



**EFRA ANNUAL GENERAL MEETING**  
**HOTEL Holiday Inn, Brussels**  
**Belgium**  
**5-6th of November 2011**

**MINUTES ELECTRIC SECTIONS – GENERAL. Sat. 5.11.11.**

**1. CHAIRMAN'S WELCOME** **Mr. Heiner Martin & Mr. Paul Worsley**

The Electric Track Chairman opened the meeting at 13.40.

**2. APOLOGIES FOR ABSENCE – ELECTRIC GENERAL**

Apologies have been received from: Greece, Hungar, Slovak Republic  
 Member Countries presents. Section subscription.

COUNTRY	PRESENT	SECTION SUBSCR
AUSTRIA		X
BELGIUM		X
BULGARIA		
CROATIA		
CYPRUS		
CZECH REP.		
DENMARK		
ESTONIA		
FINLAND		X
FRANCE		X
GEORGIA		
GERMANY		X
GREAT BRITAIN		X
GREECE		
HOLLAND		X
HUNGARY		
IRELAND		
ITALY		X
LITHUANIA		
LUXEMBOURG		
MONACO		
NORWAY		X
POLAND		X
PORTUGAL		X
ROMANIA		
RUSSIA		
SLOVAK REP.		
SLOVENIA		
SPAIN		X
SWEDEN		
SWITZERLAND		X
TURKEY		
<b>TOTAL</b>		

Other persons present: Stefan Köhler, LRP electronic

### 3. MINUTES OF 2010 SECTION MEETING

6<sup>st</sup> and 7<sup>th</sup> of November 2010 – Brussels, Belgium

Matters arising from the minutes:

The minutes were checked and accepted as written at the AGM 2010. Austria seconded it, Passed unanimously

The following person was elected to check the minutes of this year: France

### 4. CORRESPONDENCE RECEIVED

No correspondence received.

### 5. RULE PROPOSALS (Does / May affect all Electric Sections)

#### APPENDIX 3 A ELECTRIC CARS GENERAL

##### THE RULE SHOULD BE DELETED:

2.1.

##### Existing Rule:

##### REBUILDABLE 19T SPEC. MOTORS

The Can.

1. Can diameter, before any surface finish is applied, is 36.02 mm max.

The overall length of the assembled motor is 53.0 mm max., measured from the mounting face of the motor to the furthest point of the end bell, not including solder, tabs or lead wires. Only ceramic magnets can be used (Cobalt and rare earth magnets are not allowed). There is no limit on the number of magnets used. Current is supplied to the armature commutator by 2 brushes.

2. The can will be stamped with the name of manufacturer and '19 Spec'.

3. Ball-raced bearings are allowed.

4. The can will incorporate a slot to locate the end bell at a designated timing advance of 24 degrees maximum.

The can will have two pairs of mounting holes. The pairs of mounting holes can be positioned by either of the following :-

a) Both pairs within the space between the magnets. The line through the mid-point between each pair of mounting holes must pass through the centre of the can and is determined as being zero degrees.

b) One pair within the space between the magnets. The line through the centre of these holes must pass through the centre of the can and is determined as being zero degrees. The second pair will be at 90 degrees to the zero degree line.

The zero degree line will be marked on one side of the can to indicate zero degrees.

The centre of each magnet (or assembly of magnets) on each side of the can will be at 90 degrees to the 0 degree centre-line, with a tolerance of +/- 2 degrees.

5. Magnets must be permanently glued to the motor can and may not be removed. No magnet shims are allowed (e.g. an extra shim that could be added on the end of the magnet or between the tips to change performance). Flux collector/timing rings are allowed as long as their only purpose is to secure the end bell to the motor can. Such rings may not extend between the magnet tips.

6. The motor can must have inspection holes/slots between magnet tips so that the armature may be viewed for inspection. These holes/slots may be no closer than 5.00mm from either the open end or mounting face of the motor can. The view through the inspection holes/slots must not be obstructed by anything covering the holes/slots (e.g. motor label).

The End-Bell.

7. Ball-raced bearings are allowed.

8. The end bell will incorporate a 'tab', which when assembled to the slot in the can must result in a designated timing advance of 24 degrees maximum. When the end-bell assembly is secured to the can, the brush hoods will be aligned at 90 degrees to the can zero line, plus the allowed timing of 24 degrees maximum.

Brush hoods/tubes will be assembled at 180 degrees apart. The centre of the brush hood/tube will be in-line with the centre of the armature.

9. End bells must be marked with the manufacturer's name.

The Armature.

10. The shaft diameter is 3.175 mm.

The rotor to have three poles with windings. Length of stack is to be 21.00mm min. to 22.80mm max (both dimensions measured with epoxy/hysol insulation coating removed)

. The thickness of the 'stack' laminations is 0.35mm +/-0.05mm. The width of the stack web will be 3.50mm minimum with epoxy/hysol insulation removed.

The armature has to be permanently marked (or tagged) by the manufacturer, showing the number of windings and the name of the manufacturer.

11. The commutator slots must be aligned with the centre of the individual poles, with a tolerance of +/- 2 degrees.

12. The armature will be wound using a single wind of round 19 AWG (American wire Gauge) copper wire giving 19 Turns. It is not mandatory to use the 'Mabuchi' cross wrap technique for winding the armature. There is no plus tolerance on the wire diameter. Armatures must be machine wound, 'hand winding' is not permitted. It is not mandatory to use a locking device between the commutator and the

armature stack.

13. Tabs on the armature's commutator may only be "compression welded". No after-market welding, soldering or silver brazing will be permitted.

14. Epoxy balancing of armatures will not be permitted.

15. Only full stack armatures with no cut-outs are allowed. No split, skewed, tri-rotors etc. are allowed. Longitudinal slots/grooves parallel to the armature shaft in the pole crowns are not allowed on any armature introduced after 01.01.02. The crowns of each pole must be symmetrical in cross section, with a constant crown radius. Steps in the crown are not allowed.

16. No modifications to the OEM armature stack may be made, other than the drilling/grinding of balancing holes. Modifications to the OEM designs, including (but not limited to) excessive drill holes, milling or turning to lighten or enhance the performance of the armature are not allowed.

17. The armature shaft does not have to extend beyond the end bell, but any extension has to have a reduced diameter to form a parallel step.

Timing.

18. The overall timing of the assembled motor is determined by the allowed tolerances of the individual assemblies, (I.e. Magnet position, Commutator position, Location of End-bell to Can).

General.

19. No modifications to the OEM construction/design of the motor can, end bell, or armature will be permitted. (e.g. adding or removing material from the armature stack, changing the dimensions or orientation of brushes or brush hoods, relocating spring posts).

20. The armature, motor can, and end bell must all be from the same OEM and can contain only components from the same model. No hybrid motors or mixing of parts from different models will be permitted.

21. All motors used in EFRA sanctioned events must have their original motor builders label(s) substantially intact to be eligible.

Organiser may offer one "handout" motor to all competitors entered in the "Spec Car Motor" class. Where "handout" motors are used, the competitor may not make any changes to magnets or springs during the event.

Costs of the handout motor (without profit to the organiser) may be charged to the competitor

**Remarks:**

These motors are no longer used by competitors at EFRA events

**Proposed by EFRA**

**Seconded by: Great Britain**

**The proposal passed Unanimously**

#### **THE RULE SHOULD BE DELETED:**

2.2.

