

# 2015 AKRA Road Racing Tech Manual

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## **DISCLAIMER**

It is the purpose of AKRA to create FAIR, FUN and SAFE racing programs on a worldwide basis within the Karting industry.

Use of these Rules and Regulations require Tracks, Clubs, Promoters or Series be sanctioned by the AKRA. Any other use is strictly prohibited without the express written consent of the AKRA.

### **ANYTHING, WHICH IS NOT EXPRESSLY ALLOWED, IS FORBIDDEN!**

AKRA reserves the Right to Refuse any and all entries, memberships and/or corporate participation at any or all sanctioned or series events.

The rules and / or regulations set forth herein are designed to provide for the orderly conduct of racing events and to establish minimum acceptable requirements for such events. These rules shall govern the condition of all events; all participants are deemed to have complied with these rules.

***NO EXPRESSED OR IMPLIED WARRANTY OF SAFTY SHALL RESULT FROM PUBLICATIONS OF OR COMPLIANCE WITH THESE RULES AND OR REGULATIONS.*** They are intended as a guide for the conduct of the sport and are in no way a guarantee against injury or death to a participant, spectator, or official.

These Rules are in conjunction with and published with the permission of TAG Racing International / Tag USA.

## **Living Document**

This is a "living document", and as such is subject to revisions and changes as deemed necessary to continue the integrity of the AKRA Road Racing program. Updates can be found on the AKRA, the Dart Kart Club, and the Michigan Kart Club web sites.

[www.americankarting.us](http://www.americankarting.us)

[www.dartkartclub.com](http://www.dartkartclub.com)

[www.michkartclub.com](http://www.michkartclub.com)

# AKRA Road Racing

## Sprint Enduro Class Structure

**YAMAHA JUNIOR SPRINT FINAL 1 & FINAL 2** - Age 12 thru 16 years – RLV SSX Exhaust 295lbs., RLV SBX Exhaust 315lbs. – If using the RLV SBX Exhaust you must use the RLV 26S Header, a 7/8 restrictor (available from RLV), and the minimum flex length is 11.0” as measured from the piston face to the end of the flex – Race Gas.

**YAMAHA SPORTSMAN SPRINT FINAL 1 & FINAL 2** - Age 15 and up – Weight 360lbs., RLV SBX Exhaust using RLV 26S header and the minimum flex length is 11.0” as measured from the piston face to the end of the flex – Race Gas.

**YAMAHA SPRINT FINAL 1 & FINAL 2** - Age 15 and up – Weight 360lbs., Any Fixed Pipe – Race Gas.

**PISTON PORT SPRINT FINAL 1 & FINAL 2** - Age 15 and up – Yamaha 360lbs., Comer P51 395lbs., All other Piston Port Engines 380lbs.- Fixed Pipe - Race Gas.

**STOCK LEOPARD SPRINT FINAL 1 & FINAL 2** - Age 15 and up - 390lbs. – Stock Parilla Leopard – Stock Parilla Leopard Exhaust – Race Gas.

**TAG MEDIUM FINAL 1 & FINAL 2** - Age 15 and up – Weight: EasyKart IAME, BMB, and PRD Fireball 350lbs., - Cheetah SQ125, Stock Parilla Leopard, Parilla X30 360lbs., - Ported Parilla Leopard, Rotax FR 125, Sonik VX 125 380lbs., - Vortex Rok TT 390lbs., - Motori Seven, Sonik TX 125 415 lbs. – Stock Fixed pipe per engine – Race Gas.

**TAG HEAVY FINAL 1 & FINAL 2** - Age 15 and up – Weight: EasyKart IAME, BMB, and PRD Fireball 360lbs., - Cheetah SQ125, Stock Parilla Leopard, Parilla X30 370lbs., - Ported Parilla Leopard, Rotax FR 125, Sonik VX 125 390lbs., - Vortex Rok TT 400lbs., - Motori Seven, Sonik TX 125 425 lbs. – Stock Fixed pipe per engine – Race Gas.

**STOCK HONDA FINAL 1 & FINAL 2** - Age 16 and up – Weight – 390lbs. – Honda CR 125 either 1999 or 2001 cylinder – Fixed Pipe (RLV 6800, RCE T3, RLV R4, SKUSA SK – 1), – Race Gas.

**125 SHIFTER FINAL 1 & FINAL 2** - Age 16 and up – Mass produced 125cc shifter motors – Stock Honda with CIK bodyork and stock Honda legal pipe 390lbs., Modified motor with CIK bodywork 400 lbs., Full Bodywork 420lbs. – Open Fuel.

**ANIMAL JUNIOR SPRINT FINAL 1 & FINAL 2** – Age 12 – 16 years – Briggs and Stratton Animal 305lbs., Pro Gas 290lbs., - Both motors must run the .575 black restrictor - Exhaust silencers required – Animal use Methanol – Pro Gas use pump gas.

**ANIMAL SPRINT LITE FINAL 1 & FINAL 2** – Age 15 and up – Briggs and Stratton Animal 360lbs. - Exhaust silencers required – Methanol.

**ANIMAL SPRINT MEDIUM FINAL 1 & FINAL 2** – Age 15 and up – Briggs and Stratton Animal 385lbs. - Exhaust silencers required – Methanol.

**ANIMAL SPRINT HEAVY FINAL 1 & FINAL 2** – Age 15 and up – Briggs and Stratton Animal 410lbs. - Exhaust silencers required – Methanol.

**ANIMAL LIMITED MODIFIED FINAL 1 & FINAL 2** – Age 15 and up – Briggs and Stratton Limited Modified 385lbs., Briggs and Stratton Stock Animal 370lbs., Pro Gas 360lbs., Clone 350lbs., LO 206 350lbs., Honda GSX200 385lbs. - Exhaust silencers required – Limited Modified and Stock Animal run Methanol, all others pump gas.

**CLONE/LO 206 SPRINT LITE FINAL 1 & FINAL 2** – Age 15 and up – Stock 6.5hp Clone engine 360lbs., Stock Briggs and Stratton LO 206 360lbs. - Exhaust silencers required – Pump Gas.

**CLONE/LO 206 SPRINT Medium FINAL 1 & FINAL 2** – Age 15 and up – Stock 6.5hp Clone engine 385lbs., Stock Briggs and Stratton LO 206 385lbs. - Exhaust silencers required – Pump Gas.

