POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule

2 RACE FORMAT

2.0.1 The IFMAR Electric On-road World Championships provisionally start with the 1/12th class in the first three (3) days, the ISTC class is run on the last four (4) days of the event.

An Opening Ceremony will be held following the conclusion of the 1/12th practice on the first day of the events.
Competitors will participate in a welcoming procession. Each national team is requested to wear similar shirts. A sign bearing the name of each country will be provided by the organizer for each team.
.

Rule to be amended as below:

2 RACE FORMAT

2.0.1 ***The IFMAR Electric On-road World Championships will be a 4 day event for the ISTC class and a 3 day event for the 1/12th class. The events may be run consecutively at the same venue or as separate events at different venues***

2.0.2
An Opening Ceremony will be held following the conclusion of the ***practice*** on the first day of the events.
Competitors will participate in a welcoming procession. Each national team is requested to wear similar shirts. A sign bearing the name of each country will be provided by the organizer for each team.

2.0.3
The track surface for the ISTC class can be either asphalt or needle carpet.

2.0.4
The track surface for 1/12th Class must be indoors on needle carpet.

Explanation: *These 2 classes are now quite different in both the types of venue's needed and a considerable number of the competitors only compete in 1 class or the other, it is potentially damaging to both events having the responsibility to incorporate the other class into the organisers plans.*
We should encourage the best possible events for each to take place and this may or may not require them to be local to each other.
Organisers should be free to apply for either or both events as they see fit.
Most 1/12th electric racing throughout the world is now held on carpet, the most prestigious 1/12th meeting in the world should be held on carpet.

Notes from Japan:
It was thought that the 1/12th Class should definitely be indoors on needle carpet. The 1/12th. WC at Collegno in 2006 was very successful being indoors on needle carpet. The IFMAR Chairman (KB) suggested the proposal be amended to state that the two events should be run consecutively in the same area.
It was felt that totally separate events and venues would incur too much additional travelling costs to competitors, but if the events are in the same area and consecutive, then maybe the worst scenario would be the change of hotel.

Block	For	Against	Abst	Passed	Not Passed
EFRA	X				13/03/2008
FAMAR	X				
FEMCA		X			
ROAR		X			

POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule

4.2. BATTERIES APPROVAL

4.2.1 The deadline date for submitting batteries (cells) to be approved for that year's World Championship is eight (8) months prior to the date of the Opening Ceremony of the World Championship. Applications for approval must be submitted to IFMAR.

The submittal for approval must contain a written technical specification from the original cell manufacturer for verification.

A minimum of 50,000 individual cells must have been sold (by the original manufacturer or their agents) to commercial outlets in the retail or distribution sector of the hobby industry. Approval may be requested by the original manufacturer or their agents.

The submittal for approval must conform to the procedure current at the time for IFMAR approval - copies available on request.

Rule to be amended as below:

4.2. BATTERIES APPROVAL

4.2.1 The deadline date for submitting batteries (cells) to be approved for that year's World Championship is eight (8) months prior to the date of the Opening Ceremony of the World Championship. Applications for approval must be submitted to IFMAR.

The submittal for approval must contain a written technical specification from the original cell manufacturer for verification***, which must include :***
- dimensions and weights with associated tolerances.
Samples submitted are required to closely represent the weight range stated.

A minimum of 50,000 individual cells must have been sold (by the original manufacturer or their agents) to commercial outlets in the retail or distribution sector of the hobby industry. Approval may be requested by the original manufacturer or their agents.

The submittal for approval must conform to the procedure current at the time for IFMAR approval - copies available on request.
that cells are actually available at the weights stated.

Notes from Japan: Agreed that this clarifies what tech. details are needed.

