CHAPTER 21 - HOMOLOGATION

21.01 **ENGINE HOMOLOGATION:**

It is a requirement that any engine used in AKA authorised events must be registered with the AKA.

If not currently listed under your respective class then an application must be made to AKA for appropriate documents for registration.

Any water-cooled version of a currently registered air-cooled engine will require its own registration.

1 **CIK Engines**

- ❖ Notice to all importers and individuals importing engines for use in AKA authorised events.
- ❖ Registration of new engine is $27.50.
- ❖ All engines must be homologated with the CIK and all applications must be accompanied by original CIK documents.
- ❖ Both CIK documents and the application for registration along with the engine are to be presented to either the State Technical Adviser or the National Technical Coordinator for compliance check where upon application for registration will be sent to AKA national office. The engine must be presented at least 10 days prior to use in an AKA authorised event.
- ❖ Registration period for the engine submitted is to end at the same period as CIK homologation (up to 9 years).
- ❖ Registration of evolution to a registered engine is $27.50.

2 **Australian Engines or Australian Classes**

- ❖ Registration of engines being either Australian made or for an AKA domestic class have different fees.

a. Championship Class
Registration of engine is $550.00
A review fee of $165.00 will apply every 3 years.

b. Non Championship Class
Registration of engine is $165.00.
A review fee of $55.00 will apply every 3 years.

c. Experimental Class
No registration fee is applicable.
A review will apply every 3 years.

- ❖ Registration is for a 9 year cycle commencing 1st January 1998, this cycle will end at the given date 31st December 2007 regardless of entry date to the class.
- ❖ All engines having no CIK paperwork must be initially passed by technical inspection during a technical conference and be ratified for use in either category by the National Karting Council at the Annual Conference.
- ❖ Registration of evolution to a registered engine is $165.00.

3 **125cc Gearbox Engines**

- ❖ Notice to all importers and individuals importing engines for use in AKA authorised events for 125cc Gearbox Classes.
- ❖ All engines having no CIK paperwork must be initially passed by technical inspection during a technical conference and be ratified for use in either category by the National Karting Council at the Annual Conference.
- ❖ Registration of engine will attract a fee in line with whichever category detailed in 20.01 2 is applicable.

21.02 **AFTERMARKET AND EVOLUTION ITEMS:**

1 Aftermarket and evolution items requiring approval for use in AKA classes must be submitted to the National Office 30 days prior to the technical conference.
2 An inspection and registration fee of $165.00 including GST is applicable for each item.
3 The registration period is 3 years beginning 1st January after conference when approved.

21.03 **HOMOLOGATION OF TYRES:**

Persons or companies who wish to inquire about the contracted tyre classes for the years 2004, 2005, 2006 are asked to contact the Chief Executive Officer of the AKA at the National office.

21.04 **HOMOLOGATION OF CHASSIS:**

1 Homologation of Chassis with AKA
  (a) Chassis for Formula Australia are required to meet the Australian Made Criteria set by the NKC. (See relevant chapter)
  (b) Application forms and full details are available from the AKA National Office.

2 Homologation of Chassis for CIK
Refer to the CIK Manual. The relevant paperwork may be available from AKA National Office.

21.05 **RESTRICTED CLASSES:**

No additional make or type of engine will be homologated to the following restricted classes:
(i) National 100cc – senior and junior
(ii) Clubman 100cc – senior and junior

CHAPTER 22 - FUEL TESTING & CYLINDER HEAD VOLUME MEASUREMENT

22.01 **Fuel Testing:**

*The digatron DT15 series fuel testing kit will be the official **PRELIMINARY** fuel testing method to be used by the Australian Karting Association Inc and the State Karting Councils.*

Method

Fresh **Premium Unleaded Petrol** to be used without additives as the zero standard.

1 Set Digatron Meter to.000 in a sample of fresh Premium Unleaded Petrol.

2 Conduct test on competitor's fuel either in the fuel tank or on a sample removed from the fuel tank.

3 Any reading from the Digatron DT15 Series Meter less than zero or greater than +40 units **will require a mandatory sample to be taken for laboratory analysis.**

4 Should the first test fail, a second test to be conducted on a sample removed from the competitor's fuel tank. The temperature of the zero sample and the competitor's sample to be adjusted so that the temperature difference between the two does no exceed 3 degree Celsius.

(i) The AKA/SKC retains the option to use any other fuel testing method.

(ii) In the event of an Appeal against the above Fuel Testing **procedure,** fuel samples may be tested by an independent laboratory, with the total cost to the Appellant.

22.02 **Random Samples:**

Randomly selected competitor(s) may have a sample of their fuel or lubricant taken and sealed for later laboratory analysis. If the fuel is found not to comply with Rule 25.14 a complaint shall be made to the State Tribunal Registrar by the Fuel Tester under Rule 7.06 and the competitor(s) shall be subsequently charged with an offence under Rule 5.01 (q). The cost of such testing shall be borne by the promoting club or otherwise agreed.

22.03 **Cylinder Head Volume Measurement:**

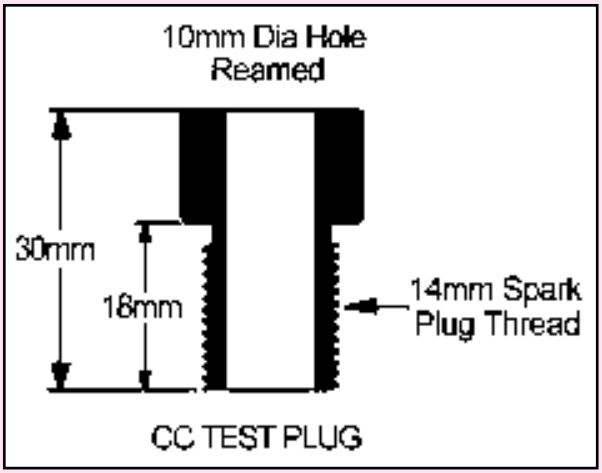
The measuring fluid will be a solution of 50% diesel and 50% auto transmission fluid. To be measured by use of 'B' Grade Burette maximum capacity 50cc (recommended 25cc), calibrated to a minimum 1/10th of a cc. under gravity feed.

