



## TECHNICAL REGULATIONS 2016 - PART 1

### Technical Regulations part 1 of 2: GENERAL

The CIK-FIA Technical regulation applies for the "X30 CHALLENGE INTERNATIONAL". The English text is the authentic version. The Organizer of the series "CE.DI.NAP – Victory Concept" reserves the right to issue additional statements concerning the Technical Regulations (previously approved by the ASN proposing the series and the CIK-FIA) from time to time following the agreement of the ASN presenting the series and the CIK-FIA, and all such statements will be issued to all registered competitors by way of Competitors' Bulletins at the race meeting, or posted to the address detailed on the event registration form.

### ARTICLE 1: CLASSIFICATION AND DEFINITION

**1.1 Classification:** Article 1.1 of the CIK-FIA Technical Regulations.

**1.2 Definition:** Article 1.2 of the CIK-FIA Technical Regulations.

### ARTICLE 2: GENERAL PRESCRIPTION

**2.1 General:** Article 2.1 of the CIK-FIA Technical Regulations

### ARTICLE 3: KART AND EQUIPMENT SAFETY

**3.1 Kart Safety:** Article 3.1 of the CIK-FIA Technical Regulations

**3.2 Equipment Safety:** Article 3.2 of the CIK-FIA Technical Regulations

### ARTICLE 4: GENERAL PRESCRIPTION FOR GROUP 2 KARTS

**4.1 Chassis:** Article 5.1 of the CIK-FIA Technical Regulations

### ARTICLE 5: ORGANAISER'S SUPPLEMENTARY PROVISIONS

#### 5.1 Scrutineering

A mandatory check will be carried out before the start. It must be possible to identify the homologated equipment by 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.

#### 5.2 Chassis Homologation

Chassis must have a valid 2006 or newer CIK-Homologation, no front brakes are allowed in X30 Junior. Chassis for the X30 Super Shifter class must have a CIK-FIA homologation for Shifter karts. Rear shafts with CIK-FIA identification sticker specific to each manufacturer (as per CIK-FIA Technical Regulations - Appendix No. 10) and manufacturer's logo stamped or engraved on the outside, are not mandatory.

**5.2.1** Front fairing mounting kit as per CIK drawings N. 2c and 2d is mandatory in X30 Junior, X30 Senior, X30 Master and X30 Super.

#### 5.3 Amount of Equipment (Chassis)

Drivers will be allowed one (1) chassis only. However if a damage occurs to the chassis previously scrutinized for the meeting, if in the opinion of the Scrutineers 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 meeting.



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#### 5.4 Amount of Equipment (Engines)

Only 2 (two) engines are allowed for each driver and category for Scrutineering and use per event.

#### 5.5 Fuel & Oil

a) Fuel will be non "Parc Ferme" status.

b) It will be each competitor's responsibility to purchase their own petrol from free practice until the end of the race weekend on Sunday. The gas station to purchase the petrol from and the octane ratio, will be stated in the Supplementary Regulations of the event. It is mandatory to employ only the indicated fuel in all official sessions.

c) 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.

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

e) The petrol must be unleaded available from the fuel pump designated by the Organizer.

f) The oil mixture ratio shall be 4%/6% .

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

The Scrutineer/Organization, following a decision of the Stewards, has the right to change/replace any Entrant's / Drivers petrol at his/hers discretion and at any time.

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

**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:

1) Digatron DT- 47 Fuel Meter Test.

2) Specific Gravity Test

3) Water Solubility Test

#### 5.6 Lubricant

The official oil for the X30 CHALLENGE INTERNATIONAL is the CIK-Homologated Wladoil K-2T and it is compulsory to be used; no other oil is allowed.

#### 5.7 Tyres

##### 5.7.1 Slick Tyres X30 Junior & X30 Senior & X30 Master

KOMET Racing Tyres - mod.: K1H      Front: 10 x 4,60-5 / Rear: 11 x 7,10-5

##### 5.7.2 Slick Tyres X30 Super

KOMET Racing Tyres - mod.: K1H      Front: 10 x 4,60-5 / Rear: 11 x 7,10-5

##### 5.7.3 Slick Tyres X30 Super Shifter

KOMET Racing Tyres - mod.: K1H      Front: 10 x 4,60-5 / Rear: 11 x 7,10-5

##### 5.7.4 Wet Tyres for all categories

KOMET Racing Tyres - mod.: K1W      Front: 10 x 4,20-5 / Rear: 11 x 6,00-5

##### 5.7.5 Modification of Tyres.

Any modification of a tire is forbidden, in all categories, the heating and cooling of tires by any method, and/or remoulding or treating the tires with any chemical substance is forbidden.

