

# 2020 RULES & TECHNICAL GUIDE

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## 1 INTRODUCTION TO KART

KART was formed as a governing body to promote the sport of go kart racing. The following rules and regulations are for the purpose of providing an environment of fair competition among the various classes; to provide stability and consistency to the rules; and to try and reduce the hazards associated with motorsports racing.

All members, drivers, pit crew, and members in general are required to be fully versed with these rules and regulations.

By becoming a member of KART you are agreeing to abide by KART's rules and regulations.

It is the responsibility of every driver, owner, or crew member to prepare and operate their racing kart in a safe manner.

It is the responsibility of the track owner or operator to provide a track as safe as reasonably possible for the competition events to be run.

### ROAD RACING KART

A racing kart that is driven in a lay-down (on your back) or semi-lay-down position. Generally raced on tracks of 1 to 4 miles in length.

### SPRINT RACING KART

A racing kart that is driven in a sit-up position. Generally raced on irregular tracks with both left and right turns and lengths of 1/4 to 1 mile.

### SPEEDWAY RACING KART

A sprint-type kart. Generally raced on dirt oval tracks of 1/5 mile or less. Many racers use a standard sprint chassis, but there are numerous manufacturers of special speedway chassis.

## 2 SPIRIT AND INTENT BY MIKE BALDUS

*SPIRIT: Real meaning; true intention (to follow the spirit if not the letter of the law).*

*INTENT: An act or instance of intending; law; one's mental attitude of doing an act.*

The sport of go kart racing cut it's teeth on these two words. SPIRIT and INTENT. Through the years, these words seem to have slid from the front of our rule books to the rear of some books, and have completely disappeared in others.

This is, and I hope always will be, a fun, family-involved motorsport. We have a format that allows a future Indy-driver a place to start. We have a format that allows the average Michael or Michelle to learn good driving skills, mechanical skills, sportsmanship, and experience a great hobby.

Even though some karters have been able to convert their favorite sport into a means of making a living and/or in some cases, becoming

a professional, it does not alter the fact that karting is not a professional sport. It is an amateur sport for the enjoyment of participant and non-participants.

We must not let a micrometer have the final decision in each and every case.

We as competitors must make every effort to see that the parts we use and the way we use them is in accordance with the rule book.

Race officials and tech inspectors must use the rule book to enforce fair and equal competition. When it is apparent that a competitor is trying to abuse the rules for an unfair advantage, he/she should be thrown out. But when a part is questionable, it should be looked at through the eyes of fairness, and spirit and intent should rule. I know this is a tremendous burden on race officials and tech inspectors, but I also know that the best of them govern themselves with fairness in mind.

I am going to give you some examples:

EXAMPLE # 1: You have a wrist pin that shows no sign of being altered or modified in any way. When measuring it, it is found that all measurements are fine with one exception. One end of the inside hole is one or two thousands too large for approximately 1/8 inch of depth. You look at the area and can find no evidence that this part was tampered with. Tough call? I don't think so; it would seem obvious to me that the spirit and intent of both the competitor and manufacturer was to market and use a legal part.

EXAMPLE # 2: You have a part that shows machining in an area where the manufacturer does no machine work. All comparable models show an as-cast appearance. The book has no dimension in this area, but says all parts must be stock appearing. Tough call? I don't think so. Someone, and it may not be the competitor, but someone, has obviously tried to gain an unfair advantage. Again, spirit and intent should be the guiding light. If the competitor took this part back to the person that worked on it and said "I want my money back and I don't want any more parts like this, or I won't be back." the problem will go away.

Remember, it is your right to have a KART official tech inspector make the final call on any engine tech item. If you feel you have not been treated fairly at a KART sanctioned event, ask that the part or parts be sent to an official KART tech inspector.

I know I am going to take some flack about this, but I also know there are many that feel the same as I do.

If we all attached these words to any item of question, there would be no questions. SPIRIT AND INTENT.

### 3 RULES AND REGULATIONS

Except for emergency and/or safety, the rules will not be changed before the 2019 competition year begins. Competition year is defined as January 1 through December 31 of the current year.

#### A. MEMBERSHIP, ELIGIBILITY, AND TRACK INFORMATION

National Regular members of KART must be 18 years of age or older. A minor can only join under the family membership section of the application. A minor cannot be the primary national member of KART. It is required that all entrants or participants in a KART sanctioned event be a current member in good standing with all necessary documentation on file at the KART office or in the hands of a KART official in the process of being sent to the office. All KART memberships will expire on December 31st of the current year.

Participants must be able to furnish proof of membership at event registration, or they will be required to join at that time. The KART office will refund upon verification of a pre-existing current membership.

No member and kart can go onto the track surface without being entered in the event. It is KART's policy that there be no refunds after the kart has gone through pre-technical inspection or been put onto the racing surface.

No promoter may exclude a member in good-standing from participating at a KART-sanctioned event without showing **JUST CAUSE**.

All bids for the KART National Championships must be in the KART Administrative Office by October 1st.

#### B. SPECIAL DRIVER REQUIREMENTS

1. **LIABILITY WAIVER:** All drivers shall sign a waiver of liability before being allowed to participate in any event at a KART member track. All participants, by signing the entry form and/or liability waiver, hereby elect to use the track at their own risk, and thereby release and forever discharge KART, Inc., together with their heirs, assigns, officers, representatives, agents, employees and members, from all liability from injury to person, property, employees and/or reputation, that may be received by said entrant and/or driver, and from all claims of said injuries to parties listed above growing out of, or as resulting from the event contemplated under the entry form, or caused by any construction or condition of the course over which the event is held.

a) Drivers and Pit Crew Persons: Anyone entering the pit area at a KART sanctioned or insured race, including pit crew people, track officials, tech personnel, or anyone else, **MUST** sign the waiver of liability and be in possession of proper credentials. Failure by anyone to comply may result in disqualification, suspension or other action.

2. **MINOR LIABILITY WAIVER:** It is mandatory that all minors complete the "Parent's Statement of Health for Minor(s)" form and KART "Release of Liability and Hold Harmless Agreement" before being allowed to participate on any KART member track unless there is a copy on file at the KART administration office. Regardless, the MINOR REPORT is to be signed by all minors at all events

3. **COMPETITION AGE:** A driver's actual age as of January 1 of each year shall establish their "competition age" for that calendar year.

4. **ATTAINED AGE:**

a) In the Sprint and Speedway divisions, you must be the attained age of 8 years old before you may begin racing. "Attained" age of 8 means: If your birthday is August 1, then on August 1 of the year you become 8, you may begin racing. Enduro/Road Race is the same, except that the "attained" age

is 12. In the Sprint division, any 7 year old that will be turning 8 during the competition year and has at least 6 races in the Kid Kart class may send a petition to the Administrative Office for permission to compete in the Jr. 1 class listing those 6 races. This petition must be approved by a KART Director before the competitor will be allowed to participate in Jr. 1. All other Junior rules such as not moving up and back, apply.

b) In the Speedway Division only, attained age of 15 allows 15-year-old drivers to compete in the Senior (16-year-old) Briggs and Stock Yamaha classes only, in the months before their option year. All other Junior rules, such as not moving up and back, apply.

c) In the Enduro/Road Race Division, 15 year old drivers who have competed in at least 8 road races, may send a petition listing those races to the Administrative Office for permission to compete in the Senior (16+ year old) stock piston port classes, 125cc TaG, and 80cc Shifter. This petition must be approved by the KART Directors before the competitor will be allowed to participate in the senior classes. All other Junior rules, such as not moving up and back, apply.

d) In the Enduro / Road Race Division, Juniors ages 12-14 may send a petition listing qualifications to the Administration office for permission to compete in the Sprint LO206 senior class. This petition must be approved by the KART directors before the competitor will be allowed to participate in the senior class. All other Junior rules, such as not moving up and back, apply.

5. **OPTION YEAR:** If, during the season, the driver has a birthday that would make him/her old enough to move to an "older" class, he/she has the option to do so, BUT if he/she elects to do so, he/she cannot return to the "younger" class, and when he/she moves up in one division of racing, he/she must move up in all other divisions also. Example: If a person becomes 16 years of age and wants to move up to a seniors class in the Enduro division, he/she must also move up in the sprint and speedway divisions. "Option Year" is the year you attain an age that moves you up to the next age group: 12 years old for Jr.1 to Jr. 2, 16 years old for Jr. to Sr.

If you were going to be 12 years old in the current racing year, that year would be your Jr.1/Jr.2 "option year." It makes no difference on what day or month during the year your birthday falls—any day from January 1 to December 31 has the same effect. You have the following choices:

a) You may stay in the lower age group all year.

b) You may run the upper age group (12-15) all year.

c) You may start the season in the lower age group at any time during the year, but once you move up in any division of KART, you cannot go back. Exception: A Junior attaining the age of 12 would be allowed to start Enduro/Road Racing without forfeiting his right to finish the season on Sprint and Speedway in Jr. 1. Also, you cannot run both levels at the same event. Example: If an event had Jr. 1 on Saturday and Jr. 2 on Sunday, you cannot "go up" on Saturday night and run both classes. You must wait until the event has concluded and then move up at the next event.

6. **PREGNANT WOMEN** are not allowed to participate as a driver at any KART event.

7. Driver is not allowed to participate at a sanctioned event unless he is a legal entrant in said event. Driver must be entered in a class before being allowed to participate in practice.

## 8. K.A.R.T. EXPERT DRIVER

### a) K.A.R.T. Expert Driver Criteria:

Minimum of 3 entries in a class to qualify as an expert. You are an Expert only in the division of karting where you have won two or more K.A.R.T. National Championships.

K.A.R.T. recognizes Experts in any other major karting organization. Junior Experts may run yellow number panels after having won two National Championships in their division of racing until the time that they move up to the Senior Division. Their Expert status does not apply in the senior classes.

b) CURRENT SPRINT EXPERTS: Joe Anderson, Bernie Baldus, Pierce Baldus (Jr.), Craig Baltzer (Jr.), Gabrielargas, Jonathan Beason, Crispin Beaver (Jr.), Mark Beville, Colin Braun (Jr.), Shawn Brock (Jr.), Michael Brookes, George Buhr, Jr., Hal Collins, Craig Cooper, David Cox (Jr.), C. R. Crews III (Jr.), James Cypert, Travis Dieterle, Jake French, Reed Froehlich, Ansel Gaddy (Jr.), Cody Hadley, Drew Hockenson, David Holland (Jr.), Skylar James (Jr.), Justin Jennings (Jr.), Chuck Jensen (Jr.), Adam Johnson, John Johnson, Michael Johnson, Phillip Johnson (Jr.), Eric Jones, Jason Jons, John Kindhart, Collin Lynn, Andrew Martz (Jr.), Devin Mauk (Jr.), Mike McAlister, Trevor McAlister, Tony McGee, Jeff Mills, Robby Mott, Steve Murray, Jordan Musser, Melvin Nelsen, D. J. Ortiz, Sean Owens, Dallas Patterson, Josh Phillips (Jr.), Matt Riggs, Sandy Shepard, Chris Siegle (Jr.), Erin Sims (Jr.), David Stover, Jonathan Strohm, Blake Teeter, Brian Thomas, Tyler Thomas (Jr.), Bailey Ring (Jr.), Hannah Williams, and Jakob Williams (Jr.)

c) CURRENT SPEEDWAY EXPERTS: Johnny Anderson, Mike Belshe, Eddie Brose, Chris Buller, Matt Buller, Landon Cassill (Jr.), Corey Cerwinski, Jonathan Cornell (Jr.), Clark Czapinski, Lonnie Dawson, Chad Evans, Brandon Fast (Jr.), Jamie Ferrell, A.J. Foyt, IV (Jr.), Jamie Gerlach, Lucas Gibbs (Jr.), Bryant Goldsmith (Jr.), Lee Grosz, Mike Halliburton, Jeff Haugland, Gregg Jones, Alex Krohn (Jr.), Jacob Krug, Jody Krug, Jordan Krug (Jr.), Zach Less (Jr.), Jeremy Lile (Jr.), Eric Linder (Jr.), Jason Lindgren, Ryan Luza (Jr.), Aaron Marrant, Nicole Merando, Lee Miller, Josh Most (Jr.), Jerry Mullis, James Murphy, Ken Murphy, Colin Northway, Chris Parkinson, Kenny Pangburn, Dylan Pospisil, Shannon Pospisil, Tad Pospisil (Jr.), Tom Rayl, Eric Renner, Jay Schares, Brad Sellers, Dan Shirley, Casey Skyberg, Chris Simpson (Jr.), Tom Spanel, Adam Stuart (Jr.), Garrett Swiggart, Brandon Thompson, Matt Trautsch (Jr.), Eric Vanderploeg, Mark Van Haaften, Chad Waller, Justin Waller, Chris Windom (Jr.), and Ryan York.

★ d) CURRENT ENDURO EXPERTS: Joe Anderson, Courtney Atkinson, Dave Austin, Bernie Baldus, Mike Baldus, Gregg Baldus, **Jackson Baldus (Jr.)**, Pierce Baldus (Jr.), Pierce Baldus (Sr.), Rusty Benson, Terry Bentley, Jeffery Bierman, Mark Billings, Don Bootes, Nathen Boyce, Dave Bradley, **Aaron Brockelman**, Michael Brookes, Jamey Brown, John Brown, Dale Coffey, Dan Davis, Marcellus Dukes, Jim Edgington, Eric Erickson, Paige Evans, Bud Farnham, Liam Flanagan, Allen Fleming, **Jacob Freese Jr (Jr.)**, Alan Fudge, Randy Fulks, Rick Fulks, Chuck Gafrarar, Matt Gilbert (Jr.), Tim Gilbert, Robert Gonzalez, Scott Grenier, Nate Grindell, Jay Grobe, Firouz Haghighi, Phil Harris, Roger Hatcher, Ryan Hatcher, Steven Hefley, Ryan Hagar, Austin Henry, Ted Hite, Drew Hockenson, Richard Hoff, Anthony Honeywell, Ken Johnson, Sam Jordan, Mike Keener, Mike

Kellum, Torey Keller, Doug Kittleson, Tim Kyser, Chris Larson, Jeremy Lightwine, David Linhardt (Jr.), Jon Linhardt, Lizzy Linhardt, Sam Linhardt, Bryan Norman, Nick Martin, Steve McGuire, Chad Miller, Steve Miller, David Munden, Melvin Nelson, Josh Oaks (Sr.), D.J. Ortiz, Betty Parham, Jayden Parker, Chris Parkinson, **Chase Pflughaupt**, David Piatt, Sr., David Piatt, Jr., Josh Phillips, Chris Ragan, Rick Rayburn, Brad Read (Jr.), Brad Read (Sr.), Kelly Read, Lindsay Read, Jerry Revely, Cody Rhodes, John Ritchie, Stuart Robinson, Jim Russell Jr., Johnny Scavuzzo, Richard Scavuzzo, Steve Scavuzzo, Scott Schrimpf, Jim Schwartztrauber, Mike Spear, Jr., Max Stephens (Jr.), David Stover, Felton Stroud, Dennis Tapp, Justin Taylor, Ken Taylor, Aaron Telitz, Brian Thomas, Tyler Thomas (Jr.), Mike VanNoy Jr. (Jr.), Mike VanNoy Sr., Brian Vincent, Nolan Waak, Buddy Wallen, Luke Waller, Keith Wedel, Brian Wilhelm, Nathan Wilkins, Dakota Wilson, and Matt Wittmer.

## C. OFFICIALS DUTIES

All officials in their assigned duties must be familiar with all rules and regulations which apply to those duties.

1. KART OFFICIALS POWERS: The designated KART officials of any KART event shall have the power of rule enforcement and race supervision.

2. RACE DIRECTOR'S DUTIES: The Race Director shall be that official having complete charge of the karts while on the track. The Race Director shall disqualify (through signals to the starter) any driver who, in their opinion or that of their observers, is in violation of the rules or whose kart is or has become unsafe to operate. The Race Director is also in charge of the Turn Marshals.

The Race Director, or their designated representative shall uphold all rules and regulations pertaining to drivers' licenses, observe participant driving habits, supervise all drivers entered in a KART sanctioned event, and submit a written report to the KART Divisional Board of Directors on infractions of the rules and unsafe or unsportsmanlike conduct on the part of any licensed driver.

It is the Race Director's option to shorten any races.

a) Race Results: All recap paperwork is to be mailed within 72 hours of the completion of the event. For National events, all paperwork must be in the KART office within 10 days.

b) A copy of the race results shall be sent to the Coordinator no later than 10 days after the specific event.

3. FLAGMAN'S DUTIES: The Flagman shall be that official having complete charge of the flags. The Flagman shall follow instructions from the Race Director. The Flagman's flag signals are to be obeyed without exception. The Flagman shall conduct a meeting for all drivers prior to the start of the event to explain the flags, their use, and rules of the road.

4. CHIEF SCORER'S DUTIES: The Chief Scorer shall be that official in charge of timing and /or scoring. The Chief Scorer shall keep the Flagman informed of positions, laps completed, etc.

Each entrant's kart shall be assigned an identifying number which will be carried at all times during the event. The number shall be of sufficient size and color as to promote scoring. The entrant shall accept the assigned number and affix these numbers to their kart in a manner acceptable to the Chief Scorer.

5. TURN MARSHAL'S OR FLAG DUTIES: Flag Personnel shall be strategically located around the course to use the yellow flag when necessary to signal drivers as to accidents, debris, fluid or other



hazards on their portion of the track. Flag Personnel shall also report any rule infractions to the Race Director.

6. PIT STEWARD'S DUTIES: The Pit Steward shall be that official(s) having charge of the pit area. The Pit Steward shall keep all unauthorized persons out of the area, assign the pit spaces, and report any irregularities or rule infractions to the Race Director.

7. TECHNICAL INSPECTOR DUTIES: The Technical Inspector shall be that official(s) having charge of the post race inspection. The Technical Inspector shall designate an area where karts and drivers will be checked for minimum class weight, maximum kart size, engine legality, exhaust system legality, legal attachment of weights, fuel legality, etc. Entrants are responsible to the Technical Inspector while in the impound area and are subject to disqualification if they leave without the Technical Inspector's approval.

Post-race scale and tech area should be separated from persons other than the competitor.

8. KART APPOINTED TECH PERSON: At National Championship events, the appointed KART Tech Person shall have the final determination as to whether an item is legal or illegal. There shall be no appeal of the appointed Tech Person's decision.

#### D. SAFETY

Safety is one of the prime considerations of KART. Methods of operation, vehicle construction, track facilities and competition practices are under constant review to protect the karter and to raise the safety standards of the sport.

1. PROHIBITED SUBSTANCE: All participants entering the restricted area (pits) of a KART event shall be sober and not under the influence of any substance that may impair their ability to participate in a safe and orderly manner. It is the responsibility of the participant to withdraw from competition if they are taking medication that may display side effects that would impair their ability to safely compete. If, in the judgment of the officials in charge, an individual is under the influence of alcohol or any controlled substance during the period of an event, they may be ejected from the restricted area and/or event site immediately.

2. ACCIDENT INSURANCE: Accident insurance is provided for member participation of KART.

Any KART member who purchases a valid KART pit pass shall receive spectator bodily injury liability and property damage liability as specified in the current policy. Insurance coverage may vary based on the underwriter's policy. Any deductible will be the responsibility of the bearer or holder.

All participants at any KART insured competition event must sign a release and waiver and must be issued a KART insurance pass. This includes ALL drivers, pit crew, workers, officials and any other persons allowed into the racing section/areas of the track. There are no exceptions.

3. ACCIDENTS: Karts involved in an accident may be required to stop for inspection by the officials.

Accidents shall be investigated by the track officials only. No pit personnel are permitted on the track while the race is in progress.

4. ACCIDENT REPORTS: A KART accident report must be completed by the Race Director or their representative any time an injury occurs during the conducting of an event.

An accident report should be submitted to the insurance company as soon as possible after the event.

5. EMERGENCY EQUIPMENT: An emergency vehicle or ambulance, with a stretcher, shall be on hand during every racing program. If a state-licensed ambulance service is not used, the emergency vehicle shall fully enclose the injured person and provide sufficient room for the person to be stretched outright in a prone position.

A physician, paramedic, or qualified attendant and first aid kit shall be present during all racing events. It is recommended each entrant shall have an adequate first aid kit in their pits.

6. FIRE EXTINGUISHER: It is mandatory that each entrant in the event have a minimum of one operable 1-1/2 pound dry-powder fire extinguisher (rated for use on A, B, and C. type fires) in their pit area. It is recommended that they have one on the starting grid at the start of each race in the hot pit area. Carbon Dioxide type extinguishers are not acceptable substitutes for the dry-powder type.

7. PROTECTIVE BARRIERS: No person, race official or other shall be permitted on the racing surface at any time during a race. Two haybales should be provided at corners for the protection of corner marshals.

8. PROTECTIVE CLOTHING: All protective clothing is a pre tech item.

a) Helmets: All helmets used at a KART insured event must be full coverage (full face) designed for competitive motorsports use complying at Snell 2010 (SA2010, K2010, M2010), SFI ratings 24.1 (youth), 31.1, 31.1a, 41.1, 41.1a, or newer standards.

b) Gloves: Required in all divisions.

c) Face Shields: Mandatory.

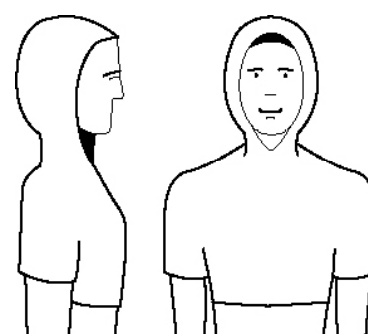
d) Driver Apparel: All drivers are required to wear jackets of heavyweight leather, heavyweight vinyl or abrasion-resistant nylon material, full length pants and high top shoes or boots to prevent or minimize abrasions. The Race Officials may modify or supplement this rule to require any additional protective clothing deemed necessary for the drivers.

Helmets must be available for pre-race technical inspection.

e) Driving Suits: One or two piece design of heavyweight abrasion-resistant nylon, leather or vinyl material are recommended.

f) Footwear: High top shoes or boots are required. High top shoes shall be laced, buckled or secured as designed.

g) Ear Plugs: The use of ear plugs by participants, both drivers and pit crews, is strongly recommended.



h) Long Hair: If hair extends appreciably from beneath helmet, the competitor must wear a hooded shirt (see diagram) or balaclava to retain hair from extending outside helmet. This is a pre-tech item, as is the helmet.

i) Helmet Supports: Use of racing helmet supports (rolls) is mandatory at all KART insured events when using a sit-up type chassis. The Leatt-Brace Moto is an acceptable substitute for a helmet support. This applies to all divisions, all classes, during practice, time trials, and racing.

j) **MANDATORY:** All drivers in Kid Kart, Rookie, Jr I and Cadet classes in all divisions are required to wear a chest protection device with SFI specification 20.1 certification any time they are on the race track.

k) **RECOMMENDED:** The use of chest protection is recommended for all sit up type kart drivers.

9. **ELASTIC STOP NUTS:** “Nylock,” “Nylon Locking Nuts” and other such threaded fasteners with plastic inserts or collars are prohibited from use without an accompanying lock washer, on any brake hub. (These fasteners are not made for extreme temperature operation and catastrophic failure of the braking system is possible if the locking part of this type of nut is melted away by the heat generated by disc brakes.) Acceptable alternatives are: all metal lock-nuts, locking washers and double nutting.

10. **BALLAST:** All bolt on weight must be white in color. All weight added to meet minimum kart/driver weight requirements shall be bolted and cotter keyed or safety wired to the kart with a minimum 5/16 inch or 8mm through bolt or 4-1/4 inch bolts. Double nuts are permitted with the top nut being self locking but threads must protrude. Carrying of ballast on the driver’s person is prohibited.

No weight shall be bolted to the underside of the kart. Any lead shot or loose material used as ballast must be mechanically sealed by use of a bolting device. Tape, hose clamps, tie-wraps or fasteners other than bolts are not legal for attaching ballast weights to competition karts. Tech inspectors are charged to make thorough inspections of weight installation to confirm that they meet the bolt-on requirement. Where weight is attached directly to the seat of a competition kart, adequate reinforcement must be used to insure that the weight will remain properly attached at all times. (Large diameter fender washers of sheet metal reinforcement at the attachment location is required.)

11. **STEERING MECHANISMS:** Safety inspectors and competitors are urged to inspect their kart’s steering mechanisms, especially in the area of the relief cut at the base of the splined section. Longer steering shafts and “stickier” tires put a great load on this particular section of the shaft. Check to see that the cut is smooth and that no cracking has occurred.

Minimum steering wheel, i.e. butterfly type: 10" minimum diameter, with a minimum of four spokes, and having a minimum 10" grip length, being no less than 5" grip length on each side. All divisions.

12. **NEW DRIVER REQUIREMENTS:** All new, inexperienced drivers will be required to start at the back of the pack for their first three (3) races (not heats), at the discretion of the Race Director. New drivers must display a “Day Glow” orange number panel on their rear bumper for these first three races. This safety regulation includes all divisions and classes.

13. **THIRD BEARING SUPPORTS:** Third bearing supports or a suitable guard to contain the clutch in the event of crankshaft breakage, is required on all 2-cycle karts using an engine mounted clutch. Construction of clutch guards must be 360 degrees and of material equal to or greater in strength than .090 aluminum. (Factory supplied DAP TS-40 clutch guard is approved for the TS-40 only.) Drill and safety wire at least one (1) support bolt on third bearing upright plate.

14. **ROLLER BUMPERS:** Roller bumpers are prohibited.

15. **WHEEL HUBS/RIMS, TIRES:** All rear wheel hubs shall have a rear mounted thru-bolt or properly affixed stud as a means of

mounting wheel rims. Wheel rims shall be mounted with an appropriate nut as a means of fastening the wheel to the hub. It is illegal to warm, heat or scrub tires in any manner in the pits, pre-grid or on the track at any event. Affects all divisions of karting.

16. **AIR SHIFTING DEVICE SYSTEMS:** Any driver mounting a pressurized bottle to their kart as a power source for an air shifting device must comply with the following:

a) Inform the Pre-tech Inspector.

b) Bottle must be mounted within the frame rails of the kart.

c) Bottle must be enclosed in a cage that would contain the bottle in the event of a catastrophic failure of the bottle, regulator, or relief valve.

d) Bottle must be secured in the cage and the cage must be welded or bolted and safety wired to a frame component.

e) Bottle must have visible to the Tech Inspector: a DOT stamp of approval on the bottle, relief valve, and regulator, and must contain only CO<sub>2</sub>.

f) Any flagrant violation of these rules would result in a mandatory 6 month suspension or more.

17. **DIFFERENTIAL, DRIVES, AND STEERING:** The use of differentials or any differential-type of rear axle or any type system that permits the rear wheels to turn independently of each other, along with front wheel drive, four wheel drive, rear wheel steer, and four wheel steer is banned in all classes, all divisions.

18. **SAFETY RECOMMENDATIONS:**

The use of elastic stop nuts (plastic locking inserts) and/or lock washers on all wheel retention bolts.

The safety wiring of brake shims in calipers that have removable slotted shims.

Chain and belt guards for axle clutches.

The use of safety wire on axle circlips is not recommended.

19. **SAFETY WIRING:** Any item that calls for safety wire must be drilled so that the safety wire can pass through the bolt/pin, not just wrapped around it. European style hardware and safety clips or devices are acceptable.

20. **QUICK RELEASE SAFETY PIN:** Quick release safety pin type pins are an approved replacement for cotter pins.

21. **RADIOS:** Radio communication to or from the driver is prohibited in Sprint and Speedway. Radios are allowed in Enduro with the following exceptions: Frequency must be furnished to the Race Director. All radios will be monitored. Any attempt to violate the rules will call for immediate disqualification from the race.

22. **REAR NUMBER PANEL** – An Orange number panel is required for all Junior and Animal classes (Enduro division only). It is to be fixed to the rear bumper.

23. **COMMUNICATION:** Electronic communication or telemetry between the driver or chassis and pit crew or pits is prohibited while the kart is in motion.

## **E. PIT RULES**

Only those persons having signed a waiver of liability and with a pit pass shall be allowed in the pit area.

1. **POSSESSION OF REGULATIONS:** In each pit there shall be a copy of these regulations, together with a copy of the rules and regulations for the event in which the kart is participating.

2. **FIRE CODE:** All participants shall abide by state and local fire codes.

3. **FUEL DISPOSAL:** Any entrant disposing of fuels or lubricants in the pit area or the track area by pouring or spilling such fuels or lubricants upon the ground may be subject to expulsion from the event.

## F. HOT PIT RULES

The hot pit area is reserved for the exclusive use of competing karts and their crews, and is subject to the control of the Race Director.

1. **SIGNALING:** Unless a kart is actually in the pit, only one crew member shall be in front of the pit for signaling and only for the length of time needed to accomplish the actual signaling operation.

2. **REFUELING:** A kart in competition shall be refueled only in the "hot pit". The engine must be stopped and the driver must be out of the kart during refueling operations.

3. **WARMING OF TIRES:** It is illegal to warm, heat or scrub tires in any manner in the pits, pre-grid or on the track at any event.

## G. DRIVING PROCEDURES

1. **STARTS:** Utmost caution should be observed during all starts. Remain calm and alert, as all karts will be running closely grouped. Avoid sudden changes in direction and if evasive action is necessary, check first to make sure your course is clear.

2. **PRACTICE:** Rules, regulations, and procedures for competition shall apply to all practice sessions as well as competition. Extreme caution should be exercised during open practice sessions due to the mixed grouping of different classed drivers and karts.

3. **COMPETITION:** Remain alert. Give consideration to fellow competitors in all areas of safety.

a) Adjustment of carburetors and other equipment should be done at safe areas of the track only. Use extreme caution while tuning on the track.

b) When two or more karts enter a corner simultaneously, the lead kart has the right-of-way. All karts should maintain a constant line through the corner and avoid erratic changes in direction. Any driver leaving the course or cutting the apex of the corner, attempting to pass another competitor, is subject to disqualification.

c) Any driver slipstreaming or drafting another kart should use extreme caution and should be prepared for evasive action should the lead kart suffer a mechanical failure.

d) Bumping, nerfing, blocking, pushing, etc., can be grounds for disqualification.

e) Any driver unable to continue because of mechanical failure or lack of fuel, should move their kart well off the track into a safe location as soon as safe conditions permit. f) Do not leave kart adjacent to the track at any time.

g) At all KART events, positive effort should be made to prevent rough driving and when it does occur, to punish the offender.

4. **SIGNALING:**

a) Drivers shall raise one arm over their head to signal following drivers when slowing abnormally, applying excessive brake, pulling off course, failing to accelerate normally, entering a road racing scoring chicane, or warning other drivers of impending hazard.

b) Drivers shall raise both arms over their heads to signal following drivers that they have no control over their karts after spinning off course or stopping on course due to mechanical failure. Do not raise arms until the kart is safely stopped.

c) A driver, when being overtaken by a faster kart, should continue in a straight line and not swerve to one side or the other while being passed.

5. **RESTARTS:**

a) There shall be no push-backs or restarts allowed once the green flag has fallen and/or the 90 second clock has elapsed in either Sprint or Speedway events. In all karting events, if a kart cannot continue under its own power, the driver shall park it as far off the racing surface as possible and await the conclusion of the race before attempting to get the kart back to the pit area.

Competitors will be scored as they dropped out of the race, provided that they scale and meet any other post-race requirements. b) Any competitor who is (or appears to be) injured or causes an accident, necessitating a red flag, is not allowed to restart that race in the road race division. If the competitor is able to scale and pass post tech, he will be awarded last place points for that race. Competitors disqualified for flagrant driving misconduct during a red flag situation will receive no points.

c) If a red flag has been thrown, necessitating a restart, a kart that previously dropped out prior to the red flag, cannot restart the race, all divisions.

6. **SCRATCHED ENTRIES:** In the event of a scratched entry in Speedway, Sprint, or 4-Cycle racing, that space shall be filled: (1) If on track, by moving forward directly. (2) If in the pits, by crossing over to make the starting order exactly correct.

7. **PITTING:** All drivers shall use extreme caution when driving in the hot pit area. Be alert for pedestrians and other karts. Drive at a reduced rate of speed.

a) Enter and exit the hot pit area at designated pit entrance and exit only.

b) When exiting the hot pit area during practice or a race, a driver shall yield the right-of-way to all other competitors on the track. Stay out of the fast groove until the kart is up to racing speed and able to merge with traffic safely.

c) The addition or removal of weight during the race, other than fuel, is not allowed.

8. **POST -RACE DRIVER WEIGHT AND WEIGH-IN:** Drivers shall be weighed with their karts immediately after any competition portion of any event.

a) Suitable scales should be provided to accommodate driver and kart weighing together. Drivers shall be weighed with full driving uniform, including helmet, jacket, shoes or boots, etc., after time trials and each heat or event. Drivers shall not add any weight to themselves or their karts between the finish of the competition and weigh-in of driver and kart.

b) Only the drivers for that events shall be allowed in the impound area.

c) Any driver leaving an impound area without weighing in shall be disqualified. Post-race scale and tech areas should be separated from persons other than the competitors.

d) Drivers have two (at race director's discretion) attempts to make stationary weight. If a driver does not make weight at the first attempt, they shall remove the kart from the scales, "zero" the scales, and immediately make a second attempt. All other competitors shall wait in line until after this procedure is completed.

9. **POST-RACE INSPECTION:** At the end of competition, all karts and drivers shall proceed directly to the designated impound area to be checked for minimum kart/driver weight, maximum kart size, engine legality, exhaust system legality, legal attachment of weights, etc.