**PRO GAS SPRINT FINAL 1 & FINAL 2** – Age 15 and up – Briggs and Stratton Pro Gas 360lbs. - Exhaust silencers required – Pump Gas.

## Laydown Enduro Class Structure

**YAMAHA JUNIOR ENDURO FINAL 1 & FINAL 2** - Age 12 thru 16 years – RLV SSX Exhaust 330lbs., RLV SBX Exhaust 330lbs. – If using the RLV SBX Exhaust you must use the RLV 26S Header, a 7//8 restrictor (available from RLV), and the minimum flex length is 11.0” as measured from the piston face to the end of the flex – Race Gas.

**YAMAHA SPORTSMAN MEDIUM FINAL 1 & FINAL 2** - Age 15 and up – Weight 385lbs., RLV SBX Exhaust using RLV 26S header and the minimum flex length is 11.0” as measured from the piston face to the end of the flex – Race Gas.

**YAMAHA SPORTSMAN HEAVY FINAL 1 & FINAL 2** - Age 15 and up – Weight 410lbs., RLV SBX Exhaust using RLV 26S header and the minimum flex length is 11.0” as measured from the piston face to the end of the flex – Race Gas.

**YAMAHA PIPE FINAL 1 & FINAL 2** - Age 15 and up – Weight 400lbs., Any Fixed Pipe – Race Gas.

**CLASSIC ENDURO FINAL 1 & FINAL 2** - Age 15 and up – Piston Port 360lbs., Controlled Motors 410lbs. – Fixed pipe – Legal Controlled Motors (Atlas, Dap T72, T80, T80A, T80R, T91, Hewland, Domet K11, K55, K78, K88, Parilla SS21, TT25, TT65, LMR, TKM FF99, RS98, S89, RL66) Controlled motors must be stock – Race Gas.

**CONTROLLED SPEC FINAL 1 & FINAL 2** - Age 16 and up – ICA Reed 400lbs., Controlled 400lbs., Piston Port 360lbs. –ICA Reed and Controlled motors must run the RLV IR2 pipe with a minimum distance of 8.75” from the piston face to the end of the connector pipe. – Header diameter is 1.75” – Fixed Pipe – Race Gas.

**CONTROLLED FINAL 1 & FINAL 2** - Age 16 and up – ICA Reed 390lbs., Controlled 390lbs., -Any fixed or adjustable pipe – ICA Reed or Controlled running the IR1 or IR2 pipe per Controlled Spec rules 370lbs -Piston Port 360lbs. –Any fixed or adjustable pipe.- All engines must run 1.75” header and flex diameter - Race Gas.

**FORMULA 100 FINAL 1 & FINAL 2** - Age 16 and up – 100cc Open 410lbs., Stock Appearing Piston Port 310lbs., 100cc Stock Appearing Reed or Rotary Valve 390lbs., 100cc Controlled Stock after 2000 390lbs., 100cc Controlled Stock prior to 2000 340lbs., 135cc Controlled Stock 370lbs. – Open Pipe – Open Fuel.

**FORMULA 125 FINAL 1 & FINAL 2** - Age 18 and up – Gearbox 420lbs., Non Gearbox 380lbs., - Gearbox Fixed Pipe – Non Gearbox Open pipe – Open Fuel.

**B STOCK FINAL 1 & FINAL 2** - Age 18 and up – 100cc Controlled 465 lbs., Piston Port 395 lbs. – All Reed Jet motors run Controlled Stock rules, - All non reed jet motors are stock appearing – Fixed pipe – Open Fuel.

**UNLIMITED FINAL 1 & FINAL 2** - Age 18 and up – All Gearbox engines must be single cylinder – 250cc 490lbs., 125cc 420lbs., Four Cycle 450cc 460lbs., Non Gearbox engines – Twin 135cc 420 lbs., Up to150cc single 380lbs., Twin 100cc engines 465lbs. Twin 150cc engines 490lbs. - Fixed pipe – Open Fuel. GasGas motors must run SuperKart class.

**SUPER KART FINAL 1 & FINAL 2** - Age 18 and up – Twin Cylinder – 250cc 490lbs., GasGas 490lbs., all engines legal in Unlimited are legal for this class - Fixed pipe – Open Fuel.

**VINTAGE USA FINAL 1 & FINAL 2** - Age 15 and up – Any American made fan style kart engine (100cc McCulloch, 125cc McCulloch, 135cc West Bend) – no minimum weight – any pipe – open fuel.

**VINTAGE PISTON PORT FINAL 1 & FINAL 2** - Age 15 and up – Legal engines are Yamaha KT 100, ARC, Dap T 50, TKM BT82, PCR PP 100, PRD – no minimum weight – any pipe – open fuel.

**VINTAGE UNLIMITED FINAL 1 & FINAL 2** - Age 15 and up – Any 100cc – 135cc motor – Open modifications – any pipe – open fuel.

### Local option classes

**Open Sprint 1 & 2** - Age 15 years & up – Yamaha 340lbs., Piston Port 350lbs., Controlled 365lbs., 4 cycle 340lbs., 80cc Gearbox 375lbs., 135cc 365lbs. – Fixed pipes – Race gas.

**CIK Piston Port Sprint 1 & 2** – Age 15 and up – CIK bodywork – Yamaha 360lbs. – Fixed pipe – Race gas.

Additional classes may be added by the host club.

# General Rules & Regulations

The following rules are as stated “General”. There may be additional rules and regulations for each track and event. It is your responsibility to be familiar with the rules for each event that you participate in. These rules should be available in registration. If you do not understand a rule please ask a race official.

## A. *Spirit and Intent*

Even if you are new to karting you may have heard the term “spirit and intent”. It is the concise description of how karting is run, pure, simple and undeniable. It is the law governing the sport of karting for the last 50 years. It means that you may be judged based on your perceived spirit and apparent intent for your conduct at any time at the track. Indeed, you should judge yourself using the same criteria. The law of spirit and intent comes into effect when race officials are encountered with facets of karting not specifically addressed in the rulebook. At this point, officials must make decisions based not only on fact, but also on whether the infraction was a clear case of attempting to controvert the spirit of the event. It is many times the hardest decision for an official to make. Nobody likes to invoke the spirit and intent rule.

We urge you avoid causing a spirit and intent ruling by being fully aware of all the regulations that apply to you and your kart. It is impossible to write a rule for every aspect of karting. Before attempting modifications to your kart that are not specifically addressed in the rulebook talk to the technical inspector and clarify the requirements. You should “intend” to compete successfully, but if your “intent” is winning by circumventing the rules, then you should reconsider your involvement in this sport.