The measuring device MiniRAE Lite of the company «RAE Systems Inc. (USA)» will be used in Qualifying Practice, Qualifying Heats, Second Chance Heat and final phase to check that the tyres are in conformity with the regulations.

The VOC measurement of the tyres may not exceed the maximum ppm 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 at the "Start" Servicing Park establish that one or more tyres are not in conformity with the regulations, the relevant Driver will not be allowed access to the Pre-Gird. Should the test be carried at the "Finish" Servicing Park and one or more tyres result not in conformity with the regulations, the driver is disqualified from the race. Protests against this procedure are not admitted. Protests and Appeals in this regard do not have a suspensory effect.



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### 5.7.6 Tyres Availability

Tyres needed for free practice are available through the KOMET Racing Tyres dealer net.

### 5.8 Racing Numbers and Drivers ID on Karts

Article 2.24 CIK-FIA Technical Regulations

**5.8.1** The numbers shall be black (without shadow and colour stripes) on a clear yellow background, and they shall be at least 15 cm high and have a 2 cm thick stroke and represented with an Arial type or similar font. The competition number shall be bordered by a yellow background of 1 cm minimum. They must be fitted before free practice and must be clearly visible during the whole race event (damaged numbers and I.D must be replaced regularly) on both front and rear and on both sides towards the rear of the bodywork. The number plates fitted at the back of the kart shall be plane and have rounded corners (diameter of rounded corners 15 to 25 mm) with 22 cm sides. The plates shall be flexible and made of opaque plastic, and they shall always be visible (fixation without a possible displacement).

**5.8.2** Driver's name as well as the flag of his nationality (Origin of Licence) 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.

### 5.9 Scrutineering

A mandatory check will be carried out before the start of the Non Qualifying Practice. It must be possible to identify the homologated equipment by the technical descriptions (drawings, dimensions, etc.) on the Homologation Form.

For any used equipment, which has been homologated, every competitor shall be able to submit the relevant Homologation Forms. For identification and control it must be possible to identify the homologated equipment.

**5.9.1** Each Driver is entitled to submit to Scrutineering the following equipment:

- One (1) chassis with a valid 2006 or newer CIK-Homologation.
- Two (2) engines of the same type per driver and category for the Event.

### 5.10 Engines General

<b>5.10.1</b> Category X30 Junior:	IAME X30 - 125cc RL TaG (125cc-centrifugal dry clutch drive-water cooled-TaG Junior restricted)
<b>5.10.2</b> Category X30 Senior:	IAME X30 - 125cc RL TaG (125cc-centrifugal dry clutch drive-water cooled-TaG)
<b>5.10.3</b> Category X30 Master:	IAME X30 - 125cc RL TaG (125cc-centrifugal dry clutch drive-water cooled-TaG)
<b>5.10.4</b> Category X30 Super Shifter:	IAME X30 - Super Shifter - 175cc RL TaG (175cc-6 speeds gearbox-water cooled-TaG)
<b>5.10.5</b> Category X30 Super:	IAME X30 - Super - 175cc RL TaG (175cc-centrifugal dry clutch-water cooled-TaG)

## 6. ENGINES TECHNICAL REGULATIONS & TYRES REGULATION

All technical regulations and the tyres regulations are available on: [www.x30world.com](http://www.x30world.com)

The following appendixes are integral part of the regulations.