## H. FLAGS

Each KART competitor is responsible for the knowledge of and adherence to the following flag rules:

1. GREEN: Displayed at the start of competition or practice and kept visible as long as the track is clear for racing.
2. YELLOW: Caution, be prepared to stop. Track partially blocked by an accident, emergency vehicles, or debris. Slow down, use caution, hold your position; no passing until the track is clear and the green flag appears again. In Road Racing, corner workers may display a yellow flag for incidents in their area of the track only.
3. RED: Displayed at start/finish line only. Track is hazardous and unsafe for racing. Slow immediately and safely. All entrants shall proceed to designated area. No work on karts is permitted during the red flag period. Local track safety procedure may supersede these procedures.
4. YELLOW AND RED FLAGS WAVED: Restart. Road racing drivers should return to grid. Sprint and Speedway drivers reform pack for restart at a slow pace.
5. BLUE: Faster competitor trying to overtake you; make room.
6. WHITE: One lap to go. At Road Races white flags are not recommended.
7. WHITE WITH RED CROSS: Take care, emergency vehicle on the track. Slow down, use caution, hold your position, no passing. Be prepared to give emergency vehicle a wide berth.
8. BLACK: Continue one more lap at a reduced speed and stop at the designated race official before resuming competition. Any driver receiving the black flag for a mechanical problem such as leaking fuel or oil, tire, etc. shall carefully proceed to the designated race official before resuming competition.
9. BLACK WITH ORANGE BALL: Commonly called the "mechanical" black flag. Indicates to the driver and crew that their kart has a potentially dangerous mechanical problem. Signal that you are reducing speed, and proceed to the pits for inspection and further instruction.
10. CHECKERED AND BLACK FLAGS WAVED: Finish under protest. Used to end the competition if suspicion of or reports of foul, rough or illegal driving, or unsportsmanlike conduct are present. It shall then be considered that the competition was finished under official protest by the Race Director or Flagman. After checking with corner personnel and the race committee, the Race Director shall state findings or rulings to the entrant(s) involved if an infraction of the rules occurred.
11. CHECKERED: Displayed at the finish of competition or practice; one more lap at reduced speed before stopping or follow Race Director's instructions.  
Should conditions exist whereby drivers cannot easily distinguish the various flags by color, the Race Director shall call a special meeting to advise all drivers and crew of any required changes.

## I. PENALTIES AND PROTESTS

Drivers will at all times be responsible for their own conduct and the conduct of their crews. Any offense committed by a crew member may be chargeable directly to the driver. This particularly applies during the running of an event while the driver is away from their pit. The responsibility also extends to conduct in the local area of an event, including motels, hotels, restaurants or any private or public area.

1. SINGULAR PROTEST REQUIREMENT: Protests may not be collective, that is a legal entrant of the class in which the protest is made must singularly protest. Once a protest is properly lodged, additional protests of the same incident, alleged technical infraction, etc., will not be accepted.

2. GENERAL: All protests involving specifications legality and driver conduct shall be submitted by a legal entrant from the same class in which the protested infraction occurred.

Protester may be required to submit to similar inspection procedure as the protested participant.

3. WRITTEN PROTESTS: All protests must be submitted in writing on an official protest form, available at registration, to the Race Director or designated official of the event within 30 minutes after completion of the event that is being protested or, if in the case of a scoring or technical protest, 30 minutes after official results have been announced and/or posted.

Written protest should refer to the specific specification and/or regulation contained within this document and refer to same section, paragraph number and page number. Disqualification appeals must also refer to a specific rule provision.

4. LOCAL RESOLUTION: Every effort should be made to handle protests at the local level where witnesses can present evidence pertaining to the protests.

5. BOARD REVIEW PROCEDURE: All decisions at National Championships events are final. Any other protest that cannot be handled at the local level shall be submitted in writing to the KART Board and signed by at least two officers of the local club and/or track owner. Only the KART Board will have the power of suspension, and their decision shall be final. Such protests must be accompanied by a fee of \$50.00 payable to KART. The protesting party is responsible for posting the protest fee. If the protest is upheld, the protest fee shall be returned to the protesting party. If the protest is disallowed, the protesting party shall forfeit the protest fee.

6. PROTEST EXHIBITS: Where protests involve specific components such as engine parts that must be examined by the Board, said parts will be impounded by the officials in charge and put in custody of the Race Director, who will be responsible for delivery of said components to the appropriate KART tech committee. Any components presented for protest inspection that are found to not meet legal specifications shall be returned at the owner's cost. At National Championship events, the appointed KART Tech Person shall have the final determination as to whether an item is legal or illegal. There shall be no appeal of the appointed Tech Person's decision.

## J. SUSPENSION AND TERMINATION OF MEMBERS

1. SUSPENSION TERMS: The Board of Directors may suspend for a definite period of time, or may terminate the membership of any individual upon a finding of a violation of any rules and regulations of the organization or for any other just cause, if such action is determined by the Board to be in the best interest of KART.

2. SUSPENSION NOTIFICATION: Notice in writing of such suspension or termination and of the reason for such action shall be delivered to the suspended or terminated members.

## K. APPEALS

1. **APPEAL PERIOD:** Upon notification of suspension or termination, individual shall have the opportunity to request a hearing providing such notification is made in writing within 30 days of suspension or termination notification.

2. **REQUEST FOR HEARING:** Request for hearing must be addressed to the organization President, Executive Secretary, or Administrative Director. Notice of appeal hearing date shall be provided to person requesting the hearing.

Appeal may be made in writing to the Board of Directors or the individual may request to appear before the Board or committee thereof designated by the Board at the time established by the President, Executive Secretary, and/or Administrative Director.

3. **POWER OF SUSPENSION:** The power of suspension from KART shall rest solely with the Board of Directors and with designated Officers as provided herein.

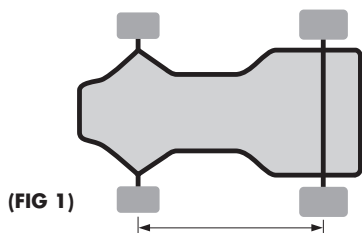
4. **PERIOD OF SUSPENSION:** Suspension period and/or terminations decisions rest solely within the discretion of the KART Board of Directors.

**L. LEGAL EXHAUST SYSTEMS:** The sound limit for all karts shall be 95 DB (A weighing scale, slow response), measured 100 feet, 90 degrees from the source, 4 feet from the ground, and meet any special class requirements. All exhaust systems must remain intact. See Section 8 (2-cycle) and Section 9 (4-cycle) for specifications.

## M. AERODYNAMIC REGULATIONS FOR SPRINT AND SPEEDWAY CHASSIS:

### 1. BELLY PANS:

a) If a belly pan is used, it must be fully confined within the outside edge of the main frame rails (when viewed from directly above). (FIG. 1)



(FIG. 1)

b) In the Speedway Division only, if a belly pan is used, it must be fully confined within the outside edge of the main frame rails and can be no higher than the center of the rear axle.

c) Full belly pans are allowed in all Road Race classes with the exception of 125cc, 80cc, CIK Yamaha and TaG.

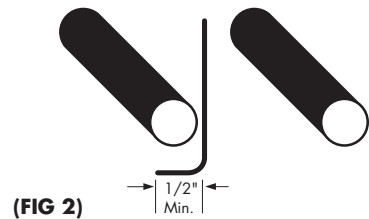
2. In Sprints only, any auxiliary devices, i.e.; "side pods", "side panels" used, must not act to constitute an extension of the belly pan in any way.

3. Any such device(s), if used, must be securely mounted to the kart chassis so as not to constitute a safety hazard to the occupant or to other competitors.

4. No "skirts" or vertical aerodynamic sealing devices are allowed to extend below the main frame rails. This does not include the front nose.

5. Driver fairing maximum width is 14 inches. Driver's feet must be visible when viewed directly from above with pedals in normal driving position. Minimum 2" clearance between fairing and steering wheel.

6. In the interest of safety, all fairings that extend below the nerf bar will have a minimum of 1/2" safety edge and a maximum 1" safety edge. (FIG. 2)



(FIG. 2)

7. Wedge Body must not cover the rear tires when viewed from ground level.

8. Bodywork may not be adjustable while kart is in motion. Unsecure/moving bodywork may be grounds for disqualification.

**N. WATER-COOLED ENGINES:** No anti-freeze allowed, only water with inhibitors shall be acceptable.

**O. LOCAL OPTION:** A KART insured event may have its own special set of rules supplementing these regulations. Should KART regulations conflict with the special rules of the event, it is understood that the latter will take precedence by virtue of their specialized nature for the duration of the event in question.

a) Local option shall be defined as any deviation from standard KART policy deemed necessary by the Race Director for a given event; no deviation involving class eligibility or equipment legality shall be permitted. Local option does not extend to any deviation from KART engine tech specifications, KART chassis specifications or KART safety rules.

b) Any deviation from standard KART race procedures under local option clause must be published in advance of the event, flyer, program, etc. If not published, it must be on display in the drivers' registration area prior to and during registration. Sanction fees shall be paid to KART for any local option classes run in conjunction with a KART sanctioned event.



## P. SERIES/REGIONAL POINTS SYSTEM

To receive points you must pass post-race technical inspection.

Points awarded for finishing positions will be as follows:

1st-200 points + no. of entries	11th-75 points + no. of entries
2nd-175 points + no. of entries	12th-70 points + no. of entries
3rd-155 points + no. of entries	13th-65 points + no. of entries
4th-140 points + no. of entries	14th-60 points + no. of entries
5th-130 points + no. of entries	15th-55 points + no. of entries
6th-120 points + no. of entries	16th-50 points + no. of entries
7th-110 points + no. of entries	17th-45 points + no. of entries
8th-100 points + no. of entries	18th-40 points + no. of entries
9th-90 points + no. of entries	19th-35 points + no. of entries
10th-80 points + no. of entries	20th-30 points + no. of entries

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. 201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220
2.	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195
3.		158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175
4.			144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
5.				135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150
6.					126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
7.						117	118	119	120	121	122	123	124	125	126	127	128	129	130
8.							108	109	110	111	112	113	114	115	116	117	118	119	120
9.								99	100	101	102	103	104	105	106	107	108	109	110
10.									90	91	92	93	94	95	96	97	98	99	100
11.										86	87	88	89	90	91	92	93	94	95
12.											82	83	84	85	86	87	88	89	90
13.												78	79	80	81	82	83	84	85
14.													74	75	76	77	78	79	80
15.														70	71	72	73	74	75
16.															66	67	68	69	70
17.																62	63	64	65
18.																	58	59	60
19.																		54	55
20.																			50

All finish positions below 20th position will receive points equal to the number of entries in the class.

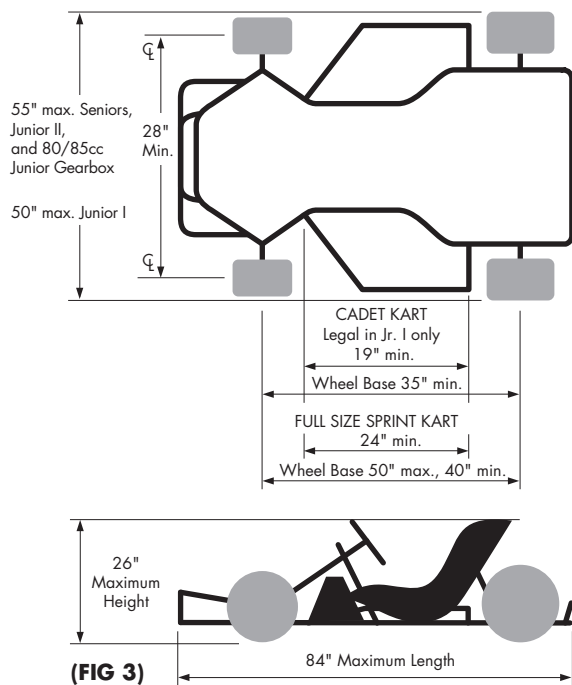
## Q. DISQUALIFICATIONS

Disqualifications during a regional event may be dropped for Regional Points.

## 4 SPRINT RACING

### A. SPRINT RACING KART

A sprint racing kart that is driven in a sit-up position. Generally raced on irregular tracks with both left and right turns and lengths of 1/4 to 1 mile.



### B. CHASSIS SPECIFICATIONS

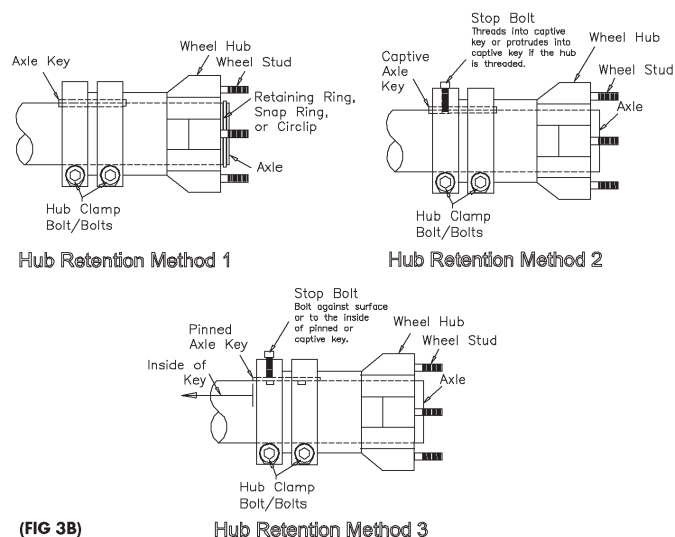
The following technical and safety specifications should be considered minimum requirements for competition. As KART Sprint series races will be held in conjunction with club races for the 2018 season, hosting club safety regulations will prevail. Although not required by KART, it is highly recommended that the steering components including the steering hub to steering wheel fasteners, hub to shaft fasteners, shaft support fastener(s), and tie rod ends be safety-wired, clipped, or cotter-pinned in order to insure compliance with hosting club safety requirements. Some participating clubs also require SNELL 2010 or newer helmets WITH hologram present (this can be found inside the helmet, under the liner).

1. MAXIMUM OVERALL KART LENGTH: 84 inches.
2. OVERALL KART WIDTH: Seniors and Junior chassis 55-1/8 in. maximum, Cadet chassis 50 in. maximum.
3. MAXIMUM OVERALL KART HEIGHT: 26 inches.
4. WHEELBASE: Maximum 46 in., minimum 40 in. as measured from the axle wheel centers. Cadet Kart, minimum 35 inches.
5. MINIMUM TREAD WIDTH: 28 in., measured from the centerline of right tire to the centerline of left tire.
6. TIRE SIZE: Must be CIK/FIA approved tires ONLY suitable for 5" or 6" diameter rims.
7. WHEELS: Shall be void of any defects. Maximum number of four wheels. Only wheels of 5 inches and 6 inches will be allowed to compete. 5 inch wheels can be no larger than 6 inches overall diameter, 6 inch wheels can be no larger than 7 inches overall diameter. This includes all exterior and interior wheel parts.

8. WHEEL BEARINGS: Ground ball or roller type only. Split-race bearing not allowed.

9. AXLE NUTS, WHEEL HUBS: Front and rear hubs must be retained by one on the following methods:

- a) Front and rear axle nuts must be safety wired or cotter keyed, OR
- b) Both front and rear hubs must be as-supplied CIK/FIA approved design with all approved retention hardware present, OR
- c) Front and rear slider type wheel hubs must have one of the approved methods of retention shown in FIG. 3B.



10. WHEEL WEIGHTS: Only wheel weights of the adhesive-backed, flexible style are permitted.

11. FRAME: Must be CIK/FIA approved design. If not CIK/FIA approved, the main frame members shall be not less than one inch outside diameter by .083 wall thickness, cold roll steel tubing or other material of equal strength. No carbon fiber will be allowed as an integral part of the go kart chassis. Integral part of the chassis does not include: floorpan, seat, bodywork, clutch and engine components.

12. FRONT BUMPERS, REAR BUMPERS, NERF BARS: Must be Scribner or CIK/FIA approved components. If not CIK/FIA or Scribner, then must be minimum 5/8" OD, minimum .065 wall thickness, cold rolled steel tubing or other material of equal or greater strength. Aluminum not allowed. All measurements are taken from bottom of main frame rail.

#### FRONT BUMPERS:

- a) Roller bumpers are not allowed.
- b) The top of the front bumper must measure a minimum of 4" above bottom of main frame rail.
- c) Must have at least 2 vertical supports running to the top loop of the bumper if CIK/SCRIBNER nosecone not used.

#### REAR BUMPERS:

- d) Double rail, single rail with loop or CIK homologated "rear wheel protection" bumper is required.
- e) Bumper must be located behind rear tires. Minimum width to center of rear tires.
- f) Top bar: Maximum height of 10" and a minimum height of 5" measured from the bottom of the main frame rail.
- g) Lower bar: Minimum height of the main frame rails.

h) If more than a 10" spacing is between the upper and lower bar, a middle bar or loop is required between the upper and lower bars, no lower than the rear axle.

i) Maximum width: Outside of rear tires.

**NERF BARS:**

j) Double bar is required if CIK/SCRIBNER panel not used. Single bar required with CIK/SCRIBNER panel.

k) Must be CIK/FIA approved or must meet the following criteria: The overall length of the nerf bar shall be a minimum of 24" (19" for cadet karts) and no greater than from the rear edge of the front tire to the front edge of the rear tire. A motor mounted on either side of the chassis, shall be considered as part of the overall length.

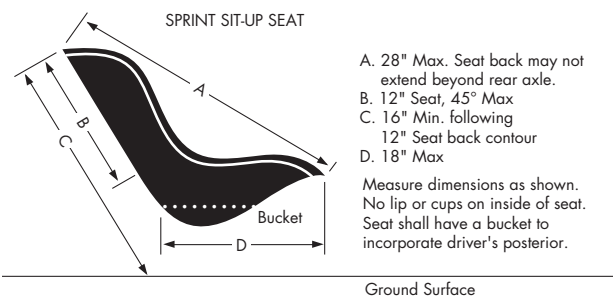
l) On "DOUBLE BAR" nerf bar, a minimum of 4" spacing allowed between top and lower bar. On "SINGLE BAR" where CIK/SCRIBNER panel is used, bar can be no lower than main frame rail.

**13. DRIVER'S COMPARTMENT:** All parts of the driver to be limited to the confines of the width and length of the kart. If driver's feet extend beyond leading edge of front tires, an adequate bumper protection shall be incorporated within the overall maximum length. Driver's feet shall not extend beyond bumper when pedals are fully depressed.

a) Seat belts: Prohibited.

b) Seat back and floor pan: No void large enough for any part of the driver's body to inadvertently pass through shall be permitted. Only seats suitable for sprint racing competition on sprint tracks will be allowed. Final decisions on legality will be made by the Race Director and/or race official.

**14. REAR VIEW MIRRORS:** Rear View Mirrors are illegal for ALL classes



(FIG 4)

**15. SEAT STRUTS:** The point where the seat strut attaches to the seat should be adequately reinforced or protected to prevent the strut from piercing the seat and causing the driver injury on impact. Minimum reinforcement shall consist of 35mm (1-3/8") diameter washers located on the outboard side of the seat.

**16. FUEL SYSTEM:**

a) Protection: Any fuel tank which is the highest portion of the kart shall be protected by a rollbar. The rollbar shall not exceed 26 inches in height and shall be suitable strength and design to prevent the tank cap from having contact with the ground in the event of an upset.

b) Pressurization: No pressurized fuel tank(s) permitted.

c) Fuel Caps: All flip type fuel caps shall be safety fastened during an event.

d) Fuel Tank: Must be CIK/FIA approved design or meet the following criteria: Maximum 2.5 gallon fuel capacity. In 2-cycle sprint only, fuel tank must be located between the frame rails.

**17. BODYWORK:** CIK Bodywork Type ONLY

**18. THROTTLE:** Karts shall be equipped with foot operated throttle incorporating a return spring which closes the throttle when pedal is released.

**19. BRAKES:**

a) Dual braking systems are required for 125cc Shifter classes. All other classes may use only rear-axle mounted braking systems. Karts in all classes other than 125cc Shifter classes that are equipped with front brakes may disconnect the front brake system while leaving the components in place during competition.

b) A dual brake system will consist of two independent brake systems on separate disc or drums. Each system must be fully operational if the other system fails. If a bias control, is used, it must be able to provide safe operation of one system upon failure of one system.

c) All karts must have brakes operating in such a manner that both rear wheels will brake equally and adequately. No scrub type brakes are permitted.

d) Hydraulic brake connections must be tight and free of any visible leaks. All brake lines must be safely routed to prevent any possibility of contacting the ground or any rotating members of the drive line.

e) The brake pedal must be secured to the kart with cotter pins, safety wire or safety clips and is to be connected with the master cylinder with a minimum 6 mm steel rod, or OEM cable, with positive fasteners used at each control end.

f) All master cylinder and caliper mounting bolts and nuts are to be cotter pinned, safety wired or safety clipped in such a manner that they cannot be loosened without removing the cotter pins or safety wire.

g) Steel lock nuts, steel nuts with lock washers, or castle nuts with cotter pins or safety wire are required to hold the brake disk or drum to their hubs. The brake disk or brake drum axle key will be installed in such a manner that it cannot be lost.

h) Since many competition kart brake systems have bolt retained brake pads, they will be safety wired or cotter pinned where possible. If safety wire or cotter pins are not feasible due to the design of the brake system (i.e. counter-sunk or counter-bored holes), it is the responsibility of the driver/pit crew to assure that the pad bolts are torqued to proper tightness and that appropriate lock-tite is used. Torque of brake pad bolts can be a tech item, at discretion of the race director.

For pin retained brake pads, the pins must be secured by cotter pins, safety wire, or spring type pin retainers.

i) When front caliper mounting bolts are also the brake pad retaining bolts, refer to the preceding paragraph.

**20. CLUTCHES:** The use of clutch(es) is not mandatory, except where specific class rules supersede. The use of a wet-type clutch is permitted only if the unit is sealed to prevent leaks. 4-cycle sprint axle mounted clutches are not allowed.

**21. STEERING SPECIFICATIONS:** The steering shall be direct acting and of suitable design for maximum safety. Steering system must be CIK/FIA approved design without modification and with all components present or must meet the following criteria: Steering design shall be such that the pitman arm cannot rotate over center and cause reverse steering.

a) All collars and other devices used to retain the steering column shall be secured to prevent possible loss of the collar.



- b) All bolts used in the steering shall be of aircraft standard quality (grade 5 or better) and shall be 8mm minimum diameter. This does not pertain to king pins or wheel spindles.
- c) All steering assembly bolts and nuts, including spindles and king pins, shall be safety wired or cotter keyed. All rod ends shall have universal type swivel joints and jam nuts.
- d) **SOLID SHAFT:** The steering shaft shall be solid steel. Minimum diameter 5/8" shaft must be equal to or greater in strength than cold rolled steel. The steering wheel hub shall be attached to the shaft by a tapered and keyed or serrated surface, and shall be secured to the shaft by a nut. The nut shall be either safety wired or cotter keyed to prevent loss. A bolt passing through the steering hub and steering shaft to hold the hub to the shaft is illegal. It is not permissible to weld the hub to the shaft or the steering wheel to the hub. Recommended shaft taper 5 to 10 degrees, with the taper starting at the full 5/8 in. diameter. The center hole in the steering wheel must be smaller in diameter than the diameter of the solid steering shaft. A washer may be placed between the steering wheel and the center nut and a washer between the steering wheel and the steering shaft, to prevent the steering wheel from moving up and down the solid steering shaft in case of hub failure.
- e) **HOLLOW SHAFT:** .700 minimum O.D. steel tubing with a minimum wall thickness of .0625 in. 5/16" or 8mm minimum diameter fastener at lower end. Steering wheel hub (one piece, no welding) will be secured with a minimum diameter 6mm thru bolts. If the steering wheel has a center hole, it may not be large enough to allow the shaft to protrude. Hub minimum O.D. of 1.125 in., flange minimum O.D. of 2.250 in. and a minimum flange thickness of .250 in. Shaft must protrude into hub a minimum of 1.250 in.
22. **CHAIN GUARD:** Karts shall be equipped with an adequate chain, belt or gear guard designed to eliminate possibility of personal injury. An exhaust header is not considered a chain guard.
23. **EXPOSED SPROCKETS:** An axle sprocket not fitted with a drive chain shall have a device to prevent tooth exposure from any angle or have the unused sprocket encircled with a chain.
24. **CHAIN OILER:** The use of any type chain oiler is not permitted.
25. **SPRINT NUMBER PANELS:**
- a) Size: Maximum width 14", maximum height 18", minimum width 9", minimum height 7", as measured on surface of panel. Panels made from cloth, leather or other fabrics shall not be acceptable. All edges shall be rolled or folded under or protected with rubber or comparable material edging for maximum protection. All panels shall be attached in a safe manner and shall be subject to technical inspection.
- b) All competition karts must be equipped with four (4) number panels, 1 on the front of the kart, 1 on each side, and 1 on the rear. Side panels must be carried between the front and rear wheels. All numbers must be visible with driver in place.
- c) All Classes: Number panel to be bolted or riveted to a non-movable position, i.e. nerf bar, bumpers, stationary bracket. Only exception is when vinyl or painted numbers are used on a fixed non-movable area, i.e., side pod, side panel, or front nose.
26. **COLORS:** At all KART events, the following number panel colors shall be used: All numbers must be presented in a color sharply contrasting with its background panel. Black numbers on yellow panels are strongly suggested. No reflective numbers or panels allowed.

27. **TRANSPONDERS:** Transponder must be mounted minimum of 8" behind front spindle bolt. It is the competitors responsibility to ensure that the transponder is in place and operating for the entire race. Karts that lose their transponder or reception may not be scored.

28. **SELECTIVE GEARBOX:** No transmission, gearbox, or other device which permits a change of gear or sprocket ratios while the vehicle is in motion is permitted except in 125cc and 80cc gearbox classes.

29. **4-CYCLE CRANKCASE OVERFLOW CATCH CANS:** Required in all 4-cycle classes.

30. **4-CYCLE FUEL RESTRICTIONS:** Fuel is limited to 100% gasoline only. No other fuel performance additives are legal in either the gas tank or the engine crankcase.

31. **SPRINT TIRES:** Only one set of new tires or two sets of used tires will be allowed per event. All competitors in Sprint, 2 and 4-cycle classes, must qualify and finish all heats on the same set(s) of tires. Tires will be marked after qualifying. It will be left to the Race Director or Chief of Tech to allow one-for-one replacement of a tire that is damaged by road hazard or accident. Tires may be reversed on rims, but must retain original markings.

32. **SPRINT RACING/RAIN TIRES:** If the race is declared a rain race, the Race Directors may, at their discretion, waive the "qualify and run all heats" tire rule in Sprint events. The intent of this rule is to allow the competitor to choose the tire that he/she deems safest in these conditions, rain or slick. This decision may be made at any time during the course of an event and is to be used to assure safe completion of the event. Any such announcement of this change will be made to all competitors at the event at which time they may have the option to use any tires of their choice.

## C. SPRINT RACE PROCEDURES

The following race formats are provided as a guideline. As KART Sprint series races will be held in conjunction with club races for the 2018 season, hosting club race procedures will prevail if/where conflicts between hosting club rules and KART rules exist.

Any major deviation from KART Race Procedures must be approved by KART in advance.

1. **SPRINT NATIONAL CHAMPIONSHIPS:** In the Sprint Division only, at the Sprint National Championships, there must be a minimum of 3 entrants in a class before a Triad will be awarded. KART will allow up to 2 local option classes at the Sprint National Championships event. Track/Promoter must pay for the Triad and 2nd thru 5th place awards and any other required awards. Rules must be supplied to the KART Administrative Office prior to the event. There must be a minimum of 3 entries to award a Triad. These classes will not count toward expert status.

2. **LOCAL OPTION:** A KART insured event may have its own special set of rules supplementing these regulations. Should KART regulations conflict with the special rules of the event, it is understood that the latter will take precedence by virtue of their specialized nature for the duration of the event in question.

Local option shall be defined as any deviation from standard KART policy deemed necessary by the Race Director for a given event; no deviation involving class eligibility or equipment legality shall be permitted. Local option does not extend to any deviation from KART engine tech specifications, KART chassis specifications or KART safety rules.

Any deviation from standard KART race procedures under local option clause must be published in advance of the event, flyer, program, etc. If not published, it must be on display in the driver's registration area prior to and during registration.

Sanction fees shall be paid to KART for any local option class(es) run in conjunction with a KART-sanctioned event.

3. **NUMBER OF KARTS:** The maximum number of karts permitted in any one race during an event shall be determined by track design, safety of competitors and ability of scorers to do a reliable job. Since this number will vary from track to track, each club shall use its own judgment in determining a safe limit.

4. **STARTING LINE:** The starting line can be designated at any place on the track. The finish line should be at the scoring area.

5. **DETERMINATION OF HEAT:** The starter shall determine when a heat race is officially over and how long a competitor has to take the checkered flag, once it has been displayed.

6. **JUNIOR PRACTICE AND COMPETITION:** Junior events should be held as separate and distinct races. Juniors may, on a local option basis, practice with Seniors, providing safe track conditions prevail.

7. **SPRINT NATIONAL CHAMPIONSHIP APEX CURBINGS:** Apex curbs will be mandatory at all corners at the Sprint National Championships and will be subject to the approval of KART.

#### **D. SPRINT RACE FORMAT**

The following race formats are provided as a guideline. As KART Sprint series races will be held in conjunction with club races for the 2018 season, hosting club race procedures will prevail if/where conflicts between hosting club rules and KART rules exist.

1. The tracks will have two format options, draw and invert or time trial/qualifying. Time trial/qualifying will be used at the National Championships.

a. **TIME TRIAL/QUALIFYING** - The procedure for qualifying will be at the tracks discretion depending on the equipment available. If qualifying is used, the format must be approved by the KART sprint directors and/or in the case of a series, the series coordinator(s). The procedure for qualifying should be published ahead of time. The qualifying lap will determine the line up for the pre-final. Pre-final finishing positions determine the line up for the final. The finishing positions in the final will determine the ending finishing positions.

b. **DRAW AND INVERT THE DRAW:** Event format will be to run 2 heats and a final. Gridding for the first heat will be by blind drawing for position; invert the draw for the second heat. Starting position for the final will be determined by the total points of heats 1 and 2, using table A (see Sec. 4E.). The finishing positions in the final will determine the ending finishing positions.

c. At the national championships, it is suggested that all classes run approximately 5 miles for qualifying in grouping of 10. Kid Kart Super class run a 6 lap pre final and a 10 lap final, Cadet class to run a 8 lap pre final and a 16 lap final, Junior and Senior classes to run a 10 lap pre final and a 20 lap final. Shorter tracks may run more laps.

2. **PRE-GRID:** All karts should be in their starting position on the grid one class prior to their class.

If there is a scratch on the grid, the line up shall be adjusted by moving up one position (crossover) to the next highest position. The Race Director shall determine the pole lane before the event starts.

3. **Warm-Up and Pace Laps:** There shall be no push backs once the kart is on the racing surface. Restarts or working on the kart(s) is not allowed once the green flag has fallen or the original 90 seconds has elapsed. (The clock shall commence when the first kart leaves the grid for the race.)

a) At the completion of the 90 seconds, or when the competitors are running and able to start the race, (whichever occurs first), the starter shall signify a pace lap, or lineup command with a crossed yellow and green flag. All competitors shall drive to their appropriate grid positions and maintain a slow pace speed. If a kart cannot continue under its own power, the driver shall park his/her kart as far off the racing surface as possible and move to a safe position off the track. At the sole discretion of the Race Director, more than 90 seconds may be allowed for competitors to join the pace/warm-up lap, time permitting. All reasonable efforts will be made to allow all attending competitors to participate.

b) The pole kart, with Flagman's approval shall set the pace speed. If a driver is unable to maintain his position due to mechanical problems or drops out, the balance of the field will move straight ahead. Drivers must maintain their positions until the green flag drops. If a driver flagrantly or repeatedly improves his position, or refuses to line up properly, the Race Director or Starter shall put the driver to the rear of the lineup.

c) If any sprint class cannot receive the green flag in two consecutive laps due to the failure of the front karts to maintain a proper pace lap speed, the offending kart(s) will be penalized and moved to the second row. The second row kart or karts will then move up to the first row and have two chances to take the green flag. The front row will not be penalized for the actions of the karts behind them. The judgement of the Starter is not protestable.

4. **START OF THE RACE:** The race shall begin when (a), the green flag is displayed, karts may not change their position until the green flag is shown, or (b) at the Race Director's option, the start may be controlled by the use of cones placed on the center line of the track to keep the two rows of karts separated. Recommended procedure is to use no more than three cones and they may not extend past the start line. Karts may not change their position until crossing the start line. (Shifter karts shall use a standing start.) If after the start of the race, the Starter decides that a restart is necessary (i.e. false start, poor start) he shall signify a restart with a yellow and red restart flag or yellow and red crossed flags. Karts shall reform to their original grid positions. The Race Director may impose penalties on the kart or karts that necessitated a restart condition. The decision to restart a race is not protestable.

5. **DURING THE RACE:**

a) **BLACK W/ ORANGE BALL FLAG (Mechanical Black Flag):** The decisions to order a driver to stop at the pits may be made by the Race Director or Starter if, in their opinion, a condition exists which could create a safety hazard to the driver or to other competitors. Their decision may be based on, but not limited to, the following reasons: mechanical conditions, leaking fluids, inoperative exhaust system and/or safety equipment missing on the driver or kart. Any driver receiving a mechanical black flag shall receive his appropriate finish points at the end of the race.

b) **BLACK FLAG:** If the Flagman or Race Director sees a driving infraction (reckless driving, blocking or unsportsmanlike conduct), the Flagman may display, or at the Race Director's

orders, will display a black flag to the offending kart. The driver shall signify his acknowledgement by raising his hand and safely drive to the pit area. The driver shall receive no finish points for the heat and be placed at the rear of the pack for the next heat. The Race Director or Starter may signify a warning to a kart with a rolled up black flag for a minor infraction. The Starter should display the number of the kart being black flagged by means of a pit board or chalk board.

