IAME SERIES UAE TECHNICAL REGULATIONS
2024/2025 VER 1.0

TECHNICAL REGULATIONS PART 1 OF 2 (GENERAL) (ARTICLE 1-5)

The Appendix 1 of the Series Regulations applies for the IAME Series UAE. The English text is the authentic version. The Organizer of the series (RAK TRACK) reserves the right to issue additional statements concerning the Technical Regulations from time to time following the agreement of the ASN. All such statements will be issued to all registered competitors by way of Competitors' Bulletins posted on the official notice board and/or on the official website.

1. CLASSIFICATION AND DEFINITION

1.1 Classification: Article 26.1 of Appendix 1

1.2 Definitions: Article 26.2 of Appendix 1

2. GENERAL PRESCRIPTION

2.1 General: Article 26.3 of Appendix 1

3. KART AND DRIVER SAFETY EQUIPMENT

3.1 Kart Safety: Article 26.2.2 of Appendix 1

3.2 Driver Safety Equipment: Article 26.6 of Appendix 1

4. GENERAL PRESCRIPTION FOR GROUPS 1 & 2 KARTS

4.1 Chassis: Article 26.7 and 26.8 of Appendix 1

5. ORGANIZER'S SUPPLEMENTARY PROVISIONS

5.1 Scrutineering
A mandatory check will be carried out before the start of Practice at every Round. It must be possible to identify the homologated equipment using the technical descriptions (drawings, dimensions, etc.) on the homologation form. For any used equipment, which has been homologated, each competitor shall be able to submit the relative homologation forms to identify the homologated equipment. For identification and control it must be possible to identify the homologated equipment.

5.1.1 Each Driver will be entitled to submit to Scrutineering the following equipment:

5.1.1.1 One (1) chassis with a valid 2010 or newer FIA Karting / CIK-Homologation.
5.1.1.2 Two (2) engines of the same type per driver and category for the event.

5.2 Chassis Homologation
Chassis must have a valid 2010 or newer FIA Karting / CIK-Homologation. Front brakes are not allowed.

5.2.1 The use of the front fairing retaining system CIK / FIA Karting 2015-2020, as per TD No. 2.2/2.2.1 and 3.2/3.2.1, is mandatory. The technical committee reserves the right to refuse front fairings, front fairing retaining systems or other components that do not meet the required standards. The front fairing must be CIK / FIA Karting homologated and must remain in the correct position at any time of a competition (qualifying or races), as described in the TD N. 2.2/2.2.1 and 3.2/3.2.1.

The use of CIK/FIA homologated front fairings is mandatory in all classes.

5.2.2 Chassis for X30 Mini class
Traditional chassis with a valid "MINI KART" homologation approved by ASNs members of the FIA Karting and in compliance with CIK prescriptions requirements (Appendix 1 – 26.8)

5.2.2.1 Definition of the chassis
Chassis must be in compliance with the following:

- Traditional chassis with a valid "MINI KART" homologation approved by ASNs members of the CIK-FIA and in compliance with FIA Karting prescriptions.
- Rear shaft max. diameter: 30mm
- Wheelbase 900/950mm (+/-5mm)
- Rear track width max. 115cm
- Ceramic ball bearings are forbidden
- Mechanical or hydraulic brakes
- Front brakes forbidden
- Steel or cast iron brake discs (Aluminium/Ceramic/Carbon are forbidden)
- Aluminium or magnesium wheels allowed
- Rear wheel protection must be CIK homologated
- Full chain guard is mandatory
- Chassis protection are allowed as long as they are made of strong material and do not provide any advantage

5.3 Amount of Equipment (Chassis)
Drivers will be allowed one (1) chassis only. However, if damage occurs to a chassis previously scrutinized for the Event, and if in the opinion of the Scrutineer it is not practical to repair in time, one alternative chassis of the same make and model as the damaged chassis may be scrutinized, in order to continue the Event.

5.4 Amount of Equipment (Engines)
Only 2 (two) engine are allowed for each driver and category for Scrutineering and use per event.

5.5 Fuel and Oil

5.5.1 Fuel will be non "Parc Ferme" status.

5.5.2 It will be each competitor's responsibility to purchase their own petrol from UAE petrol stations for free practice until the end of the race weekend. No racing fuels or additives are allowed.

5.5.3 The octane ratio will be stated in the Sporting/Supplementary Regulations of the event. It is mandatory to employ only the indicated fuel in all Official sessions.

5.5.4 The requirements specified in these regulations are intended to ensure the use of fuels predominantly composed of compounds normally found in commercial fuel, and to forbid the use of specific power-boosting chemical compounds.

5.5.5 At any time the volume of fuel in the tank must be over or equal to 1.5 litres.

5.5.6 The petrol must be unleaded, maximum 98 octane.

5.5.7 The oil mixture ratio for X30 Junior and above shall be 4% and for Mini 3%.

5.5.8 It is forbidden to add any liquid and/or power-boosting chemicals in the petrol.

5.5.9 The Scrutineer/Organizer, following a decision of the Stewards, have the right to change/replace any Entrant or Driver's petrol at his/her discretion and at any time.

5.5.9.1 Case 1 - Should this be the case, the Entrant / Drivers will be asked to enter servicing park without petrol in his/her petrol tank, here the fuel will be added, at no cost for the driver.

5.5.9.2 Case 2 - Petrol will be changed without warning, at no cost for the driver. Changed/Replaced petrol will be the petrol as stated in the supplementary regulations of the event. It is recommended that evaluation of fuels at the racetrack be conducted using one or all of the following tests

5.5.9.2.1 Digatron DT-64 Fuel Test
5.5.9.2.2 Specific Gravity Test
5.5.9.2.3 Water Solubility Test

5.5.10 The fuel test instrument will be Digatron DT-64.
The reference sample fuel test will be performed by the Scrutineer prior to Qualifying. This will be considered the reading of the day. Mixed reference sample fuel will be kept by the Scrutineer.
The difference in reading between the reference sample that is applicable for each class and competitor fuel reading may not be more or less than 5. This value may be changed by the Scrutineer of the event before Qualifying. Fuel testing can be done at any time during the event.
Any infraction found during a random control or before/after a race leads to the exclusion of the driver from the particular qualifying, heat or race.

5.5.11 Top four drivers after Qualifying, Heat and Pre-Final will be using controlled fuel in the respective next race (Heat, Pre-Final and Final).
It is drivers' responsibility to collect their fuel from the Scrutineering Bay. Drivers who fail to report to scrutineering bay to collect their fuel will not be allowed to take the start of the race.

5.6 Lubricant
The official oil for the IAME Series UAE is the FIA Karting approved Wladoil K-2T.

5.7 Tyres

5.7.1 Dry Tyres – X30 Junior Category
Komet Racing Tyres Model K3H
Size: Front: 10 x 4.60-5 / Rear: 11 x 7.10-5

5.7.2 Dry Tyres – Senior, Senior 170 & KZ Category
Komet Racing Tyres Model K3M
Size: Front: 10 x 4.60-5 / Rear: 11 x 7.10-5

5.7.2 Dry Tyres – X30 Rookie and X30 Mini Category
Komet Racing Tyres Model K1D-M
Size: Front: 10 x 4.00-5 / Rear: 11 x 5.00-5

5.7.3 Tyres Availability
Tyres needed for free practice are available through RAK TRACK.

5.7.4 Tyres Checking Tool
The measuring device MiniRAE Lite of the company «RAE Systems Inc.» will be used in Qualifying Practice, Heats and final phase to check that the tyres are in conformity with the regulations.
The VOC measurement of the tyres may not exceed 4 ppm (maximum limiting value) under any circumstances.

Note: Pollution of the tyres, e.g. by chain spray, must be avoided since this can result in the limiting value being exceeded. Should the check establish that one or more tyres are not in conformity with the regulations, the relevant Driver will not be allowed access to the "Pre-Grid" and will consequently not participate in the corresponding part of the Competition (Qualifying Practice, Heat or final phase).
Protests against this procedure are not admitted. Protests and Appeals in this regard do not have a suspensive effect.

