

SAE INTERNATIONAL®

# BAJA SAE® 2025

Technical Inspection Bulletin #1



# 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

- 2025 Rule Changes
- Seats and Seat Mounting
- Driver Restraint
- Electrical
- Cockpit
- Guards
- Vehicle Identification

# 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 are creating cantilevered structures with low rigidity and poor load paths to the frame.

# Seats



- Multiple cantilevered stub tubes
- UST is partially cantilevered



- Fore-aft cantilevered mounts
- Tubes not capped
- Would be OK with fore-aft tubes joining both structures for more rigid mount

# Seats



- Cantilevered stub tubes



- Fore-aft cantilevered arch.
- Would be OK if tied fore-aft with longitudinal tubes

# 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.

- There were some new issues uncovered with electrical rules at the Arizona event, resulting in confusion on what was acceptable.
- **Any rules inquiries from before the Arizona event are null and void.**
- 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.
  - Lithium chemistry packs must not be student-created, and must have a rigid enclosure to prevent physical damage and associated fire and explosion risk.



# 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