At the Race Director's discretion, a competitor may be suspended from the event for a flagrant infraction by either the driver or his pit crew.

c) **BLUE FLAG:** A blue flag is shown to a kart or karts being lapped by faster traffic. When a kart is being lapped, he will give the right-of-way to the faster traffic and will point (if possible) to the side of his kart that he wants the faster traffic to pass on.

d) **YELLOW FLAG:** A yellow flag displayed by a corner worker signifies caution at this section of the track; no passing allowed, be prepared to stop, use utmost caution until past this section. A yellow flag displayed by the Starter signifies the complete race course is under a yellow flag condition; no passing, slow down, be prepared to stop, do not resume racing until the Starter displays a green flag.

Crossed white and green flags (Optional): A crossed white and green flag signifies the half way point of a heat or race. This is an option that the participating club may choose to use.

e) **RED FLAG:** The red flag shall be displayed when, in the opinion of the Race Director or Starter, an unsafe condition exists on the track. (An injured driver necessitating medical attention shall automatically require a red flag.) The red flag shall only be displayed by the Starter. When a red flag is displayed, all drivers shall stop in a safe manner as soon as possible. **NO WORK IS PERMITTED ON THE KARTS.** If a red flag is thrown before all karts running have gone through scoring once, then a restart shall be required, using the original grid lineup. If all karts running have gone through scoring at least once, the last completed lap scored shall be the lineup for the restart. This restart shall be in a single file. (Karts shall have 90 seconds to start.) The line up order shall be determined by the official scoring sheet. All karts involved in any incident will be safety checked by the tech committee or their designee before being allowed back on the track. Notwithstanding the above paragraph, the following conditions will cause a kart to be penalized on the restart lineup.

1) Karts causing an accident, as determined by the Race Director, during or subsequent to the last officially scored lap shall be put to the rear of the pack. The decision of the Race Director as to whether a kart caused the incident is not protestable.

2) The Race Director may, prior to the restart, black flag a participant who will be subject to the conditions of the black flag.

3) If the red flag has been displayed, necessitating a restart, a kart that previously dropped out prior to the red flag cannot restart the race.

In the event that a heat is red flagged, it may be called complete if 60% of the laps are completed. The finish order shall be as of the last completed lap scored subject to paragraphs 1, 2 and 3 above. If a red flag is displayed during the last lap of the race, the race will be terminated with the finish order based on the last completed lap scored. A kart or karts that necessitated a red flag on the

last official lap may, based on the Race Director's decision, be disqualified and receive no points for that heat or race.

6. **RACE COMPLETION:** A white flag may be displayed signifying the beginning of the last lap. The checkered flag signifies the end of the race regardless of the actual number of laps completed. A checkered and black flag displayed together signifies the race is concluded under protest.

Flagrant track misconduct will result in penalties that may change the final positions for the heat or race.

## **E. SPRINT SCORING**

### **1. SCORING FOR HEATS:**

a) To break a tie within a class or within qualifying, the fastest qualifying time determines the winner. If there has been no qualifying and the draw was used for starting position, then the low draw is the winner.

b) At the finish of each heat, each kart and driver shall pass minimum weight standards. Failure to pass minimum weight shall result in no finishing points for that heat only.

c) If a participant is DQ'd, the progression will be to move everyone up in the order of the final finish. No points will be awarded to the disqualified person.

d) If a race is terminated before the completion of all of the heats, because of hazardous rain or other hazardous conditions, all competitors will receive 1st place points.

e) A sprint entrant must take the green flag and go through post tech to receive points.

2. **RACE CREDIT:** Any current KART driver, who makes a valid class entry and has their kart approved at pre-race technical inspection for a KART event shall receive participation credit. Drivers and their karts must be present at technical inspection and on the day of the race in which they are entered, to receive participation credit. If any member enters a race without the intent to race, it may result in an automatic one year suspension.

3. **CREDIT FOR COMBINED SPRINT CLASSES:** At championship sprint events where classes are combined on a local option basis to form one race due to a small number of entries, the entrant can gain participation credit for the one class in which they enter and compete.

a) There will be no combining of classes with reduced entry fee.

b) The combining of classes will be at local option and the decision to combine classes rests solely with the event officials or organizers.

c) The decision to combine classes on a given day must be made prior to the start of any races on that day.

4. **COMBINING OF SPRINT CLASSES:** There should be no combining of sprint classes at National Championship caliber events.

5. **EXCEPTION TO COMBINING OF SPRINT CLASSES:** However, at the close of registration, if there are no conflicts of entries due to the combining of any two classes, it will then be permissible to combine classes at the Race Director's discretion. The date and time of registration closing must be included in all entry blanks and flyers along with tentative schedules.

6. **SCRATCHED ENTRIES:** In the event of a scratched entry in sprint, the space shall be filled

(a) if on track, by moving forward directly or (b) if in the pits, by crossing over to make the starting order exactly correct by lap times.



7. The use of video review will be allowed or disallowed at the Race Director's discretion.

## 8. SPRINT POINTS SYSTEM

All entries conforming to KART rules will be eligible for event points with paid KART entry. Entries conforming to KART rules but not in compliance with club rules may not be eligible for club points.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1.	204	208	212	216	220	224	228	232	236	240	244	248	252	256	260	264	268	272	276	280
2.		183	187	191	195	199	203	207	211	215	219	223	227	231	235	239	243	247	251	255
3.			167	171	175	179	183	187	191	195	199	203	207	211	215	219	223	227	231	235
4.				156	160	164	168	172	176	180	184	188	192	196	200	204	208	212	216	220
5.					150	154	158	162	166	170	174	178	182	186	190	194	198	202	206	210
6.						144	148	152	156	160	164	168	172	176	180	184	188	192	196	200
7.							138	142	146	150	154	158	162	166	170	174	178	182	186	190
8.								132	136	140	144	148	152	156	160	164	168	172	176	180
9.									126	130	134	138	142	146	150	154	158	162	166	170
10.										120	124	128	132	136	140	144	148	152	156	160
11.											119	123	127	131	135	139	143	147	151	155
12.												118	122	126	130	134	138	142	146	150
13.													117	121	125	129	133	137	141	145
14.														116	120	124	128	132	136	140
15.															115	119	123	127	131	135
16.																114	118	122	126	130
17.																	113	117	121	125
18.																		112	116	120
19.																			111	115
20.																				110

## F. SPRINT CLASSES

CLASS	ENGINE TYPE	FUEL	WEIGHT	AGE
1. Kid Kart	C-50, C-51 Honda GXH50 IAME Bambino	Gas/Oil Gas Gas/Oil	150 150 160	5-8
2. Sprint Tag Junior*	IAME Parilla Leopard IAME X30 Rotax FR-125 Jr Rotax FR-125 EVO Jr Vortex ROK GP Jr (See section F.8 for more details)	Gas/Oil	320	12-15
3. Sprint Tag Senior*	PRD Fireball Leopard Rotax Max* Rotax EVO IAME X30 ROK TT ROK GP (See section 6.F.5 for more details)	Gas/Oil	350 360 385 390 385 385 390	15+
4. Sprint 80cc Shifter	CR80/85, KX80/85, RM80/85, YZ80/85 (to compete with 125cc shifter) (See section 6.F.6 for more details)	Gas/Oil	No min.	15+
5. Sprint 125cc Shifter	CR125, KX125, YZ125, RM125, Approved ICC engines. Stock CR125 Honda (See section 6.F.7 for more details)	Gas/Oil	395	15+

6. Sprint TaG 60cc*	Gazelle Mini Rock Mini Swift Any KART approved sprint chassis. Bodywork: CIK, Scribner	Gas/Oil	230 240 240	8-11
7. Briggs & Stratton LO206 Senior	LO206 Black Slide (See Technical Section 9.F for more details)	Gas	375	15+
8. Briggs & Stratton LO206 Cadet	LO206 Green Slide (See Technical Section 9.F for more details)	Gas	250	8-12
9. Briggs & Stratton LO206 Junior	LO206 Yellow Slide (See Technical Section 9.F for more details)	Gas	285	12-15
10. Senior Box Stock Clone	Box Stock Clone per AKRA rules	Gas	350	15+
11. Vintage/ Non- Classified (non- competitive)	Any non-shifter two- stroke engine up to 125cc or four-stroke engine up to 250cc with or without clutch. Vintage twin- engine arrangements allowed. Must meet all KART safety regulations.	Gas Gas/Oil (no methanol)	n/a	18+

\* Use of Starter on TaG classes will NOT result in penalty. Header may be welded as repair as long as the header flow is not changed.

## SPRINT CLASSES SPECIAL RULES

### 1. SPRINT 125CC SHIFTER

Stock CR-125 Honda See SKUSA rules (available on the internet) except air boxes are not mandatory.

## G. KID KART SPECIFICATIONS

- Chain guard to completely cover chain when viewed from above.
- Chain/Gearing: 219 chain, 10 tooth driver, 89 tooth axle sprocket for Comer 50/51. 15 or 16 tooth driver, 89 tooth axel sprocket for Honda 50cc. Honda drive sprockets will not be mixed in race. Driver sprocket will be announced in advance of race.
- No "offset" karts.
- Wheelbase: minimum 29", maximum 31".
- Width: Front, maximum 40", as measured to outside of rim/tire (no minimum). Rear maximum 42", as measured to outside of rim/tire.
- Rear bumper: Continuous loop shape with vertical or angled bracing connecting upper and lower loop rails. Must protect rear tires.
- Seat may not be offset beyond outside edge of left frame rail.
- Steering height, maximum 20".
- Seat height minimum 12".
- Side pods or double nerf bars and nose cones are mandatory.
- Tires: Open compound. Front size open; Rear tire circumference, maximum 33-3/4", measured on the grid before the race.
- KART Safety Tech procedures and regulations apply.
- Kid Kart format will be: qualify, pre final, final with the finishing positions of the final determining the winner. They will begin from a rolling start.

## 5 SPEEDWAY RACING

Speedway events are contested on oval tracks which can be either dirt or paved, usually of distances of 1/8 to 1/5 miles.

### A. SPEEDWAY RACE PROCEDURES

#### 1. SPEEDWAY NATIONAL CHAMPIONSHIPS EVENTS.

- Tracks without proper lighting will not be eligible to host National events.
- Headers and RLV mufflers are required in all classes at all KART National Championships and sanctioned events.
- In the Speedway Division only, the kart frame, not the driver, is the official entry and there shall be no substitution of the frame after it has passed pre-tech, without permission of the race director. Substitute drivers are forbidden.
- At the Speedway National Championships, there must be a minimum of 8 entries in a class before a Triad will be awarded. Any Speedway National class that has less than 8 entries will be deleted from the National classes (Sec 5.E.2) for the next year.
- Schedule for Speedway National events is as follows:  
 Day 1: Jr. 1 Light, Jr. 2 Light, Jr. 2 Heavy, Stock Light, Animal Light, Super Heavy  
 Day 2: Jr. 1 Medium, Jr. 2 Super Briggs, Stock Medium, Animal Medium, Masters,  
 Day 3: Jr. 1 Heavy, Jr. 2 Animal, Stock Heavy, Animal Heavy, Briggs Blue Wazoom/OHV Blue Wazoom

2. LOCAL OPTION: A KART insured event may have it's own special set of rules supplementing these regulations. Should KART regulations conflict with the special rules of the event, it is understood that the latter will take precedence by virtue of their specialized nature for the duration of the event in question.

- Local option shall be defined as any deviation from standard KART policy deemed necessary by the Race Director for a given event; no deviation involving class eligibility or equipment legality shall be permitted. Local option does not extend to any deviation from KART engine tech specifications, KART chassis specifications or KART safety rules.
- Any deviation from standard KART race procedures under local option clause must be published in advance of the event. If not published, it must be on display in the drivers' registration area prior to and during registration. Sanction fees shall be paid to KART for any local option classes run in conjunction with a KART sanctioned event.

3. RESTART AND PUSHBACKS: Once the starter displays the green flag and/or the start-up clock has elapsed on the initial start, there will be no pushbacks or restarts. The pre-grid area will be closed on the display of the green flag and will remain closed until the race is completed. Points will be awarded as the entrants drop from competition with the first out receiving the lowest number of points and so on.

4. NUMBER PANELS: At all KART events, the following number panel rules shall be used:

- Junior and Senior classes: white with plain black numbers or black with plain white numbers.
- Numbers should be approximately 6".
- Listed Experts are allowed to use yellow number panels with black numbers.

### B. CHASSIS SPECIFICATIONS

1. MAXIMUM OVERALL KART LENGTH: 74"
2. OVERALL KART WIDTH: 50" Maximum
3. MINIMUM TREAD WIDTH: 28", measured from the centerline of right tire to the centerline of left tire.
4. MAXIMUM OVERALL KART HEIGHT: 26". This does not include windshield fairing or steering wheel. Windshield fairing may be installed higher to protect the driver. Fairing cannot be installed in such a manner as to obstruct the driver's vision. It can be no higher than the driver's eye level while sitting in the kart in a normal driving position. (FIG. 5)
5. SEAT: No portion of the seat may be located rearward of a plane projected vertically from rear of rear axle. Seat height requirements are as follows:

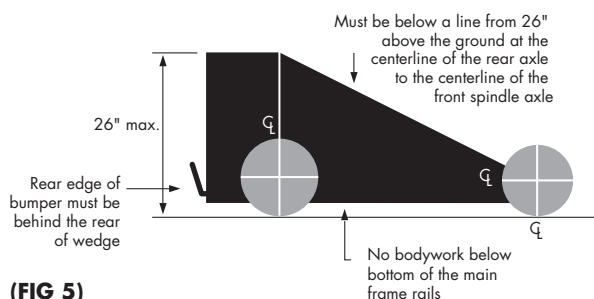
Junior 1 classes: 10" minimum

Junior 2 classes: 12" minimum

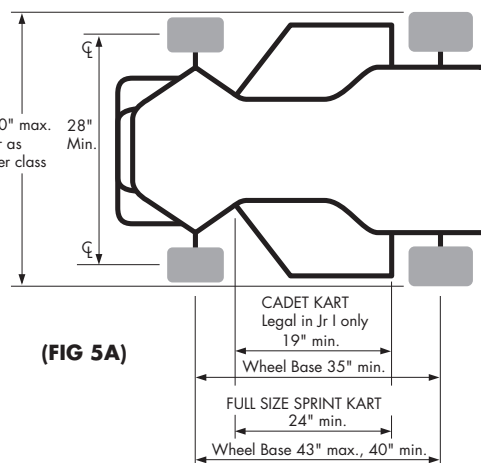
All other classes: 14" minimum

**Note:** Measurement is a vertical plane from ground to center of seat back.

6. TIRES: Maximum width on any tire and wheel combination of 10-3/8".



(FIG 5)



(FIG 5A)

## C. SPEEDWAY RACE FORMAT

1. MEETING OF THE DRIVERS AND OFFICIALS: Prior to each race, the Race Director or flagman shall conduct a meeting of drivers for the discussion and interpretation of the rules and any specific regulations applying to that race. All drivers are required to attend, and it is the driver's responsibility to do so. Any driver failing to attend shall be charged with knowledge of the matter discussed at such meeting as if he had been present.

2. FLAG SIGNALS: The starter shall use flag signals according to the following code:

Green flag: Start: course is clear.

Yellow flag: Caution: reduce speed immediately and maintain your position.

Red flag: Stop: race is halted.

Black flag: Stop next lap at pits for consultation.

Meatball flag (black w/ orange ball): Stop at pits next lap, mechanical problems.

Royal blue with orange diagonal stripe: The lapping driver is attempting to pass, give him consideration.

White flag: The leader has commenced his last lap.

Checkered flag: You have completed the race.

3. METHOD OF STARTING: Unless otherwise specified on the entry form, all races, heats, or qualification trials shall begin with a flying start. A flying start shall occur when the kart is in continuous movement up to and across the starting line from any point behind the line.

4. START: All drivers must form in their proper position on the parade or pace laps. Parade laps start when the start-up clock has elapsed. Drivers must remain in position unless mechanical difficulty occurs. In the event a driver drops out, in the pre grid area or on the track, the balance of the field will move straight ahead. After the 90second start up clock has elapsed, there will be no working on the kart.

a) Drivers dropping out of the parade or pace laps will not be considered cause for delaying the start. They must be left behind at the official start.

b) Drivers cannot raise their hand and postpone a start.

c) With approval of the flagman, the pole kart will set the pace for the parade and pace laps.

d) After the green flag and/or green light is displayed, all drivers must maintain their relative position until crossing the starting line, if possible. If, in the opinion of the flagman, a driver flagrantly improves his position without cause prior to crossing the starting line, he will be penalized. The flagman's decision to penalize in accordance with this rule is not protestable.

5. MOMENT OF STARTING: The race shall begin at the moment when the front wheels of the lead kart reach the starting line after the proper signal has been given by the Starter.

6. METHOD OF SCORING: A kart will be officially credited with a lap only when its front wheels cross the start/finish line.

7. YELLOW CAUTION PERIOD: The Race Director or flagman are empowered to call at any time for any reason a yellow caution period. Their decision to call, not to call, or to end a yellow caution period is not protestable.

The yellow starts with the display of the yellow flag and/or light. Drivers are to slow immediately and are not to pass, and to stay in a single file formation until the track is cleared. The green flag will then be displayed when the proper line-up order is verified by the scorers. The race will resume from the last completed lap. Person(s) causing the yellow flag will be put to the back.

A kart may be stopped on the track by a Race Official. Should a competitor's motor cease running after kart is stopped by an Official, the competitor shall have 90 seconds to restart.

8. BLACK FLAGS, STOP FOR CONSULTATION: The Race Director or flagman are empowered to order any driver at any time to stop at the pits for consultation by displaying the black flag.

a) The decision to order a driver to stop at the pits may be made, if in the opinion of the Race Director or flagman, any condition exists which could cause the driver or their kart to create a hazard to the driver or other competitors.

b) A driver may be ordered to stop at the pits, if in the opinion of the Race Director or flagman, the driver has flagrantly violated the rules or is driving in a reckless, improper or unsportsmanlike manner.

c) The decision to order or not to order a driver to stop at the pits is not protestable.

d) Drivers who in the opinion of the Race Director or flagman, clearly ignore the black flag signal and do not stop at the pits on the next lap after the signal has been given, will be penalized, in that no laps will be officially credited following the lap in which the signal was first given. The decision as to whether the black flag was ignored is not protestable.

e) A person receiving the black flag for flagrant driving will receive no points for that feature or heat.

9. RED FLAG: When the red flag is displayed by the Starter, it signifies the stopping of a race immediately.

a) Should a race be yellow or red-flagged prior to all starting karts completing one lap, no laps will be officially credited, and a complete restart will be conducted using the original starting line-up in effect after the original start. The Race Director may institute red or yellow flag penalties on the first lap if deemed necessary. This will overrule one-lap, accident-free, or original restart.

b) Should a race be stopped any time following the lap completion as set out in (a) above, the last official race lap will be that most recent race lap in which the race leader and all successive karts running on the course, excluding karts passed by the leader during the lap, were scored at the start/finish line prior to the display of the red flag. or the yellow flag. Within this lap, each kart will receive credit for its more recently scored lap.

c) In the event of a race continuation other than as set out in (a) above, the karts will be lined up in single file order beginning with the race leader. The restart order of the remaining karts will be determined by their physical sequence at the start/finish line during the last officially scored lap as determined in (b) above.

d) The red flag shall be displayed when, in the opinion of the Race Director or flagman, an unsafe condition exists on the track. The Race Director or flagman will determine which kart(s) caused an accident (yellow flag) and which caused the red flag. Kart(s) causing a red flag will not be allowed to restart; all other kart(s) will be put to the back. All kart(s) involved in the accident will be safety checked. NO WORK IS PERMITTED ON THE KART(S). Karts have 90 seconds to restart. The decision as to whether a kart caused an accident is not protestable. Example: Three karts are in an accident, one kart gets upside down and the other two spin out. All three are involved, but the upside down kart (causing the red flag) will not be allowed to restart; the other two will be put to the back on the restart.

e) If the red flag has been thrown, necessitating a restart, a kart that previously dropped out prior to the red flag cannot restart the race.

f) The decision as to whether to red-flag a race is not protestable.



## 10. RACE COMPLETION:

- a) A race will be considered complete at the moment the checkered flag is displayed to any kart, notwithstanding any subsequent situations, actions, or penalties. The race competition will be considered complete when, after this moment, each kart still running on the course has, in the opinion of the Race Director or flagman, had safe and sufficient opportunity to return to the start/finish line. At this time, scoring will cease and the event is completed. The Race Director or flagman's decision in this matter is not protestable.
- b) In the event a speedway race has completed 25 minutes on the track, the white flag will be displayed at that time. In the event the time expires under a yellow flag, the race will be stopped on the track and the karts will be lined up according to the last completed lap. The race will end with a yellow/checkered flag finish. The 25 minutes will begin when the first green flag flies. If the race is stopped due to a red flag, the time will stop until racing can resume. The checkered flag will always signify the end of the race regardless of how many laps are completed or how much time has passed. In the event there is a yellow flag after the leader has taken the white flag, the race will be scored as complete.
- c) The checkered flag will be displayed to the race leader as he completes his last lap under momentum created by his own vehicle; in (a) above until race competition is completed.
- d) Final standings will be determined by the sequence in which the karts completed the scheduled distance. Karts not completing the scheduled distance will be ranked in order by total laps completed and sequence of completion. Regional points are awarded accordingly.
- e) If a race is stopped by the use of the red flag and is ruled complete, final standings will be determined by ranking all karts in order by total laps completed and sequence of completion through the last official race lap.
- f) If a participant is DQ'd in tech, the progression will be to move everyone up in the order of the final finish.

## 11. SPEEDWAY SCORING:

Participants to draw for 1st heat; invert that draw for 2nd heat. Line-up for feature by combination of the points accumulated in the first two heats. Points will be 100 for 1st, 99 for 2nd, 98 for 3rd, and so on. The class winner shall be the winner of the feature. A kart will receive points if they received a green flag anytime during the night. Points will be awarded in the order of completion of the feature, including kart(s) that dropped out or did not start. The following chart shall be used at all Speedway National events to divide karts into heats depending on the number of entries. There should be an even number of karts in each heat, as often as possible.

# of karts	heats	# of karts	heats
10	6-4	40	10-10-10-10
11	6-5	41	8-8-8-8-9
12	6-6	42	10-8-8-8-8
13	6-7	43	10-8-8-8-9
14	8-6	44	10-10-8-8-8
15	8-7	45	10-10-8-8-9
16	8-8	46	10-10-10-8-8
17	8-9	47	10-10-10-8-9
18	10-8	48	8-8-8-8-8-8
19	10-9	49	10-10-10-10-9
20	10-10	50	10-10-10-10-10
21	8-6-7	51	10-8-8-8-8-9
22	8-8-6	52	10-10-8-8-8-8
23	8-8-7	53	10-10-8-8-8-9
24	8-8-8	54	10-10-10-8-8-8
25	8-8-9	55	10-10-10-8-8-9
26	10-8-8	56	8-8-8-8-8-8-8
27	10-8-9	57	10-10-10-10-8-9
28	10-10-8	58	10-10-10-10-10-8
29	10-10-9	59	10-10-10-10-10-9
30	10-10-10	60	10-10-10-10-10-10
31	8-8-8-7	61	10-10-8-8-8-8-9
32	8-8-8-8	62	10-10-10-8-8-8-8
33	8-8-8-9	63	10-10-10-8-8-8-9
34	10-8-8-8	64	8-8-8-8-8-8-8-8
35	10-8-8-9	65	10-10-10-10-8-8-9
36	10-10-8-8	66	10-10-10-10-10-8-8
37	10-10-8-9	67	10-10-10-10-10-8-9
38	10-10-10-8	68	10-10-10-10-10-10-8
39	10-10-10-9	69	10-10-10-10-10-10-9

Number of laps to run each heat/feature in Speedway:

10 lap heats -	Jr. 1, Jr. 2 and adult classes
15 lap "A" Features -	Jr. 1 and Jr. 2 classes
20 lap "A" Features -	Adult classes
12 lap consi -	Jr. 1 and Jr. 2 classes
15 lap consi -	Adult classes

## D. 2-CYCLE SPEEDWAY CLASSES

### 1. REGIONAL CLASSES, TO BE USED AT REGIONAL OR LOCAL POINTS' RACES.

CLASS	ENGINE TYPE	FUEL	WEIGHT	AGE
1. Junior 1 (Must be attained age of 8)	Yamaha KT100S .600 Restrictor w/ RLV YBX Muffler	Gas/Oil	235	8-11
2. Junior 2	Yamaha KT100S .850 Restrictor, w/ RLV YBX Muffler	Gas/Oil	285	12-15
3. Yamaha KT100S	Yamaha KT100S Only	Gas/Oil	350	16-UP
4. Controlled	Yamaha KT100S 100cc Stock Piston Port 100cc Stock Reed/Rotary	Gas/Oil Gas/Oil Gas/Oil	315 335 355	16-UP
5. Unlimited	Up to 100cc 101cc-110cc 111cc-120cc 121cc-130cc 131cc-140cc 141cc-150cc 151cc-160cc 2-100cc Yamaha KT100S 2-100cc Stock Piston Port 2-100cc Stock Reed/Rotary Valve	Open Open Open Open Open Open Open Gas/Oil Gas/Oil Gas/Oil	320 330 340 350 360 370 380 380 400 420	16-UP

### 2. CLASS NOTES:

- No direct drive in any classes.
- Juniors 1 and 2 classes are engine clutches only. Mounted on engine only.

## E. 4-CYCLE SPEEDWAY CLASSES

### 1. REGIONAL CLASSES: To be run at regional and local points' races.

CLASS	WEIGHT	AGE
Junior 1 (Must be attained age of 8)	235	8-11
Junior 2	285	12-15
Junior 2 Super Briggs	325	12-15
Stock Medium	335	16-up
Stock Heavy	360	16-up
Super Heavy*	385	16-up
Unlimited- Super Stock	310 (per tech)	16-up
Ltd. Modified	350 (per tech)	
Modified Briggs	360 (per tech)	

\*Minimum driver weight in driver apparel (i.e., suit, helmet, gloves, neck brace) is 200 lbs. No extra weight may be carried by the driver.

### 2. NATIONAL CLASSES: To be run at National events.

CLASS	WEIGHT	AGE
Junior 1 Light (w/.425 restrictor plate)	235	8-11
Junior 1 Medium (w/.425 restrictor plate)	260	8-11
Junior 1 Heavy (w/.425 restrictor plate)	285	8-11
Junior 2 Light	285	12-15
Junior 2 Heavy	320	12-15
Junior 2 Super Briggs (w/.575 gold rest. plate)	325	12-15
Junior 2 Animal (w/3-hole .313 restrictor plate)	325	14-15

The Speedway directors are reserving the right at the end of the 2008 season to look at participation, including the proposed KART-sanctioned Speedway series, and make changes in the Junior classes if they feel it is warranted.

Sportsman*	360	16-up
Stock Light	320	16-up
Stock Medium	345	16-up
Stock Heavy	370	16-up
Super Heavy**	395	16-up
Masters	370	40-up
Briggs OHV Blue Wazoom and Briggs Blue Wazoom Experimental		
OHV Blue Wazoom	tba	16-up
Briggs Blue Wazoom	tba	16-up
Animal Light	320	16-up
Animal Medium	345	16-up
Animal Heavy	370	16-up

\*No current or former National Champions from any organization; KART, IKE, WKA, etc., will be allowed to participate in this class.

\*\*Minimum driver weight in driver apparel (i.e., suit, helmet, gloves, neck brace) is 200 lbs. No extra weight may be carried by the driver.

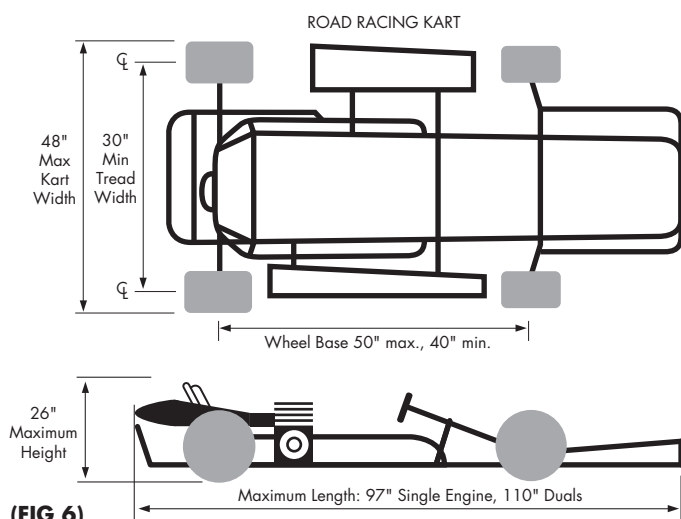
Mufflers are required in all classes.

## 6 ROAD RACE/ENDURO

Generally contested on road courses of 1 mile or more with sit-up chassis racing for periods of 20-30 minutes and lay-down chassis racing for 45 minutes.

**A. CHASSIS SPECIFICATIONS** (All "Minimum Width" figures are based on "center to center" measurements of the rear tires, unless otherwise stated.)(FIG. 6)

1. Maximum Length: 97" for single engine  
110" for duals and unlimited.
2. MAXIMUM HEIGHT: 26".
3. MAXIMUM WIDTH: 48". (Unlimited Class, maximum width 55".)
4. MINIMUM TREAD WIDTH: 30" measured center to center.



5. WHEELBASE: 50" maximum - 40" minimum  
(All minimum and maximum "Wheelbase" figures are based on "center to center" measurements between the front and back axles.)
6. CADET CHASSIS allowed in LO206 cadet and Tag 60cc classes only. See section 4 - A & B for specifications. Normal sprint chassis also allowed in these classes.

### 7. WHEELS:

- a) Only 5" or 6" wheels are allowed.
- b) Only four (4) wheels are allowed on a kart.

8. FRONT BUMPERS, REAR BUMPERS, NERF BARS: Minimum 5/8" OD, minimum .065 wall thickness, cold rolled steel tubing or other material of equal or greater strength. Aluminum not allowed. All measurements taken from bottom of main frame rail.

#### FRONT BUMPER:

- a) Roller bumpers are not allowed.
- b) The top of the front bumper must measure a minimum of 4" above bottom of main frame rail.
- c) Must have at least 2 vertical supports running to the top loop of the bumper.

#### REAR BUMPER:

- d) Double rail or single rail with loop bumper is required.
- e) Bumper must be located behind rear tires, minimum width of rear frame rails.
- f) Top bar: Maximum height of 26" and a minimum height of 5" measured from the bottom of the main frame rail.
- g) Lower bar: Minimum height of the main frame rails.

h) If more than a 10" spacing is between the upper and lower bar, a middle bar or loop is required between the upper and lower bars, no lower than the rear axle.

i) Maximum width: Outside edge of rear tires.

j) If full size aluminum side tanks are not used, there must be a double nerf bar in their place.

k) The overall length of the nerf bar shall be a minimum of 20" and no greater than from the rear edge of the front tire to the front edge of the rear tire. A motor mounted on either side of chassis, shall be considered as part of the overall length.

l) Minimum of 4" spacing between bars is required.

### 8. BRAKES:

a) Dual braking systems are recommended for all classes up to stock 100 cc. They are mandatory on A-Ltd. and up.

b) A dual brake system will consist of two independent brake systems on separate disc or drums. Each system must be fully operational if the other system fails. If a bias control is used, it must be able to provide safe operation of one system upon failure of one system.

c) Lay-down brake rules apply to any sprint chassis entered in a lay-down event.

d) All karts must have brakes operating in such a manner that both rear wheels will brake equally and adequately. No scrub type brakes are permitted.

e) Hydraulic brake connections must be tight and free of any visible leaks. All brake lines must be safely routed to prevent any possibility of contacting the ground or any rotating members of the drive line.

f) The brake pedal must be secured to the kart with cotter pins or safety wire, and is to be connected with the master cylinder with a minimum 6 mm steel rod with positive fasteners used at each control end. Must be 3/8" or larger.

g) All master cylinder and caliper mounting bolts and nuts are to be cotter pinned or safety wired in such a manner that they cannot be loosened without removing the cotter pins or safety wire. Appropriate locking hardware required. See Section 3.D.19.

h) Steel lock nuts, steel nuts with lock washers, or castle nuts with cotter pins or safety wire are required to hold the brake disk or drum to their hubs. The brake disk or brake drum axle key will be installed in such a manner that it cannot be lost.

i) There must be a second link between the brake pedal and the master cylinder that will function in the event that the primary linkage fails. The secondary linkage must not interfere with the operation of the primary linkage. The secondary linkage may be a second rod or a cable. If a rod is used, it must conform to the specifications of the primary rod. If a cable is used, it must be at least 1/16" in diameter and clamped with a two screw flat plate clamp, a sway style crimp fitting or a similar clamp. Brake cable has to go through at least 1 or the 2 master cylinders. Rear brake is recommended.

j) When front caliper mounting bolts are also the brake pad retaining bolts, refer to the preceding paragraph.

