BARBADOS KARTING ASSOCIATION

2014

Competition Regulations
And Technical Manual
These are the following Five Sections

Section1
Introduction, General Regulations, Track and Kart Safety Guidelines
Section 2
Sprint Racing
Section 3
X30 125CC RL TAG
Section 4
Shifter Division
Section 5
Technical Inspection and Introduction

Sections1
Introduction, General Regulations, Track and Kart Safety Guidelines

Introduction

Kart racing is organized by the Barbados Karting Association (BKA) on an average of ten official race events per year. The first race usually starting around 9.30am and competitors are advised to arrive well before this time as driver registration, Kart scrutineering, qualifying and a meeting all precede racing. The track is open for organized practice until the start of qualifying. There is a calendar of events available and there are regular meetings held to keep members abreast of developments within the Association.

Racing is organized in classes and to maintain fair competition, all Karts with drivers aboard must meet a minimum weight before being allowed in the results. These as well as other points concerning such subjects as driver conduct, championship awards, safety regulations etc, are all clearly laid out in these Competition Regulations and the attached Technical Regulations and Track Safety Guidelines.

Every competitor is expected to be fully conversant with these rules and new members are advised to carefully study the Technical Regulations or consult the Management Committee before purchasing equipment.

Modification, variation or tuning other than detailed in these regulations is prohibited. Anyone requiring clarification or definitions concerning these regulations should consult the BKA Management Committee.

Remember: IF IT DOES NOT SAY YOU CAN DO IT, YOU CANNOT

Finally, it should be borne in mind that the policy of the BKA is to provide fair and safe racing as far as possible and keep costs down. Therefore, at any time a situation arises whereby a "loophole" poses a threat to the above stated aims, the "spirit" of the regulations will always take precedence in arriving at a decision.

NOTE: The Management Committee's interpretation of these rules shall be final, firm and binding and the Management Committee reserves the right to modify and/or improve all regulations in the interest of safety, discipline or fair competition.

General Regulations

1. ELIGIBILITY TO COMPETE:

Normally, only members of the BKA and their immediate family (husbands, wives and children) may drive at BKA competition events. Exceptions to this rule are invited guests of the Association and persons with pending applications for BKA membership. Drivers below the age of thirteen (13) will not be allowed to take part in the Yamaha 310 class unless approval has been given by the committee of management and the driver has proven his ability for safety and driver control. Drivers who have attained the age of eight (8) years old will be allowed to compete in the Yamaha Sportsman Class but will have to undergo a trial exam/period by the BKA official for safety, driver control and driver commands. Any driver who's ability to display driver control and safety is in question may not be allowed to compete even though they hold a BMF License as agreed by the committee of management and or the Race Committee. Also parental/guardian approval must be given to the Association in writing for all drivers under the age of 18. Pregnant women may not compete in any BKA competition event.
All drivers shall sign a waiver of liability before being allowed to participate in any BKA event. The driver in signing the entry form for any BKA event, elects to use the track at their own risk, and thereby releases and forever discharges the BKA together with their officers, representatives, agents and members from any liability from injury to person and property that may be received by the said driver and from any 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.
The designated officials of any BKA event shall have (and exercise) the power of rule enforcement and race supervision, as found in the competition regulations, during the entirety of any event. Officials may reserve the right to prevent any member from participating in any event.

2. RACE OFFICIALS:

MANAGEMENT COMMITTEE: The BKA Management Committee will retain overall official management capacity at all race meetings.

OFFICIALS
The designated officials of any BKA event shall have (and exercise) the power of rule enforcement and race supervision, as found in the competition regulations, during the entirety of any event. Officials may reserve the right to prevent any member from participating in any event. .These officials are as follows:

STWEARDS
At a meeting there shall be at least one Stweard of the meeting and shall be noncompetitive person.
The Stweards of the meeting shall have the general power and authority to enforce compliance of the rules of the BKA at the race, of infractions caused by competitors in a particular race .

CLERK OF THE COURSE: This post shall be assigned to a noncompetitive person at each race meeting who will have total power of rule enforcement over all other officials and all competitors other than the Stweards of that race meeting.He shall be the official starter unless he assigns someone else.

DEPUTR CLERK OF THE COURSE: This post shall be assigned to a noncompetitive person at each race meeting who will carry out duties as directed by The Clerk Of The Course.

START LINE JUDGES:One or several judges MAY be appointed by The BKA Management Committee of a race to supervise the starts.Start judges shall immediately indicate to the C.O.C of any false starts which may have occurred.

SCRUTINEERS: One or more will be appointed and they shall be responsible for ensuring that all entries comply with both safety and technical requirements. The Scrutinizer must be satisfied that the Kart is safe, of an adequately strong construction, does not contain any components of a temporary nature, and presents no hazards to its driver or other competitors especially projections which constitute a danger. Steering, wheels and brakes must be adequate for speeds likely to be attained.

TECHNICAL INSPECTORS: Three technical inspectors are appointed by the Management Committee at the start of each year. Any two shall have the authority to impound any engine for examination as to its legality and this examination will take place at a time and place specified by them. They shall also be required to impound and examine any Kart/engine which has been protested.

CORNER MARSHALS: These shall be appointed and their responsibilities will include reporting any rule infringements to the Clerk of the Course and giving flag signals as situations warrant.

LAP RECORDERS: Will be in charge of timing and lap recording.

3. RACE DAY PROCEDURE:

REGISTRATION: On arrival at the race day, drivers/entrants are to report to the officials to register their entry and complete a scrutineering form. Non-registered Karts will not be allowed to practice or race. A registration fee is payable upon each driver registering on every race day. Amount of the fee is available from the Management Committee on request. The kart frame, not the driver, is the official entry in an event and there shall be no substitution of the frame without permission of the Chief Scrutinizer. The entrant must be present at pre-race scrutineering with all equipment necessary to substantiate legal entry for all classes entered.

SCRUTINEERING: Scrutineering of Karts and driver equipment will take place before the first race. All scrutineering will definitely cease before the first event. Drivers are advised to ensure

that their karts are scrutinized or exclusion may result. Karts involved in an accident will be required to be re-scrutinized by the officials before being allowed to start their next race.

DRIVER'S MEETING: There will be a driver's meeting before free practice.
It is mandatory for all drivers to attend; drivers not attending are subject to exclusion from the event.

FREE PRACTICE: Each Class will have 10 minutes of free practice. At the discretion of The Clerk of the Course, classes can be merged to speed up the process.

QUALIFYING: Will take place before the first race. There will be a 5 minute qualifying time window for qualifying. The fastest time posted being the official qualifying time. In the event of a tie the driver with the fastest time overall will prevail. In the event of identical times driver-registration order will decide the position. There will be no second attempts at qualifying allowed. Drivers can decide to draw numbers instead of qualifying but the decision must be unanimous among all drivers of the particular class. Drivers who miss qualifying or number drawing will start their first race behind all qualified drivers in their class.

GRID: Grid positions will be determined as follows:

RACE 1: Qualifying Times

RACE 2: Reverse of the finish positions of Race 1

RACE 3: Total points from races 1 and 2

RACE 4: Total points from races 1, 2 and 3 (No double points)

STARTERS:. There will be a minimum number of three Starters per race.

RED FLAG: Should a race be stopped by the display of a Red Flag the following procedure will be adopted at the discretion of the Clerk of the Course: if less than 25% of the race has been completed the race shall be re-run. If between 25% and 75% completed the Clerk of the Course may at his discretion either re-run it in its entirety or else restart it with the karts in single file in the order at the end of the lap preceding the stopping of the race and run for a distance required to make up the full race distance. The order at the end of the restarted race will be the finishing order. If more than 75% has been completed it will be deemed a race and the order of finishing will be that at the end of the lap preceding the stopping of the race.

.

WEIGHING: Drivers will be weighed immediately after having completed qualifying or a race and will not be allowed to pit before weighing. Drivers shall be weighed in full driving uniform including helmet, jacket, shoes or boots, etc. The driver may not alter the weight of the kart or himself in any way between the finish of the qualification or race and the weigh-in of driver and kart. Drivers and equipment not meeting the minimum weight for the class will be disqualified. In the event that weighing only takes place at the end of the race day, any driver and equipment not meeting the minimum weight required for the class will be subject to disqualification for all races.

PROTESTS:
No protests for non-performance items. All protests involving engine legality and driver conduct must be submitted in writing by a legal entrant in the same class the protested infraction occurred. Any such protest must be submitted to the Clerk of the Course within thirty minutes after the event in which the protested infraction occurred. The fee for protests involving legality is $50.00 and shall be refunded if the protest is upheld. If the protest is not upheld $ 40.00 of the fee shall be paid to the owner of the Kart/engine that was protested and the remaining $ 10.00 will be retained by the BKA. There is no fee for protests involving driver conduct.

APPEALS:
At sanctioned events a decision involving engine legality may be appealed in writing to the BKA Committee of Management. The part or parts in question must be submitted to the Committee by Clerk of the Course of the event. The part or parts in question shall be boxed up and sealed with tape; both the competitor's and Clerk of the Course or Tech Inspector's signature must appear on the tape. Parts submitted in a manner other than this will not be valid for review by the BKA Committee of Management.

4.PENALTIES:

INFRACTION OF A RULE: All entries in BKA competition events must comply with all rules and regulations (where they apply) to be eligible for points, awards and the right to compete in such events. Infraction of a rule or rules may result in exclusion or expulsion from the event, or in extreme cases, suspension from the BKA.
The Clerk of the Course shall make it a point to inform a driver of observed rule infractions and reports of infractions from other Marshalls. Marshalls shall inform the Clerk of the Course of observed infractions - not the driver(s) involved and inform The Stweards.

ILLEGAL ENGINES/INTENTIONAL WEIGHT FRAUD: Where applicable, any driver who would falsify his Kart/driver weight or modify his engine to compete illegally or to defraud officials or other competitors by such actions or modifications is subject to loss of points and/or awards and to suspension from BKA events.

DISQUALIFICATION: Any person who is disqualified from an event for any reason whatsoever shall lose all race points and any possible awards for that event.

ILLEGAL OR DANGEROUS DRIVING CONDUCT: Any driver guilty of using illegal or dangerous driving techniques will be black flagged if the event is still in progress and will face possible disqualification from the event.

5. DRIVER CATEGORIES:

There will be seven classes as follows:

EASY KART 60CC
Minimum weight 210lbs
No gearing restrictions

Clutch allowed, but no axle clutches
Tyres:- Front and Rear: MG HZ Red 10 x 4.60-5

YAMAMA SPORTSMAN HEAVY:
Minimum weight 270 lbs
Yamaha KT100 engine (I.K.F. Engine Spec).
Yamaha using "American Power Sports" Sportsman muffler # RLVSSX.
Yamaha no gearing restriction
Yamaha 13cc Head
Clutch allowed, but no axle clutches
Tyres:- :- Front: MG HZ Red 10 x 4.60-5
Rear: MG HZ Red 11 x 7.10-5

YAMAHA OPEN:
Yamaha KT100 engine (I.K.F. Engine Spec).
Minimum weight 310 lbs
No restriction on gearing
Clutch allowed, but no axle clutches
Tyres:- :- Front: MG HZ Red 10 x 4.60-5
Rear: MG HZ Red 11 x 7.10-5

YAMAHA HEAVY:
Yamaha KT100 engine (I.K.F. Engine Spec).
Minimum weight 330 lbs
Clutch allowed, but no axle clutches
No gearing restriction
Tyres:- Front: MG HZ Red 10 x 4.60-5
Rear: MG HZ Red 11 x 7.10-5

Parilla X30 125 engine (IAME Engine Spec)
PARILLA IAME X30 125CC RL - C TAG (Junior)
The junior class carries different carburetor and exhaust.See attached info.
Minimum weight lbs(TO BE DECIDED ON AFTER TRIALS)
Clutch allowed, but no axle clutches
No gearing restriction (except when directed by BKA)
The X30 Homologation Document clearly shows pictures of all spare parts with IAME markings

If the parts do not carry the IAME markings on them it will make your engine ILLEGAL under
The B.K.A rules.

Tyres:- Front: MG HZ Red 10 x 4.60-5
Rear: MG HZ Red 11 x 7.10-5

Parilla X30 125 engine (IAME Engine Spec)
PARILLA IAME X30 125CC RL - C TAG (Senior)
Minimum weight 365 lbs

Clutch allowed, but no axle clutches
No gearing restriction (except when directed by BKA)

The X30 Homologation Document clearly shows pictures of all spare parts with IAME markings
If the parts do not carry the IAME markings on them it will make your engine ILLEGAL under
The B.K.A rules.

Tyres:- Front: MG HZ Red 10 x 4.60-5
Rear: MG HZ Red 11 x 7.10-5

<u>Note Only pump fuel available to the general public can be used in the above classes with no additaves.</u>

Noise level shall be 92DB(A weighing scale,slow response),measured 100 feet at 90 degrees from the source,4 feet
from the ground.Measurement shall be taken during qualifying at the loudest point on the track under no wind conditions.

SHIFTER DIVISION:

Engine type: CR125, KX125,RM125,YZ125

BK1 Stock Moto – 385 lbs
BK2 Modified Moto – 405 lbs
BK2 ICC – 405 lbs – light
BK2 ICC – 420 lbs – heavy

No gearing restriction

Tyres:- Front: MG HZ Red 10 x 4.60-5
Rear: MG HZ Red 11 x 7.10-5

6. COMPETITION KARTS AND NUMBERS

CHANGE OF KART: A competitor can change karts between races on race day but to be eligible for points their competition number must be on the kart they are driving at all times thus allowing the competitor to start the next race in the grid position assigned. If the competitor does not use their assigned competition number they will start the next race at the back of the pack or be disqualified from that race. Change of karts between qualifying and the first race will not be allowed. Two karts (ONLY) can be qualified by one competitor and they can choose which kart they will be driving in the first race, if not it will be assumed they will be driving the faster kart. Both karts must be scrutinized before being driven in the above case to be eligible for qualifying, as well as identified to the time marshal/lap counter before qualifying in each race, since both karts will have on the same competition number.

ASSIGNING NUMBERS: All competition numbers are assigned by the Competition Secretary. Each competitor will be assigned a unique number which should appear on all Karts driven by him, before putting a number on his Kart(s) a driver must consult the Competition Secretary to ensure that his chosen number has not already been assigned. Numbers must be clearly displayed at the front and rear of the kart

CHANGING A NUMBER: Usually, whatever number is assigned to a driver remains that driver's only number for all events in which he will compete. However, it is possible to change a number in special cases, although this is not recommended as lap-recording and result compiling errors can occur due to such a change.

CHAMPION DRIVER: The current Champion Driver of the Year must compete with the number "1" for the year of his reign.

7. DRIVING PROCEDURES:

OFFICIALS' INSTRUCTIONS: Karts and competitors will be directed onto and off of the track by the officials as they see fit. Competitors are required to obey all such instructions. The Clerk of the Course will have the power to cancel the race if the drivers for that race are not ready as instructed.

ROLLING STARTS: Where rolling starts are used drivers may not pass or change grid or lane positions prior to the waving of the green flag. Drivers who do not observe this rule or jump the start may be required to start at the back of the grid or may be excluded from the results. Drivers must indicate that they are out of grid position prior to the start of the race by raising one hand above their head.

