SAE BRASIL
A CASA DO CONHECIMENTO DA MOBILIDADE BRASILEIRA

B06 - Visual inspection of accumulators

São Paulo, June 10th, 2025.

Dear Teams,

Visual inspection of accumulators is an optional item and aims to provide a preliminary assessment of the accumulator's condition. The video submission must be made via Google Forms provided in bulletin "B01 - Submission Deadlines." by June 28th, 2025.

Teams that submit their videos will be given priority in the initial scheduling of technical inspections. No penalty will be applied to teams that do not submit videos. The visual inspection is not definitive for inspection approval but helps identify critical system issues before the competition. Please note that videos may limit certain observations that can only be evaluated in person; points not mentioned in the video evaluation do not imply approval.

Any items deemed non-compliant with the rules will be communicated in the team's area on the Formula SAE Brazil forum. The team may or may not accept the point raised, with no right to appeal. Any questions about the item must be posted in the Formula SAE Brazil forum following the standard doubt submission procedure.

Video Inspection Guidelines:

1. The maximum video length is **10 minutes.** Teams are encouraged to edit and cut the video to reduce duration, avoiding unnecessary transitions/movements of the camera when they would consume time.
2. The presentation may be in **Portuguese or English.**
3. The **video title** on the platform must identify the **team number and competition year.**
4. The video must contain only **physical items**; CAD models or schematics will not be evaluated.
5. The video must be **clear**, with good resolution and lighting. Audio should be **free from noise** that may impair the presentation.
6. The team must use **direct technical arguments** and avoid theoretical presentations unless relevant. When necessary, only briefly reference the theoretical basis behind the technical solution.

Some technical points:

1. The team must wear **all appropriate PPE** for presenting each required item. **Non-compliance will invalidate** the video.
2. It is recommended that **hard-to-access items** be demonstrated separately, not necessarily on the container. Example: **maintenance plugs, PCBs, or positive locks** may be shown for explanation after being shown in their final position.

3. If the team makes use of **conformal coating** to reduce spacing between HV and LV, a **UV light source** must be used to verify.

The following items must be shown in the video:

1. Demonstrate the interlock functionality for all **HV connections** outside the accumulator, whether tool-removable or not, complying with the current rules.
2. Demonstrate that **positive locking mechanisms** in HV connections using bolts comply with regulations.
3. Demonstrate that **maintenance plugs** can **only be connected in their correct design orientation**, making incorrect connection impossible.
4. Show the **temperature sensors**, their **position**, and **distribution**.
5. Demonstrate that the **accumulator walls** comply with current regulations.
6. Show the **accumulator segments** and that they are designed **not to move** within the accumulator.
7. Show the **internal insulation layer** of the accumulator walls.
8. Show the compartment where **the fuse and AIRs are located**.
9. Show the location of all **internal PCBs** inside the accumulator.
10. Physically show the **PCBs** used in the HV system, demonstrating **distance requirements** and **HV markings**.
11. Show that all **fuses** used are located **within 150 mm** of the power source connected to them.
12. Present the **BMS used** and its **topology**, briefly and clearly.
13. Show the **HVD location** in the system and demonstrate that **removal is easy and can be done in under 10 seconds**.
14. Show the **RML in operation**, with a presentation **2 meters** around the vehicle, with the **driver seated** inside.
15. Show the **Tractive System Status Indicator in operation**.
16. Show the **accumulator mounted in its final location.**
17. Show the **firewall**, indicate the grounding location.
18. Show the location of the **master switches**.
19. Show the **TSMPs**, which must be **finger-proof** and have a **sealing system** when not in use.
20. Demonstrate that the **APPs' transfer functions** are different.
21. Demonstrate the process to place the vehicle in **ready-to-drive** mode.

22. Show the **BSPD activation process**, using an **analog signal to simulate system current**. **Software simulation is not allowed.**
23. Demonstrate that the **APPs' implausibility check** works and disables motor torque.
24. Show the **location of the energy meter** on the vehicle.
25. If fusible links are used, provide an explanation of how the BMS would be able to detect an open fusible link.

Best regards,

Technical Committee FSAEB 2025