EFRA ANNUAL SECTION MEETING

HOTEL NH Wien Airport,
Vienna Austria
5-6th of November 2016

AGENDA ELECTRIC SECTIONS – GENERAL.

1. CHAIRMAN'S WELCOME — Mr. Chris Hardisty & Mr. Paul Worsley

The Electric Chairmen opened the meeting at --

2. APOLOGIES FOR ABSENCE – ELECTRIC GENERAL

Apologies have been received from:

Member Countries presents. Section subscription.

COUNTRY	PRESENT	SECTION SUBSCR
AUSTRIA		
BELARUS		
BELGIUM		
BULGARIA		
CROATIA		
CZECH REP.		
DENMARK		
ESTONIA		
FINLAND		
FRANCE		
GERMANY		
GREAT BRITAIN		
GREECE		
HUNGARY		
IRELAND		
ITALY		
LUXEMBOURG		
MONACO		
NETHERLANDS		
NORWAY		
POLAND		
PORTUGAL		
RUSSIA		
SLOVAK REP.		
SLOVENIA		
SPAIN		
SWEDEN		
SWITZERLAND		
TURKEY		
TOTAL		

Other persons present:

3. MINUTES OF 2015 SECTION MEETING

November 2015 – Barcelona, Spain

Matters arising from the minutes:

The minutes were checked and accepted as written at the AGM 2015

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

4. CORRESPONDENCE RECEIVED

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

Note: The EFRA Committee has studied all received proposals and has come to an opinion over each one, The EFRA Section Chairman will inform the floor of such positions.

APPENDIX 3 A ELECTRIC CARS GENERAL

THE RULE SHOULD BE AMENDED TO READ:

3.1.1.

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:

4S Batteries: Length: 139.0mm, Width: 47.0mm (the max. width includes any side exit wires), Height: 48.2mm (Chassis location features additional to this dimension are allowed) 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 4S Packs:- the maximum connection "In Series" is four, to give a Final pack voltage of (LiPo 14.8v/LiFe 13.2v) nominal. For 2S Packs, the maximum connection "In Series" is two, to give a maximum Final pack voltage of (LiPo 7.4v/LiFe 6.6v) nominal.

For 1S Packs, cells can only be connected in parallel to give a maximum Final pack voltage of (LiPo 3.7v/LiFe 3.3v) nominal.

NOTE: Cells with a nominal voltage of no more than 3.8v may be used starting 1st. April 2017, providing that a significant number of manufacturers have them available. The maximum charging cut-off will remain at 4.20v per. cell.

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 rated energy capacity of the pack in Wh. and the 'C' rating of the pack. The Brand name/logo shall be easily readable.

NOTE: For 2017 onwards, Saddle Pack batteries supplied as two individual batteries (not hard wired together), will show the nominal battery voltage for each battery on the labels, not the combined voltage.

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. 4S LiPo/LiFe batteries may be charged to a maximum of 16.80v (LiPo) resp. 14.80(LiFe).

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

Proposal:

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:
4S Batteries: Length: 139.0mm, Width: 47.0mm (the max. width includes any side exit wires), Height: 48.2mm (Chassis location features additional to this dimension are allowed) 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.
2S Batteries for 1/12th Cars: Length 93.0mm, Width: 47.0mm (the max. width includes any side exit wires), Height: 18.5mm (Chassis location features additional to this dimension are allowed).

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 4S Packs:- the maximum connection "In Series" is four, to give a Final pack voltage of (LiPo 14.8v/LiFe 13.2v) nominal. For 2S Packs, the maximum connection "In Series" is two, to give a maximum Final pack voltage of (LiPo 7.4v/LiFe 6.6v) nominal.
For 1S Packs, cells can only be connected in parallel to give a maximum Final pack voltage of (LiPo 3.7v/LiFe 3.3v) nominal.
NOTE: Cells with a nominal voltage of no more than 3.8v may be used starting 1st. April 2017, providing that a significant number of manufacturers have them available. The maximum charging cut-off will remain at 4.20v per. cell.
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 rated energy capacity of the pack in Wh. and the 'C' rating of the pack. The Brand name/logo shall be easily readable.
NOTE: For 2017 onwards, Saddle Pack batteries supplied as two individual batteries (not hard wired together), will show the nominal battery voltage for each battery on the labels, not the combined voltage.
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. 4S LiPo/LiFe batteries may be charged to a maximum of 16.80v (LiPo) resp. 14.80(LiFe).
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). 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.
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: This proposal is a result of the IFMAR meeting at the Worlds in Beijing where IFMAR, EFRA, ROAR, FEMCA, discussed this. Consensus was achieved between all federations and the manufacturers that this would be desirable. Therefore LRP makes this proposal with the following reasons: - 2S operation is easier as it eliminates the need for a receiver pack, a booster or a special speed control. - Higher voltage is much easier to ensure trouble-free operation of the receiver and servo, as there is a big voltage difference between the supply voltage and the minimum required voltage of the receiver and the servo. With 1S there is only a small voltage difference causing possible issues. - Due to LiPo battery technology, changing to 2S operation is easily possible. 2S batteries already exist, and manufacturers could also take their current 1S batteries and change the internal soldering of the 2 cells from parallel to in-line. - In short, there is less hassle for the driver and less things can go wrong. If 1S batteries are then not used anymore in any other class, the dimensions for 1S batteries may possibly be deleted.