### 9. CLUTCHES: Mandatory in all classes.

a) Wet type clutches are to be sufficiently sealed to prevent oil leakage.

b) Clutches that can be adjusted while the kart is in motion are not allowed in stock classes during actual race conditions (i.e. adjusters must be disabled). Classes 1 thru 5, 8 and 9 are considered stock classes.



10. FRAMES: No carbon fiber frame material allowed.

11. NUMBER PANELS:

- a) 7"x9" minimum number panels. Must have 3 sets of numbers on contrasting background. It is the driver's responsibility to have legible numbers. One on front and one on each side between the front and back wheels are required. Contact paper may be used.
- b) Juniors, Animals and novices must affix an orange number panel to the rear bumper of the kart.

12. STEERING:

- a) Solid shaft - 5/8 inch minimum diameter equal or greater strength than cold rolled steel.
- b) Hollow shaft - .700 minimum OD steel tubing with a minimum .0625 wall thickness.
- c) One piece keyed or splined steering hub - welding of hub to shaft not permitted.
- d) All steering components shall be safety wired or cotter pinned.
- e) Appropriate locking hardware required. See Section 3.D.19.

13. Chain Oil: 4 oz. maximum for 30 minute race, 8 oz. maximum for 45 minute race.

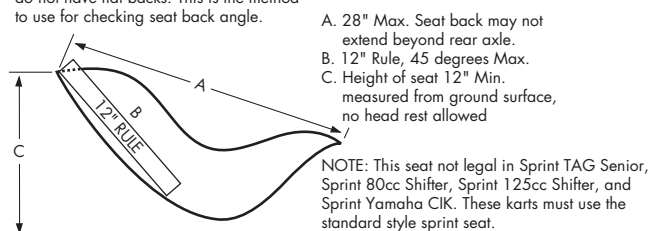
14. TRANSMISSIONS: No transmission gear boxes or other devices which allow the change of gear ratios while in motion are allowed except in classes with specified gearbox engines.

15. DIFFERENTIALS: None allowed.

16. Sprint extensions/exceptions to Chassis Specifications previously stated.

- a) Maximum Length: 84".
- b) Maximum Width: 55" senior classes; 50" junior classes; 28" minimum.
- c) Wheelbase: 43" maximum - 39-7/8" minimum.
- d) Seat: Height of seat back must be 12" minimum Measured from ground surface. No head rest allowed. Sprint seat may not extend beyond the rear axle. See (Fig. 6D).

**ENDURO SIT-UP SEAT:** Enduro seats do not have flat backs. This is the method to use for checking seat back angle.



(FIG 6D)

e) Sprint 125cc Shifter:

- 1) Maximum length: 84"
- 2) Maximum width: 55"
- 3) Seat: Same as Sprint, see Section 4, Sprint Racing, B. Chassis Specs, Fig. 4.

17. SEAT AND HEAD REST: All enduro lay-down karts must have a seat and head rest. A seat consists of sides, bottom, and full back. The head rest must have a minimum width of 4 inches and a minimum thickness of 1 inch.

18. SPRAG DEVICES: In classes with engines with gearbox transmissions, for safety purposes, KART strongly recommends the use of sprag-type disengaging axle sprocket hub. (This device allows the rear axle to free-wheel in the event of an engine or gearbox failure.)

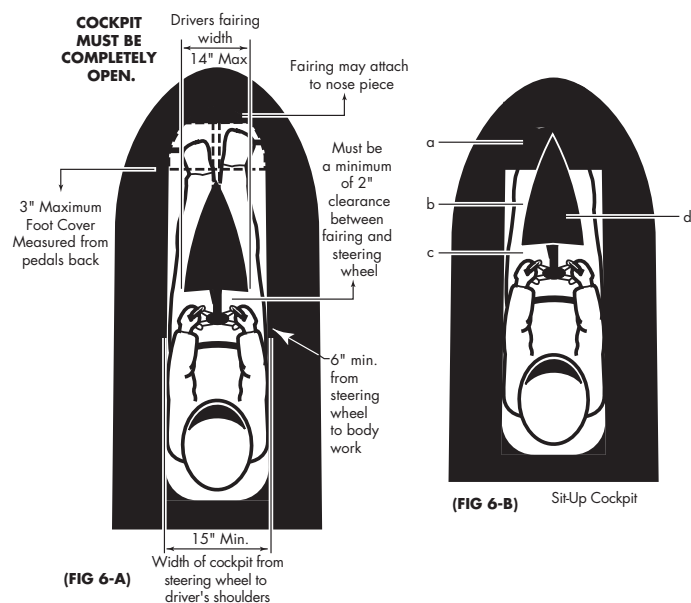
19. AXLE, AXLE NUTS, WHEEL HUBS: End of axle may not extend past the outer wheel or tire of kart. Appropriate locking hardware required. See Section 3.D.19.

20. ANY GAS CLASS: Any gas only class may not go over -45 on standard fuel test. Fuel must be clear...no color.

21. ANY WATER-COOLED CLASS: Any water cooled class may use water or water with water-wetter as radiator coolant. Anti-Freeze mixes are not allowed.

## B. BODYWORK SPECIFICATIONS

### 1. FULL BODY (Fig 6a & 6b):



a) ONLY composite, aluminum, or high strength plastic materials acceptable.

b) BODYWORK: May surround the tires, but may not enclose them (wheel and tire must be removable with bodywork intact). Must have a 6" minimum clearance between steering wheel and all surrounding bodywork excluding driver's fairing. Any approved quick release hub may be utilized for the 6' rule. NO bodywork shall extend rearward of the rear bumper and not exceed the overall kart length. Bodywork may not be adjustable while kart is in motion. Karts without bodywork (nose cone, side panel, driver fairing, floor pan outside of main frame rails) may be run with a 20 lb. weight reduction.

c) FLOOR PAN/BELLY PAN may be no higher than the bottom of the rear axle. May not extend past rear bumper. If a full pan is not used, in the interest of safety, all bodywork that extends below the side tank or nerf bar, must have a minimum 1/2" safety edge.

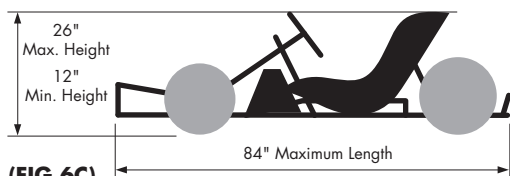
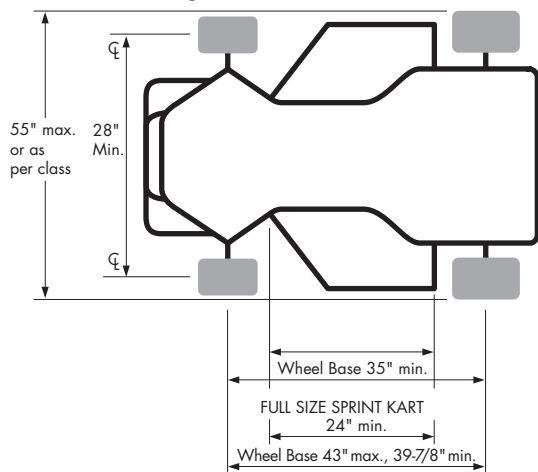
d) SKIRTING: No skirting or aerodynamic sealing devices allowed rearward of the front tires.

e) COCKPIT: Must be completely open. Must have a 15" minimum clearance opening from steering wheel to driver's shoulders.

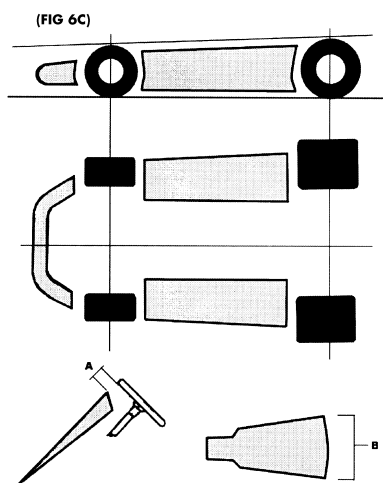
f) NOSE CONE: Minimum 5" clearance for leg chamber. May cover foot area up to a maximum of 3" rearward of the most rearward pedal when pedals are in a relaxed position and must not interfere with driver's ability to operate the pedals.

- g) SIDE PANEL: 15" maximum height, measured from the ground to top of panel.
- h) DRIVER'S FAIRING: 14" maximum width, 6" minimum clearance between fairing and bodywork unless approved quick release hub is utilized, 2" minimum clearance between fairing and any portion of steering wheel, measured with the steering wheel straight ahead.

## 2. CIK BODY (Fig. 6c)



(FIG 6C)



- a) Any currently approved CIK or SCRIBNER type bodywork allowed.
- b) Materials must be made of high strength plastic.
- c) DRIVER FAIRING: Maximum of 14" wide (B), maximum height of 1" above steering wheel, minimum 2" clearance (A) from front of steering wheel to fairing. May attach to nose cone.
- d) Must run the sprint sit-up seat (Fig. 4, page 10).

3. SPRINT CHASSIS SEAT: Classes requiring bodywork such as the CIK, SCRIBNER or NO bodywork, shall use the seat described in Fig.4 (Sprint sit-up seat). All other classes may utilize the seat in Fig. 6D (Enduro sit-up seat). Seat may not extend rearward of the rear edge of the rear axle in all sit-up classes.

## 4. 125cc GEARBOX AND UNLIMITED exceptions/extensions

- a) Bubble shields must be non-metallic material.
- b) No bodywork will cover feet and ankles with feet in normal position (pedals not extended).
- c) For complete body and/or bubble shield:
- d) Bubble shields will be secured to the body with a maximum of four (4) quick release clips or similar easily removable fasteners. No solid fasteners are allowed.
- e) When the cockpit cover (bubble shield) is removed, the driver's body while in a normal driving position will not be covered by any bodywork.
- f) 26" maximum height rule is waived for non-aerodynamic headrest within the gearbox classes only.

## C. ROAD RACING LICENSING

1. REQUIREMENTS: A novice driver shall participate and receive a finishing place to receive a Road Race License. They must grid at the back for three races at Race Director's discretion. A novice permit must be signed by the race director to receive credit for entry. After which the driver shall mail the permit to the KART office to receive a qualified license.

- a) Any previously licensed WKA or IKF member can automatically receive a KART license by sending a photo copy of the license and membership payment with application.

2. NOVICE: All novice drivers will participate in a event-run school and 15 minute practice session, and must demonstrate driving ability before being allowed to compete.

- a) At the race director's discretion Juniors may also run in this practice session.

## D. KART NATIONAL CHAMPIONSHIPS

1. Any member who is registered and in possession of a current and valid KART Road Racing License may compete in the KART National Championships.

- a) All participants or a non participant will draw a numbered pill for their starting positions.
- b) Any driver who wins 2 KART National Championships shall be considered an Expert. Any driver that is considered an Expert in WKA and IKF shall be considered a KART Expert also.

2. KART will allow local option classes at the Enduro National Championships event. Track/promoter must pay for Triad and 2nd thru 5th place awards and any other required awards. Rules must be supplied to the KART Administrative Office prior to the event. These classes will not count toward expert status.

## E. ROAD RACE CLASSES

CLASS	ENGINE	FUEL	WEIGHT	AGE
1. B&S Animal Sportsman	(See section 6.F.1 for more details)	Gas	410	16+
2. Sprint Yamaha CIK	KT100S Yamaha, CIK Bodywork (new or old style) or 3 number panels, use standard sprint sit-up seat (see Fig. 4 in Sec. 4B), floor pan may not extend outside of main frame rails. Flex may be modified if solid header is used.	Gas/Oil	350	16+
3. Sportsman	KT100S Yamaha PRD, ARC (See section 6.F.2 for more details)	Gas/Oil	400	16+

4. Piston Port	Comer P51	Gas/Oil	410	16+
	Comer P50		390	
	K71		390	
	Yamaha KT100S		400	
	PV92		390	
	(See section 6.F.3 for more details)			
5. A-Limited	100cc Piston Port	Open	390	16+
	100cc Reed and Rotary	Open	410	
	100cc Stock Appearing	Gas/Oil	390	
	100cc Controlled	Gas/Oil	370	
	80cc Shifter	Gas/Oil	390	
6. 100cc Open	100cc Piston Port	Open	390	16+
	100cc Reed and Rotary	Open	410	
	100cc Stock Appearing	Gas/Oil	390	
	100cc Controlled	Gas/Oil	370	
	80cc Shifter	Gas/Oil	390	
7. Sprint Tag Junior	IAME Parilla Leopard	Gas/Oil	320	12-15
	IAME X30			
	Rotax FR-125 Jr			
	Vortex ROK GP Jr			
	(See section 6.F.7 for more details)			
8. Sprint Tag Senior R&D	PRD Fireball	Gas/Oil	350	16+
	Leopard		350	
	Rotax Max*		385	
	Rotax EVO		400	
	IAME X30		370	
	Comer		440	
	ROK TT		370	
	ROK GP		390	
	Dragon		400	
	(See section 6.F.4 for more details)			
9. Sprint 80cc Shifter	CR80/85, KX80/85, RM80/85, YZ80/85 (See section 6.F.5 for more details)	Gas/Oil	370	16+
10. Sprint 125cc Shifter	CR125, KX125, YZ125, RM125, Rotax 126 and 127, Gilera 125, TMX125, Mac Minarelli 125 air or water, Stock CR125 Honda	Gas/Oil	380	16+
	2013 Homologated ICC engines		380	
	2016 Homologated ICC engines		405	
	(See section 6.F.6 for more details)			
11. Sprint TaG 60cc	Gazelle	Gas/Oil	230	8-11
	Mini Rock		240	
	Mini Swift		240	
	Any KART approved Sprint or Cadet chassis. Bodywork: CIK, Scribner, or No bodywork allowed.			
12. Briggs & Stratton LO206	(See Tech Section 9.F for more details)	Gas	375	15+
13. Unlimited	125cc Gearbox	Gas/Oil	420	16+
	150cc Open Motors	Open	390	16+
	TaG Motors	Gas/Oil	390	16+
	250cc Gearbox	Gas/Oil	465	18+
	250cc Single Cylinder	Gas/Oil	460	18+
	2 - 100cc Open	Open	400	18+
	2 - 150cc Open	Open	425	18+
	RZ350	Gas/Oil	465	18+

14. Sprint IAME Tag R&D	IAME X-30	Gas/Oil	395	16+
	Leopard		375	
	(See Section 6.F.4 for more details)			
15. Briggs & Stratton LO206 Junior	LO206, Yellow slide	Gas	310	12-14
	(See Tech Section 9.F for more details)			

## F. MISCELLANEOUS EXTENSIONS/EXCEPTIONS

### 1. B&S ANIMAL SPORTSMAN (Class #1)

- a) An orange number panel must be affixed to the rear bumper of the kart.
- b) Amsoil Diesel 10/30 will be the spec oil.
- c) Horstman MDC and Greased Lightning clutch, Noram Cheetah clutch and Bully Adult Stock clutch
- d) 35 chain only.
- e) Any fuel pump.
- f) 30 minute race.
- g) Nose cone only to rear edge of front tire.
- h) Side protection: nerf bars with vertical panel only. A maximum of 2" bend will be allowed top edge of panel. Must be between front and rear tires and may not attach to nose. If side tanks are used they can not be used as an aerodynamic aid per discretion of the tech director.
- i) full belly pan allowed.
- j) Engine: Briggs and Stratton models 124-(332 or 432) Type 8001/2.
- k) Spec. exhaust pipe kit RLV5509 is mandatory.
- l) Welding a nut on the muffler for safety wiring purposes is allowed.
- m) No weight break allowed for no bodywork.
- n) Participant supplied gas will not go over -45 standard fuel test. Ethanol gas or alcohol is not allowed.

### 2. SPORTSMAN (Class #3)

- a) KT100S Yamaha RLV SBX muffler, RLV 26S header (may be modified to miss bodywork or tire), header must be unmodified-effective 2020, 11"-12" of solid flex min. ID 1.600", max. OD 1.780". No machining; flex must be same size from end to end. Must be able to be checked internally for 11"-12" length. Flex may be modified if solid header is used.

### 3. PISTON PORT (Class #4)

- a) Comer P51, K-71, Yamaha, PV92, Comer P50 - Stock HPV 4/5, RLV L4 or RLV MiSi pipe, open flex.

### 4. SPRINT TAG SENIOR (Class #8, #14): The following rules also apply:

- a) SEAT: Must conform to FIG. 4 in the sprint section.
- b) RADIATOR: Min. angle of 45 deg. from horizontal. No ducting to radiator allowed. Tape to control temperature is allowed.
- c) TIRES: More than one set of tires may be used per day.
- d) RESTARTING: Driver may not re-start engine during a race once he/she has gotten out of the kart.
- e) Must run factory air box.
- f) 360AB Carb is allowed for Leopard Motor Only. ONLY IN SPRINT TAG SENIOR CLASS.
- g) Rotax EVO - Engine must be sealed and the passport be present.
- h) See Technical Section, Section 10 for additional rules.

## 5. SPRINT 80CC SHIFTER (Class #9)

Same rules as SPRINT 125CC SHIFTER, except as described below:

- a) Engines CR80/85, KX80/85, RM80/85, and YZ80/85
- b) Carburetor: 28.5mm maximum at venturi, excluding air breather flange.
- c) Max. displacement 85cc
- d) At this time there is not a way to tech the ignition. The Enduro division will allow all digital or aftermarket ignitions.
- e) Front brakes are optional.
- f) Radiator placement is a non tech item.

## 6. SPRINT 125CC SHIFTER (Class #10) extensions/exceptions to sprint rules previously stated.

- a) Wheelbase: 44" maximum - 40" minimum.
- b) Engine: Any mass produced single cylinder motocross type motorcycle engine or ICC/KZ1/KZ2 approved engine with a maximum displacement of 125cc's. The engine must currently be available to the public, or was available to the public in the event that the engine model was discontinued by the manufacturer.

Examples of eligible motorcycle engines are: Honda CR125, Kawasaki KX125, Suzuki RM125, Yamaha YZ125, Rotax models 126 and 127, Gilera 125, TM125MX, Mac Minarelli (Air or Water cooled).

Examples of eligible ICC/KZ1/KZ2 engines are: Pavesi, TM, SGM, Vortex, CRS, Maxter, etc.

Any other engine may be submitted to the 2 Cycle Committee for consideration and acceptance by the Divisional Board of Directors. Engines must be produced for public consumption and no "Special Factory" or "Works" parts will be allowed.

It shall be the responsibility of the participant to have available in pre or post race technical inspection, verifiable documentation containing all proper dimensions for the engine and its components that may be scrutinized for legality.

Crankshaft and Connecting Rod must be OEM with no modifications. "Shot Peening" is allowed. No moving components may be lightened, including Ign. Rotor/Flywheel.

Piston Assembly is open, including piston, ring, wrist-pin, wrist-pin bearing, and circlips. Piston may be coated.

Cylinder and Cylinder Head, must be OEM. Port timing is open. Combustion chamber volume and shape is open. Cylinder and Cylinder Head can be machined for power valve plugs or alternate retention systems such as mounting studs or ignition coil mounts. Cylinder head can be modified to include removal and/or welding to accept alternate coolant hose connections.

Unless otherwise specified, all components must appear OEM. Kick starter and power valves & covers may be removed and plugged.

Exception: All ICC/KZ1/KZ2 cylinder and cylinder head specifications must fall within the parameters outlined within each engine's OEM documentation. For example:

Cylinder Head CCV: 13.4cc Minimum.

Exh. Port Timing: 199° Maximum.

c) Carburetion: One normally aspirated, float bowl type, single venturi. Carburetor size, intake manifold, and reed valve assembly are open. Fuel pump must be a "pulse" type pump. "Pump Around" carburetor modifications are allowed for motocross based engines only.

Exceptions: All ICC/KZ1/KZ2 carburetor, intake boot, and reed valve specifications must fall within the parameters outlined within each engine's OEM documentation with exception to reed material, thickness, and manufacturer. For example: Carburetor Venturi diameter: 30mm Maximum.

d) Air Filter and Airbox: Any current or previously homologated CIK air box is allowed, 2-29mm tubes.

e) Ignition System: At this time, there is not a way to feasibly tech the ignition system and/or ignition curve. The Enduro division allows the use of any digital or aftermarket ignition system.

Exception: All ICC/KZ1/KZ2 ignition system components and specifications must fall within the parameters outlined within each engine's OEM documentation.

f) Exhaust System: Pipe is open. Silencer is open and required. All exhaust systems must comply with established KART noise restrictions outlined in section 3.L. of this guide.

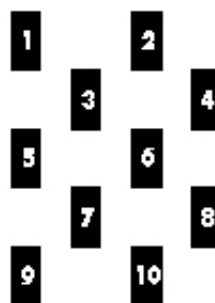
Exception: All ICC/KZ1/KZ2 exhaust system components must fall within the parameters outlined within each engine's OEM documentation.

g) Transmission: Manual shift only. Maximum of 6 forward speeds. Must contain OEM gear components and drive ratios for the model and year of the engine. OEM clutch must be used. Aftermarket like designed clutch discs and separator plates of similar materials to OEM may be used. Clutch Basket reinforcement is legal.

h) Coolant System: OEM coolant pumps must be retained. Radiators must be installed to the left or right of the driver at any angle. No ductwork on the inlet side of the radiator allowed. Catch containers must be used for radiator overflow. Thermostats are allowed and/or tape may be applied to the radiator core to control engine operating temperature.

Exception: Coolant pumps for ICC/KZ1/KZ2 engines are open. Pumps may be of axle/belt driven type only.

i) Road Race Suggested Start Format: Karts will be placed on the grid in side-by-side, staggered rows of two (see following diagram).



For Example:

The flag will be raised 60 seconds before the start.

The flag will be lowered to half-way at 30 seconds.

The flag will be raised back to UP position at 10 seconds.

The flag will be dropped at 00 seconds.

Anyone leaving early will be subject to a "Stop and Go" penalty. You may start your engine any time after the 60 second flag is raised.

You must be in your proper starting position prior to the 10 second mark or move to the rear of the grid



**7. SPRINT TAG JUNIOR (Class #7)** The following rules also apply:

- a) Ages for participation are 12 to 15 years old and will be observed according to existing KART age rules. An exception will be made for Rotax drivers up to 16 years of age provided they show documentation of participation in at least two Rotax Max Challenge events in the Junior classification during the current calendar year.
- b) IAME PARILLA LEOPARD: Must use restricted header P/N A-125366 (25mm) or P/N A-123365 (30mm). Minimum weight with the 25mm header is 310 lbs versus 320 lbs with the 30mm header.
- c) IAME X30 JUNIOR: Must use restricted header P/N X30125366 (29mm)
- d) ROTAX FR-125 JR Engine seals must be present. Engine passport must be provided upon request.
- e) VORTEX ROK GP JR: Must use restricted header (25mm) per homologation sheet.
- f) SEAT: Seat must conform to FIG. 4 in the sprint section
- g) RADIATOR: Min. angle of 45 degrees from horizontal. No ducting to the radiator is allowed. Tape to control temperature is allowed.
- h) TIRES: More than one set of tires may be used per day.
- i) RESTARTING: Driver may not restart the engine during a race once he/she has gotten out of the kart.
- j) Must run factory air box.
- k) See Technical Section, Section 10 for additional rules

**8. VINTAGE ENGINES**

- a) A 30 lb. weight break will be allowed for pre-1989 engines.
- b) Yamaha KT100S is to be considered a vintage engine in non-Yamaha classes.

**9. UNLIMITED (Class #14) - SPECS FOR RZ350 ENGINE:**

- a) Combustion Chamber Volume - 20cc minimum using LAD tool
- b) Cylinder - OEM (Cast Iron Sleeve in Aluminum Casting)
- c) Bore - max. 65mm (2.56") - 1mm over OEM Std.
- d) Crankshaft Asy. - OEM Stroke - 54mm (2.125"), and OEM Connecting Rod Length - 110mm (4.33")
- e) Carburetion - Float bowl type, 35mm maximum venturi. (x2)
- f) Ignition - OEM system or analog flat curve type only. Programmable ignition systems are NOT allowed.
- g) Cylinder Ports & Port timing, Exhaust (Pipes & Silencers), Transmission Ratios, and Pistons are non tech items.

**10. SPRINT CHASSIS WEIGHT BREAK:** For Sprint Style chassis competing in any laydown class other than the Briggs & Stratton Animal Class, there will be an allowed 15 lb. weight break for sprint chassis karts with full body work with a laydown seat (Fig 6D, page 20) and a 35 lb. weight break for CIK bodywork and seat (Fig 4, page 10).

**G. ROAD RACING, DETERMINATION OF A WINNER**

An enduro race is a timed event. The main flagman shall be in charge of the official time piece. It is not necessary for the winner to receive the checkered flag ending the race, as the winner shall be the kart which covers the greatest distance in the specified time. When the checkered flag is shown, it shall be shown to the next kart to cross the finish line, regardless of its position in the race, and to all karts crossing the line thereafter.

The finishing positions shall be determined by race order as scored on the checkered flag lap. If more than one kart is on the same lap, the one that crossed the finish line first shall be considered ahead.

**H. RACE PROCEDURES**

The Race Director, if in his/her opinion deems it unsafe to continue, may call the event and award points in the following manner: 200 points, plus the number of entries that is present at the time of the decision. At the time the event is called, a signature will be required by the driver of record to receive race points. (Bonus points, if applicable, are awarded at time of entry.) The Race Director may not call an event due to rain prior to 12:30 p.m.

All drivers must grid and scale to receive placement points. Any driver attempting to leave the grid shall be scored ahead of those present but choosing not to race. Drivers choosing not to race must proceed directly to the scales. Drivers unable to take the green have 15 minutes to start the race and compete for placement points. The kart may not leave the hot pit area except to re-enter the track or scale. Weight may not be added by any means, excluding fuel or coolant.

**I. INTERFERENCE**

Road races combine several classes on the track competing at the same time. During a race, it is illegal to intentionally interfere with, or assist, a driver participating in another class in any way.

**2020**

# **KART**

## **TECHNICAL INSPECTION GUIDE SECTION**



# TECHNICAL INSPECTION GUIDE

## DISCLAIMER

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 and by participating in these events, all participants are deemed to have complied with these rules. No express or implied warranty of safety shall result from publication 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.

The Race Director shall be empowered to permit minor deviation from any of the specifications herein or impose any further restrictions that in his opinion do not alter the minimum acceptable requirements. No expressed or implied warranty of safety shall result from such alteration of specifications. Any interpretation or deviation of these rules is left to the discretion of the officials. Their decision is final.

## 7 INTRODUCTION

The purpose of this tech manual is to provide a uniform set of standards and procedures to establish the legality of equipment used in sanctioned events.

The Spirit and Intent of the rules is going to be the standard by which karting will be guided. Event officials are authorized to decide if an equipment change or design is an attempt to beat the rules. They can and will disqualify an entry in violation of the Spirit and Intent of these rules. Any official or representative shall have the right to initiate action correcting a hazardous condition or a condition not in compliance with the Spirit and Intent of these regulations.

The intent is that a legal entry be: 1 driver, 1 chassis, and 1 engine (except duals would be 2 engines). After competition starts, (Enduro, when the green flag drops; Sprint, when a competitor time trials; Speedway, when the first heat starts) you must have permission from the Race Director, or in the case of an engine (or tires, if applicable) the Tech Inspector, before equipment is changed.

### A. PRE-RACE TECHNICAL INSPECTION:

An entrant should present, at pre-race technical inspection, all equipment to substantiate legal entry for all classes entered. If a chassis is presented with an engine which is legal in one class entered, but not another, the engine(s) to be used in the additional class(es) should also be available for inspection at pre-race tech, if requested. Pre-Race Technical Inspection is for the purpose of checking for safety aspects of the kart, and approval at Pre-Race Inspection shall not guarantee legality at Post-Race Inspection and tear down. Technical inspectors shall thoroughly examine each kart. When a kart passes all requirements, it shall be allowed to be operated on the track. Pre-Race Technical Inspection shall include the following:

1. APPEARANCE: The vehicle shall be neat and clean.
2. Tires: Shall be new or in good condition without visible flaws.
3. Wheels: Void of any defects.
4. Wheel Bearings: Ground ball or roller type only.
5. Axle Nuts: Both the front and rear shall be safety wired, cotter keyed or safety clipped; self-clamping wheels are allowed snap rings instead of nuts. Some new European-style hubs are not designed to allow snap rings or safety wiring. Special care should be taken to ensure that they will not come off.

6. Throttle: Karts to be equipped with throttle having a spring which shall close throttle when released.

7. Fuel Lines: Shall be safety wrapped at all connections.

8. Chain Oilers: Shall be securely fastened to kart. 8oz. maximum for 45 minute events; 4oz. maximum for 30 minute events, i.e. Sprint Sit-Up classes in road racing.

9. Clutch: The use of a wet type clutch is permitted only when the unit is sealed to prevent damage.

10. Front suspension and Steering: Shall be of a suitable design, in proper working order, and adjusted for maximum safety. All steering bolts, nuts and linkage shall be tightened and safety wired, cotter keyed or safety clipped, and shall be easily exposed for inspection purpose.

11. Frame: Of safe design, void of defects which would impair the safety of the vehicle. Particular attention should be given to all welds.

12. Bumpers: May not constitute a hazard to other competitors.

### B. POST-RACE INSPECTION:

At the end of competition, all karts and drivers shall proceed directly to the designated impound area to be checked for minimum class weight, maximum kart size, engine legality, ballast weight bolted to kart, legality of exhaust system and silencer, fuel and tire legality, etc. In the Enduro division, if a kart retires from the race prior to the last lap because of an exhaust system failure, it will be scored and receive points for the last-place position at the time of retiring. No ballast weight can be carried by driver. All ballast weight must be bolted to the kart.

Engine legality shall be determined according to specifications contained in this technical inspection manual. All engine parts should be teched at ambient temperature, not "hot".

Drivers may not add weight to themselves or their karts between the start of competition and weigh-in.

1. PROTESTS: See PENALTIES AND PROTESTS, Introductory section of book.

2. APPEALS: See APPEALS, Introductory section of book.

3. NO GO GAUGES: The KART Rules and Technical Guide requires the use of "No Go" gauges to determine the legality of certain engines, exhaust systems and carburetors. A No Go gauge is a non adjustable tool that is inserted into a specified opening. A part is illegal if the No Go gauge enters the opening being measured. When measuring a chamfered or angular opening, the No Go gauge may enter the chamfered area, but the gauge may not be self supporting when the part is rotated at any angle. Note: A vernier caliper is not a No Go gauge and may not be used to tech any opening where this manual specifies a No Go gauge. The technical inspector may utilize whatever KART approved tools deemed necessary to accomplish tech procedures with exception of No Go gauges.

### C. SPRINT, SPEEDWAY, AND ENDURO SPEC GAS PROGRAM

It will be the responsibility of the individual series' to determine which gas tech will be utilized for the series and it should be printed ahead of time.

**OPTION 1:** The basis of this program is to have all competitors using the same gasoline, be it pump or race gas, with the oil of their choice, as long as it stays within designated meter readings. In the enduro division: If race gases are supplied at the track, you must use the supplied gas. It will be the responsibility of the competitor to make sure their lubricant will meet the meter requirements.

1. All Gas Classes will run a premium unleaded or race gas, one or the other, not both in the same race.

If not available at the track, a gasoline station in close proximity to the track (needs to be of good quality gas and have convenient hours) will be selected. The premium unleaded pumps being 90-93 octane will be designated the spec gas pumps and if possible, a sign would be placed on the pumps. Or track race gas can be used in place of premium unleaded.

If the track has race gas on-site, one grade (assuming more than one grade is available), would be picked.

If no race gas is on-site, the club or promoter would designate a good quality, locally available brand. If selected at the beginning of the season, then the local shops could have it on hand. If a race gas supplier cannot guarantee consistent quality of their product, don't use them. Others will guarantee it!

Location, directions, and operating hours of the selected station should be prominently displayed in all promotional advertising and flyers.

2. Procedure: The gas tech inspector will go to the spec pumps (race and/or premium unleaded) and draw one gallon of spec gas. He will mix 7 oz. of Blendzall racing castor. These containers will be kept at ambient temperature, and under complete control by the gas tech inspector for the entire event.

The Digatron meter is zeroed (000) in the spec gas. The allowable variance from 000 is plus .010 or minus .020. Plus .011 or higher is illegal, and minus .021 or lower is illegal.

At the completion of a race, the competitor's gas will be checked in a normal timely manner. If a competitor's gas did not meter correctly in the tank, he would be allowed, under the tech inspector's supervision, to drain the gas in a glass or suitable container for one additional check.

#### 3. Additional Notes:

- Additional tests may also be done.
- No cool cans or insulated tanks allowed.
- All fuel, 2 and 4 cycle, must be run at ambient temperature and may be checked at any time.
- All sanctioned events must run a spec fuel program.

#### 4. Facts:

- Zeroing the meter on the spec gas eliminates the problems of localized gas standards for emissions and the seasonal-blending changes. Even ethanol products would be a satisfactory spec gas.
- Allowing only a plus 10/minus 20 variation eliminates the competitor having 50-60 points on the meter to play with when doctoring their gas.
- Why Blendzall racing castor? It is one of the most widely available and commonly used products. In many areas, 25-50% of the competitors are using this product.
- Why not have only one oil? Competitors should be able to select the type of lubricant be it castor, synthetic, or petroleum based as long as it does not adversely affect the meter. Our tests have shown most of the common lubes are within 4-5 points of each other.
- All other existing tests could be utilized, as long as the spec gas was used as a comparison basis.
- If additional lab tests are required, they become very simple—competitor's sample compared to the spec test sample. It is the intent of this program to establish a minimum basis spec gas tech program. If a competitor is found to have added toxic substances to his fuel, he will be subject to a one-year

suspension for the first offense; lifetime suspension for a second offense. If tracks suspect toxic substances being added to the fuel, a sealed sample should be taken and given to a **KART** official to be turned over to the **KART** office for testing.