**Existing Rule:**

**MODIFIED BRUSHED MOTORS**

Specifications '05' sized displacements:

Can:

Can diameter to be a maximum of 36.02 mm.

Overall length to be a maximum of 53 mm measured from the mounting face of the motor to the furthest point not including solder, tabs or lead wires.

Current is supplied to the armature by 2 brushes.

Only Ceramic magnets are permitted. (Cobalt and rare earth magnets are not allowed)

Armature:

Shaft diameter is 3.175mm (0.125inches), production tolerances are allowed. The rotor shall have three poles with windings. Stack length 21.00mm minimum, 22.80mm maximum (both dimensions to be measured with Epoxy/Hysol insulation removed). No split rotor is allowed. The laminations have to be continuous without anything in between. The thickness of the stack plates is 0.35mm +/- 0.05mm. Only round copper wire is to be used for winding. The armature has to be permanently marked by the manufacturer, showing the number of windings and name of the manufacturer.

**Remarks:**

These motors are no longer used by competitors at EFRA events.

**Proposed by EFRA**

**Seconded by: Great Britain**

**The proposal passed Unanimously**

#### **THE RULE IS NEW:**

2.3.

**Existing Rule:**

**MODIFIED BRUSHLESS MOTORS:**

1 Sensorless as well as sensed motors are allowed.

2 The motor has to be rebuildable . Ball bearings are allowed.

3 If the motor is sensed:

It must use a six position JST ZH connector model number ZHR-6 or equivalent connector with 6JST 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, 10K thermistor referenced to ground potential

Pin #6- Red wire +5.0 Volts DC +/-10%

Compatible speed control must use the 6 position JST header part number X-6B-ZR-SMX-TF (Where the X denotes the style of header), or equivalent.

The power connector has to be clearly marked A, B, C:

A for phase A, B for phase B and C for phase C

4 "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 34,0mm measured at whatever point yields the maximum dimension, excluding solder tabs or lead wires. Maximum length is 53,0mm 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 50,0mm measured at whatever point yields the maximum dimension, excluding solder tabs or lead wires.

Motor mounting holes must be on 1,00 inch (25.0 - 25.4mm) 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 19.3mm, maximum 21.0mm. The thickness of the stack/backiron laminations is 0.35 +/- 0.05mm. 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 12.5mm minimum, 16.0mm 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 wounded stators are permitted. Only circular (round) pure copper is permitted. There is no turn limit.

Rotor: Output shaft diameter must be 0,125" (3.175mm). Only one piece, two poles Neodymium or Ferrite magnetic rotors are permitted.

Magnet: Minimum length 23,0mm. Maximum 27,0mm. Magnet minimum diameter 12,0mm, maximum 15,5mm.

5 All motors must have the original manufacturer's logo or name permanently marked by the manufacturer into the end bell or end-plate.

**Proposal:**

Add:-

6. If the stator cannot be easily removed from the assembled motor for technical verification of sizes or construction, then the Can/Sleeve must have:-

Slots or holes that will allow measurement of the stator length.

Slots or holes to allow visual appraisal of the laminates used in the stator.

Rule to be applied to any new range of motor starting 01.01.12. Existing motors without these features are not excluded.

**Remarks:**

The design of the majority of current Brushless Motors do not allow the dimensions and laminate thickness to be measured or viewed without major surgery. This is difficult at an event.

This rule wording has now been accepted by IFMAR.

**Proposed by EFRA**

**Seconded by: Holland**

**The proposal passed Unanimously**

**THE RULE SHOULD BE AMENDED TO READ:**

2.4.

**Existing Rule:**

'SPEC' BRUSHLESS MOTORS (17.5T, 13.5T and 10.5T 'wind' limit)

The following rules have been agreed by various International organisations.

1 Only sensored motors are allowed in the Spec. classes.

2 The motor has to be rebuildable. Ball bearings are allowed. The motor must be constructed to allow easy replacement of the; rotor, bearings and front End-Bell.

3 Sensor connection requirements:

The motor 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-SMX-TF (where the X denotes the style of the header), or equivalent.

The motor power connectors have to be clearly marked A, B, C.

A for phase A. B for phase B. C for phase C

It is not mandatory that sensored Speed Controls have to be used, or that the sensor 'harness' has to be connected.

4 The Can. (Based on '05' size specifications).

The overall dimensions of the assembled motor do not include: - solder tabs, lead wires or the original manufacturer's logo or name.

Overall maximum diameter is 36.02mm measured at whatever point yields the maximum dimension.

Overall minimum diameter is 34.0 mm measured at whatever point yields the minimum dimension.

Maximum length is 53.0 mm measured from the mounting face of the motor to the furthest point of the end bell. Minimum length is 50.0 mm measured from the mounting face of the motor to the furthest point of the end bell. Motor mounting holes must be on nominal 25.0/25.4 mm centres.

5 The Stack/Stator: Slot-less stators are not allowed. The stator must be continuous laminations

having the same overall shape, being one after the other without anything in between. The laminations must be of one homogeneous material without cut-outs, holes or hollow sections other than for the three slots of copper coil wires and the three grooves for the screws used to hold the entire assembly together. Stator minimum length 19.3 mm, maximum 21.0 mm. The thickness of the stator laminations is 0.35 +/- 0.05 mm. The inside diameter of the stator must accept a 'plug gauge' of 14.50 mm +/- 0.005 diameter, clearing the stator, plus its windings and the electrical collection ring at any end of the stator.

6 The Winding: Only three slot (phase) 'Y' (star) wound stators are allowed. No delta wound stators allowed. Only circular (round) pure copper magnet wire permitted. The three slotted stator must be wound with: -

17.5T Class:- 17.5 turns of 2 x 20 awg. (or 0.813 mm) maximum wire dia.

13.5T Class: - 13.5 turns of 2 x 21 awg. (or 0.724 mm), & 2 x 23 awg. (or 0.574 mm) maximum wire dia.

10.5T Class: - 10.5 turns of 2 x 20 awg. (or 0.813 mm), & 2 x 22 awg. (or 0.643 mm) maximum wire dia. Dimensions are before lacquer coating

7 The Rotor: Shaft diameter must be 3.175mm where the pinion gear locates. Only one piece, two pole Neodymium bonded or sintered, or Ferrite (ceramic) magnetic rotors are permitted. Magnet length will be 25.00 +/- 1.00mm, not including any non-magnetic balancing aids. Magnet outside diameter will be 12.20/12.51mm (min./max. with no further tolerance) for the entire length of the magnet. The shaft outside diameter where the magnet is mounted will be 7.25mm +/- 0.15mm, with this diameter extending beyond the magnet to facilitate measurement.

8 All motors must have the original manufacturer's logo or name moulded/engraved into the end bell/plate. A unique marking or feature that is difficult to remove must be incorporated into the assembled motor to identify the motor is either a 17.5T, 13.5T or 10.5T Spec. Class motor. Motors introduced from 2011 onwards must have the 'wind' # etched/engraved onto the outer surface of the motor on a part of the motor that cannot easily be separated from the stator windings.

#### Proposal:

'SPEC' BRUSHLESS MOTORS (17.5T, 13.5T and 10.5T 'wind' limit)

The following rules have been agreed by various International organisations.

