

# - 2018 WINGLESS DIRT 600cc RULES -

## ENGINES -

- Engine rules will follow 2018-2020 U6SA Engine Rules. Attached at bottom of this document.

**SPEC MUFFLER:** Steel 600/1000cc muffler sold by Beyea Headers for the retail cost of \$100. Legal part #MS6M/SS or TQ Muffler #MTQM/SS

**- MUST HAVE BEYEA NAME PLATE!**

- NO tampering with or modifying the muffler in any way.
- Muffler must remain stock from Beyea and in good working condition.
- Muffler must be removable at the track if thought to be tampered with, no welding mufflers on.
  - No altering muffler flange, must remain stock size so officials can replace muffler with stock muffler at track.

*Indoor Race officials will have spare mufflers at their disposal to replace any muffler that is in question. Muffler in question will be sent back to Beyea to determine if it was tampered with. If muffler is found to be illegal it will result in a \$500 fine that must be paid before competitor can compete again. No competitor may compete without a muffler. If a muffler is damaged or removed in an accident that car will be removed from the track until repairs are made.*

## WEIGHT RULES - Scaled Before & After Race (No Fuel May Be Added) - 600 Micro Sprints - 775lbs

**TIRES - All Cars Must Run Approved Hoosier Tires On All Four Corners. RR Tire Compounds limited to RD12 and RD20**

### A. TIRE SOFTENING/ALTERING - PLEASE DOWNLOAD & SIGN SEPERATE AGREEMENT/PROCEDURE FORM & PENALTY

- Driver/Team must submit a signed agreement before competeing.

### B. TIRE GRINDING/GROOVING/SIPING -

- Tiring grinding/grooving/siping allowed in designated area outside only per NJ State Fire Marshall.
- Anyone caught inside building will be subject to the following penalties:
  - a. loss of starting position in next event
  - b. complete disqualification from event.

**WHEELS - All wheels and tires must be an approved racing type.**

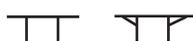
- No Carbon Fiber Wheels Allowed
- No Wheel Center Bolts Made of Aluminum
- All Wheel Covers Must Be Bolted On or Foam

**CHASSIS - All frames must be constructed of 4130-chrome molly tubing or equivalent. No Carbon Fiber Suspension Parts.**

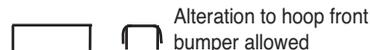
### A. BUMPERS / RUB RAILS -

- Only muffler can be mounted to left side nerf bar, No batteries mounted to nerf, batteries must be securely mounted!
- Must be a 2" crush zone all the way around nerf, not including header or muffler.
- Car must remain open wheel in design.
- No bumper or rub rail shall extend past, over or cover any tire.
- No blunt, sharp or protruding edges of any kind.
- Front bumper must extend 2" in front of tires.
- Front bumper may have max. 2 horizontal bars, top and bottom.
- Rear bumper must be sprint car style, **NO SQUARE BUMPERS.**
- Left Side Rub Rail can extend 1" past outside edge of tire. No tolerance.
- Right Side Rub Rail cannot extend past outside edge of tire.
  - A straight edge will be used to check both and will be strictly enforced
- Aluminum Sheet Metal can be placed in between rub rail hoops for promotional use.
  - Min - .050 • Max - .063 ALUMINUM ONLY
- **No lead or weight bars shall be mounted to rub rails.**
- Rub Rail shall be made of material with a maximum 1/8" wall thickness and 1 1/8" OD
- Rub Rails may not be made from solid material
- Rub Rails may not be filled with shot peen or any other form of lead
- Front and Rear bumper may not extend wider than frame sockets.
  - Frame Sockets may be as wide as main frame rails

Non Acceptable Front Bumper (top view):



Acceptable Front Bumper (top view):



This is to prevent cars getting hooked together! We allowed it last year and had problems.



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## B. BOLT-ON WEIGHT BALLAST -

- All weight shall be bolted to or within the confines of the MAIN frame rails.
- Bolt on weight must be mounted to a welded tab on the frame or directly to frame rail. Tab must be a min 1/4" thick.
- All bolted-on weight shall be painted white and numbered to correspond with car number
  - Weight shall be secured using a minimum 5/16" Grade 8 bolt and have double full nuts
- Rub rails are not considered part of frame.
- Any car losing weight would be disqualified from that event.

## C. MISC.

- Chain guards are mandatory.
- **No Carbon Fiber Suspension Parts.**
- No sharp, blunt or protruding edges allowed.
- Roll Bars Shall be welded to frame, no bolt on frames allowed.

