

# **2014/2015 SKAA Rules and Regulations**

**\*\*If the rules don't specifically state that you can do something, you must receive written clarification from the SKAA.\*\***

**\*\*This will then be posted as an update on the web site. The decision of the SKAA will be final.\*\***

**\*\*That all Clubs must adhere to SKAA Kart Formula and Speedway Australia Rules and Regulations, except NSW Juniors as subject to NSW legislation\*\***

**\*\*Approval must be sought from SKAA for any variation\*\***

## **Kart Formula**

All karts must comply with the SKAA Technical Specifications.

All karts are to be in sound condition, and the frame shall not extend sideways beyond the outside wall of any tyre.

If a kart has been involved in any crash, that kart must be scrutineered before continuing to race.

Suspension chassis is not permitted.

All seats must be in sound and safe condition.

All floor pan bolts are to be bolted upward with the nut on the top. No bolt is to protrude in a dangerous manner. Floor tray shall not extend beyond the chassis rails.

All karts must be fitted with an operational kill switch, within easy reach of the driver in the seated position to the satisfaction of the scrutineer. Juniors must have a latching switch. Seniors can have a latching or momentary switch.

All kill switches to be clearly marked to specify their operation.

All seat mounting points shall have a washer with a minimum size of 60mm diameter 1.6mm thick

Any ducting used must be made from non-splinterable plastic or core flute

Data loggers, mixture gauges, on board video (i.e. helmet cams) are free to be used but any on board video footage will not be eligible for dispute resolution.

The three piece Lewis chassis is permitted

All engines must have provision to seal cylinders and heads to the satisfaction of the engine measurer. Extended nuts are to be used where possible. KT100S cylinder is to have 1 hex nut replaced with an internal hex nut so that the cylinder can't be removed with the head in place.

## **Kart Specifications:**

### **Wheel base**

Shall be a maximum of 1270mm and a minimum of 880mm. The maximum overall length of the kart shall be 1820mm without a nose cone fitted.

### **Track**

Track shall measure at least two thirds (66%) of the wheelbase of the kart and shall be measured between tyre centres.

### **Steering**

Steering wheel shall be a full wheel or aircraft type only. Steering wheel boss to be of metal or aluminium construction and attached to the steering column using a minimum 6mm bolt.

A steering shaft lock collar must be fitted (hose clamps not permitted). All steering components and kingpins must be in safe working order. Steering tie rod ends are to be in good condition with sufficient rod in the rose joint.

### **Exhaust**

There must be no less than three springs attaching the muffler to the header pipe, and two springs holding the muffler to the cradle. Stainless steel braided wire (i.e. accelerator cable) must be fitted between the muffler and header pipe and attached to the frame.

Standard and junior class must comply with class specifications for exhaust.

### **Accelerator**

A return spring must be securely attached between the accelerator pedal and the frame so that the throttle arm returns freely.

### **Brakes**

A disc brake must be fitted and must be able to stop the kart. The back wheels should not turn when the brake is applied by hand. Front brakes are not permitted. Brakes may be hydraulic or mechanical. Brake lines must be secured to the frame.

### **Fuel Lines**

All fuel lines must be securely attached to the kart frame.

### **Chain Guard**

All karts must be fitted with a chain guard that covers the front and rear sprockets, to protect the driver from a flailing chain.

## Numbers

All numbers are to be a minimum of 150mm in height, and are to be located on the Nassau panel, one on each side pod and one on a plastic/core flute plate securely attached to the rear push bar.

Seniors are to be white background/black number for the front and rear panels, side panel numbers are free as long as they are legible and meet the minimum height.

Juniors, white background/red number, with the exception of title holders numbers that may be a different colour.

Junior Standard, white background/black number

Host club (club events) or host state (Titles) have priority if there is a double up of numbers.

Wheels to be a maximum diameter 6" (150mm) and maximum width 10" (254mm) and must be one piece rims.

