

PEUGEOT 407

THE COUPE

Following a well-established tradition which has seen a number of great coupes produced by the Marque, such as the 404, 504 and 406, which became famous as icons of their times, today the 407 Coupé takes to the stage.

This new coupé with its exclusive style is both elegant and expressive and can comfortably accommodate four passengers and their luggage.

Its modular interior with versatile and dynamic characteristics gives it all the credentials of a genuine contemporary touring car.

Indeed, the technology chosen for the engines and suspension ensure highly efficient road-holding, guaranteeing active safety of the highest order, as well as convenience, comfort and driving pleasure at all times.

Architecture

The 407 Coupé has a length of 4.815 m and a width of 1.868 m. Its height does not exceed 1.40 m and the front and rear overhangs are 1.08 m and 1.01 m respectively, or + 5.5 cm and + 8.5 cm compared to those of the saloon.

The interior of the passenger compartment is generous, due to its length of 1.72 m, or 5.8 cm greater than that of the 406 Coupé. Similarly, elbow width in the front seats has been extended to 1.542 m and in the rear seats to 1.234 m, i.e. +12.8 cm and +14.2 cm compared to the 406 Coupé.

Equipped with a dividing, folding rear bench seat, the 407 Coupé has a boot capacity of 400 dm³ VDA.

The perception of a large interior space is accentuated further by the large glazed surface area (2.8 m²) and the forward-positioned front windscreen.

Like all 407s, the architecture of the driver's seat ensures perfect alignment between the pedal bracket, steering wheel and driving position. Moreover, the many possible adjustments ensure optimal comfort, even for a very tall driver, enhancing both driving pleasure and safety. To give this car a true coupé feel, the driving position has been lowered by 20 mm and set back by 9 mm compared to that of other 407s.

Style

Thanks to its delicately sculpted architecture, this new body radiates balance, elegance and dynamism. Its feline look begins with the steeply inclined front windscreen, giving rise to the lines of a low roof which sweeps back to the tailgate with its integral dynamic spoiler. At the rear, the lower panel with its taut lines

creates an unmistakable visual impact, giving the impression that the 407 coupé is about to pounce, even when at a standstill.

The emotion aroused by the style of the vehicle is strengthened by the "look", the taut design of the flanks, and the aerodynamic design of the front shaping the contours of the passenger compartment that is both discreet outside but extremely generous inside.

This highly sculpted coupé accentuates the stylistic codes inaugurated on the 407 range and emphasises the harmonious balance between dynamism and refinement.

The 407 Coupé sustains the promise of motoring enjoyment expressed by its bodywork by offering inside an opulent atmosphere with four "separate" seats. Here, echoes of motoring tradition can be found in its instrument panel, its real aluminium detailing and the hand-stitched finish of its leather trim. The special finish of the fascia panel, designed from the outset to set both the saloon and the coupé, is emphasised in the coupé, particularly in versions with leather trim.

The variety of special trims available for the passenger compartment places this coupé firmly in the refined world of grand touring cars.

Structure

The structure, derived directly from that of the saloon and SW, has been developed specially to accommodate the new body. The structure of the coupé satisfies all the requirements laid down in terms of safety and driving pleasure by offering a torsional rigidity even higher than that of the saloon. Subject to a torsional load and a torque of 100 daNm applied to the axles, the

deformation value does not exceed 0.71 mrd, a result hitherto not attained by any of the Marque's vehicles. This guarantees optimal operation of the suspension while enhancing road holding (active safety) and drivability.

This structure is equipped, in addition to the normal upper channel, with a lower channel for the absorption of impact energy. This is achieved by the presence of a long, aluminium sub-frame, also a feature of the front suspension.

The platform, though identical to that of the saloon, has been specially developed to create a vehicle lower by 4.4 cm and, as a direct consequence, a centre of gravity lower by 25 mm. Similarly, the front and rear tracks are wider compared to those of the 407 saloon and SW.

Engines

The 407 Coupé also offers undeniable driving pleasure thanks to a choice of modern, high-performance engines available in both petrol and PEF (particle emission filter) Diesel versions.

For the entry model, a 4-cylinder engine with a capacity of 2 231 cm³ is proposed. This 16-valve petrol engine with twin overhead camshafts and balancing shafts develops a maximum power of 120 kW (≈160 bhp) and a maximum torque of 220 Nm. Thanks to an on/off variable timing system (VTC) acting on the intake camshaft, 92% of the maximum torque is available from an engine speed of 2 000 rpm up to 5 500 rpm.

