Service Training

Audi A3 Sportback

Self-Study Programme 332

Audi A3 Sportback

Audi is defining a new segment in the premium compact class. The A3 Sportback is characterised by the sporting elegance of a coupé and the versatility of a 5-door.

The Audi Sportback is deliberately going its own, new way in the compact class. It offers the emphatically sporty qualities and the athletic styling of the three-door version with which it shares its drive train, dynamic suspension and wheelbase. In addition to two rear doors, it offers even more space and variability thanks to its rear end which is a total of 68 millimetres longer than on its threedoor counterpart.

The A3 Sportback is immediately recognisable at first glance in the rear-view mirror by its striking single-frame radiator grille, the distinctive tapering of the sides and the dynamic shape of the clearglass headlights.

The silhouette of the A3 Sportback when viewed from the side becomes flatter towards the rear of the car in typical coupé fashion and combines with the gently rearward sloping roof line and the restyled rear end to give the car its dynamic overall proportions.

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Contents

The Self-Study Programme conveys basic principles with regard to the design and function of new models, new automotive components or new technologies.

The Self-Study Programme is not a Repair Manual!
All values given are intended as a guideline only, and refer to the software version valid at the time of publication of the SSP.

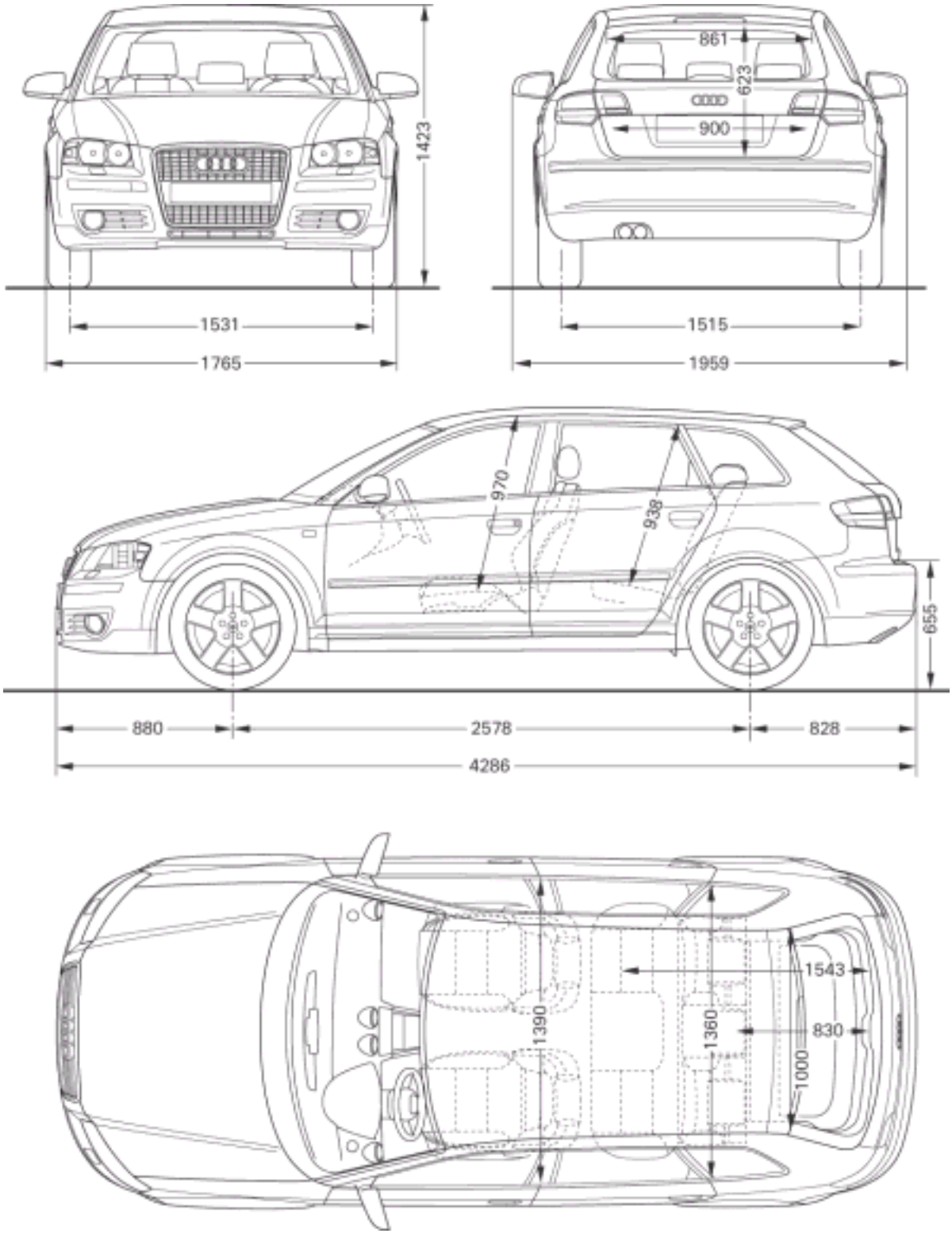
For maintenance and repair work, always refer to the current technical literature.