5.8 Racing Numbers

Racing numbers must comply with the provisions of Article 26.3.7 of Appendix 1.
Racing numbers must be black, in an Arial font on a yellow back- ground.
For short circuits, they must be at least 15 cm high and have a 2 cm thick stroke.
Racing numbers must be bordered by a yellow background of at least 1 cm.
They must be fitted before scrutineering, on the front panel, rear wheel protection or rear number plate, and on both sides towards the rear of the bodywork.
The driver is responsible for ensuring that the required numbers are clearly visible to Timekeepers and Officials.
The number plates must be made of flexible opaque plastic and be visible at all times. They must be fixed without possibility of removal.

5.9 Driver Name and Nationality (Optional)

Display of Driver Name is optional. Should the driver wish to display his name and nationality on the kart, the Driver's name and the flag of his nationality (The flag displayed must be as per the nationality of the License) shall be in the fore part of the lateral bodywork. The minimum height of the flag and the letters of the name shall be 3 cm.

5.10 Novice Drivers

The novice plate must be a 22cm square yellow sticker or yellow plastic plate (plastic plate must have rounded off corners as per CIK regulations) with a black "X" running from corner to corner (2-3cm stroke width). It must be displayed on the rear bumper alongside the regular race number plate.

TECHNICAL REGULATIONS PART 2 OF 2 (ENGINES) (ARTICLE 6-10)

6. ENGINES

The Appendix 1 of the Series Regulations applies for the IAME Series UAE. for the IAME Series UAE. The English text is the authentic version. RAK TRACK reserves the right to issue additional statements concerning the Technical Regulations (previously approved by the ASN proposing the series and the FIA Karting) from time to time following the agreement of the ASN presenting the series, all such statements will be issued to all registered competitors by way of Competitors' Bulletins posted on the official notice board and/or on the official website.

6.1 Technical Regulations

All Technical Regulations available on: www.iame.ae

7. IAME X30 125cc RL TaG – SENIOR AND SENIOR 170 CATEGORIES

Any modification on the engine and its accessories, if not expressly authorized, is forbidden. IAME considers as modifications any action changing the initial aspect and dimensions of an original part. Any modification and/or installation having as a consequence to alter a dimension and/or its control possibility is strictly forbidden. The Entrant is liable for the conformity of their equipment.

7.1 The following original homologation forms of the engine are the integral parts of the technical regulations:

7.1.1 «254Y» IAME X30 125cc X30 LIMIT. 16000

7.1.2 «348B» Carburettor Tillotson HW27-A

7.2 Only the IAME X30 125cc-RL-TaG, original and strictly in compliance with the manufacturer's technical form (technical features, sizes, weights, diagrams with the tolerances prescribed by the manufacturer) is admitted. The pictures on the original homologation forms are as well valid to identify the engine and the parts.

7.3 The engines must be provided with their original serial number. No modification, improvement, polishing, addition or removal of material of any engine part is allowed. Each engine internal or external part has to be installed in its original position and functioning according to the original design specs.

7.4 IMPORTANT: The tolerances reported on the homologation forms are necessary to comprise all the machining, assembling and settling tolerances. Nevertheless, the Entrant is absolutely not allowed to make any intervention on the engine, even if the characteristic dimensions after his intervention will still be within the prescribed tolerances.

7.4.1 Any tuning is forbidden: the maximum and minimum allowed values and the volume of the combustion chamber have to be measured according to the Appendix 1 of series regulations.

7.5 Diagrams and Volume Chart: IAME X30

Refer to Homologation form « 254Y»

7.6 Cylinder Head

7.6.1 The cylinder head has to be strictly original. Only the thread repairing by means of an M14 x1,25 helicoil of the same length as the original thread is allowed. The sparkplug body tightened on the cylinder head must not protrude from the upper part of the combustion chamber dome.

7.6.2 The squish (distance between piston and the cylinder head) with the engine technical form prescriptions at all points. The thickness of the tin wire (50% tin minimum.) used for the squish measurement must have a 1,5mm diameter. Measurements must be taken with the engine in racing conditions at any time during the event. The original IAME gauge n. ATT-025/1 is the reference to measure the cylinder head profile. The gauge shape must match with the dome profile, the squish area and the gasket plane.
The CIK insert body tightened on the cylinder head, must not protrude from the upper part of the combustion chamber dome.

7.7 Cylinder

Only the original cylinder can be employed. Polishing, sandblasting, trimming or adjustments are not allowed. Only re-boring is allowed. In case of doubt, the shape and the height of the transfers have to be compared to the cylinder of the sample engine. No heat treatment or surface treatment is allowed. The diagram adjustment is allowed only by means of the cylinder gasket replacement. Only original gaskets are allowed. No head gasket is admitted.

The original IAME gauge n. ATT-025/2 is the reference to measure the cylinder transfers profile.
The original IAME gauge n. ATT-035/1 is the reference to carry a visual check of the ports.

Starting from the serial n. M3521/B3059 the X30 engines are equipped with a marked cylinder, as shown on the homologation form:

7.7.1 Engines with serial number previous to M3521/B3059 can be equipped with the marked cylinder.
7.7.2 Engines with serial number subsequent to M3521/B3059 cannot be equipped with the non-marked older cylinder.

7.8 Crankcase, Crankshaft, Con-Rod, Crankpin

Strictly original and without any modification.

The original IAME gauge ATT-035/3 is the reference to check the reed block housing plane
The original IAME gauge ATT-035/4 is the reference to check the distance between the indexing pins of the cylinder
The original IAME gauge ATT-035/5 is the reference to check the height of the cylinder base plane

Only original big end cage (X30125431), small end cage (E-10440/E-10441) and original washers (X30125436/X30125437) allowed.

Oil seals must be installed in the correct position, concave side facing inside the crankcase.

7.9 Bearings

Only crankshaft bearings 6206 C4, Roller Bearing BC1-3342B and balance shaft 6202 C3/C4/C4H and 6005 C3/C4 steel ball and polyamide cage are allowed.

Oblique contact prohibited. Ceramic balls prohibited.

The bearings must be mounted with balls visible from the inside of the crankcase.
All bearings not reporting the correct and clearly visible classification number, as described in the present regulations, are expressively forbidden.

The use of spacer shims behind the bearings is allowed to obtain the correct axial clearance.

All internal parts of the engine must be of manufacturer origin, the same number as the assembly of the factory and mounted in the same direction.

7.10 Piston, Ring and Pin

Strictly original without any modification and in compliance with the engine technical form.
The IAME original gauge ATT-035/2 is the reference to check the piston head shape.

7.11 Reed Block

Strictly original without any modification. No gasket planes machining is allowed. Free screws. Original reed valve cover without any modification is allowed. Reed block/crankcase gasket thickness is 1mm (admitted tolerance +/- 0.3mm). Conveyor/reed block gasket thickness is 0.8mm (admitted tolerance +/- 0.3mm).

7.12 Reed Petals

Only fiberglass (min. thickness 0.30mm) or carbon fibre (min. thickness 0.24mm) original IAME marked reed petals are allowed. Mixing of carbon fibre and fibreglass petals is forbidden.

7.13 Carburettor

7.13.1 Only the Tillotson HW-27A, IAME laser marked carburettor, supplied together with the engine in its original configuration (same brand, same model, same reference) is admitted. Only the accessories supplied together with the original carburettor and represented on the carburettor technical form are allowed; needle valve spring is free.
Carburettor positioning (i.e. with pump in upper or in lower position) is free.
Carburettor gasket thickness is 1 mm (admitted tolerance +/- 0.3mm).
Any injection and/or spraying system is forbidden.
The original IAME gauge n. ATT-035/2 is the reference to check the carburettor inlet duct. The gauge shape must match with the inlet profile.

7.13.2 The inlet silencer (p.n. X30125740) must be identical to the original one supplied together with the engine (same brand, same model, same reference) with max. 22mm diameter intake tubes. Protective grids are optional.
The rubber manifold with air filter connecting the inlet silencer to the carburettor is mandatory and must be installed and in compliance with the homologation form.

