Baja SAE Technical Inspection Bulletin

2017-5

SAE INTERNATIONAL

Introduction

- This bulletin will cover technical inspection issues experienced during the second competition of 2017 (KS).
- This bulletin will also offer guidance on how certain rules will be enforced.
- The 2017 BSAE competition year has several new rule changes.
- If you are unsure about a rule, you can make use of the Rules Question feature on BajaSAE.net, or ask fellow competitors on the BajaSAE.net forums.
- ***It is your responsibility to carefully read the rules and prepare your car accordingly*.**

Frame

- Tech inspectors will be looking to make sure the welds on the weld samples are similar in quality and form to those on the car.
- All frame members including the SIM and RRH must have a support back to a named point if they have a bend ***and*** longer than 33 inches.
- Double check for driver clearance between ***any two points*** on the frame. The same is required of the fuel system, and that includes the air cleaner and carburetor. Use a straight-edge like a broomstick or piece of extra frame tubing.

Fuel

- Any removable gas tank must also meet spill prevention rules, as a removable tank can still be filled in the same way as a non-removable tank.
- All splash shields and drain pans must be functional.
- This particular gas tank did not meet the 1.5” height rule due to the nearest edge not being high enough.

Suspension Seats

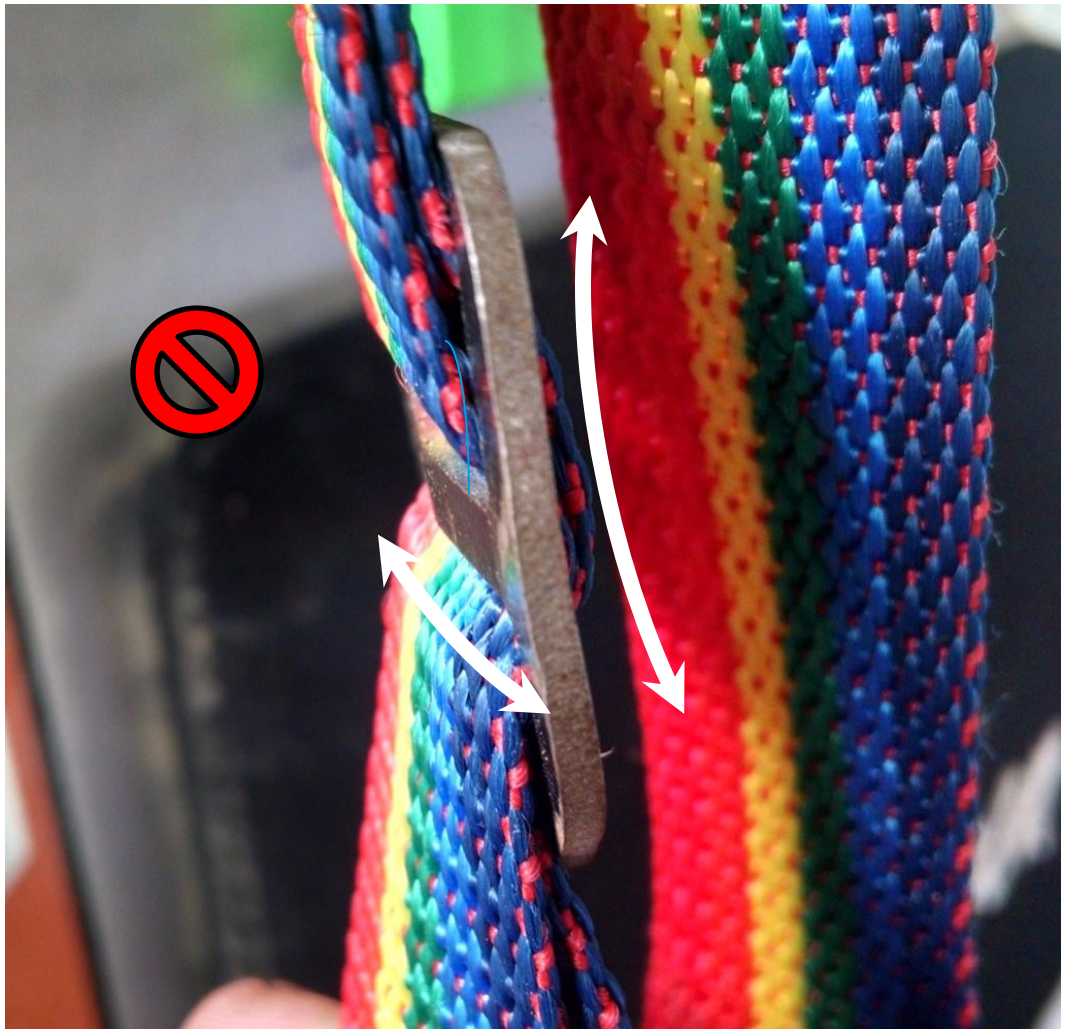
- Several teams did not install the appropriate bracing for suspension seats mounted to the SIM. These teams only installed one member or routed the members in the wrong orientation.
- B10.7.4, Figure 17 shows two members in red joining the LFS and the SIM.
- If you have a suspension seat with mounts to the SIM, be sure you have both members installed.
- Another suspension seat failed at Kansas. Initial inspection showed the webbing of the seat itself failed, not the stitching or fasteners.