STANDING STARTS: Where standing starts are used an "F1" style standing start with a minimum of one kart length spread between karts as established by grid lines on the track. The grid may also be staggered by rows. Competitors are responsible to grid properly and any kart not on the grid properly may be penalized one lap.

STARTING/FINISHING EVENTS: To be considered a starter, driver and Kart must be moving under its own engine power on the racing surface at the start of the event. Drivers may not join a race after it has started. To be considered a finisher a driver must have completed 75% of the race laps but need not be running at the finish.

RIGHT OF WAY: This is a particularly sensitive subject and these are only guidelines Where two Karts arrive at a corner simultaneously the lead Kart has the right of way. The lead Kart in this context shall be the Kart which has established overlap of at least one half the overall length of the Kart. Where such overlap has not been clearly established the lead Kart shall be the Kart nearest the inside of the corner.

COURSE CUTTING: Any driver leaving the course or cutting the apex of a corner with all four wheels is subject to disqualification.

BUMPING, BLOCKING, WEAVING, ETC: Bumping, blocking, swerving, weaving so as to prevent a faster Kart from overtaking or drawing alongside, etc are all grounds for disqualification. However, where an accident or dangerous contact occurs between two Karts, unless proven otherwise, the overtaking Kart will be presumed at fault. The practice of weaving in order to warm up tires before the run up to the start will be grounds for disqualification.

OUTSIDE HELP: Any driver receiving outside assistance from which he may be deemed to have gained an advantage during a race may be disqualified.

PITTING: Anyone pitting during a race may not restart or weigh.

8 DRIVER'S CHAMPIONSHIP AND POINTS

BKA CHAMPION DRIVER OF THE YEAR: This is the Association's most prestigious award and will be given to the driver who attains the most points for nine race meetings of the year in a particular class.All drivers must declare which class they plan to compete for championship points for that year.

CHAMPIONSHIP SERIES: The BKA will run two seasons per year with five events per season. Trophies, awards and prizes will be presented at the annual awards presentation. Note however, that such trophies, awards, prizes and points will only be given if said drivers have complied with all the requirements of competitions as laid out in these regulations.

DROPPED EVENT: Competitors will be required to drop one event per year. If a competitor competes in all 10 events in a year, his lowest score shall be dropped. Competitors are encouraged to assist the BKA officials in whatever capacity they may see fit in organizing and running the event they intend to drop

POINT SCORING RACES: A maximum of four point scoring races will be run each race day. Where weather or other unforeseeable circumstances prevent running of all races on a particular day, points will be scored for whatever races have been run.

POINTS SYSTEM: Fixed points per race as follows:

First	-	25	points
Second-		21	“
Third	-	18	“
Fourth -		16	“
Fifth	-	15	“
Sixth	-	14	“
Seventh	-	13	“
Eight	-	12	“
Ninth	-	11	“
Tenth	-	10	“
All other finishers		2	“

Competitors must complete 75% of the race to be considered a finisher. All starters will receive one (1) point for passing the start line when the green flag is waved to signal the beginning of the race.

9. RULE AMENDMENTS:

PROCEDURE: Rule amendment requests must be sent in writing to the Management Committee and will be read at the first regular meeting following receipt. They will then be circulated to the general membership along with the date of a meeting at which they will be voted upon. This date may not be less than three weeks after the date of this aforementioned circular. Members missing this meeting will be presumed to have abstained from voting unless a written proxy clearly stating their vote is received by the Management Committee. The requested amendments will only be accepted if the majority of the votes are in their favor.

WHEN IN EFFECT: The results of the vote will be circularized to all members along with the date any amendments will go into effect. This date will not be less than three weeks after the date of said circular.

EXCEPTION TO ABOVE: Policy changes will not require the above procedure for their adoption and may be implemented immediately. A Policy change shall be defined as anything that might affect a rule but not in such a way as to make anyone noncompetitive or require a participant to change his equipment substantially to race competitively or legally.

Safety: Track And Driver

The intent of this guide is to promise safe events and as such, drivers are urged to exercise good judgment at all times. As safety is one of the prime concerns of the BKA, methods of operation, vehicle construction, track facilities and competition practices will be under constant review to protect the Karter and maintain and raise the safety standards of the sport..

1 PROTECTIVE CLOTHING AND FLAGS:

No one should drive on the track without wearing a secure full-face crash helmet. All helmets used at events must be Snell 90 or newer standards. Junior drivers, under 12 years of age, are not

required to use Snell 90 standard helmets because of unavailability of sizes smaller than 7/6-7/8. Snell 90 is strongly recommended where the junior driver can be properly fit. (Snell 70, Z-90, and/or S.H.C.A. standard helmets required.
Gloves, face shield/goggles are mandatory in all classes. Driving suits are mandatory and it is highly recommended that no one drive a kart, at any speed, without full protective clothing. Suits must consist of one or two-piece design of heavyweight abrasion resistant nylon, leather or heavyweight vinyl material. High top shoes are required for all kart racing. Shoes shall be laced, buckled or secured as designed. Use of racing neck collars (rolls) is mandatory at all events. This applies to all classes (practice, qualifying and racing).Collars must include foam inserts
Long hair will be a safety tech item. Competitors with long hair will have to demonstrate a satisfactory method for retaining their hair.

FLAGS

GREEN:	Start of race, all clear
YELLOW:	Caution, be prepared to stop, no overtaking
BLUE:	Being lapped by a faster competitor, make room, indicate to the overtaking driver which side to overtake on
RED:	Stop racing, reduce speed immediately and slowly proceed to the start line and or pit area
BLACK FLAG:	Disqualified, proceed to the pits along the track at a reduced speed.
ROLLED BLACK FLAG:	Your driving technique is bordering on disqualification
WHITE:	Official vehicle on track, reduce speed, no overtaking
LAST LAP BOARD:	Last lap of race and qualifying
CHECKERED:	End of race, qualifying or practice session.

2. DRIVING:

Driving in a direction which is against the flow of traffic on the track is prohibited. There will be no driving in the pits.
Any competitor wanting to run or tune their Karts must either have them on their stands or propped with the rear wheels safely off the ground. Only the established pit lanes should be used for entering or leaving the pits. Drivers should exercise restraint in making dangerous maneuvers at the start and when overtaking or being overtaken. There are rules regarding overtaking which establish overlap and therefore right of way and even though events occur very quickly and their sequence may afterwards be confused to drivers, please remember that safety is the primary concern and that continual 'bad'

driving will inevitably come to the attention of the marshals with the resultant warnings and penalties

3. HAND SIGNALING:

A driver shall raise one arm over his head to signal to following drivers when entering the pits, slowing abnormally, applying excessive brake, pulling off course, failing to accelerate normally or warning others of impending hazard. A driver who has spun or stalled on the track shall raise both arms over his head to indicate his intention that no move will be made until the field has passed; the driver must then move the Kart to a position of safety before attempting to restart. If a driver, aware of an overtaking kart, desires to let that kart overtake he should clearly indicate to the overtaking driver which side that driver should pass him on by pointing to that side and pulling away from that side to allow the overtaking kart through.

4. CONDUCT OF DRIVERS & PIT CREW

No one, including and especially pit personnel, family members, etc., should run onto the track during the course of an event or accident. In the event of an accident the Marshalls are in the best position to render assistance and people running onto the track is a very dangerous hazard. Any driver whose pit crew or personal supporters violate any regulations or disobey the instructions of the officials may be black flagged to his pit and instructed to tell his pit crew or personal supporters to observe regulations.

5. ALCOHOLIC BEVERAGES:

The use of alcoholic beverages by competitors, pit personnel and officials is prohibited until the event is over. Offenders will be severely reprimanded, disqualified and members may face possible suspension from the BKA.
Competitors are responsible for the behaviour of their pit crew.

6. TRACK SAFETY

There should be no spilling of gasoline or any lubricant on tarmac areas of pits or track. **No smoking whatsoever will be allowed in the pits or on the track by anyone. There will be no re-fuelling allowed to Karts in the hot pit area or on the track.**

7. ACCIDENTS

Accidents shall be investigated by the track officials only.

8. 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 BKA events, and, by participating in these events, all BKA members are deemed to have complied with these rules. No express or implied warranty of

safety shall result from the 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 participants, spectators, or others.

Safety Kart and Engine

1. SEAT BELTS:

Prohibited

2. CHASSIS SAFETY:

No projection from the vehicle, which constitutes a hazard to other vehicles or drivers, will be permitted. Axle may not extend past outside of wheel and the use of safety wire on axle cir-clips is not recommended. The driver's compartment shall be equipped with side pods, side rails or side panels that are not less than 6" high by 24" long or similarly effective lateral support. These pods, rails and panels are subject to scrutinizer's approval. 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. No void large enough for any part of the driver's body to inadvertently pass through, shall be permitted.

All Karts must carry compulsory front and side protection homologated bumpers and approved bodywork, compulsory homologated rear bumper with CIK or BKA approved metal hoops. Bumpers and hoops must be made of magnetic steel and Bodywork of plastic .Please Note that Bodywork for front and rear are also referred to as Plastic Bumpers.

The front bumper system must consist of at least 2 steel elements and the mandatory plastic Bodywork must be attached at the start of each race.

A steel upper bar with a minimum diameter of 15mm and a steel lower bar with a minimum diameter 0f 15mm, both bars being connected together. These 2 elements must be independent from the attachment of the pedals. The front bumper must permit the attachment of the Plastic Bodywork.

The rear bumper system must be either a homologated CIK rear protection system, in accordance to the CIK regulations or the homologated rear bumper with a magnetic metal hoop system firmly attached to the kart in at least 4 places with nuts and bolts covering at least 50% of each tire however not exceeding the rear width of the kart at any time. The wall thickness of the metal hoop must be constant in order to provide uniform strength while being smooth with no compromise of holes or cuttings other than those necessary for it's attachment.

Rear CIK plastic bodywork is recommended.

Scrutinizers 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.
The steering system shall be direct acting and of suitable design for maximum safety. Rack and pinion systems are approved. Steering designs using a pitman arm must be constructed so arm may not rotate over center and cause reverse steering. All collars and other devices used to retain the steering column shall be secured to prevent possible loss of collar. All bolts used in the steering shall be of aircraft standard quality (grade 5 or better) and shall be 3/16" minimum diameter. This does not pertain to kingpins or wheel spindles.
All steering assembly bolts and nuts, including spindles and kingpins, shall be safety wired, use nylock locking nuts, cotter keyed or secured by mechanical safety retaining clips. All rod ends shall have universal type swivel joints and jam nuts.
It is recommended that female rods ends or female tie rods have inspection holes drilled in them using the following procedures: measure the rod end, male or female, thread length. Divide that length in half, and then measure that distance from the end of the female tie rod or the female rod end. At that point, drill 1/16" inspection hole through. When the tie rods are assembled, the inspection hole will be covered by the rod end or tie rod.
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.

3 BRAKES;

All karts shall have pedal operated brakes, operating in such a manner as to brake both rear wheels equally and adequately. No scrub type brakes permitted. Dual brakes, front and rear are recommended for karts entered in classes over 100 cc. Dual brakes consist of two individual braking systems on separate brake discs. Nylock locking nuts and other such threaded fasteners with plastic inserts or collars are prohibited from use 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. The safety wiring of brake shims in calipers that have removable slotted shims is highly recommended.

4 WHEEL WEIGHTS:

Clip on type wheel balancing weights are banned. Stick on type is allowed but must be located on the inner flange of the rim and must not exceed a quarter of an ounce.

5 WHEEL HUBS AND RIMS:

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 or bolt as a means of fastening the wheel to the hub. Front shall be safety wired, cotter keyed, pinned, snap ringed, or Barry clipped. The use of elastic stop nuts (plastic locking inserts) and/or lock washers on all wheel retention bolts is recommended.

6 BALLAST

All weight added to meet minimum kart/driver weight requirements shall be bolted to the kart or seat. Carrying of ballast on the driver's person is prohibited. No weight shall be bolted to the underside of the kart chassis. Ballast weight in all karts must be securely bolted with nylock locking nuts, cotter keyed or safety wired to the kart with a minimum of one quarter inch through-bolts. Where weight is attached directly to the seat of a competition kart, adequate reinforcement must be used to ensure that the weight will remain properly attached at all times. Nylock locking nuts and large diameter fender washers of sheet metal reinforcement at the attachment location are required.

7 FUEL TANKS:

All kart fuel tanks shall be confined within the mainframe rails. Any fuel tank, which is the highest portion of the kart, shall be protected by a roll bar. The roll bar shall not exceed 26" 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. No pressurized fuel tank(s) permitted. All flip type fuel caps shall be safety fastened during an event.

8. ENGINE SAFETY:

The use of a wet type clutch is permitted only if the unit is sealed to prevent leaks when in use. Third bearing supports or a suitable guard to contain the wet clutch in 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. Karts shall be equipped with an adequate chain guard for both the engine sprocket and axel sprocket designed to eliminate the possibility of personal injury. The exhaust system is not considered a chain guard. In all classes the exhaust must exit rearward of the driver. Karts shall be equipped with foot operated throttle incorporating a return spring which closes the throttle when pedal is released.
Any extended/extending tip (stinger, outlet pipe, etc) of any muffler chamber or exhaust system that could puncture , penetrate, cut or otherwise cause injury to any other competitors must be fitted with a safety guard. Said safety guard shall be a metal washer having a minimum thickness of 0.125 inch and a minimum outside diameter of 2.0 inches welded or brazed to the immediate end of the tip.

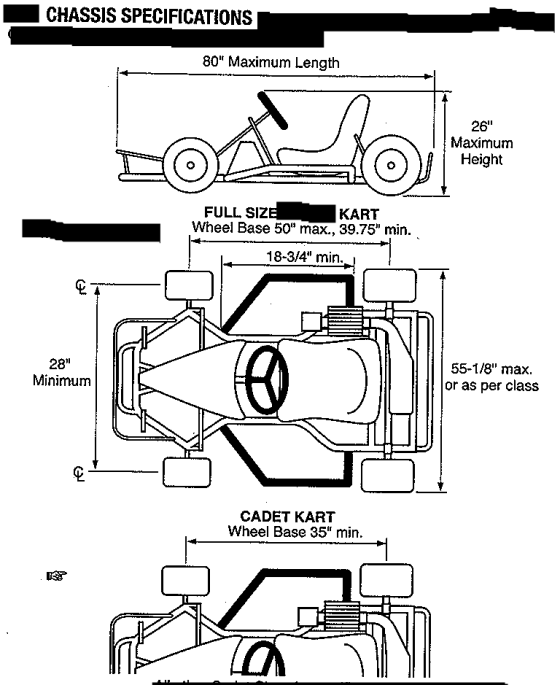
9. EXHAUST:

The exhaust system must be completely intact at the start and through the entirety of the race. An entrant whose exhaust system or silencer becomes disconnected from the engine and is not longer operable, shall be automatically black flagged.

Section 2
Sprint Racing

1. CHASSIS:
Ground effects/skirts are banned from all classes. No skirts or aerodynamic sealing devices may extend below the primary or secondary chassis on all classes in kart racing. The intent of this rule is to eliminate ground effects from racing karts. Attempts to circumvent this rule by any means shall be deemed illegal. Sprint chassis only. All chassis must conform to the following dimension:

Wheelbase - minimum 101cm, maximum 127cm axle center to axle center
Overall length - maximum 208cm
Overall width - maximum 140cm
Overall height - maximum 60cm
No part may protrude outside an imaginary line drawn from the outer face of the front wheel to the outer face of the rear wheel.