Method

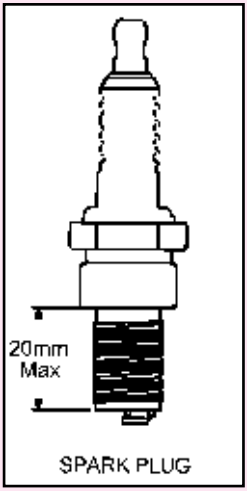
1. Remove spark plug and insert AKA CC Test Plug.
2. Place piston at approximately TDC.
3. The CC Test Plug to be withdrawn two turns.
4. Insert the required volume of measuring fluid; make sure the fluid is visible in the CC test plug.
5 Tighten CC Test Plug down until it stops.
6. Slowly wind motor over and check for fluid level in CC Test Plug. (as shown in diagram).
   (Note: Motor to be measured should be allowed to cool to ambient temperature and no fluid shall be expelled through the top of CC Test Plug.)
7. Should the first test fail, the competitor may request a second test.
   This test to repeat Items 1 to 6 above **(after Step 8).**
8. To clean out measuring fluid after failure of 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 piston to open exhaust. Therefore, expelling excess fluid.
   Cylinder Head is not to be removed.
9. This applies to all 19mm plug length engines.

Note: The CC Test Plug is available from your State Secretary.

1. DIAGRAM OF CC TEST PLUG



2. DIAGRAM OF SPARK PLUG



ALL DIAGRAMS ARE FOR DIMENSIONAL REFERENCE ONLY

22.04 Unless otherwise specified, the following tolerances will apply to all dimensions.

Dimension	< 25mm	25 – 60mm	> 60mm
Machined Parts	+/- 0.5mm	+/- 0.8mm	+/- 1.5mm
Non machined / raw or welded parts	+/- 1.0mm	+/- 1.5mm	+/- 3.0mm

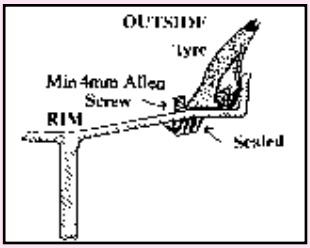
22.05 **Measuring Engines Controlled by Exhaust Port Timing**

Insert a 0.2mm feeler gauge, which has been cut down to a point, into the uppermost point of the exhaust port at the intersection of the port opening and the piston. This will give the opening point of the exhaust port. Measure stroke from this point to TDC using a dial indicator inserted through the spark plug hole. This measurement will give the minimum piston travel that can be cross-referenced against the charts in the relevant section.

CHAPTER 23 - TYRES

23.01 **General:**
Tyres shall be new or in good condition with no apparent flaws.
No modifications to tyres are permissible.
Outside diameter : 310mm max - 220mm min.
Radial tyres are NOT permissible.

23.02 **Bead Retention:**
1. This sub-rule applies to all dry tyres used in the following classes : 200cc Super.
2. It does not apply to Dirt Track racing or wet weather tyres.
3. Rims to have a form of full positive bead retention on the outer rim.



Method of Tyre Bead Retention
Minimum 4mm screws threaded through the rim behind the tyre bead at 120 degree intervals and sealed.

23.03 **Tyre Treatment:**
1. It is ***not permissible to tamper with any tyre,*** to alter its hardness, construction or composition with any method or agent.
2. Non compliance with this Rule is punishable by a penalty of up to five (5) years suspension. Refer Rule 6.03 Penalties.
3. Checking of Tyres:
   (a) An approved measuring instrument may be used for checking tyres for illegal agents/solvents and for shore hardness.
   (b) A photo ionisation detector (PID) and durometer are approved measuring instruments for checking tyres for illegal agents/solvents and shore hardness.
   (c) A Gas Chromatograph is an approved instrument for testing samples of rubber.
   (d) Randomly selected competitors may have their tyre/s or a sample of the rubber in their tyre taken and sealed for later laboratory analysis. If the tyre/s or sample is found not to comply with these Regulations, then a complaint will be made and submitted to the Tribunal Registrar by the tyre tester under Rule 7.06.
   (e) The cost of such testing shall be borne by the promoting club or as otherwise agreed.

23.04 **Preheating of Tyres:**
Preheating of tyres is not permissible before leaving the grid.

23.05 **Weaving to Warm Tyres:**
Refer Rule 19.26 (ii).

23.06 **Number of Tyres Permitted:**
Refer Rule 19.34 and respective Class Rules

23.07 **Combination of Tyres:**
The mixing of wet and dry category tyres, on the kart at any one moment, is not permitted.

23.08 reserved

23.09 **APPROVED TYRES:**

1 AKA approved dry tyres - The following were accepted by the National Karting Council (from 2000 tyre tendering and testing program) for selection in AKA classes where tyre restrictions are not specifically designated for competition.

Bridgestone	-	YGK, YGL, YEQ
Dunlop	-	SL4, DAH, SL1
Maxxis	-	HG3, SLD
MG	-	MZ - Yellow, AZ - Red
Vega	-	SL, SL4, XSL, SL7

2 AKA Approved wet tyres -

Maxxis	-	WT3KTM

3 CIK approved wet Group 2 tyres -

Bridgestone	-	YGP and YEP (96 – 98 homologation)
Dunlop	-	KT6-W6 and KT6-W4 (96 – 98 homologation)
Vega	-	W3

23.10 **CHART OF RESTRICTED AND DESIGNATED TYRES**

chapter	Class	Dry Tyre	Wet Tyre
41	Midget	Dunlop SL1	Maxxis WT3TKM
40	Rookie	Dunlop SL1	Maxxis WT3KTM
39	Jnr Nat	Dunlop SL1	Maxxis WT3KTM
38	Jnr Clubman	Vega XSL	Maxxis WT3KTM
37	Jnr PP	Maxxis HG3	Any wet Group 2 CIK
36	Snr Nat	Dunlop SL1	Maxxis WT3KTM
34	Clubman	Vega XSL	Maxxis WT3KTM
30	PP	Maxxis HG3	Any wet Group 2 CIK
29	Form 100	Bridgestone YGK	Any wet Group 2 CIK
35	Atlas	Vega XSL	Maxxis WT3KTM
32	PRD	Maxxis HG3	Maxxis WT3KTM
33	ReSa	MG AZ – Red	Maxxis WT3KTM
31	Form Aust	Maxxis HG3	Maxxis WT3KTM
27	Club Twin	Bridgestone YGK	Any wet Group 2 CIK
44	Whisper	AKA – dry	Any wet Group 2 CIK
43	Gearbox	AKA – dry	Any wet Group 2 CIK
46	Inter C	AKA – dry	Any wet Group 2 CIK
45	Form Rotax	Bridgestone YGK	Maxxis WT3KTM
26	Super 200	Bridgestone YGK	Any wet Group 2 CIK
42	Sportsman	AKA–dry(State Rule)	Maxxis WT3KTM
47	Jnr ReSa	MG AZ - Red	Maxxis WT3KTM
50	Formula A and ICA	Bridgestone YGB & YGA Dunlop DAH & DAM Vega XM MG Pneus XZ	Any wet Group 2 CIK (See R23.09.3) Any wet Group 2 CIK
	Inter A Jnr	Bridgestone YGB & YGA Dunlop DAH & DAM Vega XM MG Pneus MZ	(See R23.09.3)

1 **Classes restricted to DUNLOP SL1, VEGA XSL, MAXXIS HG3, BRIDGESTONE YGK and MG AZ Red.**
May only use 4.5/10 - 5 front and 7.1/11 - 5 rear except Midgets and Rookies where they may option to use Size: 4.5/10 - 5 rear.