Suspension Seats

- Some teams were using non-load-rated hardware.
  - For BSAE Illinois, be sure you are using load rated hardware.
  - It is recommended teams use hardware rated for at least 900 lbf.
  - Expect future rule changes to address the load rating for suspension seat hardware.

Suspension Seats

- At California, there were several issues with suspension seat mounting hardware.
- Some teams built their own buckles out of thin-gauge material and arrived at tech with plastically deformed seat webbing buckles. Buckles that clearly show deformation will not be accepted.



Suspension Seats

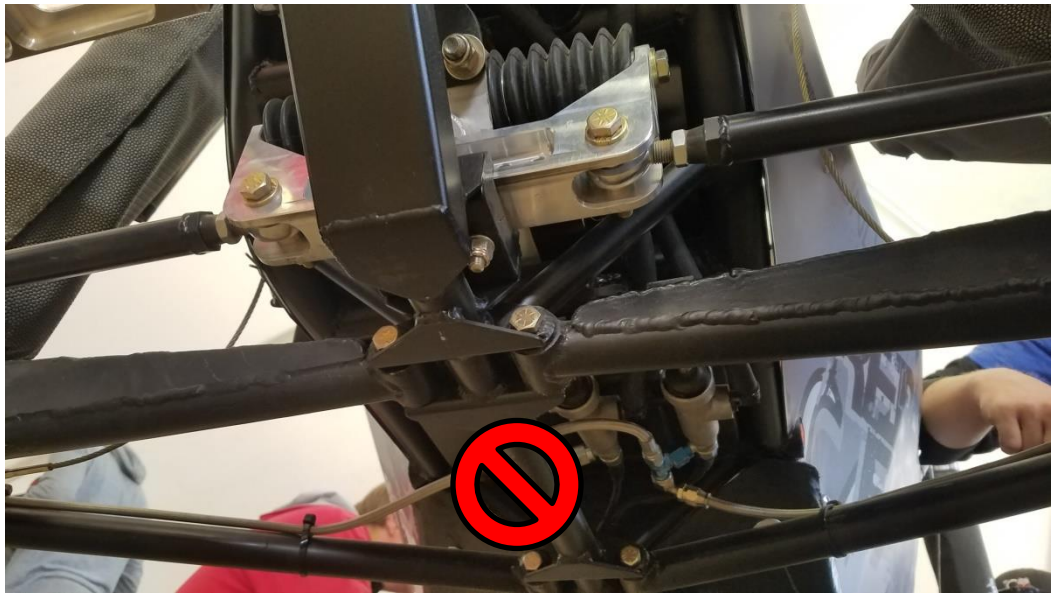
- Wrapped suspension seat webbing that extends beyond the roll cage will not be accepted.

Firewall Extensions

- Any firewall extensions required must meet firewall requirements, specifically B9.4. B9.4 requires a metal firewall.
- This 3D printed seat belt cover was not accepted.

Brakes

- Brake master cylinders must be protected by the skid plate and within the roll envelope.
- Brake lines must be free from damage.
- Both photos show problems teams had to fix before they passed tech inspection.



Fire Extinguisher Mounts

- There are still a few issues found in technical inspection for fire extinguisher mounts:
  - Poor accessibility to pull knob
  - Clamp positioning and routing of clamp banding
  - Improper fasteners

Fire Extinguisher Mounts

1. Appropriate hardware (Flat-head socket head cap screw)
2. Proper clamp routing through notches
3. Clamp hardware positioned away from pull knob.

Fire Extinguisher Mounts

1. Appropriate hardware (Flat-head socket head cap screw)
2. At least 2 inches of radial clearance around knob forward of firewall.

