

## ebm-papst in automotive: reaching the parts other air conditioning systems cannot

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Vehicle air conditioning systems are fine if it's only the parts of your body that are exposed to the air which get hot. In practice, of course, the opposite is true - most discomfort comes from the parts of the body in contact with the vehicle seats - bottoms and backs.



Mercedes came up with the idea of including fans inside the bases and backs of their seats in the 'S' Class models, but needed fans that would not only be quiet and very reliable, but that could withstand the sometimes extreme loads encountered in the seat area.

ebm-papst developed a tailor made solution that helped the Mercedes 'S' Class to become the clearly differentiated, high specification vehicle that it is today.

The miniature fans used brushless, externally commutated motors to minimise size and maximise reliability. The fans were designed with soft internal suspension for

shock absorption and are inaudible under normal conditions.

Today, each Mercedes 'S' Class seat has 10 built-in Papst fans, the output of which can be controlled by drivers or passengers to suit their individual requirements.

The fans are long life components and are maintenance free. The seat construction can be seen in the photograph.

### Other automotive applications for ebm-papst fans

ebm-papst fans are used to cool the electronic control in a variety of vehicles. Once again, these fans are often custom designed, ebm-papst working hand in hand with customers to optimise the solution for best performance at lowest installed cost. Both radial and axial blowers are used in these applications and in some cases integrated temperature sensors are used to vary the fan output. ebm-papst fans are also used to produce the air flow in vehicle air conditioning systems.

Last, but not least, ebm-papst are used by the many F1 and A1GP teams to keep engines cool on the starting grid (see picture) and when in the pit garage. Vibration, heat and the tough environment of a Formula One starting grid make exceptionally tough demands on any equipment used there. Nevertheless, an overheated engine is not an option!

ebm-papst has provided solutions consisting of standard fans fitted to bespoke housing designed by the teams. The fans blow air across the engines or, in exceptionally hot conditions, blow dry ice across them.

If you have an automotive application needing high quality cooling, contact ebm-papst to find your individual solution.