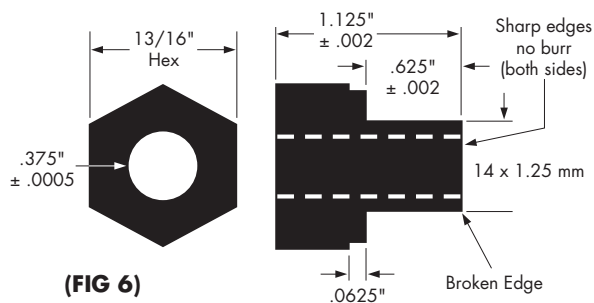
**OPTION 2:** Using cyclohexane (C6H12), set Digatron meter to -75. Competitors fuel must not exceed zero (0). Competitor must have a sufficient quantity of fuel after the race for testing. Any and all other approved tests may also be used for checking the legality of the competitors fuel. Competitor may use any gasoline and oil mixture as long as it passes the above fuel tests.

## 8 TWO CYCLE TECH

**CYLINDER HEAD VOLUME TECH:** (100cc piston valve, reed valve and rotary valve engines): L.A.D.-type spark plug hole gauge must be used. Heads will be marked after qualifications in sprints, volume will be checked as engine finishes the race. No "cleaning" of piston or head will be allowed.

#### CHECKING HEAD VOLUME

- Install (L.A.D.) cc gauge per Fig. 6. and torque to 90 inch-pounds minimum.
- Fill the burette with Marvel Mystery Oil, minimizing the amount of air bubbles formed during the filling process. Allow sufficient time for all air bubbles to rise to the surface.
- Bleed all air from the stopcock and outlet stem. Run fluid out of the burette until the lowest point on the shadow formed by the fluid surface is in line with top of the starting cc mark.
- Set the piston level of the engine to be inspected at .050-.150 inches before top dead center. Before dispensing the fluid into the engine, show the burette to the driver, car owner, or mechanic of the engine to be checked (only one person can be with the car). Show the starting point and finishing to the respective person and explain the procedure, reason being that this test is to be done only once. Tech inspector has the option to retest if time permits, no head removal, wash through exhaust port with Brake Clean only (dries fast) and allow to dry before retest. With the centerline of the spark plug hole in a vertical position, dispense the specified quantity of fluid through the spark plug hole into the combustion chamber. Wait 30 seconds and add remaining fluid to engine. (This is to allow the residue left on the walls of the burette to be added to the engine.) Reading of the fluid level should be done the same as in paragraph (b.) above.
- Slowly turn the crankshaft of the engine causing the piston to rise to top dead center. If any fluid rises to above the level of the top of the LAD CC Gauge, the engine is illegal.
- A certified Grade A glass burette must be used in post technical inspections by any track hosting a KART-sanctioned event.

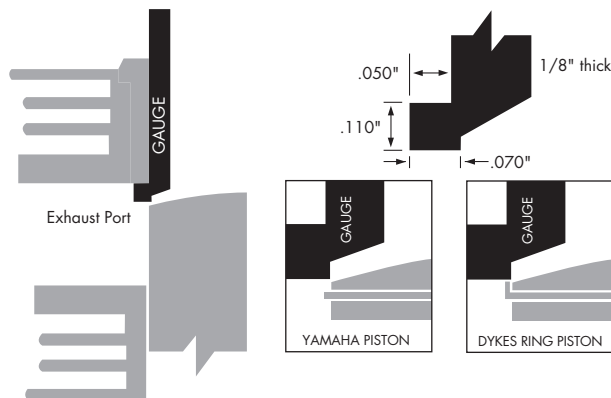


(FIG 6)



### EXHAUST PORT HEIGHT:

To check exhaust port height, use a dial indicator. Zero the indicator to top dead center, then rotate crank until piston has traveled just past the allowable distance of the particular engine being checked. Then insert the exhaust check gauge between the controlling edge of the piston and the top of the highest exhaust port. Roll piston up until gentle contact is made. Indicator reading must now be the same, or greater than the stated dimension for the particular engine being checked.



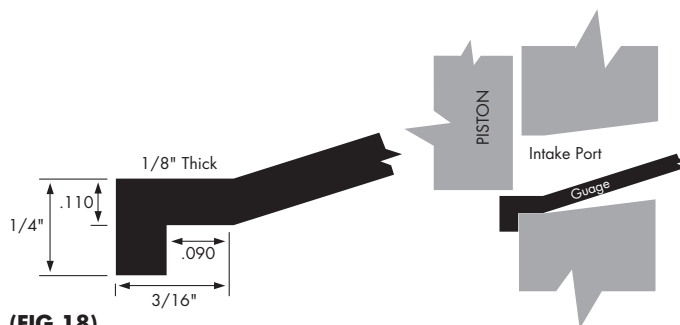
(FIG 9)

Note:

1. Exhaust gauge should be held against top of exhaust port roof at 90° to bore face.
2. For pistons with dykes top ring, the top edge of the ring is considered to be the controlling edge.
3. Old style .010 feeler gauge check may be used if new gauge is not available by subtracting .100 from listed dimensions.

### INLET OPENING:

Inlet opening is checked by holding gauge against bottom of the inlet track. Piston is then rotated to **gently** contact gauge. (See Figure 18.)



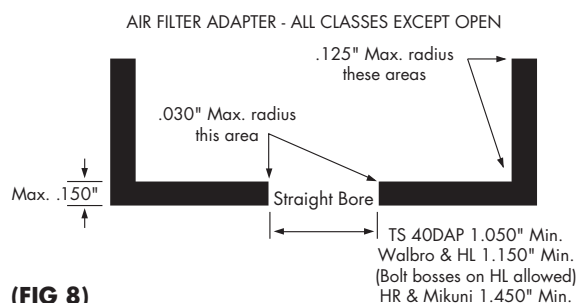
(FIG 18)

### GENERAL NOTES:

1. **LEGAL IGNITIONS:** The Ducati, Selettra and PVL ignitions or other ignitions as being supplied by the engine manufacturers are a legal replacement for the motoplant ignition.
2. **ATOM, PRD AND RLV IGNITION:** module/TCI units are approved for Yamaha KT100S.
3. **RESTRICTOR HOLE:** must be located in center of throttle bore regardless of restrictor shape. Any attempt to by-pass restrictor is illegal. Material of construction must be aluminum, minimum thickness .055", maximum thickness .065". No funnel or cone devices may be added. Hole to be as punched. For all engines using restrictor plates, all gaskets in the inlet tract shall have a maximum

sum total thickness of .060", minus carb gasket, and a minimum inlet hole size of one inch. Restrictor to be placed next to the cylinder.

4. **INSERTS** may be installed in the aluminum engine cases for worn bearing housings. Seal area must remain stock. Original center lines must be well maintained.
5. **BUTTON HEAD SCREWS** may be used in carb shafts. All 2-cycle engines, all 2-cycle classes.
6. **MOTOPLAT FLYWHEELS** to be as cast. Balancing holes allowed.
7. **ALL ENGINES** may use two flywheel side half cranks to allow use of direct drive sprockets (direct drive or axle clutches etc).
8. **GRINDING** of a maximum of four oil supply notches per side in crankshaft end of connecting rod. Legal in all classes.
9. **STUFFING** may be notched above crank pin - all classes.
10. **ANY ATTEMPT TO BY-PASS** any restricted type of muffler is illegal.
11. **ALL CLASSES** other than A-limited and Open, all minimum strokes are to be .015" less than the maximum stroke listed.
12. **MAXIMUM INTAKE TRACT LENGTH** on all piston ports with a restrictor is 2.800", minimum 2.600".
13. **COATED PISTONS** are allowed in all 2-cycle classes except K80 or W80 Comer, all divisions.
14. **THE PURPOSE** of the exhaust check and intake gauge is to control the actual timing of these parts; any means to circumvent the intent of these rules shall be illegal.
15. **GASKETS:** All stock classes, unless otherwise specified, gaskets are non-tech but must be in place. Silicone rubber is considered a gasket material, except Comer C-50 (Kid Kart).
16. **SPARK PLUG:** Spark Plug must be stock length reach for respective stock engine. May not be machined to change reach. Does not apply to stock appearing; gearbox and open classes.
17. **PRESSURE / VACUUM TESTING:** Engine must hold 5 PSI for 60 seconds and / or 5 HGT of vacuum for 60 seconds.
18. **2-CYCLE AIR FILTER ADAPTER:** (FIG. 8)



(FIG 8)

### LEGAL EXHAUST SYSTEMS:

The sound limit for all karts shall be 95 DB (A weighing scale, slow response), measured 100 feet, 90 degrees from the source, 4 feet from the ground, and meet any special class requirements. All exhaust systems must remain intact for the duration of the race. All "spec" exhaust systems (SBX, YBX, SSX and HPV 4 + 5) must be run as manufactured. HPV 4 may be cut and rotated to copy HPV 5 for gear clearance. EGT fitting may be added as noted in specific pipe section. Must be plugged if not used.

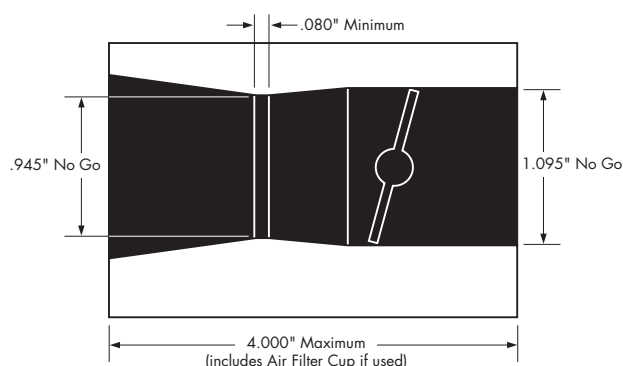
### EXHAUST HEADER/FLEX DIAMETER:

For all KT100S and Piston Port Classes the exhaust header, flex, and exhaust pipe shall be round and 1.780 inches maximum outside diameter starting at header cup and continuing to the first divergent cone of the expansion chamber. For engines with a rectangular

exhaust ports, the 1.780 inch maximum diameter will begin a maximum of 1.750 inches from the cylinder face. The transition from rectangular exhaust port to round exhaust diameter must be only that which is required to complete the transition. Only one exhaust path allowed. No multiple exhaust pipes. The intent of this rule is to eliminate large diameter primary exhaust pipes. Attempting to circumvent this rule will be illegal.

#### A. 100CC CONTROLLED

1. LEGAL ENGINES: All 100cc engines.
2. REED JET: Exhaust port timing 1.275". Check with LAD gauge. All other engines have open port timing.
3. CYLINDER HEAD: Combustion chamber must be of conventional design and centered. The combustion chamber volume shall be a minimum of 9cc. This is measured to the top of the spark plug hole with L.A.D. (cc) gauge installed. Head gaskets and sealing device are legal. Piston Port engines may add head gaskets, sealing devices may be used only if it is stock equipment on engine.
4. CARBURETOR- REED AND ROTARY VALVE ENGINES: Butterfly type with thru shaft per FIG 8-A.



(FIG 8-A)

#### C. OPEN CLASSES

1. 100CC OPEN: Engine under 6.240 cu. in. displacement with no restrictions to modifications.
  - a) Calculating engine displacement: Use the following equation to compute displacement:
  - b) Displacement bore diameter x bore diameter x .7854 x stroke cu. in. One cubic inch = 16.39cc's.
  - c) Supercharging: All supercharged (forced induction) engines shall be advanced to the next higher displacement class. 300cc cannot be supercharged.
2. A-LIMITED (Road Race)
  - a) 100cc Open engines-Open fuel-Single carburetor only.
  - b) Carb Restrictions:
    - 1) Piston Port Engines: Any type carb, 1" maximum venturi.
    - 2) Reed Valve Engines: Any butterfly type carb, 1" maximum.
    - 3) Rotary Valve Engines: Any butterfly type carb, 1" maximum venturi.

#### D. 100CC STOCK APPEARING

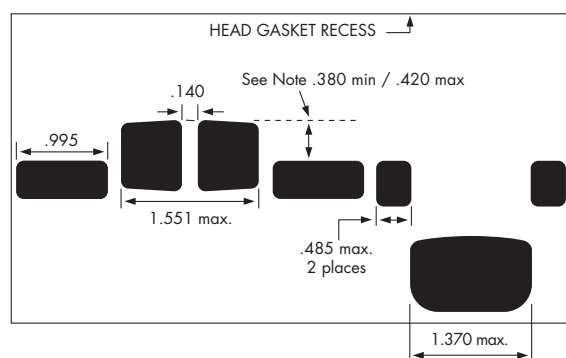
This section covers engines under 6.240 cu. in. maximum displacement. Engines to have a single cylinder and single stock carburetor. Internal modification allowed. External modifications which do not in any way affect a performance gain are allowable.

1. ALL engines approved for 100cc Piston Port and 100cc Controlled. Legal for Stock Appearing.
2. IGNITION: Any homologated ignition is legal. Interchange between homologated engines is legal.
3. CARBURETOR: See carburetor section of 100cc Controlled.

#### F. YAMAHA KT100S

There is complete inner-changeability between ARC and Yamaha parts where applicable. (Big end bearing size is not the same.)

1. DISPLACEMENT:
  - Maximum Bore: 2.091"
  - Maximum Stroke: 1.816"
2. CYLINDER: All ports are to be in "as cast" condition except at the junction of the cast iron sleeve and aluminum jacket. Factory grinding is permitted to remove casting irregularities at the junction only. No chamfer on port edges. ARC liner has machined ports from factory. Any question as to stock parts are to be checked against known stock parts.



NOTE: All Port widths are chord measurements. Maximum difference (blowdown time) from top of highest exhaust port to top of highest intake port is .380" min / .420" max

(FIG 10)

This rule does not allow:

- a) Grinding the aluminum to change the roof angle of the transfer ports.
- b) Grinding the port to alter the height, width or angle.
- c) Grinding to change the shape or size of the passages from the cylinder base to the port.
- d) Grinding to match the cases to the port passages (when cylinder is or is not reversed.)
- e) Sandblasting, glass beading, peening, etc. are not a substitute for "as cast" condition.
- f) Due to the manufacturing procedures, it is possible that some engines may have slightly "broken" port edges. When this exists, it is uniform on all port edges (tops, bottoms and sides) of all ports in the cylinder. The intersection of the port edges and the cylinder wall must still be within tech measurements. As the bore size increases, the amount of "break" diminishes. If the cylinder bore size is 2.065" or larger, no "broken" edges are allowed.
- g) Cast iron may show grinding nicks only. Aluminum only may be blended in the inlet track behind carb and exhaust outlet areas only. Aluminum surfaces non-tech in these two areas only.

Blowdown Checking Procedure:

- a) By a careful visual inspection (light check), identify the highest exhaust port and the highest intake port.
- b) Using the Lad tool, zero the dial indicator on the highest exhaust port, taking care to hold the shaft of the tool against the cylinder wall.

- c) Roll the crankshaft backwards five turns (.500" on the dial indicator)
- d) Roll the crankshaft forward until the piston stops on the Lad tool and note the valve.
- e) The valve must be between .380" and .420" to be considered legal
- f) Engine to be checked as raced

3. INLET OPENING: Check with dial indicator, .775 ATDC maximum.

4. CYLINDER POSITION: It is legal to turn the cylinder and piston 180° on the Yamaha KT100S. Matching of the transfer passages in the case and cylinder is not legal.

5. EXHAUST PORT OPENING: Check with dial indicator. Piston travel from top dead center to exhaust opening, 1.155-ATDC or greater.

6. THE EXHAUST PORT RULE: On old cylinders, one and only one exhaust port opening can be ground upon. This includes bottom, sides and top of that one port opening. The cast iron can be ground on. The other exhaust port opening must be in "as cast" condition on the cast iron. Aluminum surface will remain non-tech. Great care must be taken not to remove too much cast iron on the .140" minimum rib width side. Widening of this port is allowed but remember 1.551" is the no-go size. New cylinders still go with "as cast" in all port areas including exhaust.

To specify a new type cylinder, a boss with 787 and Y3 or Y4 located between the bottom and first fin approximately in the center of the cylinder. One boss each side.

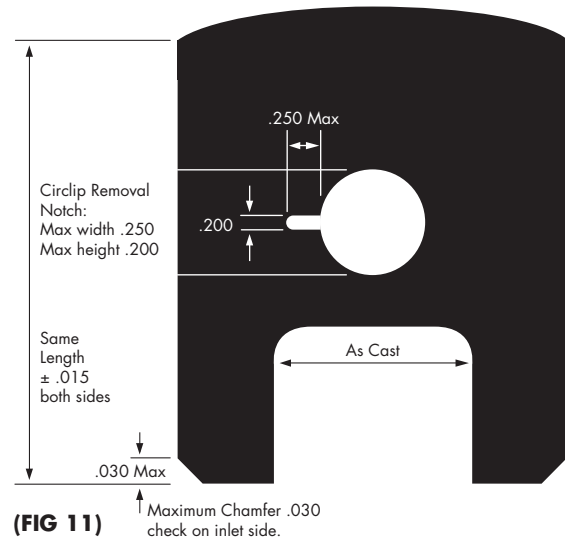
- a) New Style Y3 or Y4 Procedures: Tech will be done using new dimensions listed and must still follow items 1 thru 7.
- b) No grinding on cast iron on these cylinders. Any means taken to revoke or alter identification boss will result in that cylinder being teched as a new style.
- c) Old Style Tech will be done using new dimensions listed and must follow items 1 thru 7, with the exception that one exhaust port may have the cast iron ground to bring exhaust measurements closer to specification. The remaining other exhaust port must have unaltered "as cast" finish on cast iron.
- d) The competitor's engine that has been ground is required to mark the aluminum surface on top of the cylinder next to the stud located above the port altered. An arrow or an X will do.
- e) The altered port top must be ground a minimum of 90° to cylinder wall.
- f) No chamfer allowed.
- g) No freeporting of exhaust ports.
- h) Exhaust gasket must be in place.

7. CYLINDER HEAD AND SPARK PLUG: Any machining of the cylinder head or cylinder liner to accept a sealing device is illegal unless it is stock equipment on the engine. Spark plug must be a stock (unmachined) 14mm x 3/4"-reach spark plug.

8. THE COMBUSTION CHAMBER volume shall be a minimum of 11cc. Measured to top of the spark plug hole with L.A.D. (cc) gauge installed. Combustion chamber must be of conventional design and centered.

9. HEAD GASKET: Yamaha KT100S material should be copper or aluminum. Engine to have a ring type head gasket.

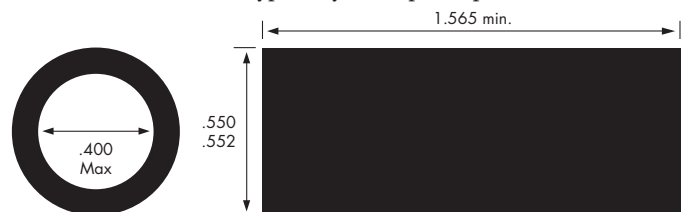
10. PISTON: Piston must be an approved single ring only and stock manufactured. Legal pistons are Yamaha, Burris, Wiseco, Vinart, RKE 787, and KSI. Bottom of piston should be 90° to sides. Transfer area of piston must be cast, no scalloping. Piston top must be dome shape. Burris two ring piston approved (1-dykes + 1 thin.) Bottom of piston may be chamfered, maximum of .030". Rings must be of magnetic material. No holes may be drilled to lubricate exhaust rib. Circlip removal notches, .200" x .250" wide are permitted.



(FIG 11)

11. CONNECTING RODS: Rod must be of original manufacture and stock appearing. Shot peening is allowed. Maximum rod length, center to center: 3.932"-3.942". No grinding and polishing is allowed. Heavy duty rod #7F6-11651 and 7F6-11651-02 are approved.

12. WRIST PIN: Stock type only. No tapered pins.



(FIG 12)

13. CRANKSHAFT: Crank assembly must be original manufacture and stock appearing. Shot peening and polishing is allowed. Outside diameter measurement: 3.410 minimum, 3.435 maximum. Minimum width 1.790. Concentric bushings may be applied to crankshaft journals to repair worn crankshaft is non-tech. Bushings may be tack welded to hold in place.

14. TOP LOCATION OF CONNECTING ROD: If this method is used, the top end of the rod shall have two or more spacers with loose or caged type bearings. Spacer material may be steel, brass or aluminum. The bottom of the rod should have a caged type bearing and no spacers.

15. BOTTOM LOCATION OF CONNECTING ROD approved with:

2 - 1mm lower washers

1 - 13.95mm width lower cage

No spacers or washers allowed at the top end of rod if bottom location is used.

The crankpin should be hollow and must have two steel plugs in place.

Note: New crankpin minimum I.D. after plug is removed is .400. Plug must be of drillable material and the competitor is responsible for removal. New style pin with no plugs approved. Maximum I.D. .425 no-go.

16. IGNITION: Ignition must be of original manufacture and stock appearing. Any means taken to alter the coil position is illegal.

a) Machining the shanks of coil hold-down screws to provide additional coil position adjustment is not allowed.

b) Modifying the flywheel in any manner in order to change ignition timing is illegal. Right hand flywheel on straight shaft ignition has machined side out, left hand flywheel has cast side out. Ignition bearing may be removed. Taper bore flywheels have only one keyway and both rotations have the cast side out. c) New Style Flywheel: 7F6-85551-01 (Std.), 7F6-8555-51 (Rev.) are approved. Main body thickness: .817 minimum (ears may be removed). Minimum diameter 2.350".

d) External coil damage may be repaired with silicone or epoxy.

e) Note: The Atom ignition module is approved for the KT100S. Only one module may be used.

f) Old Type Flywheels: Minimum diameter: 2.350"; Minimum thickness: .827".

g) Ignition timing check procedure 1) Must be checked before rotor nut has been loosened. 2) Leading edge of rotor magnet must line up with coil's trailing leg between TDC and 0.015" BTDC max. (Top leg is "trailing" on cc rotation coil. Bottom leg is "trailing" on clockwise coil.

17. CARBURETOR: Walbro WB3A is only legal carburetor. Walbro WB3A Must be of original manufacture and stock appearing fuel can only pass through stock metering orifices. Any means taken to bypass fuel to the engine in any other manner is illegal, no matter how it is accomplished. Any components not specifically called out must be stock appearing. Inlet spring is a non-tech item. Carburetor may be run in either position.

a) No machine work or metal removal of throttle shaft allowed. Min thickness 0.150"

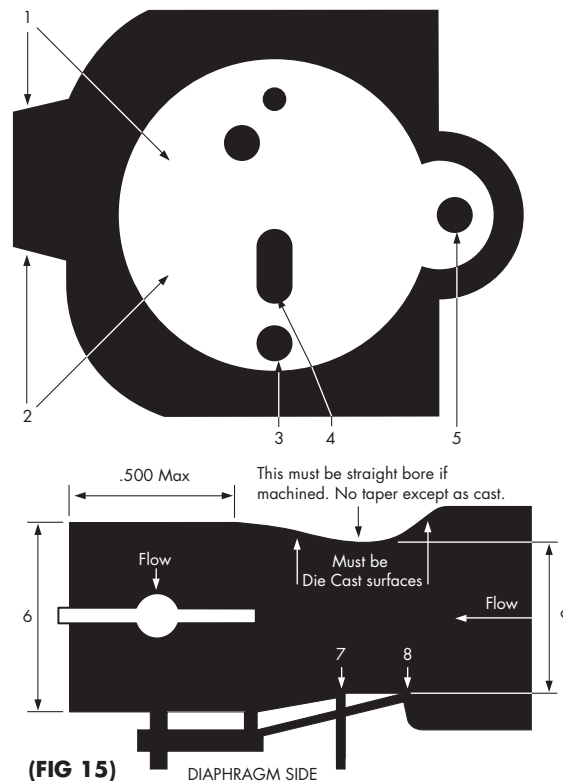
b) Shaft may be sealed with "O" rings.

c) Both screens must be intact, circuit plate and under inlet needle. Filtering devices to protect metering diaphragm allowed. Captive or non-captive diaphragms are legal.

d) No means of depressing diaphragm allowed.

e) Fuel Inlet: funneling of brass inlet illegal.

18. PRESSURE/VACUUM TESTING: Testing may be performed to insure extra air is not being pulled into the engine for a performance gain. Any means to bypass the intent of the class rule is illegal. Both pressure and vacuum test may be performed — engine must hold 5 psi for 60 seconds and / or 5 HG of vacuum for 60 seconds.



(FIG 15) DIAPHRAGM SIDE

**Yamaha KT100S, DAP T50, PCR PP100, TKM BT-82, Komet K-71, Comer P50, Comer P51, Parilla PV92, ARC, PRD**

1. High Speed Needle Seat	.081 No-Go
2. Low Speed Needle Seat	.0595 No-Go
3. Idle Jet	.042 No-Go
4. Transmission Jet	.052 No-Go
5. Fuel Inlet Valve Seat	.064 No-Go
6. Diameter at flange end	1.010 No-Go
7. High Speed Jet	.074 No-Go
(Check with bent gauge from inside venturi)	
8. Air Pre-mix Orifice	.042 No-Go Max. .032 No-Go Min.
9. Diameter at narrowest part of venturi	.950 No-Go

18. FUEL PUMP DIAPHRAGMS: Either Teflon or rubber types are legal.

19. PHENOLIC SPACER: Hole size 1.050 maximum, 1.000 minimum. Straight bore.

20. ALUMINUM CARBURETOR MOUNT PLATE: Hole size 1.035 maximum, 1.000 minimum. Straight bore.

21. CRANKCASE PULSE HOLE: May be relocated to front of engine for use with reversed cylinder. Hole not in use will be plugged.

22. INLET TRACT: The minimum length of the inlet tract measured from the carb mounting surface to the cylinder bore diameter 2.600 minimum, 2.800 maximum. Remove carb base gasket.

23. EXHAUST HEADER/FLEX DIAMETER: For KT100S the exhaust header, flex, and exhaust pipe shall be round and 1.780 inches maximum outside diameter starting at header cup and continuing to the first divergent cone of the expansion chamber. Only one exhaust path allowed. No multiple exhaust pipes. The intent of this rule is to eliminate large diameter primary exhaust pipes. Attempting to circumvent this rule will be illegal.



## I. STOCK PISTON PORT

This section covers stock valve engines under 6.20 cu.in. maximum displacement. Engines to have a single cylinder and single stock carburetor. Unless otherwise specified, all parts are to be of original manufacture and stock appearing. The following engines have been homologated for this class: KPV, HPV, Yamaha KT100S, Komet K-71, Parilla PV92, Comer P-50 and P-51, ARC, PRD, and Parilla Swift.

1. EXTERNAL MODIFICATIONS: External modifications which do not in any way affect a performance gain are legal. Use of rubber tubing as fin dampers is allowed. Welding of broken fins to be allowed. No welding of braces to act as a heat sink allowed.
2. LEGAL ADDITIONS to 100cc Stock Piston Port Engines: Legal additions should be limited to the following: air cleaner, clutch, muffler, rock guard, chain guard, starter pulley, motor mount, starter nut, header pipe, external extension of carburetor jet needles, carburetor return springs, temperature gauge, tachometer, main bearing shims, external third bearing, air filter adapter.
3. NON-TECH ITEMS: Unless otherwise specified, non-tech items include gaskets, oil seals, bearings and cages, fasteners and crank pins.
4. BEARINGS are non-tech item but must be of same internal diameter, width and outside diameter as original parts. Stuffing may be notched above crankpin.
5. RODS: Connecting rod must be of original length, stock appearing and made of ferrous magnetic material. Shot peening is allowed
6. INLET OPENING: Inlet opening is checked by holding gauge against bottom of the inlet track. Piston is then rotated to contact gauge. (See Figure 18.)

Inlet Opening, Check from Top Dead Center

.775	Yamaha KT100S, Komet K-71, KPV, HPV, ARC, Parilla Swift
.820	PV 92
.835	Comer P-50 and P-51

7. EXHAUST, INTAKE AND TRANSFER PORTS: All ports must be of original intended design, conforming to specifications listed in individual engine sections. Stock piston port engines (**except Yamaha**) may be machined in the intake, exhaust port, and passage areas, including the iron liner. These engines should be teched by the dimensions listed in each engine section with the addition of the visible light-break check. There should be no removal or addition of materials in the transfer passages (aluminum areas). The cast iron finish of the transfer ports is not a tech item. The transfer ports (cast iron) must meet the size listed in each engine section. The aluminum may be blended at the junction of the iron and should be done with a minor amount of grinding in the transfer areas. See port diagram for all homologated engines in individual engine sections for specific port dimensions.

Exhaust Opening, Check from Top Dead Center

1.155	Yamaha KT100S, Komet K-71, KPV, HPV, ARC, Parilla Swift
1.280	PV 92
1.295	COMER P-50, P-51

8. Inlet Tract: The length of the inlet tract measured from the carb mounting surface to the cylinder bore diameter 2.600 minimum. Remove carb base gasket.

9. CARBURETOR: Walbro WB3A

10. FUEL PUMP: Illegal

11. PHENOLIC SPACER: Hole size: 1.050 maximum, 1.000 minimum. Straight bore.

12. CYLINDER HEAD: Any matching of the cylinder head or cylinder liner to accept a sealing device is illegal unless it is stock equipment on the engine.

13. THE COMBUSTION CHAMBER volume should be a minimum of 11cc measured with LAD CC Tool. Combustion chamber shape is non-tech, must be centered.

14. HEAD GASKET: Material should be copper or aluminum. May run without gasket.

15. IGNITION: OEM. Motoplat legal in all engines: Standard rotation-9600-903-1 and 0619029. Counter rotation-9600-916-1. The ARC, Ducati, Selettra and PVL ignitions as being supplied by the engine manufacturers are a legal replacement for the motoplat ignition so long as they are a straight line, no zero loss ignition

16. ARC (Comer), use Yamaha specifications for tech.

17. PISTON: Piston must be stock manufactured. Bottom of piston should be 90° to sides. Transfer area of piston must be cast, no scalloping. Piston top must have unaltered dome shape. Burriss two ring piston approved (1-dykes + 1 thin.) Bottom of piston may be chamfered, maximum of .030". Rings must be of magnetic material. No holes may be drilled to lubricate exhaust rib. Circlip removal notches, .200" x .250" wide are permitted.

18. PISTON PINS: .400" maximum inside diameter. Minimum length 1.565", except PV92, P50 and P51 minimum length 1.520". Must be magnetic material.

19. Maximum Bore on Yamaha, HPV, KPV, ARC, Parilla Swift and K-71 is 2.091".

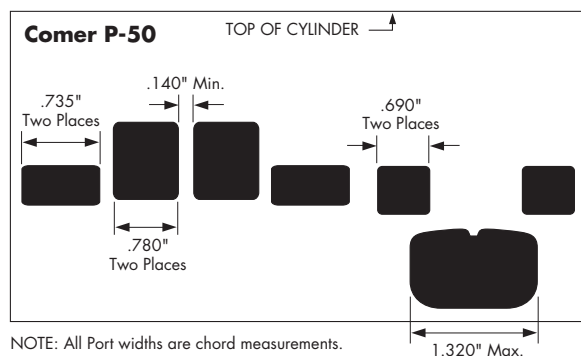
20. EXHAUST HEADER/FLEX DIAMETER: For all KT100S and Piston Port Classes the exhaust header, flex, and exhaust pipe shall be round and 1.780 inches maximum outside diameter staring at header cup and continuing to the first divergent cone of the expansion chamber. For engines with a rectangular exhaust ports, the 1.780 inch maximum diameter will begin a maximum of 1.750 inches from the cylinder face. The transition from rectangular exhaust port to round exhaust diameter must be only that which is required to complete the transition. Only one exhaust path allowed. No multiple exhaust pipes. The intent of this rule is to eliminate large diameter primary exhaust pipes. Attempting to circumvent this rule will be illegal.

## J. COMER P-50, P-51

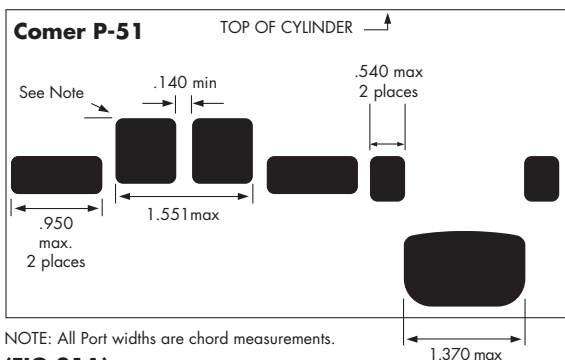
### 1. DISPLACEMENT:

Maximum Bore: 1.990"

Maximum Stroke: 1.995"



(FIG 21)



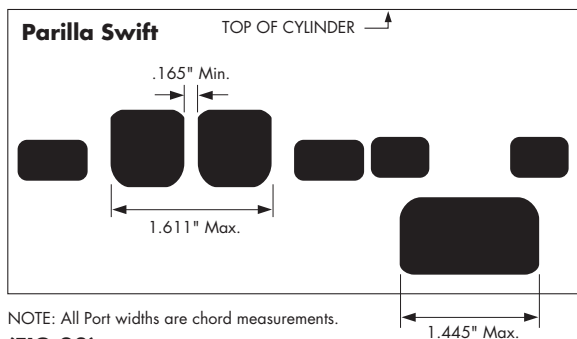
(FIG 21A)

## K. PARILLA SWIFT

### 1. DISPLACEMENT:

Maximum Bore: 2.091"

Maximum Stroke: 1.816"



(FIG 23)

**NOTE:** For additional port diagrams for the following Sections, K(a), L, and N, please refer to prior years' KART RULES AND TECHNICAL GUIDES.

