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Audi Pikes Peak quattro

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Star athlete with strong personality

Audi Pikes Peak quattro: dynamism, design and space

Premiere in Detroit: at the North American International Motor Show (January 5 to 20, 2003) Audi is exhibiting a sport concept study: the Pikes Peak quattro, for all on-road driving and moderate off-road terrain. It has been developed exclusively for this debut at America's most important automobile exhibition.

This impressive study for an Audi that is typical in its suitability for several market segments, takes its name from Pikes Peak, a mountain some 4,300 meters (14,110 feet) high that rises abruptly out of the Colorado Plain of the Rocky Mountains. It can be seen from many miles away and is also called "America's Mountain".

It is a gathering place for automobile enthusiasts on account of the "Pikes Peak International Hill Climb Race". Every year in June, up to 160 fearless drivers tackle this 12.4 mile (almost 21 kilometer) long run, which has straights on which 125 mph (200 km/h) can be reached but also 156 corners with loose stone surfaces, unprotected by any form of crash barrier.

Three victories have made the Pikes Peak International Hill Climb Race part of the successful history of Audi Motorsport. In 1985 it was won by Michèle Mouton, the first woman driver ever to win a world championship rally. A year later, the legendary American race driver Bobby Unser proved to be unbeatable, and in 1987 Walter Röhrl in the Audi Sport quattro S1 scored a much-admired overall victory by conquering the Peak in the new record time of 10:47.85 minutes.

The qualities possessed by the Audi Pikes Peak quattro exhibit definite parallels with the world of rallying, that high-speed sport mostly conducted on loose-surfaced roads and tracks. However, the Audi Pikes Peak quattro for 2003 is considerably more versatile than the Audi Sport quattro that was so successful 15 years ago.

The idea behind the Audi Pikes Peak quattro

This four-door 4+2-seat hatchback is a draft design that indicates the systematic evolutionary path that current Audi design could take – but it is more besides: the Pikes Peak quattro illustrates the novel AUDI AG concept that spans several segments in the premium automobile category.

The Audi Pikes Peak quattro is notable for the manner in which it combines the sheer power of the legendary Audi quattro and an advanced design concept that brings together elements from widely varying types of automobile.

The Audi Pikes Peak quattro is a crossover model. It possesses typical qualities from a number of different automobile categories.

From the luxury sport sedan it adopts dynamism and comfort, but its off-road competence comes from its variable-height adaptive air suspension and quattro driveline. This is not all: the Audi Pikes Peak quattro is equally convincing with its innovative seating concept with variable elements as used in luxury vans.

What makes the Audi Pikes Peak quattro a truly forward-looking concept are its restrained but elegant proportions, with a confident air of supremacy and styling full of character that set it well apart from clumsy attempts to interpret the theme of a ‘go-anywhere’ vehicle.

Design with character

The Audi Pikes Peak quattro is a typical Audi interpretation of what form a striking, sporty crossover model with strong premium affinities could take.

Generous curves, clearly defined outlines and muscular, taut surfaces of large area are here united in an architecture in which tranquil beauty and athletic tension create an intriguing contrast. The outer surfaces, accented with swage-lines and interesting panel gap patterns, add vitality to the styling.

To strengthen this impression, a bright “Polar Silver” metallic paint finish has been chosen. Although the Audi Pikes Peak quattro conveys a strong impression of strength and security, it cannot be said to lack sporty elegance.

At the front, the Audi Pikes Peak quattro has a radiator grill divided into two sections horizontally, with a boldly shaped surrounding frame.

Many of the visible details of the Audi Pikes Peak quattro are equally striking. The Xenon Plus headlamps behind clear glass covers communicate the technical aspect of their design, and supply a magnificent spread of light for fast driving on the highway or to find a way along loose-surfaced tracks after dark. The use of LEDs as a light source permits the fog lamps to be extremely compact and permits boldly styled rear lights to be used.

The loop-pattern door handles on the Audi Pikes Peak quattro only extend when the advanced key function’s proximity sensor has detected that an authorized key holder wishes to enter the car. Door handle lights then come on too. This remarkable approach to car access combines the visual elegance of flush-mounted door handles with the substantial feel of those with a loop for the driver or passenger to grasp.

The outside mirrors are also used to illuminate the area close to the vehicle. A camera has been built into the mirror at the right, and focused on the right front wheel. This ‘dead area’ is then displayed on the MMI screen so that the driver can judge the clearance or the distance from the edge of the road more effectively when crossing difficult terrain.