1 Only sensored motors are allowed in the Spec. classes.

2 The motor has to be rebuildable. Ball bearings are allowed. The motor must be constructed to allow easy replacement of the; rotor, bearings and front End-Bell.

3 Sensor connection requirements:

The motor 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-SMX-TF (where the X denotes the style of the header), or equivalent.

The motor power connectors have to be clearly marked A, B, C.

A for phase A. B for phase B. C for phase C

It is not mandatory that sensored Speed Controls have to be used, or that the sensor 'harness' has to be connected.

4 The Can. (Based on '05' size specifications).

The overall dimensions of the assembled motor do not include: - solder tabs, lead wires or the original manufacturer's logo or name.

Overall maximum diameter is 36.02mm measured at whatever point yields the maximum dimension.

Overall minimum diameter is 34.0 mm measured at whatever point yields the minimum dimension.

Maximum length is 53.0 mm measured from the mounting face of the motor to the furthest point of the end bell. Minimum length is 50.0 mm measured from the mounting face of the motor to the furthest point of the end bell. Motor mounting holes must be on nominal 25.0/25.4 mm centres.

5 The Stack/Stator: Slot-less stators are not allowed. The stator must be continuous laminations having the same overall shape, being one after the other without anything in between. The laminations must be of one homogeneous material without cut-outs, holes or hollow sections other than for the three slots of copper coil wires and the three grooves for the screws used to hold the entire assembly together. Stator minimum length 19.3 mm, maximum 21.0 mm. The thickness of the stator laminations is 0.35 +/- 0.05 mm. The inside diameter of the stator must accept a 'plug gauge' of 14.50 mm +/- 0.005 diameter, clearing the stator, plus its windings and the electrical collection ring at any end of the stator.

6 The Winding: Only three slot (phase) 'Y' (star) wound stators are allowed. No delta wound stators allowed. Only circular (round) pure copper magnet wire permitted. The three slotted stator must be wound with: -

17.5T Class:- 17.5 turns of 2 x 20 awg. (or 0.813 mm) maximum wire dia.

13.5T Class: - 13.5 turns of 2 x 21 awg. (or 0.724 mm), & 2 x 23 awg. (or 0.574 mm) maximum wire dia.

10.5T Class: - 10.5 turns of 2 x 20 awg. (or 0.813 mm), & 2 x 22 awg. (or 0.643 mm) maximum wire dia. Dimensions are before lacquer coating

7 The Rotor: Shaft diameter must be 3.175mm where the pinion gear locates. Only one piece, two pole Neodymium bonded or sintered, or Ferrite (ceramic) magnetic rotors are permitted. Magnet length will be 25.00 +/- 1.00mm, not including any non-magnetic balancing aids. Magnet outside diameter will be 12.20/12.51mm (min./max. with no further tolerance) for the entire length of the magnet. The shaft outside diameter where the magnet is mounted will be 7.25mm +/- 0.15mm, with this diameter extending beyond the magnet to facilitate measurement.

8 All motors must have the original manufacturer's logo or name moulded/engraved into the end bell/plate. A unique marking or feature that is difficult to remove must be incorporated into the

assembled motor to identify the motor is either a 17.5T, 13.5T or 10.5T Spec. Class motor. Motors introduced from 2011 onwards must have the 'wind' # etched/engraved onto the outer surface of the motor on a part of the motor that cannot easily be separated from the stator windings

9 If the stator cannot be easily removed from the assembled motor for technical verification of sizes or construction, then the Can/Sleeve must have :- Slots or holes that will allow measurement of the stator length. Slots or holes to allow visual appraisal of the laminates used in the stator.(Rule to be applied to any new range of motor starting 01.01.12. Existing motors without these features are not excluded.)

**Remarks:** The design of the majority of current Brushless Motors do not allow the dimensions and laminate thickness to be measured or viewed without major surgery. This is difficult at an event.

**Proposed by EFRA**

**Seconded by: Finland**

**The proposal passed Unanimously**

**THE RULE SHOULD BE AMENDED TO READ:**

3.

**Existing Rule:** BATTERIES  
EFRA approved cells can be NiCd, NiMH or Lithium based (LiPo/LiFe). Each Electric Section will define which types of cell are allowed at EFRA events and the number of cells and/or nominal rated voltage.

**Proposal:** BATTERIES  
EFRA approved cells will be Lithium based (LiPo/LiFe). Each Electric Section will define the number of cells and/or nominal rated voltage.

**Remarks:** NiCd and NiMH cells are no longer submitted by manufacturers for approval and are no longer used by competitors at EFRA events.

**Proposed by EFRA**

**Seconded by: France**

**The proposal: passed Unanimously**

**THE RULE SHOULD BE DELETED:**

3.1.1.

**Existing Rule:** NiCd or NiMH cells rated at 1.2 volts nominal can be approved, but must conform to the following :-  
The size of the individual cells to be :- Diameter 23.0 mm +0/-1mm, Overall length 43.0 mm +0/-1.5mm. 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, connectors or battery bars. Dimensions taken at ambient temperature and at 90 degrees to the centre-line of the cell. The original manufacturers of cells are allowed a maximum of +/- 2 grms. tolerance on the nominal weight of the cell stated on the technical specification/data sheet submitted at the time of approval and is valid for virgin cells. Weights to conform to EFRA cell approval list for cells approved from Jan. 2007 onwards. Existing approvals having a weight tolerance outside +/- 2 grms. will be adjusted accordingly.  
It is known that fast charging may result in cell distortion. However from 1st April 2008, cells may never exceed 43.0 mm.

**Remarks:** NiCd and NiMH cells are no longer used by competitors at EFRA events.

**Proposed by EFRA**

**Seconded by: Great Britain**

**The proposal passed Unanimously**

**THE RULE SHOULD BE AMENDED TO READ:**

3.1.2.

**Existing Rule:** Lithium Based (LiPo/LiFe) Batteries can be approved, but must conform to the following :-  
1. Lithium Based (LiPo/LiFe) battery packs must have a hard, protective case that completely envelopes the cell(s). The case should be made from ABS or a similar material. The two halves of the case must be factory sealed in a way that any attempt to open the case will destroy the case. The only opening in the case that is allowed, is for the exit of wires.:  
Batteries to comply with the weights specified on the EFRA homologation list, (maximum tolerance for manufacturers is +/- 4%).  
The maximum case sizes are as follows:  
2S Batteries:  
Length: 139.0 mm.  
Width: 47.0 mm. (The max. width includes any side exit wires).  
Height: 25.10 mm. ( Chassis location features additional to this dimension are allowed)  
Saddle-Pack cells are allowed, but must comply with the above dimensions.  
Saddle-Pack cells must have a combined dimension of 139.0mm max when placed end to end.  
1S Batteries:  
Length: 93.0mm.  
Width: 47.0mm. (Side exit wires are allowed outside this dimension).



Height: 18.5mm. ( Chassis location features additional to this dimension are allowed)

2. Individual cells used in the construction of the battery pack shall be rated at (LiPo 3.7/LiFe 3,3) volts nominal. Individual cells may be wired in parallel.  
For 2S Packs, the maximum connection "In Series" is two, to give a Final pack voltage of (LiPo 7.4v/LiFe 6.6v) nominal.  
For 1S Packs, cells can only be connected in parallel to give a Final pack voltage of (LiPo 3.7v/LiFe 3.3v) nominal.