Explanation: The additional words make it clear that dimensions and weights with tolerances are required, and

Block	For	Against	Abst	Passed	Not Passed
EFRA	X			13/03/2008	
FAMAR	X				
FEMCA	X				
ROAR		X			

POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule

4.2.4 BATTERIES TECHNICAL

4.2.8 Cars will be driven by a maximum of 6 cells and 7.2 volts maximum. For 1/12 the numbers of cells is limited to 4.

Rule to be amended as below:

4.2.4 BATTERIES TECHNICAL

4.2.8 Cars will be driven by a maximum ***of 5 cells and 6.0 volts nominal maximum***. For 1/12 the numbers of cells is limited to 4.

Explanation: *This is the actual scene; even 5 cells might be going to be too much very soon*

Notes from Japan:

(Note: this proposal does not apply to Off-Road events). For technical purposes, it would be better to state " 6.0 volts nominal" as in reality the cell pack voltage output cannot be controlled. Those present agreed that using five cells (instead of six) would help to control the ever increasing speeds that generate so much stress on the rotating parts of the car.

The EFRA Rep. confirmed that five cells had been used at European Championship and within EFRA countries during 2007 with good results and drivers were happy with the resulting performance. A JMRCA member agreed that they were looking for the best solution which may not be the four cell configuration they currently use, and would follow the decision of IFMAR.

There was some concern that this proposal would not have a chance to be tried if some Blocs wanted to stay with six cells. A suggestion was made that it would be preferable to change to five cells, but at worst allow five and six cells to compete together but with a larger minimum weight for the six cell cars. The larger weight for six cell should reflect the extra energy available rather than the weight of the additional cell.

Block	For	Against	Abst	Passed	Not Passed
EFRA	X				
FAMAR		X			**13/03/2008**
FEMCA		X			
ROAR		X			

POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule

4.2.4 Batteries Technical

Cells must be sub-C size, rated nominally at 1.2 volts and dimensioned nominally at 44.00 mm length and 23.00 mm diameter with heat shrink fitted.
No modifications allowed to the outer or inner cell construction or modifications to the chemical composition.
Soldering for connections and wire is allowed

Rule to be amended as below:

4.2.4 Batteries Technical

Only NiCd or NiMH cells are approved for use. Cells are rated at 1.2 volts nominal.
The size of individual cell(s) to be:-
Diameter 23.0 mm +0/-1 mm.
Overall length 43.0 mm +0/-1.5 mm.
Measurements include original manufacturers heat shrink.
Overall length is the maximum length of the complete cell including the positive button before attaching/soldering any link wires or battery bars. Dimensions taken at ambient temperature and at 90 degrees to the centre-line of the cell. It is known that 'fast charging' of cells may result in cell expansion/distortion.
However, cells must never exceed the above maximum dimensions when used at a WC event.
Weight of individual cells:-
The original manufacturers of cells are allowed a maximum of +/- 2 grams. tolerance on the nominal weight of the cell stated on the technical specification/data sheet submitted at the time of approval.
The min/max weights will be detailed in the IFMAR Approved Battery List, and cells must never exceed the weight tolerances stated on the IFMAR Approved List. Any changes to the technical specifications of cells after the original approval will require re-approval using the time frame as detailed in 4.3.1

Explanation: The proposal is based on a report requested by Mike Reedy in 2005 at Collegno (IFMAR Elec.Chairman at the time). The dimensions above are as stated in the Internationaly recognised specification (IEC Spec.) which all currently known manufacturers have agreed they acknowledge.
During recent years, the length of cells have been increasing to the point where they are difficult to fit into some models.
We are also aware that some manufacturers increase the weight of cells after original approval by quoting large tolerances on their data sheet, which effectively allows continued development.
It has also been known that manufacturers have issued a revised data sheet to cover weight increases resulting from continued development.
Quite simply, some manufacturers have been ignoring the spirit of the long established rules and the above proposal is designed to control these aspects.

Notes from Japan: It was confirmed that EFRA has already adopted this rule for all 2008 events.

(31.12.07 - EFRA Cell Homologation Officer: All current approved cell manufacturers have submitted sample cells to EFRA for approval, that comply with the maximum dimensions after fast charging).