2 FLOORING:

There must be a floor made from a rigid material that stretches from the seat to the front of the Kart. It must be edged on all sides by a tube or rim to prevent the driver's feet from sliding off the floor and must be confined within the mainframe rails when viewed from directly above. If

perforated, the holes must not exceed one (1) centimeter in diameter. There shall be no void or hole large enough to allow the driver's body or part there of to pass through. The flooring shall not incorporate any device or shape which produces a ground effect.

3 SUSPENSION:

Any method whatsoever of suspension is prohibited.

4 WHEELS

All Karts must have four wheels - no more or less. All wheels must be free from defects. Front wheels must run on bearings.

5 STEERING

All parts of the steering must have a method of attachment offering maximum safety – split pins, self-locking nuts, safety wire, etc

6 SEATS:

Must be of a non-inflammable material. Must be rigidly located on chassis and designed to securely seat the driver without movement relative to the chassis while the Kart is in motion. Seat Back Only seats suitable for sprint racing competition on sprint tracks will be allowed. Final decisions on legality will be made by the Chief Scrutinizer

7 PEDALS:

Must not protrude forward of the chassis or bumper even when disconnected. The accelerator must be operated by a pedal. The accelerator must incorporate an effective return spring.

8 CHAIN GUARD:

Compulsory, and must cover the engine and axle sprocket.

9 CHAIN OILER:

The use of any type of chain oiler is prohibited in sprint events.

10 GEARBOX:

No transmission, gearbox or any other device which permits a change of gear or sprocket ratio while the Kart is in motion is allowed.

11 CLUTCHES:

100cc Yamaha - The use of a clutch is not restricted, but wet type clutches must be sealed to prevent leakage. CHECK RULES FOR OTHER CLASSES

12 FUEL TANK:

Must be firmly fixed to the Kart and not form any type of aerodynamic device. The maximum capacity will be eight (8) liters. If plastic is used it must be of a suitable brand for carrying fuel. The construction of the tank must be such that it does not present any danger of leakage at any time. Any form of fuel tank pressurization is prohibited.

13 BUMPERS:

The Kart must have bumpers at the front, rear and sides which shall have a strength and construction adequate to their function, and must not, in the opinion of the scrutinizer, constitute a hazard to other drivers.
Side bumpers (nerf bars) height from the ground must not exceed that of the rear axle.
All Karts must carry compulsory front and side protection homologated bumpers and approved bodywork, compulsory homologated rear bumper with CIK or BKA approved metal hoops. Bumpers and hoops must be made of magnetic steel and Bodywork of plastic .Please Note that Bodywork for front and rear are also referred to as Plastic Bumpers.
The front bumper system must consist of at least 2 steel elements and the mandatory plastic Bodywork must be attached at the start of each race.
A steel upper bar with a minimum diameter of 15mm and a steel lower bar with a minimum diameter 0f 15mm, both bars being connected together. These 2 elements must be independent from the attachment of the pedals. The front bumper must permit the attachment of the Plastic Bodywork.
The rear bumper system must be either a homologated CIK rear protection system, in accordance to the CIK regulations or the homologated rear bumper with a magnetic metal hoop system firmly attached to the kart in at least 4 places with nuts and bolts covering at least 50% of each tire however not exceeding the rear width of the kart at any time. The wall thickness of the metal hoop must be constant in order to provide uniform strength while being smooth with no compromise of holes or cuttings other than those necessary for it's attachment.
Rear CIK plastic bodywork is recommended.

[redacted] **Rear Bumper:**

NOTE: Starting January 1, 2011 all karts must be equipped with a rear bumper to protect the driver and kart from rear impact and to keep a following kart from reaching the rear tires. The bumper may be either CIK style plastic "rear wheel protection" or steel tube of a double bar design.

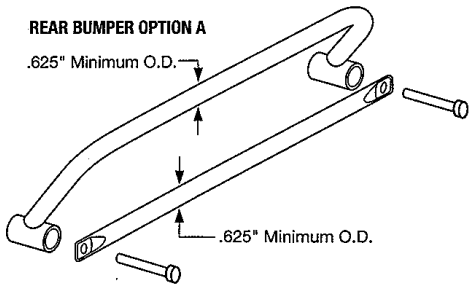
The bumper shall extend to at least the center of the rear tires. The ends of the bumper shall not extend beyond the outside of the rear tires, except in a declared rain race.[redacted]

[redacted] The rear bumper must have at least two steel components. The upper bar will be steel and have a minimum diameter of .625″ with the lower steel cross bar having a minimum diameter of .625″. The rear bumper will be attached to the frame by at least 2 fixation points on the two main frame rails.

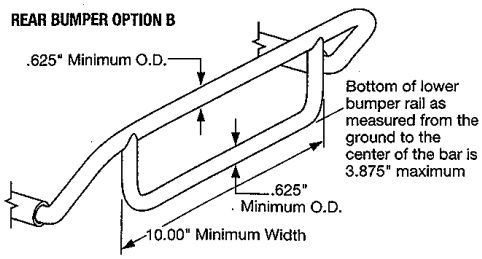
[redacted] There will be a bar between 5″ and 12″ from the ground. The maximum width will be no wider than the outer edge of the rear tires (55.125″). The minimum width will not be less than the lateral width of the two main frame rails. All measurements will be with the driver seated in the kart as raced.

[redacted] The lower cross bar height as measured from the ground to the center of the bar is 4″ maximum. The minimum height of the lower bar will be no lower than the bottom of the frame rail as measured from the ground.

REAR BUMPER OPTION A



REAR BUMPER OPTION B



[redacted] **Elephant Ear Bumpers:** Allowed in all classes. Bumper may not extend laterally beyond the outside edge of rear tires.

14 NUMBER PLATES:

Karts must carry an official, unique number at all times during an event on the front and rear to ensure accurate lap recording. Size of plates must not exceed 14” wide by 18”high, and must be a minimum 9”wide by 7”high, as measured on surface of panel. Panels made from metal, 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 rigid technical inspection.
Location: The front number panel may be mounted in front of the steering wheel and above the steering shaft from a vertical position to no more than a 45 degree angle and must be flat. The rear number panel must be mounted on the rear bumper. Side numbers may be carried attached to the side pods only. All numbers must be visible with driver in place.

15 EXHAUST:

The exhaust system shall be securely fastened, discharge behind the driver and shall not exceed a height of 45cm. Effective exhaust muffling is mandatory on all Karts.

16 FUELS:

No aviation gas is allowed. Fuel must consist solely of gasoline, available at public roadside stations, and oil, neither of which shall contain any components designed to improve the octane quality, reduce octane requirements, raise engine power or act as an oxygen carrier in the Easy Kart 60cc,Sportsman Light, Sportsman Heavy,Yamaha 310 or Yamaha Heavy Classes. This fuel shall be the only substance fed into the combustion chamber other than atmospheric air.

17BODYWORK:

Bodywork must be well finished and be in no way of a makeshift nature and must be without any sharp edges. All edges must be curved and bodywork material must be non-metallic and non-splinter able. Carbon fiber or Kevlar is prohibited. Bodywork must be adequately and securely fixed to the chassis and must satisfy the scrutinizer in this respect. No part of the bodywork may be used as a fuel tank or to carry ballast.

Nose cones shall be no wider than front wheels/tires and cannot extend rearward past the centerline of front wheels. Front wheels and tires must be exposed. Nose cones cannot extend below the mainframe rails nor be higher than 14” from the ground. They must be within 5” of vertical for a minimum of 8” from the ground and cannot cover drivers’ feet i.e. if looking straight down, driver’s feet and controls must be visible. CIK approved nose cones using CIK mounting hardware are legal.

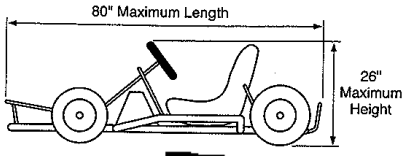
Side pods may not extend forward further than the rearmost edge of the front tires or extend back further than the forward most edge of the rear tires. They may protrude on higher than 2” above the top of the tires at any point.

Steering column fairings must not be higher than the top of steering wheel and must not impede the normal working of the pedals nor cover any part of the driver in the normal driving position. The maximum width is 25cm.

Karts must conform to the maximum overall dimensions when fitted with bodywork. No part of the bodywork may incorporate devices or be shaped so as to produce a ground effect, spoilers and wings are not permitted.

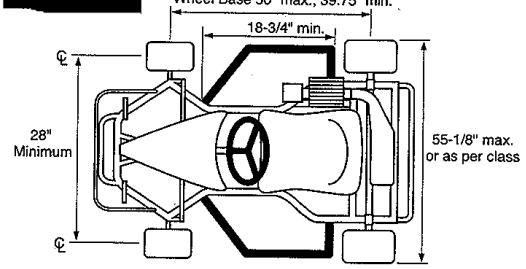
All bodywork must satisfy the scrutinizer in this respect.

[redacted] CHASSIS SPECIFICATIONS [redacted]

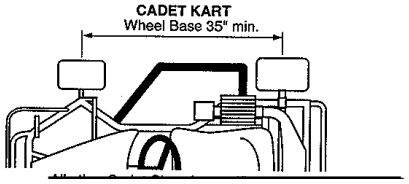


FULL SIZE [redacted] KART
Wheel Base 50" max., 39.75" min.

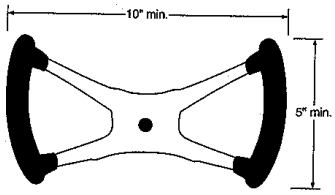
[redacted]



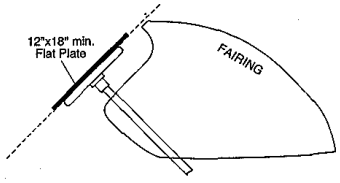
CADET KART
Wheel Base 35" min.



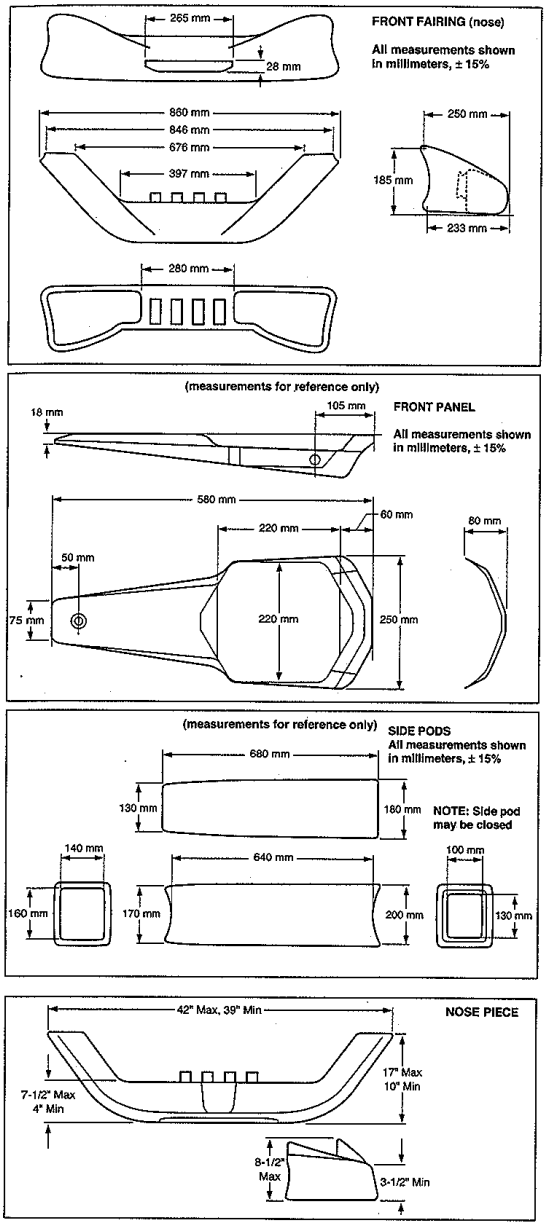
[redacted] **Minimum steering wheel, i.e. Butterfly type:** 10" minimum diameter, with a minimum of four spokes, and having a minimum 10" grip length, being no less than 5" grip. length on each side. All Divisions. (See following diagram.)

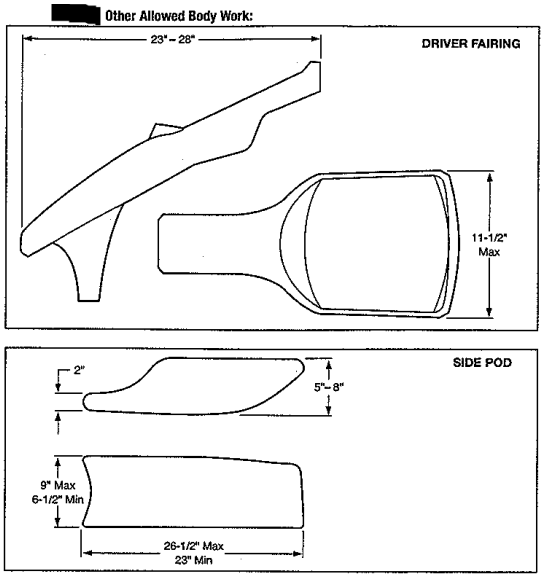


[redacted] **Steering Wheel Fairing** shall not extend rearward of a plane that is perpendicular to the steering shaft defined by the driver side grip surface of round or butterfly type steering wheels. Legality shall to be determined by laying a flat, rigid, plate at least 12"x18" in surface area against the driver side grip surface of steering wheel.



[redacted] CIK Body Work Dimensions:





18 WEIGHTS:

The minimum weight limits are the combined weights of driver, Kart and engine with the Kart and driver in complete racing trim, as at the end of each race or qualifying session. If it is necessary to use ballast to achieve minimum weight, it shall be securely fixed to a part of the Kart with adequate strength to support the ballast and require a tool for removal. Carrying of ballast on the driver's person is prohibited.

19 GROUND EFFECTS:

Any form of ground effect device is prohibited. The definition of a ground effect device is any device which takes a bearing on the ground by means of a pressurized air cushion. No form of a skirt is allowed and only the tires must come into contact with the circuit. The scrutinizer must be satisfied that the Kart conforms to this rule.

20 TYRES

Tires must be approved by the BKA Committee of Management. It is the objective of the Association for all classes to use the same tire compound to keep the cost to a minimum.

21 ENGINES:

I.K.F. ENGINE REGULATIONS FOR YAMAHA KT100S ENGINE WILL BE USED.
(Engine specifications on following pages).

AIME ENGINE REGULATIONS FOR THE **PARILLA IAME X30 125CC RL - C TAG WILL BE USED**

(See attached documents)

Competitors should keep in mind that the Association's Policy is to provide safe and competitive Karting while keeping costs as low as possible. Therefore, should there arise at any time a situation whereby a 'loophole' poses a potential threat to the above stated aims the 'spirit' of the regulations will always take precedence in arriving at a decision.

REMEMBER: IF IT DOES NOT SAY YOU CAN DO IT, YOU CANNOT

Section 4

Shifter Division 125

1 CHASSIS:

IKF Sprint Chassis rules apply. 55 inch maximum width, minimum seat inclination of 50 degrees from horizontal. Functional front and rear brakes are mandatory. Carbon / carbon brakes are not allowed.

