

Autosports
INDIA 



MEG **ATV**  *ch* **A** *mpionship*
THE ULTIMATE ATV CHALLENGE

SEASON-3

2018

fmsci 

The Federation of Motor Sports Clubs of India

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PART A: ADMINISTRATIVE REGULATIONS**A1: MEGA ATV CHAMPIONSHIP OVERVIEW**

The Mega ATV Championship SEASON-3 is the sequel of season 1 &2 organized in Bhubaneswar, Odisha and Ahmednagar Maharashtra India.

A1.1 MEGA ATV CHAMPIONSHIP Objective

Mega ATV Championship is an intercollegiate engineering design competition for undergraduate students. The object of the competition is to promote the culture of "LEARN WITH FUN ". Each team is expected to learn the different aspect of automobile while designing the vehicle and have fun while testing the self-made vehicle in different adventure tracks prepared especially for these type of vehicle. This competition also aimed to contribute in automobile sector by creating designing expert and racing sector by encouraging the student to build their career of being professional racers. This completion also improves the soft skill of participating students.

A1.2 Design Subject

Each team's goal is to design and build a single-seat, all-terrain, sporting vehicle whose structure contains the driver. The vehicle is to be handle all kinds of different challenges thrown to it. The vehicle will be tested for its reliability, maintainability, ergonomics, and endurance. The vehicle performance will be measured by success in the dynamic events which are described in the website, and aresubject to event-site weather and course conditions.

A1.3 Good Engineering Practices

Vehicles entered into Mega ATV Championship are expected to be designed and fabricated in accordance with good engineering practices.

A1.4 Official Announcements and Competition Information

Teams are required to read the articles posted on the website homepage as well as in the dashboard of registered students. It is the responsibility of student read and follow all the Announcements published by organizing team and MEGA ATV CHAMPIONSHIP Rules Committee.

A1.5 Official Languages

The official language of the Mega ATV Championship is English. Document submissions, presentations and discussions must be in English. No other language will be considered in any circumstance.

A1.6 Rules Compliance

By entering in Mega ATV Championship competition, the team members, faculty advisors and other personnel of the entering university agree to comply with, and be bound by, the rules and all rules interpretations or procedures issued or announced by MEGA ATV CHAMPIONSHIP, the MEGA ATV CHAMPIONSHIP Rules Committee and other organizing bodies. All team members, faculty advisors and other university representatives are required to cooperate with, and follow all instructions from competition organizers, officials and judges.

A1.7 Understanding the Rules

Teams are responsible for reading and understanding the rules in their entirety for the competition in which they are participating. The section and paragraph headings in these rules are provided to facilitate reading: they do not fully explain all the paragraph contents.

A1.8 Loopholes

It is virtually impossible for a set of rules to be so comprehensive that it covers all possible questions about the vehicle's design parameters or the conduct of the competition. Please keep in mind that safety remains paramount during MEGA ATV CHAMPIONSHIP, so any perceived loopholes should be resolved in the direction of increased safety/ concept of the competition. And student is encouraged to notify any loopholes to the MEGA ATV CHAMPIONSHIP rule committee to avoid dispute during events.

A1.9 Participating in the Competition

Teams, team members as individuals, faculty advisors and other representatives of a registered university who are present on-site at a competition are considered to be "participating in the competition" from the time they arrive at the event site until they depart the site at the conclusion of the competition or earlier by withdrawing.

A1.10 Right to Impound

MEGA ATV CHAMPIONSHIP and the other competition organizing bodies reserve the right to impound any on-site registered vehicle at anytime during a competition for inspection and examination by the organizers, officials and technical inspectors.

A1.11 General Authority

MEGA ATV CHAMPIONSHIP and the competition organizing bodies reserve the right to revise the schedule of any competition and/or interpret or modify the competition rules at any time and in any manner that is, in their sole judgment, required for the efficient operation of the event or the MEGA ATV CHAMPIONSHIP as a whole.

A1.12 Penalties

Organizers have the right to modify the penalties listed in the various dynamic event to better reflect the design of their event courses, the course lengths or any special conditions unique to the site. The standard dynamic event penalties in these rules are default values that will be applied unless there is a change by the organizer.

PART B: INDIVIDUAL PARTICIPATION REQUIREMENTS

B1.1 Eligibility Limits

Eligibility is limited to undergraduate students to ensure this is an engineering competition rather than a race. Individual members of teams participating in this competition must satisfy the following requirements:

B1.2 Student Status

Team members must be enrolled as degree seeking undergraduate student in a college or university. Team members who have graduated in 2017 remain eligible to participate.

B1.3 Age

Team members must be at least eighteen (18) years of age at the time of the competition.

B1.4 Driver's License

Team members who will drive a competition vehicle at any time during a competition must hold a valid, government issued driver's license. This will be required onsite for proof.

B1.5 Liability Waiver

All on-site participants and faculty are required to sign a liability waiver upon registering on-site.