In case of doubt the carburettor must be compared to the sample carburettor.

7.13.3 Any injection and/or spraying system is forbidden.

7.14 Clutch

The centrifugal clutch must engage at max. 4.000 RPM moving the kart with driver on board and in racing conditions. The clutch must be completely triggered at max. 6.000 RPM in any condition, this measurement can eventually be checked with proper instruments.
Each driver will be responsible for the wear status of the clutch padding material and friction parts cleaning, since the proper clutch operation might be checked at any moment of the event, and even after each phase. The original IAME gauge ATT-047/4 is the reference to check the clutch drum. The tool must not enter into the clutch drum in perpendicular position respect to the clutch drum axis.

7.15 Ignition

7.15.1 Only original ignitions, either Digital Selettra “K” or Selettra “S” systems are allowed, without any modification. Scrutineers, following a decision of the Stewards, have the right to ask for the replacement of the whole ignition system or any part thereof at any moment before starting the race. The organizer will not be liable for any eventual breakdown occurred after the replacement.

7.15.2 Only the electronic CDI box type "C" (16000 RPM) is allowed and must be fixed on the chassis or on the engine or on the engine (plant Digital S) The markings on the electronic box are compulsory and must be clearly visible without disassembling the electronic box. Covering with adhesive or masking tape is forbidden.
Modifications on the stator fixing, the shape and thickness of the rotor key and the rotor and crankshaft keyways are forbidden.

The IAME original gauge ATT-035/7 is the reference to check the correct position of the phase reference marking on the rotor.

The battery must be fixed to the chassis and always connected to the ignition system.

7.16 Sparkplug

7.16.1 Only the following NGK sparkplugs, strictly original and without any modification, are allowed: BR9EG - BR10EG
7.16.2 The sparkplug must be installed with its original gasket.
7.16.3 The insulator must not exceed sparkplug body and the length of the sparkplug body itself must be max. 18,5 mm.
7.16.4 Original spark plug cap, as delivered with the engine (IAME p.n. 10544 – PVL or Selettra)

7.17 Exhaust

7.17.1 Only new type of the exhaust plants are allowed – Homologation Form 254X

7.17.2 Only the original muffler and exhaust manifold as supplied with the engine are allowed and must be kept strictly original and in compliance with the homologation form, therefore no modification in structure or in dimensions is allowed. Drilling and welding operations on the muffler are allowed only to install a temperature probe. One original gasket only between cylinder and exhaust manifold is allowed, the use of the original exhaust spacer is allowed but not mandatory.

7.17.3 The complete sealing of exhaust gas between the cylinder and the exhaust header/fitting must be guaranteed at all times. The control of the sealing of the exhaust gas can be performed at any time through occlusion of the outlet hole of the exhaust header/fitting, filling of the exhaust header/fitting with liquid through the exhaust port and check for leaks. The proper sealing of the exhaust system is the Driver's responsibility.
In any case the exhaust system must be in compliance with the phonometric measurement.

7.18 Cooling

The cooling system must be in its original configuration: only one IAME original radiator (p.n. T-8000B or T-8001), only one IAME original simple water pump (aluminium or plastic black/blue), only one IAME original water pump pulley aluminium or plastic black/blue) are allowed and in compliance with the homologation form.
The number of radiator support brackets is not limited.
Only simple or by pass original IAME thermostats are allowed and their use is optional.
The two-way thermostat case can be installed without the thermostat capsule inside, and work as a fitting.
Only water with no other additive is allowed for cooling.
Radiators shields, either adhesive or mechanic are allowed but should not be removable when the kart is in motion.
Original water hoses as delivered with the engine (black or blue).
Water pump driving belt type is free. Belt must operate on the water pump pulley.

7.18.1 The combination of plastic or aluminium water pumps with plastic or aluminium water pump pulleys is allowed.

7.19 Starting
The engine is provided with an on board electric starter. The original on board starting system has to be installed with all its components and properly connected.

7.20 Sprockets

Only IAME original Z10 – Z11 – Z12 sprockets are admitted.

7.21 Inspections

7.21.1 The engine technical inspection is performed by Scrutineers. The Scrutineers have the right to inspect any part to the point that it can no longer be used. In the case that the inspected item is found to be conforming it will be replaced to the driver at no cost. Any part found to be non-conforming, will not be refunded.

7.21.2 At any moment, the Scrutineers, following a decision of the Stewards, have the right to replace any part, any accessory or even the entire engine.

7.21.3 The technical forms are the main comparison reference for Scrutineers. In case of doubts on the engine parts conformity, the comparison with the sample engine will be the definitive probating element.

8. IAME S125 RL TaG – SENIOR AND SENIOR 170 CATEGORIES

Any modification to the engine and its accessories is strictly prohibited, unless expressly authorised. IAME considers as modifications any action modifying the initial appearance and dimensions of an original part. Any modification and/or installation resulting in the modification of a dimension and/or its possibility of control is strictly prohibited. Polishing, sanding, trimming or machining are prohibited. Any heat treatment or additional surface treatment is prohibited. The competitor is responsible for the conformity of his own equipment.

8.1 The following original homologation forms of the engine:

8.1.1 «409A» IAME S125 RL-N TaG

8.1.2 «410» Carburettor Tillotson HW-50A

are the integral part of the technical regulations.

8.2 Only the IAME S125, original and strictly in accordance with the manufacturer's technical from (Technical characteristics, dimensions, weights, diagrams with the tolerances prescribed by the manufacturer) is allowed. The pictures on the original engine tech form are also valid to identify the engine and the parts.

8.3 The engines must be provided with their original serial number. No modification, improvement, polishing, addition or removal of material of any engine part is allowed. Each internal or external part of the engine must be mounted in its original position and function, according to the original design specifications.

8.4 The machining, assembly and adjustment tolerances indicated on the engine tech form refer exclusively to the manufacturing tolerances.

8.5 The competitor is absolutely not authorised to intervene on the engine, even if, after his intervention, the characteristic dimensions remain within the prescribed tolerances.

8.6 Any tuning is prohibited. The maximum and minimum values allowed and the volume of the combustion chamber must be measured in accordance with the technical regulations of the CIK/FIA Karting.

8.7 Diagrams and volume chart: see the engine tech form

8.8 All the gauges described in the engine homologation form are considered as valid means and certified by the Manufacturer to check the conformity of the part for which they were designed.

8.9 <u>Cylinder Head</u>

8.9.1 The cylinder head has to be strictly original. Only the thread repair by means of a Helicoil M14 x1,25 of the same length as the original thread is authorised. The spark plug clamped to the cylinder head should not protrude into the top of the combustion chamber dome.

8.9.2 The squish (minimum distance between the piston and the cylinder head) must comply, in all respects, with the engine tech form. The Squish measurement shall be carried out with a Ø 1.5mm tin/lead wire.
The original IAME template ATT-077-1 is the reference for checking the conformity of the cylinder head profile. The shape of the gauge should match the profile of the dome, the squish area and the joint plane.
The CIK insert tightened on the cylinder head must not protrude into the upper part of the combustion chamber dome.

8.10 Cylinder

8.10.1 Strictly original with the original safety pin and IAME markings. Polishing, sanding, deburring or adjustments are prohibited. Only reboring is allowed. In case of doubt, the shape and the height of the ports will be compared to the cylinder of the sample engine. No heat treatment or additional surface treatment is allowed. Adjustment of the diagram is permitted only by means of cylinder base gasket replacement. The number and thickness of cylinder base gaskets is not limited. Only original gaskets are allowed.

8.10.2 Cylinder head gaskets are permitted. The number and thickness are not limited. Only original gaskets are allowed.

8.10.3 The original IAME gauge n. ATT-077-3 is the reference for measuring of the main and secondary transfer ports.
The original IAME gauge n. ATT-077-4 is the reference for measuring the exhaust main and secondary ports.
The original ATT-077-5 is the reference for checking shape and dimension of all the ports in the liner.