Evidence of the dynamic properties of the Audi Pikes Peak quattro is provided by the massive wheels with 5-arm double spokes (from the outside, these have the appearance of two star-pattern wheels one behind the other) and the tires with a specially developed tread pattern.

PAX wheels of size 295/770 R 560 A (equivalent to a visible wheel diameter of 20.6 inches) help to keep the vehicle controllable if there is a sudden loss of tire pressure. Their 'run-flat' construction means that mobility is maintained if a tire failure should occur, and the vehicle can be driven for up to 125 miles (200 kilometers) at speeds up to 50 mph (80 km/h).

The interior: a new and welcoming ambience

The harmony of the overall concept adopted for the interior creates strong links with the sporty, emotive exterior styling. With fine materials and flawless workmanship, the interior provides a new and most agreeable travel experience. Matt-brushed aluminum and Japanese "Tamo" ashwood trim elements give it sporty and technical, but also natural, welcoming accents. A glass roof offers the occupants a panoramic view and a sense of space and light.

Dynamic but visually restrained, the fascia is framed and supported visually by the doors.

The clear outlines featured in the driver's area are emphasized by a raised center console that adds to the dignified, sporty impression created by the entire interior. A novel type of display using 3D laser optics makes the instruments brilliantly legible even when vision is otherwise poor.

The multifunctional leather-covered sport steering wheel is of three-spoke design, with tiptronic transmission shift paddles behind it. The driver can select the chosen gear without having to take a hand off the steering wheel.

For optimized occupant protection, two neatly housed additional "out of position" cameras identify the front passenger's seated position and modify triggering of the airbag appropriately.

The gear shift gate and the Audi-MMI unit (Multi Media Interface) are located conveniently and ergonomically for the driver. By dividing up the center console asymmetrically in this way, space is created on the front passenger's side for a convenience package comprising two cup holders and a shelf for small items. There is a cold-store compartment under the split armrest.

All the centrally located controls have polished aluminum surrounds and clear-glass covers to add visual impact to the interior.

The front center console is arranged like a bridge from the fascia to the rear end of the front seats. Between the individual second-row seats there is a second, retractable center console that emphasizes the functional character of the Audi Pikes Peak quattro. It contains controls for the infotainment electronics and another cold-store compartment, shelf space and cup holders.

The caribou beige decor chosen for the interior harmonizes well with the green color of various elements. The boldly contoured seats, for example, are upholstered in high-quality caribou-color nappa leather, the backs of the seat shells with Yukon green leather.

No compromises for the seats either

Six people can travel in the Audi Pikes Peak quattro on three pairs of leather-upholstered seats. The decision to adopt a 4 + 2 seating layout emphasizes the concept study's premium character, with no cramped center seat accommodation above the prop shaft tunnel, but instead a well-balanced blend of luxury and functional efficiency.

All seats in the Audi Pikes Peak quattro have a wide range of electrical adjustment. To simplify access to the rear seats, those in the second row have an easy-entry function. If bulky loads have to be carried, the two rear pairs of seats can be folded down so that their backs extend the load area up to a capacity of 68 cu. ft (1,950 liters) when needed. The rear seat is also folded electrically.

In the Audi Pikes Peak quattro the MMI display is not available only to the front seat occupants. Two 6.8 x 5.1 inch (173 x 130 mm) screens fold down from a console in the roof lining to provide both information and entertainment for those sitting in the second and third rows. DVD and MD drivers in the retractable center console, a separate MMI with Internet access and USB and headphone plug connections are provided so that the passengers have access to a varied selection of entertainment facilities.

Reaching a strong conclusion: rear-end design

For easy loading, the tailgate of the Audi Pikes Peak quattro extends into the rear side panels; it is opened and closed electrically by remote control. Hand baggage can be placed in the load area through the rear window, which opens separately.

The twin pairs of exhaust tailpipes integrated into the rear bumper add visual harmony and deliver an agreeable, impressive sound.

Eight-cylinder, 500 hp engine with twin turbochargers and direct gasoline injection

Well known from the Audi RS 6, the V8 engine with twin turbochargers has been further developed and now has a power output of 500 hp. A decisive factor in this power hike is the advanced FSI direct gasoline injection principle, which indicated that new standards were about to be set when it was used on the competition cars that scored historic victories in the 2001 and 2002 Le Mans 24-Hour races and in the American Le Mans Series. Powerful FSI engines are already in production for the Audi A2 and A4 models.