Proposed by LRP electronic GmbH,

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

3.1.1.

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 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:
4S Batteries: Length: 139.0mm, Width: 47.0mm (the max. width includes any side exit wires), Height: 48.2mm (Chassis location features additional to this dimension are allowed) 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 4S Packs:- the maximum connection "In Series" is four, to give a Final pack voltage of (LiPo 14.8v/LiFe 13.2v) nominal. For 2S Packs, the maximum connection "In Series" is two, to give a maximum Final pack nominal voltage of (LiPo 7.4v/LiFe 6.6v).
For 1S Packs, cells can only be connected in parallel to give a maximum Final pack nominal voltage of (LiPo 3.7v/LiFe 3.3v).
NOTE: Cells with a nominal voltage of no more than 3.8v may be used starting 1st. April 2017, providing that a significant number of manufacturers have them available. The maximum charging cut-off will remain at 4.20v per. cell.
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 rated energy capacity of the pack in Wh. and the 'C' rating of the pack. The Brand name/logo shall be easily readable.
NOTE: For 2017 onwards, Saddle Pack batteries supplied as two individual batteries (not hard wired together), will show the nominal battery voltage for each battery on the labels, not the combined voltage.
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. 4S LiPo/LiFe batteries may be charged to a maximum of 16.80v (LiPo) resp. 14.80(LiFe).
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). 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. 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.

Proposal:

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:
4S Batteries: Length: 139.0mm, Width: 47.0mm (the max. width includes any side exit wires), Height: 48.2mm (Chassis location features additional to this dimension are allowed) 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 with a nominal voltage of no more than (LiPo 3.8v/LiFe 3.3v). Individual cells may be wired in parallel.
For 4S Packs:- the maximum connection "In Series" is four, to give a maximum Final pack nominal voltage of (LiPo 15.2v/LiFe 13.2v). For 2S Packs, the maximum connection "In Series" is two, to give a maximum Final pack nominal voltage of (LiPo 7.6v/LiFe 6.6v).
For 1S Packs, cells can only be connected in parallel to give a maximum Final pack nominal voltage of (LiPo 3.8v/LiFe 3.3v).
NOTE: Cells with a nominal voltage of 3.8v cannot be used at EFRA events until:- 1st. April 2017 for 4S and 2S, 1st. March 2017 for 1S. (Previously approved 3.7v nominal cells are not restricted).The maximum charging cut-off will remain at 4.20v per. cell. (NOTE: this last sentence to be BOLD).
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 by the manufacturer must be substantially below the major surface of the plastic casing, to prevent any "short circuit" if placed on a conductive surface. Any type of connection adaptors added, that are conductive and protrude above the level of the plastic case must be removed before the battery is removed from the car.
4. The case must have the original suppliers label intact, stating:- the Part # of the pack, the rated nominal voltage, the chemistry (Lipo/LiFe), the rated energy capacity of the pack in Wh. and the 'C' rating of the pack. The Brand name/logo shall be easily

readable.
NOTE: For 2017 onwards, Saddle Pack batteries supplied as two individual batteries (not hard wired together), will show the nominal battery voltage for each battery on the labels, not the combined voltage.
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. 4S LiPo/LiFe batteries may be charged to a maximum of 16.80v (LiPo) resp. 14.80(LiFe).
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). 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 in a 'Lipo sack' at all times when being charged or discharged. This applies to any discharging procedures except during a race or when using organiser supplied resistors. 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: NOTE: Last sentence of (2) needs to be in BOLD. Updates rule to include decisions made at 2015 AGM. Also includes some additional safety aspects. Discharging with LiPo sack needs to be covered as some competitors are applying heavy discharge loads before charging.