8.10.4 The cylinder block height is considered from the base plane of the cylinder to the top plane of the liner.

8.10.5 Cylinder thermal layers are allowed as long as they are not removable while the vehicle is in motion.

8.11 Crankcase, Crankshaft, Connecting Rod, Crank Pin
Strictly original and without any modification.

8.11.1 The original IAME ATT-077-7 template is the reference for checking the gasket plane of the reed valve block.
The original IAME ATT-077-8 template is the reference for checking the interaxle between the cylinder locating pins.
The original IAME ATT-077-9 template is the reference for checking the height of the cylinder base plane on the crankcase.

8.11.2 Only original connecting rod big end cage (TZC-50200), connecting rod small end cage (IFC-50350), crankpin (TZC-40200) and washers (TZC-70101) are authorised.

8.11.3 Crankcase/crankshaft oil seals must be installed correctly with the hollow side inboard of the crankcase and not filled with any material. Under no circumstances can they be modified.

8.12 Bearings
Only crankshaft roller bearings SKF BC1 1442 D (35398A) are authorised. Only balance shaft bearings 6202 C4 and 6202 TN9/C4H, 6203 TN1 C4 with steel balls and polyamide cage, are authorised.

8.12.1 Bearings with oblique contact prohibited.

8.12.2 Ceramic balls and rollers prohibited.

8.12.3 All bearings that do not have the correct and clearly visible reference number, as described in these regulations, are expressly prohibited.

8.12.4 The use of shims behind the bearings is allowed, in order to obtain the correct axial play.

8.12.5 All the internal parts of the engine must be manufacturer's original, the same number as the assembly of the factory, mounted in the same way and direction.

8.13 Piston, Piston Ring, Piston Pin

Strictly original without any modifications and in compliance with the technical form of the engine.
The original IAME ATT-077-6 template is the reference for checking the shape of the piston dome.

8.14 Reed Valve

Strictly original without any modification.

8.14.1 No machining of gasket planes is authorised.

8.14.2 Original reed valve cover without modification.

8.14.3 Carburettor seat strictly original with no modifications.

8.14.4 The thickness of the conveyor/housing gasket is 0.8 mm (allowed tolerance +/- 0.3 mm).

8.15 Reed Petals

Carbon fibre petals (minimum thickness 0.24mm), marked and IAME original are authorised.
Modification to the original shape is not allowed.

8.16 Carburettor

Only the Tillotson HW-50A carburettor supplied with the engine in its original configuration (same brand, same model, same reference) is permitted. Only the accessories supplied with the original carburettor and shown on the carburettor data sheet are authorised.

8.16.1 The spring and the fork are free.

8.16.2 The mounting of the carburettor is free. (Pump up or down).

8.16.3 The thickness of the carburettor gasket is 1 mm (Allowed tolerance +/- 0.3mm).

8.16.4 The original IAME templates ATT-063/8 and ATT-063/9 are the references to check the venturi and throttle bore diameters, and the shape of the carburettor intake duct. The shape of the duct must correspond in all points and over its entire length to the profile of the template.
The original IAME template ATT-047-5M is the reference to check the diameter of L and H orifices.
The original ATT-077-10 and ATT-077-11 templates are the reference to check the diameter of the main fuel holes in the throttle bore.

8.17 Inlet Silencer

The inlet silencer (ref. X30125740) must be identical to the original one supplied with the engine (same brand, same model, same reference) with intake tubes of 23mm maximum diameter.

8.17.1 The use of protective grilles is compulsory.

8.17.2 The rubber sleeve connecting the inlet silencer to the carburettor is mandatory with air filter, it must be installed and comply with the homologation form.

8.17.3 Any injection and/or spray system is prohibited.

8.17.4 In the event of rain, only the original inlet silencer protection device (SKE005-PN-IAME) is authorised.

8.18 Clutch

The centrifugal clutch must engage at 4,000 rpm maximum and begin to move the kart with the Driver in racing conditions. The clutch should be fully engaged at 6,000 rpm maximum in any condition, this rpm can be checked with the appropriate hardware if necessary.

8.18.1 Each Driver will be responsible for the state of wear and cleanliness of the clutch and the friction parts (Friction material and drum).

8.18.2 The proper functioning of the clutch can be checked at any time during the event, and after each phase. The original IAME ATT-047/4 gauge is the reference for checking the inner diameter of the clutch drum. In the event of a pre-grid check, any Driver who does not comply with the prescribed value will be prevented from starting. In the event of a check on arrival, any Driver who does not comply with the prescribed value will be subject to a report of technical non-compliance. The tool must not enter the clutch housing perpendicularly to the axis of the clutch drum.

8.18.3 Only IAME original Z10 / Z11 / Z12 / Z13 sprockets are allowed.

8.19 Ignition

Only the original ignition Selettra Digital "S" is authorised, without any modification.

8.19.1 Only the electronic box/coil the type "N" (15.000 rpm) is authorised and must be fixed to the engine.

8.19.2 The markings on the electronic box/coil are mandatory and must be clearly visible without dismantling the electronic box/coil. Covering the markings adhesive tape is prohibited.

8.19.3 Modifications to the stator mounting, shape and thickness of the rotor key, keyways on rotor and crankshaft are prohibited.

8.19.4 The original IAME ATT-035/7 gauge is the reference to check the correct position of the advance reference marking on the rotor.

8.19.5 The battery must be secured to the chassis and connected to the wiring harness.

8.19.6 The Scrutineers may request the replacement of the entire ignition system or a part at any time during the meeting.

8.19.6 The organiser cannot be held responsible for any possible breakdown occurring after the replacement.

8.20 Spark Plug

Only NGK BR9EG and BR10EG spark plugs are authorised, strictly original and without any modification.

8.20.1 The spark plug must be fitted with its original gasket. The porcelain insulator must not protrude from the spark plug body and the length of the spark plug body (gasket included) must be 18.5 mm. maximum (Appendix 7 of the CIK technical regulations).

8.20.2 The only authorised spark plug caps are PVL 401 222 / Selettra 6000721001 5KOhm, (IAME ref. 10544) or NGK TB05EMA (IAME ref. 10543).

8.21 Exhaust Plant

Only the original exhaust and header delivered with the engine are authorised, strictly original and compliant with the tech form. No modification of structure or dimensions is authorised. Drilling of the probe fitting is authorised to install a temperature probe.

8.21.1 Original exhaust manifold in compliance with the tech form of the engine.

8.21.2 The presence of one original gasket minimum, between the cylinder and the exhaust header, is compulsory.

8.21.3 The use of one or more original spacers IAME S1NH20500 (thickness 3 mm +/- 0.5) to adjust the exhaust length is authorised.

8.21.4 A gaskets must be placed between each element of the exhaust header group: cylinder, header, spacer or spacers where present.

8.21.5 The complete sealing of the exhaust gases between the cylinder and the exhaust header must be guaranteed at any time. Checking of the exhaust gas sealing can be carried out at any time by plugging the outlet of the exhaust header and filling it through the exhaust port with liquid.

8.22 Cooling System

The cooling system must be in its original configuration: a single IAME original radiator (T-8000B or T-8001), a single IAME original water pump (aluminium or black/blue plastic) is authorised and in compliance with the tech form. A single IAME original water pump pulley (aluminium or black/blue plastic) is authorised and in compliance with the tech form. The type of water pump drive belt is free. The use of the pulley with the belts in position is mandatory.

8.22.1 The number of radiator supports, black or chromed, is not limited. Machined supports are prohibited.

8.22.2 Only original IAME simple or bypass thermostats are authorised, and their use is optional. The housing containing the two-way thermostat can also be installed without the thermostat capsule inside, function as a fitting and temperature probe housing.

8.22.3 Only water without any other additives is allowed for cooling.

8.22.4 Radiator shields, adhesive or mechanical, are permitted but must not be removable while the kart is in motion.

8.22.5 Original blue water hoses must be used, as supplied with the engine.

8.22.6 The combination of plastic or aluminium water pumps with plastic or aluminium water pump pulleys is permitted.

8.22.7 All heaters or heater connection systems on the water circuit are strictly prohibited.

8.23 Starter

The original on-board starting system must be installed with all its components, properly connected, and properly working.