In the Audi Pikes Peak quattro the eight-cylinder twin-turbo FSI engine is notable for its free revving and vigorous pulling power at all engine speeds. It accelerates the Audi Pikes Peak quattro from 0 to 100 km/h in only 5.0 seconds (0 – 60 mph in 4.7 sec) and takes it on to a governed top speed of 155 mph (250 km/h). Its maximum torque of 630 Newton-meters is available from as low an engine speed as 2000 rpm upwards and remains constant over a broad speed range. This supreme, massive pulling power is ideal for fast cross-country driving and for negotiating off-road sections of the journey.

Ultimate progress on all roads

It was only logical for Audi, when drafting out this versatile concept vehicle, to include all its in-depth quattro driveline know-how and its experience with variable-height active air suspension. The development engineers' brief was for the Audi Pikes Peak quattro to be able to tackle loose surfaces and poor roads just as supremely as fast sections of the highway.

In all driving situations and across all kinds of surface, quattro permanent all-wheel drive stands for optimum traction and dynamic stability.

The standard torque split between the axles is 50% to the front and 50% to the rear, but if wheelspin occurs at either axle the split is diverted to the axle with more grip.

The electronic differential lock (EDL) controls torque distribution between the two wheels on an axle. Then there is the Electronic Stabilization Program (ESP), which assists the driver when potentially critical driving situations close to the handling limit have to be mastered. Like all Audi quattro cars, the Pikes Peak quattro provides the best possible traction on all surfaces and in all conditions.

Variable-height pneumatic control at both axles responds automatically when the load carried by the vehicle increases, and restores its ride height to the standard level. The air springs support the entire load at each axle.

A highlight of innovative safety: the lane departure warning system

The lane departure warning system is a special function that actively supports the driver. By means of an optical sensor, this driver assistance system scans the road markings and issues an acoustic warning signal and a physical response in the form of steering wheel vibration if the driver departs from his or her chosen lane.

A warning that an unintentional lane change is taking place is then given to the driver as a means of avoiding a possible accident. Also installed on the Audi Pikes Peak quattro: adaptive cruise control, which not only performs the functions of a conventional cruise control system but also maintains the desired distance from the vehicle in front automatically.

Adaptive air suspension

A special feature of the Audi Pikes Peak quattro is its variable-height adaptive air suspension. This Audi system makes the Pikes Peak quattro into a most impressive all-rounder. Ample ground clearance – up to 11 inches (280 millimeters) for crossing rough terrain – can be preselected at the MMI; at high speeds, the body can be lowered so that its center of gravity is lower and its aerodynamics are optimized.

As road speed increases, the suspension is lowered and the shock absorber settings varied automatically, so that optimum dynamic stability is assured.

Audi is systematically exploring new paths

The concept chosen for the Audi Pikes Peak quattro unites the most varied demands that can be made of an automobile: it is a sedan with abundant sporty style, suitable for serious travel purposes, it is powerful off-road transport and it is a stimulating leisure vehicle with a versatile interior layout for passengers and loads.

The Pikes Peak quattro is further evidence of Audi's proverbial technological lead as expressed in its slogan "Vorsprung durch Technik". Audi is systematically exploring new paths: quattro, TDI, FSI and Audi Space Frame are just some of the examples of its pioneering technical achievements.

When developing new vehicle concepts, Audi deliberately goes beyond conventional limits. Short-lived fashion trends are not the objective – Audi's aim is to establish new milestones. The Audi Pikes Peak quattro is yet another example of this.

The Audi Pikes Peak quattro shows that the existing definition of the SUV (Sport Utility Vehicle) must be modified, and new values added. It extends the activity component in this definition to include such typical Audi attributes as the quattro driveline with variable-height adaptive air suspension, and matches the dynamic road performance of many a high-class sports car. With its 4 + 2 seating system, which is operated electrically and therefore needs no manual effort, it adds a new quality to the term versatility. And in addition, its sporty, elegant styling is visually satisfying.

The Audi Pikes Peak quattro is therefore more than another SUV: it unites the best characteristics of several different automobile worlds at the very highest level, to achieve a hitherto unattained level of overall harmony.