## B. *Driver Eligibility & Requirements*

1. You must be entered in a class in order to practice in all AKRA sanctioned events.
2. You must be an AKRA member, in good standing, in order to receive year-end awards. The highest qualifying AKRA member will be crowned class champion.
3. The kart is the official entry in the race. Once a lap has been made in a race with the entered kart, the kart cannot be changed without the permission of the race director.
  - a. Relief Drivers must meet all class rule requirements and be approved by race officials. The driver of record must make one lap or the kart must remain in the pits until the lead kart has made one lap. A separate fee of \$10.00 must be paid prior to the race by the relief driver.
4. Minimum driver age is listed in all class structures. However, if during the racing season, the driver has a birthday that would make them old enough to move to an “older” class, they will have the option to move up at any time during the racing season, with the exception of the Novice class. If a driver chooses to move up to a senior class he may not move back to a junior class. All drivers must produce a current state photo I.D. card or certified birth certificate upon request. A minor’s release is required for all persons under the age of 18.

## C. *Protest Procedure*

All protests must be submitted and acknowledged by an official in registration or post race tech within 30 minutes of completion of the race that is being protested or, in the case of a scoring protest, within 30 minutes after official results have been posted. Protests will not be accepted after 30 minute period has expired. A protest can only be submitted by an entrant from the same class that is being protested, and can only be signed by one entrant. Once the official has accepted a protest, additional protests for the same infraction will not be accepted. Official protest forms will be made available in registration and post tech. Any national race disqualification or suspension can be appealed in writing to the AKRA advisory committee.

## D. *Points - Scoring – Year End Awards*

1. To receive points the driver must be properly entered in the class, grid, weigh, and pass post race tech.
2. Entrants will be required to place a scoring transponder on their kart in a location that is recommended for proper signal strength. It is the driver’s responsibility to securely fasten the scoring transponder in a proper location prior to entering the track.
3. To receive year-end awards in each class the entrant must be a current AKRA member in good standing.
4. In the event of a tie in the year end point total, the tie will be broken by the highest finishing position of the last race either or both drivers competed in.
5. Disqualification: In the event that a driver is disqualified from an event for unsportsmanlike conduct on or off the racetrack he may NOT use that race as a drop race. If a driver is disqualified for mechanical failure on the track, improper driving, post-race engine, oil or fuel tech or at the scales in post tech he may use that as a drop race. However, if repeatedly disqualified for any reason the driver may be subject to penalty of not being able to use a race as a drop race. Competitors disqualified will receive minus (-1) point.
6. Bonus points will be awarded to competitors that enter all 8 races in the same class. The bonus points will be added to the year end total. The bonus will be 8 points.
7. In the event of a rainout all entrants at the track will receive 50 points plus the number of entries. Entrants not at the track will receive 50 points.

8. The following point method will be used for calculating season points:

Position	Points
1	50 + number of entries
2	48 + number of entries
3	47 + number of entries
4	46 + number of entries
5	45 + number of entries
6	44 + number of entries
7	43 + number of entries
8	42 + number of entries
9	41 + number of entries
10	40 + number of entries
11	39 + number of entries
12	38 + number of entries
13	37 + number of entries
14	36 + number of entries
15	35 + number of entries
16	34 + number of entries
17	33 + number of entries
18	32 + number of entries
19	31 + number of entries
20	30 + number of entries

All remaining positions will receive 30 points + number of entries.

### ***E. Miscellaneous Rules***

1. The pit lane will be a yellow flag condition and a safe speed will be maintained. No passing will be allowed entering the pit lane. Passing and/or unsafe driving in the pit lane will result in disqualification.
2. Data acquisition is legal in all classes.
3. Radio communication is legal in all classes. It may not be used for the purposes of intentional blocking.
4. Approved exhaust silencers or mufflers are mandatory in all classes.
5. Drivers are responsible for their pit crewmembers. Unacceptable behavior may subject the driver to disqualification from an event. Verbal and/or physical abuse or threats directed at any individual at any event will subject the offender to immediate ejection from the event and/or a 1-year suspension.
6. All individuals entering the event site must sign and execute all insurance related documents as prescribed for that event.
7. Pre Race drivers meetings are mandatory. If you are unable to attend the drivers meeting you are required to check in with the race director.
8. Vendor fee of \$100.00 per event will apply to anyone selling product or service at any and all series events with the exception of series or class sponsors.
9. AKRA reserves the right to refuse any and all entries at any event(s).
10. Helmet tethers are legal but can not be in any way attached to the kart. Can only be attached to the driver.

## ***Flags***

### **Checkered Flag**

The race is finished. Slow to a moderate pace for exiting the track. Proceed slowly to the post tech area.

### **Black Flag**

Racing is not a contact sport, although it is understood some inadvertent contact will occur, intentional and avoidable bumping, nerfing, pushing, etc., will be grounds for disqualification. You may be warned only once with a rolled black flag, second warnings will result in a waved black flag.

Rolled & pointed: A warning about driver conduct

### **Waved Black Flag:**

You must exit the track immediately you have been disqualified for a driving infraction. If a participant ignores the black flag along with his/her number being displayed by the flagman, that person will be disqualified for that day.

**Meatball Flag** (Black with a red ball): Will be thrown for technical or mechanical problems, requiring the driver to stop for consultation. The flag will also be used for a pushing stop & go.

**Red Flag**

The race has been temporarily halted. Slow to a safe stop, drivers shall proceed safely to the starting grid under direction of the corner workers and flagman. Please be aware drivers are to follow track specific procedures as given by the race director prior to the race start.

If the red flag occurs prior to the halfway point in a race it will be restarted. Restarts will be in the same order as the last completed and scored green flag lap prior to the red flag. If the red flag occurs at or after the halfway point it will be a completed race and the results will be the last completed and scored green flag lap.

Any kart or driver flipping over (turning over) causing a red flag will not be allowed to restart. Any driver leaving the racetrack, due to an accident, by ambulance will not be allowed to restart. Any driver causing a red flag may be subject to not restarting or disqualification, as determined by the race director. Any kart involved in an accident whose driver is transported to a health care facility is subject to post tech. If driver does not return from the health care facility prior to the end of post tech, scales will be waived.

**Green Flag**

The racetrack is clear for racing.

**Black and Checked Flag**

The race is completed and is under official protest.

