

Australian Karting Association Inc

Technical Committee

23rd /24th June 2012



Revised Agenda 25th May 2012

Venue: The Sebel, 28 Albion Street, Surry Hills, Sydney. NSW

Date: 23rd / 24th June 2012

Time: 9am

Item 1 – SA

Rule 1.30.10.b

Standard method of issue of engine seals/tags.

- a) All engines must have provision for sealing in accordance with rule 1.30.9
- b) AKA bar coded engine seals and chassis tags to be supplied, fitted and recorded by officials of the meeting prior to commencement of competition.
- c) It is the competitors responsibility to check their engine seals and chassis tags for loss or damage prior to leaving the in grid / scales area after each event.
- d) Competitor shall be deemed no to have fulfilled their duty to manage their seals/tags should there be a loss or damage to after leaving the in – grid / scales area after each event, or failure to produce the correct seals/tags when requested.
- e) Tails on plastic seals to be left as full length.

Wording change for 1.30 [10] b

b) There are two options of how the AKA bar coded seals are given to the competitor, Option 1, AKA bar coded engine seals and chassis tags to be supplied, fitted and recorded by officials of the meeting prior to commencement of competition.

Option 2, AKA bar coded engine seals and chassis tags are to be recorded prior to the commencement of the meeting and supplied to the competition.

REASONS FOR THIS:

- 1) Is that it eliminates competitors receiving more than 2 engine seals.
- 2) Allows techs more time during qualifying to check for anything illegal and not seal fitters.

Item 2 – SA

KTS 1.03 (4) NEW RULE

To allow the height of the main transfer parts to be changed (grand to the line)

REASON

To allow engines to be closer in performance, we allow inlet timing to be changed by machining the piston, we allow exhaust timing to be changed barrel

Height adjustment machining and gaskets, but do not allow transfer port timing to be changed. (exhaust/trans split) (blow down). Engine have been spark exuded etc, without being detected.

NEW RULE:

KTS 1.03(4)

It is permissible to change the height of the two main transfer parts by grinding/machining up the minimum engine o transfer split of 9.8 mm (checked and measured by the same methods used currently)

The chord width of transfers cannot be altered. Any grinding of the aluminium must be a smooth transition from the intersection point of the cast liner and the aluminium casting to a point no further than 8mm from the cylinder wall (to be measured by a no-go gauge, to be made)

COST

Engine builders have estimated 2-3 hrs labour for this modification.

Item 3 – SA

Rule 25.19 Weights, part 2)

Current wording –

Maximum Kart weights at time of weighing for all Junior Heavyweight, Senior Heavyweight and Senior Super Heavyweight Classes to be 88kgs except where: a) noted in class technical detail e.g. all heavy 125 classes maximum kart weights of 100kg or b) when a lighter weight division of a class is not being run at a race meeting.

Proposed wording –

Maximum Kart weights at time of weighing for all Junior Heavyweight and Senior Heavyweight Classes to be 88kgs except where: a) noted in class technical detail e.g. all heavy 125 classes maximum kart weights of 100kg or b) when a lighter weight division of a class is not being run at a race meeting.

In conjunction with this change, Rule 34.03 Weights, part c) would also be changed.

Current wording –

(c) Clubman Super Heavy 180 kg maximum kart weight 88kg as per rule 25.19.2

Proposed wording –

(c) Clubman Super Heavy 180 kg maximum kart weight 100kg as per rule 25.19.2

Reason – This would increase the number of drivers eligible to run in the Clubman Super Heavy class. It would appear that the current weight limit has been arbitrarily set since the 125cc classes which often use the same chassis are already eligible to run with a maximum kart weight of 100kg and there is no maximum kart weight for the clubman over 40 class.

Item 4- SA

KTS 1.03 (4) NEW RULE

To allow the height of the main transfer parts to be changed (grand to the line)

REASON

To allow engines to be closer in performance, we allow inlet timing to be changed by machining the piston, we allow exhaust timing to be changed barrel Height adjustment machining and gaskets, but do not allow transfer port timing to be changed. (exhaust/trans split) (blow down).
Engine have been spark exuded etc, without being detected.

NEW RULE:

KTS 1.03(4)

It is permissible to change the height of the two main transfer parts by grinding/machining up the minimum engine o transfer split of 9.8 mm (checked and measured by the same methods used currently)

The chord width of transfers cannot be altered. Any grinding of the aluminium must be a smooth transition from the intersection point of the cast liner and the aluminium casting to a point no further than 8mm from the cylinder wall (to be measured by a no-go gauge, to be made)

COST

Engine builders have estimated 2-3 hrs labour for this modification.

