BMW's much-appreciated central locking is

also standard, and BMW has thoughtfully included both the glove and phone compartments in the system. The proven, highly effective Coded Driveaway Protection guards against unauthorized starting of the engine or unlocking of the steering column.

Removable hardtop

Besides enhancing comfort in severe weather, the standard-equipment hardtop also enhances security from theft when installed.

Options & accessories

Factory-installed options

The Z8's only options are color-related and offered at no extra cost. With Black, Bright Red and Topaz Blue, a Beige softtop is available as an alternate to the standard Black (the Beige top is standard with Stratus Gray). And instead of the standard body-color-coordinated interior panels, Black is available with Titanium Silver, Topaz Blue and Stratus Gray.

BMW Center-installed accessories

Attachable cupholders are available for fitting to the Z8 cockpit.

Standard & optional features

2002 Z8

Performance & efficiency

5.0-liter DOHC (4-cam) V-8 engine with Double VANOS ¹ steplessly variable valve timing	S
Aluminum block & cylinder heads	S
8 individual throttles, electronically controlled, with M Driving Dynamics Control (2 settings)	S
Special Motronic MS S52 electronic control system	S
G-sensitive semi-dry-sump lubrication system	S
Oil-coolant heat exchanger	S
6-speed manual transmission with heavy-duty clutch	S

Handling, ride & braking

Aluminum double-pivot strut-type front suspension with low-friction balljoints at lateral arms	S
4-link integral rear suspension with low-friction balljoints at upper & lower lateral arms	S
Front & rear anti-roll (stabilizer) bars	S
Twin-tube gas-pressure shock absorbers	S
Engine-speed-sensitive variable-assist, variable-ratio rack-&-pinion power steering	S
4-wheel ventilated disc brakes with 2-piston front calipers	S
Dynamic Stability Control (DSC), including all-speed traction control, electronic brake proportioning, antilock braking (ABS), Dynamic Brake Control & cornering/avoidance-stability enhancement	S
Run-Flat Combination (RFC) wheel-tire system: Double Spoke alloy wheels, 18 x 8.0 front/18 x 9.0 rear with run-flat rim design	S
245/45R-18 W-rated front / 275/40R-18 W-rated rear run-flat performance tires	S
Flat Tire Monitor	S

Exterior & aerodynamics

Choice of standard or metallic paint	S
Body-color bumpers with hydraulic energy absorbers (5-mph impact absorption)	S
Xenon low-beam headlights with dynamic auto-leveling (ellipsoid beams with aerodynamic covers)	S
High-intensity liquid headlight cleaning system	S
Fast-reacting neon exterior lighting: front & rear turn signals, taillights & brakelights	S
Fiber-optic side turn indicators (in "gills")	S
Rear foglight	S
Vehicle-speed-sensitive windshield wipers	S
Dual power/heated exterior mirrors	S
Chrome exterior mirror shells	S
Heated driver's door lock, windshield-washer jets & windshield-wiper parking area	S
Polished stainless-steel exhaust outlets	S

Ergonomics, luxury & convenience

Keyless entry with multi-function remote control (battery charges from vehicle electrical system, requires no periodic replacement) –	S
Selective unlocking	S
Remote trunk release	S
Doorsill trims with brushed stainless-steel inserts	S
Auto-dimming inside rearview mirror	S
Courtesy lights with fade-in/fade-out feature, actuation from remote control, automatic switch-on when engine is turned off; include footwell lighting	S
Exit/entry lights in doors	S
Reading lights integrated in inside rearview mirror, separately controllable left/right	S
Lockable glove compartment with rechargeable take-out flashlight	S
Lockable, lighted compartments for 6-disc CD changer & Navigation System CD player behind seats	S
Power telescopic steering wheel with classic multi-spoke design, color-keyed center, leather-wrapped rim	S
Starter button	S

S – Standard

1 – VANOS = **V**ariable **N**Ockenwellen **S**teuerung = variable camshaft control, or variable valve timing.

Standard & optional features

2002 Z8

Ergonomics, luxury & convenience (cont.)

6-way power/heated sport seats (2-stage heating)	S
Front center armrest with dual storage compartments & concealed phone installation	S
Closeable storage compartments in doors	S
Special Z8 instrumentation with –	
Satin Chrome trim	S
Analog clock in tachometer face	S
Night illumination from dial centers	S
LCD main & trip odometers	S
Service Interval Indicator with miles-to-service readout	S
Multi Information Radio system including –	
GPS Navigation	S
AM/FM/CD audio system with 10 speakers (incl. 2 subwoofers), diversity antenna system	S
Digital/portable BMW Cellular Phone System	S
Outside-temperature display	S
Extensive Nappa-leather upholstery & trim in solid or 2-tone colors	S
Interior panels color-keyed to exterior	S
Coordinated metal trim finishes & components throughout interior	S
Heating/ventilation/air-conditioning system with center dash vents integrated into control panel	S
Activated-charcoal microfilter ventilation (dual filters)	S
Power windows with 1-touch open/close driver's window (anti-trapping feature), 1-touch open passenger's window; key-off operation	
Power side-window sealing system	S
Lined power roadster softtop with fully automatic opening, semi-automatic closing	S
Leather molded cover for folded softtop	S
Wind deflector, attachable to Rollover Protection bars	S
Removable hardtop with heated rear window	S
Attachable cupholders	C
Fully finished trunk with color-keyed trim, toolkit & storage space under carpeted floor	S