**Yellow Flag**

There is a need for caution. There is something in the track ahead and you and before the next flag stand. You should proceed with caution. If the flag is waving there is a problem in that section of the track. No passing will be allowed in that section when a waving yellow flag is displayed.

**Yellow with Red Strip Flag**

There is a need for caution. There is some debris, fluid or oil on the track ahead and you should proceed with caution.

*NOTE: Flags can vary from track to track. If there is a variation from the above it will be brought up at the drivers meeting.*

## Section 1 - Foreword and Introduction

The following document and those that support it are authored with one intent – the clarification and consolidation of the technical performance rules that govern kart racing. As such, the primary issues dealt with in this manual are those metrics from which a direct performance gain may be achieved by violation. Kart standards are also addressed in this manual though no implication of safety is made or warranted if the rules specified herein are adhered to. Personal conduct is not directly addressed in this manual as it is expected that the competitor, builder, inspector and administrator will conduct themselves in a manner conducive to orderly and proper results.

The sport of karting has always been governed by the rule of spirit and intent. No effort is made here to change that. No pretense is made that the documentation herein will cover every situation that can be encountered in technical inspection. The ultimate responsibility for chassis and engine legality lies with the competitor. Should the competitor encounter a situation that is not specifically addressed in this manual it is his responsibility to get clearance from the technical inspector *prior* to using the kart in a race. Should the technical inspector encounter a situation in post-race technical inspection that is not specifically addressed in this manual it is his responsibility to make a determination of legality based first on whether or not the modification represents a definable performance gain and ultimately on the spirit and intent of the competitor/builder. If, in the opinion of the technical inspector, the spirit or intent of the modification was clearly that of circumventing the rules to provide performance gain then he has the right to disqualify the competitor based solely on this criteria. When confronted with this scenario the inspector must weigh the decision carefully and use discretion, insight and integrity.

In all cases, where series specific rules contradict the rules specified herein the series specific rules shall have precedence. There is no expressed or implied warranty given here in regards to safety if the rules herein are adhered to and the authors and authorizers of this document are to be held harmless in any litigation or actions as a result of accident.

## Section 2 - Metrology

Wherein this manual deals specifically with dimensional conformity to specifications some discussion regarding measurement and gaging is necessary. Field metrology is limited and handicapped by a number of factors including, but not limited to, available measuring instruments and environmental conditions. The inspector must give some consideration to measurement uncertainty especially when approaching a dimension's limits of acceptability. Especially when a dimension as measured exceeds its tolerance limits the inspector must ensure that the best and most accurate available method of measurement is being employed prior to a disqualification decision being made. *The inspector may take whatever steps he deems necessary to ensure proper results, including impound and inspection at another location. Method of measurement in all cases is at the sole discretion of the inspector.* The preferred method will be designated later in this manual under generic technical procedures. Standard industrial metrology techniques shall be used as a guideline for methods used in the field. All dimensions given in this manual will either be toleranced or designated as maximum or minimum. Limits of size are absolute and are not to be rounded to the nearest whole integer to facilitate acceptability; i.e. a .500 diameter max hole that actually measures .5001 is to be found out of tolerance and not rounded to .500. The exception to the limits of size rule is when measuring "nominal" sized tubing or bar stock. This material comes from the manufacturer with rather generous tolerances and this must be considered when inspecting same. If "nominal" is noted on the element in question, a tolerance of +/-1/32 inch is generally acceptable with consideration to spirit and intent.

Many of the inside (width of slot, diameter, etc.) dimensions found in this manual are listed as maximum. Wherever possible, a gage of maximum size shall be employed to measure these dimensions. For example, a .500 max diameter should be measured with a .500 gage pin. If the gage enters the feature in question it shall be found out of tolerance. For designated inside minimum dimensions a gage of minimum size shall be employed. For example, a .625 minimum diameter should be measured with a .625 gage pin. The gage must pass through the entire area in question with light, torsional, finger pressure. Perceptible drag on engagement is not reason for disqualification as long as full feature engagement may be achieved. All gages and measuring instruments must be calibrated to standards with a direct line of traceability to the National Institute of Standards and Technology a minimum of once per year. Visual checks of gaging should be performed periodically to ensure that damage has not occurred. Whenever possible, all inspections should be performed with components and gages at ambient temperature.



## Section 3 - Pre-tech Requirements

### A. Personal Safety Equipment

1. Head Gear
  - a. Full-face helmets designed for competitive motorsports use, that comply with Snell Foundation specifications SA2010, M2005, M2010, SA2005, K98, K2005 or SFI 24.1, 31.1A, 31.2A, 31.1/2005, 31.1/2010, 41.1/2005, 41.2a or FIA 8860-2004 or Snell-FIA CMS/CMR2007 are mandatory. SA rated helmets recommended for champ karts. Helmet must be available at pre-tech inspection. Helmets must be secured with a strap. Failure to do so will result in disqualification. A full visor, integral with the helmet, is mandatory.
2. Neck Brace
  - a. Collar-type, unaltered neck brace designed for motorsports use are mandatory in all sit up classes. Loss of neck brace during an event will cause a black flag with an orange circle “meatball flag” to be given to the driver losing the neck brace. He must immediately proceed to the pits, and may replace the missing neck brace and then return to the race or practice session.
3. Driver Apparel
  - a. Drivers are required to wear either full abrasion proof drivers suits, jackets made of leather, vinyl, abrasion resistant nylon, or equivalent, and full length pants. Gloves, socks, and shoes are mandatory.
  - b. If driver’s hair extends appreciably below the helmet it is mandatory that the driver wear a head sock or balaclava to prevent the driver’s hair from extending below the helmet.
  - c. Loose clothing, bandanas, scarves, hoods, loose belts, etc. are not allowed.
  - d. All personal safety equipment is subject to, and shall be available for, pre-tech inspection.