B1.6 Insurance

Individual medical and accident insurance coverage is **not required, but driver's insurance is must. Drivers can also apply for FMSCI license which also covers medical insurance. Detailed separate information is given on website.**

PART C: FACULTY ADVISOR**C1.1 Faculty Advisor Status**

Each team is expected to have a Faculty Advisor appointed by the university. The faculty advisor is expected to accompany the team to the competition and will be considered by competition officials to be the official university representative.

C1.2 Responsibilities

Faculty Advisors are expected to advise their teams on general engineering and engineering project management theory.

C1.3 Limitations

Faculty advisors may not design any part of the vehicle nor directly participate in the development of any documentation or presentation.

Faculty Advisors may neither fabricate nor assemble any components nor assist in the preparation, maintenance, testing or operation of the vehicle.

Faculty Advisors are not allowed to participate during technical inspection, Innovation design presentations. The team captain or other designated members of the team must do all the presenting although Faculty Advisors may silently observe.

In brief – Faculty Advisors may not design, build or repair any part of the vehicle.

PART D: ELIGIBILITY – VEHICLES

D1.1 Student Created

The vehicle and associated documentation must be conceived, designed and fabricated by the team members without direct involvement from the professional engineers, faculty or professionals in the off-road and racing communities.

D1.2 Professional Fabrication Limits

Vehicles which have been professionally fabricated may be disqualified from the competition. If a team does not have access to machine shop / workshop facilities, the frame can be professionally fabricated without penalty. Lack of access must be documented (letter from the faculty advisor, copy of policies which prohibit machine shop / workshop access, etc.).

D1.3 Kit Vehicles – Prohibited

Vehicles fabricated from a kit or published designs are ineligible to compete.

D1.4 Prefabricated Subassemblies

These rules do not exclude the use of prefabricated or modified sub-assemblies.

PART E: PROTESTS

It is recognized that hundreds of hours of work have gone into fielding a vehicle. In the heat of competition, emotions peak and disputes can arise. The organizers and MEGA ATV CHAMPIONSHIP staff will make every effort to fully review all questions and resolve problems quickly and efficiently.

E1.1 Preliminary Review – Required

If a team has a question about scoring, judging, policies or any official action it must be brought to the organizer's or MEGA ATV CHAMPIONSHIP staff's attention for an informal preliminary review before a protest can be filed.

E1.2 Cause for Protest

A team may protest any rule interpretation, score or official action (unless specifically excluded from protest) which they feel has caused some actual, non-trivial harm to their team, or has had a substantive effect on their score. Teams may not protest rule interpretations or actions that have not caused them any substantive damage.

E1.3 Protest Format and Forfeit

All protest must be filed in writing and presented to the organizer or MEGA ATV CHAMPIONSHIP Staff by the

team captain or a designated student team member. In order to have a protest considered, a team must post a twenty-five (25) point protest bond which will be forfeited if the protest is rejected.

E1.4 Protest Period

Protests concerning any aspect of the competition must be filed within one half hour (30 minutes) of the end of the event to which the protest relates.

E1.5 Decision

The decision regarding any protest is final.

PART F: REGISTRATION

More than one team from same institution/college/university are eligible to participate. If multiple teams participating from same institution/college/university, teams must have different: Team name, Team logo, Color of the vehicle, Team captain and other members, Team jerseys/Uniforms.

TEAM SIZE-

- i) Team must have minimum of 10 members and maximum of 30 members and maximum of 2 faculty advisors are allowed per team.
- ii) As there will be **Day and Night** event so each Team must have at least two drivers.
- iii) The teams are advised to have team captain, strategist, driver, technical crew, team manager, navigator (Who can communicate with drivers during the events)

PART G: TECHNICAL REQUIREMENTS

G1.1 Vehicle Configuration

The vehicle must have four (4) or more wheels not in a straight line.

G1.1.1 The vehicle may only use one Briggs & Stratton engine of a model specified below. The vehicle must be capable of carrying one (1) person 190cm (75 in) tall weighing 113kg (250lbs).

G1.1.2 Maximum Vehicle Dimensions

Maximum Dimensions is 162 cm (64 in) width by 274 cm (108 in) length.

G1.2 All-Terrain Capability

G1.2.1 The vehicle must be capable of safe operation over rough land terrain including obstructions such as rocks, sand jumps, logs, steep inclines, mud and shallow water in any or all combinations and in any type of weather including rain, snow and ice.

G1.2.2 The vehicle must have adequate ground clearance and traction.

G1.3 Vehicle Ergonomic Capacity

As a prototype of a commercial product, the design intent should be to accommodate drivers of all sizes

from the 95th percentile male (in the country in which the competition is held) to the 5th percentile female. The largest driver must be able to meet the roll cage minimum clearances, and fit into a comfortable driving position, while wearing the entire required driver's equipment. The smallest driver must be able to comfortably reach all of the vehicle's controls.

PART H: REQUIRED ENGINE

H1.1 Briggs & Stratton 10 hpOHVIntek

To provide a uniform basis for the performance events, all vehicles must use the same engine: a stock four cycle, air cooled, Briggs & Stratton OHVIntek Model.