2 **Classes restricted to Maxxis WT3TKM**
May only use 10 x 4.5 - 5 front and 11x 6.00 - 5 rear except Midgets and Rookies where they may option to use Size: 4.5/10 - 5 rear.

3 **Classes restricted to Maxxis WT3TKM**
May only use 10 x 4.5 - 5 front and 11x 6.00 - 5 rear except Midgets and Rookies where they may option to use Size: 4.5/10 - 5 rear.

23.11 **Tyre Pooling**

Tyre Pooling for restricted / designated dry weather tyres will be compulsory at the Australian National Championships and optional at State Championships. Tyre pooling at these events must comply with the following regulations.

1. The entry fee for all restricted tyre classes will incorporate at the cost (as per tyre contracted price) of one (1) set of tyres per class per driver only.
2. The promoting club at the designated circuit will provide one (1) set of tyres per driver per class at least one day prior to time trials.
3. qTyres supplied by the promoting club will be as per the manual and will be of the same batch number within each class. (eg. All clubman light entrants must be issued with the same batch number etc.)
4. All tyres supplied by the promoting club will be marked with the racing number and class they are to be used in. This will be done at time of or prior to distribution to the competitor.
5. The promoting club may issue only one set of tyres per driver per class.
6. In the case of tyres being lost or damaged (by way of “force majeure”) the promoting club may issue replacement(s) (at the cost of the competitor) only on instruction from the stewards of the meeting.
7. In case of any “force majeure”, the promoting club will order in addition to the one set per driver per class, 5% (five percent) extra quantity of each type of tyre.
8. The promoting club will obtain (and comply with) via their state body a copy of the conditions governing the transaction between the promoting club and the tyre supplier.

CHAPTER 24 – NOISE CONTROL

24.1 1 The AKA is of the opinion that control of noise is emerging as a major issue for motor sport and that increased Government controls may be imposed on those motor sport organisations and individuals that exceed the stated levels. The potential for noise injuries to our Officials, Competitors and their crews must also be addressed and minimised. Karting as a stand alone Sport can not allow an individual or club to selfishly satisfy themselves to the detriment of the Sport now or in the future. Competitors and those involved with Kart preparation are required to closely check all fittings and fastenings associated with the control of noise on their Kart and to maintain a vigilant and preventative stance to noise control

2 As noted in the 2000 AKA Karting Manual the AKA was introducing new levels of noise emissions for karts with the existing measurement procedure (horizontal) and a new or favored method for measurement. From 1st January 2001 the AKA vertical method must now be adopted by all councils and clubs, along with the recommended / authorised noise measuring unit (rule 24.4.1)

3 From 1st January 2003, the permitted noise emission level from a kart must not exceed 98 dBA when measured at a point 4 metres away with AKA vertical method.

24.2 **Permitted Noise Level:**

At all events, tracks and venues licensed or approved by the AKA the permitted noise levels are

1 At normal tracks the permitted noise levels, must not exceed **100dBA** when measured at a point 4 metres above the centre of the track (refer penalties rule 24.7)

2. Clubs may apply to the National Karting Council for an exemption to the AKA noise regulations.

3. Supplementary Regulations may stipulate a lesser Noise Level for the complete meeting or for any part or component as designated

24.3 **Noise Measuring:**

1. At all race meetings an official must be nominated Judge of Fact (Noise Level) and his name included in the regulations for the meeting.

2. The Stewards must ensure that the Organisers have the necessary noise measuring devices in place and that they are in operation throughout the entirety of the race meeting.

3. In order to assist competitors after each practice and qualifying session, drivers of karts which record sound levels of 98dBA to 100 dBA (using AKA vertical method) should be advised by the officials.

4. Results of any Noise Measuring testing at a meeting, duly signed by the responsible Official, are to be given only to the Clerk of Course or Stewards who will then take any necessary action before clearing them for general distribution.

24.4 **Noise Testing Equipment:**

1. The Sound Level Meter tested and approved for the stipulated noise level tests is - Make PCWI, Model 8921 and is available complete with microphone and cables through the AKA. Any alternate or secondary unit must conform to the minimum requirements of Australian Standards AS1259 part 1982 for Type 2 Meters.

2. Sound Level Measurements are to be made in accordance with the procedures in Australian Standard AS2659.1 - 1988 "Guide to the Use of Sound Measuring Equipment Part 1 Portable Sound Level Meters" using 'F' time weighting characteristic, normal incidence microphone and 'A' weighting.

3. The test positions are to be set by the Track Inspector and should be sited;
   (a) to measure karts when they are under maximum acceleration and are operating at a minimum of 75% of their rev range
   (b) to ensure that the maximum noise level emitted by a kart is measured
   (c) to ensure minimum reflection from buildings / structures

4. The microphone is to be located 4 metres (+/- 0.1m) above the centre of the track and to be aimed at the centre line of the track.
5. It is recommended that all sound meters utilise remote microphones. This is to permit the sound meter and the operator to be located away from the microphone at a safer distance from the track where they can be behind a safety barrier without affecting the noise level at the microphone.

24.5 **Supplementary Testing:**
The Stewards or Clerk of Course may direct a competitor to submit his Kart to a noise test at any time during a competition or race meeting. This is to enable the Officials to test selected Karts at the end of a competition, race, heat, time trial or qualifying session should it prove difficult to assess their levels during that activity. If such a test is to be done, the Kart should be impounded and tested before any work can be carried out to the Kart. Competitors must comply with any reasonable request from the Officials.

24.6 **Noise Offences:**
A driver whose Kart which emits noise in excess of the designated noise level at any time shall be penalised. They may also be removed from the circuit and not permitted to resume practice or racing until the Officials are satisfied that work has been carried out to rectify the problem.

24.7 **Penalties:** The recommended penalties for noise offences are:
1. When measuring devices are used;
   (a) Allowed level plus 1dBA; Penalty 1 point or 1 place penalty.
   (b) Allowed level plus 2dBA; Penalty 2 points or 2 places penalty.
   (c) Allowed level plus 3dBA; Penalty 4 Points or 4 places penalty.
   (d) Allowed level plus 4dBA; Penalty 8 points or 8 places penalty.
   (e) Allowed level plus 5dBA; Penalty 16 points or 16 places penalty.
   (f) Allowed level plus **6dBA and over**; Penalty of Exclusion from that race, heat, practice session, qualifying session, time trial or similar.
2. When measuring devices are not used; **Reserved**
3. Supplementary Regulations may provide for additional penalties.