## Wings

*Speedway karts may have a wing or air foil. Wings are optional.*

*It must be securely attached and all edges must have safety folds or protective strips around raw edges.*

*Wings must not protrude outside the kart wheel track, must be behind the seat, and must not protrude out past the rear push bar.*

*The highest point of the wing shall be no higher than 850mm from ground level.*

*Wings can be manufactured from non-shatter plastic or core flute and must be in sound condition.*

*Light gauge aluminium is allowed to be used only for mounting points, supports or uprights.*

*No sharp edges*

*\*\*Aluminium used for the construction of wing elements is no longer permitted. Aluminium tip plates are no longer permitted.\*\**

## Bodywork

*All karts must run a commercially available side pod. All pods are to be bolted securely to barwork and no barwork is permitted on the outside face of the pod. The only mods permitted are for clearance for radiators, air filters, tyres and a hole to allow remote starter access. Body panels can be mounted to side pod.*

*A body kit is defined as having a side panel configuration not over 850mm high (from ground level) and the centre section not over 660mm high.*

*Juniors are to have a side panel that is no more than drivers shoulder height or 700mm high (from ground level) whichever is lower.*

*Body Kits and/or pods outside the wheel track are ok.*

*The outside maximum width of the body kit and pods not to exceed 1400mm*

*Light gauge aluminium is allowed to be used only for mounting points, supports or uprights.*

*No sharp edges.*

*Race tape over core flute edges is acceptable.*

*Side pods must be fitted, along with a Nassau panel on the front. Mandatory side pods will have a phase in period up to 1<sup>st</sup> July 2013*

*Nose cones are optional*

*Super kart style nose cones/Nassau panel combinations must be suitably supported with a factory manufactured nose cone to minimise damage and add support.*

*All panels to be made from non-shatter plastic or coreflute.*

**Rear Push Bar**

Rear push bar is to be at a minimum height of 200mm from ground level, and a maximum height of 250mm from ground level.

**Engine Measuring**

**Club Events**

Engines can be measured at any time. The measuring of engines is to be carried out by the Technical Officer. There is to be another official present during the measuring and as much care as possible is to be taken by the officials to not have foreign objects enter the engine.

**Blue Ribbon/Feature Events**

Engines can be measured at any time. At the completion of each final in a Blue Ribbon or Feature Event 1st, 2nd, 3rd and 4th placegetters must come off the track and proceed directly to the impoundment area to have their engines measured. No part/parts are to be removed from the engine prior to the engine being measured.

Engine measuring will be carried out as per the SKAA engine measuring procedure for the class.

**Penalty**

Failure to allow an engine to be measured, use of an illegal engine or failure to comply with SKAA engine specifications will result in a three month suspension from all club, Blue Ribbon and Feature Events. If the penalty is near the end of the race season, that penalty will carry over to the next race season.

## Classes

### **100cc Outlaw**

(air cooled/water cooled)

Age: Minimum 16 years.

Engines eligible for the outlaw class shall be any 100cc purpose built 2-stroke kart engine of rotary valve, reed valve or piston port configuration.

Engines must remain visibly stock, though internal modifications are permitted.

No digital ignitions permitted.

Carburettor shall be of single throat type only.

Maximum engine displacement shall be 110cc. (100cc + 10%) to allow for rebuilding.

### **125cc Pro**

**\*\*THIS CLASS WILL BE SUBJECT TO REVIEW\*\***

(air cooled/water cooled)

Age: Minimum 16 years.

Clutches are compulsory.

100cc Outlaw engine with clutches NOT permitted

Engines eligible for this class are:

Any dirt bike engine up to 125cc + 6% capacity

OR

Any 2-stroke commercially available kart engine of rotary valve, reed valve or piston port configuration up to 125cc + 6% with a factory fitted clutch, in original configuration with standard external appearance

OR

Any gearbox style 2-stroke kart engine of rotary valve, reed valve or piston port configuration up to 125cc + 6%.

Modifications to all types of engines are permitted.

Carburettors are open size or type but only a single throat permitted, exhaust system is free, ignition is free.

## **200cc Open**

Minimum age 16 years

Previous race experience required

Open class allows any motor or motors 130cc-220cc

Displacement 130cc-200cc (+10%)

No gearbox allowed

Clutch permitted

## **250cc**

Minimum age 16 years

Any single cylinder motorcycle engine of 2 or 4 stroke configuration up to 250cc (+ 10%)

Must run with gearbox, and fully operational clutch

## **Standard**

The ARC is NOT eligible to be used at state or national titles at this point in time.