Block	For	Against	Abst	Passed	Not Passed
EFRA	X				13/03/2008
FAMAR	X				
FEMCA		X			
ROAR		X			

POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule

4.3 MOTORS

4.3.2 An approved ..... to the event.

BRUSHED MOTORS
Specifications: '05' sized displacements.
Can diameter to be a maximum of 36.02mm
Can length to be Maximum of 53mm measured from the mounting face of the motor to the furthest point not including solder, tabs or lead wires.
Shaft diameter is .125 inch. Production Tolerances allowed.
Ceramic magnets only (cobalt and rare earth magnets specifically not allowed).
Current is supplied to the armature by 2 brushes.
Armature: The rotor is to have three poles with windings.
Stack length without epoxy: minimum 21mm and maximum is 22.8mm.
Only Copper wire is to be used for the winding.

No Split rotor is allowed. The laminations have to be one after the other without anything between. The thickness of the stack plates is 0.35mm +/- 0.05mm, a maximum of 63 laminations to be used. The minimum stack thickness is 3.5mm.

A minimum of 5,000 units must be available at the time of approval. A minimum of three hundred (300) motors must have been sold to at least three (3) distributors or hobby shops or OEM's at the time of submittal. The manufacturer has to provide an address of a hobby shop or the like, that any driver who wishes to obtain these motors at the time of approval can do so.
Approved motors may be modified by re-winding, balancing, truing of commutators, epoxying, ball bearings, brushes and custom brush systems only.
No hybrid (mixing of parts from approved motors) allowed.

Rule to be amended as below:

4.3 MOTORS

4.3.2 An approved .....to the event.

BRUSHED MOTORS
Specifications: '05' sized displacements.
Can diameter to be a maximum of 36.02mm
Can length to be Maximum of 53mm measured from the mounting face of the motor to the furthest point not including solder, tabs or lead wires.
Shaft diameter is .125 inch. Production Tolerances allowed.
Ceramic magnets only (cobalt and rare earth magnets specifically not allowed).
Current is supplied to the armature by 2 brushes.
Armature: The rotor is to have three poles with windings.
Stack length without epoxy: minimum 21mm and maximum is 22.8mm.
Only Copper wire is to be used for the winding.

No Split rotor is allowed. The laminations have to be one after the other without anything between. The thickness of the stack plates is 0.35mm + 0.05mm, a maximum of 63 laminations to be used. The minimum stack thickness is 3.5mm.
The armature has to be permanently marked by the manufacturer, detailing the number of 'winds' and the name of the manufacturer.

A minimum of 5,000 units must be available at the time of approval. A minimum of three hundred (300) motors must have been sold to at least three (3) distributors or hobby shops or OEM's at the time of submittal. The manufacturer has to provide an address of a hobby shop or the like, that any driver who wishes to obtain these motors at the time of approval can do so.
Approved motors may be modified by re-winding, balancing, truing of commutators, epoxying, ball bearings, brushes and custom brush systems only.
No hybrid (mixing of parts from approved motors) allowed.

Explanation: The length of the stack and the thickness of the laminations are precisely dimensioned with tolerances. Therefore there is no need to state the number of laminations. To explain; if the laminations were minimum thickness the minimum length could not be achieved using 63 laminations.
The minimum stack thickness (web thickness) is not required as IFMAR do not specify any 'wind' limits. Also, this dimension cannot be checked without destroying the motor.
Requiring the armature to be permanently marked with the name of the manufacturer will help verify that the motor is not a hybrid.

Notes from Japan: All agreed that this proposal needs to be implemented.