Item 5 - NSW

Registration of Official Technical Business

There are many important matters which are not followed up and dealt with in a timely manner e.g.

- The Mini ROK motor has still not been sent to me (as at 3rd May 2012).
- The Yamaha S barrel grinding issue is still ongoing and a huge area of concern.
- The Coatings issue...NKC has stopped testing but it is still going on and yet nothing has been done.

A register of important business will start, follow up and action items which will at least improve the way we go about our activities. It may highlight difficulties being encountered and reasons for delays but also put a lot of minor issues into recommendation / action / finalisation.

There appears to be a lot of items which are discussed at the NKC which don't get forwarded to the state techs. The NKC minutes indicate decisions which should be passed on or drawn to our attention but simply are not. Giving items a formal registration will improve the handling of important matters.

All too often we are asked to comment or action matters at short notice and because of 3 and sometimes 4 day race events the urgent response date has passed before we even get home to the computer. If it's registered business it can be processed in a timely and profession manner.

Item 6 - NSW

Chapter 22 Fuel

During the past year a lot of results have been passed on amongst Techs about the variance between fuels. Most significant is the DIFFERENCE between the mail supplies (e.g. Shell, BP, Caltex, Mobil) and the discount United, Independents etc. Testing procedures require final analysis by Gas Chromatograph (GC0). This process was abandoned for testing tyres due to the difficulty in getting timely and cost effective results in favour of "Judge of Fact"

Fuel samples are now compromised by lack of testing facilities and those facilities carrying out the work in the required timeframe of 21 days.

I now recommend fuel testing be changed to "Jude of Fact" provided control fuel is used OR clubs nominate the fuel brand/s allowed. This means supplementary regulations would include say for example: Shell, BP or Caltex PULP 98 (where the local fuels are tested to be similar) only at club shows OR United, whatever with 20% or more ethanol only. If the clubs opt not to do this then

fuel testing would not be relevant. The competitors generally don't want to race against fuel cheats and will not support meetings where it is Rafety Rules.

Secondly the digitron range of readings (0 to 40) needs adjusting from the old days of Yamaha and castor based oil mixed fuels. It is possible to see readings on control fuel and synthetic oils (mainly Rotax) where the di-electric strength will give a slightly negative value. I would recommend the scale be changed to minus 5 to plus 35 against the control fuel.

Item 7 -NSW

Yamaha J Repairs

The attached documents are indicative of the competitors and trade comments made to me during this past year. Given that any repair can be tested simply and reliably with an ohms meter on the kart or bench without having to remove the flywheel there is no justifiable reason to disallow the repair of stators. The cost of a complete replacement ignition system due to the current rule (no pun intended) is not helping competitors. I recommend that stator repair be allowed to OEM specification for the Yamaha J.

Item 8 - NSW

Ceramic and Thermal Barrier Coating

Tests have been submitted to National Office without reply. Given the importance of this subject I am expecting that this subject will be addressed at the conference by the NKC and testing procedures and equipment ratified.

Item 9 - NSW

Yamaha Head Inserts

This is an issue that has to be addressed. The former National Tech Ken Mitchell is 100% certain that during his time at the top job he never signed a letter authorizing the use of inserts. His only recollection of this subject was a discussion at the time but it was not an approved process. We have subsequently inspected inserts which form a complete combustion chamber and held in place by the remains of an original cylinder head. There is no specification for this work and needs to be if it is to be continued. An insert repair should not be any greater than 20% of the combustion chamber and not in any dissimilar material. This would prohibit beryllium copper or the like from being used. The head could be welded up to restore damaged or excessively machined chamber area OR helicoiled / time sert thread repaired on the plug hole. In the event that a spark plug repair needed an insert it should be no more than 8mm bigger in radius than the spark plug radius of 7mm (total 15 radius from centerline). Allowing a replacement head insert also opens up the door for this to be done on a water cooled motor for example using original dimensional specs but in exotic materials etc.

Item 10 - NSW

Bar Code System

The barcode scanning system has been nothing short of a disaster for NSW. Before my time the system failed on numerous occasions and has resulted in a lot of expense in buying laptop computer and equipment maintenance. Is it possible that the barcode system could work with the CMS ?? It would be great if the race secretary could simply load the readers with the entry list and all relevant details after the close of entries and away we go. I have not been to a meeting yet where the system works flawlessly and furthermore we should not have to be a programming genius to make it work. All too often the good work people assigned to the task is wasted when the system crashes and we revert back to the paper scrutineering forms. Is there a solution ???