The following Briggs & Stratton engines are the only acceptable engines for the competitions:

Acceptable Engines

20S232 0036-F1

205432 0536-E9

205332 0536-E9

205332 0536-B1

H1.2 Engine Eligibility

Teams having Engine which is 2-year-old are need not to buy new engine. The team having engine which is 3 years old or more are need to buy new engines.

Example: Teams that bought a new Briggs & Stratton engine for the 2016 competition season and competed in competition in 2016 and 2017 need not to buy the new engine for 2018 competitions.

Example: A team that bought the engine in 2015 or **earlier**, need to replace the engine with new one.

H1.3 Eligible Teams - Ordering New Engines

Teams that need to replace the engine can order online. A separate form is uploaded on website as well as on dashboard of team login page for ordering the engine from Brigg and Stratton. A team can also buy the engine from their local Briggs and Stratton dealers.

H1.4 Replacement Parts

Only Original Equipment Briggs & Stratton replacement parts may be used.

H1.5 Piston Rings

Only standard size original Briggs & Stratton piston rings may be used.

H1.6 Intake Ports

No cleaning or removing of aluminum flashing from intake or exhaust ports may be done

H1.7 Valves

A. Valve Clearance - Any valve clearance setting between tappet and valve stem – intake and exhaust may be set.

B. Valve Lapping - Valves may be lapped to ensure proper sealing. Intake angle must remain at 45 degrees; exhaust angle must remain at 45 degrees.

H1.8 Shafts and Rods

Camshaft, crankshaft, connecting rod and flywheel must not be altered or modified.

H1.9 Spark Plugs

Must use RC12YC Only.

H1.10 Armature

Any armature air gap setting is allowed. No slotting or elongating of armature mounting holes to increase or retard ignition timing.

H1.11 Flywheel Rotation

No flywheel rotation to advance or retard timing is permissible.

H1.12 Carburetor**A. Carburetor Re-jetting – Prohibited**

This is a fixed carburetor, re-jetting of the carburetor is prohibited.

B. Idle Speed

Any idle speed adjustment is allowed, Briggs & Stratton recommends 1750, ± 100 RPM.

C. Carburetor Float

Carburetor float is non-adjustable and may not be re-adjusted.

D. Carburetor Venturi

Modification of carburetor venturi is prohibited.

H1.13 Air Cleaner

The air intake may be relocated, but Briggs & Stratton parts must be used to relocate the air filter: 792349 remote kits, 695329 – choke shaft and 699960 bases. The supplied air hose may be shortened to a minimum of 152 mm (6.0 in).

No other type of hose will be allowed. A team may also add additional pre-filters to the top of the air intake. These

parts must be included on the cost report. Any changes made to the air filter will have to pass Briggs & Stratton inspection.

Note from Briggs & Stratton: Relocation of the air cleaner may decrease engine performance.

H1.14 Exhaust System**A. Muffler Relocation**

If the vehicle design requires an exhaust system reconfiguration to keep it from impinging on part of the vehicle, the re-routing must be done using tubing having an ID of 32mm (1.25 in). Any remote mounted exhaust system must use the original muffler and must be securely mounted so that it does not vibrate loose during the competition.

B. Muffler Support

Support of the exhaust pipe and muffler are strongly recommended.

C. Exhaust Pipe

Exhaust pipe may not protrude inside of the exhaust port, so as to alter port configuration.

D. Exhaust Pipe – Length

Any exhaust pipe length is allowed, however pipe length may not be adjustable.

E. Exhaust Pipe – Holes & Tubes

No extra holes or tubes are allowed in the exhaust pipe.

F. Exhaust System – Durability Required

The exhaust pipe and muffler must be completely intact and operational throughout the competition. Any vehicle found to have a loose or leaking exhaust system will be removed from competition until the issue can be corrected.

H1.15 Starter

The Recoil starter rope may be extended to accommodate the driver starting the engine while seated

H1.16 Alternator

The engine may be fitted with an alternator to generate electrical energy. The only alternators which may be used are those which Briggs & Stratton specifies for the engine model

H1.17 Engine Governor

Each engine is equipped with a governor. Each governor will be set at competition to a 3,800 rpm or lower maximum speed. Random inspection of the governor may be conducted at any time. Any attempt to defeat the engine governor so as to increase the engine speed is grounds for immediate disqualification. Random inspection of the governor may be conducted at any time.

GOVERNOR SETTING NOT TO EXCEED 3800 RPM.

The governor operation must remain free of obstructions at all times. Governor area must be shielded from debris. The stock configuration of fuel tank mounted to the engine is acceptable for debris management. However, if the fuel tank is to be remote mounted, a debris shield covering the exposed governor area is required. Briggs & Stratton part number 697326 Control Cover may be used or some other part with equivalent features.

NOTE: The governor spring must be placed in hole #6.

H1.18 Hybrid Electric Power Systems

Hybrid electric power systems are specifically prohibited.