8.24 Inspections

The engine technical inspection is performed by the Scrutineers. The Scrutineers have the right to inspect any part to the point that it can no longer be employed. If this is the event, the inspected part that comes out to be regular will be replaced to the driver at no cost. Any part found out irregular, will not be refunded.

8.24.1 At any moment, the Scrutineers, following a decision of the Stewards, have the right to replace any part, any accessory or even the entire engine.

8.24.2 The technical forms are the main comparison reference for Scrutineers. In case of doubts on the engine parts conformity, the comparison with the sample engine will be the definitive probating element.

9. IAME X30 125cc RL TaG – X30 JUNIOR CATEGORY

Any modification on the engine and its accessories, if not expressly authorized, is forbidden. IAME considers as modifications any action changing the initial aspect and dimensions of an original part. Any modification and/or installation having as a consequence to alter a dimension and/or its control possibility is strictly forbidden. The Entrant is liable for the conformity of their equipment.

9.1 The following original homologation forms of the engine:

9.1.1 «254Y» IAME X30 125cc X30 LIMIT. 16000

9.1.2 «348B» Carburetor Tillotson HW27-A

are the integral part of the technical regulations.

9.2 Only the IAME X30 125cc-RL-TaG, original and strictly in compliance with the manufacturer's technical form (technical features, sizes, weights, diagrams with the tolerances prescribed by the manufacturer) is admitted. The pictures on the original homologation forms are as well valid to identify the engine and the parts.

9.3 The engines must be provided with their original serial number. No modification, improvement, polishing, addition or removal of material of any engine part is allowed. Each engine internal or external part has to be installed in its original position and functioning according to the original design specs.

9.4 IMPORTANT: The tolerances reported on homologation forms are necessary to comprise all the machining, assembling and settling tolerances. Nevertheless, the Entrant is absolutely not allowed to make any intervention on the engine, even if the characteristic dimensions after his intervention will still be within the prescribed tolerances.

9.4.1 Any tuning is forbidden: the maximum and minimum allowed values and the volume of the combustion chamber have to be measured according to the Appendix 1 of series regulations.

9.5 Diagrams and Volume Chart: IAME X30
Refer to Homologation form « 254Y»

9.6 Cylinder Head

9.6.1 The cylinder head has to be strictly original. Only the thread repairing by means of an M14 x1,25 helicoil of the same length as the original thread is allowed. The sparkplug body tightened on the cylinder head must not protrude from the upper part of the combustion chamber dome.

9.6.2 The squish (distance between piston and the cylinder head) with the engine technical form prescriptions at all points. The thickness of the tin wire (50% tin minimum.) used for the squish measurement must have a 1,5mm diameter. Measurements must be taken with the engine in racing conditions at any time during the event. The original IAME gauge n. ATT-025/1 is the reference to measure the cylinder head profile. The gauge shape must match with the dome profile, the squish area and the gasket plane.
The CIK insert body tightened on the cylinder head, must not protrude from the upper part of the combustion chamber dome.

9.7 Cylinder
Only the original cylinder can be employed. Polishing, sandblasting, trimming or adjustments are not allowed. Only re-boring is allowed. In case of doubt, the shape and the height of the transfers have to be compared to the cylinder of the sample engine. No heat treatment or surface treatment is allowed. The diagram adjustment is allowed only by means of the cylinder gasket replacement. Only original gaskets are allowed. No head gasket is admitted.

The original IAME gauge n. ATT-025/2 is the reference to measure the cylinder transfers profile.
The original IAME gauge n. ATT-035/1 is the reference to carry a visual check of the ports.

Starting from the serial n. M3521/B3059 the X30 engines are equipped with a marked cylinder, as shown on the homologation form:

9.7.1 Engines with serial number previous to M3521/B3059 can be equipped with the marked cylinder.
9.7.2 Engines with serial number subsequent to M3521/B3059 cannot be equipped with the non-marked older cylinder.

9.8 Crankcase, Crankshaft, Con-Rod, Crankpin
Strictly original and without any modification.

The original IAME gauge ATT-035/3 is the reference to check the reed block housing plane
The original IAME gauge ATT-035/4 is the reference to check the distance between the indexing pins of the cylinder
The original IAME gauge ATT-035/5 is the reference to check the height of the cylinder base plane

Only original big end cage (X30125431), small end cage (E-10440/E-10441) and original washers (X30125436/X30125436EX) allowed.

Oil seals must be installed in the correct position, concave side facing inside the crankcase.

9.9 Bearings
Only crankshaft bearings 6206 C4, Roller Bearing BC1-3342B and balance shaft 6202 C3/C4/C4H and 6005 C3/C4 steel ball and polyamide cage are allowed.

Oblique contact prohibited. Ceramic balls prohibited.

The bearings must be mounted with balls visible from the inside of the crankcase.
All bearings not reporting the correct and clearly visible classification number, as described in the present regulations, are expressively forbidden.

The use of spacer shims behind the bearings is allowed to obtain the correct axial clearance.

All internal parts of the engine must be of manufacturer origin, the same number as the assembly of the factory and mounted in the same direction.

9.10 Piston, Ring and Pin

Strictly original without any modification and in compliance with the engine technical form.
The IAME original gauge ATT-035/2 is the reference to check the piston head shape.

9.11 Reed Block
Strictly original without any modification. No gasket planes machining is allowed. Free screws. Original reed valve cover without any modification is allowed. Reed block/crankcase gasket thickness is 1mm (admitted tolerance +/- 0.3mm). Conveyor/reed block gasket thickness is 0.8mm (admitted tolerance +/- 0.3mm).

9.12 Reed Petals
Only fiberglass (min. thickness 0.30mm) or carbon fibre (min. thickness 0.24mm) original IAME marked reed petals are allowed. Mixing of carbon fibre and fibreglass petals is forbidden.

9.13 Carburettor

9.13.1 Only the Tillotson HW-27A, IAME laser marked carburettor, supplied together with the engine in its original configuration (same brand, same model, same reference) is admitted. Only the accessories supplied together with the original carburettor and represented on the carburettor technical form are allowed; needle valve spring is free.
Carburettor positioning (i.e. with pump in upper or in lower position) is free.
Carburettor gasket thickness is 1 mm (admitted tolerance +/- 0.3mm).
Any injection and/or spraying system is forbidden.
The original IAME gauge n. ATT-035/2 is the reference to check the carburettor inlet duct. The gauge shape must match with the inlet profile.

9.13.2 The inlet silencer (p.n. X30125740) must be identical to the original one supplied together with the engine (same brand, same model, same reference) with max. 22mm diameter intake tubes. Protective grids are optional.
The rubber manifold with air filter connecting the inlet silencer to the carburettor is mandatory and must be installed and in compliance with the homologation form.

In case of doubt the carburettor must be compared to the sample carburettor.

9.13. 3 Any injection and/or spraying system is forbidden.

9.14 Clutch

The centrifugal clutch must engage at max. 4.000 RPM moving the kart with driver on board and in racing conditions. The clutch must be completely triggered at max. 6.000 RPM in any condition, this measurement can eventually be checked with proper instruments.
Each driver will be responsible for the wear status of the clutch padding material and friction parts cleaning, since the proper clutch operation might be checked at any moment of the event, and even after each phase. The original IAME gauge ATT-047/4 is the reference to check the clutch drum. The tool must not enter into the clutch drum in perpendicular position respect to the clutch drum axis.

9.15 Ignition

9.15.1 Only original ignitions, either Digital "K" Selettra or Selettra "S" or Digital PVL systems are allowed, without any modification. Scrutineers, following a decision of the Stewards have the right to ask for the replacement of the whole ignition system or any part therof at any moment before starting the race. The organizer will not be liable for any eventual breakdown occurred after the replacement.

9.15.2 Only the electronic CDI box type "C" (16000 RPM) is allowed and must be fixed on the chassis or on the engine or on the engine (plant Digital S) The markings on the electronic box are compulsory and must be clearly visible without disassembling the electronic box. Covering with adhesive or masking tape is forbidden.
Modifications on the stator fixing, the shape and thickness of the rotor key and the rotor and crankshaft keways are forbidden.