Block	For	Against	Abst	Passed	Not Passed
EFRA	X			13/03/2008	
FAMAR	X				
FEMCA	X				
ROAR	X				

POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule 4.4.2 (continued)

4.3 MOTORS

BRUSHLESS MOTORS:
General definition of a Brushless Motor:
a) Sensored or sensorless motors are allowed.
b) The motor has to be rebuildable. Ball bearings are allowed.
c) If the motor is sensored:
- It must use a six position JST ZH connector model number ZHR-6 or equivalent connector with 6 JST part number SZH-002T-P0.5 26-28 awg contacts or equivalent.
Wire sequence must be as follows:
Pin #1 - Black wire ground potential
Pin #2 - orange wire phase C
Pin #3 - white wire phase B
Pin #4 - green wire phase A
Pin #5 - blue wire temp control, 10 k Thermistor referenced to ground potential
Pin #6 - red wire + 5.0 volts d.c. +/- 10%.
Compatible speed control must use the 6 position JST header part number **X**-6B-ZR-SM**X**-TF (where the **X** denotes the style of the header), or equivalent.
- The power connector has to be clearly marked A, B, C.
A for phase A
B for phase B
C for phase C
d) `05` size specifications
Can:
Overall maximum diameter is 36.02mm measured at whatever point yields the maximum dimension, excluding solder tabs or lead wires. Overall minimum diameter is 34.00mm measured at whatever point yields the minimum dimension, excluding solder tabs or lead wires.
Maximum length is 53.00mm measured from the mounting face of the motor to the furthest most point of the end bell, not including solder tabs, lead wires or original manufacturer's logo or name. Minimum length is 50.00mm measured from the mounting face of the motor to the furthest most point of the end bell, not including solder tabs, lead wires or original manufacturer's logo or name. Motor mounting holes must be on 1.00- inch (25.40mm) centres.
Stack/Stator:
Stack minimum length 19.30mm, maximum 21.00mm. Stack inside diameter minimum 12.50mm, maximum 16.00mm. If a stack is used then it must be continuous. The laminations have to be one after the other without anything in between. The thickness of the stack plates is 0.35 +/- 0.05mm. All laminations must be of the same material.

Winding:
Only three slot (Phase) "Y" wound stators are permited. No delta wound stators allowes. Only circular (round) pure copper wire permited. No turns limit.
Rotor:
Output shaft diameter must be 0.125 inches (3.175mm). Only one piece, two pole bonded
Neodymium or Ferrite magnetic rotors are permitted. Magnet minimum length 23.00mm,
maximum 27.00mm. Magnet minimum diameter 12.00mm, maximum 15.50mm.

e) All motors must have the original manufacturer's logo or name moulded into the end bell.

4.4.2 (continued) Rule to be amended as below:

4.3 MOTORS

BRUSHLESS MOTORS:
General definition of a Brushless Motor:
a) Sensored or sensorless motors are allowed.
b) The motor has to be rebuildable. Ball bearings are allowed.
c) If the motor is sensored:
- It must use a six position JST ZH connector model number ZHR-6 or equivalent connector with 6 JST part number SZH-002T-P0.5 26-28 awg contacts or equivalent.
Wire sequence must be as follows:
Pin #1 - Black wire ground potential
Pin #2 - orange wire phase C
Pin #3 - white wire phase B
Pin #4 - green wire phase A
Pin #5 - blue wire temp control, 10 k Thermistor referenced to ground potential
Pin #6 - red wire + 5.0 volts d.c. +/- 10%.
Compatible speed control must use the 6 position JST header part number **X**-6B-ZR-SM**X**-TF
(where the **X** denotes the style of the header), or equivalent.
- The power connector has to be clearly marked A, B, C.
A for phase A
B for phase B
C for phase C
d) `05` size specifications
Can:
Overall maximum diameter is 36.02mm measured at whatever point yields the maximum dimension, excluding solder tabs or lead wires. Overall minimum diameter is 34.00mm measured at whatever point yields the minimum dimension, excluding solder tabs or lead wires.
Maximum length is 53.00mm measured from the mounting face of the motor to the furthest most point of the end bell, not including solder tabs, lead wires or original manufacturer's logo or name. Minimum length is 50.00mm measured from the mounting face of the motor to the furthest most point of the end bell, not including solder tabs, lead wires or original manufacturer's logo or name. Motor mounting holes must be on 1.00- inch (25.40mm) centres.
Stack/Stator:
The Stack or Backiron must be continuous. The laminations have to be one after the other without anything in between. Stack/Backiron minimum length 19.30mm, maximum 21.00mm. The thickness of the Stack/Backiron laminations is 0.35+/-0.05 mm. All laminations must be of the same material. Inside diameter of Stack or Windings equals the central space between the laminations or assembly of windings and must accept 'plug' gauges of 12.5 mm minimum, 16.0 mm maximum. These dimensions to be measured with the centre of the 'plug' gauge in-line with the centre of the motor Can. (ie. Concentric to can).