Engine Specifications

Engine Eligibility

A) Yamaha KT 100S

B) No HYBRIDS

(i.e. No ARC cylinders on Yamaha cases, no interchanging of parts between electric start Yamahas and non-electric start Yamahas )

C) Yamaha KT 100S Electric Start.

Internal Additions

No additional material may be added except in the case of engine repairs and shall only restore engine components to original specifications. The cylinder may NOT be repaired in any of the port or passage as cast areas.

The use of thermal barrier coating/ceramic coatings on or in the engine/engine components and on or in exhaust components is prohibited.

The use of anti-friction coatings on or in the engine/engine components is prohibited.

## Legal Additions

Legal additions shall be limited to the following: chain guard, motor mount, direct drive gear, extension of carburettor jet needles, carburettor return springs, third bearings and adapter, temperature gauge, oxygen sensor and tachometer.

## Displacement

The maximum bore and stroke are:

As per standard SKAA Rules – 100cc + 10% = 110cc

Stroke 46.13mm

Bore Size 55.10mm\*\*

**\*\*NOTE this is bore size NOT piston size\*\***

## Cylinder

All ports are to be in “as cast”. NO Grinding is permitted to remove casting irregularities at the junction. No chamfer on port edges is permitted. This rule DOES NOT allow grinding or alterations by any method to:

1. change the roof angle
2. alter port height, width or angle
3. change the shape or size of the passages from the cylinder base to the port
4. match the cases to the port passages.

Sandblasting, glass beading, shot peening, etc. are NOT a substitute for “as cast” condition.

Due to 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 the technical measurements. As the bore size increases the amount of “break” diminishes. If the cylinder bore is 52.45mm or larger, no “broken” edges are allowed.

Due to manufacturing procedures, some KT-100SD, KT-100SE cylinders have some minor grinding on the transfer divider bridges and some evidence of casting irregularities removed in transfer passages, this includes the transfer area in the crankcase.

## Cylinder Heads

Must be an original OEM casting only, Yamaha Casting,

The welding and re-matching of the combustion area, gasket face and spark plug surface is allowable.

The combustion chamber style is required to have a squish band and chamber which are visually concentric to the spark plug.

The combustion chamber/squish area shall not protrude beyond the gasket sealing face of the cylinder head.

The spark plug thread may be repaired, (i.e. recoil) and shall retain its original position.

The combustion chamber volume shall be a minimum of 11cc

Sparkplugs must have a maximum engagement length of 20mm (without washer).

#### Head Gasket

Must be retained

#### Piston

Piston must be approved and stock appearing.

Pistons must be: Yamaha, KSI, KSI MK 11, JDP/Vertex and ARC (forged and cast) or Strike.

Bottom of piston should be 90 degrees to sides. It is permissible to notch the piston to allow the removal of circlip. The piston skirt length may be machined, providing it conforms to the current specifications as laid down in these rules.

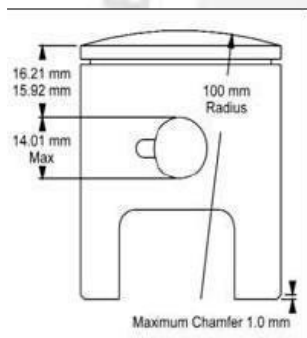


Diagram is for dimensional reference only

#### Connecting Rod

Can be either of the following and must be stock:

Yamaha, or KSI KT100 rods only NO "J" Rods

Minimum/Maximum rod length, centre to centre 99.87mm – 100.13mm

Conrod alignment may be either top or bottom.

Connecting Rod must be of magnetic material.