The second petrol engine, featured on the 407 saloon and SW from introduction, is a V6 with a capacity of 2 946 cm³ developing a maximum power of 155 kW (≈ 210 bhp) and a maximum torque of 290 Nm. This engine has four overhead

camshafts and 24 valves. The two intake camshafts feature a variable valve timing system (VVT), which ensures optimal filling of the combustion chambers, making the engine both responsive and powerful.

Finally, the 407 Coupé is the first silhouette in the 407 family to feature the all-new Diesel HDi PEF V6 engine, previously only available in the new 607.

The engine has a capacity of 2 720 cm³ and four overhead camshafts with 24 valves. It uses a Common Rail direct multi-injection system and it is fitted with a particle emission filter (PEF) with a service interval extended to 210 000 km. It develops a maximum power of 150 kW (\approx 205 bhp) with a maximum torque of 440 Nm, thanks in particular to two variable-geometry turbochargers.

Transmissions

Regardless of the engine under the bonnet, the 407 Coupé comes with a 6-speed gearbox. The 2.2 litre engine is combined with a manual gearbox, while the V6 Diesel engine comes with an automatic gearbox. The V6 petrol engine meanwhile can be equipped with either. These manual or automatic gearboxes offer six speeds adapted to the special power and torque characteristics of each engine.

It is the first time the ML6/C manual gearbox has been fitted to the V6 ES9/A petrol engine, only the final drive ratio differs from that fitted to the 2.2 litre engine (14/69) and that of the V6 3.0 litre (14/67). To ensure dynamic performance for each engine, the gear ratios are therefore lower in the 4-cylinder engine version.

The 6-speed transverse automatic gearbox (AM6) inaugurated on the 407 and then introduced on the 607 is of course offered with both V6 engines. With a torque capacity in excess of 450 Nm, it adapts naturally to the maximum value of 440 Nm developed by the DT17 engine (V6 HDi).

This gearbox, compact in terms of size and weight, offers a dynamic and lively performance without excessive fuel consumption.

Each engine differs by the chosen final drive ratio (54/47 for the DT17 and 49/52 for the ES9/A).

This gearbox is capable of adapting to the driving style of the driver, who can if desired also choose a more active driving style using the "Porsche Tiptronic System" sequential control. It is equipped with integral electronic management and "event-based" self-adaptability according to the road profile at any given time, steering wheel speed, type of driving adopted, etc...

By reducing loss of engine speed between gear changes, this automatic gearbox offers driving pleasure, while remaining quiet in operation and economical in terms of fuel consumption.

Main technical characteristics of the 407 Coupé

	PETROL		DIESEL	
Type of engine	EW12	ES9/A		DT 17
Type of gearbox	ML6/C		AM6 Auto	
Number of gears	6			
Capacity (cm ³)	2 230	2 946		2 720
Power (kW - rpm)	120 / 5 875	155 / 6 000		150 / 4 000
Torque (Nm - rpm)	220 / 4 150	290 / 3 750		440 / 1 900
Performance				
- Maximum speed (km/h)	222	243	235	230
- 1 000 m standing start (sec)	30.6 (31.0)*	29.0 (29.7)*	29.7 (29.9)*	29.8 (30.2)*
- 0 to 100 km/h (sec)	9.2 (9.7)*	8.4 (8.9)*	8.7 (9.1)*	8,5 (9.0)*
Fuel consumption (l/100 km)				
- ECE (urban)	12.2	15.0		11.9
- EUDC (extra urban)	6.6	7.3		6.5
- Mixed	8.7	10.2		8.5
- CO ₂	206	242		226
Kerb weights (kg)	1 525	1 612	1 637	1 724

(*) ½ payload

Wheels and suspension

The 407 Coupé offers a high level of active safety thanks to a suspension that has proven its worth on the 407 saloon and SW.

In addition to the increase in the tracks, other specific modifications have been made to further enhance the efficiency and naturally high torsional rigidity of the structure of this new car (0.71 mrd).

The double wishbone front suspension and integral multi-arm rear suspension therefore "work" under the best possible conditions to benefit active safety, driving pleasure and passenger comfort.