3. The battery pack shall have leads extending from the case for the positive and negative electrical connections using wire of adequate size to handle discharge rates acceptable to racing applications. Alternatively, the case shall have internal connection points for these wires clearly marked positive and negative so the user can apply the lead wires. Any type of metal connections that are incorporated in the battery pack must be substantially below the major surface of the plastic casing, to prevent any "short circuit" if placed on a conductive surface.

4. The case must have the original suppliers label intact, stating:- the Part #, the rated voltage and the chemistry (Lipo/LiFe).. The Brand name/logo shall be easily readable.

5. All LiPo/LiFe packs must be charged with a LiPo/LiFe-capable charger using the industry standard CC/CV (Constant Current/Constant Voltage) charge profile.

6. 2S LiPo/LiFe batteries may be charged to a maximum of 8.40v (LiPo) resp. 7.40v (LiFe). 1S LiPo/LiFe batteries may be charged to a maximum of 4.20v (LiPo) resp. 3.70v (LiFe). Overcharging is a serious safety hazard and will not be tolerated.

7. Any competitor found to be charging cells using a charger that is not specifically designed for LiPo/LiFe cells, or using a charge profile other than the industry standard CC/CV, will be penalised at the event.

Any competitor found to have charged LiPo/LiFe cells to above the values detailed in rule 3.1.2 (6) above will be penalised. The different guidelines for use and homologation of LiPo/LiFe-Batteries are published on the EFRA webpage ([www.EFRA.ws](http://www.EFRA.ws)). A copy of the guidelines for the end-user must be included in the driver's packages for EC 's.

8. LiPo/LiFe drive batteries should be charge in a 'Lipo sack' at all times.  
LiPo sack is defined as a receptacle designed for the purpose of charging LiPo/LiFe batteries and of a suitable construction as to contain a LiPo/LiFe fire.

**Proposal including amendments:**

Lithium Based (LiPo/LiFe) Batteries can be approved, but must conform to the following :-

1. Lithium Based (LiPo/LiFe) battery packs must have a hard, protective case that completely envelopes the cell(s). The case should be made from ABS or a similar material. The two halves of the case must be factory sealed in a way that any attempt to open the case will destroy the case. The only opening in the case that is allowed, is for the exit of wires or pin type connections.  
Batteries to comply with the weights specified on the EFRA homologation list, (maximum tolerance for manufacturers is +/- 4%).  
The maximum case sizes are as follows:  
2S Batteries:  
Length: 139.0 mm.  
Width: 47.0 mm. (The max. width includes any side exit wires).  
Height: 25.10 mm. ( Chassis location features additional to this dimension are allowed)  
Saddle-Pack cells are allowed, but must comply with the above dimensions.  
Saddle-Pack cells must have a combined dimension of 139.0mm max when placed end to end.  
1S Batteries:  
Length: 93.0mm.  
Width: 47.0mm. (Side exit wires are allowed outside this dimension).  
Height: 18.5mm. ( Chassis location features additional to this dimension are allowed)

2. Individual cells used in the construction of the battery pack shall be rated at (LiPo 3.7/LiFe 3,3) volts nominal. Individual cells may be wired in parallel.  
For 2S Packs, the maximum connection "In Series" is two, to give a Final pack voltage of (LiPo 7.4v/LiFe 6.6v) nominal.  
For 1S Packs, cells can only be connected in parallel to give a Final pack voltage of (LiPo 3.7v/LiFe 3.3v) nominal.

3. The battery pack shall have leads extending from the case for the positive and negative electrical connections using wire of adequate size to handle discharge rates acceptable to racing applications. Alternatively, the case shall have internal connection points for these wires clearly marked positive and negative so the user can apply the lead wires. Any type of metal connections that are incorporated in the battery pack must be substantially below the major surface of the plastic casing, to prevent any "short circuit" if placed on a conductive surface.

4. The case must have the original suppliers label intact, stating:- the Part # of the pack, the rated voltage, the chemistry (Lipo/LiFe) and the pack capacity in Wh. The Brand name/logo shall be easily readable.

5. All LiPo/LiFe packs must be charged with a LiPo/LiFe-capable charger using the industry standard CC/CV (Constant Current/Constant Voltage) charge profile.

6. 2S LiPo/LiFe batteries may be charged to a maximum of 8.40v (LiPo) resp. 7.40v (LiFe). 1S LiPo/LiFe batteries may be charged to a maximum of 4.20v (LiPo) resp. 3.70v (LiFe). Overcharging is a serious safety hazard and will not be tolerated.

7. Any competitor found to be charging cells using a charger that is not specifically designed for LiPo/LiFe cells, or using a charge profile other than the industry standard CC/CV, will be penalised at the event.

Any competitor found to have charged LiPo/LiFe cells to above the values detailed in rule 3.1.2 (6) above will be penalised. The different guidelines for use and homologation of LiPo/LiFe-Batteries are published on the EFRA webpage ([www.EFRA.ws](http://www.EFRA.ws)). A copy of the guidelines for the end-user must be included in the driver's packages for EC 's.

8. LiPo/LiFe drive batteries **must be charged** in a 'Lipo sack' at all times. Anybody not doing this, will be penalized at the event.  
LiPo sack is defined as a receptacle designed for the purpose of charging LiPo/LiFe batteries and of a suitable construction as to contain a LiPo/LiFe fire.

9. Modifications to the original battery case, by removal of material or any modification that could be deemed to affect safety is not allowed.

**Remarks:** Original rule 8 stated LiPo/LiFe 'should' be charged in a 'LiPo sack'.  
'Should' is not good enough.

Addition 9 is needed.

At a recent WC event, competitors were reducing the thickness of the plastic case by 'sanding' in an effort to comply with the maximum sizes allowed. There was no rule that prohibited this procedure.

Clearly it is required in the interest of safety.

**Proposed by EFRA**

**Seconded by: Holland**

**Passed with ..12.. for, ..1.. against and ..0.. abstentions.**

**Amended by Great Britain. 8 Add: Anybody not doing this, will be penalized at the event. Amendment seconded by France**

**Amendment by EFRA: 4. The partnumber of the pack , the pack capacity in Wh. Seconded by Great Britain**

#### THE RULE SHOULD BE AMENDED TO READ:

3.2.2.

**Existing Rule:**

Lithium based batteries:

2S Batteries -- A minimum of one individual battery has to be received by 1st. Dec.

1S Batteries -- A minimum of one individual battery has to be received by 1st. Dec.

Each individual battery sample must be supplied with :- (a) Lithium based batteries must be covered by their safety test certification in accordance with UN Manual of Test and Criteria ST/SG/AC.10/11/Rev.5, Part 3, Sub-Section 38.3, Tests T1 to T8.

(b) Technical Spec. sheet detailing the recommended charging rate, the maximum voltage when charging, case material, thickness and method of sealing the case, the battery weight (max tolerance +/- 4%).

New batteries have to be submitted to the EFRA Battery Homologation Officer for approval. Subject to the Officer being satisfied that the new cell conforms with technical specifications and commercial availability, the cell will be legal for use from the following April 1st. Cells received after the above submission dates will not be included on the EFRA approved list for the following year. Any changes to the technical specifications or visual appearance of the battery or casing after the original approval will require re-approval.

**Proposal:**

Lithium based batteries:

2S Batteries -- A minimum of one individual battery has to be received by 1st. Dec.