Reference

Note

Overview

Dimensions of the A3 Sportback.



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Body

The body of the Audi A3 Sportback has a highly rigid and crash-optimised occupant cell.

Special attention was given to the following aspects:

- the body rigidity,
- the steering column rigidity,
- local rigidity in highly stressed areas,
- interior acoustics and driving comfort,
- the crash optimised body structure and
- the hybrid construction of the front end.

Front view of the body-in-white

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Rear view of the body-in-white

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By using state-of-the-art calculation and simulation methods, new materials and joining techniques, and by optimising the joining sequence during the bodyshell assembly process, it was possible to increase body rigidity by 20% compared to the predecessor model and enhance the crash performance of the body structure.

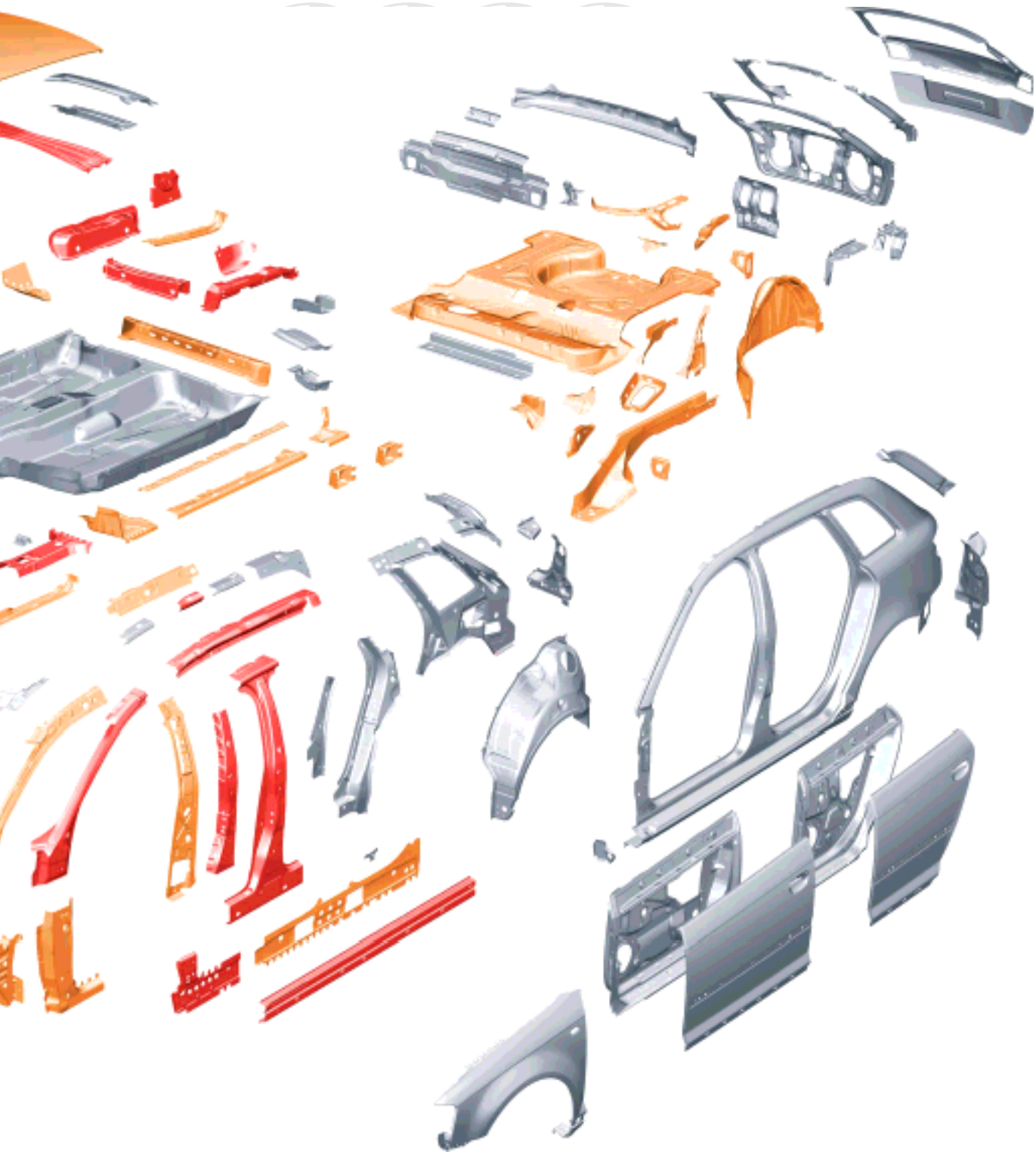
Materials

Bodyshell

Ultra-high-strength and higher-strength sheet metal are used in areas which are subjected to high mechanical stresses during a crash.

Welded tailored blanks and deep-drawn sheet metal are used in other areas.

Ultra-high-strength sheet metal
higher-strength sheet metal



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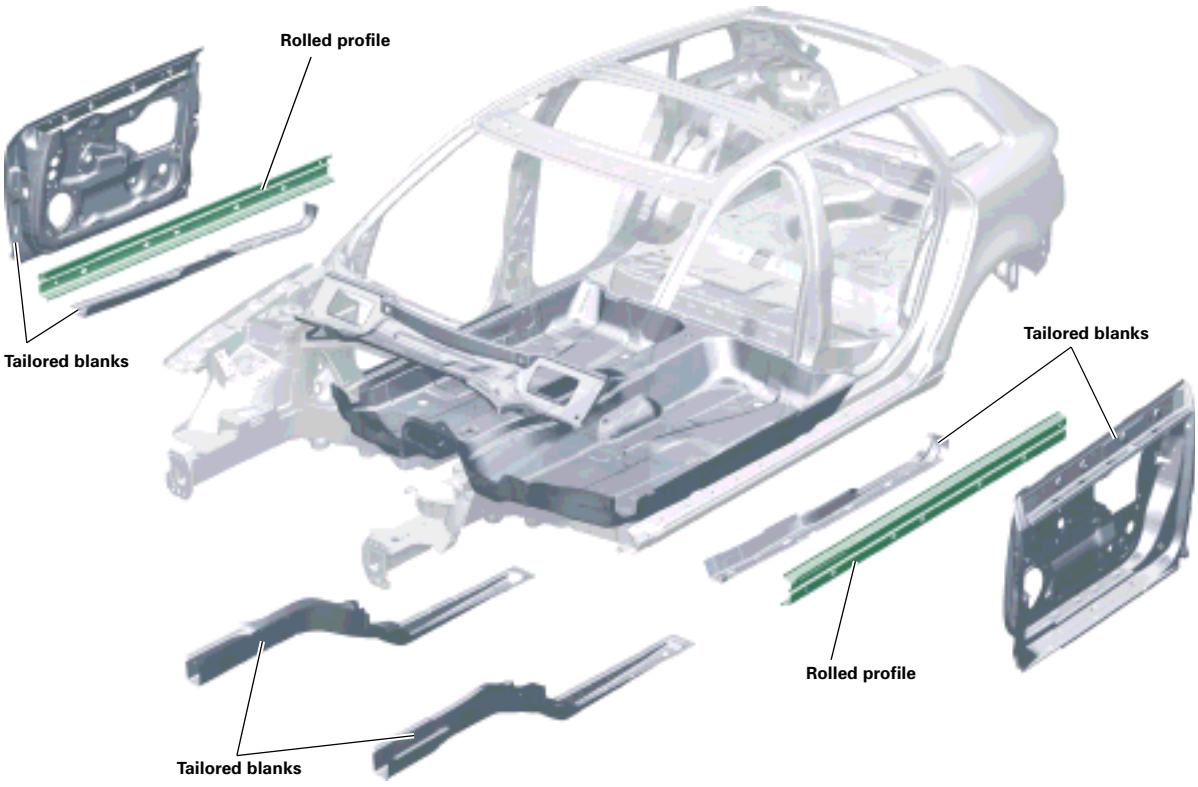
Materials

Doors, sills and floorpan

Welded tailored blanks and tailored blanks with flexible rolled wall thickness are used in the front floorpan assembly and door areas.
The result is a distribution of material which provides optimum stress absorption.