Item 11 - NSW

Clarification of issues raised this year by the techs

Rear plastic bumpers wider than the rules permit in wet? Is it time to adjust the rule?

Quality control of restrictors sold by AKA. Reports of undersized?

PTG rods not correct. Discussed at last year's conference but no action as yet.

Rotax World rules and supply of gauges to measure the components.

Yamaha cylinders from factory being ground without satisfactory explanation.

Yamaha S pistons changed design without homologation or approval.

Yamaha J cranks reported being too wise from new?

Discussion of finished / polished crank from Qld title S motor.

Yamaha exhaust pipes being sold without numbers stamped on them??

Define the fixing of sidepods with 6mm bolt or spring. Importer of new karts with no front fixed point arguing 25.02 vi is ambiguous. Needs to read AT BOTH ENDS OF THE BAR.

Cowling of the Comer SW80 motor to be OEM. Carbon fibre after market unit not legal.

Remove Biland motor from the rulebook. It is no longer available.

Can we simplify tech rules?? E.g. apply the Walbro rule to all pumper cabbies i.e. no need to open it up simply inspect airstream size and number holes to speed up tech shed work.

Can we devise a system to register port damage cylinders.

Item 12 - NSW

Transponders

The rule for transponder position be reviewed.

Recent rule changes has allowed the transponder to be mounted on either the side pod or behind the front nose cone.

It is requested that the rule for position be changed to reflect the world CIK rules and the manufactures recommendation, and the transponder be mounted behind the seat. This position creates a universal fair timing of karts and a safe protected place for the transponder. Example international wording:

"The transponder must be mounted in an approximately upright position (i.e. the "R" clip at the top) on the back of the seat.

It should be secured at a height of 25cm \pm 5cm. This height can be measured from the ground to any part of the transponder. "

Item 13 - NSW

25.16 Communication and Telemetry

The Endurance Karting Association would like to introduce the use of radio communication between drivers and pit crews in our form of racing only. As you are already aware, our racing is completely different from the two stroke sprint format, the teams have a minimum of 2 drivers and sometimes up to five drivers, race durations range from 3 to 12 hours with up to 20 compulsory pit stops including driver changes and fuel stops.

Radio communication has been a hot topic at our last few AGM's with the members this year taking a vote and with the majority easily voting in favour.

TEKA would like to apply for a rule change to allow this to happen.

With all of our officials now only using secured channel radios during each and every event there is no chance of cross communication between competitors and officials, this was the reason that we had not approached the AKA for approval in previous years.

The TEKA committee along with its members believe that there are many advantages to our category that would come with the introduction of radio communication with one of the biggest benefits being safety.

- For teams to be able to communicate directly to the drivers and the officials directly to our safety kart during a full course yellow will definitely bring the field under control in minimal time and stop any confusion.
- Many of our tracks do not cater for the use of pit boards that well, making it very difficult for the drivers to see and then react to the board.
- Teams that compete with only the two drivers find it very difficult to communicate during a race as they simply do not see each other until the race has finished, a team with three or more drivers have a big advantage as they are can relay messages to each other at any given time, the use of radios would allow all competitors to be on a level playing field.
- The other karting endurance series run throughout NSW permits the use of radios, TEKA feels that teams would be more inclined to race with us with the introduction of radios, boosting numbers and profit for the club.
- TEKA feels that radio communication is a large part of any endurance motorsport event and believes that their introduction will only boost both TEKA and the AKA's profile.
- We believe it will bring a whole new aspect to our events which will add yet another element of excitement.

Item 14 – WA

Rule. 25.07 Change “brake pad mounting bolts” to “brake pad retaining bolts”.

Item 15 - WA

Rule 25.01 (e) Mention nuts on stub axles to match scrutineering form.

Item 16 – WA

Rule 25.05.4 & 25.05.05 Mention cracks to match scrutineering forms.

Item 17 – WA

Rule 25.21.11 This rule appears to be in conflict with typical engine chapter rules where the engine must “as supplied”. Suggest rule is removed.

Item 18 – WA

Rule X30.1.11 X30 carburettor. Suggests referring to homologation documents. Where are they accessible to the karter?

Item 19 - WA

Restrictor Plates. Add to the general words about these that the actual restrictor hole “must retain its square edge on both sides”.

Applies to Cadet, Rookie and all Restricted 125 engines.

Item 20 – WA

Rule 42.03.2 Change engine batteries to read “engine batter/batteries”.