The IAME original gauge ATT-035/7 is the reference to check the correct position of the phase reference marking on the rotor.

The battery must be fixed to the chassis and always connected to the ignition system.

9.16 Sparkplug

8.16.1 Only the following NGK sparkplugs, strictly original and without any modification, are allowed: BR9EG - BR10EG
8.16.2 The sparkplug must be installed with its original gasket.
8.16.3 The insulator must not exceed sparkplug body and the length of the sparkplug body itself must be max. 18,5 mm.
8.16.4 Original spark plug cap, as delivered with the engine (IAME p.n. 10544 – PVL or Selettra)'

9.17 Exhaust

9.17.1 Only new type of the exhaust plant is allowed – Homologation Form 254X.

9.17.2 Only the original muffler and exhaust manifold as supplied with the engine are allowed and must be kept strictly original and in compliance with the homologation form, therefore no modification in structure or in dimensions is allowed. Drilling and welding operations on the muffler are allowed only to install a temperature probe. One original gasket only between cylinder and exhaust manifold is allowed, the use of the original exhaust spacer is allowed but not mandatory.

9.17.3 The complete sealing of exhaust gas between the cylinder and the exhaust header/fitting must be guaranteed at all times. The control of the sealing of the exhaust gas can be performed at any time through occlusion of the outlet hole of the exhaust header/fitting, filling of the exhaust header/fitting with liquid through the exhaust port and check for leaks. The proper sealing of the exhaust system is the Driver's responsibility. In any case the exhaust system must be in compliance with the phono metric measurement.

9.18 Cooling

The cooling system must be in its original configuration: only one IAME original radiator (p.n. T-8000B or T-8001), only one IAME original simple water pump (aluminium or plastic black/blue), only one IAME original water pump pulley aluminium or plastic black/blue) are allowed and in compliance with the homologation form.
The number of radiator support brackets is not limited.
Only simple or by pass original IAME thermostats are allowed and their use is optional.
The two-way thermostat case can be installed without the thermostat capsule inside, and work as a fitting.
Only water with no other additive is allowed for cooling.
Radiators shields, either adhesive or mechanic are allowed but should not be removable when the kart is in motion.
Original water hoses as delivered with the engine (black or blue).
Water pump driving belt type is free. Belt must operate on the water pump pulley.

The combination of plastic or aluminium water pumps with plastic or aluminium water pump pulleys is allowed.

9.19 Starting

The engine is provided with an on board electric starter. The original on board starting system has to be installed with all its components and properly connected.

9.20 Sprockets

Only IAME original Z10 or Z11 or Z12 sprockets are admitted.

9.21 Inspections

9.21.1 The engine technical inspection is performed by the Scrutineers. The Scrutineers have the right to inspect any part to the point that it can no longer be employed. If this is the event, the inspected part that comes out to be regular will be replaced to the driver at no cost. Any part found out irregular, will not be refunded.

9.21.2 At any moment, the Scrutineers, following a decision of the Stewards, have the right to replace any part, any accessory or even the entire engine.

9.21.3 The technical forms are the main comparison reference for Scrutineers. In case of doubts on the engine parts conformity, the comparison with the sample engine will be the definitive probating element.

10. **IAME X30 Water Swift 60cc TaG – X30 MINI CATEGORY**

Any modification on the engine and its accessories, if not expressly authorized, is forbidden. IAME considers as modifications any action changing the initial aspect and dimensions of an original part. Any modification and/or installation having as a consequence to alter a dimension and/or its control possibility are strictly forbidden. Polishing, sandblasting, trimming or adjustments are not allowed. No heat treatment or surface treatment is allowed. The Entrant is liable for the conformity of its own equipment. Any tuning is forbidden: the maximum and minimum allowed values and the volume of the combustion chamber have to be measured according to the procedure described in the Appendix 1 of series regulations.

10.1 The following original homologation forms of the engine:
«364H» IAME X30 WATER SWIFT – 60cc RL TaG

10.2 Only the IAME X30 WATERSWIFT 60cc RL TaG: original and strictly in compliance with the manufacturer's technical form (technical features, sizes, weights, diagrams with the tolerances prescribed by the manufacturer) is permitted. The pictures on the original homologation forms are as well valid to identify the engine and the parts.

10.3 The engines must be provided with their original serial number. No modification, improvement, polishing, addition or removal of material of any engine part is allowed. Each engine internal or external part has to be installed in its original position and functioning according to the original design specification.

10.4 The tolerances reported on the homologation forms are necessary to comprise all the machining, assembling and settling tolerances. Nevertheless, the Entrant is absolutely not allowed to make any intervention on the engine, even if the characteristic dimensions after his intervention will still be within the prescribed tolerances.

10.5 Any tuning is forbidden: the maximum and minimum allowed values and the volume of the combustion chamber have to be measured according to Appendix 1 of series regulations.

10.6 In any moment, the technical officials, following a decision of the Stewards, have the right to replace any part, any accessory or even the complete engine.

10.7 DIAGRAMS TABLE:
Refer to technical form of the engine

10.8 Cylinder Head:

10.8.1 Strictly original. The sparkplug body tightened on the cylinder head must not protrude from the upper part of the combustion chamber dome.

10.8.2 The squish minimum value must be as prescribed on the engine technical form. The thickness of the tin wire (50% tin minimum.) used for the squish measurement must have a 1,5mm diameter. The original IAME gauge n. 10215 is the reference to check the cylinder head profile conformity. The gauge shape must match with the dome profile, the squish area and the gasket plane.

10.9 Cylinder:
Only the original cylinder can be employed. Polishing, sandblasting, trimming or adjustments are not allowed. Only re-boring is allowed. In case of doubt, the shape and the height of the transfers have to be compared to the cylinder of the sample engine. No heat treatment or surface treatment is allowed. The diagram adjustment is allowed only by means of the cylinder gasket replacement. The number of cylinder gaskets is not limited. Only original gaskets are allowed. No head gasket is admitted. The original IAME gauge n. ATT-005 is the reference to measure the distance of the upper edge of the ports from the cylinder head plane.

10.10 Crankcase, Crankshaft, Con-rod, Crankpin
Only original parts are allowed, without any modification. Only strictly original big end cage (IAME B-10431), original washers (IAME E-38436) and original small end cage (IAME A-60440) are allowed.
Oil seals must be installed in the correct position, cave side looking inside the crankcase.

10.11 Bearings

Strictly original: crankshaft ball bearings p.n. IAME: 10400-D (6204 C4). Ball-bearing with oblique contacts are forbidden. Only bearings with steel balls and rings are authorized. (Ceramic is forbidden). Shims can be added behind the main roller bearings to reach the correct axial play. All bearings not reporting the correct and clearly visible classification number, as described in the present regulations, are expressively forbidden.

10.12 Piston, Ring and Pin

Strictly original without any modification and in compliance with the engine technical form.

10.13 Carburettor

Only the Tillotson HW-31A carburettor supplied together with the engine in its original configuration (same brand, same model, same reference) is admitted.

10.13.1 Only the accessories supplied together with the original carburettor are allowed; diaphragms, diaphragm gaskets and the needle valve spring are free. Carburettor positioning (i.e. with pump in upper or in lower position) is free. All carburettor spacers and gaskets are mandatory and must be in compliance and in the same order as indicated on the technical form.

10.13.2 In case of doubt the carburettor must be compared to the sample carburettor.

10.13.3 Inlet silencer strictly original as supplied together with the engine (same brand, same model, same reference) that is IAME mod. MINI SWIFT with CSAI 01/SA/14 homologation. Inlet hose max. internal diameter must be 22mm. Protective grids are optional.

10.13.4 The rubber manifold with air filter connecting the inlet silencer to the carburettor is mandatory, it must installed and in compliance with the homologation form.