Winding:
Delta and Y wound stators are permitted. Only circular (round) pure copper wire
permitted. No turn limit.
Rotor:
Output shaft diameter must be 0.125 inches (3.175mm). Only one piece, two pole
Neodymium or Ferrite magnetic rotors are permitted. Magnet minimum length 23.00mm,
maximum 27.00mm. Magnet minimum diameter 12.00mm, maximum 15.50mm.

e) All motors must have the original manufacturer's logo or name moulded into the end bell.

POSTAL VOTE	Date sent: 12th Feb 2008
Proposer: EFRA	

f) A minimum of two thousand (2000) brushless motors must be available at the time of approval. A minimum of three hundred (300) brushless motors must have been sold to at least three (3) distributors or hobby shops or OEM's at the time of submittal. The manufacturer has to provide an address of a hobby shop or the like, that any driver who wishes to obtain these motors at the time of the approval can do so. No hybrid (mixing of parts from approved brushless motors) allowed.

f) A minimum of two thousand (2000) brushless motors must be available at the time of approval. A minimum of three hundred (300) brushless motors must have been sold to at least three (3) distributors or hobby shops or OEM's at the time of submittal. The manufacturer has to provide an address of a hobby shop or the like, that any driver who wishes to obtain these motors at the time of the approval can do so. No hybrid (mixing of parts from approved brushless motors) allowed.

Explanation: The text in RED was added this year to allow sintered rotors and delta 'winds'. The text in **Black (Bold)** is an additional proposal as a result of a working group with participation of the industry conducted by EFRA. The current rule states "if a stack is used". This can be interpreted that alternative designs are allowed. The above amendment details how dimensions are established if the motor is of the Stack/Stator or Backiron (Coreless) design.

Notes from Japan: All agreed that this rule needs updating as stated.

Block	For	Against	Abst	Passed	Not Passed
EFRA	X			13/03/2008	
FAMAR	X				
FEMCA	X				
ROAR	X				

POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule

5.1.14 DIMENSIONS

5.1.22.a The minimum weight limit, ready to run, is 865gr including transponder.

The weight of the car must not be below the weight limit at any time during the race. Race distortion or damage must be disregarded.

Rule to be amended as below:

5.1.14 DIMENSIONS

5.1.22.a The minimum weight limit, ready to run, is ***800gr*** including transponder.

The weight of the car must not be below the weight limit at any time during the race. Race distortion or damage must be disregarded.

Explanation: 865 is critical now. 800 much more realistic

Notes from Japan:
This proposal would standardize the weight that is now used in almost all countries in the World.

Block	For	Against	Abst	Passed	Not Passed
EFRA	X				13/03/2008
FAMAR	X				
FEMCA		X			
ROAR		X			

POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule

5.1.14 DIMENSIONS

5.1.22.b When racing on a track surface which can be damaged (e.g. carpet) a minimum ground clearance of 3mm must be maintained at all times.

Before and after each heat, race or final, cars must pass over a 3mm block without any part of the chassis or body touching the block.

Cars failing this test prior to their race will not be allowed on the track. Cars failing this test after their race will have their heat/race/final time disallowed. The organizer will state in the Status Report and the Stage 1 Report if this rule applies to their track surface, such statement to be agreed by a three to one majority of EFRA, FEMCA, ROAR and FAMAR.