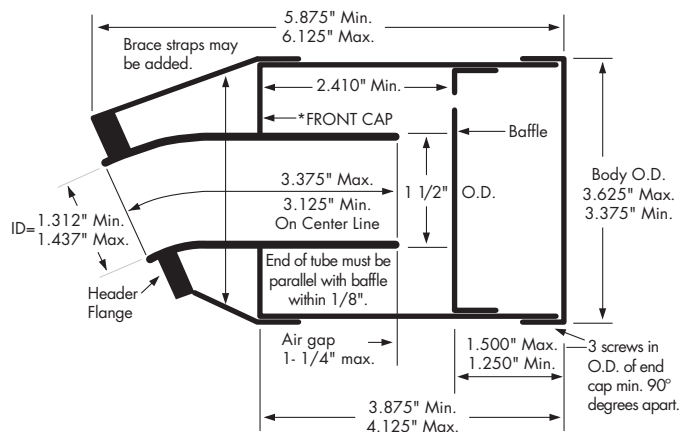
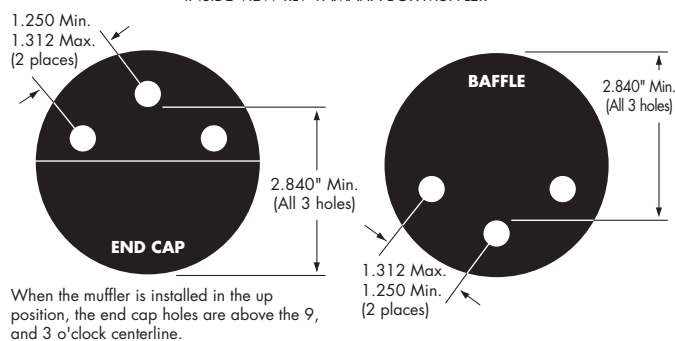
**K(a). ARC SPEC 100**

**L. PARILLA PV92**

**N. KOMET K-71, KPV, AND HPV-100**

## M. RLV YBX BOX MUFFLER

INSIDE VIEW RLV YAMAHA BOX MUFFLER



\*EGT gauge is allowed. Must not leak. Must be located between header flange on front cap.

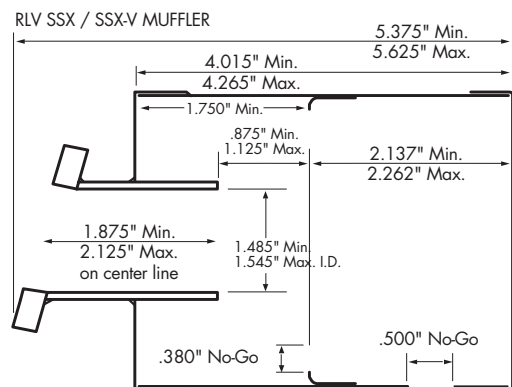
(FIG 16)

1. Note: End cap must be removable for inspection of baffle with three each .380" maximum no-go holes spaced approximately 1.250" apart. End cap to have three each .380" maximum no-go holes rotated 180° or opposite baffle exit holes. In operation, end cap and header flange must be securely fastened with no leakage. Must be installed in "up" position. Check of exhaust gas leakage may be made by a gas leak detector. All Yamaha box muffler 2-Cycle classes are only allowed one exhaust port gasket at .200 maximum thickness. Any attempt to by-pass the restricted muffler is illegal. No coatings (to be run as manufactured)

2. New style RLV YBX muffler with welded cap is legal.

## N. RLV SSX/SSX-V MUFFLER

**(FIG 17-A)**

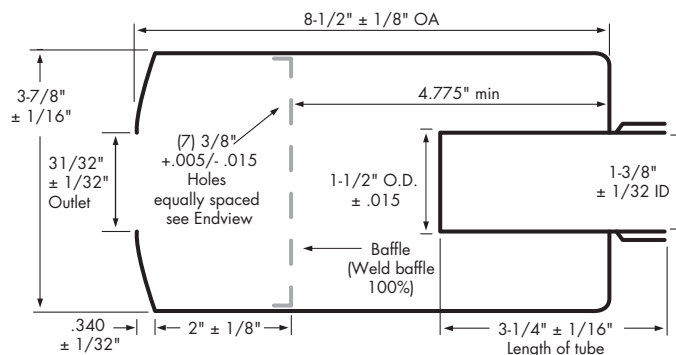


Must be round holes. SSX-V has 4 holes at 90 degrees.

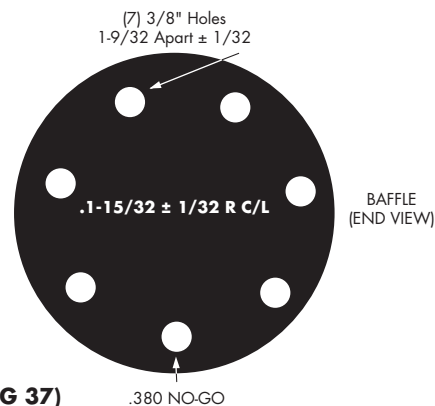
1. Note:

- 1) Must be run in horizontal position.
- 2) EGT probe is allowed. Must not leak. Must be located between header, flange and front cap.
- 3) Additional support brackets ok.
- 4) In order to extend the life of the Superbox mufflers, RLV is applying a spot of weld on the center of the end cap (this is not a performance issue). This affects part numbers: 7502,7540, 7542, 7544, and 7548.

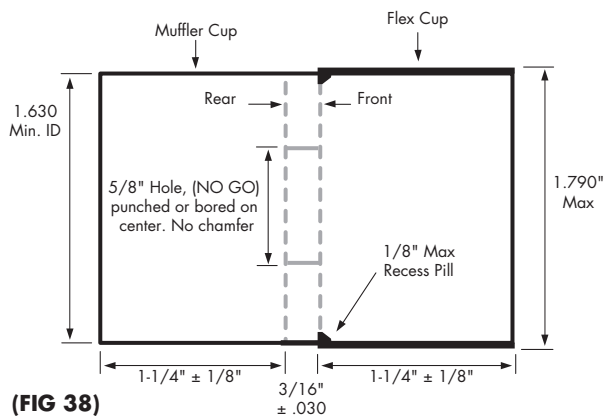
## O. RLV SBX MUFLER



**(FIG 36)**



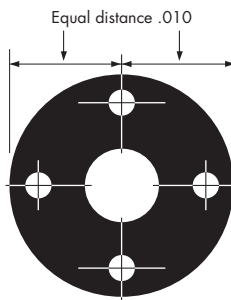
**(FIG 37)**



**(FIG 38)**

## P. KART RESTRICTED JUNIOR

The piston valve engine may be restricted. The restrictor is to be placed next to the cylinder. The hole is "as punched" with a specified no-go maximum .065 maximum thickness material. See particular class for hole size.



**(FIG 17)**

## RESTRICTOR PLATE

All holes on common centerline, must be round.  
May have 4 holes. 2 for Tillotson, 2 for Walbro.  
Center hole to be as punched.  
No de-burring or polishing.

Max. inlet tract length with restrictor installed 2.800,  
minimum length is 2.600.

## Q. 80CC PISTON PORT (Comer K-80, Comer W-80)

Gas and Oil Only

This section covers stock piston port valve engines under 81cc. Engines to have single cylinder and single stock carburetor. Unless otherwise specified, all parts are to be of the original manufacturer and stock appearing. The following engines have been homologated for this class: Comer K-80, Comer W-80.

### 1. DISPLACEMENT:

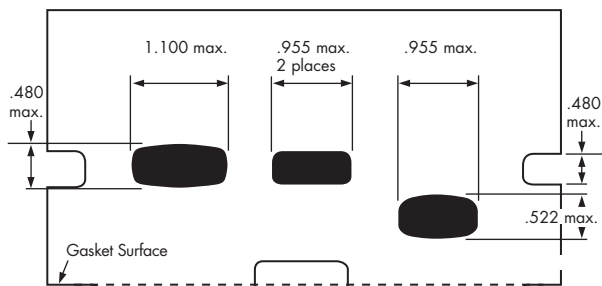
Maximum Bore 2.055 (chrome bore)

Maximum Stroke 1.500 (+ or - .004)

Exhaust Intake Timing: As per KART specs. cc: 8.5 with L.A.D. gauge plus .200 spacer, new style only.

2. NON-TECH ITEMS: Unless otherwise specified, non-tech items include gaskets, oil seals, bearings and cages, fasteners, and crank-pin. Bearings are a non-tech item but must be of same internal diameter, width, and outside diameter as original parts.

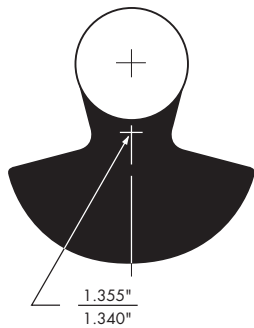
3. EXHAUST, INTAKE AND TRANSFER PORTS: Check port heights and widths per following diagrams. Note all dimensions are to opening and do not include radius allowed for chroming of bore. Ports are not ground or polished. Grinding, polishing, and shot blasting are not allowed. Exhaust/intake check with .120 round rod. Exhaust minimum 1.140, intake maximum .460.



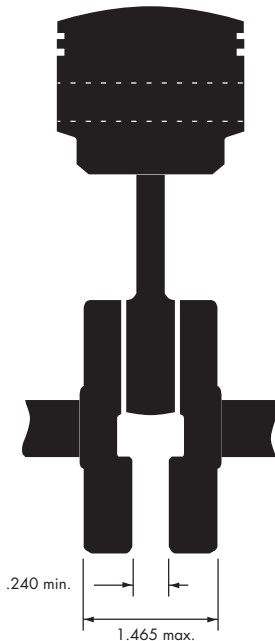
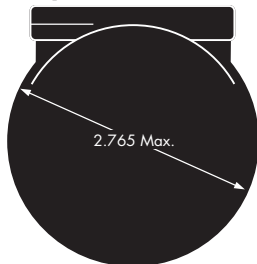
(FIG 33)

### New type full circle crankshaft:

Minimum crankshaft O.D. 2.685"



### New style crankcase is finned



(FIG 34)

4. EXTERNAL MODIFICATIONS: Those which do not effect a performance gain are legal.

5. ENGINE ADDITIONS: Conventional air cleaner and starter nut. Engine must be run with supplied clutch and muffler. All must be as supplied with engine and all subject to tech. Clutch 12 tooth, #219 chain.

6. CARBURETOR: HL166 only.

7. IGNITION: Bosch is slotted for adjustment. Adjustment slots are cast in and can not be machined for more adjustment. Spark plug must be 3/8" standard or 1/2" reach plug.

8. HEAD VOLUME: 7.5cc minimum old style (no L.A.D. gauge). 8.5cc minimum new style (with L.A.D. gauge) and a .200 spacer.

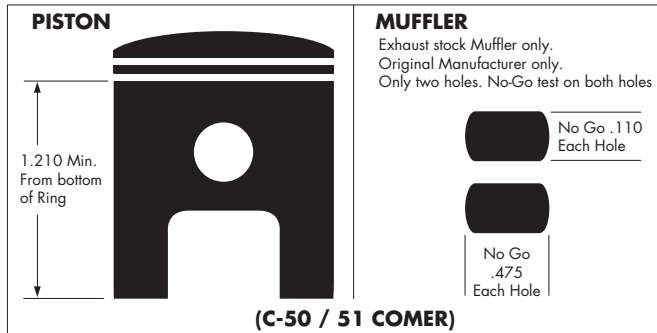
9. BASE GASKET: .003 minimum.

10. PISTON AND RINGS: Piston must say USA and rings must be in place and not fall through cylinder.



## R. C-50, C-51 KID KART ENGINE

1. C-50, C-51 ENGINE: NO Modifications! Engine must remain totally stock and compared to known stock parts. Piston rings must be present and cannot fall through cylinder. All gaskets must be in place. Silicone is not considered a replacement for gaskets. Seals, bearings and gaskets are non-tech. Seals must be unaltered. Head cc 7.3cc minimum. No LAD gauge.



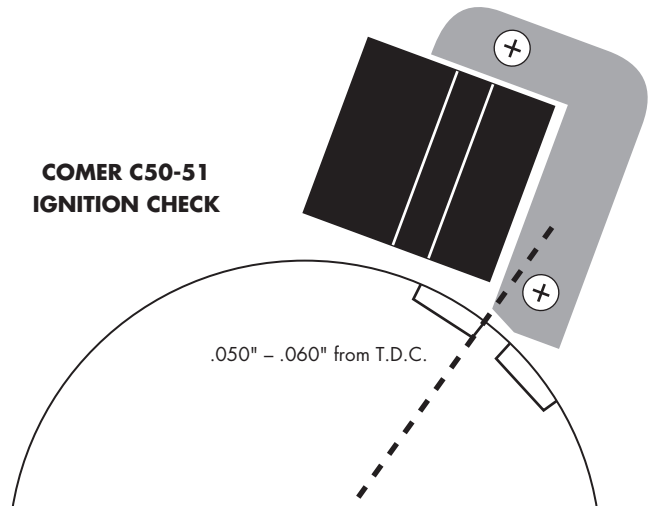
2. Carburetor jetting is allowed.
3. Carburetor model SHA 14-12L Dellorto, .475" No-Go venturi inside diameter. All parts as cast.
4. Taping or covering of the shroud in any manner is illegal.
5. The magneto key and keyway must be unaltered and in place. The key and keyway can be inspected by removing the flywheel nut.
6. Stock filter and at least one stock filter element (unmodified) must be used.
7. COMBUSTION CHAMBER: As manufactured. All threads are to be intact. Plug threads may be repaired, but must be full length.

8. PORT HEIGHT CHECK: Check with 3mm (0.120") rod 3.00" long (max) inserted approximately 0.25" into port. Rod should be unsupported. Exhaust: 1.200" min Intake: 0.370" max

9. BASE GASKET: Must be in place

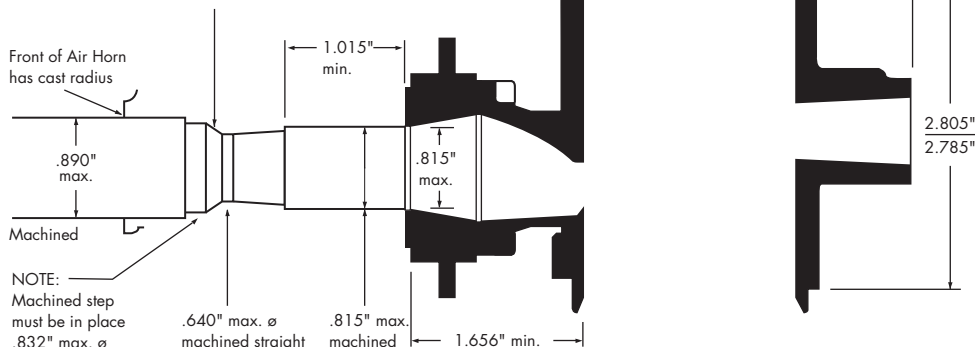
10. BEARINGS: No ceramic bearings

11. IGNITION TIMING CHECK: Remove starter cover, install dial indicator in plug hole, zero at TDC. Rotate flywheel counter clockwise until first magnet is completely exposed. Rotate back clockwise until right edge of magnet aligns with left edge of coil. Dial indicator reading 0.050" - 0.060".



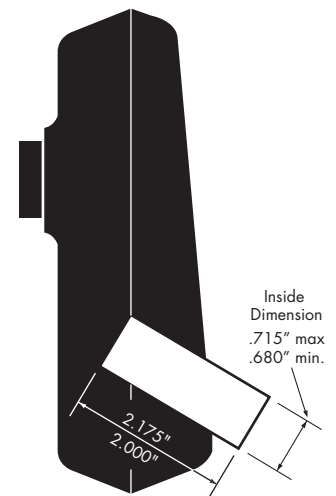
### Choke assembly may be removed and shaft holes plugged.

This area as cast. Tillotson does trim the area next to the machined surfaces to remove flash. The intent of the rule is NOT to allow additional metal removal.



**Min. overall carburetor length is 2.610"**

(FIG 35)



## S. HONDA GXH 50 KID KART ENGINE

The engine must be run as produced. No deviation from the “as produced” engine is allowed. All components must remain OEM unless otherwise specified. No addition or substitution of components.

1. ENGINE: As supplied by Honda Performance development.
2. ENGINE SEAL: As installed by HPD. If seal is damaged, missing or disturbed in any way, the entrant will be disqualified.
3. GAS TANK: Must remain on engine in factory location with factory mounting. Fuel line must run directly from tank to carburetor.
4. FUEL: Pump gasoline only. No additives allowed. Failure to meet fuel inspection results in a disqualification.
5. CARBURETOR; KEIHIN BF32E: No change or modification is permitted.
  - a) Throttle plate must be #140 as manufactured with sharp edges. Must retain stock screw.
  - b) Main Nozzle: Minimum length 1.140”, through hole 0.055” no go, two holes in bottom 180 degrees apart 0.028 no go, eight holes above bottom band 90 degrees apart 0.020 no go, 4 holes at top 90 degrees apart 0.020 no go.
  - c) Float: F3
  - d) Main Jet: #52S, Go = 0.50mm – no go = .52mm
  - e) pilot Jet: #35
  - f) Maximum venturi size 11.1 mm
  - g) All jets must be TIGHT. Loose jets will result in a disqualification.
6. THROTTLE LINKAGE: As supplied by HPD.
7. AIR FILTER: Must remain stock, with stock foam insert. No internal or external modifications of any type are allowed.
8. SPARK PLUG: NGK CR5HSB, Denso U16FSR-UB, or equivalent. Washer must remain on spark plug.
9. KILL SWITCH: Stock switch must remain connected. An additional switch may be installed in reach of the driver.
10. OIL ALERT SWITCH: Yellow wire must be disconnected or cut.
11. OIL: No exotic oils such as those containing “combustion enhancers”.
12. CLUTCH: HPD supplied. White and Blue spring are only legal options. No mixing of colors. No modifications or oiling allowed. Stall speed TBD.
13. GEARING: 16:89 or 15:89. Series/track to decide which gearing spec. Max 8000 rpm. No mixing of gear combinations within class.
14. EXHAUST: As supplied, modification or repair not allowed. Cracked or broken exhaust will be disqualified. Any evidence of exhaust leaking is grounds for disqualification.
15. No additional Decals or signage allowed on engine. Only Honda or Honda Racing.

## 16. INSPECTION PROCEDURES

- a) IGNITION TIMING
  - 1) Remove the starter assembly and large cover.
  - 2) Install a dial indicator in the spark plug hole, using a 10mm X 1.00 adapter.
  - 3) “0” the indicator at top dead center.
  - 4) Rotate the flywheel clockwise until the two magnets on the flywheel are to the right of the coil.
  - 5) Rotate the flywheel counter clockwise until the left hand edge of the left hand coil mount leg is in line with the left hand edge of the left hand magnet.
  - 6) Dial indicator reading should be between .245” and .265”.
- b) EXTERNAL VISUAL CHECK
  - 1) Check of engine for required components: Pipe and muffler, shrouds and sheet metal, oil level sensor (this can be observed from outside).
  - 2) Blocking Air Flow to the engine: Only factory heat shield is legal. No device may be used that will/or appear that it may impede airflow into the engine cooling system. This may require the engine to be run at a speed above idle. Engine should be at ambient temperature when inspected.
- c) INTAKE
  - 1) Remove Carburetor. Only stock Honda insulator gasket between black plastic insulator and head. Air passageway in insulator cannot be altered in anyway. Insulator thickness: .277” +/- .001”. Hole must be as molded. Head side insulator gasket thickness: 0.019” Maximum. Carb side insulator gasket thickness: 0.022 Maximum.
  - 2) Check for any alterations or worn parts that would allow additional air into engine: holes, slots, perforations, spacers, loose bolts, warped flanges etc. Any evidence of air leaking is grounds for disqualification.
- d) VALVE SPRINGS
  - 1) Valve springs will be stock Honda springs and will not be altered in any way. Wire diameter: 0.064” maximum, outside diameter: 0.588” maximum, number Of coils: 6, spring pressure: 11 lbs. maximum at 0.0514, stacked length: 0.652.
- e) ROCKER ARMS, PUSH RODS & STUDS
  - 1) Rocker arms will be stock Honda and will not be altered in any way. Rocker arm studs will be stock Honda. They or their mounting position may not be altered in any manner. No heli-coiling of mounting holes. No bending of studs. Push rods will be stock Honda and will not be altered in any way. Push rod length is 2.774” +/- .002”.

## 9 4-CYCLE TECHNICAL GUIDE

### A. K.A.R.T. 4-CYCLE COMPETITION CLASSES

1. JUNIOR 1: Stock Engine Rules with .425" restrictor.
2. JUNIOR 2: Stock Engine Rules with .500" restrictor.  
JUNIOR 2 SUPER BRIGGS: Stock Engine Rules with .575" restrictor.
3. STOCK LIGHT, STOCK MEDIUM, STOCK HEAVY, STOCK SUPER HEAVY, SPORTSMAN, MASTERS: Stock Engine Rules.
4. BRIGGS BLUE WAZOOM
5. ANIMAL SPORTSMAN (gasoline)
6. ANIMAL (methanol), JUNIOR 2 ANIMAL:  
Animal methanol rules with 3-hole .313" restrictor.

### B. STOCK BRIGGS AND STRATTON ENGINE RULES

#### Technical Inspection Procedure

Engine No's. 130202, 130232, 131232, 132232, 133230, 133232 135230 and 135232

UNLESS OTHERWISE SPECIFIED. ALL PARTS ARE TO BE STOCK AND UNALTERED. PARTS MAY BE TECHED AGAINST A KNOWN STOCK PART. DO NOT ASSUME ANY ITEM IS LEGAL BECAUSE SPECIFIC REFERENCE IS NOT MADE IN THE "TECH MANUAL". ASK YOUR TECH OFFICIAL. HE WILL OBTAIN AN OFFICIAL ANSWER FROM THE "K.A.R.T. TECH COMMITTEE.

1. Any after market fastener may be used except for rod bolts, head bolts and carb butterfly. Repairing of stripped bolt holes allowed but stock size and location must be retained. Gasket surfaces may be machined, stock angles must be maintained. Excessive removal of material not allowed. Aftermarket gaskets and diaphragms may be used as long as they remain the same dimensions.

2. Engine may be run with or without a air filter. If a filter is used it must be used with a legal adapter. Filter may not act as a ram tube. Sides of filter may not be of less dense material than top. May use two gaskets between carb. and air filter adapter. Silicon or O-ring permitted.

3. Exhaust pipe may not protrude into block. Holes other than for thermocouple not permitted.

4. All shrouds must be used. May be run with or without coil air vane. Flywheel screen must be on flywheel or shroud. Cutting shroud for tire clearance allowed.

5. Recoil may or may not be used. Stock ratchet, starter cup or after market starter nut allowed. Ratchet end of crank may be removed.

6. Briggs magnetron ignition only. Coil 2,000 ohms minimum, 6,000 ohms maximum. Any plug connector allowed but must be included in ohms check. Silicone may be used on low tension wires.

7. Tank may have one or two gaskets installed. Clearancing for tire, repairing and bracing allowed. Briggs cap must be used. Briggs part no. 555220 Splash Shield, may be used.

#### 8. CARB

a. Flange may use one or two gaskets. No sealers anywhere other than end plug, pickup tube and as a sealer between air filter adapter and carb.

b. Swirl may be removed.

c. Bore .695" maximum inside dimension includes the entire length of the carburetor bore. With the .696" NO-GO check the flange end of carb and then with the .696 NO-GO in the back side of the carb, it cannot hit the butterfly when opened. Metering hole protrusions not permitted. Counter bore .726 round no-go only.

d. Throttle shaft .086" minimum at back, .040" at front. Stock butterfly screw mandatory. Minimum length of screw is .322. New Torx screw may be used. No modification to butterfly. Where butterfly mates with throttle shaft, it shall have a minimum dimension of .058 and a minimum of .101 at back of ramp thickest point. Felt or foam washer must be on carb shaft under lever.

e. Choke may be removed and holes plugged. Plugging material may not enter carb bore. If choke is installed it must be stock. New style carbs from factory have no choke holes.

f. Jet may have remote tuner. Jet must be installed as from factory. Hole size in jet non-tech. No recessing of hole permitted from back side. No funneling or oblonging of hole permitted.

g. Idle hole .028" no-go. High speed hole .062" no-go. Straight round holes only. No tapered or oblong holes allowed.

h. Pickup tube screens optional and non-tech. I.D. .066" no-go for short tube steel winding. No-Go cannot pass completely through tube when checked from either end.

i. Maximum air horn inlet 1.011". No machining allowed.

j. After market device to repair broken ear on carb permitted.

9. After market head gaskets of same size and material are permitted. Minimum thickness .043" checked half way between bolt holes. No sealers or coatings.

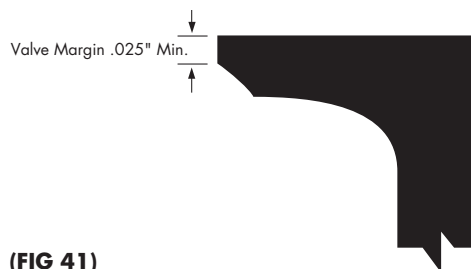
10. Head must check .011", .408", .300" minimum; .315 maximum. Soft carbon may be wiped with rag before checking. Hard carbon may not be removed. Only headbolt mating surface and gasket surface may be machined. Glass beading or sanding for carbon removal only. Head bolt holes .348 no-go.

11. Maximum piston pop out at wrist pin centerline .015". Deck must remain above valve seats.

12. Maximum bore. 2.607". Inspect deck for reworking of eyebrow area.

13. Stroke. 2.4270" to 2.4470"

14. 30 degree, one angle intake valve, minimum diameter 1.115". 45 degree, one angle exhaust valve, minimum diameter .990" Minimum margins .025". IC block must run cool bore exhaust valve, spring and retainer. (FIG. 41)



(FIG 41)

15. May use Intake or Exhaust spring on intake valve. Must use Exhaust spring on exhaust. Maximum length 1.500". Maximum wire diameter .092. Minimum inside diameter .625".

16. 30 degree, one angle, valve seat diameter no-go. 1.005" intake. 45 degree, one angle, .880" exhaust. Inlet port .880" no-go. Exhaust outlet 1.005" no-go. No-go check to be made at intake port inlet and exhaust port outlet. Port area surface and finish are non-tech, but there can be no addition of any material. Valve seat inserts must remain unaltered.

17. Any upper spring retainer allowed. .058" maximum thickness. Upper part of valve spring chamber may be machined to prevent coil bind.

18. Stacking of stock valve guides and one-piece guides allowed, installed as factory intended.

19. Flywheel may not be altered in any way. No broken fins or painting allowed. Minimum flywheel weight 5 lbs. 12 oz. New Briggs and Stratton flywheel part #555657 with machined backside allowed. If new flywheel is used the ignition may be spaced out on coil post.

#### 20. CAM PROFILE

Zero degree wheel with positive piston stop.

Exhaust	Intake
.050 ..... (38 - 33 BBDC)	.050 ..... (7 DTDC - 0 TDC)
.100 ..... (21 - 16 BBDC)	.100 ..... (10 - 17 ATDC)
.150 ..... (2 BBDC - 3 ABDC)	.150 ..... (29 - 36 ATDC)
.200 ..... (21-31ABDC)	.200 ..... (55 - 64 ATDC)
max. .... (.233")	max. .... (.233")
.200 ..... (76 - 65 BTDC)	.200 ..... (43 - 33 BBDC)
.150 ..... (48 - 40 BTDC)	.150 ..... (13 - 6 BBDC)
.100 ..... (28 - 21 BTDC)	.100 ..... (6 - 13 ABDC)
.050 ..... (10 - 4 BTDC)	.050 ..... (23 - 31 ABDC)
E-Z Start ..... (45 - 60 ABDC)	
E-Z Lift ..... (.013" minimum)	
E-Z Lift ..... (.019" maximum)	
E-Z Duration (30 degree minimum at .001" drop)	

Note: All cam profile readings must be taken with zero valve lash. When checking cam profile, rotate engine in the direction it runs only. (Valves should have no clearance and no spring tension when checked.)

21. Multiple side plate gaskets allowed. Center punching of gasket surface allowed.

22. Cam has no visual check on the lifter surface. Cam block boss O.D. and finish are non-tech.

23. Lifters O.D. .982" minimum, 1.005" maximum. 1.606" maximum overall length. Champhering at bottom of lifter bore for clearance purposes only. Max I.D. of chamber is .500. (the intent of this is not to back face lifter bore area.) Billet lifters permitted. Check to stock dimensions.

24. Rod bolt locks, washers and dipper are non-tech and optional. Stock rod bolts must be used. The dipper area only of the Raptor II 55207 rod is non-tech. Oil hole size Non-tech. No .020" undersize rods allowed.

25. Any unmodified, series produced aluminum alloy rod that is available to the karting industry is allowed. Rods other than the Briggs factory rod may be no lighter than 135 grams with bolts and inserts, if used. Rod length, from bottom of wrist pin hole to top of crank hole must measure between 3.120" and 3.143".

26. Wrist pin. Maximum I.D. .290" Maximum O.D. .490" Raptor III wrist pin I.D. .281 Max., O.D. .490, Length 1.731 +/- .005.

27. Piston. Minimum length 1.869" Minimum top of wrist pin to top of piston. .937". IC engines may run IC or cool bore piston. Raptor III piston allowed, arrow facing coil or PTO. Piston length 1.672 + or - .005. Top of piston hole to top of piston .937 + or - .005.

a. Raptor III ring .090 min. width, .058 + or - .005 thickness.

b. Raptor III oil ring .070 min. width, .100 + or - .005 thickness.

28. Stock type cool bore rings only. No IC rings allowed. Machining back side of rings allowed.

a. Top groove - compression ring installed. Minimum width: .095". (No chrome ring or expander under ring.) May or may not have bevel.

b. Middle groove - oil scraper ring installed with outside scraper groove down. Minimum width .095". (No expander under ring.)

c. Bottom groove - one piece oil ring installed either way, and no three piece or four piece oil ring from chrome set allowed. Minimum width .085".

29. Heat treating of stock crankshafts legal. Minimum crankshaft journal diameter is 0.990". Bushing type PTO journal crankshaft may be turned down to allow the use of bearing. Cam gear must be in place on an unaltered key.)

30. Stock Briggs bushing #399268 or #297565 may be installed on flywheel side. Inspect block for alterations and reworking. Blocks welded for broken rods are legal if not used to disguise modifications. Minor welding to lower exhaust bolt hole is allowed for repair (weld cannot protrude into exhaust port). Reinforcement or repair of lifter boss area is allowed. Installation of bushing guide to help reinforce lifter bore area allowed. Removal of governor mandatory. Extra .125" hole may be added on flywheel side of block for better bearing lubrication. After-market PTO bearing of non self-aligning type, with or without shields, is permitted. No ceramic bearings allowed.

31. Check valve seat heights 5.485" minimum/ 5.520" maximum. Install a .500" rod in place of cam and replace side cover. Measure through the valve guide from top edge intake or exhaust valve seat. Lifter bore and valve guide bore must accept seat height gauge rod.

### C. BRIGGS BLUE WAZOOM

This engine is to be run as originally manufactured in Council Bluffs, Iowa or Omaha, Nebraska (no modifications of any kind). In order to assure that no modifications are performed, the side of the engine is sealed. The side cover seal is required in order for the participant to be allowed to race. No tampering of any kind is allowed. The following specifications are to aid the Tech personnel in determining whether the engine has been altered from when originally manufactured. The seals are not to be re-used. In no way do these specifications constitute a need for additional blue printing. Any other method of determining the legality of the engine is OK. Tech gauging is available from Uncle Frank's upon request. After an engine is re-built, it must be re-checked and re-sealed by an authorized service center. Most items are stock, un-altered parts from Briggs and Stratton. Most parts can be compared to known stock parts.

1. TECHNICAL PROCEDURE: Engine to be run as supplied. No blue printing allowed. Check side cover seals for tampering.

2. REMOVE carburetor, manifold, and air filter adapter

a) Inspect carburetor for "as cast" venturi surface. Zama .820 Carburetor with butterfly throttle assembly. Venturi, .820 no-go. Carb must be stock with single pumper stack of original style on carburetor. Inspect dump tube for original installation. Check for additional holes, or enlarged holes in carburetor.

Hi speed needle seat .070" no-go

Lo speed needle seat .070" no-go

Inlet needle seat .055" no-go

b) Inspect manifold for angle cuts and offset bolt pattern. Manifold bore, block end: .900" no go, carburetor end: 1.000" no go, 1.670" to 1.680" long.