The front and rear suspension components benefit from advanced technology such as the use of Cobapress® aluminium, which offers the same mechanical properties as forged steel.

The lower body height is obtained by reducing the height of the front springs by 10 mm and those at the rear by 23 mm. To limit incipient roll and obtain effective coordination between the front and rear suspension equipped with new flexibility and enhanced rigidity, the bump stops are shorter and denser than on saloons and SWs.

At the front, the separation of vertical movement and steering movement determines optimal direction consistency under all circumstances (control of the wheel plane) and also ensures the virtual elimination of steering inaccuracies, which helps cornering and also reduces sensitivity to wheel imbalance.

This architecture, combined with rigorous assembly, guarantees driving accuracy and acoustic insulation that is of direct benefit to the smoothness of the suspension. Compared to other 407s, the front track is wider by 23 mm (EW12) and 19 mm (ES9/A – DT17). To control incipient roll, the diameter of the front anti-roll bar of the ES9/A 6-cylinder version has been increased by 0.5 mm (24.5 mm) and with the V6 Diesel engine it is 25 mm.

As on all 407s, the multi-arm rear suspension incorporates spring/inclined damper assemblies and on each side a drop-link

longitudinal arm, ensuring that it operates fully in the longitudinal plane only, to eliminate ancillary stresses that generate vibrations.

Compared to that of other 407s, the rear track of the coupé has been widened to 1.575 m (46 mm) for the EW12 and 1.567 m, i.e. by more than 45 mm, for the 6-cylinder engines.

Traditional damping has been retained on the 407 Coupé 2.2 litre and suitable patterns have been used in accordance with the new body height and specific weight of this version.

On 6-cylinder models, the damping is variable and each damper is controlled separately. A new damping control strategy means that progression to firmer patterns occurs very rapidly to achieve more energetic control of pitch, bounce and roll movements under all driving conditions (uneven roads, high speed, obstacles, loaded vehicle, etc). By means of a push-button, it is still possible to switch to the "Sport position" for a direct changeover to the firmest damping patterns.

The electro-hydraulic power steering of the 2.2 litre model is variable and a piloted electro-pump unit controls the pressure according to the car's speed and the speed of rotation of the steering wheel.

On all versions, the steering wheel is height- and depth-adjustable over a distance of 40 mm in both planes.

On 6-cylinder versions, "continuous" variable hydraulic assistance is provided by a computer-controlled valve. This takes into account a wide range of information such as vehicle speed, engine speed, steering angle and steering wheel speed. Compared to the other device, this one provides more assistance at low speed and a wider range of power steering variations, while ensuring a good "reading" of the road.

Assisted braking on all versions is provided by large-diameter, ventilated front discs (\varnothing 330 mm, thickness 30 mm). The rear discs have a diameter of 290 mm and a thickness of 12 mm.

The ESP, standard on all models, includes the following main functions:

- The anti-lock braking system (ABS) is calibrated for 17'' and 18'' wheels. It incorporates wheel by wheel braking with distribution between the front and rear axles, as well as a system allowing the right and left wheels to be controlled independently.

- There is also emergency brake assist (EBA) calibrated to activate depending on the speed at which the brake pedal is depressed, and above a rate of deceleration of 8 m/sec^2 , the hazard warning lights will automatically illuminate.

- In addition to the traction control (ASR) acting on the brakes and the engine, the stability control (CDS) continuously compares the steering wheel angle, the car's rate of yaw, the speed of the wheels and the transverse acceleration of the vehicle to detect any incipient under- or oversteer. As a result of these detections, the ECU orders corrections to be made to return the car to the trajectory requested by the driver, within the limits of the laws of physics.

Passive safety

Consistent with active safety of the highest order, the 407 Coupé offers passive safety of a similarly high level. For example, this car follows the example of the saloon with a front impact protection structure (upper and lower) that distributes energy effectively through the engine compartment in the event of impact. Similarly, the steering column is retractable over a distance of 80 mm and an impacter limits rearward displacement of the engine in the event of a head-on collision.

For side impact, the special constraints of the coupé silhouette required the adoption of special side reinforcements, such as a monobloc door sill stiffener and the installation of three “impact” tubes in each door and a system which attaches the lower part of the panel to the side member.