APPENDIX 1: homologation form n. 343B - IAME X30 Super Shifter 175cc RL - TaG

APPENDIX 2: homologation form n. 254R - IAME X30 125cc RL - TaG

APPENDIX 3: homologation form n. 293E - Carburateur Tryton Hobby 27-C

APPENDIX 4: homologation form n. 254R - Restriction IAME X30 Junior

APPENDIX 5: homologation form n. 359 - IAME X30 Super 175cc RL - TaG

APPENDIX 6: homologation form n. 360 - Carburateur Tillotson HB-10A (Ø34mm) - X30 Super

APPENDIX 7: exhaust silencer - X30 Junior - X30 Senior - X30 Master

APPENDIX 8: tyres regulations Event 1

APPENDIX 9: tyres regulations Event 2

APPENDIX 10: official petrol station Event 1

APPENDIX 11: official petrol station Event 2



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# TECHNICAL REGULATIONS 2015 - PART 2

## Technical Regulations part 2 of 2: ENGINES

The CIK-FIA Technical regulation also applies for the IAME INTERNATIONAL FINAL. The English text is the authentic version. IAME S.p.A. and the K.C.P.O.M. reserve the right to issue additional statements concerning the Technical Regulations (previously approved by the ASN proposing the series and the CIK-FIA) from time to time following the agreement of the ASN presenting the series and the CIK-FIA, and all such statements will be issued to all registered competitors by way of Competitors Bulletins at the race meeting, and/or sent via email to the address indicated on the Event registration Form.

### Article 1 ENGINES GENERAL

- |  |  |
|--|--|
| <b>1.1</b> Category X30 Junior:        | IAME - X30 125cc RL TaG - (125cc- centrifugal dry clutch drive-water cooled-TaG) Junior restricted |
| <b>1.2</b> Category X30 Senior:        | IAME - X30 125cc RL TaG - (125cc-centrifugal dry clutch drive-water cooled-TaG)                    |
| <b>1.3</b> Category X30 Master:        | IAME - X30 125cc RL TaG (125cc-centrifugal dry clutch drive-water cooled-TaG)                      |
| <b>1.4</b> Category X30 Super Shifter: | IAME - X30 Super Shifter 175cc RL TaG (125cc-6 speed gearbox-water cooled-TaG)                     |
| <b>1.5</b> Category X30 Super:         | IAME - X30 Super 175cc RL TaG (125cc-centrifugal dry clutch-water cooled-TaG)                      |

### Article 2 ENGINES TECHNICAL REGULATIONS

- 2.1** All Technical Regulations are available in digital format on [www.x30world.com](http://www.x30world.com)

#### Article 3 ENGINE IAME X30 125cc RL TaG - X30 SENIOR & X30 MASTER

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. Polishing, sandblasting, trimming or adjustments are not allowed. No heat treatment or surface treatment are allowed. The Entrant is liable for the conformity of its own equipment.

- 3.1** The following original homologation forms of the engine:

- «254R» IAME X30 - 125cc – TaG - LIMIT. 16000
- «293E» Carburettor TRYTON HB27-C

are integral part of the technical regulations.

- 3.2** 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.

- 3.3** 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.

- 3.4** IMPORTANT: The tolerances reported on homologation form 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.

- 3.4.1** Any tuning is forbidden: the maximum and minimum allowed values and the volume of the combustion chamber have to be measured according to the CIK Technical Regulations.



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### 3.5 DIAGRAMS AND VOLUME CHART:

	IAME X30
EXHAUST	177,5° Maximum
TT TRANSFER	127° ± 2°
SIDE TRANSFERS	126° ± 2°
COMBUSTION CHAMBER VOLUME	9,7cc Minimum with CIK insert

Homologation form « 254R » - angular reading by inserting a 0.2x5mm gauge

### 3.6 CYLINDER HEAD

**3.6.1** 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.

**3.6.2** The squish (distance between piston and the cylinder head) must be minimum 0.9mm 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 check the cylinder head profile conformity. The gauge shape must match with the dome profile, the squish area and the gasket plane.

**3.6.3** The CIK insert body tightened on the cylinder head, must not protrude from the upper part of the combustion chamber dome.

### 3.7 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 (0.40mm or 0.20mm +/- 0.05 mm) is admitted. No head gasket is admitted.

The original IAME gauge n. ATT-025/2 is the reference to measure the cylinder transfers height.

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

- engines with serial number previous to M3521/B3059 can be equipped with the marked cylinder.
- engines with serial number subsequent to M3521/B3059 can not be equipped with the non-marked older cylinder.