- c) Air filter adapter to measure less than 1.00" long, taper to 1.070" small I.D., no radius allowed. Inspect air filter per stock 5 HP rules.
  - d) Remote adjusters are allowed.
3. REMOVE HEADER: Robertson Torque Tube #BW 1675 only, 1.045 I.D., Straight, no tapering, installed so that the header is angled away from the carburetor. Header length shall not exceed 16-3/4" with or without muffler RLV #4103. Header and muffler may not be altered in any way.
4. REMOVE HEAD
- a) Factory head only. Spark plug non-tech. Head to have a .005"-.015" deep, .640" max width slot for piston top clearance. Combustion chamber as cast from Briggs and Stratton Spark plug area to check .385" minimum depth. Factory supplied head bolts only. Inspect deck for reworking of eyebrow area.
  - b) Single plane machining of deck is permitted. Deck may not be surfaced below top of valve seats.
  - c) Check bore maximum 2.607" diameter.
  - d) Check stroke 2.427" - 2.447".
  - e) Check for (1) head gasket present.
5. REMOVE VALVE SPRING COVER: Supplied cover may be used or PCV valve may be added to side cover or valve spring cover. With installation of PCV valve, holes in supplied cover may be plugged or cover replaced.
6. REMOVE VALVES: Stock unaltered 5 H.P. valves, any dual springs and retainers. Back facing of upper valve spring seating area allowed.
7. REMOVE FLYWHEEL COVER: Inspect cover for stock.
- a) No air vane.
  - b) Inspect for Briggs and Stratton #491922 fuel pump. Only one pump allowed.
8. REMOVE FLYWHEEL
- a) Check for stock, straight key. Check for stock 3 H.P. Briggs and Stratton #296884 flywheel (4 lb 12 oz min)
  - b) Check coil for Briggs and Stratton #496914, 3000 ohms max. Supplied spark plug connector only, boot allowed.
9. PORT DIAMETERS PORTING as received. No additional porting allowed.
- a) Carburetor inlet side .900" no go. Carburetor Exhaust side 1.035" no go. Port finish as cast.
10. VALVE SEAT DIAMETERS
- a) Tech for unaltered stock intake seat, single 30 deg. angle. 1.005" ID no go.
  - b) Tech for unaltered stock exhaust seat, single 45 deg. angle. .880" ID no go.
11. INSPECT CAMSHAFT
- a) All checks to be made with no valve lash. Max. lift, both intake and exhaust, .255".
  - b) Intake, as valve is opening, is to reach 2 deg. ATDC before .100" lift.
  - c) Intake, as valve is closing, is to reach 26 deg. ABDC after .100" lift.
  - d) Exhaust, as valve is opening, is to reach 40 deg. BBDC before .100" lift.
  - e) Exhaust, as valve is closing, is to reach 5 deg. BTDC after .100" lift.

12. INSPECT LIFTERS: CHECK LIFTERS FOR ALTERATIONS OR RE-WORKING. No extended or adjustable lifters. 1.005" OD maximum. It is legal to chamfer or radius the cam side of the lifter bores. Excessive metal removal is not allowed.

13. INSPECT FOR LIGHTENING OF CAM, CRANKSHAFT, ROD AND PISTON

- a) Any stock length (Super Stock legal) rod allowed per 705.6 rules.
- b) Inspect for unaltered Wiseco Super Stock or Briggs Raptor III piston.
- c) Inspect for Briggs 5 H.P. or Total Seal rings.
- d) Blocks repaired for broken rod or camshaft are OK if not used to disguise modifications. Repair of lifter boss area is allowed.

## D. ANIMAL SPORTSMAN RULES

### (for gasoline fuel classes)

Briggs and Stratton (B&S) Model 124-(332 or 432) Type 8001/2

All parts must be B&S factory production parts unless otherwise noted in these rules. No machining or alteration of parts is permitted unless specifically noted in these rules. All parts are subject to comparison to a known stock B&S part. Engine shroud, covers and control bracket must be intact and not modified, except control cover may be modified to attach fuel pump and throttle bracket. Cylinder cover may be cut for thermal coupler, intake manifold and exhaust flange clearance. Any bolt, except head bolts, used to secure sheet metal shrouds and covers may be replaced with a larger diameter bolt. Stock kill switch must remain in stock location but wires may be removed to make it inoperable.

★ 1. HEADER AND SILENCER: Modifications of the RLV 5509 or 5507 header into 2 piece header allowed. Must retain the maximum length of 15.75" +/- .125". Must seal as to not allow excess exhaust escape around mechanical connection.

- a) Header shall have a maximum length of 15.75" +/- .125 X .930"/1.115"/1.185" to be measured in the inside diameter.
- b) Silencer must be RLV B91 with round baffle holes only.
- c) Gasket and/or silicone allowed to seal header to head.
- d) Studs or bolts allowed to fasten header to head. Header support brace is mandatory.

2. AIR FILTER: Any air cleaner permitted. Must be installed directly to carb. No filter adapters allowed. Filter may not be used as an air ram and must filter from all areas as raced. Any open areas in filter must be covered with a filter sock.

3. CARBURETOR: PZ Model 22 Carburetor only. Any 1/4" bolts may be used to attach carb to manifold. No studs allowed. Carb to manifold seal is by O ring only. No sealer allowed. Air must enter carb at air horn only. Choke must be stock as from factory and must operate. Spring or rubber band may be used to hold choke lever in position. Choke lever may have a hole drilled in it to attach spring.

- a) Throttle bore I.D. is .874" no-go. Must be as-cast.
- b) Choke bore I.D. is 1.149" no-go. Must be as-cast.
- c) Venturi: Vertical dimension is .792" no-go. Horizontal dimension is .615" no-go. No machining allowed. Must be as-cast.
- d) Air pick off hole is .061" no-go.
- e) Throttle slide: Minimum length from top edge of slide to deepest part of cut away is 1.148" Must be stock.
- f) Jets must be stock gasoline jets only. Needle jet - BGB set at any notch, Pilot jet - #32, Main jet - #95. Factory marking required.

4. INTAKE MANIFOLD: Stock intake as supplied from the factory. No modifications allowed except machining of gasket surface is

permitted to meet rule specs. Also may be drilled and tapped, or welded, for fitting to pulse fuel pump. Pulsing from intake allowed in the Sportsman gasoline fuel classes only. The two intake to block mounting holes and one intake to carb mounting hole may be drilled out and will be checking with a .328" NO-GO.

- Length: 1.740" minimum to 1.765" maximum.
- Inside Diameter: .885" must-go, .905" no-go.
- Stock manifold to block gasket required. Gasket may be modified to open hole to diameter larger than manifold.

5. FUEL PUMP: Auxiliary pulse type pump required. Pump must be pulsed from crankcase or from intake. Pulsing from intake allowed in the Sportsman gasoline fuel classes only

6. VALVE COVER: Stock valve cover from factory.

- Valve cover gasket must be stock. No sealer allowed.
- Filter or tubing may be fitted to outlet. No welding or tapping of valve cover allowed.
- Tube to catch can is not required.

7. ROCKER ARMS: Must be stock. This is a critical part and will be examined closely. Minimum length is 2.865".

8. CAMSHAFT: All cam profile readings must be taken with zero valve lash and degree wheel set at top dead center (TDC) of the compression stroke with a positive stop inserted through spark plug hole. Readings shall be measured from the push rods. Zero dial indicator at TDC and do not reset during the profile process. Only stock factory camshaft with stock alignment as shipped from factory is permitted. Mechanical compression relief lift is required on exhaust lobe. Maximum valve lift of .255 taken directly off the valve assembly at zero valve lash. Place dial indicator on valve keeper then tighten ball rocker till you see indicator move .001" to .002". This will assure that the lash is taken out of the valve.

9. CAMSHAFT PROFILE LIMITS: Each lobe may be out of specification in two places, provided that subsequent visual inspection of camshaft lobes reveals no alteration to surface finish of lobes.

Intake Lobe		Exhaust Lobe	
Lift, in inches	Degrees	Lift, in inches	Degrees
.020	18-13 BTDC	.020	61-56 BBDC
.050	0 TDC-4 ATDC	.050	44-40 BBDC
.100	16-20 ATDC	.100	27-23 BBDC
.150	33-37 ATDC	.150	11-7 BBDC
.175	42-46 ATDC	.175	1 BBDC-3 ABDC
.200	53-57 ATDC	.200	10-14 ABDC
.225	67-71 ATDC	.225	24-28 ABDC
Max lift is .257", Min lift is .252"		Max lift is .257", Min lift is .252"	
.225	39-35 BBDC	.225	78-74 BTDC
.200	25-21 BBDC	.200	64-60 BTDC
.175	15-11 BBDC	.175	53-49 BTDC
.150	5-1 BBDC	.150	43-39 BTDC
.100	12-16 ABDC	.100	27-23 BTDC
.050	28-32 ABDC	.050	10-6 BTDC
.020	44-49 ABDC	.020	5-10 ATDC

10. BALL ROCKER: Must be stock. Diameter .600" +/- .010"

11. PUSH RODS: Must be stock. Diameter is .185" - .190". Length is 5.638" - 5.656".

12. HEAD BOLTS: Four stock head bolts are mandatory.

13. HEAD GASKET: B&S and after market head gaskets are allowed of stock design. Minimum thickness 0.042", measured in four places between head bolts and from inside of gasket with micrometer. No aluminum or copper head gaskets allowed.

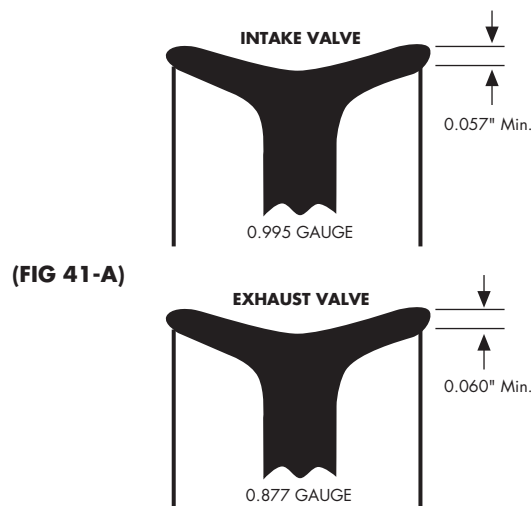
14. CYLINDER HEAD PLATE: Must be stock. Cylinder head plate gasket must be stock configuration with maximum thickness of .055".

15. ROCKER ARM STUDS: Must be stock.

16. VALVES: Stock valves only. Valve length to be 3.372 +/- .005. One angle only. Valve may not be polished or lightened. If working area of the valve stem (that portion of the valve stem translating with the valve guides) is cleaned, no material of the stem may be removed. No grooves, cross hatching, etc.

a) Intake Valve: 45° face. Head diameter is 1.055" - 1.065". Depth of dish in valve .099" - .119". Minimum height from angle of valve face to top of valve .057" (check using a depth micrometer from top of valve to top of gauge) Fig 41-A

b) Exhaust Valve: 45° face. Head diameter is .935" - .945". Depth of dish in valve .084" - .104". Minimum height from angle of valve face to top of valve .060" (check using a depth micrometer from top of valve to top of gauge) Fig 41-A



17. VALVE SPRINGS: Stock B&S valve springs and keepers are mandatory. Springs must remain unaltered as supplied from the factory. Maximum valve spring length is .930". Wire diameter is .103" to .107", measured in three places on the spring. Inside diameter of spring is .615" minimum to .635" maximum.

18. VALVE SPRING RETAINERS: Thickness is .060" - .070".

19. CYLINDER HEAD: Stock B and S part #555558. Machining of gasket surface only allowed. No machining of parts allowed. Bosses on back of head, just below valve cover gasket surface may be tapped for attachment of header supports. Depth of head at shallow part of head 0.011" min. Depth at floor of head 0.319" min. Depth of top of valve seat 0.360" max, 0.335" min. Head thickness measured from head gasket surface to head plate gasket surface is 2.420".

20. VALVE SEATS: Must be one 45° angle only on valve seats. Stock B&S seats are mandatory.

- Intake seat diameter is .966" - .972".
- Exhaust seat diameter is .844" - .850".

21. PORTS: Must be stock, no machining.

- Intake inlet port: .918" no-go. When checking 90° to line between center of studs, no - go will be straight. When checking on line with center of studs, no-go will set on floor of port at bottom and stop at upper edge of port on top.
- Exhaust outlet: .980" no-go.
- Valve guides must be stock as supplied from factory. Maximum depth from the cylinder gasket surface to the intake valve guide is 1.255".

22. DECK/PISTON CLEARANCE: Machining of deck surface is permitted. Piston pop up cannot exceed .010" above block surface in the center of the piston. When measuring piston pop up, set bar stock across piston parallel to wrist pin. When measuring piston pop up, hard carbon may be scraped from piston crown, set bar stock across piston parallel to wrist pin.

23. CYLINDER BORE: No circular or machined grooving of cylinder is allowed. Stock bore is 2.690". Over boring permitted up to maximum of 2.725", approximately .035" over.

24. STROKE: maximum stroke is 2.204". Push piston down to take up rod play. Check stroke from BDC to TDC.

25. IGNITION: Unaltered B&S stock coil is mandatory. Attachment bolts must not be altered.

- a) Spark plug connector must be stock factory type.
- b) Rubber plug boot is allowed.
- c) There must be resistance from plug wire to ground. Resistance must be between 3000 ohms, minimum, to 6000 ohms, maximum. Coil resistance may be rechecked after a minimum of 10 minutes if correct reading is not attained upon first check.
- d) Coil air gap is non tech.
- e) Any commercially available sparkplug allowed. Sparkplug must be stock except plug sealing ring may be removed.
- f) If stock flywheel part #555625 is used, the coil must be stock Briggs coil part #557040. If PVL flywheel part #555683 is used, the stock PVL Magneto part #555681 must be used. Attachment bolts must not be altered.

26. STARTER: Recoil starter must be retained, as produced and intact. May be rotated.

27. FLYWHEEL: Briggs part #555625 and PVL part #555683 with plastic fins assembly #555526, are the only flywheels allowed. No machining, glass beading, sandblasting, painting, or coating of flywheel is allowed. Minimum factory overspray allowed.

- a) Stock flywheel key required
- b) flywheel weight 4 lbs. 4 oz. Minimum.

28. CRANKCASE SIDE COVER: Must remain stock, except fuel pump may be pulsed from upper oil fill hole on front of cover. One or two stock gaskets are required.

29. VALVE LIFTERS: Must be stock.

- a) Lifter head diameter to be .820" minimum to .860" maximum.
- b) Overall length of lifter to be 1.515" minimum to 1.525" maximum.

30. CONNECTING ROD: Connecting Rod: Stock connecting rod or any unmodified series produced aluminum alloy rod that is available to the karting industry is allowed. MUST MEET STOCK SPECS.

- a) Rod length, measured from bottom of wrist pin hole to top of crank journal hole, is 2.419" minimum to 2.429" maximum.
- b) Oil hole opening is .185" no-go.
- c) Briggs replacement rod bolts part #555654 are allowed. Minor grinding of crankcase allowed for clearance of new rod bolts.

31. WRIST PIN:

- a) Maximum I.D. is .414".
- b) O.D. is .624" - .626".
- c) Minimum length is 1.901".

32. PISTON RINGS: Three rings mandatory. Top compression ring must have chamfer or O toward top of piston. Second scraper ring must be installed with inside chamfer down and O toward top of piston. Oil ring must be installed as from factory. No alteration of

rings allowed except end gapping and lapping. Rings must be in one piece when removed from block.

- a) Minimum width of top two rings is .095".
- b) Thickness of top two rings is .059" - .064".
- c) Minimum width of oil ring is .065". Ring groove must be present. Expander must be installed.
- d) Thickness of oil ring is .098" - .102".

33. PISTON: Stock Briggs & Stratton or Burris replacement piston only. Piston must be unaltered and conform to the specifications listed below.

- a) Minimum from top of piston to top of wrist pin on circlip side is .658".
- b) Minimum piston length is 1.768".

34. CRANKSHAFT: Stock B&S #555565 crankshaft with stock timing gear installed in stock location only. No alteration in any manner allowed. Offset crankshafts not permitted. Aftermarket bearing of non self-aligning type, with or without shield, is permitted. No ceramic bearings allowed.

- a) Shim(s) must be installed as from factory.
- b) Crankshaft journal diameter is 1.094" - 1.100".

35. BLOCK: Must be stock with no alterations, except blocks may be repaired from broken rod damage, providing that repair does not constitute a functional modification of original block. No welding is permitted from the cooling fins upward. Block may not be machined on intake or exhaust port gasket surface. No knurling of guides allowed. The repair of one coil post is allowed, as long as the remaining post is factory and unaltered.

36. CLUTCH: Engine clutch only with chain drive.

## **E. ANIMAL (FOR METHANOL FUEL CLASSES)**

1. Animal Sportsman rules, except for the following:

2. CARBURETOR: Needle jet: 1.690" maximum length and 1.680" minimum length. Taper on needle must remain stock and will be checked at .500" from the tip of the needle and must not be smaller than .070". Any parts that are inside the float bowl or that can be removed through the float bowl are non-tech items.

3. CAMSHAFT: Lobes may be ground, but not to exceed .870" base circle. Mechanical compression relief is non-tech. Camshaft lobes must remain flat and of original width.

4. CYLINDER DECK: Piston pop up cannot exceed .005" above block surface in the center of the piston.

- a) Minimum intake and exhaust valve length 3.250".

5. STARTER: If starter recoil is removed, starter cup must be removed also. Stock flywheel washer and any style not for use with an electric starter allowed. Any screen or guard that fully covers the flywheel fins is allowed. All screens must be bolted to blower housing.

6. FLYWHEEL: Any flywheel key or no flywheel key is allowed.

7. CRANKSHAFT: Shim(s) if used must be installed as from factory.

8. FUEL PUMP: Fuel pump must be pulsed only from crankcase upper oil fill cap.

## **F. BRIGGS & STRATTON LO206**

1. GENERAL RULES:

- a. The terms stock, original equipment, OEM, unaltered, etc, refer to Original Equipment supplied by Briggs & Stratton.
- b. Only the original equipment Briggs & Stratton LO206 #124332-8201 or Junior 206 #124332-8202 engines are allowed in the classes recommended herein.



- c. All parts must be unaltered Briggs & Stratton LO206 parts specifically made for this engine by Briggs & Stratton. No after-market parts to be used unless specified in these regulations.
- d. All parts are subject to comparison with a known stock part.
- e. For ALL other regulations, general safety, etc., contact your sanctioning body.

Example: Chain guards.

f. The tech official, at their sole discretion, may at any time replace a competitor's sealed engine, carburetor, or head assembly with another sealed engine or known stock part. Failure to comply is grounds for disqualification.

g. Briggs & Stratton 206 classes must have a serialized block. Exception: For early built engines without a block serial number the engine identification sticker must be in place and legible. If the sticker is illegible or missing the engine must be tagged with a suitable sticker or seal approved by the technical inspector.

h. An orange number panel must be affixed to the rear bumper of the kart.

i. Juniors ages 12-14 may send a petition listing qualifications to the Administration office for permission to compete in the Sprint LO206 senior class. This petition must be approved by the KART directors before the competitor will be allowed to participate in the senior class. All other Junior rules, such as not moving up and back, apply.

## 2. THINGS THAT ARE NOT PERMITTED:

- a. Tampering of the factory installed engine seals (2).
- b. Addition or subtraction of material in any form or matter.
  - a. Exception – Valve maintenance (valve job). Valve seats must remain factory specification with one 45 degree angle only. Multi-angle valve seats are not permitted. Grinding of valve stem or excessive material removal prohibited.
  - b. Exception – Optimization of the slide opening in Briggs & Stratton Cadet, Novice, Junior 1, Junior 2 and ASN National Junior classes is 1permitted per section 1 guidelines.
- c. "Blueprinting" unless stated herein.
- d. Modification to or the machining of any parts in order to bring them to stated minimum/maximum specification, (or for any reason).
- e. Machining or alteration of any kind to the engine or replacement parts unless specifically stated herein.
- f. Deburring, machining, honing, grinding, polishing, sanding, media blasting, etc.
- g. Sandblasting or glass-beading any interior engine surfaces.
- h. No device may be used that will impede, or appear to impede, airflow to the engine cooling system.

3. ENGINE SEALING: There are two custom, Homeland Security Tier III rated seals installed at the factory. Tampering of the seals is not permitted. Should the seals be tampered with, the engine is no longer eligible for competition. Should an engine require dismantling for any reason that requires breaking of the seals, contact Briggs & Stratton at: Briggs & Stratton Racing – Email: [Briggsracing@basco.com](mailto:Briggsracing@basco.com)



4. TECHNICAL INSPECTION TOOLS: Briggs & Stratton have made available a number of tools for the convenience of technical checking of components when necessary. They are indicated throughout the rules, e.g. Tech Tool (#). See Section 38 in Briggs & Stratton LO 206 Rule Book for tool description. Tools are available from: Sox

Racing, 2223 Platt Springs Rd., West Columbia, SC 29169, (803) 791-7050

5. ENGINE IGNITION SWITCH: The B&S ignition switch and wires must remain in stock location. It is not permitted to alter the OEM wiring.

6. ENGINE AIR FILTER: The only air filter permitted is the Briggs & Stratton Green Air Filter Part #555729. No modification to the filter element is permitted.



A protective shield may be attached for wet-weather competition. It is not permitted for the protective shield to create any ram-air effect.

7. ENGINE FUEL: Non-Ethanol Premium Gasoline no greater than 94 octane sold at normal roadside fuel stations open to the public. The addition of fuel additives in any manner is not permitted. Fuel dispensing location may be specified in Event Supplementary Regulations.

8. ENGINE OIL: High-quality synthetic oil within a 10W-20 range recommended. No oil additives are permitted.

Factory Recommendation- Briggs & Stratton 4T Synthetic Racing Oil is engineered exclusively for the rigors of high revving, air-cooled racing engines (available through both Briggs Racing and Amsoil dealers)

9. OIL BREATHER—RECOMMENDED: Oil breather must vent to a catch container.

10. OIL CATCH CONTAINER: An oil overflow catch system is mandatory. Overflow tube must run from the crankcase breather to a catch container. The catch-container must be vented to atmosphere.

11. CARBURETOR OVERFLOW: Carburetor overflow must be vented to the catch container.

12. FUEL PUMP: It is recommended but not mandatory that Walbro fuel pump, B&S part number #557033 be used. Other pumps are permitted.

It is prohibited to pulse from the intake manifold. The fuel pump must be pulsed from a pulse fitting mounted on the oil fill fitting located on the engine side cover. Aftermarket one-piece filler/pulse fittings such as shown on the right are permitted.



A fuel filter is HIGHLY RECOMMENDED to insure that dirt and contamination within your fuel system does not impact your carburetors performance. This is not a tech item.

13. COOLING SHROUDS, COVERS AND BLOWER HOUSINGS: All pieces of the engine cooling shroud/blower housing and control panel must be stock B&S and properly installed.

Engine Shroud may be painted any color. Any bolt, with the exception of the head bolt, that is used to secure sheet metal shrouds and covers may be replaced with larger diameter bolts.

No taping or covering of the rewind shroud is permitted.

14. USE OF HELICOILS: It is permitted to use Helicoil thread inserts for shrouds, valve cover, oil drain, oil fill holes, blower housing, and exhaust pipe attachment studs on the head and lower brackets.

★ 15. CARBURETOR & INTAKE MANIFOLD: The B&S stock Walbro PZ22 carburetor part #555658 is the only carburetor permitted. 'Walbro', 'Briggs' diamond logo and/or #590890 etched in the body



are additional visual indicators. No alterations allowed unless stated below. All parts will be compared to a stock known B&S part for eligibility. This includes the nozzle, emulsion tube, jets, float, float needle and all other carb parts. It will be allowed however to adjust the float height by means of bending the small tab on the float arm.

Slide must remain B&S stock unaltered. Slide cutaway to be measured on flat surface. .075 no go Tech Tool A10.

B&S stock unaltered aluminum needle is required part number 555602 marked #BGB. Needle to be inspected using Tech Tool A4. Needle, when placed in tool A4, should not protrude through the other side. If needle protrudes through the block it is out of specification.

NOTE: Slide openings can be measured only with the Briggs & Stratton slide tool listed on the tool reference chart.

Class	Max. Slide Height
.350 Cadet	.310 Opening (Long BLACK)
.450 Novice	.342 Opening (PURPLE)
Junior 1 LEGACY	.440 Opening (RED)
Junior 1Club	.490 Opening (GREEN)
Junior 2 LEGACY	.520 Opening (BLUE)
ASN Nat. Junior	.570 Opening (YELLOW)

Technical Item	Description	Tech Tool
a. Needle Jet C-clip	Needle Jet C-clip must be properly installed but may be installed at any of the 5 factory settings on the needle jet.	
b. Throttle cable cap	Throttle cable cap on the top of the carburetor must be used and properly installed in tight position.	
c. Choke	Choke: OEM unaltered, but lever may be fastened open with a spring, rubber band, wire, etc.	
d. Idle pilot jet	Idle pilot jet - #32, hole size is .0130" no go.	
e. Main jet	Main jet - #95, hole size is .0380" 0.036 go, 0.039 no go	
f. Main nozzle and Emulsion tube	Main nozzle - OEM stock unaltered - hole size = .101 min and .103 max inches. No drilling, reaming, slotting or oblonging of hole. Emulsion tube - OEM stock unaltered 4 small holes = .018 min inches to .020 max inches 4 big holes = .026 min inches to .029 max inches.	
g. Venturi Measurement	Venturi Measurement: Vertical: .792 max inches.	A8
	Horizontal: .615 max inches at widest part	A8
	Horizontal: .602 max inches at narrowest part.	A20
h. Air pick off hole	Air pick off hole - .057 go .061 no go	A9
i. Throttle bore	Throttle bore - Must be as cast and bore max diameter = .874 inches.	A7
j. Venturi idle fuel hole	Venturi idle fuel hole = .036 inches max	

k. Air filter	Air filter: Only GREEN air filter, part # 555729 is allowed. Filter adapters are not allowed, filter must attach directly to carburetor air horn.	
l. Carburetor overflow	Carburetor overflow: Must be vented to a catch container.	
m. O-Ring	O-Ring part number B&S part # 555601 is required and must be unaltered.	
n. Intake manifold	Intake manifold - max length = 1.740 inches min to 1.760 inches max	A12
	Intake manifold - bore diameter = .885 inches min to .905 inches max	A11
o. Choke Bore	1.149	A7
p. Carb Slide Cutaway	.075 no go	A10
q. Widest part of Combustion Chamber	2.640	A30

#### 16. CYLINDER HEAD:

a. The ONLY head casting for the B&S LO206 herein is the 'RT-1', cast into the head just off the head gasket surface (towards the rear of the engine, PTO side). The overall head minimum thickness is 2.430".

b. Cylinder head must be "as cast". Factory machining marks left on the head gasket surface are a tech item.

c. Hard Carbon may be scraped from head before measuring.

d. Depth of shallow area of combustion chamber must be .030 inch minimum.

This measurement to be taken with a depth gage on both the combustion side and spark plug side of cylinder head.

e. Depth at floor of combustion chamber is .340 inch minimum.

f. Inspect retainers for alterations that would increase valve spring pressure - .055 to .075 maximum flange thickness. Both intake and exhaust must have OE stock B&S valve keepers.

g. Unaltered B&S part #555552 (exhaust) and #555551 (intake) can be checked for appearance, weight, and dimensions.

No machining, polishing, easing, or titanium valves allowed.

Valve surface must be unaltered factory ground and have one 45 degree sealing surface only.

There will be no other angles ground on any part of the valve. Tech Tool A22.

h. Valve Guides: Replacement of valve guides with B&S part #555645 only is allowed. Maximum depth from the head gasket surface to the intake valve guide is 1.255".

#### 17. HEAD GASKET:

a. Unaltered B&S part #555723 is the only head gasket allowed.

b. Minimum gasket thickness between head bolt holes .049 inches. Measurements are to be made with a micrometer in four places between the head bolts, from the inside of the gasket.

#### 18. PORTS

a. No de-burring, machining, honing, grinding, polishing, sanding, media blasting, etc.

b. The transition from intake bowl to port must have factory defined machining burr at this junction.

No addition or subtraction of material in any form or matter.

No alterations of any kind may be made to the intake or exhaust ports.

- c. Intake Port: Maximum diameter measurement = .918 inches max. Tech Tool A6.
- d. Exhaust Port AS CAST. Exhaust Outlet -.980 – Tech Tool A6.
- e. Valve Seats. Intake and exhaust: Must remain factory specification with one 45 degree angle only. Multi-angle valve seats are not permitted.
- f. Intake valve seat diameter inside = maximum .972 inches. Tech Tool A2.
- g. Intake port pocket bowl (area just below valve seat) = .952 no go Tech Tool A2
- h. Exhaust valve seat diameter inside = maximum .850 inches. Tech Tool A1.

#### 19. VALVES:

##### a. Intake valve

Minimum Weight of Valve	29.26 grams
Diameter of valve stem	.246 to .247 inches
Diameter of valve head	1.055 to 1.065 inches Tech Tool A17
Diameter of valve seat	.972 inches ID maximum
Valve length	Minimum 3.3655 inches
Height from angle of valve face to top of the valve	.057 inches minimum
Tech Tool A26	

##### b. Exhaust valve

Minimum Weight of Valve	28.62 grams
Diameter of valve stem	.246 to .247 inches
Diameter of valve head	.935 to .945 inches Tech Tool A18
Diameter of valve seat	.850 inches ID maximum
Valve length Minimum	3.3655 inches
Height from angle of valve face to top of the valve	.060 inches minimum Tech Tool A27

#### 20. VALVE SPRINGS:

- a. Valve Springs are single coil stock, unaltered B&S part # 26826. Must be identical in appearance to factory part and have 4.25 to 4.75 coils in stack.
- b. Spring Wire Diameter: .103 to .107 inches
- c. Valve spring length: .930 max inches Tech Tool A15
- d. Inside diameter: .615 to .635 inches

#### 21. ROCKER ARMS, ROCKER BALL AND ROCKER ARM STUDS:

- a. Rocker arms must be unaltered stock B&S part #691230 (US) or #797443 (metric) and will not be altered in any way.
- b. Rocker studs must be stock, unaltered stock B&S part #694544 (US) or #797441 (metric) and in stock location.
- c. Rocker Ball must B&S stock. Diameter .590 inch min. to .610 inch maximum. Tech Tool A16.
- d. Rocker arm mounting positions may not be altered in any manner. No helicoiling of mounting holes. No bending of studs.
- e. Rocker arm stud plate must be bolted to the head with one, OEM stock B&S gasket only - no alterations. Maximum thickness of gasket is .060 inches.
- f. Rocker arm – overall length 2.865 inches minimum. Tech Tool A13.

#### 22. PUSH RODS:

- a. Push rods must be unaltered stock B&S part #555531.
- b. Push rod length 5.638 minimum inches to 5.658 maximum inches. Tech Tool A5.
- c. Push rod diameter .185 minimum inches to .190 maximum inches.

#### 23. ENGINE BLOCK:

- a. Engine block must be unaltered “as cast” B&S factory machined condition.

There must be no addition or subtractions of metal or any substance to the inside or outside of the cylinder block.

- b. Both (2) B&S engine seals must be present with both the fastener and seal in “as shipped” from the factory location and condition. Any defined tampering with the fasteners or damage to the wire/seal itself (example: delaminated hologram) are grounds for disqualification.

Take proper care of your seals to ensure their integrity. It is recommended that you wrap your seals (using a plastic bag, etc.) to prevent exposure to harsh solvents such as carb cleaner, etc...

- c. Deck gasket surface finish is not a tech item. Piston pop up can be .005 inches maximum. Piston pop-up to be checked with flat bar in center of piston parallel to piston pin and then again checked 90 degrees to piston pin. Tech Tool A25.

Angle milling or peak decking is not allowed.

- d. Carbon build-up can be removed before pop-up is measured as long as material is not removed from the piston. Exception – Competitors can deburr the manufacturing part number/marks IF needed as long as:

- Removal does not extend beyond the defined script area.
- De-burring does not extend below the original piston surface area.
- The original part numbers and script are still clearly visible.

- e. Cylinder bore will not be bored oversize

- f. Cylinder bore will not be re-sleeved.

- g. Cylinder bore position is not moved or angled in any manner.

- h. Cylinder bore dimension: - Briggs & Stratton stock bore is 2.690”. Allowance for wear is permitted up to 2.693” maximum for entire length, top to bottom.

- i. Maximum stroke is 2.204”. Push piston down to take up rod play. Check stroke on BDC to TDC. Tech Tool A21.

#### 24. VALVE LIFT:

- a. Maximum valve lift is checked from the top of the valve spring retainer. Valves must be adjusted to zero clearance.

- b. Valve Lift: Camshaft check is taken at the valve spring retainers. With the lash set at zero, the movement of the valve spring retainers may not exceed the following: Intake and exhaust: .255 inches maximum.

25. CAMSHAFT PROFILE LIMITS (measured at the push rod): Push gently down on dial indicator stem to ensure that there is no lash when push rods are going down.

Intake lift		Exhaust lift	
0.006	59 to 49 BTDC	0.006	101 to 91 BBDC
0.020	16 TO 12 BTDC	0.020	59 TO 55 BBDC
0.050	.5 TO 4.5 ATDC	0.050	43 TO 39 BBDC
0.100	17 TO 21 ATDC	0.100	26 TO 22 BBDC
0.150	33.5 TO 37.5	0.150	9 TO 5 BBDC
0.175	43 TO 47 ATDC	0.175	1 TO 5 ABDC
0.200	54 TO 58 ATDC	0.200	11.5 TO 15.5
0.225	68 TO 72 ATDC	0.225	25 TO 29 ABDC
MAX LIFT	0.257	MAX LIFT	0.259
MIN LIFT	0.252	MIN LIFT	0.252

Intake lift		Exhaust lift	
0.225	38 to 34 BBDC	0.225	76 TO 72 BTDC
0.200	24.5 TO 20.5	0.200	62.5 TO 58.5
0.175	14 TO 10 BBDC	0.175	52 TO 48 BTDC
0.150	4.5 TO .5 BBDC	0.150	42 TO 38 BTDC
0.100	12 TO 16 ABDC	0.100	25.5 TO 21.5
0.050	29 TO 33 ABDC	0.050	8.5 TO 4.5 BTDC
0.020	45.5 TO 49.5	0.020	8 TO 12 ATDC
0.006	81 TO 91 ABDC		

26. FLYWHEEL:

- No modifications are allowed to the flywheel.
- The minimum weight of the flywheel, fins and attachment bolts is 4 pounds 1 ounce.
- Stock B&S part #555683 only. No machining, glass beading, sand blasting, painting or coating of flywheel is allowed.
- A flywheel fan, B&S part #692592, with broken fins must be replaced.
- Stock, unaltered B&S flywheel key with the B&S logo is required. Width of the key allowed is .1825"-.1875". No offset keyways allowed.