1S Batteries -- A minimum of one individual battery has to be received by 1st. Dec.

Each individual battery sample must be supplied with :- (a) Lithium based batteries must be covered by their safety test certification in accordance with UN Manual of Test and Criteria ST/SG/AC.10/11/Rev.5, Part 3, Sub-Section 38.3, Tests T1 to T8.

(b) Technical Spec. sheet detailing the recommended charging rate, the maximum voltage when charging, case material, case thickness and method of sealing the case, the battery weight (max tolerance +/- 4%).

New batteries have to be submitted to the EFRA Battery Homologation Officer for approval. Subject to the Officer being satisfied that the new cell conforms with technical specifications and commercial availability, the cell will be legal for use **from:- 2S Batteries - the following April 1st. 1S Batteries - the following March 1st. Cells** received after the above submission dates (**1st. Dec.**) will not be included on the EFRA approved list for the following year. Any changes to the technical specifications or visual appearance of the battery or casing after the original approval will require re-approval.

**Remarks:**

**Proposed by EFRA**

**Seconded by: Switzerland**

**The proposal passed Unanimously**

#### THE RULE SHOULD BE AMENDED TO READ:

3.4.

**Existing Rule:**

1/10 Touring scale cars will be driven by a maximum of five NiCd or NiMH cells, or a lithium based (LiPo/LiFe) battery. Maximum nominal voltage is 7.4 V/ 6.6 volts. Receiver batteries are not allowed.

**Proposal:**

1/10 Touring scale cars will be driven by a lithium based (LiPo/LiFe) battery. Maximum nominal voltage is 7.4 V/ 6.6 volts. Receiver batteries are not allowed.

**Remarks:**

NiCd or NiMH batteries are no longer used by competitors at EFRA events.



Proposed by EFRA

Seconded by: Belgium

The proposal: passed Unanimously

**THE RULE SHOULD BE AMENDED TO READ:**

3.5.

**Existing Rule:** 1/10 Offroad scale cars will be driven by a maximum of six NiCd or NiMH cells, or a lithium based (LiPo/LiFe) battery. Maximum nominal voltage is 7.4 V/ 6.6 volts. Receiver batteries are not allowed.

**Proposal:** 1/10 Offroad scale cars will be driven by a lithium based (LiPo/LiFe) battery. Maximum nominal voltage is 7.4 V/ 6.6 volts. Receiver batteries are not allowed.

**Remarks:** NiCd or NiMH batteries are no longer used by competitors at EFRA events

Proposed by EFRA

Seconded by: Finland

The proposal passed Unanimously

**THE RULE SHOULD BE AMENDED TO READ:**

7.1.1.

**Existing Rule:** European Championships are held in the following classes:

1/10 Off-Road  
1/12 Modified  
1/10 Touring Cars  
1/12 10.5T Spec. Brushless or 19T Brushed Motors  
1/10 Touring Cars Indoors

**Proposal:** European Championships are held in the following classes:

1/10 Off-Road  
1/12 Modified  
1/10 Touring Cars  
**1/10 Touring Cars 10.5T Spec. Brushless**  
1/12 10.5T Spec. Brushless or 19T Brushed Motors

**Remarks:** Stock Racing is the most popular form of Racing on National level. Also on International Events like the LRP Touring Car Masters and the ETS Series, Stock is the most popular class. Many drivers want to take part at an European Championship but they don't like modified racing. A real Spec. Class will be very attractive to the drivers. So EFRA should offer a European Championship for these drivers. Please see the following proposals too.

According to the EFRA rules a technical/fundamental change like that can only start for the 2013 season. However as no existing class is affected, and if the AGM votes this new class in, we propose to start an EC as early as 2012. Obviously it can only take place, if a suitable organiser can be found at that short notice.

Proposed by LRP electronique GmbH, Kraemer Andy

Seconded by: Great Britain

Passed with ..11... for, ..1.. against and ..1.. abstentions.

**THE RULE SHOULD BE AMENDED TO READ:**

7.1.1.

**Existing Rule:** European Championships are held in the following classes:

1/10 Off-Road  
1/12 Modified  
1/10 Touring Cars  
1/12 10.5T Spec. Brushless or 19T Brushed Motors  
1/10 Touring Cars Indoors

**Proposal:** European Championships are held in the following classes:

1/10 Off-Road  
1/12 Modified  
1/10 Touring Cars  
1/12 10.5T Spec. Brushless  
~~1/10 Touring Cars Indoors~~

**Remarks:** delete 1/10 Touring cars indoor EC. There is no need for a 2nd EC other than the outdoor EC. The response in the last years is not great neither from the drivers as from organizers.

Proposed by DMC

Seconded by: Switzerland

Passed with ..12.. for, ..0.. against and ..1.. abstentions.

**THE RULE IS NEW:**

7.2.

**Existing Rule:** ALLOCATIONS

**Proposal:** 7.2.7. Drivers that finished in the Top 20 at an 1/10 Touring Car European Championship (indoor or outdoor) in the last 3 years are not allowed to participate at the 1/10 Touring Cars 10.5T Spec. Brushless European Championship

**Remarks:** You need to avoid that international Top modified drivers take part at the Stock European Championship to just „claim another title“. The 10.5T EC should be more like a “B” EC, like it is in 1/8 Onroad, 1/8 Offroad and 1/10 Nitro.

**Proposed by** LRP electronique GmbH, Kraemer Andy

**Seconded by:** Switzerland

**Passed with** ..11.. for, ..1... against and ..1.. abstentions.

**THE RULE SHOULD BE AMENDED TO READ:**

8.1.2.

**Existing Rule:** 1/10th Touring EUROPEAN CHAMPIONSHIP:

**Proposal:** 1/10th Touring EUROPEAN CHAMPIONSHIP:

**Remarks:** THURSDAY: Free practice, Registration and Technical Inspection  
FRIDAY: Controlled Practice and Qualifying Rounds 1-3  
SATURDAY: Qualifying Rounds 4-5, 3xFinals and Prize Ceremony

Thanks to GSM there is no need for a final practice and so it's possible to save one complete day. What will effective reduce costs for the drivers.

**Proposed by** DMC

**Not Seconded**

**THE RULE SHOULD BE AMENDED TO READ:**

9.4.1.

**Existing Rule:** All qualifying Heats and Finals 1/10th will be 5 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds. For 1/12th the racing times will 8 minutes.

**Proposal:** All qualifying Heats and Finals 1/10th will be 7 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds. For 1/12th the racing times will 8 minutes.

**Remarks:** Thanks to the capacity of the actual LiPo batteries it's possible to increase the race time and allow the drivers to have effective more driving time and to use less powerful brushless motors.

**Proposed by** DMC

**Seconded by:** Switzerland

**Amended:** Portugal: Split between 1/10 Offroad and 1/10 Touring Cars. **Seconded by** Austria.

**Rejected for 1/10 Offroad with** ..4.. for, ..5.. against and ..2.. abstentions.

**Rejected for 1/10 Touring Car with** ..4.. for, ..4.. against and ..5.. abstentions. The section chairman had the casting vote. He explained, that he is against this proposal.

**THE RULE SHOULD BE AMENDED TO READ:**

9.4.2.