### 3.8 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 (E-10440) are allowed.

### 3.9 BEARINGS

Steel and plastic cages are allowed. Only the strictly original crankshaft ball bearings (6206, C3 or C4) and counter balancing shaft ball bearings (6202, C3 or C4 and 6005, C3 or C4) are admitted. Ball-bearing with oblique contacts are forbidden. Only bearings with steel balls and rings are authorized. (Ceramic is forbidden).

### 3.10 PISTON, RING AND PIN

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

### 3.11 REED BLOCK

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

### 3.12 REED PETALS

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



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### 3.13 CARBURETTOR, INLET SILENCER

Only the Tryton HB27-C carburettor (Venturi max. diam. 26mm) 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 are allowed; diaphragms, diaphragm gaskets and the needle valve spring are free.

The needle valve can be replaced by one of the following types:

- ✓ IAME original 10939-R51 needle valve without seal gasket
- ✓ IAME original 10948-R18 needle valve and with seal gasket

Mixing parts of the two needle valve kits is forbidden. Carburettor positioning (i.e. with pump in upper or in lower position) is free.

The inlet silencer 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.

Any injection and/or spraying system is forbidden.

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

### 3.14 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.

### 3.15 IGNITION

**3.15.1** Only **original** ignitions, either **Selettra Digital "K"** or **Selettra Digital "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 part at any moment before starting the race. The organizer will not be liable for any eventual breakdown occurred after the replacement.

**3.15.2** Only the electronic **CDI box type "C" (16000 RPM)** is allowed and must be fixed on the chassis 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 slots are forbidden. The battery must be fixed to the chassis and always connected to the ignition system.

### 3.16 SPARKPLUG

**3.16.1** Only the following NGK sparkplugs, strictly original and without any modification, are allowed:

B9EG - B10EG - BR9EG - BR10EG – BR9EIX - BR10EIX - R6254E-105

**3.16.2** The sparkplug must be installed with its original gasket.

**3.16.3** The insulator must not exceed the sparkplug body and the length of the sparkplug body itself must be max. 18,5 mm. (CIK technical regulations appendix 7).

**3.16.4** Original spark plug cap, as delivered with the engine (IAME p.n. 10544)

### 3.17 EXHAUST

**3.17.1** Only the original muffler and header are allowed as supplied with the engine 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 header are allowed only to install a temperature probe.

**3.17.2** Only the flexible hose length can be modified in order to modify the exhaust length. In any case the exhaust system must be in compliance with the phonometric measurement.

**3.17.3** The use of the exhaust silencer as described in the attachment n.7 is mandatory at all moments in EVENT 2.



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### 3.18 COOLING

The cooling system must be in its original configuration: only one IAME original radiator (p.n. T-8000B), only one IAME original simple water pump (black or 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. Only water with no other additive is allowed for cooling. No additives are allowed. 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).

### 3.19 STARTING

**3.19.1** 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.

### 3.20 SPROCKETS

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

### 3.21 INSPECTIONS

**3.21.1** The engine technical inspection is performed by the technical stewards together with one delegate previously appointed by IAME S.p.A. who will act as consultant. The technical stewards 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.

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

**3.21.3** 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.

**3.21.4** In case of extremely controversial events, the Stewards can decree the delivery of the concerned parts, duly sealed, to IAME S.p.a. which will proceed with an accurate inspection at the factory with the presence of one representative of the Competitor and one of the Sporting Authority (ASN).



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#### Article 4. ENGINE IAME X30 125cc RL TaG - X30 JUNIOR

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. Polishing, sandblasting, trimming or adjustments are not allowed. No heat treatment or surface treatment are allowed. The Entrant is liable for the conformity of its own equipment.

**4.1** The following original homologation forms of the engine:

- «254R» IAME X30 - 125cc – TaG - LIMIT. 16000
- «254R» IAME X30 - 125cc – TaG - LIMIT. 16000 - Junior 29 mm restricted header
- «293E» Carburettor TRYTON HB27-C

are integral part of the technical regulations.