### B. Kart Requirements

1. General
  - a. The kart must be neat in appearance, in good repair, and show quality workmanship.
  - b. The kart must meet the requirements set forth in the AKRA Tech manual for its particular class.
  - c. Rear view mirrors are allowed as long as they are mounted to the kart. No hand mounted mirrors allowed.
  - d. European style clevis snap pins shall be safety wired.
2. Ballast
  - a. All weights added to the kart will be painted white and must be securely fastened to the kart with a minimum 5/16-inch diameter bolt. Any single weight weighing in excess of seven pounds shall utilize a minimum of two 5/16-inch minimum diameter bolts.
  - b. All bolts used to fasten weights to the kart must be cotter keyed, safety wired, or double nutted.
3. Steering Components
  - a. All steering component bolts, and nuts, must be cotter keyed and/or safety wired.
  - b. All steering component bolts, must be a minimum Grade 5 rating.
  - c. All rod ends must have universal type swivel joints and jam nuts.
  - d. Fasteners used on any component that will enable adjustment of camber, caster, etc. must be cotter keyed and/or safety wired.
  - e. Steering Shafts
    1. Solid steering shafts shall be a minimum .625-inch diameter, made of cold rolled steel, and one-piece design. Welding the steering wheel or hub to the shaft is not allowed. Shaft extensions, and cutting and welding the shaft to alter its length are not allowed. The steering wheel must be secured to the shaft with a nut or cap screw in the axial position.
    2. Hollow steering shafts shall be a minimum .700-inch diameter, with a minimum wall thickness of .070 inch, made of steel tubing, and one-piece design. Welding the steering wheel or hub to the shaft is not allowed. Shaft extensions, and cutting and welding the shaft to alter its length are not allowed. The steering wheel hub must be secured using a 5/16 inch minimum diameter bolt through the axis of the shaft.
    3. Tiller, vertical shaft steering systems are not allowed.

- f. Steering Wheels
    - 1. Steering wheels may be circular, with a ten inch minimum diameter, and a minimum of three spokes.
    - 2. Steering wheels may be of the butterfly type, with a ten-inch minimum diameter, and four spokes, and a minimum grip length of five inches on each side.
4. Wheels and Tires
- a. Pneumatic tires designed specifically for racing only.
    - 1. Minimum 9.0-inch diameter. Maximum 12.5-inch diameter.
    - 2. Maximum width, mounted on wheel 10.375 inches
  - b. Wheel balancing weights shall not exceed ¼ ounce each.
    - 1. It is recommended that additional tape be placed over stick on type weights.
  - c. G-Rings or lateral supported wheels are not permitted.
5. Wheel Hubs and Axles
- a. Wheel hubs and axles shall be constructed of metallic materials.
  - b. Rear axles shall be one-piece design, driving both wheels.
    - 1. Either solid or hollow axles are allowed
    - 2. .984-inch minimum diameter. 2.00-inch maximum diameter.
    - 3. Axles over 1.375 inch diameter shall be constructed of ferrous material.
    - 4. Snap rings or similar fasteners are required at both ends of the rear axle, and must be safety wired.
    - 5. Axle stiffeners are allowed as long as they are secured by cotter key, circlip, or through bolted.
    - 6. Axle may not protrude beyond the outside of rim and tire.
    - 7. Any device that allows the rear wheels to rotate at different speeds is not allowed.
  - c. Front axles
    - 1. Front axle nuts must be secured with safety wire, cotter keys or circlips.
    - 2. Ground ball or roller type bearings only, and must be adjusted so there is not excessive play. Split race type bearings are not allowed.
    - 3. The spindle axle may not protrude beyond the outside of rim and tire.
6. Brakes
- a. Karts must, at minimum, have a braking system capable of braking both rear wheels equally and adequately.
  - b. All Karts must have a tether attached from each available master cylinder to the brake pedal in addition to the brake rod. Tether must be a minimum of .0625 and adequately clamped to act as a backup if the linkage fails. Must be adjusted to function as intended.
  - c. All laydown enduro clutch classes and all Gearbox classes unless otherwise noted require the use of a dual braking system. A dual braking system consists of two front, and one rear or Dual rear calipers. This shall consist of two independent and separate systems, operated by separate master cylinders.
    - 1. One system must be fully functional if either system fails.
  - d. All brake system fasteners, including pedals, clevis pins, and master cylinder roll pins, must be safety wired or cotter keyed. If safety wiring or cotter keying is infeasible, as in the case of some brake pad fasteners an appropriate thread locking compound shall be use to prevent loss of the fasteners.
    - 1. All-metal locking type nuts to secure the brake disk or drum to the hub are allowed in lieu of safety wire or cotter pinning.
    - 2. If the pedal is mounted to the front bumper, the bumper must be welded to the frame, or through bolted or pinned, and the through bolts or pins shall be safety wired or cotter keyed.
    - 3. Hydraulic brake fittings shall be tight and leak free. Hydraulic brake lines shall be routed in a fashion, so as to not wear through, or be pulled loose.
    - 4. Master cylinder actuating rod must be .250-inch diameter minimum or equal quality cable with positive stops on both ends.
    - 5. Minimum disc measurements are 7.0" diameter X .125" thick.
  - e. No carbon fiber components allowed.

## 7. Driveline Components

- a. Clutches are mandatory in all classes except those designated as direct drive. Oil Bath or dry styles allowed.
  1. Oil bath clutches are allowed as long as they are sealed to prevent leakage.
  2. If outboard clutch mounting is used, a third bearing support or guard to contain the clutch in the event the crankshaft breaks is mandatory. Clutches mounted inboard are not required to have a support or guard.
  3. Transmissions or other devices that allow the change of gear ratios while the kart is in motion are not allowed, except in shifter classes. Torque converters are not allowed.
- b. Chain and Belt Guards
  1. All karts shall be equipped with a chain or belt guard. Outboard drive systems will be allowed only if the chain or belt, and sprocket are completely enclosed from the front, top, rear, and sides.
  2. Any sprocket not used for driving the kart must be fitted with a device to prevent exposure from any angle, or be completely encircled with a chain.
  3. Chain oilers up to 8-ounce capacity are allowed. Competitors using chain oilers shall use a drip pan while on the grid. If a chain oiler is the highest point on the kart it must be protected with a roll bar, not to exceed 26 inches high from the ground.

## 8. Fuel Systems

- a. No pressurized fuel delivery systems allowed. No fuel injection systems allowed.
- b. Fuel capacity: Laydown enduro – no capacity limit. All others – 9-liter maximum capacity. Fuel tanks must be constructed of puncture resistant material, and have a secure leak proof closure.
- c. Fuel lines must be safety wrapped at all connection points.
- d. Fuel tanks must be securely bolted to the primary structure, frame, or floor pan.
- e. Fuel tanks on sprint karts must be located between the frame rails, and beneath the steering shaft. If a secondary sump tank is used it must be mounted in front of the motor.
- f. The length of fuel line shall be only of adequate length to supply fuel to the carburetor. Extensive fuel line length is not allowed.
- g. If other than metallic side tanks are used on an enduro kart, the use of double rail nerf bars per the AKRA tech manual is mandatory.
- h. If a fuel tank is the highest point on the kart it must be protected with a roll bar, not to exceed 26 inches high from the ground.
- i. If “pump-around” or “recirculating” type fuel delivery and evacuation systems are used, a positive, free vent to atmosphere must be employed on the fuel tank to prevent tank pressurization.