2 BODYWORK:

CIK style nose (optional, but only CIK style nose allowed) and driver fairing required. Side Pods mandatory. No full bodies designed for road race.

3 TYRES

Tires must be approved by the Committee of Management. It is the objective of the Association for all classes to use the same tire compound to keep the cost to a minimum. 5 or 6 inch rim diameter.

4 ENGINE:

Make & Model: Mass produced single cylinder motocross engines with a maximum displacement of 125.0cc's. Accepted engines are Honda CR125, Kawasaki KX125, Suzuki RM125, and Yamaha YZ125.

5 **SHIFTER CLASS**

BK1 Stock Moto – 385 lbs
BK2 Modified Moto – 405 lbs
BK2 ICC – 405 lbs – light
BK2 ICC – 420 lbs – heavy

All shifter drivers must be a minimum of 15 years old and over (size advantage).

All Shifter Classes will only be allowed to use the following fuels VP 103, VP 109, C12, Pump Fuel.

Competitors must on entry form declare oil used.

Noise level shall be 92DB(A weighing scale,slow response),measured 100 feet at 90 degrees from the source,4 feet from the ground.Measurement shall be taken during qualifying at the loudest point on the track under no wind conditions.

ENGINE STANDARDS FOR STOCK MOTOR BK1

1 Displacement: All displacement shall bear a tolerance that shall be defined by specifications deemed "Factory Stock" in the specifications from said manufacturer. All post event tech shall rely on factory specifications in conducting a bore and stroke inspection. Cylinder displacement max 125 cc.

2 Turbo or Supercharging: Turbo or supercharging systems or any form of pressurized fuel feed is strictly prohibited.

3 OEM DEFINED: For the purpose of defining allowable engine components, OEM will mean parts produced by a particular manufacturer for a particular model. Where OEM parts are called out, for example, you must not use Yamaha YZ part in a Honda CR engine or RS transmission parts in a CR or TM enduro parts in a TM motocross engine, The year of the manufacture is not controlled, provided that parts are still commercially available to the U.S market (unless specified otherwise).

4 Parts Interchangeability: OEM parts can be interchanged with any approved year model of the same brand name and similar model of motor (i.e. CR to CR, YZ to YZ etc.), provided that these parts are still commercially available over the counter in the U.S (and unless specified otherwise).

5 Ignition Interrupt: Speed shift/no-lift shift systems are not allowed. Connection between shift level and J-arm must be solid (other than heim joints). No air bottles, air pumps or any other methods may be used.

6 Spark Plug: Dimensions: Length 18.5 mm; pitch M 14 x 125. The spark plug must be commercially available without modification. Exception is the gap of electrodes. When proper torque is applied, no thread on the spark plug shall be below the uppermost potion of the cylinder dome. Some portions of the spark plug may be below the dome i.e. electrodes and non-threaded area o f the spark plug. The non-threaded area must not be altered, machined or tampered with to circumvent the intent of this rule.

7 Aftermarket Availability: All aftermarket products used in competition must be of standard production and be commercially available.

8 Fuel: BKA will determine the approved fuel and oil for all classes prior to the event. Only fuel/oil combinations are allowed! No alcohol, oxidizers or hydrazine fuels may be added. Fuel test may be administered at any time during or after an event. Failure to pass a fuel test will void all results of qualifying heats or feature races that the competitor has participated in during that event. Results of fuel tests are deemed final. BKA reserves the right to prosecute to the full extent of the law any competitor found to be

using EPA listed known cancer causing agents as an attempt to enhance fuel performance.

9 BKA has the right to inspect any engine or any part at any time. Refusal to submit to inspection will result in immediate disqualification from race day and all points accrued up until time of inspection will be lost. In stock shifter class, the BKA reserves the right to have competitors exchange ignition with fellow competitors for the next race.

10 Spec and OEM Ignition Tech Procedures: OEM ignition modules must be used. They may be tested by a tech official prior to a kart entering the racing surface or in post qualifying or post race tech. If preliminary tests indicate an ignition is non-complaint, BKA reserves the right to impound said ignition module. Module shall then be sent to an authorized test facility to verify authenticity. Results of this compliance test shall be deemed final. Refusal by a competitor to comply with an official's request to test and/or impound their ignition module shall be considered the same as non-compliance with the ignition rule, and shall carry with it the full penalty as noted above. If tech officials elect to impound a competitor's ignition module during the course of an event, a replacement module of the same make, model and part number shall be provided to the competitor for the remainder of the event. Module must be returned to BKA officials at the end of the competition for that class and event. Impounded ignition modules will be returned to the competitor within 45 days of the event. If a competitor's ignition module is found to be out of compliance with this rule, the module will not be returned. Violations of the ignition rules may carry the additional penalty of forfeiting all points accumulated year to date.

11 CCV Measurement Procedure:

1 Where applicable, combustion chamber volume (CCV) measurements should be made with L.A.D Specialties #CCMP measuring plug tool.

2 Allow the engine to reach ambient temperature.

3 Remove the spark plug and measure the thread length. Measurement from the tip of the threaded portion of the plug body to the bottom of the factory-installed washer may not exceed 18.5mm.

4 Rotate the piston to TDC.

5 Screw in the designated CC tool for the class.

6 With a Class A graduated burette, mechanical or electronic, fill combustion chamber to the uppermost part of the CC tool with Marvel Mystery Oil.

7 **Wait thirty seconds before reading the burette. This allows fluid clinging to the interior of the burette to settle for a more accurate reading. The volume read on the burette at this time many not b less than the amount specified for the class under scrutiny.**

12 **Engine Description: Engines must be mass-produced, single cylinder, Motocross motorcycle engines of the current year's production or older. No prototype, pre-production, "works type" motors or road race engines are allowed in these divisions. Engines may be liquid or air0cooled. Induction may be piton port or case reed type only.**

13 **Engine Approval: Any new moto engine submitted for approval to BKA will be approved only if previously accepted by the American Motorcycle Association for competition in the USA.**

14 **Radiator as per FIA 2006, page 273/73 16.4.**

BK1 Stock Moto – 385 lbs

BK1 SM 1 **(Spec Moto) Engine Specifications: Approved engines are Honda CR, Yamaha YZ, Kawasaki KX, Suzuki RM and TM Moto.**

BK1 SM 2 **Parts Interchangeability: Parts from years listed in the Approved Engines section above may be interchanged, with the exception of the six (6) speed transmission option. (See Transmission section below).**

BK1 SM 3 **Cylinder Head: Head must remain OEM with no modifications or machining of any kind. There is no machining on the spark plug hole. Spark plug threads may not protrude into the cylinder head. The very end of the in threaded portion and electrode may protruded as designed. Removal of mounting boss and modifications to the water outlets for the purpose of hose connection are allowed.**

BK1 SM 4 **Cylinder: No modification of the cylinder is allowed, such as porting, adding or deleting of ports, decking or re-nikasil. Stock power valves may be removed and aftermarket plugs used, with no filing, welding or modifying of the cylinder. No machining or any portion of the exhaust port is allowed. Power valve plugs must be matched outside of the cylinder and re-inserted. Cylinder mounting flanges for retaining cylinder to cases may be spot faced in the area where the nut meets the flange only. <u>No internal grind marks, NO EXCEPTIONS.</u>**

BK1 SM 5 **Piston Assembly: All piston components including piston, piston ring, wrist pin bearing, wrist pin and clips must be unmodified stock OEM**

parts. No aftermarket parts are permitted. No modifications or treatments of any kind are permitted.

BK1 SM 6 **Crank, Rod and Assembly: Must remain OEM with no modifications allowed. The two main bearings and seals are to be OEM. Flywheel key must also remain in place with no modifications to the keyway or key. Only OEM part are allowed for rod, bearing, washer and pin replacement. Polishing to allow for slip fitting of crank is permitted.**

BK1 SM 7 **Transmission: Five (5) speed as originally delivered in motorcycles or six (6) speed available through Honda in the kit form. The six speed transmissions must be 1994-96 OEM components. All transmission components must remain OEM. No aftermarket parts are permitted. No polishing, grinding or modifications of any kind are permitted. This also includes all bearings, seals and shifting mechanisms.**

BK1 SM 8 **Clutch: All parts must remain OEM with no modifications of any kind. This also includes bearings. The OEM number of plates must be installed with no deletion of plates. Clutch plates and springs may be replaced with aftermarket OEM equivalents.**

BK1 SM 9 **Engine Cases: Engine cases, internally, must remain OEM stock with no modifications, including lapping and bearing pocket alignment. External modifications to the cases are allowed only in respect to non-performance modifications, such as machining the kick starter boss and installing a plug in the kick start shaft hole. BKA reserves the right to continue to analyze external case modifications as this class develops, and will adjust accordingly.**

BK1M S10 **Exhaust: Only the following exhausts are allowed. No modification of any kind is permitted. Exhaust flange is open but must meet OEM length dimensions. No spacing can be used to adjust exhaust length, including flange, flange gaskets or pipe spacers. Silencer is a non-tech item. Installation of EGT probe and additional mounting brackets are permitted.**

- **RLV R2 standard stinger (part #6800)**
- **RLV R2 w/cross stinger (part #6800/0)**
- **RLV R4 (part #6830)**
- **RCE T-3**
- **Hi-Tech 125**

BK1 SM 11 **A. CDI: Must be OEM for specified model years with no modifications to internals of**
wiring. BKA race officials of the Technical Director reserves the right to require that a competitor to swap ignitions prior to

entering the racing surface; if the competitor does not comply, they may be disqualified from the event.

B. Stator/Flywheel: Must be OEM for specified model years with now modifications, including wiring, Flywheel key must remain in place with no modifications. Stator mounting holes may be slotted to allow static ignition adjustment only.

C. Coil: Must be OEM for specified model years with no modifications. The lead wire can be replaced to facilitate mounting. No ignition advance control can be preformed with the coil. Ground cable type and size are non-tech.

BK1 SM 12 Carburetor: The approved carburetors are the Keihin PWK and PWM. No additional components may be added to the carburetor. No internal or external modifications to the carburetor are allowed, such as polishing, boring (including oval boring), or modifying internal passages.

BK1 SM 13 Reed Cage, Manifold and Reeds: The reed cage and manifold must remain tock OEM with no modifications. Reed petals are open spec; aftermarket equivalents are permitted. Recommended intake manifold is the OEM CR125 (aprox 30º). In order to facilitate clearance for the larger seats, RS125 manifolds with lesser angles are permitted. However, if an RS125 manifold is utilized, the stuffer lobes must be removed flush with the mounting surface.

BK1 SM 14 Gaskets, Bearings and Seals: All bearings and seals must be OEM for the stated model years. No modifications, including treatments are permitted. Gaskets are open spec but must meet the OEM specification, which includes thickness and number of gaskets used.

BK1 SM 15 Water Pump: Water pump and housing must remain OEM. No modifications to impeller of housing of any kind are permitted.

BK2 Modified Moto – 405 LBS

SPECIFICATIONS

BK2 MM 1 Combustion Chamber Volume: Open spec.

BK2 MM 2 Porting: Porting is open spec; adding or deleting ports or re-sleeveing is prohibited in all classes. Re-nikasil is allowed.

BK2 MM 3 **Crank, Rod and Assembly: Crank, rod and assembly must be OEM. No modifications shall be made to the assembly. Therefore the machining, boring or polishing of the counter balances or rod, machining for the purpose of weight reduction, heavy metal balancing or altering crank pin location are all expressly prohibited.**

BK2 MM 4 **Transmission: Transmission components must be OEM or equal. This means that if an aftermarket part is submitted, it must be of similar dimensions as the original part. The weight of the replacement part will not be less than the OEM part. The outside diameter and tooth count of the replacement gears must be the same as the OEM part. Grinding or polishing transmission parts to provide a better mesh is legal.**

BK2 MM 5 **Clutch: A wet type clutch must be used. All components must in full and original working order. The clutch inner and outer basket and pressure plate must be OEM. Lightening of the clutch assembly by machining or grinding is allowed. Springs, discs and plates may be aftermarket. The OEM number of plates must remain in place; no subtraction of clutch plates is allowed. Clutch will be operated by either cable or hydraulic cylinder, but must be manually operated. NO ELECTRONIC or PNEUMATIC clutch controls are allowed.**

BK2M 6 **Exterior Case Modifications: Machining the intake manifold boss for the purpose of shortening the length of the inlet track is prohibited. The kick-started boss may be altered to facilitate the use of a straight intake manifold. However, the original kick-starter boss must be obvious.**

BK2 MM 7 **Exhaust System: Pipe/expansion chamber, stinger and silencer are open spec.**

BK2 MM 8 **CDI: OEM or aftermarket allowed.**

BK2 MM 9 **Stator/Flywheel: The stator and flywheel must be OEM. No lightening of the flywheel is permitted. The stator mounting holes may be slotted to adjust static timing.**

BK2 MM 10 **Coil: Coil is open spec. The lead wire can be replaced to facilitate mounting. NO ignition advance control can be performed with the coil. It is strongly recommended that ground cables be secured properly and of appropriate size to avoid and ignition failure.**

BK2 MM 11 **Carburetor: One single barrel, bowl type carb is allowed. Diagram pump type carburetors are allowed. No pressurized or otherwise force-feed fuel systems are allowed in any class. Power jests are legal**

but may not be electronically controlled. Twin pump re-circulating systems are allowed. Carbs can be over load to 40mm.

BK2 ICC LIGHT/HEAVY 405 LBS Light 420 LBS Heavy

BK2 1 ICC L/H FIC Engine Specifications: All CIK-FIA Rules and Regulations for ICC engines, standards and their components will be enforced unless specified otherwise in this rule book. As currently approved by CIK-FIA, engine must be a water-cooled single cylinder design with a single reed-valve circuit.

BK2 2 ICC L/H Parts Interchangeability: Parts maybe interchanged between approves model years of the SAME engine manufacturer and brand.

BK2 3 ICC L/H Cases: the engine assembly may have a maximum of two halves, not including the clutch house and inspection cover. The engine case may be divided in the vertical or horizontal plane.

BK2 4 ICC L/H Displacement: Maximum cylinder displacement: 125 cc.

BK2 5 ICC L/H Intake: Intake injet must have the same dimensions and appearance as shown on the homologation form. Location is open spec.

BK2 6 ICCL/H Carburetor: Carburetor must be made of aluminum with a single round venture, maximum diameter of 30.06 mm. The prescribed carburetor must be the Dell 'Otro VHSH 30, VHAH 30 BS or VHSH 30 CS. All replacement parts must be Dell 'Otro OEM parts. The integral duel filter may be removed; if kept, it must be OEM. The carburetor must remain strictly original with no modifications to carburetor or factory Dell 'Otro parts. Setting changes are only allowed to be made to: the slide, the needle, the needle jet, the main and pilot jets and air bleed screw.

ICC L/H Note: Under homologation of the same engines the PHBE 30 was previously specified. While all of the engines currently being exported to North America include VHSH 30, several engines meeting current CIK homologation standards were shipped to North America in the recent past (2000 & 2001 with PHBE 30 Dell 'Otro). The PHBE, while being of a slightly different design, is functionally and volumetrically the same as the VHSH.

BK2 7 ICC L/H Air Box: As per current or prior CK homologation.