**4.2** 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.

**4.3** 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.

**4.4 IMPORTANT:** The tolerances reported on homologation form 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.

**4.4.1** Any tuning is forbidden: the maximum and minimum allowed values and the volume of the combustion chamber have to be measured according to the CIK Technical Regulations.

#### 4.5 DIAGRAMS AND VOLUME CHART:

	IAME X30
EXHAUST	177,5° Maximum
TT TRANSFER	127° ± 2°
SIDE TRANSFERS	126° ± 2°
COMBUSTION CHAMBER VOLUME	9,7cc Minimum with CIK insert

Homologation form «254R» - angular reading by inserting a 0.2x5mm gauge

#### 4.6 CYLINDER HEAD

**4.6.1** 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.

**4.6.2** The squish (distance between piston and the cylinder head) must be minimum 0.9mm 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. The original IAME gauge n. ATT-025/1 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.

**4.6.3** The CIK insert body tightened on the cylinder head, must not protrude from the upper part of the combustion chamber dome.

#### 4.7 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 (0.40mm or 0.20mm +/- 0.05 mm) is admitted. No head gasket is admitted.

The original IAME gauge n. ATT-025/2 is the reference to measure the cylinder transfers height.

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

- engines with serial number previous to M3521/B3059 can be equipped with the marked cylinder.
- engines with serial number subsequent to M3521/B3059 can not be equipped with the non marked older cylinder.



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#### 4.8 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 (E-10440) are allowed.

#### 4.9 BEARINGS

Steel and plastic cages are allowed. Only the strictly original crankshaft ball bearings (6206, C3 or C4) and counter balancing shaft ball bearings (6202, C3 or C4 and 6005, C3 or C4) are admitted. Ball-bearing with oblique contacts are forbidden. Only bearings with steel balls and rings are authorized.  
(Ceramic is forbidden).

#### 4.10 PISTON, RING AND PIN

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

#### 4.11 REED BLOCK

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

#### 4.12 REED PETALS

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

#### 4.13 CARBURETTOR, INLET SILENCER

Only the Tryton HB27-C carburettor (Venturi max. diam. 26mm) 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 are allowed; diaphragms, diaphragm gaskets and the needle valve spring are free.

The needle valve can be replaced by one of the following types:

- ✓ IAME original 10939-R51 needle valve without seal gasket
- ✓ IAME original 10948-R18 needle valve and with seal gasket

Mixing parts of the two needle valve kits is forbidden. Carburettor positioning (i.e. with pump in upper or in lower position) is free.

The inlet silencer 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, it must be installed and in compliance with the homologation form.

Any injection and/or spraying system is forbidden.

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

#### 4.14 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.

#### 4.15 IGNITION

**4.15.1** Only **original** ignitions, either **Selettra Digital "K"** or **Selettra Digital "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 part at any moment before starting the race. The organizer will not be liable for any eventual breakdown occurred after the replacement.

**4.15.2** Only the electronic **CDI box type "C" (16000 RPM)** is allowed and must be fixed on the chassis 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 slots are forbidden. The battery must be fixed to the chassis and always connected to the ignition system.



#### **4.16 SPARKPLUG**

**4.16.1** Only the following NGK sparkplugs, strictly original and without any modification, are allowed:

B9EG - B10EG - BR9EG - BR10EG – BR9EIX - BR10EIX - R6254E-105

**4.16.2** The sparkplug must be installed with its original gasket.

**4.16.3** The insulator must not exceed the sparkplug body and the length of the sparkplug body itself must be max. 18,5 mm. (CIK technical regulations appendix 7).

**4.16.4** Original spark plug cap, as delivered with the engine (IAME p.n. 10544)

#### **4.17 EXHAUST**

**4.17.1** Only the original muffler and header are allowed as supplied with the engine and must be kept in compliance with the homologation form, therefore no modification in structure or in dimensions is allowed. Only the Junior 29 mm restricted header is allowed, in compliance with the homologation form. Drilling and welding operations on the header are allowed only to install a temperature probe.

**4.17.2** The complete sealing of the exhaust gas between the cylinder and the exhaust manifold, as well as at the seat of the probe of the exhaust temperature, 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.

**4.17.3** Only the flexible hose length can be modified in order to modify the exhaust length. In any case the exhaust system must be in compliance with the phonometric measurement.