10.13.5 Any injection and/or spraying system is forbidden.

10.14 Clutch

The engine is supplied with a dry centrifugal clutch system. Any intervention intended to extend the sliding of the clutch hub beyond the prescribed limit is strictly forbidden. The centrifugal clutch must engage at max. 4.500 RPM moving the kart with driver on board and in racing conditions. The clutch must be completely engaged at max. 6.500 RPM in any condition, this measurement can eventually be checked with proper instruments. Each driver is responsible for the wear status of the clutch padding material and friction parts cleaning, since the proper clutch operation might be checked at any moment of the event, and even after each phase.

10.15 Ignition

Original ignition only, that is SELETTRA p.n. IAME A-61951 and coil p.n. IAME A-61955. Without any modification.

10.15.1 Scrutineers, following a decision of the Stewards have the right to ask for the replacement of the whole ignition system or part thereof at any moment before starting the race. The organizer will not be liable for any eventual breakdown occurred after the replacement.

10.15.2 The battery must be fixed to the chassis and always connected to the ignition system.

10.16 Sparkplug

10.16.1 Only the following NGK sparkplugs, strictly original and without any modification, are allowed: BR9EG - BR10EG
10.16.2 The sparkplug must be installed with its original gasket.
10.16.3 The insulator must not exceed the sparkplug body and the length of the sparkplug body itself must be max. 18.5 mm.
10.16.4 Original spark plug cap, as delivered with the engine (IAME p.n. 10544 – PVL or Selettra)

10.17 Exhaust

Only the original exhaust pipe is allowed as supplied with the engine and must be kept strictly original and in compliance with the homologation form.

10.17.1 No modifications in structure or in dimensions are allowed.

10.17.2 The complete sealing of the exhaust gas between the cylinder and the exhaust manifold must be guaranteed at all times. The control of the sealing of the exhaust gas can be performed at any time through occlusion of the outlet hole of the exhaust header, filling of the exhaust header with liquid through the exhaust port and check for leaks. The proper sealing of the exhaust system is at Driver's responsibility.

10.17.3 The exhaust manifold (Ø28,5mm) must be strictly original and in compliance with the technical form. Only one original exhaust gasket is allowed.

10.17.4 Both new type (with temperature sensor seat – Page 7 of homologation form) and old type (without temperature sensor seat – Page 9a of homologation form) exhaust mufflers are allowed, only original and as supplied with the engine.
Pipe and probe seat modifications are strictly prohibited.
Use of temperature sensors is allowed only with the new type exhaust.

10.18 Cooling

The cooling system must be in its original configuration: only one IAME original radiator (p.n. T-8601), only one IAME original simple water pump (black or blue) are allowed and in compliance with the homologation form.

10.18.1 Only simple or by pass original IAME thermostats are allowed and their use is optional.
10.18.2 Cooling only by water, no other additives allowed.
10.18.3 Radiators shields, either adhesive or mechanic are allowed but should not be removable when the kart is in motion.
10.18.4 The use of the original water pump pulley activating the water pump through O rings is mandatory.

10.19 Starting

The engine is provided with an on board electric starter. The original on board starting system can be installed with all its components and properly connected.

9.19.1 The use of an external starter is authorized only in the event that a mechanical or electrical problem prevents the starting system operation.

10.20 Sprockets

Only IAME original clutch drums with built-in Z10 or Z11 sprockets are allowed.

10.21 Inspections

9.21.1 The engine technical inspection is performed by the Scrutineers. The Scrutineers have the right to inspect any part to the point that it can no longer be employed. If this is the event, the inspected part that comes out to be regular will be replaced to the driver at no cost. Any part found out irregular, will not be refunded.

9.21.2 In any moment, the Scrutineers, following a decision of the Stewards, have the right to replace any part, any accessory or even the entire engine.

9.21.3 The technical forms are the main comparison reference for Scrutineers. In case of doubts on the engine parts conformity, the comparison with the sample engine will be the definitive probating element.

11. **IAME X30 Shifter 125cc RL TaG – KZ CATEGORY**

Any modification or adjunction on the engine and its accessories, if not expressly authorized, is forbidden. IAME considers as modifications any action changing the initial aspect and dimensions of an original part. Any modification and/or installation having as a consequence to alter a dimension and/or its control possibility is strictly forbidden. The Entrant is liable for the conformity of their equipment.

11.1 The following original homologation forms of the engine:

11.1.1 «303H» IAME X30 Shifter 125cc TaG are the integral part of the technical regulations.

11.2 Only the IAME X30 SHIFTER 125cc-RL-TaG, original and strictly in compliance with the manufacturer's technical form (technical features, sizes, weights, diagrams with the tolerances prescribed by the manufacturer) is admitted. The pictures on the original homologation forms are as well valid to identify the engine and the parts.

11.3 The engines must be provided with their original serial number. No modification, improvement, polishing, addition or removal of material of any engine part is allowed. Each engine internal or external part has to be installed in its original position and functioning according to the original design specs.

11.4 IMPORTANT: The tolerances reported on homologation forms are necessary to comprise all the machining, assembling and settling tolerances. Nevertheless, the Entrant is absolutely not allowed to make any intervention on the engine, even if the characteristic dimensions after his intervention will still be within the prescribed tolerances.

11.4.1 Any tuning is forbidden: the maximum and minimum allowed values and the volume of the combustion chamber have to be measured according to the Appendix 1 of series regulations.

11.5 <u>Diagrams and Volume Chart: X30 SHIFTER</u>

EXHAUST 195,5° ± 2º
BOOSTERS 186,5° ±2º
TT TRANSFER127°±3º
PRIMARY SIDE TRANSFERS 130º ±2º
SECONDARY SIDE TRANSFERS 128º ±2º
COMBUSTION CHAMBER VOLUME 13cc minimum with CIK insert
Homologation form «303G» - angular reading by inserting a 0.2x5mm gauge

11.6 <u>Cylinder Head</u>

11.6.1 The cylinder head has to be strictly original. Only the thread repairing by means of an M14x1,25 helicoil of the same length as the original thread is allowed. The sparkplug body tightened on the cylinder head must not protrude from the upper part of the combustion chamber dome. The gauge p.n ATT-046/1 is the reference to check the interior shape of the cylinder head. Only one copper head gasket allowed.

11.6.2 The squish (distance between piston and the cylinder head) must be minimum 0.85mm at all points. The thickness of the tin wire (50% minimum tin) used for the squish measurement must have a 1,5mm diameter. Measurements must be taken with the engine in racing conditions at any time during the event.

11.7 Cylinder

Only the original cylinder can be employed. Polishing, sandblasting, trimming or adjustments are not allowed. Only re-boring is allowed. In case of doubt, the shape and the height of the transfers have to be compared to the cylinder of the sample engine. No heat treatment or surface treatment are allowed.

The diagram adjustment is allowed only by means of the cylinder gasket replacement. Only one cylinder gasket, identical to the original one (0.50mm or 0.40mm or 0.30mm or 0.20mm or 0.10mm) are permitted. A +/- 0.05 mm tolerance is admitted taking into account the gasket thickness variation. Only one gasket is permitted.

11.8 Crankcase, Crankshaft, Con-rod, Crankpin

Strictly original and without any modification. Only original big end cage (X30125431), original washers (X30125436) and original small end cage (IFC-50350) are allowed.

11.9 Bearings

Steel and plastic cages are allowed. Only the original crankshaft ball bearings (ball bearing 6205, C4 or roller bearing 6205 BC1 1442B) and gearbox shafts ball bearings (6205 C4 - 6204 C4 - 6202 T1XC4) are allowed. Ball-bearing with oblique contacts are forbidden.

Only bearings with steel balls, steel rollers and steel rings are authorized.

11.10 Piston, Ring and Pin

Strictly original without any modification. No gasket planes machining is allowed. Free screws. Original reed valve cover without any modification is allowed.

11.11 Reed Block

Strictly original without any modification. No gasket planes machining is allowed. Free screws. Original reed valve cover without any modification is allowed.

11.12 Reed Petals

Only original carbon fibre IAME marked (min. 0.03mm thickness) are allowed. Modification to the original petals shape is forbidden.