Proposed by EFRA

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

3.3.

Existing Rule: 1/12th Cars will be driven by batteries with a maximum of 3.7 volt nominal. Receiver batteries are allowed.

Proposal: 1/12th Cars will be driven by a lithium based (LiPo/LIFE) battery. The nominal voltage is 7.4V/6.6V. Receiver batteries are not allowed.

Remarks: This proposal is a result of the IFMAR meeting at the Worlds in Beijing where IFMAR, EFRA, ROAR, FEMCA, discussed this. Consensus was achieved between all federations and the manufacturers that this would be desirable. Therefore LRP makes this proposal with the following reasons: - 2S operation is easier as it eliminates the need for a receiver pack, a booster or a special speed control. - Higher voltage is much easier to ensure trouble-free operation of the receiver and servo, as there is a big voltage difference between the supply voltage and the minimum required voltage of the receiver and the servo. With 1S there is only a small voltage difference causing possible issues. - Due to LiPo battery technology, changing to 2S operation is easily possible. 2S batteries already exist, and manufacturers could also take their current 1S batteries and change the internal soldering of the 2 cells from parallel to in-line. - In short, there is less hassle for the driver and less things can go wrong.

Proposed by LRP electronic GmbH,

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

3.3.

Existing Rule: 1/12th Cars will be driven by batteries with a maximum of 3.7 volt nominal. Receiver batteries are allowed.

Proposal: 1/12th Cars will be driven by batteries with a nominal voltage of no more than 3.8 volt (effective 01.03.17). Receiver batteries are allowed.

Remarks: Updates rule to cover amendment to 3.1.1 (2)

Proposed by EFRA

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

3.4.

Existing Rule: 1/10 Touring scale & Formula 1 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.

Proposal: 1/10 Touring Scale & Formula 1 cars will be driven by a lithium based (LiPo/LIFe) battery with a nominal voltage of no more than 7.6v (LiPo)/ 6.6v (LiFe). Receiver batteries are not allowed.

Remarks: Updates rule to comply with amendment to 3.1.1 (2)

Proposed by EFRA

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

3.5.

Existing Rule: 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.

Proposal: 1/10 Offroad scale cars will be driven by a lithium based (LiPo/LIFe) battery with a nominal voltage of no more than 7.6v (LiPo)/ 6.6v (LiFe). Receiver batteries are not allowed.

Remarks: Update rule to comply with amendment to 3.1.1 (2)

Proposed by EFRA

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

7.1.1.

Existing Rule: European Championships are held in the following classes:
1/10 Off-Road Modified, 2WD & 4WD as separate classes.
1/12 Modified & 1/12 using 13.5T Spec. Brushless
1/10 Touring Cars Modified & 1/10 Touring Cars using 10.5T Spec. Brushless
1/10 Formula One using 21.5T Spec. Brushless.
Starting May 2016, only motors included on the EFRA Homologation Lists are allowed at EC and GP events in the above Classes.

Proposal: 1/10 Touring Cars Modified & 1/10 Touring Cars using 13.5T Spec. Brushless

Remarks: It is now commonly spread to use 13.5T motors in spec touring car racing all over the world. 1/12 spec was also changed to 13.5T recently. Furthermore, 10.5T is too close to modified from a speed and performance perspective, changing to 13.5T would make this class more accessible since the same format is raced all over Europe in the national, regional and local races.

Proposed by SRCCA Swiss R/C Cars Association,

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

8.1.3.

Existing Rule: 1/10 E off-road EUROPEAN CHAMPIONSHIP:
MONDAY: Free practice 2WD, Registration and Technical Inspection
TUESDAY: Controlled Practice and Qualifying Rounds 1-3
WEDNESDAY: Schedule permitting, one hour of unofficial practice in Heat Order of Round 4

Qualifying Rounds 4-5, Finals and Prize Ceremony
THURSDAY: Free practice 4WD, Registration and Technical Inspection
FRIDAY: Controlled Practice and Qualifying Rounds 1-3
SATURDAY: Schedule permitting, one hour of unofficial practice in Heat Order of Round 4.
Qualifying Rounds 4-5, Finals and Prize Ceremony
The Race Organiser can change the above timetable providing he does so well in advance. ALL changes to the Schedule or alterations to times of any Heats/Finals must be clearly identified to all Team managers and Officials in written form, at least one hour before such changes take place, if any procedures are being brought forward.