## **Crankshaft**

**Legal crankshafts are Yamaha only.**

**Outside diameter measurement: 86.60mm min., 87.25mm max.**

**Crank Pin to be standard hollow pin.**

**Crankshaft shoulder widths to be minimum 10.8 mm.**

**Crankshaft halves to be minimum 8.84 mm apart from inside faces.**

**Crankshaft halves to be minimum 45.59 mm apart from outside faces.**

## **Crankcase**

**The crankcase ports will remain as cast. The minimum chordal distance measured with a vernier calliper across the widest section of the transfer ports shall be 97.5mm minimum.**

**NOTE: Existing crankcases that are narrow may be spaced with a thicker gasket.**

**Main bearing bores can be repaired with metal inserts.**

## **Ignition**

**Ignition must be that supplied by the original engine manufacturer.**

**The use of the following TCI module is permissible:**

**YAMAHA, VICTA, ATOM, DELTA/WEI SHIEH, PRD, PRD with coil.**

**No modifications or repairs to any of the listed modules are permissible.**

**The fitting of a PRD ignition coil and PRD ignition rotor (flywheel) is permitted.**

**Ignition timing may be adjusted by the removal of the locating key or part thereof.**

**All engines must rotate in a clockwise direction when viewed from the drive side.**

**Ignition/rotor covers optional.**

## **Carburettors**

**Must be WALBRO WB series conforming to dimensions as per diagram**

**(Note – WB 24 is not eligible)**

**a) It is permissible to machine the Walbro carburettor to**

**i. Conform to dimension E**

**ii. Conform to dimension C**

**iii. Accept an O ring for the low speed jet and throttle shaft.**

b) A threaded butterfly screw must be retained, countersunk screws are not permitted.

Butterfly and shaft must be as manufactured.

c) It is permissible to repair the inlet seat and throttle shaft bore in the Walbro carburettor.

d) It is permissible to enlarge only existing fuel/air holes, but they may not be deleted or relocated.

e) All air must pass through the carburettor throat.

f) Measurement code:

A. As cast MAX Venturi diameter 24.13mm

B. As cast (area will extend from the front of the carburettor to the progression discharge jet which have all or portion of this jet in the cast area)

C. MAX downstream diameter 25.7mm

D. Butterfly shaft must be located at the bore centre.

E. MIN carburettor body length of 37.5mm

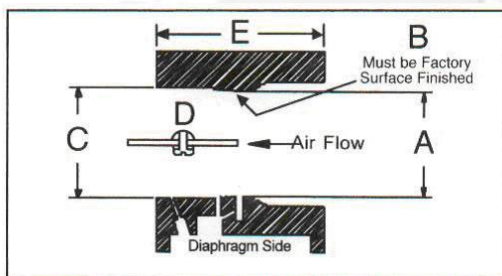


Diagram is for dimensional reference only

**Inlet Tract Length**

65mm Minimum. The inlet tract is to be measured from aluminium carburettor adaptor outer face to skirt of piston.

**Phenolic Spacer**

Hole size 26.42mm max.

**Aluminium Carburettor Mount Plate**

Hole size 26.29mm max

The inlet tract must be a round and machined bore and there is to be no grinding, polishing or hand finishing of the port, manifold or spacer

## Exhaust System

The only permissible exhaust mufflers for KT100S motors are those commercially available and which conform to the dimensions listed below.

The front cone of the exhaust is to be a minimum of 150mm long to a maximum of 180mm long

The centre (belly) section between the front and rear cones must be parallel, with a minimum circumference of 278mm (88.50 diameter) and a maximum circumference of 292mm (92.95mm diameter)

(Note all dimensions are measured externally)

### Exhaust Header Pipe

This item is not restricted to the original Manufacturer but must completely conform to the type (style) and dimensional sizes of the original header pipe.

Inside diameter must be parallel.

Length must be a minimum of 120mm (as per diagram below).

Maximum inside diameter 36mm.

Minimum diameter 34mm.

Modifications to be fit exhaust gas temperature gauge or oxygen sensor are permissible.