BK2 8 ICC L/H A Transmission: Homologated by CIK-FIA (including the primary gear ratio). Cassette type transmission assemblies are now allowed. Minimum 3 and maximum 6 ratios. Tech ratios with a degree wheel with a minimum diameter of 200 mm or a digital coder, the degree increments given in the Homologation Form must be shown in the tenths of degrees and not in minutes. For the homologation of the gearbox, the manufacturer(s) and the model and type must appear on the Homologation Form.

ICC L/H B Shifting: Mechanical gearbox control only. No ignition interrupt systems are allowed.

BK2 9 ICC L/H Exhaust Port Opening: Total CIK/FIA exhaust duration is 199º maximum for all approved ICC engines. To be read with a degree wheel of a minimum diameter of 200 mm or with a digital device.

BK2 10 ICC L/H Combustion Chamber Volume: 13.4 cc measured with a L.A.D tool.

BK2 11 ICC L/H Spark Plug: Manufacturer is open spec. The thread of the spark plug, tightened on the cylinder head must not extend beyond the upper part of the dome of the combustion chamber. Dimensions length 18.5 mm; pitch M 14 x 125. The spark plug must be commercially available without modification, with the exception of the electrode gap. No thread on the spark plug shall be below the uppermost portion of the cylinder dome. Some portions of the spark plug may be below the dome i.e. electrodes and non-threaded area of the spark plug. The non-threaded area must not be altered, machined or tampered with to circumvent the intent of this rule.

BK2 12 ICC L/H All turbo or supercharger systems are forbidden.

BK2 13 ICC L/H Exhaust Pipe: Must be CIK homologated for the brand of the engine being used, as supplied by the manufacturer. Must also have the CIK homologation stamp on the pipe. All power valve systems are forbidden. BKA allows missing of homologated pipes and engines only i.e. 2003 homologated pipe can be run on a 2004 homologates engine, even though the numbers will not match. Whenever missing exhaust and engines, al homologation papers for all parts must be available to the event technical inspector.

BK2 14 ICC L/H Exhaust Silencer: Make and manufacturer are open spec. Must meet sound requirements.

BK2 15 ICC L/H Fuel: C12 is the approved fuel only. FUEL/OIL combination only! No alcohol, oxidizers or hydrazine fuels may be added. Fuel tests

may be administered at any time during or after an event. Failure to pass a fuel test will void all results of qualifying heats or feature races that a competitor found to be using EPA listed known cancer-causing agents as an attempt to enhance fuel performance at any sanctioned event.

BK2 16 ICC L/H **No speed shifting/lift shifting allowed. Mechanical connection between gear lever and J-arm only. No air bottles, air pumps, Co_2 bottles, etc.**

GEARBOX COMPETETION RACE PROCEDURES

The following procedures are in addition to established competition procedures as published in the Sprint and Road Race sections of the tech manual.

Gearbox procedures for Sprint Competition:

Shall use an "F1" style standing start. Competitors are responsible to grid properly and on time. Any competitor not on the grid in time may, if allowed by officials, start behind the last kart on the grid.
If after competitors leave the grid for warm-up laps, a driver's engine or kart becomes disabled, that competitor may not restart or compete in that particular heat. His position must remain vacant on the grid. No re-starts after warm-up laps have begun.
Gearbox classes get two complete warm-up laps and grid on the third lap. If a competitor "falls out" during the warm-up laps, all other drivers must still grid in their original positions. The grid space(s) for the driver(s) who has retired must remain vacant.
Any competitor whose engine "dies" on the starting grid must raise both arms over his head so as to warn the other drivers that his kart is disabled. Failure to do so may result in disqualification.
It is suggested that for each six competitors in a Gearbox class, there be an assistant starter to monitor grid positions and "creeping". There should be at least one assistant starter at the back of the grid to signal the head starter when all karts are in position on the grid. "Creeping" or "rolling" before the green flag drops will necessitate a one lap penalty.
To begin a Gearbox class race: When assistant starter at rear of grid signals to the head starter that all karts are in position, it is suggested that the head starter hold the green flag, out-stretched, over his head with both hands. The race begins the moment the starter releases the flag.

Section 5

Technical Inspection Introduction, Inspection, Procedures and Engine Specifications

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. While it is intended to be *a guide* for tech inspectors, we hope it will also provide assistance to the general member in preparing legal engines.

No pretense is made of having designed a fool-proof set of rules and regulations. Karting is a sport designed for the fun and enjoyment of the whole family. There have been attempts to test the rules by deviating from this purpose for which the basic sport is intended. *The Spirit and Intent of the rules is going to be the standard by which Karting will be guided.* Event officials are authorised 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 tech inspector may use whatever tools he deems necessary to accomplish the tech procedures. All components of each entry's engine is subject to complete technical inspection. Any part or hole not called out, or without dimensions given doesn't exclude it from tech inspection.
The BKA Committee wish to remind all tech inspectors that it is their responsibility to check the engine(s) only for the legality of the engine in respect to the tech manual and not to add or delete from it. Likewise, it is the competitors' responsibility to assure themselves that the engine is legal in respect to the same tech manual.
The BKA Committee recommends to tech inspectors where ever possible to have a stock Yamaha KT100S engine present for comparison when carrying out technical inspection on competitors engines. As karting progresses, manufacturers will submit replacement parts for approval. Remember, all approved replacement parts are required to be of factory specifications and have same general appearance.

The BKA Committee strongly recommends the use of one gas, one oil for all classes to run a spec gas program. All classes will run premium unleaded gas. A gas station in close proximity to the track is suggested (Shell Six Cross Roads, good quality gas and have convenient hours) will be selected.
This also applies to 125 Shifters using pump gas.

INSPECTION

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. Technical inspection shall include the following:

1. Suitability for Competition: The basic design of the vehicle shall be suitable for high performance with emphasis on safety. The opinion of the inspectors and the race officials shall be binding.

2. Appearance - The vehicle shall be neat and clean.

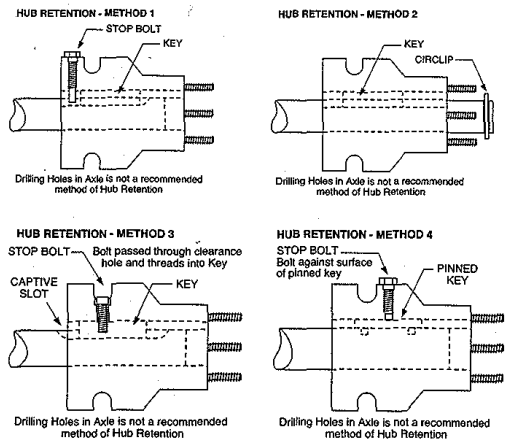
3. Tires: Shall be new or in good condition without visible flaws.

4. Wheels: Void of any defects.

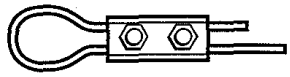
5. Wheel Bearings: Ground ball or roller type only. Split race bearings not allowed. Wheel bearings should be properly adjusted so that there is no excessive wheel play.

6. Axle Nuts: Both the front and rear shall be safety wired, cotter keyed, pinned, snap ringed or barry clipped and self-clamping wheels are allowed snap rings instead of nuts.

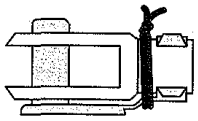
The four approved methods of secondary hub retention for rear slider type hubs are shown in diagrams below.



Cable actuated brakes: Any cable used as an actuator in a brake system shall have a minimum diameter of .071". Cable actuated hydraulic systems shall have two separate such cables. Any non-factory applied cable end shall be blocked by a "flat type" cable clip. Bolts on cable clip shall be secured with locknuts or be double nutted.



Snap pin for European style clevis must be safety secured as shown with safety wire, or locking nylon type strap. See diagram.



7. Brakes: Checked for proper operation and stopping ability. All hydraulic connections shall be tight and free from leaks. Checked for correct safety fasteners on calipers and carriers, Nylock locking nuts should not be used. Failure of the braking system is possible if the locking part of this type of nut is melted a8way by the heat generated by disc brakes.

8. Throttle Pedal: Pedal should operate freely and karts to be equipped with throttle having a spring which shall close throttle when released.

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

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, snap ringed or barry clipped and shall be easily exposed for inspection purpose. Scrutinizers 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.

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. Wheel Weights: Checked that clip on type wheel balancing weights are not mounted. Stick on type must be securely fastened

13. Mufflers: All karts must be equipped with a silenced exhaust system that must be securely fastened to the engine and in some classes engine and the frame.

POST RACE INSPECTION: Suitable scales should be provided to accommodate driver and kart weighing together. Drivers shall be weighed after qualifying and races and are not allowed to pit between the end of the race and weighing.

TECHNICAL INSPECTION PROCEDURES

1. GAS INSPECTION PROCEDURE: The gas tech inspector will go to the spec pump (Shell Six Cross Roads) and draw one gallon of spec gas. He will mix 6 oz of Shell Advance Racing M, Castrol and Red Line for 13 cc and 11cc classes. This container 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.
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. . The allowable variance from 000 is plus or minus 010. **Plus or minus 011 is illegal.**

FACTS:

a) Zeroing the meter on the spec gas eliminates the problems of localized gas standards for emissions and the seasonal-blending changes.
b) Allowing only a 101 point variation eliminates the competitor having a 50-60 points on the meter to play with when doctoring their gas.
c) Why Shell Advance Racing M? It is one of the commonly used oils and has a reputation of being one of the best two stroke oils available and many of the competitors are using this product.
d) 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. Tests have shown most of the common lubes are within 4-5 points of each other.
e) All other existing tests could be utilized, as long as the spec gas was used as a comparison basis.
f) It is the intent of this programme to establish a minimum spec gas tech programme.

Water Test:

Note: The use of the Germaine test supersedes the need for the water test. Because of its accuracy and ability to detect a greater range of illegal compounds it is highly recommended

Into a graduated container measure one ounce of water. Place a minimum 4-ounce sample of the competitor's fuel into the graduated container. Mark the bottle container with his class and number on a piece of tape.

(Illustration A, left bottle.)

Add one ounce of water to the fuel sample. Thoroughly mix the gas and water. The water must settle to the bottom and form a one-ounce band of clear (colored) water. This may take approximately ten minutes (Illustration A, right bottle.) If the sample reacts in this manner, it is legal.

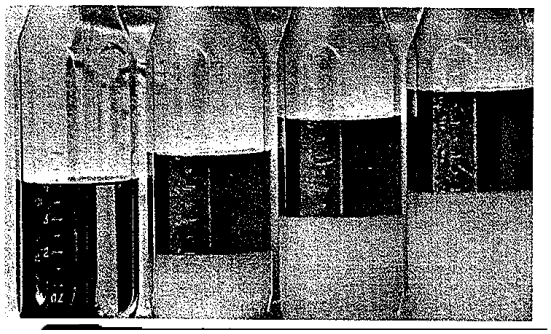
Illustration A - Legal Water Test

The bottle on the left has a four ounce sample of fuel. The bottle on the right is after the addition of one ounce of water. Note that the band is only one ounce wide.

If when the gas and water have separated, the band at the bottom is more than one-ounce wide, the fuel is illegal and the competitor shall be disqualified.

Illustration B - Illegal Water Test

From left to right, the first bottle has a four ounce sample of fuel. The second bottle has had one ounce of water added. Note that the lower band is two ounces wide. This is because the alcohol and/or additives in the fuel combined with the water. The third bottle has had another ounce of water added. The band is now almost three and a quarter ounces wide. The fourth bottle has had another ounce of water added, but the lower band only increased by the amount of water added. Therefore the original four ounces of fuel contained one and a quarter ounces or approximately 30% of alcohol and/or additive.



2. CHECKING HEAD VOLUME

a) Fill the burette with the appropriate fuel (Marvel Mystery Oil or ATF fluid) minimizing the amount of air bubbles formed during the filling process. Allow sufficient time for all air bubbles to rise to the surface.

b. 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.

c. 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 kart). 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 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 above and show the finishing point to the respective person.

d. 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 and flows over of the spark plug hole, the engine is illegal.

NOTES: When reading the fluid level, hold a finger behind the burette and slightly below the fluid level. When held up to the light, the fluid level line will become much more distinct. A glass burette with a Teflon or glass stopcock supplied by the BKA shall be used. This Tech procedure should only be performed after the engine has cooled to near ambient temperature to ensure that a legal engine is not disqualified due to thermal expansion of the petroleum fluid used to check the combustion chamber volume. The BKA Tech committee feels the tech person must use discretion and follow the Tech Manual when checking head volume. No excessive taper is allowed at the top of the spark plug hole. All thread inserts must be the depth of the original threads.

3. CHECKING EXHAUST PORT HEIGHT: 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.

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. Note that exhaust gauge should be held against top of exhaust port roof.

DRAWING

Checking Exhaust Port Height (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.)

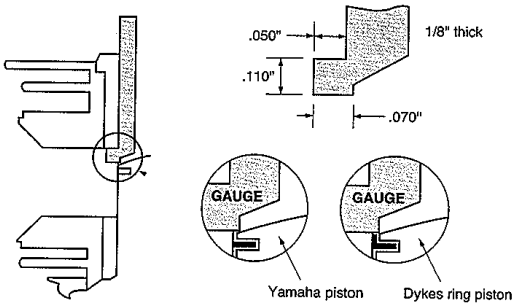
To check exhaust port height, use a dial indicator. When checking exhaust port height, torque for the dial indicator bridge is not to exceed 150-inch-pounds. Zero the indicator to top dead center then rotate crank until piston has traveled just past the allowable distance of the particular engine being 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.

Notes:

Exhaust gauge should be held against top of exhaust port roof.

For pistons with dykes top ring, the top edge of the ring is considered to be the controlling edge.

Exhaust Check Gauge: Piston Port, 100-135cc Controlled



Port Height Check before top dead center (minimum)

TKM RL066, DAP T-91, Parilla TT-25/ SS-21	DAP T-91 w/ 54.5 stroke, Parilla TT-65	Rotax 100VM, TKM 101R, Atomik AKL-90, TKM KA100, Comer MIK35IL, DAP T85, CRG S10-T1, Jako 2LA, Vortex VL/C	Sirio 45, PCR TS50/3, PCR PC-93, Minarelli, Dino 545, Parilla TT-75, PCR TSL98	All Others	Italsistem ML31, Parilla Reedjet
1.385	1.405	1.270	1.255	1.210	1.275

4. CHECKING INLET OPENING**:** (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).

Inlet opening is checked by holding gauge against bottom of the inlet tract with inlet manifold and gaskets removed. Piston is then rotated to contact gauge

Yamaha KT100S, Komet K-71 HPV	DAP T-50, TKM BT-82, PCR PP-100	Comer P50-P51	Italsistem MA31
1.155	1.235	1.295	1.300

Note: If, at the controlling edge of the exhaust port, a champher is present, the following visible light break check shall be used:

Visible Light Break Exhaust Ports Height Check

Zero dial indicator at top dead center then rotate crank until piston has traveled just past the allowable distance for the engine being checked, then roll the piston up to the dimension listed under visible light break check. Shine outside light beam directly into the center of the bore. No light shall beam thru exhaust port when piston and ring are at listed dimension. See chart.

This additional tech procedure was derived from the subtraction of the .110 thickness of the LAD tool plus .015 for port and ring chamfer. This will equal .125 which was deducted off of our standard LAD gauge dimensions.