24.8 **Noise Safety:**
1. Officials: Every Official or helper who is located close to the track should be issued with ear protection. This can be either earmuff style or disposable foam plugs style.
2. Competitors: it is compulsory to wear ear plugs at all times when driving a kart.
3. Pit Area: (In / Out grids and Through grids). It is recommended that all personnel in the pit area use ear protection.
4. Paddock Area: (Where the karts normally are between races). The starting of kart engines in the Paddock area is prohibited.
5. Starting of kart engines in the out grid is only permissible under the instruction of the grid/pit marshal.
6. The promoting club in conjunction with the State Track Safety Inspector will designate a safe area for the starting of kart engines.
7. Spectators - As spectators are in most instances able to enter the Paddock and get very close to the Pit areas, the AKA recommends that Clubs should post signs at all Pit / Paddock entrances advising that ear protection is recommended past that point and advising where ear protection is available.
   The AKA recommends that Clubs have supplies of disposable ear plugs available at all meetings.

24.9 **Noise Emission:** To assist in reducing Noise Emissions;
1. For all classes using the Yamaha KT100S Series Engine, it is compulsory that a system is employed to reduce the vibration of the engine's cooling fins. (Refer R 31.30).
2. For all other classes it is recommended that a system is employed to reduce the vibration of the engine's cooling fins.

CHAPTER 25 - AUSTRALIAN KART FORMULA

Karts are to comply to the following in order to pass Scrutineering.

WARNING: The use and handling of Cadmium plated parts and asbestos is considered by the National Health and Medical Research Council to be cancer causing.

25.01 **Chassis:**

(a) **Wheelbase:** Shall be a maximum 1270mm and a minimum of 1000mm. The maximum overall length of the vehicle shall be 1820mm without nose cone fitted. It is forbidden to have any appendage or protrusion which might be hazardous to other vehicles.
Midget and Rookies Class Only: Wheelbase - Minimum 880mm.

(b) **Track:** Shall measure at least two thirds (66.6%) of the measurement of the wheelbase, and shall be measured between tyre centres.
Maximum kart width for a kart shall not exceed 1400mm.

(c) **Height:** Maximum height of kart shall not exceed 710mm from the ground.

(d) **Tyres:** Refer Chapter 23.

(e) **Wheels/Axle:** Front wheels shall revolve on ball or roller type bearings as separately mounted wheels. Rear wheels to be driven by a one piece axle shaft only. The number of wheels and tyres is fixed at two front and two rear. Wheels must be secured to the axle by metal nuts or high tensile type bolts. Axle must not protrude beyond tyre. Where axle keys are not the same length as keyway or there is a risk that key may become dislodged, a hose clamp or other positive method of key retention is required.

(f) **Frame:** Shall be all metal and shall not extend sideways beyond the outside wall of any tyre.

(g) **Bumper Bars:** Must be fitted and must be pinned, welded or bolted at all fixing points. Open ends to be radiused. Drilling of metal components for lightness is not permissible. Tube diameter of bumper bar must not exceed 30mm.

(h) **Bodywork:** The only permissible bodywork or aerodynamic aids are side pods, nassau panels and nose cones and back end protection panels which must conform with regulations in this chapter except for back end protection panels to be authorised for use in 1998 by the national safety officer after consultation with the national technical advisor at minor events for experimental purposes.

25.02 Side Pods: Compulsory for All Classes:

(i) The side pods shall consist of two side members and a top and bottom section, within the lay-out and dimensions of the illustration.

(ii) Side pods must be a separate item to the undertray.

(iii) It is recommended that the side pod securing nuts be fitted on the internal surfaces of the pod. If fitted externally no more than approx 2 threads of the bolt to extend past the nyloc nut.

(iv) Bars on the outside surface of the side pods are not permissible.

(v) No additional materials or panels are to be fitted to the outside or top surface of the side pods, other than decals **or competition timing equipment as directed.**

(vi) Side pod mounting bars must be pinned, welded or bolted at all fixing points. Open ends to be radiused. Drilling of metal components for lightness is not permissible. Tube diameter of side pod mounting bars must not exceed 30mm.

(vii) **Dimensions: Side Pods:** With the front wheels in a straight ahead position side pods must not protrude beyond the plane covering the outside of the front of the front tyre and the outside of the front of the rear tyre (refer illustration) and must have a ground

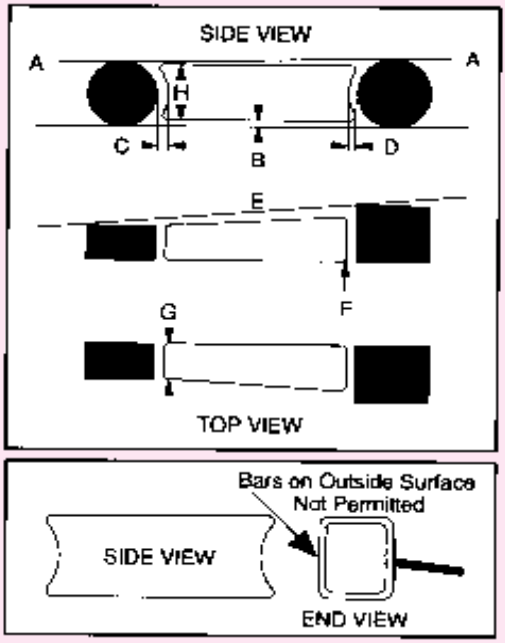
clearance of a minimum of 25mm. A minimum of 75% of the distance between the tyres must be filled by a side pod.

(viii) The outside surface of a side pod as shown in the side view illustration must be smooth across the full plane of the side view. It may have a 30mm by 30mm (maximum) groove along its length.

(ix) Side Pods are to be attached at a minimum of two points.

(x) **Material: Side Pods and Nassau Panel:**
Shatterproof/non-metallic. Fibreglass must be chopped strand matting type. If plastic, it must be non-splinterable.

SIDE POD DRAWING



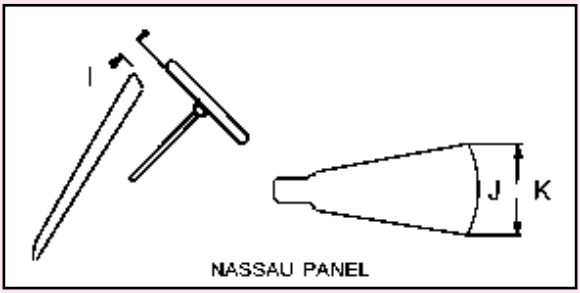
DIAGRAMS ARE FOR DIMENSIONAL REFERENCE ONLY

A-A = Must be within plane through top of front and rear tyres.
B = 25mm minimum, driver on board.
C = 10mm minimum (front wheels on full lock).
D = 20mm minimum.
E-E = Must be within the plane of the front of front tyre and front of rear tyre as per Item (viii). This rule does not apply when wet weather tyres are fitted.
F = Corner radius, 5mm. min, 10mm. max.
G = 50mm minimum.
H = 75mm minimum.