In Europe, the 407 Coupé is equipped as standard with seven air bags, including two front air bags, two front side air bags, two front/rear curtain air bags and a steering column air bag.

In addition, each passenger has a 3-point inertia reel seat belt. At the front, the seat belts incorporate force limiters set to 450 daN, and they are height-adjustable.

A fasten seat belt detection system is installed in the front seat cushions. Force limiters for the rear seats are set to 600 daN.

Also at the rear, each seat is equipped with 3-point ISOFIX fixtures.

The active front head restraints are equipped with a locking system, thereby further helping to protect passengers from whiplash.

Overall safety has not been neglected, with in particular “suitcase” handles that can be released more easily in the event

of impact, a system disconnecting the electrical power supply, illumination of the hazard warning lights and the unlocking of doors. In addition, thanks to the RT4 equipment, the triggering of an emergency device or operation of the "SOS" key results in the simultaneous transmission of a call and a location-finding SMS message to Inter Mutuelles Assurances, or a call to the public emergency services (depending on the contract taken out).

Security is also a priority on the 407 Coupé, with the addition of a new type "S3M" door lock on the driver's door. Fitted on both doors are cable connections between the lock and the door controls. The door locks uncouple automatically if attacked, and a special steel plate protects the lock/control mechanism and electrical harnesses, installed between the door panel and the door trim. The striker of the boot tailgate is also protected by a steel plate.

The fitment of fully laminated side windows and an optional alarm system, adds further protection to the occupants and the car.

Driving assistance

This elegant car is also practical to use whatever the circumstances. For example, on all versions, the electric door mirrors fold and deploy electrically and an electro-chrome interior rear-view mirror is standard on the Pack version.

To facilitate parking manoeuvres, the rear parking sensors featured on all coupe versions can be enhanced by the fitment of front obstacle detectors, available as an option or as standard. The system comes with an audible and visual indicator ensuring a margin of 30 cm from the detected obstacle.

Also, all versions feature automatic activation of the dipped head lamps. The single dual function headlamps include dipped beam and main beam and are fitted with Xenon discharge bulbs. Between the bulb and the "ellipsoid" glass of the headlamp, a controlled "mask" controls both functions, with the changeover from dipped beam to main beam occurring gradually. An automatic headlamp levelling control system and high-pressure headlamp washers complete the specification.

Taking a quick look at these headlamps in greater detail, they become directional as soon as the vehicle exceeds 5 km/h. According to the angle the steering wheel is turned through and the speed of the car, the headlamp on the inside of the curve will pivot by a maximum of 12° inwards, while the outer headlamp will adopt a maximum angle of 7.5°. The directional headlamp function is active with either the dipped beam or the main beam in use. Available as an option on the basic level, it comes as standard on Hi line versions.

The Xenon main headlamps are fitted with bulbs offering a service life at least four times greater than that of traditional halogen bulbs. All other lighting signalling functions have a bulb "blown" detection function. The brake lights even benefit from an indicator showing the location of the defective bulb.

The 407 Coupé is fitted as standard with automatic windscreen wipers with a variable rate of operation linked to the intensity of the rain, and an operating speed ranging from intermittent to high speed. Thanks to the layout of the wiper blades

(flat wiper blades - 700 mm long), each with its own electric motor, the windscreen wiper action is the same on both sides.

Automatic locking from a speed in excess of 10 km/h is available on all versions, as is the electrical fuel filler cap opening control located near the driver. There is also a function which keeps the boot permanently locked so that it can be opened only with the PLIP.

With deadlocking, selective opening is possible. Thanks to the remote control, access to the vehicle can be controlled according to how many doors and windows the user wishes to open.

Among other comfort and safety equipment featured on the 407 Coupé, mention should be made of the trip computer with colour display on all versions, and also a variable cruise control, a voluntary speed limiter and an under-inflation tyre detection system with two alarm levels (under-inflation and puncture) and indicating which wheel is affected.

Inside, the coupé is both practical and pleasant and offers numerous storage areas, modularity, ergonomic seats and a wide range of equipment to make life in the car easier for its occupants.

The front seats have the same storage spaces as the saloon, save for a new style door pocket. The lockable glove box is illuminated and refrigerated, the central armrest offers a good capacity of sealed storage and the cup holder is still between the gear lever and the central armrest.