Note: The light must directly beam through the chamfer when viewed directly from the header side of the exhaust port.

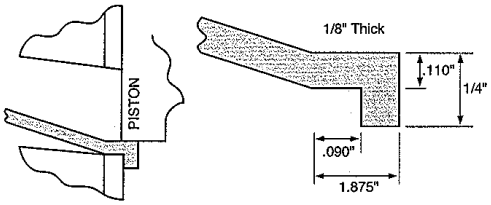
VISIBLE LIGHT BREAK CHECK

Parilla TT25 SS21, TKM RL66, FF99, DAP T-91	Dino 545, Minarelli, Sirio 45, PCR TS50/3, Parilla TT75, PCR PC93, PCR TSL98	Parilla TT65, DAP T91 w/54.5 stroke	All Others	Rotax 100VM, Atomik, TKM 101R, TKM KA100, Comer MIK35IL, DAP T85, CRG S10-T1, Jako 2LA, Vortex VL/C	Italsistem ML31, Parilla Reedjet
1.260	1.130	1.280	1.085	1.145	1.150

Checking Inlet Opening (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.)

Inlet opening is checked by holding gauge against bottom of the inlet tract with inlet manifold and gaskets removed. Piston is then rotated to gently contact the gauge.

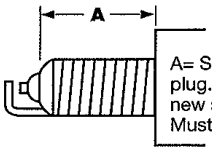
Intake Check Gauge: Piston Port



Inlet Opening, Check At Top Dead Center (Maximum)	
.775	Yamaha KT100S, Komet K-71, HPV
.810	DAP T-50A, TKM BT-82, PCR PP-100
.835	Comer P50/P51, Italsistem MA31

Spark Plug Specifications

Spark Plug Specifications



A= Spark Plug must be .750" reach plug. Check area "A" against a known, new spark plug of same brand/type. Must be within ± .015".

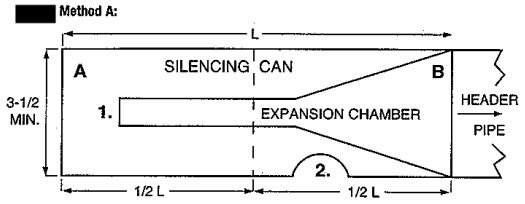
5. CHECK LEGAL EXHAUST SYSTEMS:

a) No minimum or maximum length
b) The expansion chamber must outlet into the rearward half of silencing can that portion farthest from the header pipe.
c) The exhaust gas outlet hole to atmosphere must be in the forward half of the silencing can, that portion closest to the header pipe.
7) The exhaust gas outlet hole to atmosphere may be of any number or shape, but may not exceed .7854 square inches(the area of a one inch diameter circle)
e) There may be no physical connection between the expansion chamber outlet and the exhaust gas outlet hole to atmosphere.
Engines 125cc and above may use 1 or more holes of equal area of two one inch holes (1.571 sq in.).
f) The sound limit for all **karts shall be 92DB(a weighing scale,** slow response) measured 100 feet, 90 degrees from the source, 4 ft from the ground. Measurement shall be taken during qualifying at the loudest point on the track under no wind conditions.

Formatted: Body Text 2

[redacted] 2-CYCLE LEGAL EXHAUST SYSTEMS (Established 1983)

[redacted] **Method A:**



[redacted] No minimum or maximum length (l).

[redacted] The expansion chamber must outlet (1) into the rearward half of silencing can (A) that portion farthest from the header pipe.

[redacted] The exhaust gas outlet hole to atmosphere (2) must be in the forward half of the silencing can (B), that portion closest to the header pipe.

[redacted] The exhaust gas outlet hole to atmosphere (2) may be of any number or shape, but may not exceed .7854 square inches (the area of a 1" diameter circle.)

[redacted] There may be no physical connection between the expansion chamber outlet (1) and the exhaust gas outlet hole to atmosphere (2).

[redacted] Engines 125cc and above may use 1 or more holes of equal area of two one inch holes (1.571 sq. in.)

[redacted] Speedway and Sprint exhaust systems cannot be adjusted while the kart is in motion.

[redacted] The sound limit for all karts shall be 92 DB (A weighing scale, slow response), measured 100 feet, 90° from the source, 4 ft. from the ground. Measurement shall be taken during qualifying at the loudest point on the track under no wind conditions.

[redacted] To encourage noise reduction, add on silencers may be allowed to be attached and removed for pipe tech.

511.2 Method B

Perforated stingers and/or glass packed type silencers are legal, as per rule in Method A, [redacted] (applies to [redacted] approved classes and shifter karts only.)

[redacted] For all classes with a stinger type silencer with a protrubing tube at the outlet: a 2" diameter washer, with a minimum thickness of .065" must be attached the the outlet of the protrubing tube. Not required if tube already has a rolled edge or some other means of covering sharp edges.

Intake Check Gauge: Piston Port

D R A W I N G

ENGINE SPECIFICATIONS

1. GENERAL 100cc PISTON VALVE: This section covers stock piston 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 or original manufacture and stock appearing.

   a) Inserts may be installed in the aluminum engine cases for worn bearing housings. Original center lines must be well maintained.

b) All engines may use two flywheel side half cranks to allow use of direct drive sprockets (direct drive or axle clutches, etc).

c) Grinding of a maximum of four oil supply notches per side in crankshaft end of connecting rod. Legal in all engines.

d) All classes, all minimum strokes are to be .015" less than the maximum stroke listed.

e) Coated pistons are allowed in all 2-Cycle classes including Yamaha.

f) Cylinder/Cylinder heads: exterior surface is non-tech. No coatings allowed except as homologated. Cylinder heads only - two outermost fins may be painted for identification.

g) Spark Plug: spark plug must be 14mm by 3/4" maximum reach unless otherwise specified.

h) Head Inserts: The diameter of the insert may not exceed the spark plug boss and must be flush within the top of the boss. Maximum diameter 1.00"

i) All Engines: Exhaust gas temperature gauge is allowed. Gauge must not leak.

j) Restricted Exhaust: On all restricted exhaust classes, exhaust temp fitting must be welded or brazed in place. Pipe clamp types are not allowed.

k) All Engines: Any air filter and air filter adaptor, if used, may not be velocity stack shaped or act as a ram tube.

2. EXTERNAL MODIFICATIONS: External modifications which do not in any way affect a performance gain are legal. Use of rubber tubing as fin dampeners is allowed. Welding of broken fins to be allowed. No welding or braces to act as a heat sink allowed.

3. LEGAL ADDITIONS: Legal additions shall be limited to the following: air cleaner, clutch, sprocket, 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 - see 603.2.15

4. NON-TECH ITEMS: Unless otherwise specified, non-tech items include gaskets, oil seals, bearings and cages, fasteners and crank pins. Bearings are a non-tech item but must be of same internal diameter, width and outside diameter as original parts. Stuffing may be notched above crankpin. Silicone rubber is considered a gasket material.

5. CARBURETOR: Must be of original manufacture and stock appearing. Fuel can only pass through stock metering orifices. Any means 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.

No machine work or metal removal of throttle shaft allowed. Shaft may be sealed with “0” rings. Button head screws may be used in carb shafts. Both screens must be intact at circuit plate and under inlet needle. Filtering devices to protect metering diaphragm allowed. No means of depressing diaphragm allowed.
Fuel Inlet: funneling of brass inlet illegal.
Shims are allowed under metering spring to adjust pop-off pressure.

D I A G R A M S 2

[redacted]GENERAL NOTES

[redacted] Carburetors

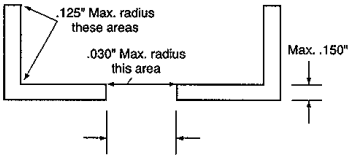
[redacted] O-ring and/or sealing devices are approved for carb shafts. This includes the machining of the carb body to install the sealing device.

[redacted] Button head screws may be used in carb shafts. All 2-Cycle engines, all 2-Cycle classes.

[redacted] Extensions may be added to carb adjustment needles to assist in carb tuning. All 2-Cycle engines/classes.

[redacted] Air Filter/Silencer Adapter

AIR FILTER ADAPTER - ALL CLASSES EXCEPT OPEN OR WHERE OTHERWISE NOTED



TS 40DAP 1.050" Min.
Walbro & HL 1.150" Min.
(Bolt bosses on HL allowed)
HR & Mikuni 1.450" Min. **(see 603.2.15)**

[redacted] **Induction Silencer:** [redacted] Airbox must be run as manufactured and without modifications. No coatings, no painting, no stickers, no tape except 2" from outside base of boot connector to prevent rotation. No attempt to insulate air box in any manner is allowed. Air box must be intact and operational throughout the race.

[redacted] Where required, 2-cycle engines up to 110 cc displacement must use approved induction silencer with a maximum of two baffles each not to exceed 23 mm (.905") in diameter and 95 mm (3.74") minimum length.

[redacted] Where required, 2-cycle engines exceeding 110 cc displacement must use approved induction silencer with a maximum of three baffles each not to exceed 23 mm (.905") in diameter and 95 mm (3.74") minimum length. Water cooled gearbox engines may use any air box with up to three baffles, each not to exceed 29 mm (1.142").

[redacted] Induction silencer dimensions: (See following diagram)

1. 270 mm ± 10 mm (10.629" ± .393")
2. 440 mm ± 20 mm (17.322" ± .787")
3. Baffle Tube length: 95 mm minimum (3.740")
4. Baffle Tube inside diameter: 23 mm maximum (.905") or 30 mm (1.181") maximum if specified.
5. Carb mount in box is at 90 degree to air inlet tubes as per diagram. Only exception is for 100cc stock rotary valved engines where carb mount hole may be parallel to inlet tubes as per diagram.

[redacted] Internal or external air cleaners are legal.
An external filter adapter for an air filter may be utilized providing that air enters the engine via the intake tubes specified in 603.1.4.3. Induction silencer intake tubes must extend above the floor level of the external filter adapter (thus creating a ledge perceptible during inspection.) All openings and or edges of the external filter adapter may have a maximum radius of .125". Maximum external filter adapter flange height is 1.25" and filter cup may not provide a ram-air or velocity stack effect.

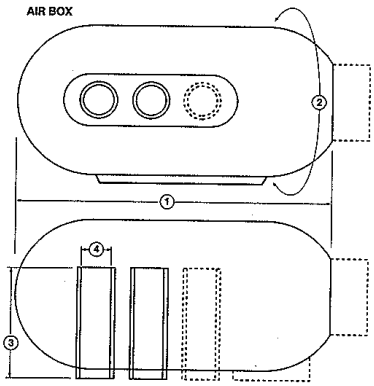
[redacted] Rubber mounting flange may be used in straight or angled position. Max. angle 25 degrees.

The un-used end of double ended rubber flange may be left as manufactured and run inside the air box, or may be trimmed on the inside of the airbox up to the flange lip.

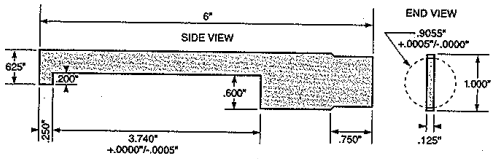
[redacted] **Approved Induction Silencers are:**
Approved Induction Silencers are:

- All pre-2004 CIK air boxes configured like, and resembling the drawing.
- All RLV air boxes configured like, and resembling the drawing.
- K&N Air box with rigid internal filter

• 2004 and later CIK air boxes are permitted only on JICA, ICA, and ICC. engines, where they are required.



603.1.4.7 Airbox Tech Gauge for 23mm tubes



These rules apply to all engines except as noted in specific engine rules.

Inserts may be installed in the aluminum engine cases for worn bearing housings. Original center lines must be well maintained.

Motoplat flywheels to be as cast. Balancing holes allowed.

All engines may use two flywheel side half cranks to allow use of direct drive sprockets (direct drive or axle clutches etc.) JICA/HPV type output shafts also approved. In 200 Sprint Division Yamaha classes, the use of two ignition crankshaft halves is not allowed.

Grinding of a maximum of four oil supply notches per side in crankshaft end of connecting rod. Legal in all engines.

Stuffing may be notched above crank pin - all classes.

All Classes: serial numbers on motoplat stator assembly and flywheel must be the same.

All classes other than Stock Appearing and Open, all minimum strokes are to be .015" less than the maximum stroke listed.

Coated pistons are allowed in all 2-Cycle classes including Yamaha.

Gaskets: All stock classes, unless otherwise specified, gaskets are non-tech but must be in place. Silicone rubber is considered a gasket material.

Cylinder/Cylinder Heads: exterior surface is non-tech. No coatings allowed except as homologated. Cylinder heads only—two outermost fins may be painted for identification.

Spark Plug: spark plug must be 14mm by 3/4" maximum reach unless otherwise specified.

Head Inserts: The diameter of the insert may not exceed the spark plug boss and must be flush within the top of the boss. Maximum diameter 1.00".

All Engines: Exhaust gas temperature gauge is allowed. Fitting must not leak.

Exhaust Temperature Fitting: Exhaust temperature fitting must be welded or brazed in place. Pipe clamp types are not allowed. If temperature probe is not in place in the fitting, the fitting must be plugged.

All Engines: Any air filter and air filter adaptor, if used, may not be velocity stack shaped or act as a ramtube (except Open classes).

Ram Tube: shall be defined as anything designed, built or installed, in such a manner to deliver air to the engine air intake above the pressure that there would be without it present.

Modifications: Any attempt to modify, change, or defeat any of the basic design criteria of any engine is illegal. Air and fuel can only enter the engine as originally designed.

Main Bearings: No ceramic ball or any other type of exotic design main bearings are permitted.

Pressure/Vacuum Test: In any class that has intake or exhaust restriction, any test deemed appropriate to determine seal/crankcase integrity is permitted. Both pressure and vacuum tests may be used not exceeding 5 PSI/5 in. Hg. The engine shall maintain at least 1 psi pressure and 1 in Hg within 60 seconds. The seal failure will be verified by spraying WD-40 or equivalent into the seal looking for bubbles, in the case of pressure leaks, and the suction of the liquid into the engine, in the case of vacuum leaks.

Carburetor:

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.

No machine work or metal removal of throttle shaft allowed. Shaft may be sealed with "O" rings. No sleeving of throttle shaft bore allowed.

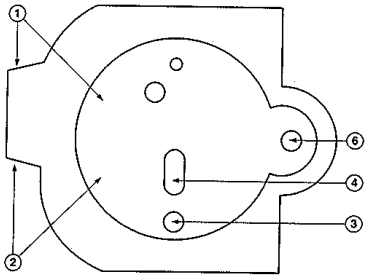
Both screens must be intact at circuit plate and under inlet needle. Filtering devices to protect metering diaphragm allowed. No means of depressing diaphragm allowed.

Fuel Inlet: funneling of brass inlet illegal.

Shims are allowed under metering spring to adjust pop-off pressure.

No sleeving of throttle shaft bore allowed.

