



ASN Safety Bulletin #36

With the Dakar Rally and the start of the 2024 FIA World Rally Raid Championship just around the corner, this latest FIA Safety Bulletin focuses on headrest use in Cross Country and Rally events.

FIA homologated seats are engineered to protect drivers from rear and lateral impacts, ensuring driving stability and safety. FIA standards for these seats, notably 8855-2021 and 8862-2009, mandate the inclusion of side head supports and these features are crucial in reducing the risk of head and neck injuries during side impacts. However, for seats homologated under FIA standard 8855-1999, side head supports are recommended but not required. It is therefore important to check the technical regulations of the championship to find out which seat standard is required.

In Cross Country and Rally events, the environment (uneven surfaces, car set-up, headrest padding and the gap between helmet and seat) can result in the driver being subjected to severe vibrations. These vibrations are transmitted to the head, causing it to repeatedly come into contact with the headrest.



The guidelines provided below aim to give clear instructions to competitors on how to adapt their seat's side head support (if present) to improve comfort without compromising safety.

When competitors install FIA-approved 8855-1999 seats, there is no requirement for, or definition of, a maximum distance between helmet and seat side head support, for the simple reason that there are

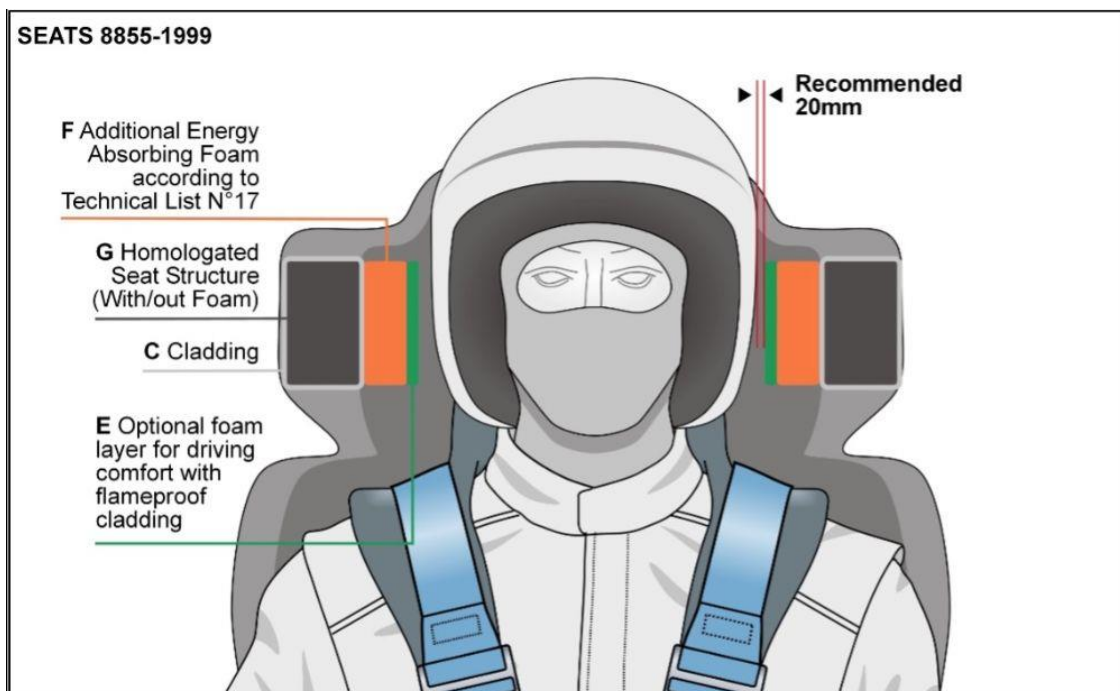
several FIA-approved 8855-1999 seats without side head supports. However, as all FIA-approved 8855-2021 and 8862-2009 seats have side head support, and the distance between helmet and seat is relevant to mitigate the injury during a severe impact, FIA regulations define a maximum distance of 50mm (for cross country and rally competitions and 40 mm for circuit racing). Therefore, the guidelines below provide different recommendations due to the different regulations in place.

For 8855-1999 Seats:

G – Seat Structure as provided by the manufacturer: The seat cannot be modified but additional padding may be installed if desired.

For driving comfort, (co-)drivers may consider adding padding (E & F) on the side head supports with the following characteristics:

- A lay-up consisting of:
 - **F – additional energy absorbing foam according to Technical List N°17** in order to achieve the desired helmet-to-seat gap.
 - **E – optional foam for driving comfort with flameproof cladding.** This would consist of a soft layer, typically around 6 to 12 mm, and made, for example, from polyurethane (PUR 5kPa @40%) non-memory foam facing the helmet.
- The attachment of the different layers (E & F) must be robust, maintaining a connection to the seat and preventing unintended detachment during driving. Velcro is suggested.
- A recommended helmet-to-seat gap of around 20 mm (to be adjusted based on (co-)driver's preference).
- All materials used must be flame-resistant or shielded from external elements by a flame-resistant cover.
- Any attachment method considered hazardous to competitor safety will be rejected.