**Existing Rule:** Qualifying will be by fastest time for 1/12th, by the 2 fastest times added together, for 1/10th Off-Road round by round system is used. For 1/10th On-road see App. 3 rule 9.4.2b.

If the 'Round by Round' qualifying method is used, the number of Rounds to count are as follows :- Six Rounds three to count, Five Rounds two to count, Four Rounds two to count, Three Rounds two to count, Two Rounds one to count. Less than two Rounds completed event null and void. All other qualifying Round scores will be discarded. Qualifying Round has to be completed for any Heats in that Round to be counted.

If the intended maximum number of Rounds cannot be completed, due to weather or unforeseen circumstances, the number of Rounds to count will follow the same format.

Fastest competitor (based on laps & time) in each Round will score zero (0) points, second place 2 points, third place 3 points, fourth place 4 points and so on. If two (or more) competitors achieve an equal time in any Round they will be awarded equal points. The next competitor not included in the tie will be awarded points corresponding to his position in the particular Round.

**Proposal:** Qualifying will be by fastest time for 1/12th, by the 2 fastest times added together. For 1/10th Off-Road the round by round system is used. For 1/10th On-road see App. 3 rule 9.4.2b.

If the 'Round by Round' qualifying method is used, the number of Rounds to count are as follows :- Five Rounds two to count, Four Rounds two to count, Three Rounds two to count, Two Rounds one to count. Less than two Rounds completed event null and void. All other qualifying Round scores will be discarded. Qualifying Round has to be completed for any Heats in that Round to be counted.

If the intended maximum number of Rounds cannot be completed, due to weather or unforeseen circumstances, the number of Rounds to count will follow the same format.

Fastest competitor (based on laps & time) in each Round will score zero (0) points, second place 2

points, third place 3 points, fourth place 4 points and so on. If two (or more) competitors achieve an equal time in any Round they will be awarded equal points. The next competitor not included in the tie will be awarded points corresponding to his position in the particular Round.

**Remarks:**

Deleted the reference in the Round by Round system of six Rounds being used.

The two Electric Sections that use the Round by Round system have a maximum of five Qualifying Rounds as detailed in rule 8. Therefore the reference to six Rounds in this rule can be confusing. First sentence also split to make reading easier.

**Proposed by EFRA**

**Seconded by: Holland**

**The proposal: Passed Unanimously**

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The Section Chairman thanked all participants for a constructive meeting, the meeting was closed at 15.20.



**EFRA ANNUAL GENERAL MEETING**  
HOTEL Holiday Inn, Brussels  
5-6th of November 2011

**AGENDA ELECTRIC - OFF-ROAD.**

Sat. 5.11.11

**1. CHAIRMAN'S WELCOME**

Mr. Paul Worsley

The Electric Off-road Chairman opened the meeting at 15:40

**2. APOLOGIES FOR ABSENCE**

Apologies have been received from:

Greece. Slovak Republic. Germany (Robert Gillig). Ireland (Colin Whelan). Greece (Nikos Zannos).

COUNTRY	PRESENT	SECTION SUBSCR	REQUESTED:				Max33% %
			EC Buggy 2wd	EC Buggy 4wd	WC Buggy 2wd	WC Buggy 4wd	
AUSTRIA	Marcus Vrana.		28	24			
BELGIUM	Willy Hermanns. Kust Bultynck. Marc Joosens		2	1			
BULGARIA							
CROATIA							
CYPRUS							
CZECH REP.							
DENMARK			3	2			
ESTONIA							
FINLAND	Jussi Luopajarvi. Vessa Yli		9	9			
FRANCE	Jean Patrick Caillaud		8	8			
GEORGIA							
GERMANY	Josef Diagani. Mail: Robert Gillig 03.11.11		23	23			
GREAT BRITAIN	Roger Cosgrove. Paul Worsley		22	22			
GREECE	Mail: Nikos Zannos 01.11.11.		3	3			
HOLLAND (Ned.)	Frans Heinsbroek						
HUNGARY							
IRELAND	Mail: Colin Whelan 03.11.11 (If AT)		3	3			
ITALY	Andria Brianza		3	3			
LITHUANIA							
LUXEMBOURG							
MONACO							
NORWAY	Stein Ove Nordahl		4	4			
POLAND	Andrzej Trella		3	3			
PORTUGAL							
ROMANIA							
RUSSIA							
SLOVAK REP.	Mail: Pavel Balint 20.10.11 (if AT)		7	5			
SLOVENIA							
SPAIN	Lvis Emilio Crisenti		8	4			
SWEDEN							
SWITZERLAND	Audres Frattaroli		8	8			
TURKEY							

Total countries present Off-Road = 12	<b>TOTALS</b>	134	122		
				2wd	4wd

Other persons present: Stefan Koehler - LRP

### 3. MINUTES OF 2010 SECTION MEETING

6<sup>th</sup>. and 7<sup>th</sup>. of November 2010 – Brussels, Belgium: Matters arising from the minutes:

The minutes were accepted as written at the AGM 2010. Prop. Marcus Vrana (Austria), Roger Cosgrove (BRCA)

The following person was elected to check the minutes of this year: Jean Patrick Caillaud (France).

### 4. CORRESPONDENCE RECEIVED

Obviously, there were hundreds of mails dealing with the allocations for World's and Euro's. Of these, one in the form of a complaint from Poland that they had not been awarded the number of allocations for the WC event that they had requested, when other countries had received that requested. Poland was informed that the initial number of allocations awarded to EFRA in Nov. 2010 was only 33% of that requested at the 2010 agm. and therefore the allocations had been awarded based on each Federations participation at recent EC's. Poland were also advised: that when entry numbers from ROAR, FEMCA & FAMAR were known, it was expected that IFMAR would be able to award additional places to EFRA that would allow all EFRA countries to have their requested allocations. It transpired that EFRA eventually received all the allocations required.

### 5. CHAIRMAN'S REPORT

2011 has been a busy year for the 1/10 Off-Road Section, with the WC at Vaasa in Finland and an EC at Pau in the South of France. There was also a GP hosted by Norway at Bergen.

#### GP. Bergen:

This event took place at the end of June at Bergen near the West coast of Norway. I must apologise to Norway, that due to a busy schedule in June, I was not able to attend.

I understand that whilst the event ran smoothly, the entry was very low with a maximum of 20 drivers in each Class.

The 1/10 Off-Road Section has strong National Series organised in many countries and together with the WC, EC and the Warm-Up's for these two events makes it difficult for some drivers to fit all into their schedule and budget.

#### Vaasa WC:

This was a truly memorable event, and certainly the best Off-Road WC that I had attended. The organisational skills of Finland are amazing and it was an honour to work with the Team at Vaasa. Many of the organising Team were the same persons that had helped at the EC in 2007, so their experience and attention to detail was impressive.

They supplied persons to cover all jobs, from:- one man continually at Trackside all day to attend to any track repairs, three persons looking after the timing software and a transport manager in charge of three 'shuttle' vehicles to collect/take anyone to hotel or airport, and of course many others. The 'office' administration and media facilities were outstanding. I have no idea of the total number in the Organising Team, but I guess it was maybe thirty persons

The track was certainly 'World Class' with an amazing hard clay surface. At the end of the event, after six days of racing, the track surface was in the same condition as when the event started: no holes, no break-up - quiet amazing.