H1.19 Energy Storage Devices Used for Propulsion

Hydraulic accumulators are the only type of stored energy device that may be incorporated into the

vehicle for propulsion purposes. Hydraulic power systems must be properly shielded and documentation of the shielding made available for review.

Flywheels and similar types of rotating inertia storage devices are prohibited.

Compressed Gas systems are allowed to change transmission states (i.e. shift gears), but not to provide additional Power.

Compressed Gas Cylinders and Lines

Any system on the vehicle that uses a compressed gas as an actuating medium must comply with the following requirements:

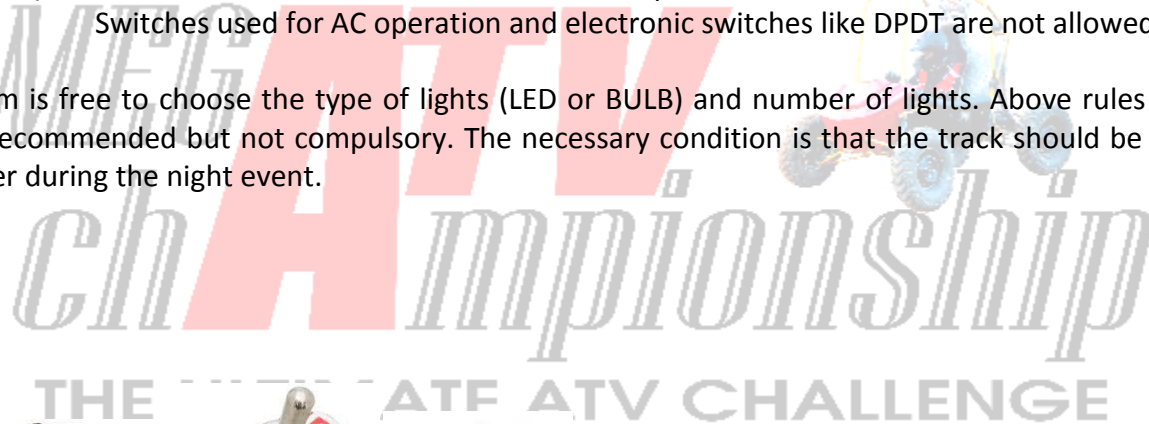
- a. Working Gas-The working gas must be nonflammable, e.g. air, nitrogen, carbon dioxide.
- b. Cylinder Certification- The gas cylinder/tank must be of proprietary manufacture, designed and built for the pressure being used, certified by an accredited testing laboratory in the country of its origin, and labeled or stamped appropriately.
- c. Pressure Regulation-The pressure regulator must be mounted directly onto the gas cylinder/tank.
- d. Protection – The gas cylinder/tank and lines must be protected from rollover, collision from any direction, or damage resulting from the failure of rotating equipment.
- e. Cylinder Location- The gas cylinder/tank and the pressure regulator must be located either rearward of the Main Roll Hoop and within the envelope defined by the Main Roll Hoop and the Frame or in a structural side-pod.
- f. Cylinder Mounting- The gas cylinder/tank must be securely mounted to the Frame, engine or transmission.
- g. Cylinder Axis- The axis of the gas cylinder/tank must not point at the driver.
- h. Insulation- The gas cylinder/tank must be insulated from any heat sources, e.g. the exhaust system.
- i. Lines and Fittings- The gas lines and fittings must be appropriate for the maximum possible operating pressure of the system.

PART I: ELECTRICAL REQUIREMENT

- i) As there will be day and night events, participants need to run their vehicle in **Pitch dark** so each vehicle must have equipped with proper lighting one battery must be used to give power to all the electrical system like head lamp, fog lamp, brake light, reverse light Horn, and alarm only.
- ii) There should be minimum 2 head lamps and two fog lamps pointing forward in the forward direction of the vehicle. For reverse there must be white reverse light of proper intensity and ensure a good visibility.
- iii) Reverse light must be active on engagement of reverse gear.
- iv) Participants have to make sure the battery used for these purpose must have backup of at least 2 hours i.e. battery must be capable of operating these components properly for 2 hours. However, in day time there is no need of fog and head lamp so small battery which is capable to operate alarm, brake light, horn only can be installed replacing the heavy battery.

- v) It is highly recommended that each team must carry backup batteries for this purpose in fully charged condition. Organizers' will not provide any charging device at the venue.
- vi) Any team whose lights and electrical components are not working will not be allowed for the night events.
- vii) If it is found that any electrical component and lights are not working during the event the vehicle will be called for immediate repair.
- viii) Battery cannot be used for starting of engine.
- ix) Batteries must be mounted with good engineering practice
- x) Perfectly sealed dry battery must be used so that there must not any spill or exit of the battery in case of roll over or sharp tilting.
- xi) The wires used for these electrical connections must be of copper wire of minimum 1.5 MM2 or above of good quality ISI marked brand.
- xii) All wires must be covered with fire resistant pipe or cover to avoid fire in case of short circuit.
- xiii) There must be switch for operating alarm, Horn, and head and fog lamps.
- xiv) The switches used must be used for DC operation and must be rated above 5 Amps. Switches used for AC operation and electronic switches like DPDT are not allowed.

