

ESF Addendum requirements

This year's official ESF document is significantly shorter, aiming to streamline the process and provide early feedback on critical aspects of your car. While this adjustment is understandable, we have identified areas where additional checks are necessary to ensure safety and uphold the integrity of the scrutineering process.

To address this, we have introduced the FS Czech ESF Addendum. This addendum complements the standard ESF process, aiming to prevent last-minute issues and minimize delays during technical inspection. By following these requirements, well-prepared teams should be able to pass the inspection within a reasonable timeframe.

Document guidelines

- Categories for FS Czech ESF Addendum are BSPD, SDC, TSAL and Discharge.
- Documents must be submitted via the FS Czech Portal by 13:00 CEST, May 9th, 2025. Teams will receive a notification once their document has passed the review or if any changes are required. We will prioritize first-time submissions and cannot guarantee timely reviews for resubmissions.
- Each category must be submitted as a standalone PDF named in the following format: E###_TeamName_ESF_DocType.pdf (where ### is the car number and DocType is one of BSPD, SDC, TSAL, or Discharge).
- General rules:
 - Searchable document with part numbers included (except for non-critical low-voltage and low-power passive components - where component values are sufficient).
 - Short introduction to the circuitry, top-level schematic if needed for clarity.
 - Clear signal mapping, especially if the circuitry spans multiple PCBs / car locations.
 - Any used abbreviations (except those used in current Formula Student Rules) have to be explained.
 - If needed, include links to publicly hosted datasheets (preferred over attaching files).

BSPD

- Detailed schematic including all remote circuitry (e.g. brake pedal, current sensing).
- Provide an explanation of SCS signal implementation, failure mode and effect analysis per T11.9.2.
- Provide latching capability explanation/simulation.
- Step-by-step walkthrough of the technical inspection BSPD test procedure.

SDC

- Top-level schematics with all switching elements.
- Provide latching capability explanation/simulation (AMS and IMD).
- Describe overcurrent protection.

TSAL

- Detailed TSAL schematic, including all remote circuitry (DC-link and TSAC output voltage measurement, AIR and precharge relay state detection, red and green TSAL circuitry).
- Provide latching capability explanation/simulation.
- Provide an explanation of SCS signal implementation, failure mode and effect analysis per T11.9.2.

TS Discharge Circuit

- High-level schematic of the discharge circuitry, highlighting components in the discharge power path (e.g. DC-link capacitors and their connection, switching devices, and resistors).
- Proof that all components in the discharge power path can permanently handle maximum TS potential (calculations/simulations, component mounting method if necessary).