25.03 **Nassau Panel:**

May be used, provided they are no wider than 300mm (bitumen) or no wider than 500mm (dirt) and no higher than top of steering wheel and do not restrict the driver. They must be securely fixed and of shatterproof/non-metallic material. Legibility of race numbers see rule 25.17.

NASSAU PANEL DRAWING
DIAGRAM IS FOR DIMENSIONAL REFERENCE ONLY



I = 50mm min J = 300mm max (bitumen) K = 500mm max (dirt track)

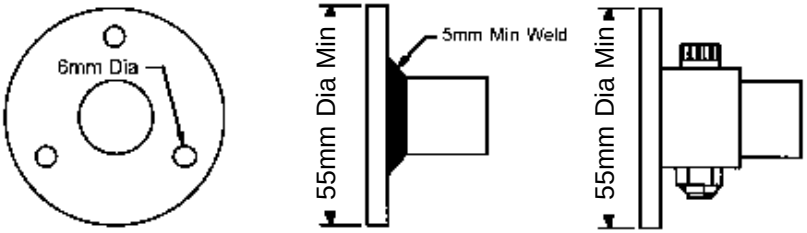
25.04 **Undertray:**

Shall be of non-perforated sheet of a minimum 0.5mm in steel or 1.2mm in aluminum or 2mm in fibreglass and shall have no void large enough to permit any part of the driver's body to pass through. Securing nuts may be fitted above or below the floor pan, no more than approximately 2 threads of the bolt to extend past the nyloc nut. Undertray must not extend beyond the inside of the chassis rails.

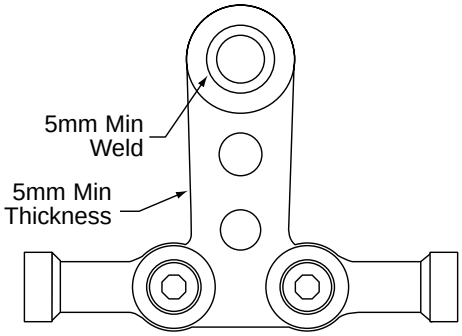
25.05 **Steering:**

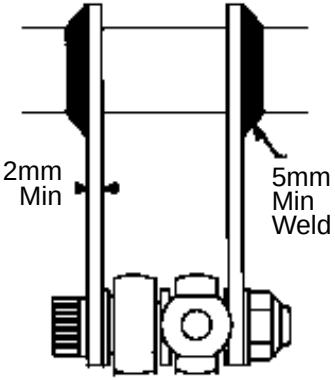
1. Shall be effected by the operation of a full wheel or aircraft type wheel, straight handlebars are forbidden
2. The steering wheel boss is to be manufactured of metal. Plastic components are forbidden. (Refer sketches below).
3. Steering shall be direct acting through a steering shaft of 16mm minimum diameter if solid or minimum 18mm diameter, if tubular, having a minimum wall thickness of 1.5mm and be constructed of steel. The shaft shall be welded or bolted with a mating collar for steering wheel attachment. The steering shaft shall have a collar / retaining device, to be securely fitted within 5 mm of the lower edge of the upper steering shaft bush.
4. All steering linkage assembly bolts must be high tensile and fitted with self-locking nuts (including king pin bolts). All bolts must be minimum 6mm diameter high tensile bolts with a sheer strength of not less than 6kN.
5. The tie rods are to be a minimum 8mm OD steel rod or 10mm OD by 2mm steel tube or minimum 10mm OD aluminum alloy rod or equivalent or 12mm OD by 2.6mm aluminum alloy tube or equivalent. An engaged thread length minimum 8mm is required between tie rod and rose joint. Rose type joints of peg, plastic/nylon and/or pressed metal type are not permitted.

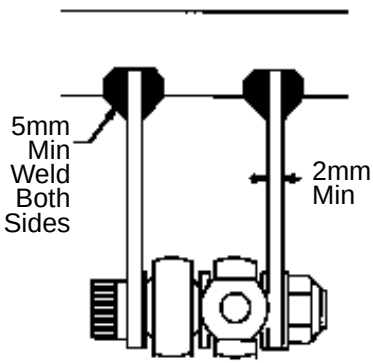

Where's the Track?
Photograph by Gary Cooper Photography



STEERING WHEEL FLANGE THICKNESS
5mm Min Aluminium , 2.5mm Min Steel







25.06 **Front Fairings (Nose Cones):**

All Classes Are Permitted To Use FRONT FAIRINGS

Front fairings are compulsory where detailed in the class specifications.

(a) Nose cone must comply with the **measurements and diagram outline** in every respect.
(b) No strengthening pieces or support permitted.
(c) A quick fixing system must be used for mounting.
(d) Nose cone must be removable without the need of tools.
(e) ***Material :*** Plastic only.
(Must be non-splinterable and non-shatterable).

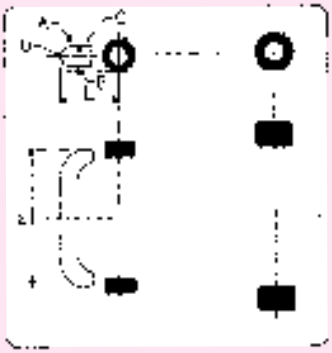


DIAGRAM IS FOR DIMENSIONAL REFERENCE ONLY.

A = 40mm maximum
B = 25mm minimum
C = The nose cone may only be fixed at a maximum of two points to the front bumper.
D = The leading edge continuously across the front of the nose cone must not be less than 80mm from the ground or higher than 135mm from the ground.
L = 600mm maximum
M = 800mm minimum (except Rookies and Midgets)

Method of Measuring the Leading Edge: A rod with graduations marking the upper and lower limits (135mm and 80mm respectively) will be used for measuring the leading edge of the nose cone.

Dimensions: Must never at any time, cut the plane through the top of the front tyres, nor extend beyond the plane through the outside of the front tyres, with the front wheels in the straight ahead position.

25.07 **Brakes:**

The brakes must be effective and work on at least both rear wheels simultaneously.

1 Braking of the rear wheels ONLY except
(a) the following classes: 200 super, 125 gearbox, 125 whisper, Intercontinental C or
(b) if detailed in class technical chapter
2 Rear brakes must be foot operated through the two rear wheels, front wheel brakes may be hand operated.
3 For twin engine karts a dual rear brake system is recommended.
4 Disc brakes only. May be hydraulic or mechanically operated.