NOTE: Team is free to choose the type of lights (LED or BULB) and number of lights. Above rules about lights are recommended but not compulsory. The necessary condition is that the track should be visible to the driver during the night event.



SWITCHES



BUZZERS

SWITCHES AND BUZZERS WHICH ARE ALLOWED



SWITCHES WHICH ARE NOT ALLOWED

Kill Switches

Each vehicle must be equipped with two (2) easily accessible kill switches turning off the ignition. The Kill switch must not de-energize the Brake

Kill Switch – Type

The kill switches must be one of the following:

- (A) 01-171 Ski-Doo kill switch available at <http://www.mfgsupply.com/m/c/01-171.html?id=UxSI4Vzn>
- (B) After-market WPS#27-0152 or 27-0124 <http://www.parkeryamaha.com/index.asp?PageAction=PRODSEARCH&txtSearch=27-0152&Page=1>
- (C) A Stock Polaris # 4110106

Kill Switch – Locations and Orientation

Cockpit Switch – The cockpit switch must be located in the front of the cockpit within easy reach of the Driver with the safety harness tight. The switch may not be mounted on a removable steering wheel assembly.

External Switch – The external switch must be mounted on the driver’s right side of the vehicle, on a panel generally perpendicular (it can be mounted between the RRH and FAB tubes) to the firewall (+/- 15 degrees) between RRH and Rear Bracing within the red area, (Fig 2) and behind the plane of the RRH. The switch Cannot be more than 178 mm (7 in) vertically below point. BR. The switch must be within easy reach of track workers, the switch must be mounted rigidly, with no sharp edges nearby. It must not be necessary to reach inside the rollcage to actuate the switch.

Sample Mountings (Note: The kill switches must be mounted using the outer cases. If they are mounted using adhesive on the back cover the switch will fail.)

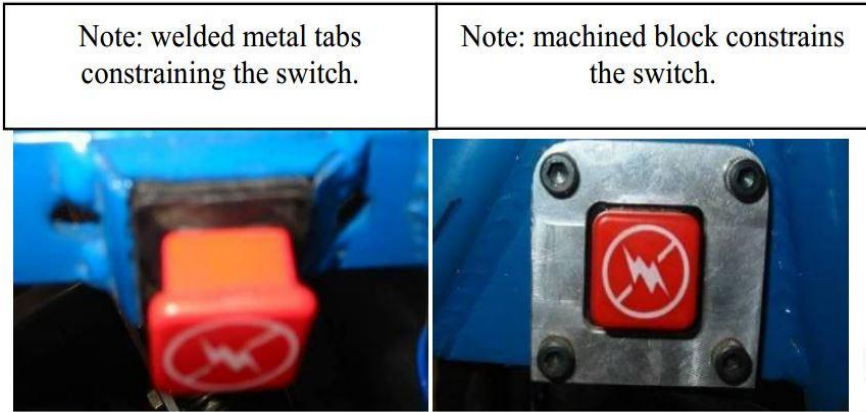


Figure 1

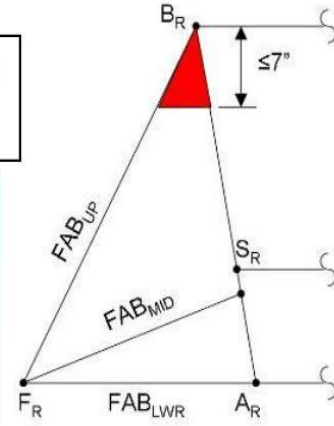


Figure 2

PART J: TOWING HITCH POINT

Refer BAJA INTERNATIONAL RULEBOOK (PART B, ARTICLE 4).

PART K: VEHICLE IDENTIFICATION

Refer BAJA INTERNATIONAL RULEBOOK (PART B, ARTICLE 5).

PART L: ROLL CAGE

Refer BAJA INTERNATIONAL RULEBOOK (PART B, ARTICLE 8).

PART M: COCKPIT AND THROTTLE

Refer BAJA INTERNATIONAL RULEBOOK (PART B, ARTICLE 9).

PART N: DRIVER RESTRAINT

Refer BAJA INTERNATIONAL RULEBOOK (PART B, ARTICLE 10).