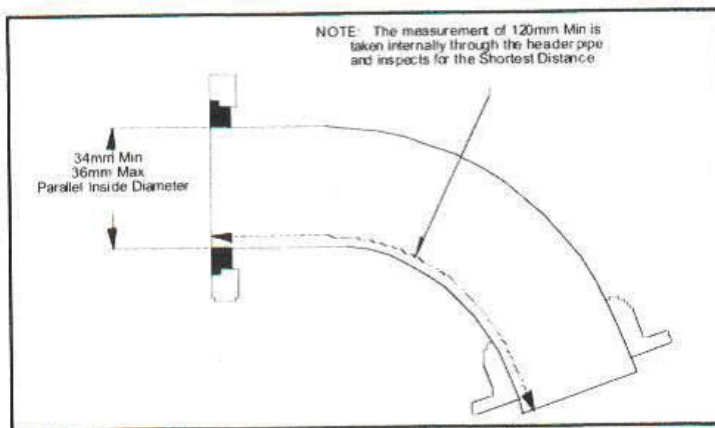


Diagram is for dimensional reference only

Electric start Yamahas must run operational starter. Engine must be able to turn over under it's own power with the drive wheels raised.

Clutches are optional.

Engine compliance.

Engine compliance will be confirmed after engine has been measured using official SKAA gauges to the procedure set out below.

## **Air Intake**

**Visual Inspection only required.**

## **Carby Check**

**This can be carried out with a torch and mirror. NOTE: part number of carby is stamped on carby body. Bore of carb to be checked using specs attached.**

## **Inlet Port**

**This can be checked with a torch being shone through carby, or removal of carby may be carried out at engine measurer's request. If engine is suspect further disassembly would be required.**

## **Transfer Ports**

**Remove the cylinder head and using a torch and mirror shine light in and carry out visual examination. If engine is suspect further disassembly would be required.**

## **Exhaust Port**

**Removal of header pipe required, visual examination (could be verified when / if head comes off to check transfer ports also.) If engine is suspect further disassembly would be required.**

## **Header Pipe**

**Visual, headers must be a commercially available item. Remove and measure at official's discretion.**

## **Stroke**

**Measure as per standard SKAA procedure.**

## **Engine Displacement**

**Measure as per standard SKAA procedure.**

## **Cylinder Head**

**CC'ing to be carried out as per standard SKAA procedure. Removal and inspection for other requirements at official's discretion.**

## **Exhaust Pipe / Muffler**

**Visual examination of diameter and / or homologation plate. Gauge to be used to confirm compliance with length and diameter.**

## **Piston**

**Ramping of piston crown and arcs cut into piston skirts can be checked visually by examining crown of piston when head is removed and skirt can be examined visually when inlet tract is examined.**

## **Modified**

(air cooled/water cooled)

Age: Minimum 16 years.

The only engines eligible for this class are the KT100S and the A.R.C, which shall both remain visually stock from the front face of the carburettor to the rear face of the exhaust port.

Internal modifications are permitted within the engine.

Aftermarket cranks are permitted provided the stroke does not exceed that of a genuine Yamaha/ARC (46.13mm).

Ignition is free.

Maximum engine displacement shall be 110cc (100 + 10%).

Maximum bore size is 55.1mm

Bore and stroke checks are carried out using the Standard SKAA test procedure.

NOTE: Hybrid engines built from ARC and Yamaha KT100S parts are allowed

## **Junior (10-16 years old)**

Engine Eligibility

The only engine permissible for the junior class is the Yamaha "J" engine.\*\*

Any alterations/modifications to the Yamaha J engine are strictly prohibited except as authorized in these rules.

Carburettor needle extensions are legal.

The use of thermal barrier coatings within the engine internally/externally on and in exhaust components is illegal.

The use of anti-friction coatings within the engine or on engine components is illegal.

No material may be added to the engine in any manner that affects a performance gain. The only material to be added is to repair an engine to original manufacturer's specifications.

No material to be added to the crankcase in such a manner that reduces crankcase volume.

No material to be added to the ports or passages in such a manner that reduces volume in ports or passages.

Maximum bore size = 52.9mm

This does not say that a 52.9mm piston is legal, this says that the maximum size of the bore is to be no more than 52.9mm . This equates to 110cc.

