

The Long Goodbye to the Travel Blanket

The pioneering drivers of the earliest cars must have been tough. They did not even have any protection from the wind until the first windshields were fitted. The path that led to heating, climate comfort windshields, and multi-zone air conditioning systems can be traced in the pages of ATZ and consists of a constant stream of innovations. They not only made car travelers feel more comfortable, but also improved road safety.

1908 Cross-country journey in a Benz 24/40 PS without protection from the weather or a windshield (© Daimler)



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Although the introduction of all-round windows for cars was still decades away, the installation of front windshields proved to be a blessing for vehicle occupants. In 1910, the French company Hullier was the first car manufacturer in the world to offer windshields as standard. The absence of methods for forming glass led to flat panes being fitted into ready-made frames. The result was the so-called split screens that were to be seen on our roads for many years to come.

In 1921, Edmund Rumpler, who has already featured in this series of articles, dispensed with the split in the middle of the screen. In his Tropfenwagen (teardrop car) he fitted the first single-plane, curved windshield. As windshields were relatively upright in the early years of car production, G. Oehler rightly noted in ATZ 4/1937 that “the light refraction of the windshield does not play an important role for drivers.” When angled windshields became more common a few decades later, refraction began to make a significant impact on vehicle design.

The advantages of a windshield at the front of the car are very clear for both driver and passengers. Gradual moves were made over the years toward installing windows all around the top half of the passenger compartment. As with any new development, the problems lay in the details, such as the fragility of normal glass. In ATZ 5/1937 an unnamed contributor commented that official regulations requiring the installation of safety glass “are really not necessary. Over the course of time, public opinion will force manufacturers to make this change.”

The relatively heavy weight of glass was also of concern to the industry. In the same ATZ report in the 5/1937 issue, the author describes attempts to replace it with acrylic glass, which first came onto the market in 1933. According to the article, the new material was first used for the windscreen of the Stromlinien-Adler-Rekordwagen Type 10 because it could be easily shaped.

As the performance and speed of cars increased, the optical properties of the windows soon proved to be inadequate. Albrecht Kuske reported in ATZ 6/1957 on the efforts being made to introduce a standard for the optical “testing of safety glass.”

The attempts to replace glass with plastics are continuing to this day. Transparent vehicle roofs in particular have become widespread. The first polycarbonate roof system for the Smart fortwo rolled off the production line of the Webasto plant in Schierling in 2007. The city cars of the most recent generation also have panoramic roofs made from polycarbonate, as reported by Matthias Arleth in ATZ 3/2015.

Over the same period, the glass industry introduced a number of innovations. Normal window glass was followed by toughened safety glass, laminated glass, and a range of different types of multi-layer glass. Today most cars have green-tinted windows. Heat-reflecting systems, which are now available as an optional extra on many models, provide better protection from sunlight, for example by reducing the amount of heat that enters the car. They are described by Volkmar Offermann and Ann-Katrin Glüsing in a piece in ATZ 9/2012.

Long after cars were first fitted with all-round windows, the engineers began the next step toward making them more comfortable. In ATZ 6/1949 H. Wolf complained that the majority of vehicles were still not heated “despite the fact that a heat source is available free of charge whenever the car is moving.” He continued hopefully: “In a few years a heater should be standard equipment in every vehicle.” Wolf proved to be right.

Stefan Schlott



1928 Wanderer W 11 touring car: A tiltable windshield and hinged glass draft deflectors at the sides tell tales of drives at a leisurely pace (© Audi)



1948 Although curved windshields were invented in Germany in 1921, split screens, like this one in the Opel Kapitän, remained in use for many years (© Opel)



1960 At the start of the Beetle story, the smelly, generally lukewarm air produced by the heater was seen as a privilege; the picture shows a Beetle 1300 from 1965 (© Volkswagen)



2015 The introduction of electric cars brings new thermal management challenges (© Mahle)