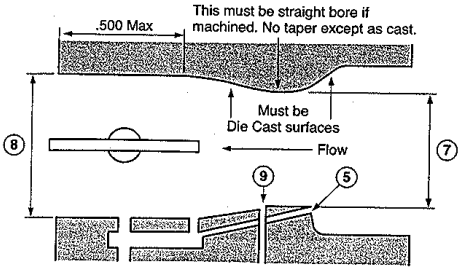
(Walbro Carburetor WB3A)



Yamaha KT100S, DAP T50, PCR PP100, TKM BT-82, Komet K-71, HPV, Comer P-50

1. High speed needle seat	.081 No-Go
2. Low speed needle seat	.0595 No-Go
3. Idle Jet	.042 No-Go
4. Transition Jet	.052 No-Go
5. Air pre-mix orifice	.042 No-Go Max.
	.032 No-Go Min.
6. Fuel inlet valve seat	.064 No-Go
7. Diameter at narrowest part of venturi	.950 No-Go
8. Diameter at flange end	1.010 No-Go
9. High speed jet	.074 No-Go
(Check with bent gauge from inside venturi)	

Note: No-Go definition, refer to section 509.



Fuel Pump Diaphragms: Either Teflon or rubber types are legal.

Fuel Passage Holes: All fuel passage holes on fuel pump side are .140" no-go. (Note: some older carbs may have cast radius at top of holes) No-go drill blank may start into brass inlet tube but may not go through.

WALBRO WB3

a)	High speed needle seat	.081 No-Go
b)	Low speed needle seat	.0595 No-Go
c)	Idle Jet	.042 No-Go
d)	Transition Jet	.052 No-Go
e)	Air pre-mix orifice	.042 No-Go Max. .032 No-Go Min.
f)	Fuel inlet valve seat	.064 No-Go
g)	Diameter at narrowest part of venturi	.950 No-Go
h)	Diameter at flange end	1.010 No-Go
i)	High speed jet (check with bent gauge for venturi)	.074 No-Go

NB - No-Go definition - refer to section 509

Fuel Pump Diaphragms: Either Teflon or rubber types are legal.
Fuel Pump: Illegal unless stock equipment with the carburetor.
Metering Diaphrams: May be captive or non-captive. Captive diaphragm may be modified to be non-captive, no other modification allowed.

ENGINE SPECIFICATIONS FOR YAMAHA KT 100S

1) Displacement:

Maximum Bore 2.085
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.** This rule will be strictly enforced.

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 not reversed).

e Sandblasting, glass beading, penning, etc are not a substitute for “as cast” condition.

3) 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.

4) 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. Maximum no-go exhaust 1.600.

5) Inlet Opening: .775 ATDC, see section 602.3.

6) Cylinder Position: It is legal to turn the cylinder and piston 180 degrees on the Yamaha KT100S. Matching of the transfer passages in the case and cylinder is not legal.

7) Exhaust Port Opening: Check with dial indicator. Piston travel from top dead center to exhaust opening 1.155 ATDC.

8) 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 1.551” is the no-go size. New cylinders are still “as cast” in all port areas, including exhaust.

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

8.i) New Style Y3 or Y4 Tech Procedures: Tech will be done using new dimensions listed and must still follow items I through 7. 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.

8.ii) Old Style Tech: will be done using new dimensions listed and must still follow items 1 through 7, with the exception that one exhaust port may have the cast iron ground to bring exhaust measurements close to specification. The remaining other exhaust port must have unaltered as cast finish on cast iron.

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 port altered, with an

arrow or an X. The altered port top must be ground to a minimum of 90 degrees to cylinder wall. No chamfer allowed. No free porting of exhaust ports.

9) Cylinder Head: Any machining of the cylinder head or cylinder liner to accept a sealing device is illegal, unless it is stock equipment on the engine Yamaha KT100S. Head locating pins not allowed.

The combustion chamber volume shall be a minimum of 13cc for the Sportsman class and 11cc for all other classes. This is measured to the top of the spark plug hole with the piston at top dead center. New die cast head 787-11111-04 is approved. Combustion chamber shape is non-tech item.

10) Head Gasket Thickness: Yamaha KT100S. Material shall be copper or aluminum. KT100S engine to have a ring type head gasket, and a maximum OD of 2.580.

11) Piston: Piston must be an approved single ring only and stock appearing. Legal pistons are Yamaha, Burris, Wiseco, Vinart, RKE 787 and KSI. All approved pistons should have name cast inside. Bottom of piston should be 90 degrees to sides. Transfer area of piston must be as cast, no scalloping. Piston top must be of dome shape. Burris two ring piston approved (1-dykes + 1 thin). Maximum break on all machined edges .030". Rings must be of magnetic material.

11.i) Yamaha engines in all classes except Open: Piston must be installed as factory intended, i.e. ring locating pin must be installed to carburetor side, resulting in wrist pin off set to exhaust side.

12) Connecting Rods: Rods must be of original manufacture, stock appearing and are not interchangeable. Shot penning is allowed. Maximum rod length, center to center: Yamaha KT100S 3.932-3.942 in. No grinding and polishing is allowed. Heavy duty rod #7F6-11651 and 7F6-11651-02 are approved.

13) Wrist Pin: Stock Type Only - no tapered pins.

14) Crankshaft: Crank assembly must be original manufacture and stock appearing. Shot penning and polishing is allowed. Outside diameter measurement: Yamaha KT100S 3.410 min. 3.435 max. Concentric bushings may be applied to crankshaft journals to repair worn crankshaft. Bushings may be tack welded to hold in place. Any fastener may be used to retain bushings.

15) Spacers: The top end of the rod may use two spacers with loose or caged type bearings. Spacer material may be steel, brass or aluminum. The bottom of the rod shall have a caged type bearing.

15.i) Bottom Location of connecting rod approved with:
2 - 1mm lower washers
1 - 13.95 mm width lower cage
Must have rod located either top or bottom, **but not both**

The crankpin shall be hollow and may have two steel plugs in place. Crankpin minimum ID after plug is removed is .400. Plug must be of Drillable material and the competitor is responsible for removal of plug in tech.

15.ii) Note: new crankpin with no plugs approved. Maximum ID .425 No-Go.

16) Ignition: Ignition must be of original manufacture and stock appearing. Ignition keys must fill slots in crankshaft and flywheel. Key width shall be .115 mm No-Go. Any means taken to alter the coil position is illegal. Machining the shanks of coil hold-down screws to provide additional coil position adjustment is not allowed. 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. : Any modification to high tension coil wire or connector except for the express purpose of repair or noise suppression is illegal.

17) New Style Flywheel: 7F6-85552-02 (Std), 7F6-8555-52 (Rev.) are approved. Three bosses minimum thickness in boss area .950". Length of boss .750 minimum. Many body thickness .817 minimum. Minimum diameter 2.350". External coil damage may be repaired with silicone or epoxy.

Note: The Atom ignition module is approved for the KT100S. The PRD T.C.I. ignition is approved for the KT100S. Metal case is stamped with he letters PRD. Only one module may be used.

18) Old Type Flywheels: Minimum diameter 2.350", minimum width .827".

19) New Yamaha ignition coil is approved. "JAPAN" is stamped on the new coil.

20) The leading edge of the ignition rotor's magnet should line up with the trailing edge of the ignition coil's let when the piston is at TDC to .015" BTDC. On clockwise ignitions, the coil's trailing edge is the bottom leg.

21) Carburetor: Walbro WB3, See section 616.7.

22) Phenolic Spacer: Hole Size 1.050 maximum, 1.000 minimum. Maximum thickness .484". Straight bore.

23) Aluminum Carburetor Mount Plate: Factory stock mount plates only. Hole (I.D) size 1.050" maximum, 1.000" minimum. Straight bore. Diameter (O.D) 2.360" +/- .020". Maximum thickness .484".

24) Crankcase Pulse Hole: May be relocated to front of engine for use with reversed cylinder. Hole not in use will be plugged. Internal diameter of pulse pipe to be .128" No-Go.

25) Inlet Tract: For all gaskets in the intake track, maximum .060” thickness at each location, including carb and base gasket. The minimum length of the inlet tract measured from the carb mounting surface (remove carb base gasket) to the cylinder bore diameter:

Without restrictor - 2.600” minimum, 2.700” maximum
With restrictor - 2.650” minimum, 2.750” maximum

26) Crankcase: New Yamaha case approved. Identified by 7ET01 on bottom of case.

27) Old Style Yamaha cylinders: All Yamaha classes using any type of exhaust or carburetor restriction: In 1998, to add 5 lbs, over posted weight to all entrants using non-787 (Y3-Y4) cylinders. In 1999, add 10lbs. In year 2000, add 15 lbs. In 2001 add 20 lbs. Progression to continue annually. Cylinder will be identified with a vertical red paint stripe on the outboard side of the cylinder. Competitor will be responsible for having this marking in place prior to pre-tech. This will affect classes using the RLV, YBX, SSX and the SBX Muffler.

2-CYCLE TECH TOOLS: Technical inspection requires the use of gauges as specified below. Drill blanks, vernier and snap gauges are not a substitute for gauges.

No-Go: A No Go gauge is a nonadjustable 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 not be self-supporting when the part is rotated at any angle. Note: A dial caliper is not a No Go gauge and may not be used to tech any opening where this manual specifies a No Go gauge.

No Go Gauge standards and Checking Dimensions: No Go gauges will be used for chord widths of ports, exhaust systems, carburetor air horn, venturi and flanged end (throttle bore). Pin gauges for metering holes. Plug No Go gauges must be blade type with blade made from tool steel, heat treated, ground and clearly marked. All plug No Go gauges up to .361" blade must have a minimum thickness of .060" and maximum thickness of .125". All plug No Go gauges .362" and up, blade must have a minimum thickness of .125" and maximum thickness of .250". All chord No Go gauges must have a minimum thickness of .060" and maximum thickness of .125". No Go gauges may not enter or pass through the opening or gap of a measured part. On chamfered or angular openings, the No Go gauge may not be self-supporting when part is turned 90 degrees; i.e., tool cannot support itself at any angle. No Go gauge is to be used without a holder.

Plug Gauges Defined: Plug Gauges are used to measure round openings. Plug No Go gauges must be made from tool steel, heat treated, ground and clearly marked. Plug Gauges up to a diameter of .361" are to be round. Plug gauges larger than .361" are to be machined on each side to achieve a blade thickness of .215" minimum and .250" maximum. The tolerance on Plug Gauges up to .750" is +.0001"/-0". The tolerance on Plug gauges over .750" is +.0003"/-0". It is recommended that Plug Gauges not be held in an aluminum handle to reduce the total gauge weight.

Chord Gauges Defined: Chord Gauges are used primarily to check port widths. All Chord No Go gauges must have a blade thickness of .125". The tolerance for Chord Gauges (width) is +.0002"/-0". Note: Fractional dimensions for blade thickness of Chord Gauges are nominal dimensions with a tolerance of +.015"/-.015".

Where metric dimensions (cm, mm) are specified in this document, conversion to SAE units (inches) is permissible for verification purposes. Where SAE dimensions (inches) are specified in these regulations, conversion to metric units (mm, cm) is permissible for verification purposes. The following conversion formulas shall be used: Divide millimeters (mm) by 25.4 to obtain inches. Divide centimeters (cm) by 2.54 to obtain inches. Multiply inches by 25.4 to obtain millimeters (mm). Multiply inches by 2.54 to obtain centimeters (cm).

YAMAHA KT 100S **NOTE: Any attempt to modify, change, or defeat any of the basic design criteria of the Yamaha KT100S engine is illegal.**

Displacement:
Maximum Bore 2.085 **Maximum Stroke 1.816**

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.**

This rule does not allow:

Grinding the aluminum to change the roof angle of the transfer ports.

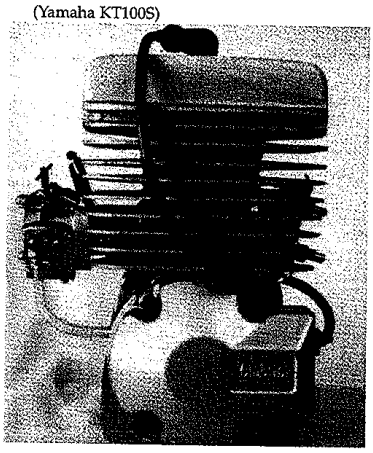
Grinding the port to alter the height, width, or angle.

Grinding to change the shape or size of the passages from the cylinder base to the port.

Grinding to match the cases to the port passages (when cylinder is or is not reversed.)

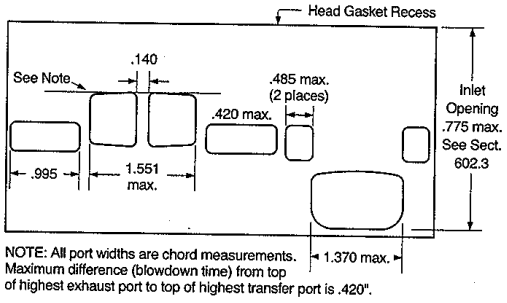
Sandblasting, glass beading, peening, etc. are not a substitute for "as cast" condition.

(Yamaha KT100S)



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.

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.
Maximum no-go exhaust 1.600.



NOTE: All port widths are chord measurements. Maximum difference (blowdown time) from top of highest exhaust port to top of highest transfer port is .420".

Inlet Opening: .775 ATDC, see section 602.3.

Cylinder Position: It is legal to turn the cylinder and piston 180 degrees on the Yamaha KT100S. Matching of the transfer passages in the case and cylinder is not legal.

Exhaust Port Opening: Check with dial indicator. Piston travel from top dead center to exhaust opening 1.155 ATDC. See section 602.2.

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 1.551" is the no-go size. New cylinders are still "as cast" in all port areas, including exhaust.

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

New Style Y3 or Y4 Tech Procedures: Tech will be done using new dimensions listed and must still follow items 1 thru 7. 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.

Old Style tech will be done using new dimensions listed and must still follow items 1 through 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.

The competitors engine that has been ground **is required** to mark the aluminum surface on top of the cylinder next to the stud located above port altered, with an arrow or an X.

The altered port top must be ground a minimum of 90° to cylinder wall. No chamfer allowed. No freeporting of exhaust ports.

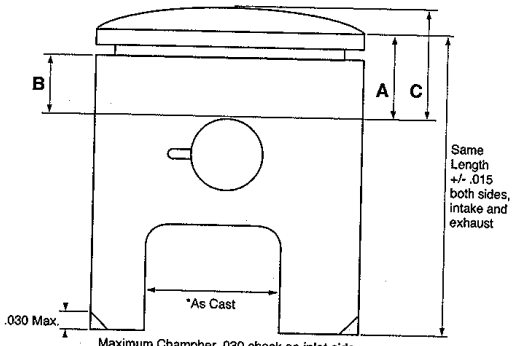
Cylinder Head: Any machining of the cylinder head or cylinder liner to accept a sealing device is illegal, unless it is stock equipment on the engine Yamaha KT100S. Head locating pins not allowed.

The combustion chamber volume shall be a minimum of 11cc. The IKF 2-Cycle CC Measuring Plug will be used. See Section 602. New diecast head 787-11111-04 is approved. Combustion chamber shape is non-tech.

Head Gasket Thickness: Yamaha KT100S. Material shall be copper or aluminum. KT100S engine to have a ring type head gasket, and a maximum OD of 2.580.

Piston: Piston must be an approved single ring only and stock appearing. Legal pistons are Yamaha, Burris, Wiseco, Vinart, RKE 787, and KSI. All approved pistons should have name cast inside. Bottom of piston should be 90° to sides. Transfer area of piston must be as cast, no scalloping. Piston top must be of dome shape. Burris two ring piston approved (1-dykes + 1 thin). Maximum break on all machined edges .030". Rings must be of magnetic material. See Sect. 504.1.