**4.17.4** The use of the exhaust silencer as described in the attachment n.7 is mandatory at all moments in EVENT 2.

#### **4.18 COOLING**

The cooling system must be in its original configuration: only one IAME original radiator (p.n. T-8000B), only one IAME original simple water pump (black or 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. Only water with no other additive is allowed for cooling. No additives are allowed. 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).

#### **4.19 STARTING**

**4.19.1** 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

#### **4.20 SPROCKETS**

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

#### **4.21 INSPECTIONS**

**4.21.1** The engine technical inspection is performed by the technical stewards together with one delegate previously appointed by IAME S.p.A. who will act as consultant. The technical stewards 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.

**4.21.2** In any moment, the technical officials, following a decision of the Stewards, have the right to replace any part, any accessory or even the entire engine

**4.21.3** 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.

**4.21.4** In case of extremely controversial events, the Stewards can decree the delivery of the concerned parts, duly sealed, to IAME S.p.a. which will proceed with an accurate inspection at the factory with the presence of one representative of the Competitor and one of the Sporting Authority.



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## Article 5. ENGINE IAME X30 SUPER SHIFTER 175cc RL TaG - X30 SUPER SHIFTER

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. Polishing, sandblasting, trimming or adjustments are not allowed. No heat treatment or surface treatment are allowed. The Entrant is liable for the conformity of its own equipment.

**5.1** The following original homologation forms of the engine:

- «343B» IAME X30 Super Shifter 175cc TaG

are integral part of the technical regulations.

**5.2** Only the IAME X30 Super Shifter 175cc-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.

**5.3** 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.

**5.4 IMPORTANT:** The tolerances reported on homologation form 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.

**5.4.1** Any tuning is forbidden: the maximum and minimum allowed values and the volume of the combustion chamber have to be made according to the method described in the CIK Technical Regulations.

### 5.5 DIAGRAMS AND VOLUME CHART:

	IAME X30 SUPER SHIFTER
EXHAUST	197 ° max
BOOSTERS	191° max
TT TRANSFERS	124 ° max
PRIMARY SIDE TRANSFERS	124,5° max
SECONDARY SIDE TRANSFERS	127,5° max
COMBUSTION CHAMBER VOLUME	17cc minimum with CIK insert

Homologation Form « 343B » - angular reading by inserting a 0.2x5mm gauge

### 5.6 CYLINDER HEAD

**5.6.1** The cylinder head has to be strictly original. Only the thread repairing by means of an M14x1,25 helicoil, with 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 cylinder head profile conformity. Only one copper head gasket allowed.

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

**5.6.3** The CIK insert body tightened on the cylinder head, must not protrude from the upper part of the combustion chamber dome.

### 5.7 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.

Original cylinder gaskets only. One gasket only between crankcase and cylinder spacer, one gasket only between cylinder spacer and cylinder. In addition to the measurement of the opening angles, the templates IAME cod. ATT-061/2 and ATT-061/4 are the reference to check the distance of the top edge of the ports from the cylinder head plane.

### 5.8 CRANKCASE, CRANKSHAFT, CON-ROD, CRANKPIN

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



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## 5.9 BEARINGS

Only steel and plastic cages are allowed. Only the strictly original crankshaft 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.

## 5.10 PISTON, RING, AND PIN

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

## 5.11 REED BLOCK

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

## 5.12 REED PETALS

Only original carbon fibre IAME marked (min. 0.30mm thick) reed petals are allowed. Modification to the original petals shape is forbidden.

## 5.13 CARBURETTOR, INLET SILENCER

Only the carburettor supplied together with the engine in its original configuration (same brand, same model, same reference) is admitted: Dell'Orto VHSB36RD. Only the original, not modified, Dell'Orto setting elements, provided for the concerned carburettor and summarized on the homologation form, are allowed. The inlet silencer must be selected from the list of CIK homologated 30mm intake tubes ones and it must be in compliance with the related homologation form. Any injection and/or spraying system are forbidden.