**Maximum stroke is 50.05mm**

**Maximum Port widths:**

**Inlet = 30.6 Maximum**

**Transfer = 24.45 Maximum**

**Exhaust = 29.60 Maximum**

**Inlet tract length:**

**Maximum tract length is to be no longer than 56.00mm.**

**Minimum tract length is to be no shorter than 53.00mm.**

**This measurement is taken from the cylinder wall to the carburettor gasket face. This measurement includes gaskets either side of the phenolic spacer.**

**ALL Ports and passages including the crankcase passages must be "as cast". Any variation/modification from this will deem the engine ILLEGAL.**

**Cylinder Head:**

**Must be an original Yamaha casting.**

**Machining and welding to affect repairs are legal.**

**The squish band must be visually concentric to the spark plug hole.**

**Cylinder volume must be no less than 11cc.**

**Connecting Rod:**

**Must be a maximum length of 100.13 and a minimum length of 99.87mm, measured centre to centre.**

**No shot peening or polishing allowed.**

**Make and manufacture is free.**

**Crankshaft:**

**Must be a stock Yamaha item, no modifications allowed.**

**Minimum width to be 19.4mm across each wheel.**

**Minimum width from outside of wheel to outside of other wheel is 48.8mm.**

**Crankcase:**

**Ports are to be as cast.**

**Minimum chordal dimension at widest section of transfer ports is 81.5mm.**

**Ignition:**

Ignition system must remain stock as fitted by Yamaha.

**Carburettor:**

The only carburettor eligible for the junior class is the Walbro WB Series conforming to the following dimensions.

Maximum venturi diameter is 24.13mm,

Maximum downstream diameter is 25.7mm.

Minimum carburettor length is 37.5.

**Phenolic spacer:**

Minimum length is 19mm.

No machining, must remain as moulded

**Exhaust Header Pipe:**

This item is not restricted to the original Manufacturer but must completely conform to the type (style) and dimensional sizes of the original header pipe.

Inside diameter must be parallel.

Length must be a minimum of 120mm (as per diagram below).

Maximum inside diameter 36mm.

Minimum diameter 34mm.

Modifications to be fit exhaust gas temperature gauge or oxygen sensor are permissible.

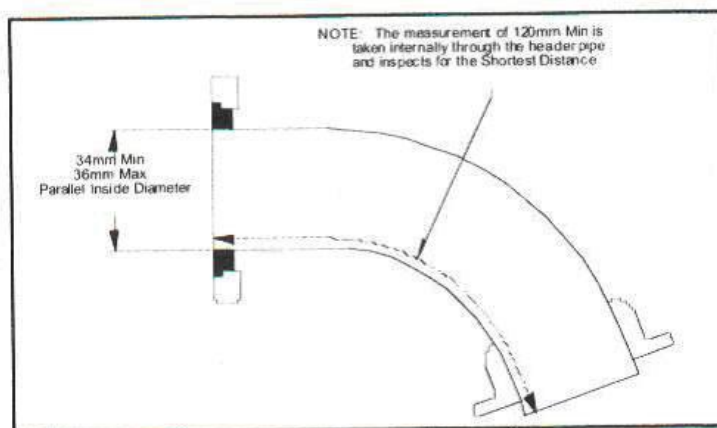


Diagram is for dimensional reference only

### **Exhaust Pipe:**

The centre (belly) section between the front and rear cones must be parallel, with a minimum circumference of 278mm (88.50 diameter) and a maximum circumference of 292mm (92.95mm diameter)

Make and manufacture is free but must be commercially available.

## **Sub juniors**

### **Sub Juniors (7-10)**

Engine specifications as per the junior class with the inclusion of an SKAA approved and supplied exhaust restrictor. Restrictor hole size not to exceed 13mm. Restrictor is to be placed between the header pipe and the cylinder so that all exhaust gas must pass through the restricted hole.

Sub juniors are eligible to race for club points and championship but are not included in state or national title events.

The Comer SW80 is also permitted in standard unmodified form. No restrictor is required with this engine.

4 strokes permitted, check with SKAA for current specifications

Sub juniors and juniors are permitted to be combined if each class has low numbers, but inexperienced sub juniors must remain separate from experienced juniors. The combining of the 2 classes will be at the discretion of the chief steward. Sub juniors will run from the rear of the junior field.

The 2 classes will still be considered separate and competing for their own points. Points are non-transferable when a driver graduates from sub juniors to juniors.



## **Avalon 4 stroke Class**

This class is a club class and is not eligible for state or national titles

### **A. Engines - Single Class 6.5 hp 4 Stroke**

Must be 6.5 hp Honda (Part# GX200 QXU) or Clone limited to the following brand and Part #.