The sills are reinforced using rolled profiles. Rolled profiles have a high strength-to-weight ratio.



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Joining technique

Various joining techniques
are applied to interconnect the individual body elements.

Spot welding joining

Crash-relevant and
rigidity-defining
joints are spot-weld bonded using a high-strength structural adhesive.
The overall length of the bonded seams is approx. 26 m.

Laser welding

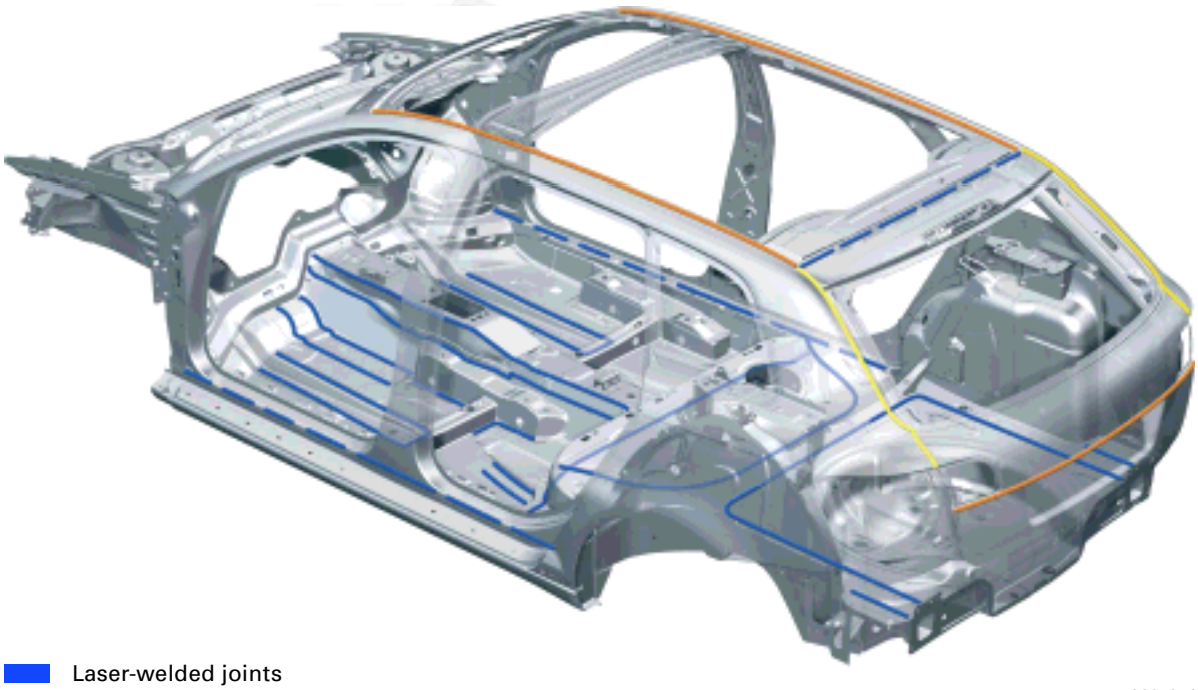
Laser welding is used in areas which are not easily accessible.
The total length of the laser welded joints is approx. 25 m.

Laser soldering

Laser-solder joining is used to achieve a better design and higher rigidity in the area of the invisible joint and boot lid.
The total length of the laser-soldered joints is approx. 3.3 m

Plasma soldering

To ensure the high rigidity and good design of the water channel,
materials are joined by plasma soldering.
The overall length of the plasma-soldered joints is approx. 1.1 m.



Laser-welded joints
Laser-soldered joints
Plasma-soldered joints

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