Piston dome must be stock shape and no metal removal. The top of the piston dome to the ring groove will be compared to a known stock piston.



Maximum Champher .030 check on inlet side.

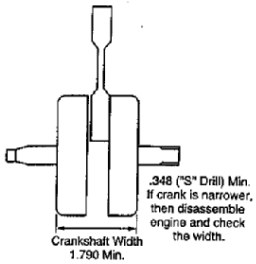
* Wiseco forged piston may show grinding marks in this area to remove flash.

Brand	A	B	C
Burris	0.633"	0.533"	0.760"
KSI	0.629"	0.490"	0.756"
RKE-787	0.635"	0.489"	0.756"
Vinart	0.635"	0.489"	0.756"
Wiseco	0.635"	0.496"	0.760"
Yamaha	0.635"	0.489"	0.756"

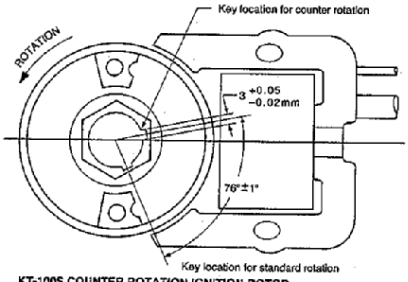
A. Top of piston pin to controlling edge of the piston

B. Top of piston pin to top of ring groove

C. Top of piston pin to top of the piston



[redacted] **Ignition:** Ignition must be of original manufacture and stock appearing. Key is required, but is a non-tech item. Any means taken to alter the coil position is illegal. Machining the shanks of coil hold-down screws to provide additional coil position adjustment is not allowed. Modifying the flywheel in any manner in order to change ignition timing is illegal. Ignition bearing may be removed. Taper bore flywheels have only one keyway and both rotations have the cast side out.



KT-100S COUNTER ROTATION IGNITION ROTOR
787-85551-70 STRAIGHT SHAFT 7F6-85551-50 TAPER SHAFT

[redacted] **New Style Flywheel:** 7F6-85551-01 (Std.), 7F6-8555-51 (Rev.) are approved.

Three bosses minimum thickness in boss area .950". Length of boss .750 minimum. Main body thickness .817 minimum. Minimum diameter 2.350".

External coil damage may be repaired with silicone or epoxy.

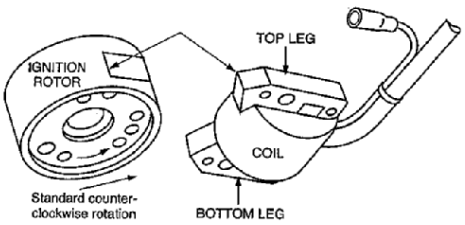
Note: The Atom ignition module is approved for the KT100S.

The PRD T.C.I. ignition is approved for the KT100S. Metal case is stamped with the letters PRD. Only one module may be used.

[redacted] **Old Type Flywheels:** Minimum diameter 2.350", Minimum width .827".

[redacted] New Yamaha ignition coil is approved. "JAPAN" is stamped on the new coil.

[redacted] The leading edge of the ignition rotor's magnet must line up with the trailing edge of the ignition coil's leg when the piston is at TDC to .015" BTDC. On clockwise ignitions, the coil's trailing edge is the bottom leg.



[redacted] **Carbureter:** Walbro WB3, see section 616.7.
[redacted] **Phenolic Spacer:** Hole Size 1.050 maximum, 1.000 minimum. Maximum thickness .484". Straight bore.

[redacted] **Aluminum Carburetor Mount Plate:** Factory stock mount plates only. Hole (I.D.) size 1.050" maximum, 1.000" minimum. Straight bore. Diameter (O.D.) 2.360" +/- .020". Maximum thickness .484".

[redacted] **Crankcase Pulse Hole:** May be relocated to front of engine for use with reversed cylinder. Hole not in use will be plugged. Internal diameter of pulse pipe to be .128" No-Go.

[redacted] **Inlet Tract:** The minimum length of the inlet tract measured from the carb mounting surface (remove carb base gasket) to the cylinder bore diameter: without restrictor - 2.600" minimum, 2.700" maximum.
with restrictor - 2.650" minimum, 2.750" maximum.

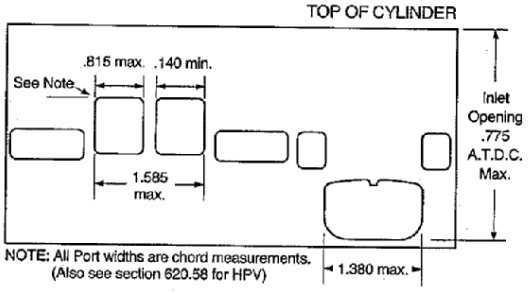
[redacted] **Intake Track Gaskets:** For all gaskets in the intake track, maximum .060" thickness at each location, including carb base gasket.

[redacted] **Crankcase:** New Yamaha case approved. Identified by 7ET on bottom of case.

[redacted] **Old Style Yamaha Cylinders:** All Yamaha classes using any type of exhaust or carburetor restriction must add 20 lbs. The cylinder will be identified with a vertical red paint stripe on the outboard side of the cylinder. The competitor will be responsible for having this marking in place prior to pre-tech. This will affect classes using the RLV YBX, SSX, SSX-V and SBX mufflers.

[redacted]

[redacted] **Cylinder:** All ports - cast iron liner and aluminum barrel - as cast. No grinding allowed at any location including junction of liner and barrel. The cylinder must be run as supplied by the manufacturer. The liner may not be removed from the barrel and the locking pin must be intact. (Note: iron liner may be notched for rod clearance).



NOTE: All Port widths are chord measurements.
(Also see section 620.58 for HPV)

[redacted] **Exhaust Port Opening:** Check with dial indicator piston travel from top dead center to exhaust opening 1.155 ATDC. See section 602.2.

[redacted] **Inlet Opening:** .775 ATDC, see section 602.3.

[redacted] **Cylinder Head:** 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. The combustion chamber volume shall be a minimum of 11cc. The IKF 2 cycle cc measuring plug will be used. See Section 602. Combustion chamber shape is non tech.

[redacted] **Head Gasket:** Material shall be copper or aluminum. May run without gasket.

[redacted] **Connecting Rod:** Rod must be of original manufacture and stock appearing. Shot peening is allowed. Maximum rod length, center to center: 3.786-3.774. Slotted billet rod.

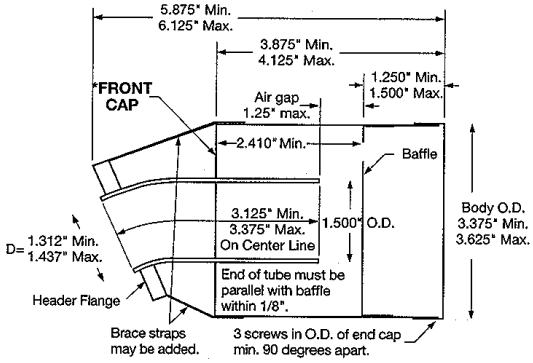
28) RLV Box Muffler, SBX (Stock Box Muffler)

D I A G R A M

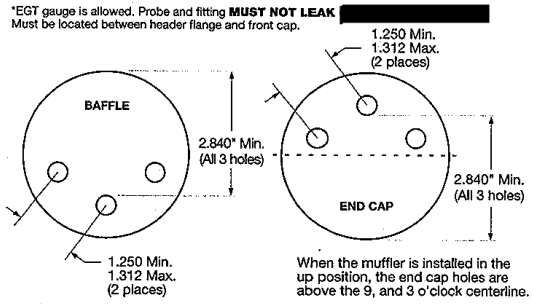
[redacted] INTAKE AND EXHAUST RESTRICTIONS (JR. AND SPORTSMAN CLASSES)

Any attempt to by-pass the restricted type of muffler is illegal.

623.1 RLV BOX MUFFLER, YBX (Yamaha Box Muffler, Patent # 373,561)



*EGT gauge is allowed. Probe and fitting **MUST NOT LEAK** [redacted]
Must be located between header flange and front cap.

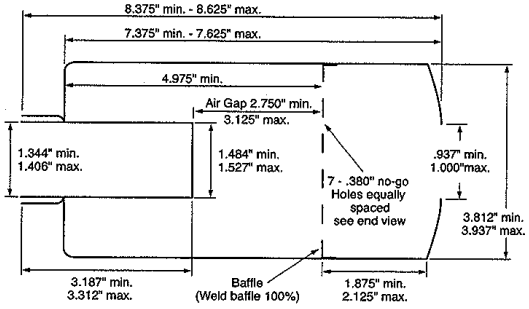


INSIDE VIEW RLV BOX MUFFLER, YBX

☞**Note:** End cap must be removable for inspection of baffle with 3 each .380" maximum "No-Go" holes spaced approximately 1.250" apart. End cap to have 3 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. **Re-drilled holes or missing screws are not allowed.**

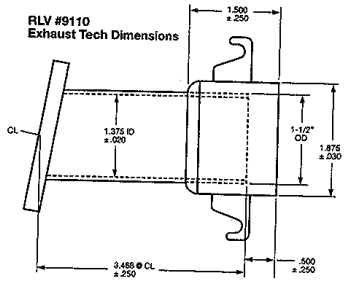
Clarification: The RLV Yamaha Box Muffler shall be used as manufactured. This is a restricted muffler.

623.2 RLV Box Muffler, SBX (Stock Box Muffler)

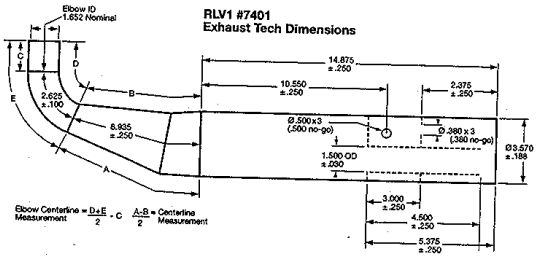


[redacted] **RLV1, 2, 3 Pipes and Header:** Exhaust connector shall be solid tube carbon steel. No wrapping of header, flex, or pipe allowed.

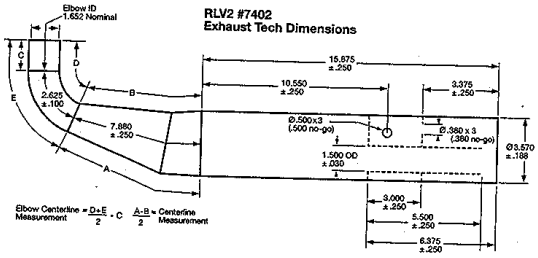
RLV #9110
Exhaust Tech Dimensions



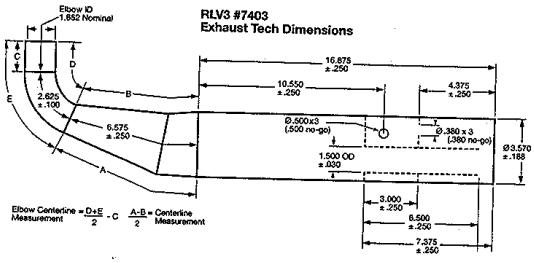
RLV1 #7401
Exhaust Tech Dimensions



RLV2 #7402
Exhaust Tech Dimensions



RLV3 #7403
Exhaust Tech Dimensions



[redacted] **RLV Box Muffler, SSX/SSX-V** (Super Sportsman Muffler)

[redacted] Overall length including header flange and cap is 5.50" ± .125".

[redacted] Body (can) overall length including end cap is 4.140" ± .125".

[redacted] The inlet tube length including header flange (the average of the long and short sides) is 2.0" ± .125".

[redacted] Air gap (from the end of inlet tube to center baffle) is 1.0" ± .125".

[redacted] Center baffle to end of the can without end cap is 2.20" ± .0625".

[redacted] 14 holes centered on baffle plate on a 2.937" hole circle ± .0625".

[redacted] The 14 holes in the baffle plate are .380" No-Go.

[redacted] The four holes in the body are .500" No-Go.

[redacted] "IKF WKA" and "US Pat. #373,983" are stamped into the body.

[redacted] The RLV Sportsman Muffler (SSX) must be run/used in t horizontal position.

[redacted] The RLV Yamaha Super Sportsman Muffler (SSX) shall be us as manufactured by RLV.

[redacted] This is a restricted muffler and shall not be modified in any way

[redacted] **Road Race Configurations RLV SSX Muffler:**

[redacted] Road race with the holes down and can straight.

[redacted] Road race with the holes up and can in 10°, left han engine.

[redacted] Road race with holes up and can in 10°, right hand engine

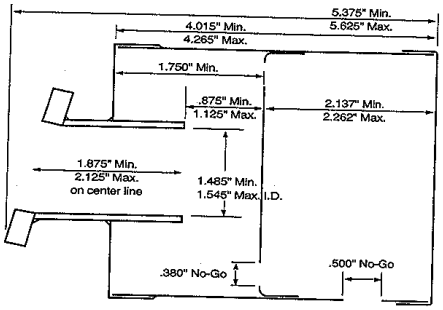
[redacted] Road race with the holes up and can straight.

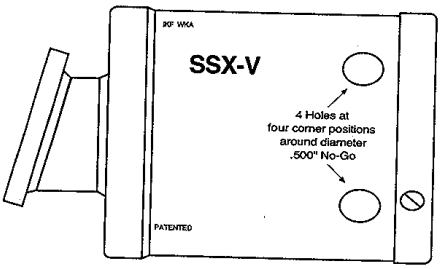
[redacted] **Road Race Configurations RLV SSX-V Muffler:** Road race as manufacture in horizontal position.

[redacted] Sprint configuration: at four corner position (SSX-V) and ca straight. (horizontal).

(diagrams shown in the horizontal position)

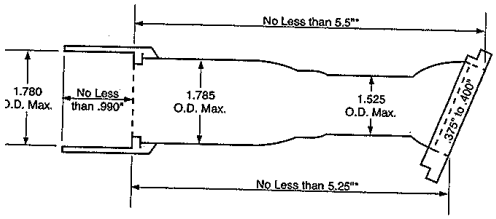
RLV SSX-V MUFFLER (patent no. 373983)





[redacted] **2-Cycle Speedway KB12 Spec Yamaha Header & Pipe**

623.8.1 KB12 Spec Yamaha Header



* If either of these dimensions are less than the listed dimensions, add both dimensions together and divide by 2. The average combined mean distance must be greater than 5.375" or the header will be deemed illegal.

29) Exhaust Header/Flex Diameter: For all Yamaha KT100S engine classes the exhaust header, flex and exhaust pipe shall be round and 1.780" maximum outside diameter starting at the cylinder face and continuing to a minimum 7" from the piston face for fixed pipes. For engines with rectangular exhaust ports, the 1.780" maximum diameter will begin a maximum of .175" from the cylinder face. The transition from a rectangular exhaust port to the round exhaust diameter must be only that required to change from the rectangular port to the round exhaust pipe. There shall be only one exhaust path, no multiple exhaust pipes. The intent of this rule is to eliminate large diameter primary exhaust pipes. Any attempt to circumvent this rule will be deemed
Section 5

Section 3
X30 125CC RL TAG

PLEASE SEE ATTACHED FILES ON THE AIME ENGINE REGULATIONS FOR THE
PARILLA IAME X30 125CC RL - C TAG WILL BE USED
(See attached documents)