- “TWM Imports” - Part # QPE65
- Local Supplier “Oxford Motor Spares” Part# XY168FB
- “Star” – 200F

*Electric start options on above motors only will be acceptable.*

Engine must remain in standard form with no performance enhancing parts – with the following exceptions only as listed below. All internal specifications must remain as per “Manufacturers Specification” with no “Performance Enhancing” additions.

- A.1 No modification, adaptation or removal of parts from the 6.5hp intake manifold and base.
- A.2 Air Filter must be original, the genuine Honda element or the after market air cleaner made by “Bynorm” part # 320-087 with recommended pre filter part # 320-039.
- A.3 No alteration via “Off set” keyways; or keyway removal.
- A.4 No Porting and or Polishing of any surfaces allowed.
- A.5 No removal of material as in the machining of cylinder Head / Block to increase compression.
- A.6 Head and side cover to be tagged at all times and to remain standard.
- A.7 No header pipes allowed.
- A.8 The use of transfer crank case gear boxes not permitted.

**NOTE:** Any so-called “grey areas” shall be seen by the Scrutineer’s as an infringement of the Club Rules.

New engines must be presented as boxed to the Club nominated Scrutineer, Engine Builder or authorised person for Scrutineering prior to fitting to kart for the 1<sup>st</sup> time. Engine is to be presented for Scrutineering and tagging any time the engine has undergone maintenance or repair prior to remounting or racing.

**A Exceptions:-**

- B.1 Disconnection and or removal of Governor**
- B.2 Disconnection and or removal of oil pressure switch**
- B.3 Club approved/manufactured exhaust manifold and pipe only. Pipe must not exceed 6"/152mm in length from flange to tip. This measurement does not include muffler. Be positioned to stay clear of driver and seat.**
- B.4 Standard barrel type muffler together with the club approved/manufactured exhaust pipe and manifold. Note: Must be an effective spark arrestor with maximum noise level 95dba. No drilling of muffler allowed.**
- B.5 Remote Pulse Pump with isolated fuel tank may be used to service standard carburetor. Pump must be of a vacuum type and no greater than 3psi.**
- B.6 Relieving of, or changing carburetor main jet (No adjustable main jets allowed)**
- B.7 All engines must be tagged by The Club Scrutineer's.**
- B.8 Machining or boring of cylinder only allowed in reconditioning to the next available oversize and not to exceed 0.020".Ports and valves must remain standard.**

## **SKAA Fuel Rule and Test Procedure**

**Ethanol is not permitted for use in SKAA events**

**Only fuels approved by the SKAA are permitted to be used.**

**The only fuels permitted for use in SKAA events are :**

**Premium Unleaded Petrol or Regular Unleaded Pump fuels produced by major refineries.**

**Pump Fuel: A commercial fuel (as defined above) available for sale on demand from a roadside retail bowser outlet at each of at least five separate service stations in at least three Australian States. A mixture of Pump Fuels with the same hydrocarbon profile is permitted (eg brands of ULP may be mixed: ethanol-blended fuels, ULP or diesel may not be mixed).**

**ELF BFK07.**

**VP C9**

**Approval for the use of other fuels must be sought from SKAA Technical Committee. The result of such approval must be publicised to all members**

**Only 1 type of fuel is to be used. No mixing of different types of fuel permitted.**

**Only ambient air may be mixed with the fuel as an oxidant.**

**Only commercially available motor oil that does not contain any performance enhancing additives may be used.**

**No substance other than oil as described in this rule may be added to petrol used in competition.**

**Competitors must disclose the brand of oil and fuel used and the mixing ratio if requested by the event organiser or SKAA technical officer/fuel tester**

**In addition, the fuel must contain no substance, which is capable of exothermic reaction in the absence of external oxygen.**

**Any petrol that appears to have been formulated in order to subvert the purpose of these regulations will be deemed to be outside it.**

**All fuels must have properties and characteristics as required by Federal and/or State Government Regulations for PULP or ULP.**

