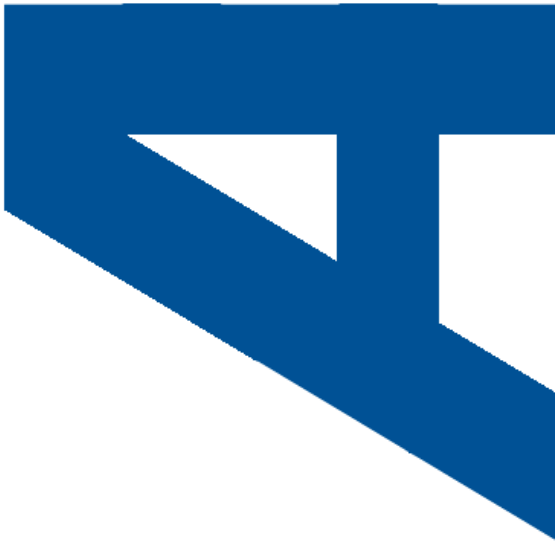
SAE INTERNATIONAL

BAJA SAE 2025

Technical Inspection Bulletin #2



Introduction

- **It is your responsibility to read the rules and prepare your car accordingly. This document provides supplemental information.**
- **Be sure to read all the technical bulletins.**
- This document will cover issues encountered in 2025.
- This bulletin will also offer guidance on how certain rules will be enforced.
- If you are unsure about a rule, you can make use of the Rules Question feature on BajaSAE.net.
- Many rule changes were implemented to simplify the technical inspection process and reduce time spent in technical inspection while maintaining a sharp focus on competitor safety.

Outline

- Tech Bulletin 2025-1 is nullified
- 2025 Rule Changes
- Seats and Seat Mounting
- Driver Restraint
- Electrical
- Cockpit
- Guards
- Vehicle Identification

Tech Bulletin 2025-1 is nullified

BSAE Tech Bulletin 2025-1 is null and void.

Some information related to seat mounting and electrical issues was not correct in Tech Bulletin 2025-1.

NTI apologizes for the errors and subsequent confusion.

Seats

- ***Seats are improving but mounting continues to be a challenge for BSAE***
- **2025 Rule Updates**
  - Increased mounting options with removal of symmetrical requirement on seat backs and requirement for 6 inch spacing of seat mounts provided the seat mounts evenly distribute vertical load.
  - Added option to use unmodified FIA/SFI rated seat mounts.
- **Mounting Structure**
  - Many teams were unsure of the 6 inch mounting spacing requirement and requirements of the frame tubes to support the seat.
  - NTI convened a group of inspectors to review rules inquiries and tech inspection information from Arizona.

Seat Mount Spacing

- NTI received many inquiries regarding seat mount spacing.
- The 2025 rules state that the seat mounting points may not be closer than 6 inches from each other.
- The seat mounting points are located where your seat fasteners attach to the seat.
- The seat mounting points are NOT located where the seat tubes are welded together or welded to the vehicle frame.
- NTI will measure the shortest distances from seat fastener to seat fastener. If the measured distance is 6 inches or greater, then your seat is OK.

Seat Mounting Structure

- This implementation is not permitted
- Poor vertical support
- Multiple cantilevered stub tubes
- UST is cantilevered

Seat Mounting Structure

- This implementation is permitted
  - Supported per rules inquiries 29920, 31539, 29247, 31535
- Prefer to have tubes capped
- Mounting points are inboard of miter joints
- Arched tube terminates at both LFS
- Fore-aft bracing would be an improvement but not required for 2025