PART O: BRAKING SYSTEM

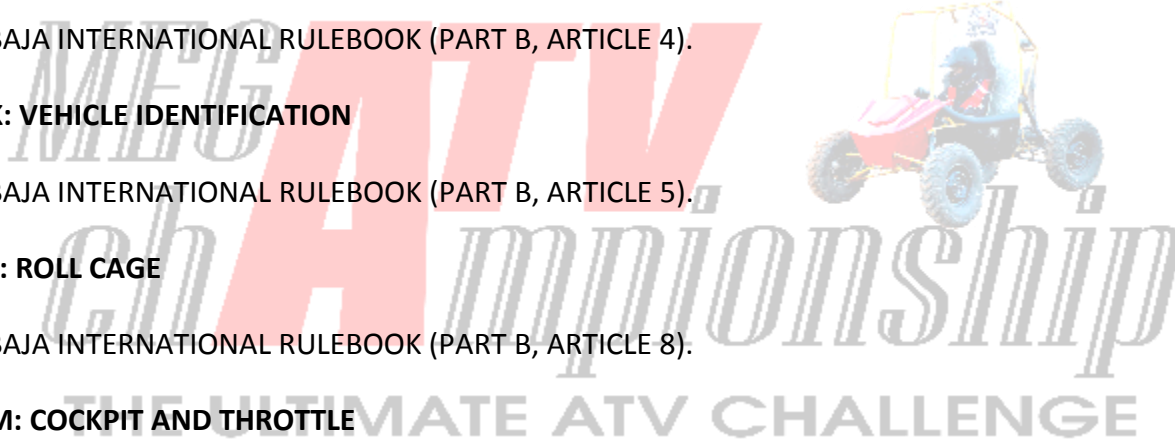
Refer BAJA INTERNATIONAL RULEBOOK (PART B, ARTICLE 11).

PART P: FUEL SYSTEM AND FUEL

Refer BAJA INTERNATIONAL RULEBOOK (PART B, ARTICLE 12).

PART Q: FASTENERS

Refer BAJA INTERNATIONAL RULEBOOK (PART B, ARTICLE 14).



PART R: GUARDS

Refer BAJA INTERNATIONAL RULEBOOK (PART B, ARTICLE 15).

PART S: DRIVER EQUIPMENT

All drivers must wear safety gear as per the instructions given below.

1. Safety suit. (Only SFI or FIA approved fire resistant safety suit is allowed)
2. Motocross helmet approved by ISI, Snell, DOT, SFI
3. Neck rest. (Must be ISI, SFI, FIA approved).
4. Hand gloves. (Must be ISI, SFI, FIA approved)
5. Arm restraint. (Must be ISI, SFI, FIA approved)
6. Safety shoes. (Must be ISI, SFI, FIA approved)
7. Knee guards.
8. Tear off goggles.

NOTE: JERSEYS, GLOVES, SOCKS OR OTHER GARMENTS MADE FROM NYLON OR ANY OTHER SYNTHETIC MATERIAL WHICH WILL MELT WHEN EXPOSED TO HIGH HEAT, HENCE ARE PROHIBITED. ALL MATERIAL MUST BE IN OVERALL GOOD CONDITION AND SHOW NO SIGNS OF WEAR, NO CUTS OR CHAFFING OR WEAR.

PART T: DRIVER'S SEAT

1. The seat shall work in concert with the safety harness to secure the driver within the envelope of the roll cage. Seats may be of conventional or suspension (sling) design. All seats shall be designed for the upright seating position. The upright seating position is defined by the angle of the driver's back to a horizontal line. The back angle for an upright seating position is more than 65 degrees. As a reference, a completely upright driver will have a back angle of 90 degrees.
2. Conventional seats shall be generally rigid and be of metal or composite construction. Conventional seats may also have a removable seat cover and foam padding.
3. Suspension seats shall be constructed of resilient, durable, woven materials. Stitching shall be neat and sufficient to effectively join all seat parts and safely direct forces from the driver to the vehicle frame.
4. Seats may be purchased from a manufacturer or constructed in-house.
5. Seats shall be designed to have at least two generally planar surfaces when the driver is seated in the vehicle. The seat back plane shall be inclined between 65 and 90 degrees from horizontal (as viewed from the side). The seat bottom plane shall be underneath the driver and be horizontal or generally sloped such that the leading edge of the seat bottom plane is level with or higher than the intersection with the back plane. Seats may also include material oriented vertically along the sides of the seat bottom plane and the seat back plane designed to assist in laterally restraining the driver

PART U: TRANSPONDER

1. Transponders may be used as part of the primary timing system for all closed loop dynamic events at competitions.
2. Vehicles must carry a functional, properly mounted and fully charged transponder of the specified type. Vehicles without a specified transponder will NOT be allowed to compete in any event for which a transponder is used for timing
3. All vehicles must be equipped with at least one Rechargeable transponder of MyLaps. The timing system is capable of recording two transponder identifications per vehicle, therefore a second transponder may be mounted as a backup
4. <http://www.mylaps.com> .All teams are responsible for purchasing their transponder. All teams are responsible for purchasing their transponder directly through MyLaps.
5. Each transponder is supplied with a mounting bracket. Teams are advised to weld a small plate to their frame to attach the bracket. The bracket can be attached with rivets; zip ties or bolts
6. Attaching the bracket with an M4 pan OR flat head bolts with Lock nuts OR wire is strongly suggested.