## 5.14 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.

## 5.15 IGNITION

**5.15.1** Only the original **Selettra Digital K** or **Selettra Digital S** ignition systems are allowed, without any modification. Scrutineers have the right to ask for the replacement of the whole ignition system or part at any moment before starting the race. The organizer will not be liable for any eventual breakdown occurred after the replacement.

**5.15.2** Only the electronic **CDI box type "L1"** is allowed and must be fixed on the chassis or on the engine (plant Digital S). Modifications on the stator fixing, shape and thickness of the rotor key and the rotor and crankshaft slots 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.

## 5.16 SPARKPLUG

**5.16.1** Only the following NGK sparkplugs, strictly original and without any modification, are allowed:

B10EG - BR10EG - BR10EIX - B11EG - B105EGV - B11EGV - R6254E-105

**5.16.2** The sparkplug must be installed with its original gasket.

**5.16.3** The insulator must not exceed the sparkplug body and the length of the sparkplug body itself must be max. 18,5 mm. (CIK technical regulations appendix 7).

**5.16.4** Original spark plug cap, as delivered with the engine (IAME p.n. 10544)

## 5.17 MUFFLER, MANIFOLD AND SILENCER

**5.17.1** The original muffler and exhaust manifold as supplied with the engine must be kept in compliance with the homologation form, therefore no modification 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.

**5.17.2** Only CIK homologated exhaust silencers for the KZ/KZ2 categories, in compliance with the homologation form, or the exhaust silencers Elto Racing Hom. FIK 1041300/09 and MC Racing Hom. CSAI 10410695/12, are allowed. No size or structure modifications are allowed.

**5.17.3** In any moment the exhaust system must be in compliance with the prescribed sound measurement.



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## **5.18 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 additive is allowed for cooling. Radiators shields, either adhesive or mechanical are allowed but should not be removed when the kart is in motion.

## **5.19 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.

## **5.20 SPROCKETS**

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

## **5.21 GEARBOX**

**5.21.1** All the gearbox and selector components must be strictly original.

**5.21.2** No further heat treatment nor surface treatment are allowed.

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

**5.21.4** The check of the gear ratios must be done according to the Article 12 of the CIK Technical Regulations.

## **5.22 INSPECTIONS**

**5.22.1** The engine technical inspection is performed by the technical stewards together with one delegate previously appointed by IAME S.p.A. who will act as consultant. The technical stewards 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.

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

**5.22.3** The technical forms are the main comparison reference for Scrutineers.

**5.22.4** In case of doubts on the engine parts conformity, the comparison with the sample engine will be the definitive probating element.

**5.22.5** In case of extremely controversial events, the Stewards can decree the delivery of the concerned parts, duly sealed, to IAME S.p.a. which will proceed with an accurate inspection at the factory with the presence of one representative of the Competitor and one of the Sporting Authority (ASN).



## Article 6 ENGINE IAME X30 SUPER 175cc RL TaG - X30 SUPER

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. Polishing, sandblasting, trimming or adjustments are not allowed. No heat treatment or surface treatment are allowed. The Entrant is liable for the conformity of its own equipment.

**6.1** The following original homologation forms of the engine:

- «359» IAME X30 Super 175cc – TaG
- «360» Carburettor Tillotson HB-10A (Ø34mm)

are integral part of the technical regulations.

**6.2** Only the IAME X30 Super 175cc-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.

**6.3** 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.

**6.4 IMPORTANT:** The tolerances reported on homologation form 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.

**6.4.1** Any tuning is forbidden: the maximum and minimum allowed values and the volume of the combustion chamber have to be measured according to the CIK Technical Regulations.

### 6.5 DIAGRAMS AND VOLUME CHART:

	IAME X30 SUPER
EXHAUST	188° max
BOOSTERS	184° max
TT TRANSFERS	126.5° max
PRIMARY SIDE TRANSFERS	127° max
SECONDARY SIDE TRANSFERS	130° max
COMBUSTION CHAMBER VOLUME	13,8cc minimum with CIK insert

Homologation form «359» - angular reading by inserting a 0.2x5mm gauge

### 6.6 CYLINDER HEAD

**6.6.1** 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.

**6.6.2** The squish (distance between piston and the cylinder head) must be minimum 0.85mm at all points. The thickness of the tin wire (50% 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-046/1 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.