27. IGNITION SYSTEM:

- Unaltered B&S stock ignition part #555718 is mandatory. Only "GREEN" ignition module allowed. Maximum RPM: 6,150. Exception - Cadet LO206 class requires the use of unaltered B&S stock ignition part #555725 (BLACK in color). Maximum RPM: 4,150 with 50 RPM tolerance.
- Coil or its position, other than air gap may not be altered in any way. Coil mounting bolts must be stock and cannot be altered in any way to advance or retard timing. Attachment bolts and/or bolt holes may not be altered.
- Spark plug: Only the B&S unaltered factory spark plug part number #555737 -Champion RC12YC is permitted. Spark plug must have the Champion and Briggs & Stratton logo as well as the RC12YC identification on the insulator.  
Sealing washer must be in place as from factory.
- Magneto air gap is non-tech (recommended clearance .0140")
- Ignition timing: Maximum of 30 degrees BTDC
- Spark plug connector: Only the OEM B&S part #555714 is permitted.

28. CRANKCASE: Crankcase and cover must be B&S stock, unaltered, "as cast in factory" condition. No alterations or subtractions of metal or any other substance to crankcase cover.

29. CLUTCH:

- Novice class must use the supplied Max-Torque clutch, part #555727. No alteration to the clutch is allowed, except springs.
- ★ Junior 1, Junior 2, Senior, and Masters Classes can run any rim centrifugal clutch with a maximum of 9 springs and 6 shoes. No alteration to clutch allowed, except springs. Clutch coolers are not allowed. Clutch drum, OEM to the type of clutch being used is a non-tech item, may be modified to run belt, #35 or #219 chain system. May not lighten the drum below the readily available weight of the OEM drum.
- Refer to your sanctioning body general rules for mandatory chain guard guidelines.

30. STARTER: Recoil starter, B&S part # 695287, must be retained, as produced and intact. Starter maybe rotated.

31. EXHAUST HEADER:

- Header must be RLV Model 5507 or 5506 for all classes. RLV 5506 may be heated in the bend area to be twisted toward the kart centerline. Pipe may be twisted no more than 3" from original configuration measured at the tip. No kinking allowed.
- Gasket and/or silicone are allowed to seal header to head. (One gasket maximum)
- Studs or bolts are permitted to fasten head to head. Bolts or nuts must be safety wired.
- Helicoiling of the exhaust is allowed and recommended.
- Header support brace is mandatory.

32. EXHAUST SILENCER: Silencer must be RLV B91XL (part number 4104) with round baffle holes only. Safety wiring of the silencer to header is recommended.

33. EXHAUST PROTECTION: The exhaust header and silencer must be completely wrapped with a non-asbestos insulation material starting approximately 2 inches from the exhaust flange.

### 34. TORQUE SPECIFICATION GUIDELINE:

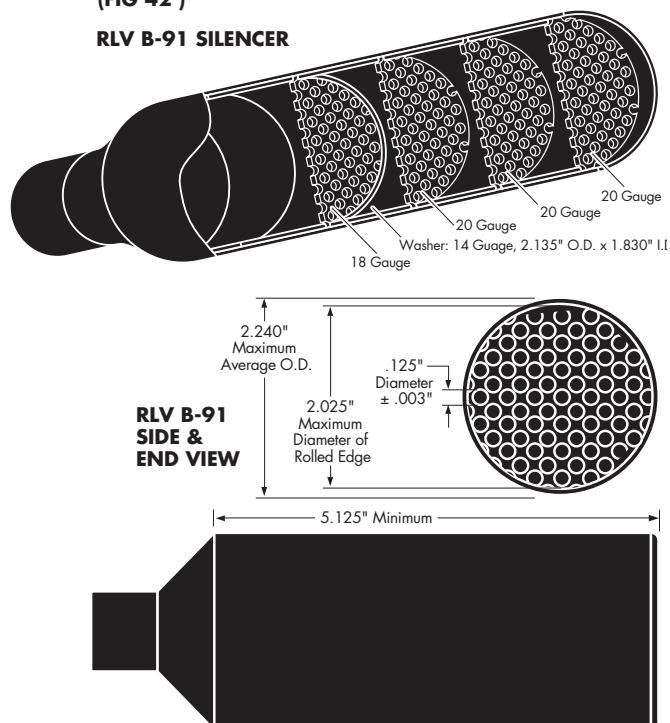
DESCRIPTION	WRENCH/ SOCKET SIZE	TORQUE
Air Guard	7mm	40-50 lb-in. (4.5-5.6 Nm)
Blower Housing	10mm & 3/8"	60-110 lb-in. (7-12.5 Nm)
Carburetor (to manifold)	10mm	80-110 lb-in. (9-12.4 Nm)
Connecting Rod	T27	115-120 lb-in. (13 Nm)
Cylinder Head Bolts	10mm	200-220 lb-in. (20-27 Nm)
Exhaust Brace Screws	10mm	95-125 lb-in. (11-14 Nm)
Exhaust Stud	10mm	95-125 lb-in. (11-14 Nm)
Flywheel Nut	15/16"	55-75 ft-lbs. (74.5-101 Nm)
Flywheel Fan	10mm	180-240 lb-in. (20-27 Nm)
Intake (to cylinder)	5mm Allen	70-90 lb-in. (8-10.2 Nm)
Oil Drain Plug	3/8"	100-125 lb-in. (11-14 Nm)
PVL Module	7mm	20-35 lb-in. (2.3-4 Nm)
Rocker Arm Stud	7/16"	90-120 lb-in. (10-14 Nm)
Rocker Arm Plate	10mm	70-90 lb-in. (7.9-10.1 Nm)
Rocker Arm Set Screw	1/8" Allen	50-70 lb-in. (5.6-7.9 Nm)
Spark Plug	5/8" Deep	95-145 lb-in. (11-16.4 Nm)
Side Cover	10mm	95-125 lb-in. (11-14 Nm)
Starter Gear	#2 Phillips	35-53 lb-in. (4-6 Nm)
Top Control Plate	10mm	70-90 lb-in. (8-10 Nm)
Valve Cover	10mm Lower & 3/8"	30-60 lb-in. (3.5-7 Nm)

### G. HEADER OR MUFFLER

1. Header or muffler must extend beyond fuel tank, but not to extend past rear bumper. Minimum 1.990" washer or flange mandatory on pipe end. No sharp edges. Washer thickness .075" minimum.
2. Exhaust header end or muffler may not protrude inside of port.
3. Header support allowed. Bracket to support header or muffler allowed, except Briggs Blue Wazoom. Bracket may not be secured under more than 4 head bolts
4. Must be fixed position pipe. No "slippy" pipes.
5. No extra tubes to, in or through header allowed.
6. Hole for exhaust thermocouple allowed. Thermocouple must be in place.

(FIG 42 )

RLV B-91 SILENCER



7. Headers and mufflers will be required on all 4-cycle engines at all Speedway sanctioned events and Nationals. RLV B-91 on all stock motors, B-91-MO on Ltd. Mod. and Mod. Briggs, and RLV #4103 on Blue Wazoom. Block savers/exhaust rotator allowed except in Briggs Blue Wazoom.

8. Bolt or studs securing header must be safety wired. Muffler must be safety wired through a hole in the header brace and perforations on end of the muffler. Do not weld on or drill holes in the muffler.

### H. FUEL AND OIL

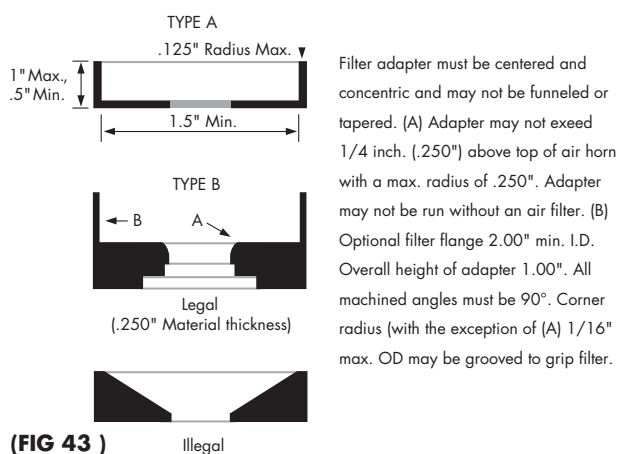
1. Any competitor spilling oil or fuel on the track will be subject to suspension.
2. 100% methanol in all classes. No additives
3. Fuel may be pumped around or tested by any means available to KART officials. Violators may be suspended.
4. Crankcase contest are subject to test, at any time, for dangerous, oxygen bearing or flammable vapor producing substances, which are prohibited.
5. Flame test procedure is as follows:
  - a) Drain about 1 fl. ox. of crankcase oil into a large steel spoon or ladle.
  - b) Apply heat to the bottom of spoon with propane torch while checking the surface temperature of the oil with an infrared temperature gun.
  - c) When the oil temperature is between 250 and 300 degrees maximum, pass the flame 3 times over the oil approximately 1-inch above the surface. Do not touch the flame to the surface of the oil.
  - d) If the oil ignites and continues to burn when the flame is removed, it is illegal. If the oil flashes and the flame goes out immediately when the torch is removed, the oil is legal.

Modifications of this method are acceptable if the following points are observed: Oil temp never exceeds 300°F. The flame source does not touch the surface of the oil. Continued burning of the oil is necessary for illegality.



## I. SPECIAL RULES

1. No pressure tanks in any classes.
2. Oil catch container overflows are mandatory in all 4-Cycle classes. Overflow system subject to tech.
3. Tach and temp gauges are subject to tech inspection and are legal in all classes.
4. No sealer or paint may be used on any gasket or sealing surface exception Limited Modified and Modified Briggs. Sealer may be used as an exhaust gasket in all classes.
5. Engine will be teched the day it is raced.
6. Carb saver brackets allowed. If head to carb type is used, the bracket and/or filter adapter must remain lower than the top edge of the carb inlet (type A adapter). Bracket may not alter tech dimensions (type B adapter). (FIG.43)
7. Stock Class Air Filter Adapter: Does not apply to Super Stock, Limited, Briggs Modified, or Open classes. Either type A or type B may be used. Combination of both prohibited. (FIG. 43)



8. Engines may be checked for air leaks.
9. There is no tech on the quantity of holes in the flywheel screen but if there are holes they cannot be uncovered at any time during the race.

## J. FUEL TECH

There are two field tests for checking methanol. Any other approved test means available may be used. Either or all tests may be used.

1. In a clean bottle add 1/2 fuel and 1/2 distilled water. Mix and let set. A legal sample will mix and become clear almost immediately. If the sample turns milky or is contaminated by foreign material it is considered illegal.

2. Specify gravity. Check the specific gravity of the methanol using the following chart + or -.003 specific gravity acceptable variation.

Fuel Temp.	Specific Gravity	Fuel Temp.	Specific Gravity	Fuel Temp.	Specific Gravity
35 .....	.809	58.....	.797	80.....	.785
38 .....	.807	60.....	.796	83.....	.783
40 .....	.806	63.....	.795	85.....	.782
43 .....	.804	65.....	.794	88.....	.779
45 .....	.803	68.....	.793	90.....	.778
48 .....	.802	70.....	.792	93.....	.776
50 .....	.801	73.....	.789	95.....	.775
53 .....	.799	75.....	.788	98.....	.773
55 .....	.798	78.....	.786	100.....	.772

## K. JUNIOR 1/JUNIOR 2 RESTRICTOR PLATES.

This plate is designed to provide slower and safer racing in Junior 1 and Junior 2 classes.

The restrictor plates must be used as manufactured by Horstman. No modifications are allowed.

Any means to bypass the restrictor plate are not permitted.

1. Stock Briggs and Stratton
  - a) Junior 1 class must run a .425" restrictor plate, no-go.
  - b) Junior 2 class must run a .500" restrictor plate, no-go.
  - c) Junior 2 Super Briggs must run a .575" restrictor plate, no-go.
  - d) Centerline of restrictor must be maintained.
  - e) Install between the engine block and carburetor with flange into intake port. One gasket is required on each side of the plate.
  - f) Horstman logo is clearly visible above carburetor when installed correctly.
2. Animal
  - a) Junior 2 Animal class must run a 3 hole .313" restrictor plate, no-go.
  - b) Must be installed with 2 holes on top and the tab on the right when looking from carb toward head.
  - c) Install between carburetor and intake manifold. Must have gasket between the restrictor and manifold and must use carburetor O-ring.

## **10 TOUCH AND GO (TAG) TECHNICAL GUIDE**

### **A. STARTER**

A non-tech item. It is mandatory that the starter be complete and intact. After market starters allowed.

### **B. BATTERY:**

A non-tech item. The battery must be the same size and shape, and of the same amperage and voltage as OEM. (12V/ 6.5-9.5 Amperage Hour). Kart may only have one battery installed and connected to the engine. Any battery found to be cracked, broken or leaking will be removed from the event.

### **C. AIR BOX:**

Must be CIK or RLV approved with two inlet tubes not to exceed 22.0 mm (+/-1.0mm) inside diameter and 95.0 mm minimum length. Air boxes may not be modified although the rubber flange may be trimmed on the inside of air box to the flange lip. Aftermarket internal foam filters allowed as long as no modification is made to the air box itself. The position of the air box is non-tech. The air box cleaner adapter must be OEM. Updated adapters are allowed as long as they are OEM. No modifications are allowed to the adapter. Forward or rearward facing ram air type air boxes are NOT allowed. No "Ram Air" devices may be used. If motor has been homologated with a specific air box, then that air box must be used.

### **D. CARBURETORS:**

Refer to Section 10.O. for particular motor qualifications. Washers may be added to the stock needle jets for the purpose of tuning. Must be OEM needle jets. The method used to attach the throttle cable to the arm and the bracket that holds the cable are non-tech. The manifold or carburetor may not be modified. The arm, throttle shaft and butterfly are OEM with no modifications allowed. The slide assembly is included in jetting but must retain OEM replacement parts. No button head screws in butterfly. Surface finish of venturi and bore must remain as manufactured. Butterfly must be of original manufacture and stock. Welch plugs are non-tech but must be the same size and shapes that comes in over-haul kits. The fuel may only pass through stock metering orifices. Any means taken to bypass fuel to the engine in any other manner is not allowed. Inlet springs are non-tech. Machine work to the throttle shaft is not allowed. Surface finish of venturi and bore must remain as manufactured. Carburetors must remain matched to engine as homologated. All pumper style carburetors are single pumpers with plastic fuel cap. All IAME engines must use blue fuel cap. Fuel adjustment needles must be stock from the needle top to the "O" ring step. Needles may be modified beyond the "O-ring step to attach needle extensions. No remote carburetor adjusters or triggers. The carburetor may be installed up-side-down for the purpose of tuning on track as long as there are no modifications to the carburetor, manifold or any other component related to completing this change. Rotax MAX FRI25 per RMC rules. Any components not specified herein must be stock appearing.

### **E. FUEL PUMPS:**

Must be a diaphragm pulse type. Manufacturer and location are open. Electric pumps and secondary pumps are not allowed.

### **F. IGNITION AND ELECTRICAL SYSTEM:**

OEM as supplied and per factory specifications (see sec. B. Battery) Electrical harness and starter control must be as manufactured. Static timing must be at the factory settings, key must be in place, with no modifications allowed. Spark plug is open. Must have a washer intact unless a head temp sensor is used. Spark plug wire and cap are non-tech.

### **G. PISTON/RING/CYLINDER HEAD:**

OEM as supplied by engine manufacturer. No interchange is allowed. Wrist pin must be made of ferrous material. No painting, plating or ceramic coatings permitted.

### **H. EXHAUST SYSTEM:**

Exhaust and silencers OEM as supplied by manufacturer. No plating or ceramic coatings permitted. Header and pipe: No interchange allowed. Pipe and header must be of original manufacture with no modifications. Exhaust system must start and complete race intact as intended for use by manufacturer. Connector pipe where applicable must be round and of proper O.D. as to connect pipe to header as supplied by manufacturer. Connector pipe length non-spec unless otherwise specified. Addition of exhaust gas temperature lead and/or O-2 sensor permitted. But hole must be plugged if sensor is not used. No welding for repairs is allowed.

a) Solid or flexible exhaust tubing is allowed.

### **I. CLUTCH:**

ENGINE clutch to be as supplied from engine manufacture per factory specifications. No modifications allowed. Non adjustable, single disc or shoe type clutch only. Interchangeability is allowed between Tag engine clutches including parts and entire clutch. AXLE clutch is allowed in the SENIOR ROAD RACING classes only. Clutch engagement not to exceed 7,000 RPM for senior classes 6000 RPM for cadet and Junior classes.

Check with roll over test: 3/4" x 3/4" bar in front of rear tire. Interchangeability is allowed between Tag clutches.

### **J. COOLING SYSTEM:**

No anti-freeze allowed. Water with inhibitors only. Aftermarket water pumps are allowed but must be same as OEM. Water pump must be driven by the rear axle.

### **K. INTERNAL MODIFICATIONS:**

All internal modifications of any kind are strictly prohibited. This includes to addition or deletion of parts. i.e. gaskets, nuts, bolts etc.

### **L. REED CAGE AND REEDS:**

OEM with no modifications. Must retain stock reeds and reed screws with no modifications.

### **M. BEARINGS SEALS AND GASKETS:**

Bearings are open but must be of the same type, material and design as the OEM bearings. Replacement bearings must be standard type, conventional bearings with steel or plastic retainers. They must be of the same width and outside diameter as original bearings. Ceramic or angular contact bearings are not allowed. Seals are open but must be un-modified and must be installed as manufacturer intended. Gaskets are open but must unmodified, and must meet the manufacture's thickness and cannot be added or deleted. You may not stack base gaskets. Must be single gasket as supplied from the factory. Combustion Chamber Volume will be checked to the top of the spark plug hole.

### **N. DEREGULATED MOTORS:**

Some motors previously listed by TAG USA or other sanctioning bodies have been "deregulated". Unless otherwise specified, KART will allow a "deregulated motor" to race in a stock, unaltered form at the highest listed weight.

## O. ENGINE SPECIFICATIONS:

UNLESS OTHERWISE SPECIFIED, ALL PARTS ARE TO BE STOCK AND UNALTERED. PARTS MAY BE TECHED AGAINST A KNOWN STOCK PART. DO NOT ASSUME ANY ITEM IS STOCK BECAUSE SPECIFIC REFERENCE IS NOT MADE IN THE "TECH MANUAL". ASK YOUR TECH OFFICIAL. HE WILL OBTAIN AN OFFICIAL ANSWER FROM THE KART TECH COMMITTEE.

### 1. PRD Fireball

CCV..... 10.0 cc  
Min. Squish ..... 0.036  
Carburetor..... HL360A  
Venturi..... 0.95

Carb. Bore..... 1.065

Reed Thickness..... 0.015

Ignition..... PRD

Crank Complete weight ... 1975g +/- 10g

Exhaust header must use solid pipe that the engine comes with. (no flex pipe allowed). Engine must have "U.S." stamped on it with the serial number.

### 2. Parilla Leopard

CCV..... 9.5cc

Min. Squish ..... 0.026

Carburetor..... HL 334A, HL 334AB, HL334AA

Venturi..... 0.906

Carb. Bore..... 1.005

Reed Thickness..... 0.012

Ignition..... Seletttra 4 pole or Digital K

Crank Complete Weight... 1875g +/- 3%

Air cups must be square only. Must say USA on cylinder. P.N.-10381 screws M3 x 4.5- Gold finished original- the threaded portion of the screw is 4.80mm-4.90mm P.N. 10380-Screws M3 x 4.5- Silver finish sold as spares.-threaded portion of screw: 4.40mm-4.60mm diameter of head: 5.0mm-5.50mm.

The base gaskets are open. Top and/or bottom of cylinder may be machined. Max exhaust port timing of 1.380" with Lad tool. Port and passages will remain as manufactured. Head may be machined, must maintain spherical shape and be centered.

The only IAME filter adapter being manufactured is the 10771-c this is the only allowed and approved filter cup adapter (square version) all other cups are not legal.

All new 'P' Series engines that come with the new Digital K Ignition must use the Digital K Ignition. You may not install the old style ignition on a 'P' series engine. You may not remove the three tabs as this will allow the Digital K Ignition to be retro fitted into an old case.

### 3. Parilla Leopard USA MY 09

CCV..... 9.5cc min

Min. Squish ..... 0.026" min

Carburetor..... Tillotson 334A or 334AB (360a optional)

Venturi..... 22.9mm max (24mm for 360a)

Carburetor Bore ..... 25.4 max (27mm for 360a)

Ignition..... Selletra K Digital with Ignition Box "A"

Ignition Timing ..... Fixed

Header Plate..... N/A

Restricted Header ..... N/A

Pipe..... Matte black w/ Chrome/Polished Cap.  
IAME logos

**NOTES:** IAME logo must be present on the body of the pipe, the cap logo is printed and may not be present on older/used pipes.

Air cups must be square only. Must say USA on cylinder. P.N.-10381 Screws M3x 4.5-Gold finish original-the threaded portion of the screw is 4.60mm-4.85mm-the diameter of the head is 4.80mm-4.90mm P.n.-10380-Screws M3 x 4.5 silver finish sold as spares.-threaded portion of the screw: 4.4-mm-4.6-mm-diameter of head: 5.0mm-5.50mm.

The base gaskets are open. Top and/or bottom of cylinder may be machined. Max exhaust port timing of 1.380" with Lad tool. Port and passages will remain as manufactured. Head may be machined, must maintain spherical shape and be centered.

The only IAME filter adapter being manufactured is the 10771-c. This is the only allowed and approved filter cup adapter (square version) all other cups are not deemed legal.

### 4. Parilla Leopard USA MY 09 - Junior

CCV..... 9.5cc min

Min. Squish ..... 0.026" min

Carburetor..... Tillotson 334A or 334AB

Venturi..... 22.9mm max

Carburetor Bore ..... 25.4mm max

Ignition..... Selletra K Digital with Ignition Box "A"

Ignition Timing ..... Fixed

Header Plate..... N/A

Restricted Header ..... 25mm or 30mm

Pipe..... Matte black w/ Chrome/Polished Cap.  
IAME logos

**NOTES:** IAME logo must be present on the body of the pipe, the cap logo is printed and may not be present on older/used pipes.

Air cups must be square only. Must say USA on cylinder. P.N.-10381 Screws M3x 4.5-Gold finish original-the threaded portion of the screw is 4.60mm-4.85mm-the diameter of the head is 4.80mm-4.90mm P.n.-10380-Screws M3 x 4.5 silver finish sold as spares.-threaded portion of the screw: 4.4-mm-4.6-mm-diameter of head: 5.0mm-5.50mm.

The base gaskets are open. Top and/or bottom of cylinder may be machined. Max exhaust port timing of 1.380" with Lad tool. Port and passages will remain as manufactured. Head may be machined, must maintain spherical shape and be centered.

The only IAME filter adapter being manufactured is the 10771-c. This is the only allowed and approved filter cup adapter (square version) all other cups are not deemed legal.

## 5. IAME X30

CCV..... 9.7cc min  
Min. Squish ..... 0.035" min  
Carburetor..... Tillotson HW-27A  
Venturi..... 27mm max  
Carburetor Bore..... 29.10mm max  
Ignition..... Selletra K Digital with Ignition BOX "C"  
Ignition Timing..... 22 degrees  
Header Plate..... N/A  
Restricted Header..... N/A  
Pipe..... Matte black with factory IAME logos on body and cap.

**NOTES:** The X30 exhaust pipe was never supplied with a chrome or polished end cap.

Reed Thickness..... 0.012 minimum  
Ignition..... Selettra Digital K (as manufactured)  
Header/Pipe..... As supplied by manufacture. Minimum 16 ¾" length from back side of the header flange to weld at first divergent cone. Connector pipe may be flex or solid.  
Clutch..... 3 Shoe Clutch. Original clutch shoe assembly part number X3015840 and new clutch assembly part number X3011584 (both with trailing edge pivot).  
NO INTERNAL MODIFICATIONS ALLOWED. All parts may be compared to known stock parts to insure compliance. Homologation material may also be used if deemed necessary.

## 6. IAME X30 - Junior

CCV..... 9.7cc min  
Min. Squish ..... 0.035" min  
Carburetor..... Tillotson HW-27A  
Venturi..... 27mm max  
Carburetor Bore..... 29.10mm max  
Ignition..... Selletra K Digital with Ignition BOX "C"  
Ignition Timing..... 22 degrees  
Header Plate..... N/A  
Restricted Header..... 29mm  
Pipe..... Matte black with factory IAME logos on body and cap

**NOTES:** The X30 exhaust pipe was never supplied with a chrome or polished end cap.

Reed Thickness..... 0.012 minimum  
Ignition..... Selettra Digital K (as manufactured)  
Header/Pipe..... As supplied by manufacture. Minimum 16 ¾" length from back side of the header flange to weld at first divergent cone. Connector pipe may be flex or solid.  
Clutch..... 3 Shoe Clutch. Original clutch shoe assembly part number X3015840 and new clutch assembly part number X3011584 (both with trailing edge pivot).  
NO INTERNAL MODIFICATIONS ALLOWED. All parts may be compared to known stock parts to insure compliance. Homologation material may also be used if deemed necessary.

## ★ 7. Rotax FR125 MAX

All "Global RMC Technical Regulations" apply unless noted otherwise.

★ Squish ..... 1.0 mm min.

Combustion Chamber ..... ID Code 223,997 Height 27.55 mm, tolerance 1mm

Piston..... coated, or uncoated aluminum cast w/ 1 original magnetic ring. Ring & Piston must be stamped ELKO

Machined areas: ..... top end of piston, outside diameter, groove for piston ring, bore for piston pin, inside diameter @ bottom end of piston, No other machined surfaces permitted.

Gudgeon pin ..... must be magnetic steel

Cylinder ..... Light-alloy cylinder w/GILNISIL plating, no re-plating allowed, id code 223,999. Height of cylinder is 87mm tolerance .1mm. All ports & passages are cast finish except some pre-existing factory removal of flashing from inlet & exhaust port and passages. All ports have chamfered edges to prevent ring snagging. Additional machining is not permitted.

Intake..... Must be marked ROTAX, id code 267 915, no additional grinding or machining permitted. Reed valve assembly is equipped with 2 petal stops and 2 reeds each having 3 petals.

Factory Airbox with filter required

Exhaust Power Valve ..... As supplied by manufacturer. No Modifications Allowed. Compression Spring must be fitted. EVO not approved.

Crankshaft..... Stroke 54.5mm tolerance 0.1mm. Connecting rod must be stamped 213 or 365. The connecting rod shaft is copper plated. Grinding or polishing is not permitted.

Balance Shaft ..... Must be installed and operational, surface is not machined and must be as supplied by manufacturer. Minimum weight for dry balance shaft must be lower than:

Part no. 237 945..... 355 grams

Part no. 237 949..... 255 grams

Crankcase..... As supplied by manufacturer. No grinding, polishing or machining is allowed.

Ignition..... DENSO 12900, must show 3 pins at terminal, no adjustment possible or necessary.

Carburetor..... DELL'ORTO VHSB 34, (cast in housing) QD must be stamped in carburetor housing. The complete inlet bore in the casing must show cast surface.

Carburetor Slide ..... size 40, bottom end of slide must show cast surface.

Needle Jet ..... stamped K27

Floats ..... marked gr 5.2

Idle jets and idle jet insert marked 30

Start Jet ..... stamped 60

Fuel Pump..... MIKUNI diaphragm pump must be mounted on bottom of support bracket for intake silencer.

Clutch ..... Dry centrifugal, max. engagement 3000 rpm



Exhaust..... Must be supplied by manufacturer and cannot be modified except for the replacement of silencer absorption material and the use of threaded fasteners to be used for securing the silencer end cap. Standard exhaust socket must be used.

Length of inlet cone..... 592mm measured on outside from the beginning of exhaust pipe until the beginning of cylindrical part.

Length of cylindrical part of exhaust pipe 125mm

Length of end cone..... 225mm

Exhaust parts must appear to be as supplied by manufacturer. Any variance must appear to be slight and per a reasonable manufacturer's tolerance. All parts are to appear stock and un-modified. Outside diameter of 180 degree bent tube 41 mm +/- 1mm beginning at end of each bend. Diameter of hole of end cap 21mm +/- .2mm. The expansion chamber & silencer supplied must not be modified, the addition of elements to reduce noise is allowed.]

#### ★ 8. Rotax FR125 Max Jr

All "Global RMC Technical Regulations" apply unless noted otherwise.

★ Min. Squish ..... 1.2 mm min.

Cylinder ..... #223994 / No exhaust valve

Factory Airbox with Filter

All other specs same as Rotax FR125

#### ★ 9. Rotax FR125 Max Evo Sr

All "Global RMC Technical Regulations" apply unless noted otherwise.

Squish..... 1.0 mm min.

Cylinder ..... #613372

Head ..... Painted Red

Carburetor..... Dell Orto VHSB 34 XS Max

#### ★ 10. Rotax FR125 Max Evo Jr / Mini / Micro

All "Global RMC Technical Regulations" apply unless noted otherwise.

Squish..... 1.2 mm min.

Cylinder ..... #223991

Head ..... Painted Red

Carburetor..... Dell Orto VHSB 34 XS Max

#### 11. ROK GP

CCV..... 9.5 cc min.

Min. Squish ..... 0.039" min.

Carburetor..... Dellorto VHSH 30

Venturi..... 30mm max

Carburetor Bore ..... 30mm max

Ignition..... PVL 500843/500980/500212

Ignition Timing..... Fixed

Header Plate..... Present as required by homologation sheet (2017)

Restricted Header..... N/A

Pipe..... Must have Super ROK or ROK GP logo

**NOTE:** The only allowable carburetor adjustments are float level, main jet, and needle clip position. Pilot jets and emulsion tubes must remain as delivered.

#### 12. ROK GP - Junior

CCV..... 9.5 cc min

Min. Squish ..... 0.039" min

Carburetor..... Dellorto VHSH 30

Venturi..... 30mm max

Carburetor Bore ..... 30mm max

Ignition..... PVL 500843/500980/500212

Ignition Timing..... Fixed

Header Plate..... Present as required by homologation sheet (2017)

Restricted Header ..... 25mm per 2017 homologation

Pipe..... Must have Super ROK or ROK GP logo

**NOTE:** The only allowable carburetor adjustments are float level, main jet, and needle clip position. Pilot jets and emulsion tubes must remain as delivered.

#### 13. ROK TT

CCV ..... 10.8cc

Minimum squish ..... 0.038

Carburetor ..... HL360

Venturi ..... 0.950 (24.13mm)

Carburetor bore ..... 1.065 (27.01mm)

Reed Thickness ..... 0.008

Ignition ..... Selletra 36/A/09

Crank complete weight ... 1860g +/- 10g

Cylinder Head

Gasket Thickness ..... 0.2

**Note** you may add two 0.1 gaskets to equal out specification

Ignition Timing .065-.085 BTDC

**NOTE:** The only allowable carburetor adjustments are float level, main jet, and needle clip position. Pilot jets and emulsion tubes must remain as delivered.

#### 14. Comer

CCV..... 11.5cc

Min. Squish ..... 0.032

Carburetor..... MIK 00870

Venturi..... 0.95

Carb. Bore..... 1.11

Reed Thickness..... 0.009

Ignition..... Selettra 3356

Crank Complete Weight... 1984g +/- 3%

CCV.....	10cc
Min. Squish .....	0.028
Port Heights .....	Exhaust - 180 Degree Maximum Inlet (Main Transfer) - 130 Degree Max.
Piston.....	Single Dykes Ring
Carburetor.....	Tillotson 334AB
Venturi.....	0.906
Bore.....	1.005
Reed Thickness .....	Minimum 0.008
Ignition .....	Selletra KZ01 (as mfg.)
Header/Pipe.....	As supplied by manufacture. Connector pipe may be either flex or solid.
Clutch .....	FIM 3 shoe push. Maximum 5,000 RPM engagement.

### ★ 16. Dragon 125 RL

CCV.....	123.67cm
Max Bore .....	54.28 mm
Stroke .....	54 mm
Carburetor .....	24 mm
Venturi .....	24 mm +/- .3mm
Ignition .....	Selettra Digital K

## 1. Parilla Gazelle

CCV.....	7.1cc min
Min. Squish .....	0.026
Carburetor.....	Tillotson HL 334b
Venturi.....	0.79 max
Carb. Bore.....	1.01 max
Ignition .....	Selettra

CCV.....	7.1cc min
Min. Squish .....	0.026
Carburetor.....	Dell'Orto PHBG 18 BS Tillotson HW-31A
Venturi.....	0.675" max, oval, as cast
Carb. Bore.....	0.780" max, oval, as cast
Ignition .....	Selettra

CCV.....	7.1cc min
Min. Squish .....	0.028
Carburetor.....	Dell'Orto PHBG 18 BS
Venturi.....	oval, as cast
Carb. Bore.....	oval, as cast
Ignition .....	Selettra