Safety & security

Dual front-impact airbag Supplementary Restraint System (SRS) with dual-threshold deployment & 2-stage Smart Airbags	S
Safety belts with automatic tensioners & force limiters	S
Side-impact airbags	S
Integrated deployment logic for safety-belt tensioners, airbags & post-impact safety measures	S
Rollover Protection with leather-covered bars	S
Battery Safety Terminal	S
Central locking system with double-lock anti-theft feature & selective unlocking; glove compartment & phone compartment included in system for security with softtop down	S
Locking compartments for CD changer & Navigation System CD player	S
Coded Driveaway Protection	S
Alarm system with operation from keyhead remote	S

S – Standard

C – Available from BMW Center

Specifications

2002 Z8

General

Curb weight, lb.	3494
Weight distribution, front/rear, %	50.2/49.8
Wheelbase, in.	98.6
Track, front/rear, in.	61.1/61.7
Length x width x height, in.	173.2 x 72.0 x 51.9

Body

Type	Aluminum space frame, aluminum body panels
Aerodynamic drag coefficient	0.43 (softtop raised) 0.39 (hardtop installed)
EPA size classification	2-Seater

Accommodations

Seating capacity, persons	2
Shoulder room, in.	55.2
Head room, in. (softtop up)	37.2
Leg room, in.	42.8
EPA interior volume, cu ft.	51.1
EPA cargo volume, cu ft.	5.1

Engine & electrical

Engine type	DOHC 32-valve (4-cam) V-8, Double VANOS steplessly variable valve timing ¹ , 8 individual electronically controlled throttles with Normal & Sport settings
Bore x stroke, mm/in.	94.0 x 89.0/3.70 x 3.50
Displacement, cu in./cc	4941/302

Engine & electrical (cont.)

Compression ratio	11.0:1
Power @ rpm, hp SAE net	394 @ 6600
Torque @ rpm, lb-ft.	368 @ 3800
Engine-management system	Siemens MS S52 with adaptive knock control; variable valve timing, electronic throttle system, g-sensitive lubrication system, oil-level/temperature sender, catalyst protection & M Driving Dynamics Control included in control strategy
Fuel requirement	Premium unleaded
Fuel capacity, U.S. gal.	19.3
Battery capacity, amp-hr.	90
Alternator output, amp./W	120/1680

Drivetrain

Drive system	Front engine/rear drive
Manual transmission	Getrag Type D, 6-speed
Ratios: 1st	4.23:1
2nd	2.53:1
3rd	1.67:1
4th	1.23:1
5th	1.00:1
6th	0.83:1
Reverse	3.75:1
Final drive ratio	3.38:1

1 – VANOS = **V**ariable **N**Ockenwellen **S**teuerung = variable camshaft control, or variable valve timing.

Specifications

2002 Z8

Chassis

Front suspension	Sport suspension in aluminum; struts, double-pivot lower arms with low-friction balljoints at pivot points, coil springs, twin-tube gas-pressure shock absorbers, anti-roll bar; aluminum subframe
Rear suspension	Sport suspension; 4-link integral system with low-friction balljoints at pivots of upper lateral arms, lower lateral arm, twin-tube gas-pressure shock absorbers, anti-roll bar
Steering type	Variable-ratio rack & pinion, engine-speed-sensitive power assist
Overall ratio	Variable; mean ratio 20.5:1
Turns lock-to-lock	3.0
Turning circle, ft.	38.7
Antilock braking system with 4-wheel ventilated discs & electronic brake proportioning:	
Diameter, front/rear, in.	13.1/12.9
Assist	Vacuum
Wheels	Cast alloy, run-flat design; 18 x 8.0 front/18 x 9.0 rear
Tires	Run-flat performance radials, 245/45R-18 W-rated front / 275/40R-18 W-rated rear
Stability-enhancement system	Dynamic Stability Control (DSC), including all-speed traction control, electronic brake proportioning, antilock braking (ABS), Dynamic Brake Control & cornering/avoidance-stability enhancement

Performance data

Acceleration, 0-60 mph, sec., manufacturer's data ²	4.7
Top speed, mph	155 ³
Fuel economy, EPA est. MPG, city/highway	13/21

2 - BMW AG test results. Actual acceleration results may vary depending on specification of vehicle; road & environmental conditions; test 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 limits and to please wear your safety belt at all times.

3 - Electronically limited.