

SAE INTERNATIONAL

# BAJA SAE 2024

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 2023.
- 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

- 2024 Rule Changes
- Paperwork
- Seats
- Roll Cage
- Engine
- Driver Restraint
- Fuel
- Cockpit
- Guards
- Vehicle Identification

# 2024 Major Rule Changes

## Engine

- Engine linkage minimum clearance, air cleaner and muffler relocation prohibited, required clearances to muffler.

## Safety Equipment

- Snell 2015 no longer accepted, flame resistant pants now required, seat structure and tab mounting updated, kill switch requirements updated

## Frame

- Major edits to entire section

## Fuel System

- Fastener stack up, updated fuel hose and clamp size, splash shield requirements

The changes listed above are notable rule changes and are not an exhaustive list. A full list of rule changes is available in the 2024 rule book. You are responsible for reviewing the rule book in its entirety and complying with all rules.

# Paperwork

- Tech Sheets
  - ***Do not show up with blank tech sheets***
  - Make sure your faculty advisor ***signs and dates*** the tech sheets.
  - Make sure your captain ***signs and dates*** the tech sheets.
  - Make sure you write your car number on each page in the space provided
  - Do not resize, scale, and ***do not print double sided***.
  - Write your initials within each box for items you inspect on your car.
- Roll Cage Spec Sheet
  - Make sure it's signed
  - Make sure you have it at tech

# Seats

- ***Seats continue to be a challenge for BSAE***
- The seat must work with the driver harness to secure the driver within the roll cage
- **Design Issues**
  - Insufficient rigidity and strength
  - Poor fit-up and coordination with driver harness
- **Manufacturing Issues**
  - Manufacturing defects reducing strength
  - Modifications of purchased seats reducing strength
- **Mounting Issues**
  - Point loading causing cracking or break-through

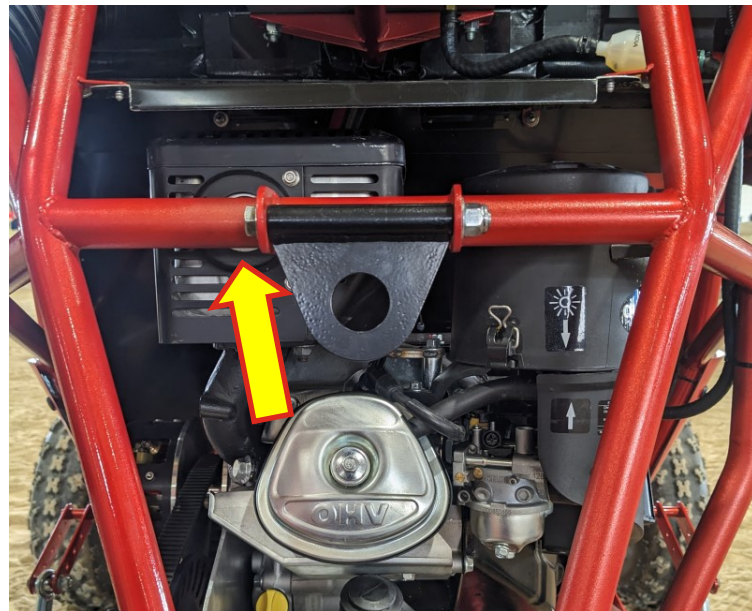
# Roll Cage

## **The most common items with frame inspection include:**

- Check your tube lengths!
- Unsupported bends in the RRH
  - Greater than 33 inches between Point B and Point S
- FBM\_up
  - Extending longer than 40 inches between named points Point C and Point D
- Weld Samples:
  - Are not processed by NTI, they are only inspected and evaluated
  - Must be cut and sectioned by the team
  - Must be broken by the team

# Kohler Engines

- Exhaust
  - Do not let the exhaust exit the muffler directly onto a tube
  - Be sure to use the Kohler exhaust deflector
- High speed screw adjustment
  - Please make sure that you are complying with the requirements for high-speed screw adjustment laid out in B.2.7.12
- Throttle Adjustment
  - There will be no hard stops on the engine to be checked during technical inspection
  - Throttle setup will be completed by Kohler during engine check
- A Kohler in line fuel filter will be required
  - Filter must be located above the splash shield





# Driver Restraint

- Driver restraint problems were observed in three ways:
  - **Mounting**: Frame tabs mismatched to fastener size, mounting tubes cantilevered or not meeting secondary member requirements, and tabs with weight reduction cutouts.
  - **Geometry**: Shoulder belts mounted too high or too low, lap belt angles too high, anti submarine belts mounts not fitting smallest drivers, insufficient adjustment capacity, adjuster/buckle with insufficient slack, off-center anti-submarine belt mount (consider using a 6 point harness to clear driveshaft)

# Fuel System

- Fuel System problems centered around these items:
  - **Tank Mounting**
    - Over-tightening of the tank mounting hardware leads to excessive deformation of the rubber washers
    - With the above mentioned over torquing there were many teams that didn't fully tighten the tank bolts and there were able to be rotated by hand.
    - **Note the new requirement around metallic washer diameter in B.6.5.1**
  - **Splash Shields**
    - The splash shield must protect from fuel being poured on the engine, and the shield must divert fuel away from the engine and **away** from hot exhaust components.
    - Splash shields must be mounted with sufficient clearance to the muffler.
    - *Teams are encouraged to construct broad, full width splash shields*
  - **Fuel Lines**
    - 3/16 inch fuel line required with #4 hose clamps or Kohler OEM hose clamps.

- **Fire Extinguisher**

- The use of the fuel tank “C” brackets will be acceptable for mounting the fire extinguisher (Refer to B.6.5.1 for tab requirements)
- Hose clamps should be positioned close to the driver as not to interfere with a track worker reaching for the extinguisher pull knob release.
- Be sure your fire extinguisher has the factory seal/tag that retains the pin. **Fire extinguishers without the factory seal will not be accepted.** The use of zip ties to retain the pin is unacceptable.
- The gauge must be readily observed by a track worker.
- Nozzle must be pointed in one of the directions:
  - 1) Pointed directly at the firewall
  - 2) Pointed to the right side, away from the driver

# Guards

- **Guards**

- Guards should be durable, and securely attached to the vehicle.

Technical inspectors will try to shake or move guards when they are installed on the vehicle.

- Finger guarding should prevent a searching finger from contacting rotating equipment.
  - There are specific guarding requirements for 4WD/AWD vehicles with driveshafts passing through the cockpit. Section B.9 has been reorganized in the rules to help with clarity regarding 4WD/AWD. As always, please submit a rules question if you are still not clear about something.

# Vehicle Numbers

- Tech inspectors will be giving extra scrutiny to the vehicle numbers.
- 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
- **If your numbers are not readable during the race you will be black flagged!**