5 All brake system and pedal mounting bolts and studs must be of high tensile material.
6 All brake pad mounting bolts must be of high tensile material and fitted with a sleeve. Shoulder type bolts are not permitted.
7 Where brake pads are retained only by bolts, the bolts must be drilled and safety wired with quality tie wire or if split pins are used they are to be in manufactured condition with a minimum diameter of 3mm.
8 Nylon brake hoses must use metal fittings.
9 All brake cables must be multi-strand steel wire of 2.25mm minimum diameter and must be fastened by a machine swagged fitting or by positive methods that cannot cut into the wire. Electrical connectors or similar are not permitted.
10 Brake pedal rods are to be a minimum of 6mm diameter solid steel if the threaded ends are cut into the rod or 5mm solid steel if the threaded ends are rolled on the end of the rod.
11 All fasteners must be safety wired or fitted with self-locking nuts.

25.08 **All hollow pins must be wired or pinned.**

25.09 **Exhaust System:**

1. Must be such as to carry the exhaust gases away from and to the rear of the driver.
2. Exhaust gases must all pass through the exhaust header pipe and the muffler at all times.
3. Mufflers must conform to Rule 24.2 with respect to noise level. (Supplementary Regulations may allow for a lesser noise level.)
4. The open end must point in such a way so that it does not present a hazard to other drivers.
5. Mufflers with protruding stingers must have some form of cover to prevent them being a danger to other drivers, if washers used for this purpose they must be a minimum thickness of 2.6mm.
6. Exhaust systems 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 or rear bumper bar to prevent the exhaust system detaching from the kart.
7. It is permissible to use, externally, heat proof wrapping between the springs and exhaust cradle and the springs and flex.
8. A maximum of one (1) Exhaust Gas Temperature (EGT) probe/fitting is permitted. The maximum diameter of the probe is 6mm.

25.10 **Throttle:**

Must be foot operated only. When released must shut off air fuel mixture passage sufficiently to reduce engine revolutions to an idle speed. Butterfly throttles must be fitted with two return springs, both able to shut off throttle if one should fail. It is recommended slide valve throttles be fitted with a secondary method of closing.

25.11 **Guards:**

(i) **Chain Guards:** A chain guard is compulsory and must be designed to protect the driver in the event of a chain breakage and shall be of sufficient strength to withstand the impact of a flailing chain. All chain guards must be securely fixed at both ends. Sprockets not forming part of the drive train must be removed.

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

(iii) The fitting of skid plates or guards to prevent the brake disc or axle sprocket and chain from contacting the track is prohibited.

25.12 **Seating:**
Shall be designed to minimise the likelihood of the driver sliding Sideways. It is recommended a metal plate 35mm minimum diameter of 1.5mm thickness be placed between seat and stays.

25.13 **Deleted.**

25.14 **Fuel: For All Classes:**
SAFETY:

- All participants in motor sport are reminded that fuel, oils, lubricants, and coolants are highly specialized 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.

(i) The only fuel permitted is petrol having the following characteristics:

Property	**Units**	**Min**	**Max**
RON		92.0	102.0
MON		85.0	
Oxygen	%mol/mol		3.7
Nitrogen	%mol/mol		0.2
Benzene	%v/v		5.0
RVP	hPa	350	700
Lead	g/L		0.013
Density at 15ºC	kg/m3	0.725	0.780
Test methods for the above will be as recommended to the AKA from time by the National Fuel Coordinator.			

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

(ii) Only ambient air may be mixed with the fuel as an oxidant.

(iii) Meaning of petrol:
Petrol within the meaning of these regulations in one of the following:

(a) Petrol of a kind recognized by the AKA as being on general and genuine sale to the public in Australia.

(b) Petrol that has been approved by the AKA. The petrol must consist solely of substances which can be found in at least one of the various petrol's which satisfy 25.14.(iii)(a) above, none of which is present in a greater proportion than in at least one such petrol, and whose proportions of saturates, aromatics olefins and di-olefins do not exceed those detailed overleaf:

Saturates	:60% v/v maximum
Aromatics	:20-60% v/v
Olefins	:0-35% v/v
Total di-olefins	:1% w/w maximum
Note: Test methods for the above will be as recommended to the AKA from time to time by the National Fuel Tester.	

Additionally, the total of individual hydrocarbon components present at concentrations of less than 5%w/w must be at least 50% (w/w) of the fuel.

(iv) Purpose of this article:
The purpose of Article 25.14 is to ensure that the fuel used in Kart Racing is Premium Unleaded pump petrol as this term is generally understood.

The detailed requirements of this Article are intended to achieve this purpose whilst allowing the use of consistent petrols for racing purposes.

Any petrol that appears to have been formulated in order to subvert the purpose of this regulation, will be deemed to be outside it. Fuel suppliers are invited to supply samples of their petrols to the AKA to be checked for conformity before use.

The decision of the AKA as whether a fuel meets AKA approval is final, and no appeal may be entered.

(v) Sampling
All samples will be taken in accordance with a detailed procedure for fuel testers that is issued and updated from time to time by the National Fuel Coordinator.

(vi) Fuel approval
Before any fuel may be used as an approved fuel under rule 25.14(iii)(b), a 120 litre sample must be submitted to the AKA for analysis and approval. The AKA reserves the right to charge all costs associated with the fuel approval procedure back to the applicant.
No fuel may be used under this rule in any event without prior approval.

(vii) If premium unleaded petrol is not available within 40kms of the race track the competitors must be advised in the Supplementary Regulations or information sheet and must use Super grade petrol.

(viii) Controlled Fuel
Promoters of major events may state details and availability of controlled fuel. These details must be on approved Supplementary Regulations and will automatically constitute an approved fuel for that meeting, under R 25.14 (iii)(b).

(ix) Engine Lubricants:
Only commercially available motor oil that does not contain a performance enhancing additive may be used. If requested a competitor must advise the relevant officials which brand/type and ratio of oil he is using.

(x) Additives:
No substance other than oil as described in Rule **25.14 (ix)** may be added to petrol used in competition.

(xi) Fuel Testing:
Digatron DT15 Series Fuel Testing Kit will be used to test fuel. Refer to Rule 22.01 for testing procedure. The AKA may also use any other recognised testing procedure to test the petrol and/or oil used by a competitor.

(xii) Illegal Fuel Penalty:
The non compliance to these fuel Rules is punishable by a Penalty of up to five (5) years suspension. Refer Rule 6.03 Penalties.

25.15 **Fuel Container:**
Shall be securely mounted in front of driver, made of a leakproof material and mounted so that it does not project in a manner likely to cause a hazard or a spillage. All fuel containers to be fitted with a male connector to accept the flexible fuel line. Flame retardant materials are recommended. The fitting of overflow bottle/s is compulsory. (200ml minimum.)