Item 21 – WA

Rule 25.02 (vii) (a) & 25.01 (g) One states rear tyres can be inside side pods when wet and the other states rear tyres cannot be inside rear bumper when wet.

This is confusing and is at odds with many of the plastic bumpers being fitted to karts. Suggest that tyres can be inside of either when wet conditions declared and this applies equally to both wet and dry tyres. Why do karters with dry tyres get doubly penalised?

Item 22 - WA

SW 1.13 Comer Cowl Add words, eg “It is permissible to increase size or alter shape of spark plug hole in cowl for improved access for socket spanner and spark plug temperature probe.” Also, it might be time to specify a ruling on colour of cowl, given some recent event.

Item 23 - WA

Rule 22.03 Add new rule 22.03.2 (a) (iiii). E10 fuel may be used if it is indicated in the Supplementary Regulations.

It is understood that this is the only fuel available in certain areas (this needs to be questioned though). R21.1.1 and R22.03 would need to be altered if rule is adopted.

Item 24 – WA

Rule 22.05 Add after flooding “and the vent lines must be clipped at the carburetor, must be continuous with no other fitting between carburetor and catch tank, and cannot be slit, cut or broken in any way along their length.”

Item 25 - VKA

Rule 26.01 Cylinder Head Volume Measurement:

Method:

3. The CC test plug to be withdrawn two turns

Change to read:

3. The CC test plug to be withdrawn **three (3)** turns

8). To clean out measuring fluid after failure of the first test and before commencement of second test, unleaded petrol to be poured into cylinder, Motor to be rinsed and blown out by inserting air hose into spark plug recess and turning the piston to open exhaust, therefore, expelling excess fluid. Cylinder Head and engine seal is not to be removed prior to any C. C test.

Change to read:

8). To clean out measuring fluid after failure of the first test and before commencement of second test, unleaded petrol to be poured into cylinder, **Rinsed out twice left for a minimum of 10 minutes** and turning the piston to open exhaust, therefore, expelling excess fluid. Cylinder Head and engine seal is not to be removed prior to any C.C test.

Item 26 - VKA

Rule 25.31 2

This is the rule in the rule book about brackets for the camera's.

The camera must be mounted to the kart with a “fit for purpose” mounting system that, in itself, does not pose a hazard to other karts or karters under any circumstances.

Interpretation on the brackets would be that they could pose a hazard to other karters if the 2 karts collided.

See attached photos.

Item for discussion.

Item 27 – VKA

Rule 25.17 f

All clutches must engage sufficiently to allow front wheels to climb test bar at less than 4800rpm. **Checking the movement of the kart at the set rpm will take place on either the dummy grid or on the track before time trials/ qualifying and /or races.** A strip of metal (10mm high by 75mm wide by 1300mm long) will be placed on the ground immediately in front of both front wheels. The engine will be started, the Technical Officer will pinch the cable of the revolution

counter to the spark plug cable to read the number of revolutions. The driver must obey the orders given by the Technical Officer.

The bold underlined area changed to,
Checking the movement of the kart at the set rpm will take place on either the dummy grid or on the track before or after time trials/ qualifying and /or races or any time.

Item 28 - VKA

25.19 Weights:

1. Class Weights are as raced at the time of weight measuring, and are detailed in technical pages of the classes. **Weight that is more than 5kg must be retained by a minimum of two 8mm high tensile bolts with lock nuts.**

The bold underlined area changed to,
Weight that is more than 4kg must be retained by a minimum of two 8mm high tensile bolts with lock nuts.

Item 29 - VKA

25.11 Guards:

(i) Chain Guards: A chain guard is compulsory and must give sufficient front and side protection to prevent the driver trapping his/her fingers in the chain.

(ii) Engine Sprocket Guards: An engine sprocket guard is compulsory and must give sufficient front and side protection to prevent the driver trapping his/her fingers in the chain.

With the first part of this rule there is a lot of chain guards that only give top protection should we change tis part of the rule.

The bold underlined area changed to,
Chain Guards: A chain guard is compulsory and must give sufficient protection above the chain to prevent the driver trapping his/her fingers in the chain.

Item 30 – VKA

25.09 Exhaust System:

5. Muffler must be securely fastened with springs to a mounting bracket cradle and to the header pipe of the engine. **A secondary fastening system, comprising a multi-strand wire (as used in throttle cables) to be secured through a fixing lug or a similar attachment (e.g. hose clamp) on the muffler and fixed to the chassis, excluding rear bumper bar to prevent the exhaust system detaching from the kart.**

The bold underlined area changed to,
A secondary fastening system, comprising a multi-strand wire (as used in throttle cables) to be secured through a fixing lug or a similar attachment (e.g. hose clamp) on the muffler and end cap and fixed to the chassis, excluding rear bumper bar to prevent the exhaust system detaching from the kart.