## 9. Cooling systems

- a. Coolant may not contain any Glycol based material.
- b. Water wetter or other surfactants may be added.
- c. Must be mounted to right or the left of the driver.
- e. After market water pumps are allowed, but must be driven by the rear axle. Internal engine pumps legal.

## Section 4 - Kart types and construction

There are four different types of racing karts described herein. A general description of a kart chassis is a welded, tubular steel spaceframe. Side nerf bars, front and rear bumpers are required, except as noted. Aerodynamic bodywork covering the chassis is permitted but not required in any type except as noted. While overall construction of each is similar there are significant dimensional differences and as such will be detailed separately below.

### A. Sprint Enduro Chassis Specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of one inch minimum nominal outside diameter and .083 inch minimum wall thickness. Main frame rail members shall be no higher than a horizontal line extending from the centerline of the front wheel to the centerline of the rear wheel. No oval tubing allowed.
2. Wheelbase: 43.0 inches maximum, 40.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.
3. Track width: 28.0 inches minimum. Track width may be measured from the outside edge of one tire to the inside edge of the opposite tire when both tires are of identical width.
4. Overall width: 50.0 inches maximum for all classes except four cycle classes. 46.0 inches maximum for all four-cycle classes. Overall width is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis.
5. Overall length: 74.0 inches maximum. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline axis.
6. Overall height: 26.0 inches maximum. Overall height is measured such that all elements of the kart must pass under a bar set parallel to ground level, 26.0 inches above ground level.

7. Dry kart weight: 85 pounds minimum in race ready trim without fuel.
8. Front bumper: If CIK-style nose cone is not used all components shall be constructed of round, steel tubing of .750 inch nominal diameter minimum. The upper hoop of the bumper must be supported by a minimum of two vertical uprights. These uprights must be within .50 inch of vertical when measured 3.0 inches down from the top of the top hoop. The uppermost tangent point of the top hoop must be 7.75 inches minimum from ground level. Otherwise, front bumper must conform to CIK specifications.
9. Rear bumper: If CIK style bumper is not used all components shall be constructed of round, steel tubing of .750-inch nominal diameter minimum. The uppermost tangent point of the top hoop shall be 7.5 inches maximum from ground level and above the lowermost tangent point of the rear axle minimum. Minimum width shall be no less than the lateral distance between the main chassis frame rails as measured at the rear of the kart. Maximum width shall be no wider than the rear overall width of tires. Continuous loop type bumpers with vertical or angled supports are allowed. The lower bar of this type must be below the rear axle, the upper bar no higher than the top of the rear tires. Bar must be in place from frame rail to frame rail.
10. Nerf bars: If CIK-style side pods are not utilized nerf bars must be double rail type. All components shall be constructed round, steel tubing of .750-inch nominal diameter minimum. Overall height from uppermost to lowermost tubing tangent points shall be 6.0 inches minimum. Vertical uprights are mandatory at the leading and trailing ends of the nerf bar, creating a closed, rectangular construction. The leading and trailing vertical uprights must be positioned such that the smallest gap created between the front and rear tires respectively measures 3.0 inches maximum. If CIK-style side pods are utilized nerf bars must conform to CIK specifications.
11. Seat: Must be of conventional, unaltered, bucket type, molded construction, designed to keep the driver's posterior in place without undue movement. The seat shall be mounted between the main frame rails. The lowermost point of the seat must be positioned no lower than the lowermost point of the adjacent frame rails and no higher than the uppermost point of the adjacent frame rails. Height of the uppermost point of the seat backrest is 12.0 inches minimum from ground level. The rearmost point on the seat may not extend beyond the back of the rear axle. Steering uprights shall be positioned in such a manner as to prevent the driver's posterior from being positioned forward of the bucket portion of the seat. Seat Rules for CIK body work classes: Sit-up sprint style seat only, 13" minimum height cannot pass the rear axle, CIK style seats are defined as Sprint style bucket seats un-altered. Headrests are permitted. They must be attached to the seat and can not extend past the rear of the bumper. TaG classes are not permitted to run headrests.
12. The use of any type of suspension components is strictly prohibited.

#### B. Laydown Enduro Chassis Specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of 1.0 inch nominal minimum and 1.40 inch nominal maximum outside diameter. For nominal outside diameter tubing of 1.0 to 1.125 inch the tubing wall thickness shall be .078 inch minimum. For nominal outside diameter tubing of greater than 1.125 inch the tubing wall thickness shall be .060 inch minimum. Oval tube frames must receive prior approval from tech director.
2. Wheelbase: 50.0 inches maximum, 40.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.
3. Track width: 30.0 inches minimum. Track width may be measured from the outside edge of one tire to the inside edge of the opposite tire, when both tires are of identical width.
4. Overall width: 50.0 inches maximum for all classes. Overall width is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis. Air filters may extend beyond the 50.0 inch maximum.
5. Overall length: 97.0 inches maximum for single engine karts; 110.0 inches for dual engine karts and shifter karts. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline axis.
6. Overall height: 26.0 inches maximum. Overall height is measured such that all elements of the kart must pass under a bar set parallel to ground level, 26.0 inches above ground level.
7. Dry kart weight: 85 pounds minimum for single engine karts; 105 pounds for dual engine karts in race ready trim without fuel.
8. The use of any type of suspension components is strictly prohibited.

#### C. Sprint Shifter Chassis Specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of one inch minimum nominal outside diameter and .078 inch minimum wall thickness and 1.400 inch maximum nominal diameter. Tubing of 1.125 inch nominal and greater may have a wall thickness of .060-inch minimum. Main frame rail members shall be no higher than a horizontal line extending from the centerline of the front wheel to the centerline of the rear wheel. No oval tubing allowed.
2. Wheelbase: 43.0 inches maximum, 40.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.
3. Track width: 28.0 inches minimum. Track width may be measured from the outside edge of one tire to the inside edge of the opposite tire when both tires are of identical width.
4. Overall width: 55.125 inches maximum. Overall width is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis.
5. Overall length: 84.0 inches maximum. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline axis.
6. Overall height: 26.0 inches maximum. Overall height is measured such that all elements of the kart must pass under a bar set parallel to ground level, 26.0 inches above ground level.
7. Dry kart weight: 85 pounds minimum in race ready trim without fuel.