The attention to detail was impressive. They had software programs that could forecast when rain was imminent, often with accuracy to within five minutes, which would allow them cover the complete track area with a purpose made tarpaulin (using maybe 12 persons) in two minutes. This tarpaulin was used many times to cover the track and certainly saved the event from having any Rounds or Finals cancelled, even after heavy rain.

The EFRA countries fielded a large entry with: 2WD – 107 drivers and 4WD – 110 drivers.

Although the eventual winner in both Classes was Ryan Cavalari from USA, EFRA drivers had very good results. In 2WD:-Neil Cragg (GB) took TQ with EFRA drivers – Joern Neumann, Lee martin and Peter Pinisch in the Final. In 4WD:- Jörn Neumann came very close to winning with Hubert Honigl, Neil Cragg and Lee Martin also in the Final.

#### Pau EC:

This event took place in the south of France at Pau, close to the Pyrenees.

The week started with temperatures in the high 30's, that quickly reduced and during the last days very heavy rain was experienced. The 2WD event was not affected by the rain and all scheduled Rounds and Finals were completed. The 4WD event started with a totally 'blue-grooved' track at the end of practice, which was reduced to a 'lake' from heavy overnight rain at the end of the first day. As a result of the over-night rain, the second day was lost due to wet track, except for being able to hold single controlled practice in the evening. More rain overnight resulted in a late start on the last day (Sat.), but with some diligent scheduling and good co-operation from the

organising staff and drivers, we managed to achieve: one unofficial practice, three Rounds of Qualifying and all Finals on the last day. So the 4WD event could be considered a 'true' event. (The tarpaulin from Finland would have been very welcome).

The track was 'hard-packed' dirt which 'blue-grooved' to a good surface on the dry days. The permanent facilities at the venue were good with a large meeting room that could be used by Team managers that overlooked the track. The Pitting area used six large tents that were adequate to accommodate all the drivers and the on-site canteen provided good refreshments.

There were some problems with the timing software that resulted in some incorrect 'start orders' until it was recognised. This was eventually overcome.

The number of drivers competing reduced by a large amount in the weeks prior to the event. At the EFRA agm., the number of requested allocations was :- 2WD – 147, 4WD – 143.

The actual number that competed was :- 2WD – 107, 4WD – 110.

I suspect that this could have been a result of some drivers originally intending to do WC and EC, then realising the total cost of both events was too great.

The 2011 EC Champions are :- 2WD is Lee Martin, 4WD is Jörn Neumann.

Conclusion:-

The total number of EFRA drivers that competed at WC and/or EC was high. Some 210 different drivers were involved between the two events, giving a strong presence from the EFRA countries for the Off-Road Section.

The number of cancellations that were received from some countries for these events were disappointing. Many were not notified until close to the event dates, which lead to a large amount of work trying to secure replacements, which is not easy if the event is close.

EFRA only had one No-Show at the WC, but at the EC Pau, there were 13 in 2WD and 11 in 4WD.

We request that in the future, countries ensure that their entries are reliable and if allocations at 2012 events are needing adjustments then countries that had no-shows at the 2011 events will be the first reductions. This will also be noted when it comes to awarding allocations for the WC in 2013.

Paul Worsley. (Chairman, 1/10 Elec. Off-Road Section)

**6. PRESENTATIONS FOR APPLICATIONS EC 2013 AND GP'S 2012**

The section has reviewed the applications to host coming EFRA events:

Year/Date	Alt. Date	Status	Country	Venue
2012 April	April 27 -29	GP	Austria	WMW RC-BUGGY-RACING CENTER FEHRING Fabrikstraße 8350 Fehring
2012 July	July 09 - 14	EC	Austria	WMW RC-BUGGY-RACING CENTER FEHRING Fabrikstraße 8350 Fehring
2012 August		EC	Spain	Circuito de Terradillos (Terradillos Track) Valladolid
<b>2013</b>				

Clarification was needed regarding the venue chosen for the 2012 EC (chosen at 2010 AGM).

It was realised in the summer, that the chosen venue at Fehring (Austria) had also been awarded the EC for 1/8 Buggy in 2012. The EFRA Officers were concerned the one venue could achieve the Work needed for two big events.

As a result, the Section Chairmen met with Austria for assurances. Austria presented a comprehensive plan detailing how they would organise the two events, using two different 'Teams' for the IC and Electric events.

The AGM were given the details and asked if they were satisfied that Fehring (Austria) could achieve the required standard for the 1/10 Elec. Buggy event. No countries objected, so it is confirmed that the 2012 1/10 Elec. Buggy EC will be at Fehring (Austria).



Spain had submitted an application for the 2012 EC, in case it was decided that the event needed to be moved. Following the decision regarding Austria for 2012, Spain agreed their application could be moved to 2013.

EFRA awards events two years in advance and as there were no other candidates for 2013, Spain was awarded the 2013 1/10 Elec. Buggy EC.

#### Final Race calendar 2012

Year/Date	Alt. Date	Status	Country	Venue
2012. April	April 27 -29	GP	Austria	WMW RC-BUGGY-RACING CENTER FEHRING Fabrikstraße 8350 Fehring
2012	15 -17 June	INT. Race	France	Paris Indoors
2012 July	July 09 - 14	EC	Austria	WMW RC-BUGGY-RACING CENTER FEHRING Fabrikstraße 8350 Fehring

#### Future Race calendar Championships

Year/Date	Alt. Date	Status	Country	Venue
2013	Early Aug	EC	Spain	Circuito de Terradillos (Terradillos Track) Valladolid

Nominated Tyres for the 1/10<sup>th</sup>. Off-Road EC 2012: TBA

Allocations were made to each country as printed in the table form under item 2 on the agenda

## 7. RULE PROPOSALS

No proposals for any changes to App. 3C had been received.

## 8. ELECTION OF SECTION CHAIRMAN.

At the 2010 AGM, both Paul Worsley & Frank Mostrey had been elected as Chairman & Vice Chairman of the Off-Road Section. EFRA policy is to not have both Officers elected in the same year to ensure continuity if officers retire. Consequently, it was decided to elect a Section Chairman in 2011. Paul Worsley Great Britain was willing to take the position of Chairman and was duly re-elected.

## 9. ANY OTHER BUSINESS

France asked for an allowance regarding LiPo batteries swelling. Paul Worsley explained that once allowances were granted, manufacturers would exploit the possible loop-hole. Not a good idea.