**6.6.3** The CIK insert body tightened on the cylinder head, must not protrude from the upper part of the combustion chamber dome.

### 6.7 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 IAME original cylinder gasket is admitted. No head gasket is admitted.

In addition to the measurement of the opening angles, the templates IAME cod. ATT-061/3 and ATT-067/2 are the reference to check the distance of the top edge of the ports from the cylinder head plane.



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## 6.8 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.

## 6.9 BEARINGS

Steel and plastic cages are allowed. Only the strictly original crankshaft ball bearings (6206, C3 or C4) and counter balancing shaft ball bearings (6203, C3 or C4) are admitted. Ball-bearing with oblique contacts are forbidden. Only bearings with steel balls and rings are authorized. (Ceramic is forbidden).

## 6.10 PISTON, RING AND PIN

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

## 6.11 REED BLOCK

Strictly original without any modification. No gasket planes machining is allowed. Free screws. Original reed valve cover without any modification is allowed. Carburettor spacer, if present, must be IAME original (p.n.: TFB-41900) and in compliance with the homologation form.

## 6.12 REED PETALS

Only carbon fibre original IAME marked reed petals (min. 0.24mm thickness) are allowed. Modification to the original petals shape is forbidden. The use of IAME original reed petals reinforcements is mandatory.

## 6.13 CARBURETTOR, INLET SILNCER

Only the carburettor Tillotson HB-10A (Ø34mm) 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 are allowed; diaphragms, diaphragm gaskets and the needle valve spring are free.

At least one original carburettor spacer must be used and it must be in compliance with the homologation form of the engine.

Carburettor positioning (i.e. with pump in upper or in lower position) is free.

In case of doubt the carburettor must be compared to the sample carburettor. Reference gauges: ATT-067/4 and ATT-067/5.

The inlet silencer must be selected from the list of CIK homologated "30mm intake tubes" and it must be in compliance with the concerned homologation form. Any injection and/or spraying system are forbidden.

## 6.14 CLUTCH

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 triggered 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. Clutch drum reference gauge: ATT-047/4.

## 6.15 IGNITION

**6.15.1** Only **original** ignition **Selettra Digital "S"** is 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, at any moment before starting the race. The organizer will not be liable for any eventual breakdown occurred after the replacement.

**6.15.2** Only the electronic **CDI box type "N" (15000 RPM)** is allowed and must be fixed on the engine. 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 slots are forbidden. The battery must be fixed to the chassis.

## 6.16 SPARKPLUG

**6.16.1** Only the following NGK sparkplugs, strictly original and without any modification, are allowed:

B9EG - B10EG - BR9EG - BR10EG – BR9EIX - BR10EIX - R6254E-105

**6.16.2** The sparkplug must be installed with its original gasket.

**6.16.3** The insulator must not exceed the sparkplug body and the length of the sparkplug body itself must be max. 18,5 mm. (CIK technical regulations appendix 7).



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**6.16.4** Original spark plug cap, as delivered with the engine (IAME p.n. 10544)

#### **6.17 EXHAUST**

**6.17.1** Only the original muffler and exhaust manifold are allowed as supplied with the engine. They 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 exhaust muffler are only allowed on the support provided for the installation of the temperature probe.

**6.17.2** Only the original spacer (p.n.: IFH-20500), in compliance with the homologation form, and original gaskets, can be added or removed in order to adjust the muffler length.

In any case, the exhaust system must be in compliance with the phonometric measurement.

#### **6.18 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 additive is allowed for cooling. Radiators shields, either adhesive or mechanical are allowed but should not be removed when the kart is in motion.

#### **6.19 STARTING**

**6.19.1** 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.

#### **6.20 SPROCKETS**

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

#### **6.21 INSPECTIONS**

**6.21.1** The engine technical inspection is performed by the technical stewards together with one delegate previously appointed by IAME S.p.A. who will act as consultant. The technical stewards 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.

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

**6.21.3** 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.

**6.21.4** In case of extremely controversial events, the Stewards can decree the delivery of the concerned parts, duly sealed, to IAME S.p.a. which will proceed with an accurate inspection at the factory with the presence of one representative of the Competitor and one of the Sporting Authority (ASN).



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