## FUEL - Methanol and VP C12 will be sold at the event by VP Racing Fuel

### A. FUEL CELL

- Must be mounted to the rear of the car. **NO SIDE TANKS**
- Fuel tanks must contain a bladder. A fuel tank with a bladder is further defined as a plastic outer shell with a rubber inner container.
- Must be protected by a sprint car style rear bumper, **NO SQUARE BUMPERS.**

### B. EMPTY TANKS

- All cars must arrive with empty fuel tanks and must be inspected before purchasing fuel at event.
  - Fuel lines, tank and filter should be cleaned to prevent contamination.
- Fuel sample will be taken from truck at event and used as base line in all testing.

### C. SAFETY

- Any fuel tank larger than 5 gallons must have a bladder.
- All vehicles without a bladder shall have a permanent firewall between the fuel supply and driver.
  - Firewall shall be constructed of minimum aluminum or metal, no fiberglass.
- Fuel tanks shall not be mounted within the driver's compartment.
- All side tanks must be enclosed in protective metal shell constructed of min 22 gauge steel (.0299) or 16 gauge (.063) alum. .090 alum is preferred
- A fuel line or fuel pump is prohibited in the drivers' compartment unless properly shielded to prevent leakage in the event the lines or pump is damaged or broken. The shielding for fuel lines shall consist of steel-braided material.
- Fuel lines must be more than three (3) inches from the headers unless shielded by metal.
- Fuel line must be steel braided if it passes through the cockpit of the car.

## BODIES: All cars shall have a complete body including hood and tail section.

- Driver's name or nickname should be on top of roll cage in front of driver.
- **A number plate shall be placed on left side of car for scoring purposes.**
- Car number should also be placed on front and rear tail of car for identification by fans.
- No wild bodies, officials decision is final.
- No top or front wings allowed.
- All vehicles shall have suitable metal flooring from in front of the driver's pedals to the center of the seat.

## RADIATORS / COOLING:

- All radiators must have sufficient catch cans to prevent overheating water from hitting racing surface.

## TRANSPONDER LOCATION (Following US6A Guidelines):

- 21" from center of front axle towards rear axle and 6" from the bottom frame rail



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**SAFETY ITEMS** - All Cars and drivers must comply with NJ State Safety Regulations.

## A. DRIVER SAFETY EQUIPMENT

- ALL DRIVERS REQUIRED to wear fire resistant underwear and one piece driving suit cover arms, legs and body.
- Arm Restraints Are Mandatory
- All Drivers Required to wear fire resistant gloves, shoes and socks.

## B. SEAT BELTS

 - Must meet SFI Specification 16.1 rating as a minimum.

- Date of manufacture cannot be more than two (2) years old.
- Wrap around or bolt-in quick release five-point belt harness with all connections to be secured at frame. Shoulder harness must pass over a round bar located at the driver's shoulder height. No alterations to manufactured design.
- All belts must be in good condition and bear the date and manufacturer's name.

## C. HELMETS

- All drivers must wear a properly secured full face helmet, which meets or exceeds the latest Snell SA Rating.
- The current snell rating his SA2015. Acceptable ratings include SA2105 and SA2010

## D. HEAD AND RECK RESTRAINT

- All drivers must wear a properly secured SFI 38.1 rated Head and Neck Restraint Device/System.
- **Must have certification no more then 5 years old.**

## E. SEATS

 - Full containment seat highly recommended. As of January 1, 2019 all competitors in NJ will be required by NJ State Law.

- Molded metal seat with opening to allow seat belts to pass through required.
- Seat shall be attached to the frame with at least four (4) three-line 5/16-inch bolts.
  - Two bolts shall be installed at the bottom of the seat not more than three (3) inches from the outside edge
  - Two bolts shall be installed at the two most practical widely-spaced points at the top of the seat rack.
  - Vehicles with metal seats do not require straps, but do require larger washers at each bolt.

## F. BATTERIES

- Batteries located in driver's compartment shall be secured and shielded to prevent leakage in the event of a turnover.
- Batteries located adjacent to the fuel supply must be secured in a metal box bolted to the frame of the vehicle.
  - Box shall be secured by at least four 3/8-inch bolts and in such a manner to apply maximum pressure against the frame.
- The battery shall also have a marine-style box cover secured to the top of the metal box as to not allow movement of the battery.
- Batteries located in any other area not specified above shall be secured and shielded to prevent leakage from damage or turnover.

## G. MISC.

- **Rock screen in front of driver ins mandatory!**
- **Driver must have working one-way raceceiver radio to monitor race control at all times.**
- No mirrors or two-way radio communications allowed in cars.
- Drivers head shall have ample clearance between helmet and rollbar.
- Steering wheels must have a padded center & quick release hub. No pull-pin.
- All vehicles must have an ignition switch within easy access to the driver in the cockpit and be clearly marked.
  - Ignition switch must kill all power to the fuel pump.

\*\*\* **RECOMMENDED** - An oil pressure relay sensor for the fuel pump that cuts power to the fuel pump when motor isn't running. \*\*\*

- A fuel shut-off valve must be easily accessible to the driver and marked "On & Off" with brightly-colored paint.