**Drivers must ensure that they can provide a fuel sample from the tank on request, prior to, during a race meeting or during any Blue Ribbon or Feature Event. Fuel sampling will be conducted at random.**

**Test methods for permitted fuels will be as recommended to the SKAA from time to time by the National Fuel Tester.**

## **FUEL TESTING PROCEDURE**

### **Digitron Test**

**Calibrate digitron in fresh sample of cyclohexane (C<sub>6</sub>H<sub>12</sub>) (display -75)**

**Place sensor in competitor's fuel tank and record the reading**

**Between each driver's sample, spray the sensor in a good quality brake cleaner and allow to dry and let the meter normalise before testing the next batch of fuel**

**If you are using the standard base number of -75 and the reading is zero (.000) or a negative number, the fuel is legal.**

**If the sample fails the first test a second test is to be conducted using a sample removed from the competitor's fuel tank. The temperature of the sample being tested must be within 3 degrees Celsius of the cyclohexane calibration sample. A recalibration with fresh cyclohexane is to be done before a second sample is tested.**

**If the second test fails then the fuel is deemed illegal.**

**The SKAA may send the sample away to be tested at the SKAA's nominated fuel testing laboratory.**

**All competitors will be given the opportunity to have their fuel checked before the start of the event.**

**\*\*The fuel rules will be subject to revision as more data is collected.\*\***

### **FUEL SAFETY**

**All participants in motor sport are reminded that fuel, oils, lubricants, and coolants are highly specialised substances.**

**Participants must be aware that these agents may contain substances that are extremely dangerous to one's health if misused, inhaled or allowed to contact human skin.**

**Some of the contents of these fuels, oils, and lubricants are suspected of having the potential to cause cancer in rare instances.**

**The use of petrol as a general cleaning and washing agent is a common misuse of a potentially dangerous substance.**

## **Engine Measuring Procedures**

**Engines can be gauge checked at any time. Engines are not to be pulled down until completion of event.**

**Fuel can be checked at any time**

**Head Volume**

**Yamaha J Minimum head volume is 11cc**

**KT100S Minimum head volume is 11cc (standard only)**

- 1. Allow engine to cool to ambient temperature**
- 2. Place the engine on a level surface.**
- 3. Rotate engine to TDC**
- 4. Screw SKAA CC test plug into the spark plug hole and withdraw plug approximately 2 turns**
- 5. Fill combustion chamber with 11cc of test fluid.**
- 6. Tighten test plug**
- 7. Slowly rotate engine forwards and backwards to determine TDC.**
- 8. There must be no fluid spilled from the test plug. Any overflow or spillage deems the engine illegal**

**The competitor may ask for a second test. The engine is to be cleaned of test fluid by using unleaded petrol only. The cylinder head is NOT to be removed. If the second test fails then the engine is illegal.**

## Port Duration Checks

Port gauge checking procedure here

1. Screw the body of the travel gauge into the cylinder head
2. Select correct rod for the engine type being checked and fit into gauge
3. Turn engine in the direction of rotation until the highest point in the stroke is found and adjust the head of the gauge to line up with the bottom groove in the rod
4. Slowly turn the engine in the direction of rotation until the lowest point in the stroke is found. The top groove on the rod should line up with the head of the gauge.
5. Place the 5mm pin in the top of the exhaust port and rotate the engine until the piston makes light contact. The second top groove should be in line or below the head of the gauge. If the groove on the rod is above the head of the gauge then the engine does not conform.
6. With the 5mm pin still in the exhaust port, adjust the head of the gauge until it is in line with the second top groove.
7. Remove pin and rotate engine to TDC, insert pin in to the inlet port and rotate engine until the piston contacts the pin. The third groove on the rod should be in line or above the head of the gauge. If the groove is below then the engine does not conform.

## Bore Size

Yamaha J Maximum bore size is 52.9

KT100S Maximum bore size is 55.1mm (Standard and Modified)

A quality digital calliper is to be used to check the bore size. If the size is suspect then a bore gauge and micrometer is to be used.

## Stroke

Yamaha J Maximum stroke is 50.05mm

KT100S Maximum stroke is 46.13mm

The piston travel gauges are to be used to check the stroke. If the stroke is suspect then a dial indicator is to be used.