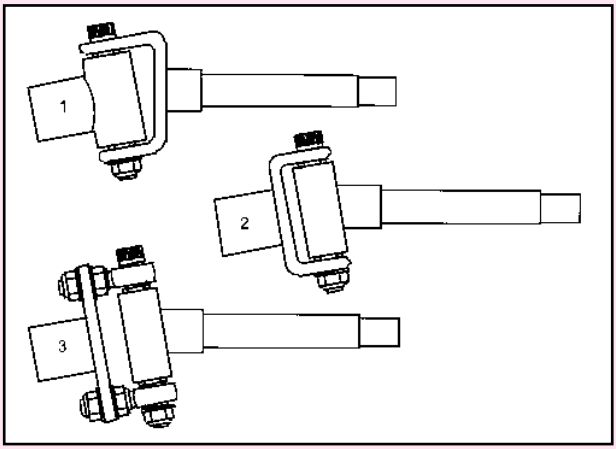
25.16 **Fuel Container Connections:**
All flexible fuel line connections are to be wired or clipped to the satisfaction of the Scrutineer. Fuel taps are optional. Karts fitted with float carburetors must have a catch tank included in the carburetor vent system to catch surplus fuel in the event of the carburetor flooding.

25.17 **Number Plates:**
(i) Shall be a flexible material with a flat surface large enough to carry numbers which must be at least 130mm high and 20mm wide continuous brush stroke. They shall be spaced 20mm apart.
(ii) Number plates shall be coloured as follows
Senior Classes: Yellow number plate with black numbers
Junior Classes: White number plate with black numbers.
Rookie and Midget Classes: White number plate with red numbers.
(iii) The number plate shall be mounted on the front section of the kart and on the rear bumper of the kart so they will not pivot up or down. A third number is required to be mounted on the side of the kart facing the lapscorers. Recommend the height of the number to be 100mm min., 15mm min. width brush stroke. They must be readable from a height of 3 metres and from a distance of 6 metres. All corners must be radiused.
(iv) It is recommended the required weight of the 106 to 200cc Class be shown on the front number plate. Numbers may be used on helmets in addition to these.
(v) **National Sprint Champions:** Refer Rule 20.18 (c).
(vi) **State Sprint Champions:** Refer Rule 20.18 (d).
(vii) **PROVISIONAL Licence Holders** shall have a regulation "P" plate on the front and rear of their karts, clearly visible.

25.18 **Chain Oilers:** Only permitted on Dirt Tracks. (Optional to Promoters).

25.19 **Suspension:**
(i) Any suspension device, either elastic or hinged, is prohibited.
(ii) The only permissible method of stub axle mounting system for Classes other than 200cc Super, is as per diagram illustrated overleaf.

STUB AXLE MOUNTING SYSTEM DIAGRAM



25.20 **Communication and Telemetry:** Radio communication and telemetry aids with the exception of official timing equipment are not permitted to be used by drivers during competition.

25.21 **Engines and Transmission:**

(a) Type of engine shall be 2-cycle only.
Modifications to engines are only permissible where stated under Class Specifications.

(b) **Transmission System:** All systems capable of varying the drive ratio in motion by torque manipulation are forbidden in all classes EXCEPT gearbox classes.

(c) **Front Wheel Drive** systems are forbidden.

25.22 **Liquid Cooled Motors:**

(a) Any water-cooled version of a currently accepted air-cooled engine will require its own registration and /or homologation. (See Chapter 21)

(b) All karts with water-cooled engines if not fitted with a sealed cooling system must be fitted with a catch tank of a minimum 100ml capacity to retain radiator overflow.

(c) Glycol base coolants are prohibited and will be tested as per AKA approved procedure.

(d) Radiator (s) are not permitted to be located further forward than the steering wheel.

25.23 **Weights:**

1 Class Weights are (as raced, prior to and) at the time of weight measuring, and are detailed in technical pages of the classes.

2 Maximum Kart weights for all Junior and Senior Heavyweight Classes to be 83kgs except where:
   a) noted in class technical detail
   b) when a lighter weight division of a class is not being run at a race meeting

3 All weights to be securely fastened to the Kart with a minimum 8mm high tensile bolt and lock nut. Large widths may require additional high tensile bolts.

4 Weights must be attached to the frame or the seat only.

5 No ballast weight to be attached to steering components and rotating parts.
6 Lead shot, as a weight, is banned
7 Competitors must use the scales supplied by the Promoters to assess the racing weight of their equipment.
8 All karts and drivers, fully equipped, must be weighed at the time of Scrutineering.

25.24 **Exotic Compounds**
Carbon Fibre compounds may only be used in seats, nassau panels or floor trays.

25.25 **Non-Tech Items** are gaskets, seals, big end roller/cage, little end spacers, rings, washers, cages, fasteners, fulcrum spring (carburetor meter levering spring), spark plug and spark plug lead and cap, gudgeon pins, main bearings, engine sprocket and key (Yamaha).
Unless specified, non-tech items are to be of the same type and style as the original.
NOTE. No alteration from the original manufacturer's specifications is permitted to fit a non tech item
(a) Head gasket/s must be retained.
(b) Cylinder base gaskets are dimensionally free.
(c) Carburetor base and phenolic spacer gaskets are dimensionally free.
(d) Only crankcase half gasket may be formed from liquid gasket compounds.
(e) Cylinder base adjusting shims/spacers may be of any material and must be of uniform thickness.

25.26 **Exhaust Mufflers:**

1 **General / All Classes**
(a) All karts must use exhaust mufflers and comply with noise regulations as per Rule 24.2.
(b) The use of flexible pipe securely fastened between the header pipe and the muffler is recommended.
(c) No device capable of being moved whilst racing is permissible in or on the exhaust system.

2 **100cc National - Senior and Junior, Rookies, Midgets**
(a) The only permissible exhaust muffler for classes using the KT100J Engine is the control pipe AKA 14 manufactured by Powermac. The AKA 14 exhaust pipe carries precise dimension specifications that allow confidence in equality of performance for all competitors using the KT100J series engine.
(b) (See diagram over)

(b) AKA 14 DIAGRAM

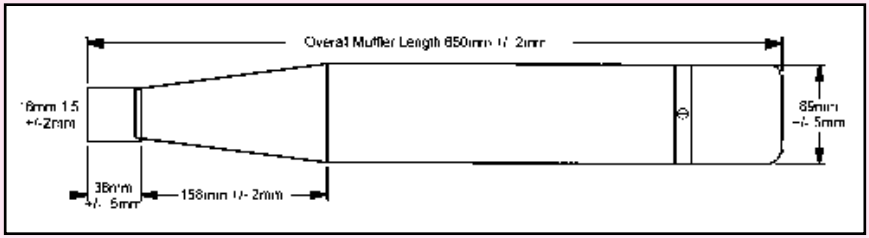


DIAGRAM IS FOR DIMENSIONAL REFERENCE ONLY.