Item 31 – WA

Scrutineering Forms

Are these forms now required?

Reason: Are they still required for insurance purposes or can we do away with them like we have entry forms?

Item 32 - NSW

“J” CDK Stator Rewinds

Technical Committee

Discussion on “J” Stator Rewinds

Reason: Reduce the costs to karters can be easily tested for compliance.

To be forwarded to the Technical Committee for the committee’s Conference.

Rule 35.08 Gauges

Tacho and timing gauges allowed only. No temperature probes or sensors on head or exhaust. The majority of tacho / lap timers commercially available have as standard a cylinder head temperature (C.H.T.) sensor between the spark plug and the cylinder head. Since we are aiming this class at new comers, Use of a CHT sensor could save an engine and still keep the class to the preamble of ‘an out of the box, low maintenance class for the club driver. The club requests the rule be changed to the suggested following wording.

Rule 35.08 Gauges

Tacho and timing gauges with cylinder head temperature (C.H.T.) sensor between the spark plug and the cylinder head allowed. No temperature probes or sensors on or in the exhaust.

Motion:

That the current regulation 25.31 imposing restrictions on the use of on-kart cameras during official practice / competition be amended to remove paragraph (11) relating to the limitation on the total number of cameras fitted to a kart.

Discussion:

If the limit was removed then ultimately the amount of equipment in use is limited by the existing camera weight restrictions.

Currently the number restriction precludes the use of multiple small devices for kart chassis setup analysis. The units have proven themselves to be useful for analysis of setup issues and pose no safety hazard when mounted in accordance with the existing guidelines. The Units referred to are commonly available low cost MP4 devices which are smaller than a box of matches and weigh 20g complete.

The use of the described equipment provides no direct performance advantage and merely supplements normal data gathering operations as provided by existing data logging equipment.

The use of the equipment during official practice assists with setting up for away meets at new tracks when no other practice sessions are permitted.

The existing rule performs no valid or necessary function and as such represents the residue from an overreaction to the regulation of the use of cameras on karts.

Argument / Counter argument

Cost to the Karter – **Irrelevant**,

- The use of the item is optional
- The camera may be now sourced for less than \$20 on the net

Unfair Advantage in kart setup – **Irrelevant** Teams are already permitted to use

- Professional mechanics
- Professional coaches
- Professional engine builders

Unfair advantage in monitoring other karts – **Irrelevant** other karts are already able to be monitored

- From the sideline at any point
- From existing kart cameras which fall within the rules

Unfair advantage in gaining track information when access is limited – **Irrelevant** other teams have already accessed the track by

- Having the track within their home area
- Flown in and practiced prior to the exclusion period

To be forwarded to the Committee's Conference.

QLD Item: 20

The purpose of this document is to provide a perspective and a purpose for the Yamaha TaG100 Engine to be included as a class at State level competition.

With the current downturn throughout motorsport in Australia, we seem to have forgotten a class of engine that has the potential to help increase numbers within our karting community, we hear of how many great ideas are coming from down south, but all forget, we already have the TaG100 engine, all it needs is to moved from so called Introductory class level to its own class and allowed to compete at state level events.

There are more than enough of these engines out there at club level that already attract large fields, so instead of trying to reinvent the wheel, let's push momentum, take the initiative and build on something that already exists within clubs.

The TaG100 class and Senior National classes can still be combined at club level, to create that large class appearance for the audience or potential new member, and can be split as numbers increase.

But by removing just the age limit from the class, this would allow a new younger member to step into karting at a pace and cost that is more achievable, affordable to today's budget conscience, and bring their race craft to a level, that is more achievable, thus retaining them longer, newer younger members who will eventually move onto faster classes, but by then they would be better prepared for the cost, and have competitive driving skills that would have been acquired from starting in TaG100.

Recently it is becoming more apparent that TaG100 is being utilised as the support class at major events, because the organisers know that they will get a very healthy field with some very competitive racing put on display, from some very good well known club drivers, with the odd ex National Champion thrown in.

This is the other side of this class is to get those older ex champions you all once were and get out and race in a class that's cheap and more affordable, but also gives the class a pinnacle in which to achieve.

***To be forwarded to the Committee's Conference.**