PART V: TECHNICAL INSPECTION

1. Each vehicle will be inspected to determine if it complies with the requirements and restrictions of the Baja SAE rules. This inspection will include an examination of the driver's equipment including helmet and arm restraints, a test of driver exit time and to ensure that all drivers meet the requirements of the rules.
2. **Kill switch and dynamic brake testing** Both the external and cockpit kill switches will be tested for functionality. If both switches pass the test, then the vehicle will be dynamically brake tested. Each vehicle must demonstrate its ability to lock all four wheels and come to rest in an approximately straight line after acceleration run specified by the inspectors. If a vehicle fails to pass any part of the inspection, it must be corrected/modified and brought into compliance with the rules before it is permitted to operate.
3. **Inclining Test** –Water Competitions Only (there will be a water event for the 2015 competition season) Vehicles must demonstrate, in an Inclining Test, a range of floating static roll stability of at least 30 degrees (i.e., recover to upright from a 30 degree induced roll angle) with the team's heaviest driver seated in the normal driving position. Vehicles must pass the Inclining Test while in a fully flooded condition. Vehicles may not participate in water events until they have passed the Inclining Test.
4. Full vehicle inspection- The vehicle will be inspected to ensure that the vehicle meets the rules given in the rule book or not.
 - a. The vehicle must not have any sharp edges.
 - b. There should not be any Un welded, incomplete welding or weak welding, (There must not be any crack or holes visible on the welding).
 - c. All body panels and other components which is not a part of roll cage must be fastened by sound engineering practice and should not be loosen.
 - d. Fastening the body panels by wire or zip tags or adhesive are strictly prohibited.
 - e. All fasteners, Screws must have at least 3 full threads out of the nut.

- f. All rotating parts in the drive train must be covered or properly shielded by metal.
- g. Two fire extinguishers must be there of specification given in the rule book. One mounted at the vehicle and one at the hand of pit workers.
- h. Dimension of the vehicle must not exceed given as per the Rule book.
- i. Driver's equipment's check- All drivers must wear the safety equipment's given as per the rules of MEGA ATV CHAMPIONSHIP 2017-18. All equipment's must be present with their purchasing certificate at the time of technical inspection.
- j. **Co-Workers-** As per the MEGA ATV CHAMPIONSHIP Rules the vehicle is not allowed to start anywhere out of the event track or without any permission of the concerned authority/Inspector. The vehicles must be marched at walking speed without starting the engine all the time.
- k. Four members from each team must be around the vehicle one keeping the fire extinguisher.
- l. These crews/ Co-workers must wear industrial safety jacket of orange color. Indicating team name and vehicle no at back and front side (Letters must be at least 1-inch-long) with black color.

Sample: http://www.tolexo.com/reflective-safety-jacket.html?utm_source=sok_pla&utm_medium=cpc&gclid=CjwKEAiAvPGxBRCH3YCgpdbCtmYSJABqHRVwiclcyyi5PYbM1J-MSweF2aHg4I7XuurmP4WjKhyf5hoCwjnw_wcB

- m. Only these crews can come to the track or nearby (On call) the vehicle during the dynamic events.
5. The inspection will determine if the vehicle satisfies the requirements and restrictions of the Baja SAE international rules for the safety of driver and the audience.
6. If vehicles are not ready for technical inspection when they arrive at the inspection site, they will be sent away.
7. Any vehicle may be re-inspected at any time during the competition and correction of any non-compliance will be required.
8. The team which doesn't clear this level will not be allowed to advance in next level.
9. After the technical inspection each team will be issued with the pass to advance in next level.
10. The team is advised to check the safety rules continuously while fabricating the ATV, so that they don't face elimination.
11. This level doesn't reward any point but without this level the team will not be able to gain any point.

- **OTHER EVENT DETAILS WILL BE UPLOADED IN WEBSITE SEPARATELY.**

PART W: IMPORTANT RULES AND CONSIDERATIONS:

Command flags

flags that the competitor must immediately obey without question.

1. Green Flag

- At a starting line or when reentering the course: Your run or session has started; enter the course under the direction of the starter. (NOTE: If you stall the vehicle, restart and await another green flag as the opening in traffic may have closed.)
- While running on the course: Course is clear, proceed.

2. Yellow Flag, Steady –

- Danger, SLOW DOWN, be prepared to take evasive action, something has happened beyond the flag station. NO PASSING, unless directed by the course workers.

3. Yellow Flag, Waved –

- Great danger, SLOW DOWN, evasive action is likely to be required, BE PREPARED TO STOP, something has happened beyond the flag station. NO PASSING, unless directed by the course workers.

4. Red Flag –

- Come to an immediate safe and controlled stop on the course. Pull to the side of the course as much as possible to keep the course open. Follow course worker directions. NO PASSING.

5. Black Flag, Furled and Pointed –

- Warning, the officials are watching this vehicle's driving - obey the event rules.

6. Black Flag, Displayed –

- Pull into the penalty box for a discussion with the Director of Operations or other official concerning an incident. A time penalty may be assessed for the incident.
- Pull into the penalty box for a mechanical inspection of the car; something has been observed that needs closer inspection.

7. White Flag –

- In specified-distance endurance events, the white flag will be displayed to the leader as the leader begins the final lap.