11.13 Carburettor & FUEL PUMP

Only the carburettor supplied together with the engine in its original configuration (same brand, same model, same reference) is admitted: Dell'Orto VHSH30-CS. Only the original Dell'Orto setting elements, provided for the concerned carburettor and summarized on the homologation form, are allowed. The inlet silencer must be selected between the two options reported on the homologation form. The inlet silencer must remain strictly original and in compliance with their homologation form. Any injection and/or spraying systems are forbidden.

Only the vacuum fuel pump Paioli 2159063 or Mikuni DF52-176 are allowed and without any modification.

11.14 Clutch

All the clutch components must be strictly IAME original. The clutch must be installed with all its parts in the original number and position.

11.15 Ignition

11.15.1 Only original ignitions, either Digital Selettra or Digital PVL systems are allowed, without any modification. Scrutineers following a decision of the Stewards have the right to ask for the replacement of the whole ignition system or part thereof at any moment before starting the race. The organizer will not be liable for any eventual breakdown occurred after the replacement.

11.15.2 Only the electronic CDI box type "Z1" is allowed and must be fixed on the chassis. Modifications on the stator fixing, shape and thickness of the rotor key and the rotor and crankshaft keyways are forbidden as well as any modification on the ignition system support. The markings on the electronic box are compulsory and must be clearly visible without disassembling the electronic box. Covering with adhesive or masking tape is forbidden. The battery must be fixed to the chassis and always connected to the ignition system.

11.16 Sparkplug

11.16.1 Only the following NGK sparkplugs, strictly original and without any modification, are allowed: BR9EG - BR10EG – R6254E-105

11.16.2 The sparkplug must be installed with its original gasket.

11.16.3 The insulator must not exceed the sparkplug body and the length of the sparkplug body itself must be max. 18.5mm

11.16.4 Original spark plug cap, as delivered with the engine (IAME p.n. 10544 – PVL or Selettra)

11.17 Muffler, Manifold and Silencer

11.17.1 The original muffler and exhaust manifold as supplied with the engine must be kept in compliance with the homologation form, therefore no modifications in structure or in dimensions are allowed. Drilling and welding operations on the exhaust muffler are only allowed on the support provided for the installation of the temperature probe. The original spacer (p.n.: IFH-20500) must be employed and in compliance with the homologation form. Original gaskets only. Gaskets between cylinder and exhaust manifold can be added or removed in order to adjust the muffler length. In any case the minimum thickness of the group gasket/spacer/gasket must be in compliance with the homologation form. The proper sealing of the exhaust system is the Driver's responsibility.

11.18 Cooling

Cooling system: only one radiator, only one simple, plastic or aluminium, water pump (one inlet, one outlet) are allowed. The number of radiator support brackets is not limited. Only simple or by pass thermostats are admitted and their use is optional. Only water with no other additives is allowed for cooling. Radiators shields, either adhesive or mechanical are allowed but should not be removed when the kart is in motion.

11.19 Starting

The engine is provided with an on board electric starter. The original on board starting system has to be installed with all its components and properly connected.

11.20 Sprockets

Only IAME original Z15, Z16, Z17, Z18, Z19 and Z20 sprockets are permitted.

11.21 Gearbox

11.21.1 All the gearbox and selector components must be strictly original.

11.21.2 No further heat treatment nor surface treatment are allowed.

11.21.3 The gear ratios must be strictly original and according to the list described in the homologation form.

11.22 Inspection

11.22.1 The engine technical inspection is performed by the Scrutineers. The Scrutineers have the right to inspect any part to the point that it can no longer be employed. If this is the event, the inspected part that comes out to be regular will be replaced to the driver at no cost. Any part found out irregular, will not be refunded.

11.22.2 In any moment, the Scrutineers, following a decision of the Stewards, have the right to replace any part, any accessory or even the entire engine.

11.22.3 The technical forms are the main comparison reference for Scrutineers. In case of doubts on the engine parts conformity, the comparison with the sample engine will be the definitive probating element.

12. IAME KZ-I SCREAMER III and IV – KZ CATEGORY

Only IAME Screamer III engines are admitted, single cylinder type with reed-valve admission and with valid or expired CIK / FIA Karting homologation for the KZ categories.

12.1 Only original IAME parts are allowed

12.2 The original parts of the homologated engine must always comply with and be similar to the photographs, drawings, materials and physical dimensions described on the Homologation Form.

12.3 All modifications to the homologated engine are allowed except:

a) Inside the engine:
- the stroke
- the bore (outside the maximum limits)
- the connecting rod centreline
- the number of transfer ducts and inlet ports in the cylinder and crankcase
- the number of exhaust ports and ducts
- the restrictions according to the specific regulations.

b) Outside the engine:
- number of carburettors and diameter of choke
- external appearance of the fitted engine.

12.4 The following are not considered to be modifications to the external appearance of the engine:

- modification of the colour of the parts, the trimming of cooling connections and modification of the fixations (including but not limited to fixations of the carburettor, of the ignition, of the exhaust, of the clutch or of the engine itself), provided that their homologated position is not modified.

12.5 Power unit
It must not be possible to dissociate the engine from the gearbox. Engine case must be made of only 2 parts (vertical or horizontal). Only inserts for crankshaft bearings and fixing elements (drilled holes, dowels) are authorised.

12.6 Water cooled single-cylinder engine with reed-valve intake, one circuit only, homologated by the CIK-FIA.

12.7 Maximum cylinder cubic capacity: 125 cc.

12.8 Reed-valve box (dimensions and drawing) according to the Homologation Form.

12.9 Reed-valve box cover: free.

12.10 Dell'Orto VHSH, Ø 30 mm, float chamber carburettor made of aluminium, with a venturi type diffuser with a maximum diameter of 30 mm round, FIA Karting homologated.

12.11 The carburettor must remain strictly original.

12.12 The only settings allowed may be made to: the slide, the needle, the floaters, the float chamber, the needle shaft (spray), the jets and the needle kit, subject to all the interchanged parts being of Dell'Orto origine. The incorporated petrol filter and the plate (part No. 28 on the technical drawing No. 7 appended) may be removed; if they are kept, they must be original.

12.13 Gearbox: homologated by the CIK-FIA (including the primary torque). Minimum 3 and maximum 6 ratios. Check of the ratios using a graduated disc with a minimum diameter of 200 mm or a digital coder; the degree decimals given on the Homologation Form must be mentioned in tenths of degrees and not in minutes.

12.14 Hand-operated and exclusively mechanical gearbox control without a servo system.

12.15 Any system of ignition cutting is forbidden

12.16 Total exhaust opening angle of 199° maximum, irrespective of the value indicated on the homologation form (to be read with a graduated circle of a minimum diameter of 200 mm or with a digital device).

12.17 Volume of the combustion chamber: 11 cc minimum, measured in accordance with the method described in Appendix No. 1a.

12.18 Spark plug:
Only the following NGK sparkplugs, strictly original and without any modification, are allowed: BR9EG - BR10EG – R6254E-105
The body of the spark plug (electrodes not included), tightened on the cylinder head, must not extend beyond the upper part of the dome of the combustion chamber. Dimensions of the threaded spark-plug housing- length: 18.5 mm; pitch: M 14 x 1.25.

12.19 Identifications: machined flat spaces of 30 mm x 20 mm for the attachment of the specified identification stickers:

- at the front of the cylinder,
- on the upper part of the reed box housing for the half sumps.

12.20 It is allowed to add a mass to the ignition rotor; it shall be fixed by at least 2 screws, without any modification to the homologated rotor.

12.21 Exhaust: only the exhaust homologated with the engine must be used. The magnetic steel sheet metal must be 0.75 mm minimum.

12.22 Exhaust silencer: FIA Karting homologated, mandatory use. Fitting of the exhaust and silencer according to the Technical Drawing No. 20.

12.23 Intake silencer CIK / FIA Karting homologated with maximum 30mm inlet ducts

12.24 Ignition: CIK/FIA Karting homologated, analogue type. Any variable ignition system (system of progressive advance and delay) is forbidden.

12.25 The engines must be provided with their original serial number.