Seats

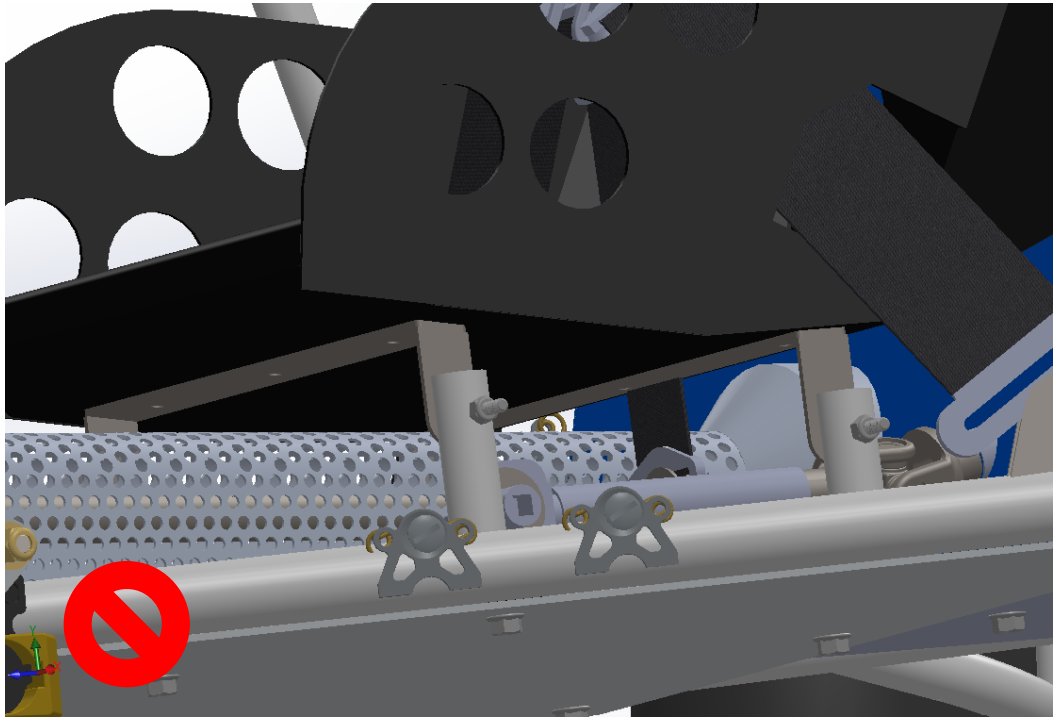
- Cantilevered stub tubes not permitted
  - Supported by rules inquiries 31219, 28976, 29521

Seats

- Tube arches along a lateral tube and rear mount is a UST
- Fore-aft bracing would be an improvement but not required for 2025

Seats

- Stub tubes not permitted
- Strap metal sub-frame not integral to seat
- Poor overall mounting stiffness



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Driver Restraint

- Belt geometry for drivers has improved, but mounting and installation continue to need work.
- Mounting Issues: Frame tabs mismatched to fastener size, mounting tubes tabs with weight reduction cutouts or insufficient weld.
- Installation Issues: Submarine belts off center or twisted, shoulder and lap belts not installed in the correct orientation. Webbing not properly routed through slack adjusters.

Electrical

- **There were some new issues uncovered with electrical rules at the Arizona event, resulting in confusion on what was acceptable.**
- **<u>Any electrical rules inquiries before the Arizona event are null and void.</u>**
- **As battery chemistry and cell protection have improved over the years, BSAE rules needed to be updated in step with the technology.**
- **Brake lights are rated when used at their nominal voltage, and the rules were updated for 2025 to require brake light and reverse light voltage to not go below 11 volts DC.**
- **Changes to battery rules in recent years allowed more power to control and data acquisition systems.**
- **Updates to the 2025 rules focused on safety regarding pack construction.**
  - All battery cells must be professionally constructed by a battery OEM.
  - Battery packs (an assembly of battery cells) may be student built if not of a lithium chemistry.
    - For example, teams are permitted to create battery packs from alkaline battery cells
  - Lithium chemistry packs must not be student-created.
  - All cells and/or packs must have a rigid enclosure to prevent physical damage to the pack.

Cockpit

- **Body Panels**
  - **Quick disconnect body panels have been very successful in improving inspection quality and reducing overall inspection times.**
  - **Many teams needed more quick disconnect fasteners than actually used to ensure no body panel gaps**

Guards

- **Guards had two issues:**
  - Overlap:
    - Multi-piece covers require overlap between sections. Butt joints are not permitted.
  - Venting Holes:
    - Several teams had vent tubes that did not fully guard the CVT.
    - B.9.2 does not make mention of rotational direction. If there is a direct radial or tangential path out of CVT cover, it does not meet B.9.2.
    - Many of these vent tubes were also too short, allowing fingers to come in contact with the CVT.
    - The tube pictured needed to be longer and have more curvature to block the radial and tangential paths out of the CVT cover.

Vehicle Numbers

- **Vehicle identification has improved.**
- **The biggest issue so far has been poor contrast of numbers to backing panel.**
- **Readable numbers are critical for event safety and operations.**
- **Numbers must be:**
  - Required font and weight
  - Minimum height of 6 inches
  - ***Minimum edge clearance of 1 inch on a single color contrasting background***
  - One single color for all digits
  - Horizontal (+/- 3 degrees)
  - Consider using hydrophobic coatings on your numbers