At the rear, on each outer edge of the seats and at the bottom of the rear panel, there is a storage area designed for

small objects such as electronic games or a mobile phone. There is a cup holder in front of each storage space.

The seat backs, which fold in a 1/3 – 2/3 configuration, are accommodated in the space occupied by the seats before they are raised, to obtain a perfectly flat load area. In this configuration the effective load length, running uninterrupted from the boot, extends to 1.60 m. The presence of a ski flap in the central armrest on all versions allows users to make the most of this feature to transport long and narrow objects.

The seats of the 407 coupé are specific to this silhouette. At the front their design is reminiscent of "bucket" style seats, both to "communicate" driving sensations to the driver and provide comfort and support for all passengers.

Front seat adjustments are wide-ranging in terms of height, length and even inclination of the seat back by means of a continuously adjustable knob. For the driver, lumbar adjustment also comes as standard and is available for the passenger with a leather trim is specified. With leather trim, the main seat adjustments are controlled electrically and have an adjustment and a location memory function also linked to the adjustment of the door mirrors.

For access to the rear seats, the release control of each front seat is located on the outer top edge of the seat back. In addition, the driver can make use of a courtesy control on the nearside top edge of the passenger seat. The seats have position memories.

At the rear, both seats also have a fashionable "bucket seat" design offering effective support and a dynamic visual appeal. Curved, retractable head restraints guarantee rear visibility when

the seats are unoccupied. Between the seats, a central armrest contributes to passenger well-being.

Inside the car

The "Touring" atmosphere offered to passengers inside the 407 coupé is also the result of the appearance of the passenger compartment in terms of brightness, ambient feel and soundproofing.

For example, the front windscreen and side windows are manufactured from laminated glass that limits the transmission of outside noise into the interior. They supplement the rigorous soundproofing treatment accorded to the vehicle. In addition, athermic treatment of the front windscreen reduces temperature build-up caused by the sun's rays and optimises the efficiency of the air conditioning, while ensuring a high level of brightness inside the passenger compartment.

All coupés come with automatic air conditioning with dual zone temperature distribution. This follows the example of better equipped existing 407s. The air conditioning system uses modern technologies such as a temperature sensor and a hygrometer, which prevents the appearance of condensation for example. The "externally controlled" compressor can regulate the production of cold air to the exact amount required by passengers, thereby reducing fuel consumption. The bi-directional sunshine sensor helps to anticipate the effects of the sun's rays, thereby avoiding unnecessary changes by passengers to the adjustment settings.

In addition to the traditional upper, front and lower air vents, the fascia panel distribution system features a gentle air diffuser to

shield passengers from the unpleasantness of excessive airflows. Rear passengers have their own air vents located at the end of the central console. Upstream of the air conditioning system, filtration of pollen, dust and certain unpleasant odours are provided by a combined pollen/active charcoal filter.

Audio and telematics

The 407 Coupé features the audio and telematic systems introduced on the 407 saloon and SW. They benefit from a dual-tuner and dual-antenna system that amply meets customers' requirements in terms of reception and sound reproduction. Controls under the steering wheel and the multi-function display facilitate use of the equipment generally.

All coupés receive the latest-generation RD4 equipment as standard.

The RD4 unit includes, in addition to the two silk-screen antennas in the rear windscreen, six speakers and a digital signal processor (DSP). With an output of 4x15 W, the radio includes dual connection shielding to neutralise sources of crackle. It also includes digital radio hardware compatibility, making it possible to listen to the radio with "CD" quality and present FM stations in list mode, as well as text radio, a CD-text displaying the title of the album and the tracks being listened to, etc.

Combined with the HiFi kit, the RD4 becomes an MP3 player. In addition, a hands-free kit (blue tooth) is available as an option.

It is also possible to equip the car with a GPS-RT4 radio-telephone with a 16/9 colour display. This includes the same functions as the RD4 but receives in addition a GSM-GPS antenna, a voice command directory allowing management of phone

numbers and correspondent addresses, colour cartography navigation, a video input and emergency telematics services such as local assistance.

A JBL HIFI system available as an option on the first level of finish comes as standard on level 2. This system, developed at the design stage of the coupé, offers optimal sound reproduction for the passenger compartment. It includes the layout and orientation of different speakers, as well as calibrated amplification associated with these locations. A CD auto-changer is available as standard or as an option.

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