8. Front bumper: If nose cone is not used all components shall be constructed of round, steel tubing of .750 inch nominal diameter minimum. The upper hoop of the bumper must be supported by a minimum of two vertical uprights. These uprights must be within .50 inch of vertical when measured 3.0 inches down from the top of the top hoop. The uppermost tangent point of the top hoop must be 7.75 inches minimum from ground level. Otherwise, front bumper must conform to CIK specifications.
9. Rear bumper: If CIK style bumper is not used all components shall be constructed of round, steel tubing of .750 inch nominal diameter minimum. The uppermost tangent point of the top hoop shall be 7.5 inches maximum from ground level and above the lowermost tangent point of the rear axle minimum. Minimum width shall be no less than the lateral distance between the main chassis frame rails as measured at the rear of the kart. Maximum width shall be no wider than the rear overall width of tires. Continuous loop type bumpers with vertical or angled supports are allowed. The lower bar of this type must be below the rear axle, the upper bar no higher than the top of the rear tires. Bar must be in place from frame rail to frame rail.
10. Nerf bars: If CIK-style side pods are not utilized nerf bars must be double rail type. All components shall be constructed round, steel tubing of .750-inch nominal diameter minimum. Overall height from uppermost to lowermost tubing tangent points shall be 6.0 inches minimum. Vertical uprights are mandatory at the leading and trailing ends of the nerf bar, creating a closed, rectangular construction. The leading and trailing vertical uprights must be positioned such that the smallest gap created between the front and rear tires respectively measures 3.0 inches maximum. If CIK-style side pods are utilized nerf bars must conform to CIK specifications.
11. Seat: Must be of conventional, bucket type, molded construction, designed to keep the driver's posterior in place without undue movement. Sprint-type, sit-up seats only. Laydown-type, sprint-enduro or oval-track seats are prohibited. Minimum seat back height 13.0 inches, measured at the center of the seat back rest. The seat shall be mounted between the main frame rails. The lowermost point of the seat must be positioned no lower than the lowermost point of the adjacent frame rails and no higher than the uppermost point of the adjacent frame rails. The seat shall be positioned in such a manner that no part of the driver's head may extend aft of the vertical plane determined by the trailing edge of the rear tires, when seated normally. Headrests are not permitted. Seat Rules for CIK body work classes: Sit-up sprint style seat only, 13" minimum height cannot pass rear axle CIK style seats are defined as Sprint style bucket seats un-altered. Home made, modified, non production and Stallion road race seats are **NOT** Legal any attempts to circumvent this rule will be covered by the "Sprit and Intent rule"
12. The use of any type of suspension components is strictly prohibited.

#### D. Super Kart Chassis Specifications

1. Main frame members shall be constructed of cold rolled, electric weld, round, steel tubing or other material of equal or greater strength, of 25mm minimum nominal outside diameter and 2mm inch minimum wall thickness.
2. Wheelbase: 50.0 inches maximum, 42.0 inches minimum. Wheelbase is measured from true axle centerlines, each side.
3. Overall width: 55.0 inches maximum, 46.0 inches minimum. Overall width is measured at any cross section of the kart, perpendicular to the longitudinal centerline axis.
4. Overall length: 96.0 inches maximum. Overall length is measured at any cross section of the kart, parallel to the longitudinal centerline axis.
5. Overall height: 30.0 inches maximum, excluding seat headrest. Overall height is measured such that all elements of the kart must pass under a bar set parallel to ground level, 30.0 inches above ground level.
6. Steering system: May be tie rod or rack and pinion system. Top of steering wheel must be at least 19.0 inches above ground level. Minimum steering shaft outside diameter is .625 inch and minimum wall thickness is .078 inch. Tie rod minimum diameter is .500 inch with minimum wall thickness of .118 inch for aluminum and .059 inch for steel. Quick disconnect steering hubs permitted.

#### E. Enduro Road Racing Bodywork General Requirements (applies to sprint enduro and laydown enduro kart types)

1. All bodywork components must be constructed of high strength plastic, fiberglass, aluminum or advanced composites only, with the exception of no metallic materials to be used for side panels.
2. No component of the bodywork may be adjusted or controlled in any way while the kart is in motion.
3. Skirting devices must be constructed of a flexible, non-metallic material.
4. The sides of the tires may not be covered in any way by the nose cone or side panels. It must be possible to remove the wheel straight through the opening in the bodywork with the tire inflated.
5. Nose cones: The nosecone may cover the driver's foot area, but not to extend further than 3.0 inches rear of the pedals in relaxed position. This measurement shall be made directly over each of the two pedals.
6. Steering fairings: Chord length 14.0 inches maximum. Chord width 14.0 inches maximum. Clearance to steering wheel 3.0 inches minimum. Clearance to any other bodywork or fuel tank 6.0 inches minimum. Clearance from steering wheel to any other bodywork 6.0 inches minimum.
7. Belly pans: Full width belly pans with or without integral wheel wells allowed for all classes. Belly pans can be bent up to a point no higher than the centerline of the rear axle.

#### F. Sprint Enduro Specific Bodywork Requirements

1. Height from ground level of all side panels and rear pods: 16.0 inches maximum.
2. No bodywork component may extend aft of the rear bumper.
3. Distance from seat to any bodywork component: 1.0 inch minimum.

4. Lateral distance between bodywork components in area from the mounting point for steering wheel to the point where the seat rises above the side panels: 22.0 inches minimum. If the seat remains below the side panel's 22 inch minimum distance applies from mounting point for steering wheel to rearmost part of seat.
5. The nose cone may be no narrower than to expose one half of a tire width per side.
6. A connecting strip from nose cone or floor to steering fairing is allowed up to 6.0 inches maximum chord width, so as not to cover the driver's feet, or legs. Minimum six inch clearance from connecting strip or steering fairing to any other bodywork component begins three inches maximum aft of the pedals, extending rearward to the mounting point for the steering wheel.
7. CIK style nose cones and side pods are allowed. CIK bodywork must remain unaltered except for the cutting of a three inch hole used for access of an external starter. The use of CIK mounting hardware is not mandatory.
8. Tire recess: All or any of the four wheels may be inside the bodywork a maximum of one inch per side, regardless of bodywork configuration. This measurement shall be made square to the outer face of the tire nearest the bodywork component in question, wheels straight.