## 10. ITEMS FOR GENERAL DISCUSSION.

The Section Chairman thanks all participants for a constructive meeting, and being no further business the meeting was closed at 15:25



**EFRA ANNUAL GENERAL MEETING**  
HOTEL Holiday Inn, Brussels  
Belgium  
5-6th of November 2011

**MINUTES ELECTRIC - TRACK. Sat. 5.11.11**

**1. CHAIRMAN'S WELCOME Mr Heiner Martin**

The Electric Track Chairman opened the meeting at 16.40

**2. APOLOGIES FOR ABSENCE**

Apologies have been received from: Greece, Hungary and Slovak Republic

Member Countries presents, section subscription, allocations etc:

COUNTRY	PRESENT	SECTION SUBSCR	EC 1/12	EC 1/12 Spec	EC Touring	EC TC Spec	WC Touring	WC 1/12		
AUSTRIA	X						3	3		
BELGIUM	X						12	2		
BULGARIA										
CROATIA										
CYPRUS										
CZECH REP.										
DENMARK							4	1		
ESTONIA										
FINLAND	X						8	3		
FRANCE	X						7	5		
GEORGIA										
GERMANY	X						12	4		
GREAT BRITAIN	X						10	12		
GREECE							1			
HOLLAND	X						6	5		
HUNGARY							1			
IRELAND										
ITALY	X						3	2		
LITHUANIA										
LUXEMBOURG										
MONACO										
NORWAY	X						1	-		
POLAND	X						7	5		
PORTUGAL	X						-			
ROMANIA										
RUSSIA										
SLOVAK REP.							5			
SLOVENIA										
SPAIN	X						6	2		
SWEDEN							4	3		
SWITZERLAND	X						7	8		
TURKEY										
<b>TOTAL</b>			<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>97</b>	<b>55</b>		

Other persons present: Stefan Köhler - LRP electronic

### 3. MINUTES OF 2010 SECTION MEETING

5-6th. of November 2010 – Brussels, Belgium

Matters arising from the minutes:

The minutes were checked and accepted as written at the AGM 2010. Austria seconded.

The following person was elected to check the minutes of this year: France

### 4. CORRESPONDENCE RECEIVED

.No correspondence received except regarding entries and the normal administration.

### 5. CHAIRMAN'S REPORT

This year the Chairman was only able to visit the European Championships Touring Cars Indoor in Hrotovice/Czech Republic and the Touring Cars outdoor in Traiskirchen/Austria. Cause our Vice Section Chairman Russ Giles wanted to race at the 1/12 Euros, he also visited the 1/12 Euro in Montbrison/France.

All three European Championships were well organised. His thanks go to all the clubs and the national federations.

Sorry, the report was very short this year, but he said, the organisation of the Euros were running very well, so he has nothing else to report. As usual, getting all the entries is sometimes a little bit difficult, but finally the entry forms were coming.

### 6. PRESENTATIONS FOR APPLICATIONS - EC 2013 AND GP'S 2012

The section has received the following applications to host coming EFRA events. These proposals have reached us in time, no other proposal will be accepted after distribution of the agenda.

Voting about having 2012 ECs.

Touring Car: Seconded by Belgium 2 against, 5 abstentions and 4 in favour.

Year/Date	Alt. Date	Status		Country	Venue
<b>2012</b>					
2012		GP	1/10 Touring Electric	Portugal	LAMA CLUB Mini Autódromo de TORRES NOVAS
2012 July	2012 August	EC	1/10 Touring Electric	Spain	Club ARCA Pol. Industrial Calabozos Alcobenas (Madrid)
				Austria	
				Germany	Burgdorf
			1/10 Spec Touring Cars		
			1/10 Spec Touring Cars	Portugal	
<b>2013</b>					
2013		EC	1/10 Touring Electric	Portugal	LAMA CLUB Mini Autódromo de TORRES NOVAS
			1/12	Finland	

Application from Spain for Touring Car 2012 modified: 5 against, 2 abstentions 4 in favour.

EC Touring Car 2013 Portugal: 5 in favour, 5 against 3 abstentions. The Section Chairman used his casting vote and voted for Portugal.

EC 1/12 Stock Austria: Passed unanimously.

EC 1/12 2013: Application from Finland accepted unanimously.

EC 2012 Touring Car Stock/Spec Spain 1 against, 5 abstentions 5 in favour.

### Final Race calendar 2012

Year/Date	Alt. Date	Status	Country	Venue
9 <sup>th</sup> to 11 <sup>th</sup> of March 2012		1/12 EC Stock	Austria	Bruck/Oberaich Austria
21 <sup>st</sup> /22 <sup>nd</sup> of April 2012		GP 1/10 Touring Electric	Portugal	LAMA CLUB Mini Autódromo de TORRES NOVAS
21st to 28th of July 2012	July 2012	WC IFMAR 1:10 and 1:12 Electro track onroad	Netherlands	MACH Cruquiusweg 43 2102 LS Heemstede
6 <sup>th</sup> to 9 <sup>th</sup> of September		1/10 Touring Car Stock Spec	Spain	Club ARCA Pol. Industrial Calabozos Alcobenas (Madrid)

### Future Race calendar Championships

Year/Date	Alt. Date	Status	Country	Venue
2013		EC 1/12	Finland	Oulu
2013		EC Touring Car	Portugal	Torres Novas

Nominated Tyres for the 1/10<sup>th</sup>. Touring Car Spec in Madrid/Spain. Spain send a proposal to the section chairman within 30 days. The meeting agreed that the section chairman will made the final decision.

**Allocations were made to each country as printed in the table form under item 2 on the agenda Allocations for EC 1/10 Touring Car Spec and EC 1/12 Spec should be send to the section chairman respectively vice section chairman with in 30 days.**

## 7. ALLOCATIONS

The Section Chairman propose to the meeting the allocations (rule 3.6.4, page 58 of the EFRA Handbook) noted under item 2.

## 8. RULE PROPOSALS

### APPENDIX 3 B ELECTRIC CARS REQUIREMENTS FOR ELECTRIC ON ROAD CLASSES

#### THE RULE IS NEW:

7.

**Existing Rule:** PARTICULAR TO 1:10 ELECTRIC SALOON CARS

**Proposal:** 7.4. 1/10 Touring Cars 10.5T Spec. Brushless

**Remarks:** There should be an outstanding Paragraph for the following 1/10 Touring Car 10.5T Spec rules.

**Proposed by** LRP electronique GmbH, Kraemer Andy

**Seconded by:** Switzerland

**The proposal passed Unanimously**

#### THE RULE IS NEW:

7.

**Existing Rule:** PARTICULAR TO 1:10 ELECTRIC SALOON CARS

**Proposal:** 7.4.1. Only 10.5T Spec Brushless motors according to App. 3A 2.4 are allowed.

**Remarks:** 10.5T is already used in 1/12 Spec racing and often used in the different European countries for

Touring Car Spec racing. They deliver good power for Spec racing when used with normal ESCs (no „Boost“ functions).

**Proposed by LRP electronique GmbH, Kraemer Andy**

**Seconded by: Great Britain**

**The proposal passed with .12... for, ..1.. against and .... abstentions.**

**THE RULE IS NEW:**

**7.**

**Existing Rule: PARTICULAR TO 1:10 ELECTRIC SALOON CARS**

**Proposal:** 7.4.2. Only EFRA Boost „0“ ESCs according to App. 3A 4.3.1 are allowed. (ESCs that have no advanced motor control functions (i.e.Boost, Cheat Mode, Turbo, SuperCharge, etc).

**Remarks:** You need to stop the ESCs development to have real Spec. Racing and the coming EFRA rule is a great rule for real Spec. Racing.

**Proposed by LRP electronique GmbH, Kraemer Andy**

The proposal was withdrawn

## **9. ELECTION OF SECTION CHAIRMAN.**

Vice ELECTRIC TRACK CHAIRMAN Russ Giles is willing to restand

Russ was re-elected unanimously

## **10. ANY OTHER BUSINESS**

The meeting asked the section chairman for a list of checked spec motors.

There should be a list of EFRA-checked 0 boost speed controllers.

## **11. ITEMS FOR GENERAL DISCUSSION.**

No items arose.

The Section Chairman thanked all participants for a constructive meeting, and being no further business the meeting was closed at 18.25.