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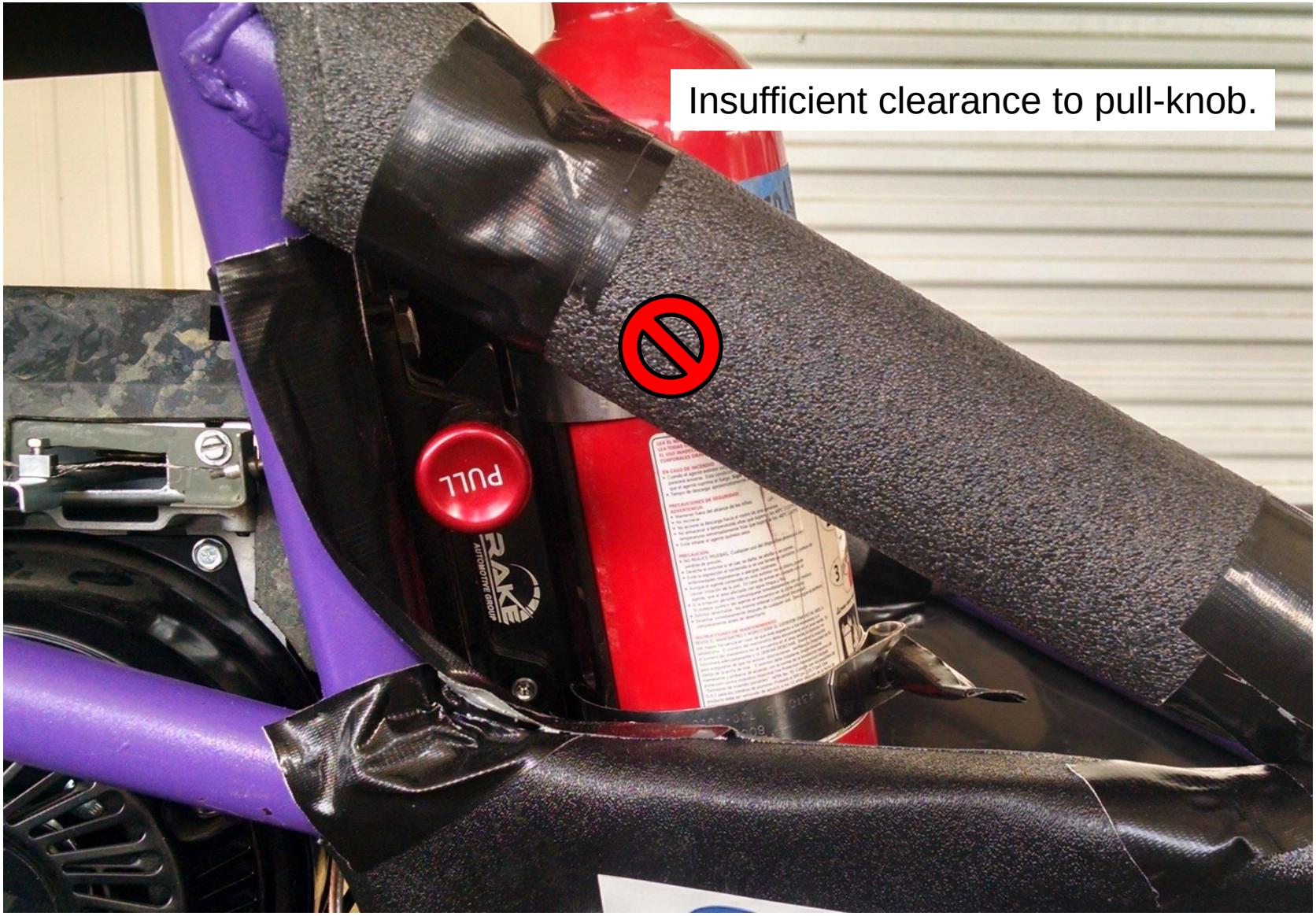

Seatbelts

- During tech inspection and dynamic day, tech inspectors found several cars where the belts were out of adjustment and/or improperly wrapped. Belts must have room for all drivers and still have room to be adjusted tight or loose.
- A few teams were required to move their anti-submarine belt mounting point because it was too far forward. Always refer to the installation instructions.
- Some teams still install seat belt tabs in bending. Make sure the seat belt loads are directed to the frame in tension.
- Lap belt angles must be such that forces are directed to the hip bones and not the drivers stomach/intestines.
- Double check the wrapping of harness webbing around the buckles per B10.1

Drivetrain

- CVT and chain guards must be protected on all sides.
- Per B15.1:
  - All rotating components, rotating faster than the final drive speed, must be guarded around the periphery with material meeting the requirements of rule B15.1.
  - By this definition, *gearbox input shaft guarding is required* to meet B15.1.