8. Checkered Flag –

- The run or session has been completed. Exit the course at the first opportunity.

Fueling Area

The Fueling Zone (FZ) consists of the Fueling Area (FA), Fuel Quarantine Area (FQ), Crew Area (CA) and Harness Check Area (HC)

Only three (3) people from any given team in the FA at any one time are allowed.

Fuel Requirements

Each car shall have no more than two (2) cans of fuel in the FA and the team's remaining fuel shall be placed in the FQ. Any team removing their fuel from the FZ will be considered finished with the endurance race and scoring shall be notified to stop counting laps for that team

Refueling

Refueling of vehicles must be performed with (1) the engine shut-off and (2) the driver out of the vehicle and (3) fire extinguisher (other than that carried in the vehicle) must be on hand and pointed toward the vehicle/fuel tank whenever a vehicle is being refueled.

Engine and Drive-train Inspection

Any vehicle may be inspected anytime during the competition. Any vehicle found to have: (1) altered or substituted its parts or equipment since passing technical inspection or (2) an engine in violation of the rules may receive a point deduction of 75 points each time it is found in violation.

RULES OF CONDUCT

1. All MEGA ATV CHAMPIONSHIP participants can be proud of the excellent sportsmanship and cooperation among teams that are two of the hallmarks of the series. Good conduct and compliance with the rules and the official instructions are expectations and requirements for every team member.

2. An incident of unsportsmanlike conduct, the organizer is authorized to impose an appropriate penalty.

3. Unsportsmanlike conduct can include arguments with officials, disobedience of official instructions and the use of abusive or threatening language to any official or other participant. Depending on the seriousness of the infraction the penalty for such actions can range from a deduction of up to fifty percent (50%) of the team's points to expulsion of the entire team. Penalties of this type will only be imposed after a complete review of the incident by the organizer.

4. Alcohol and Illegal Material Alcoholic beverages, firearms, weapons of any type and illegal materials are prohibited at MEGA ATV CHAMPIONSHIP site during the competition. The penalty for violation of this rule is the immediate expulsion of the entire team, not just the individual(s) involved. This rule applies to team members, advisors and any individuals working with the team on-site.

5. **Smoking** - Prohibited

Smoking is prohibited in all competition areas.

6. **Parties**-Disruptive parties either on or off-site must be prevented by the faculty advisor or team captain.

7. **Trash Clean-Up** - Clean-up of trash and debris is the responsibility of the teams. Please make an effort to keep your paddock area clean and uncluttered. At the end of the day, each team must clean their work area.

8. **Site Condition** - Please help the organizers keep the site clean. The sites used for MEGA ATV CHAMPIONSHIP is generally private property and should be treated as such. Competitors are reminded that they are guests of the owners. All trash should be placed in the receptacles provided. Glass is not allowed on the grounds. Failure to clean the premises will result in an unsportsmanlike conduct penalty. Competitors are encouraged to police their areas after meals.

9. Motorcycles, Bicycles, Rollerblades, etc. - Prohibited

The use of motorcycles, quads, bicycles, scooters, skateboards, rollerblades or similar person-carrying or motor driven devices by team members and spectators in any part of the competition area, including the paddocks is prohibited.

SPECTATOR RULES

1. General

The organizers typically do not have a direct line of communication with spectators other than on-the-spot at the competition; thus, the competitors, faculty and volunteers are expected to help inform the spectators of the safety rules and help restrict spectators to the spectator areas.

2. Alcoholic Beverages

Spectators may not drink or possess alcoholic beverages at any competition location.

3. Access Restrictions

Spectators must keep a specified distance back decided by the organizers, from any area where vehicles are operating under power. Motor vehicle competitions are potentially dangerous and safety rules will be strictly enforced.

4. Children

A competition site is not a safe place for children and unsupervised young people. Spectators who fail to strictly control their children will be asked to leave the site.

5. Removal of Spectators

The course officials and organizers have the absolute right to restrict spectator access to any parts of the site and to eject anyone who violates safety rules or ignores the instructions of officials.

6. Unsafe Practices and Conduct

All participants are required to exercise safe practices and avoid unsafe activities at all times during the competition. The event organizer has the discretionary authority to impose a just penalty for any conduct deemed unsafe. All team members will be held to this rule.

MISCELLANEOUS

1. Driver Equipment

Drivers must wear all of the equipment specified in "Driver Equipment Requirements" and a properly fastened restraint system at all times when the vehicle is running in any event or on the practice track. Drivers not wearing the proper equipment will not be permitted to drive, and may have their competition driver's privileges revoked.

2. Water Competitions Only – Driver equipment rules for water events may be adjusted by the organizer and

SAFETY - TEAM RESPONSIBILITY

1. Safety is the primary consideration in the design of MEGA ATV CHAMPIONSHIP vehicles and the conduct of the competitions.

2. Teams need to include safety considerations in all parts of their program.

3. At all performance events, it is the responsibility of the team to ensure both the vehicle and driver meet and follow all the requirements and restrictions of the rules.