#### G. Laydown Enduro Specific Bodywork Requirements

1. Tail sections may extend no further aft than 25.0 inches from the back of the rear axle.
2. Helmet fairings may extend no further forward than the rear of the headrest assembly.
3. Lateral distance between bodywork components in area from the mounting point for steering wheel to the point where the seat rises above the side panels: 18.0 inches minimum. If the seat remains below the side panel's 18 inch minimum distance applies from mounting point for steering wheel to rearmost part of seat. Rear bodywork can be no closer than 2.0 inches from the headrest.
4. Tires may be inside the bodywork. Neither the front or rear axle may stick out further than the tires mounted on that axle. This measurement shall be made square to the outer face of the tire nearest the bodywork component in question, wheels straight.

#### H. Sprint Shifter Specific Bodywork Requirements

1. Bodywork components consisting of a nose cone, steering fairing and side pods, if employed, must be CIK-style or similar, and represent current industry standards in shape and construction. Maximum steering fairing chord width 15.0 inches.
2. Floor pans: Required for all classes. Floor pans must be within the main frame rails and not extend aft of the central lateral frame tube.
3. The outboard panels of the side pods must be nominally perpendicular to the ground and shaped in such a manner as to preclude a "ramping" effect in case of lateral contact.
4. The use of CIK mounting hardware is not mandatory.
5. The width of the nose cone may not exceed the overall width of the front tires, wheels straight.

#### I. Super Kart Specific Bodywork Requirements

1. Bodywork must consist at minimum of two side pods, a front nose cone and a steering fairing.
2. Must be in general conformance with current industry standards. Six inch clearance rule is specifically waived for this class. Clearance from steering wheel to any bodywork is 2.0 inches minimum.
3. Nose cone width is 38.0 inches minimum, 50.0 inches maximum. Height from ground level is 10.0 inches minimum.
4. Side pod height is 10.0 inches minimum; width is 8.0 inches minimum; length is 24.0 inches minimum.
5. Rear wing width is 42.0 inches minimum, 49.0 inches maximum. Thickness at the thickest point of the wing is 1.0 inches minimum. Minimum wing area is 250 square inches. Wing end plate must have all corners radiused.
6. Belly pans: Full width belly pans, open construction is allowed.

## Section 5 – Fuels and Lubricants

A. Fuels and fuel testing: It shall be the right of the technical inspector on his own volition or on instruction from the race director to conduct any type of fuel testing deemed necessary at any time the competitor is under race administration direction, i.e. during pre-tech inspection, on the grid or in post-tech inspection.

1. Two cycle fuels
  - a. Unless otherwise specified in class structure description, the only acceptable fuel in two cycle classes is gasoline and lubricating oil. None of the following substances may be added to the fuel. This list is inclusive only in that these are known ingredients that have been used in the past. Additionally, all other substances recognized by bonafide race sanctioning bodies or deemed to exceed the Threshold Limit Value for human exposure as listed by the American Conference of Governmental Industrial Hygienists.

Alcohols (all), Aldehydes, Aminodiphenyl, Benzene (in excess of EPA limits), Benzidine, Beryllium compounds, Bromine compounds, Butadienes, Chlorinated compounds, Chromates, Dioxanes, Ethyl acrylate, Ethylene oxide, Hydrazine compounds, Methylene dianiline, Naphthylamine, Nitrogen compounds (nitromethane, nitropropane, etc.), Styrenes, Toluidine, Zylidine.

2. Four Cycle Fuels
  - a. Methanol only unless otherwise specified in class structure description.
  - b. No additives or oil added to the methanol.

### 3. Fuel Testing

#### a. Two Cycle

1. Digitron meter: The preferred method of field testing two cycle fuel is with a Digitron meter. The meter shall be set at -45 with the probe fully immersed in a plastic container of clean track obtained race fuel at ambient temperature. If track fuel is not available then cyclohexane will be used as a substitute. The probe is then fully immersed in the competitor's fuel and allowed to settle. Care must be taken to not touch the probe on any part of the fuel tank while the meter is coming to settle. The final meter reading must be zero or below (negative). The competitor has the right, and the inspector may allow removal of the fuel from the kart's fuel tank into a suitable plastic container for testing. This is done to eliminate the effects of aluminum tanks on the meter and to facilitate cooling to ambient temperature. Artificial cooling of the sample (ice baths, etc.) is not allowed. Final testing shall occur no later than ten minutes after time of sample removal.
2. Laboratory testing may be performed on a competitors fuel either on the tech inspectors own volition or on instruction from the race director. Upon request, the competitor shall draw a sample from his tank or container into a suitable, clean container. The tech inspector shall then mark the container in an indelible fashion and provide tamper-proof sealing of the container. The sample shall be forwarded to an accredited testing laboratory for full chemical analysis. Presence of any listed prohibited substances shall be grounds for disqualification. The competitor will also receive a sample sealed just as the one sent to the laboratory to keep in their possession until a final determination is made.

#### b. Four Cycle

1. The preferred method for testing methanol is the water test. The premise is that methanol is completely water-soluble. Equal part methanol and pure, distilled water shall be combined in a clear, transparent container. The mixture shall be shaken and allowed to settle for approximately thirty seconds. After settling, the mixture shall be completely clear. Comparison to a sample of pure, distilled water is an acceptable clarity comparison. Contamination prevention is paramount when using this technique. All sample gathering equipment, test containers and hands that come into contact with the fuel must be absolutely clean. If a contaminated sample is found all tooling and hands must be cleaned prior to testing another sample.
3. Laboratory testing may be performed on a competitors fuel either on the tech inspectors own volition or on instruction from the race director. Upon request, the competitor shall draw a sample from his tank or container into a suitable, clean container. The tech inspector shall then mark the container in an indelible fashion and provide tamper-proof sealing of the container. The sample shall be forwarded to an accredited testing laboratory for full chemical analysis. Presence of any listed prohibited substances shall be grounds for disqualification. The competitor will also receive a sample sealed just as the one sent to the laboratory to keep in their possession until a final determination is made.
4. Crankcase lubricants may contain no oxygen bearing or vapor producing substances. Tech inspector reserves the right to test for these substances by any means deemed necessary.