Rule to be amended as below:

5.1.14 DIMENSIONS

5.1.22.b When racing on a track surface which can be damaged (e.g. carpet) a minimum ground clearance of 3mm must be maintained at all times ***(excluding Spur gears for 1/12th cars)***.

Before and after each heat, race or final, cars must pass over a 3mm block without any part of the chassis or body touching the block.

Cars failing this test prior to their race will not be allowed on the track. Cars failing this test after their race will have their heat/race/final time disallowed. The organizer will state in the Status Report and the Stage 1 Report if this rule applies to their track surface, such statement to be agreed by a three to one majority of EFRA, FEMCA, ROAR and FAMAR.

Explanation: *reasonable exclusion.*

Notes from Japan:
With the introduction of Brushless motors, the size of spur gear used with 1/12th cars has needed to be increased , and the 3mm clearance is not achievable. At the last 1/12th WC in Collegno, the decision was agreed by all Team Managers to waive the 3.0 mm clearance rule for the spur gear only without any problems.

Block	For	Against	Abst	Passed	Not Passed
EFRA	X			13/03/2008	
FAMAR	X				
FEMCA	X				
ROAR	X				

POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule

6.0 PURPOSE

The essence of the 1/10th ISTC class is competition between realistic models of saloon/sedan cars
raced in Touring Car Series for Class Two FIA Touring Cars.
All Cars must comply with the ISTC Technical Rules to be eligible to race in Timed Practice, Qualifying
and Finals.

Rule to be amended as below:

6.0 PURPOSE

The essence of the 1/10th ISTC class is competition between realistic models of saloon/sedan cars
raced in Touring Car Series for Class Two FIA Touring Cars.
All Cars must comply with the ISTC Technical Rules to be eligible to race in Timed Practice, Qualifying
and Finals

Bodies must be a 1:10 scale in character reproduction of touring car (sedan) 2 and 4-door vehicles that exist ore have exist, and raced in international Touring Car series
For homologation purposes, the bodies dimensions will checked according the Global Body Specifications.
Bodies may be homologated by ROAR,EFRA, FEMCA or FAMAR up to four (4) months before the event.
This combined list will be made available by IFMAR to the organiser for inclusion in the Stage II Report. For technical inspection it is necessary that all body shells on the list can be identified by means of a manufacturer's and/or homologation number issued by a Bloc. This number must be moulded in at the right upper edge of the windscreen

Explanation: *Global spec body is an excellent tool.*

Notes from Japan:
There was no objection from the meeting to this proposal. Those present felt that this process would make it easier for all the Blocs. It would be advisable for a single 3D outline drawing to be used, which details any required dimensions or details, which has been accepted/agreed by all Blocs.

Block	For	Against	Abst	Passed	Not Passed
EFRA	X			13/03/2008	
FAMAR	X				
FEMCA	X				
ROAR	X				

POSTAL VOTE | Date sent: 12th Feb 2008

Proposer: EFRA

Existing rule

6.4 WEIGHT

6.4.1 Weight, ready to race excluding timing equipment, at all times during the race:
4WD -1500 grams minimum
2WD - 1400 grams minimum.

Rule to be amended as below:

6.4 WEIGHT

6.4.1 Weight, ready to race excluding timing equipment, at all times during the race:
4WD -***1400*** grams minimum
2WD - ***1300*** grams minimum.

Explanation: *1 cell less*

Notes from Japan:
This proposal needs to be read in conjunction with the 4.2.8 proposal. If five cells are not accepted, this proposal has no relevance.
It should be noted that the reduction of 50 grams does not compare to the weight of one cell being removed. Current cells weigh on average 70 grams.

Block	For	Against	Abst	Passed	Not Passed
EFRA	X				13/03/2008
FAMAR	X				
FEMCA		X			
ROAR		X			

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