A	=	650mm	nominal total length
B	=	570mm	nominal end cap baffle
C	=	512mm	internal tail pipe location
D	=	422mm	main deflector plate
E	=	51mm	exhaust outlet hole position
F	=	38mm	nominal internal tail pipe length
G	=	19.4mm	maximum diameter outlet hole
H	=	4.5mm	maximum diameter hole in internal baffle plate.

(c) Dimensions A – E inclusive are all measured with the pipe assembled / AKA measuring rod.
(d) All other dimensions not specified carry stringent technical specifications, any attempt to alter these dimensions will deem the unit illegal.
(e) Any accidental damage to the unit will not incur a technical breach of these rules.
(f) It is permissible to weld a fixing lug to the external surface of the AKA 14 body.
(g) With the exception of repair to fixing points, any attempt to repair damage by cutting, welding or fabrication will automatically remove eligibility of the exhaust unit.

3 **100cc Clubman (Senior and Junior), 200cc Clubman, Formula Australia.**

(a) The only permissible exhaust mufflers for KT100S and SPEC100 motors are those commercially available and which conform to the dimensions listed below. (Note all dimensions are measured externally)

EXHAUST DIAGRAM

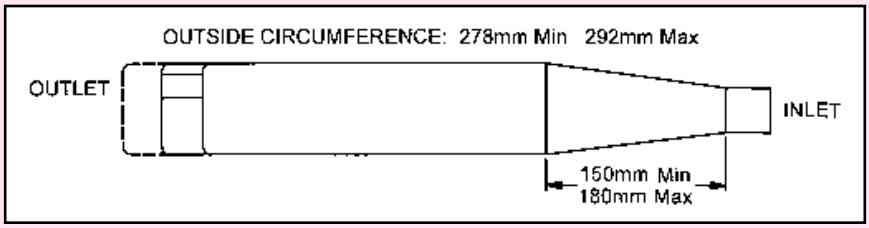


DIAGRAM IS FOR DIMENSIONAL REFERENCE ONLY.
All dimensions are measured externally

(b) It is mandatory to use an AKA registered silencer in conjunction with an exhaust muffler in Clubman and Formula Australia Classes.

4 **Piston Port**

(a) Piston Port Engines are permitted to use the exhaust muffler homologated for use with that engine by the CIK or the homologated muffler for a later model Piston Port engine from that engine manufacturer.

(b) Any attempt to alter the homologated muffler will automatically remove the eligibility of the unit.

(c) Any accidental damage to the unit will not incur a technical breach of these rules

5 **Other Classes**

(a) For reed and rotary valve engines any CIK homologated muffler is permitted

(b) For all other classes, if not specified within class regulations they must conform to Rule 25.09 and Rule 25.26.1.

25.27 **AKA Registered Silencer**

(a) From 1 July 2000 it is mandatory to use an AKA registered silencer in conjunction with an exhaust muffler in Clubman and Formula Australia Classes.

(b) For classes other than those using the AKA 14 exhaust muffler, if unable to meet the permitted noise level requirements as per Rule 24.2, competitors may use an AKA registered silencer in addition to their exhaust muffler.

(c) AKA registered silencers are identified by their identification number eg: AKA 16, AKA17, AKA18 stamped into the unit.

(d) Components List

	Part	Description	Design
1	End cap / adaptor	Replaces exhausts pipe end plate or cap and stinger, made to fit specific exhaust muffler	Free
2	Return pipe	Parallel tube welded to cap or body	Registered
3	Silencer body	Cylindrical with fixing point / unit	Registered
4	Silencer fill or packing	Replaceable sound absorbing material	Free

25.28 **Noise Induction Silencer - All Classes:**

General

a) An inlet Silencer Approved and registered by AKA, CIK is compulsory

b) All inducted air must pass through the baffle tube/s into the Induction Silencer and to the carburettor via a sealed connection

c) An air filter or filter screen may be fitted externally to reduce entry of foreign matter. The use of an internal filter is permitted at both speedway and dirt track events.

d) Air tubes may be partly or completely blocked at the entrance hole only, and the restriction component must be easily removed for inspection

e) No adjustable systems are allowable

Part 1 - Specific

a) For Midgets, Rookies, National, Atlas, Clubman, PRD and ReSa, classes the only acceptable silencers are units where induction shall be via two (2) only inlet tubes conforming to the dimensions provided and fitted to the airbox at 90 degrees to the centreline (refer diagram). Inlet tubes 2 only 23mm maximum diameter at the opening and 95mm min length.

Part 2 – Other

a) All other classes may use CIK and AKA registered units.

NOISE INDUCTION SILENCER DIAGRAM

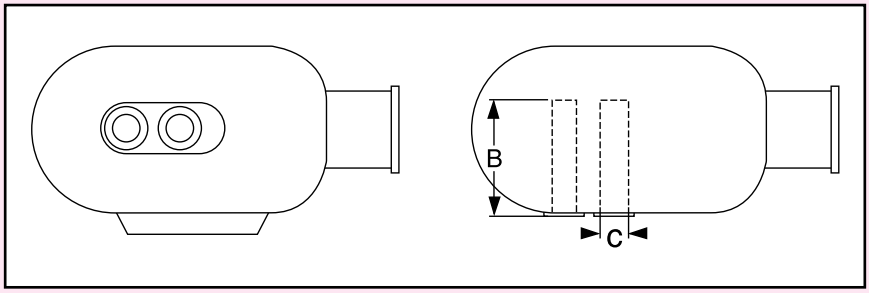


DIAGRAM IS FOR DIMENSIONAL REFERENCE ONLY

A. Body - registered CIK or AKA only
B. Baffle Tube length 95mm min.
C. Baffle Tubes I.D. 23mm max (at the opening).

Note: A No-Go Gauge to measure Items (c) and (b) on the Noise Induction Silencer is available from the State Technical Adviser.

25.29 **Noise Induction Silencer Adaptor:**

1. Induction silencer adaptor must conform to the specifications of the diagram.
2. The classes 200cc Super; Formula 100; and Piston Port. are exempt from rule 25.29.

NOISE INDUCTION SILENCER ADAPTOR DIAGRAM

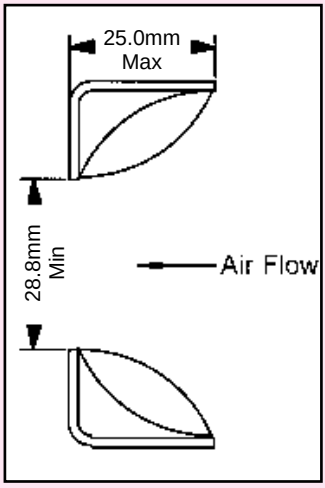


DIAGRAM IS FOR DIMENSIONAL REFERENCE ONLY