High-density, energy-absorbing foam, approved according to Technical List N°17, may be added to the rear side of the headrest to mitigate the risk of injury during rear impacts or jumps. This addition is particularly beneficial for the co-driver, as they often lean forward and may not anticipate an impact as readily as the driver. However, both crew members may consider this safety enhancement. It is essential to ensure that the foam does not protrude beyond the side head support, potentially compromising its effectiveness. For specific compliance details, refer to Appendix J of the International Sporting Code, sections 253.16.1.1 or 283.20.1.1, regarding foam inserts.



For 8855-2021 & 8862-2009 Seats:

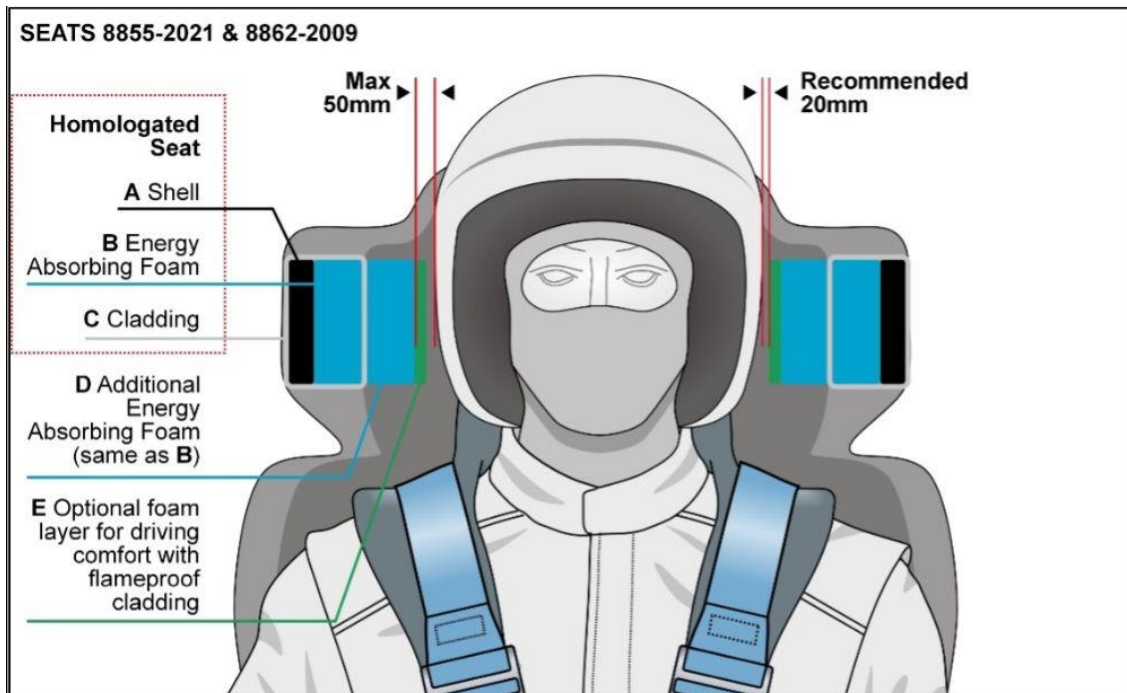
(A, B and C) – Homologated Seat: The seat cannot be modified but additional padding may be installed if desired.

For driving comfort, (co-)drivers may consider using additional padding (D & E) on the side head support with the following characteristics:

- A lay-up consisting of:
 - **D – additional energy absorbing foam which is the same as B.** These foams are homologated according to Technical List N° 17. Please contact the manufacturer for information on which specific foam should be used to achieve the desired helmet-to-seat gap.
 - **E – optional foam for driving comfort with flameproof cladding.** A soft layer, typically around 6 to 12 mm, and made, for example, from polyurethane (PUR 5kPa @40%) non-memory foam facing the helmet.
- The attachment of the different layers (D & E) must be robust, maintaining a connection to the seat and preventing unintended detachment during driving. Velcro is suggested.
- A recommended helmet-to-seat gap of around 20 mm. The gap **must not be greater than 50 mm** (to be adjusted based on (co-)driver's preference).

- All materials used must be flame-resistant or shielded from external elements by a flame-resistant cover.
- Any attachment method considered hazardous to competitor safety will be rejected.

Please note that Articles 253.16.1.1 and 283.20.1.1 of Appendix J of the ISC were updated during the December 2023 meeting of the World Motor Sport Council in order to allow competitors to add additional padding for comfort reasons, as described above.



High-density, energy-absorbing foam, approved according to Technical List N°17, may be added to the rear side of the headrest to mitigate the risk of injury during rear impacts or jumps. This addition is particularly beneficial for the co-driver, as they often lean forward and may not anticipate an impact as readily as the driver. However, both crew members may consider this safety enhancement. It is essential to ensure that the foam does not protrude beyond the side head support, potentially compromising its effectiveness. For specific compliance details, again, please refer to Appendix J of the International Sporting Code, sections 253.16.1.1 or 283.20.1.1, regarding foam inserts.

Cross Country – Competitor Installation Best Practice



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In addition to the guidelines around side headrest support, the FIA has also published instructions relating to the correct installation of driver and co-driver seats. Supported by the FIA Foundation, the Cross Country Championships – Competitor Installation Best Practice guide covers correct seat angle and inclination, as well as the correct installation of safety harnesses. It can be downloaded [HERE](#)

FIA Safety Department