\*\*\**Officials Decision Is Final On All Items Noted or Otherwise*\*\*\*



# 2018-2020 600cc U6SA Engine Rules

## 1) Terms and conditions

- a) If a change or modification to the stock engine or its parts is not included in these rules then the modification is considered legal.
- b) The word "stock" means un-modified factory original parts or components.
- c) No mixing of parts from different year and make engines even if made by the same manufacturer.\*

**\*03-04 Kawasaki ZX-6R 636 may use the 05-06 Kawasaki ZX-6R 636 cylinder head through the 2020 U6SA season. This is the ONLY mixing of parts permitted!**

## 2) Overall Engine

- a) No limited production race motors allowed. Must be a production motorcycle engine, 4 cylinders, 4 stroke
- b) No titanium anywhere in or on the engine, unless it comes stock form manufacturer of engine on the production bike or used as bolts in aftermarket rods.
- c) Must have engine, clutch, and transmission all in one unit
- d) Must be Chain Drive

## 3) Bore and stroke

- a) 600cc Maximum displacement for an engine model that was new in 2006 or newer. Older engines maximum displacement is 637cc. Engine model is defined as a manufacturer redesign of overall engine. See Specification list.
- b) No strokers or de-stroked engines

## 4) Head and cams

- a) NO PORTING or deporting of intake or exhaust runners.
- i) Valve jobs, valve grinding, valve seating, valve seal modification and valve seat cutting are allowed.
- ii) Valve seat inserts may be reworked or replaced with any seat of original dimensions. Any dimensional thickness of the stock inserts may not be increased. Valve seats can be ground with multiple angles. Blending of the valve seat into the head is permitted but cannot extend more than 1/4" into the aluminum head measured from where the seat meets the head.
- b) OEM Head only.
- c) Cam may not have a higher lift than the stock factory cam. (duration is open)
- d) Valves can not be larger in diameter than factory stock valves.

## 5) Bottom End

- a) No machining to remove weight from the crank (balancing of crank is ok) (no after-market cranks) (no lightweight cranks) No polishing or coatings of any kind
- b) No aluminum connecting rods.
- c) No dry sump systems are allowed unless it comes from the motorcycle manufacturer as original equipment.

## 6) Clutch/Transmission

- a) No removal of clutch.
- b) Clutch must remain operational
- c) No modification to the stock transmission gears, no close-ratio gears or nonstandard gear-ratios. All gears must remain in transmission, no removing any gears. No polishing or coatings of any kind

## 7) Ignition

- a) No aftermarket ECU's, stock appearing ECU only. **ECU must be a production ECU that was originally supplied by the same manufacturer as the engine. Racing ECU's may be used, as long as they were originally supplied by the same manufacturer as the engine. Ex: Honda motorcycle engines must run ECU's that were supplied by Honda on their motorcycle engines.** Reflashing of

# 2018-2020 600cc U6SA Engine Rules

ECU and factory race ECU's are allowed. **Rev limit for all 600cc (nothing larger than 600cc) engines is 16,100 rpms. Rev limit for all 636cc engines is 14, 800 rpms.** U6SA specified Rev Limit must remain intact at all times (no switched or gear specific limiters). If a computer is hooked up to check the ECU it must be set to U6SA specified rpm's, no tolerance. See specifications list for RPM limits.

- b) All cars must have the PA standard connector for the track to check engine rpm rev limit. These are available from the chassis manufactures and engine builders, and at the track. All cars must leave intact the rpm wire coming from the ECU.
- c) No aftermarket coils
- d) No gear position sensor may be used. The sensor may be in place on the engine, but can not have any wires connected to it. Gear position wire from ECU may not be switchable.
- e) No traction control device.
- f) No more than one ECU box present in or on car.
- g) A 50 rpm over rev tolerance for the purpose of tech inspection is acceptable. (Note: this does not mean you can turn up the rpms in any ECU by any amount)
- h) Switchable wires for changing ignition maps, fuel maps, or rev limits must be contained and secured in the wiring harness. (the wires must be taped up, not visible, and unable to be switched in any way)

## 8) Air Induction system

- a) No mechanically forced induction (turbo charging, supercharging)
- b) Any carburetors may be used on any engine, regardless of year of engine.
- i) Note: Switching to carburetors on engines that came with fuel injection usually increases the rev limiter due to the removal of the injectors as the ECU cuts fuel to limit rpm's before it cuts the ignition. A reflash of the ECU will be required if using carburetors in order to comply with the rev limit rule 7. a)
  - c) If the engine did not come from the factory with fuel injection, fuel injection may not be used.

## 10)Charging system

- a) No removing the charging system, it must remain in complete working order, no factory racing charging systems.

## 11)Self Starting

- a) The engine must self-start at the beginning of the event. If it does not self-start, the car may be pushed off and must start at the rear of the event as the penalty.