

#### 4.10.2 Sport button function/ Sport mode

The driver can select a sportier setup by pressing the Sport button in the center console. A certain amount of comfort is sacrificed in this mode for the sake of sportiness. The word “Sport” appears in the instrument cluster display as soon as the Sport button is activated.

A modified program is utilized for the following systems in the “Sport” setting:

- Accelerator pedal characteristics
- High-speed cut-off
- Dash pot (load change damping)
- PSM (Porsche Stability Management)
- PASM (Porsche Active Suspension Management) (optional for 911 Carrera)
- Tiptronic S (optional)

A number of adjustments are made in Motronic when the Sport function is activated. The electronic throttle characteristic is switched to a steeper setting (only in manual mode with Tiptronic S). This produces a faster throttle response to accelerator pedal movements to subjectively increase the spontaneity of the engine.

When the Sport Chrono button is pressed, the abrupt cut-off (cf. section 2.3.14) is active in 1st to 5th gears for the manual gearbox (without Sport Chrono function only in 1st and 2nd gears) and in the manual setting for Tiptronic transmission.

The so-called dash pot is executed less smoothly and with less emphasis on comfort. This means that the throttle closes faster when released. The result is a heightened, “racing-like” engine dynamic.

Sport mode allows the extreme driver

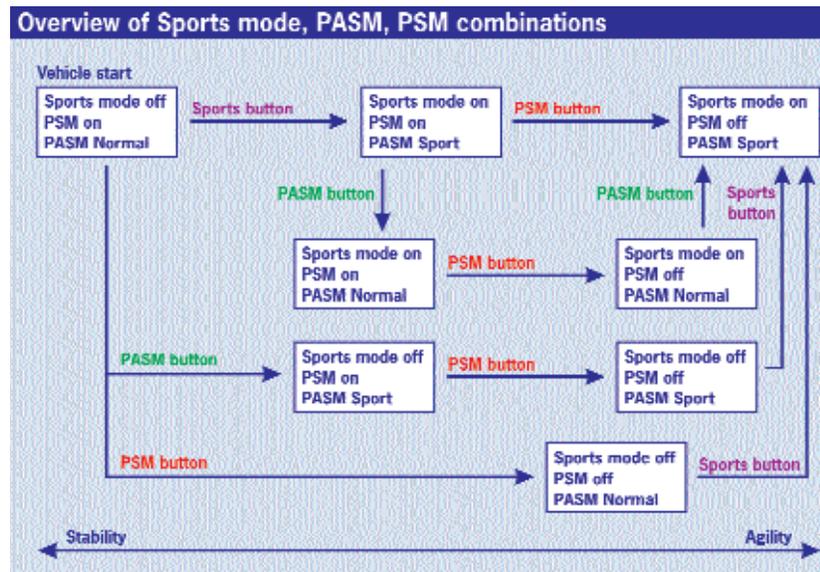


Fig. 38: Combination options with Sport mode, PASM, PSM

to deliberately direct PSM interventions away from driving stability and more towards agility and driving dynamics, without having to sacrifice PSM support in emergency situations.

In addition PASM is automatically switched to its sport setting. This results in harder damping and therefore more spontaneity when steering into corners. Body movements are noticeably reduced, improving road contact. Agility and driving pleasure, particularly on circuits, are also increased and overall driving stability in extreme driving situations improved.

A sportier basic map is selected for the Tiptronic S transmission in D mode. Automatic upshifts when the maximum rpm is reached are prevented in Manual mode (other than with a kickdown) which improves driveability, particularly when breaking ahead of corners. This means that the driver can decide whether and when to shift up a gear. Shifting times when shifting up and down are reduced at the same time, which makes for noticeably sharper gear changes. Automatic downshifts when braking in

D position are executed with more emphasis on sportiness and less emphasis on smoothness and comfort, thereby increasing vehicle agility when braking.

	PSM on	PSM off
<b>Sport mode off</b>	PSM is active, basic condition when vehicle starts	PSM is deactivated, but can be re-activated by applying the brakes, PSM intervention is permitted if the ABS control threshold is exceeded at either front wheel
<b>Sport mode on</b>	PSM is active, with the following Sport functions: <ul style="list-style-type: none"> <li>• More longitudinal dynamism thanks to later intervention of ASR</li> <li>• More lateral dynamism thanks to later intervention of PSM</li> <li>• Greater agility when braking into corners thanks to later intervention of ABS</li> <li>• Slightly reduced load-change compensation for dynamism when steering into corners</li> </ul>	PSM is deactivated, but will be re-activated if the brakes are applied with force, PSM intervention is permitted if the ABS control threshold is exceeded at both front wheels; the overall effect is one of increased sportiness <ul style="list-style-type: none"> <li>• Even more agility when braking into corners thanks to a less stability-oriented ABS setup which allows greater deceleration when cornering</li> <li>• Significantly reduced load-change compensation for more dynamism when steering into corners</li> </ul>

Fig. 39: Increasing vehicle agility using PSM and Sport mode

An increase in the minimum triggering level for ASR in Sport mode affords the vehicle more longitudinal dynamism when accelerating out of corners. As a result greater slip is permissible at the drive wheels during throttling and noticeable rear drift, particularly on surfaces with low coefficient values, is permissible without jeopardising driving safety. The thresholds for PSM intervention have also been increased. This enables a greater deviation between the desired and actual direction of movement of the vehicle before PSM intervenes. This makes the vehicle more agile in manoeuvres involving extreme lateral acceleration. Increasing the ABS intervention thresholds permits more neutral braking into corners. In addition, PSM permits more engine drag torque when lifting the throttle. The result is a more distinctive load change so that the vehicle can be positioned more easily in corners, thereby permitting more dynamic steering. The driver can increase vehicle agility even more by switching off PSM when Sport mode is active.

The ABS setup has been made even sportier, a refinement that is particularly noticeable when braking into corners. The new, less stability-oriented ABS setup permits more agile behavior combined with higher braking deceleration when cornering.

Load-change responses are also moderated less so that the vehicle can be “steered” more using the accelerator pedal. ABD is retained in its customary form for optimum traction.

In line with Porsche's safety philosophy, PSM remains available in the background even in combination with Sport mode and can be activated by pressing the brake pedal. When Sport mode is active and PSM is switched off, greater force must be applied to the brake pedal to activate it (see Fig. 39). This allows the driver to move the vehicle with far greater overall agility in extreme driving situations than when PSM is switched off and Sport mode is not active.