Proposal: 1/10 E off-road EUROPEAN CHAMPIONSHIP:
MONDAY: Free practice 2WD, Registration and Technical Inspection
TUESDAY: Two Rounds of Controlled Practice and Qualifying Rounds 1-3
WEDNESDAY: Schedule permitting, one hour of unofficial practice in Heat Order of Round 4
Qualifying Rounds 4-5, Finals and Prize Ceremony
THURSDAY: Free practice 4WD, Registration and Technical Inspection
FRIDAY: Two Rounds of Controlled Practice and Qualifying Rounds 1-3
SATURDAY: Schedule permitting, one hour of unofficial practice in Heat Order of Round 4.
Qualifying Rounds 4-5, Finals and Prize Ceremony
The Race Organiser can change the above timetable providing he does so well in advance. ALL changes to the Schedule or alterations to times of any Heats/Finals must be clearly identified to all Team managers and Officials in written form, at least one hour before such changes take place, if any procedures are being brought forward. No request for a delayed start in Qualifying will be granted. In "A" Finals, a competitor may request a delayed start of up to a maximum of eight (8) minutes for the repair of breakages only, subject to the Race Director agreement. The competitor(s) involved will then start from the back of the grid. This delay will only be granted once for any "A" Final.

Remarks: Clarifies what has been adopted in recent events.

Proposed by EFRA

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

6. ITEMS FOR GENERAL DISCUSSION.

GENERAL MATTERS

Suggestion: Topic 1) EFRA standard motor connectors: 3x bullet or 3xDeans type of connectors built into the motor end bell. Why: Make it easier for beginners, no soldering required. And easier to swap motors. Must be so that it does not necessitate more room in the car chassis (same outer dimensions). If possible the "old" solution with 3x solder tabs can be kept in addition (for those who prefer that). This can of course only be enforced for EFRA spec motors and for future approvals. But it could be a good guideline for the manufacturers. Topic 2) EFRA standard ESC connectors: Encourage all ESC manufacturers to supply them pre-soldered with Corally type 4mm bullet connectors. In order to make it easier for beginners. Learning to solder is often a big hurdle when new in the sport. Topic 3) EFRA standard LiPo battery connectors: -No protruding connectors, this can lead to people inserting the battery upside down and shorting out the ESC -Only 4mm sockets allowed (In the past we already proposed fixed polarity) In order to stick with ONE standard and keep things as simple as possible.

Proposed by NMF Norwegian Motorsport Federation, Naas Gunnar Mikal

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

MEETING TO CONTINUE WITH ELECTRIC OFF-ROAD SECTION MEETING.

EFRA ANNUAL GENERAL MEETING

HOTEL NH Wien Airport,
Vienna Austria
5-6th of November 2016

AGENDA ELECTRIC - OFF-ROAD.

1. CHAIRMAN'S WELCOME — Mr Paul Worsley

The Electric Off-road Chairman opened the meeting at

2. APOLOGIES FOR ABSENCE

Apologies have been received from:

COUNTRY	PRESENT	SECTION SUBSCR	REQUESTED:				
			EC	EC	WC		Max33%
			Buggy 2wd	Buggy 4wd	WC		%
AUSTRIA							
BELARUS							
BELGIUM							
BULGARIA							
CROATIA							
CZECH REP.							
DENMARK							
ESTONIA							
FINLAND							
FRANCE							
GERMANY							
GREAT BRITAIN							
GREECE							
HUNGARY							
IRELAND							
ITALY							
LUXEMBOURG							
MONACO							
NETHERLANDS							
NORWAY							
POLAND							
PORTUGAL							
RUSSIA							
SLOVAK REP.							
SLOVENIA							
SPAIN							
SWEDEN							
SWITZERLAND							

TURKEY							
		TOTALS					

Allocations can be changed till December 21th 2016.

Other persons present:

3. MINUTES OF 2015 SECTION MEETING

November 205 –Barcelona, Spain:

Matters arising from the minutes:

The minutes were accepted as written at the AGM 2015.

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

4. CORRESPONDENCE RECEIVED

. Any correspondences from the 2016 season……

5. CHAIRMAN'S REPORT

A full report of the Season is presented by the Section Chairman

6. PRESENTATIONS FOR APPLICATIONS EC AND GP'S 2017/18

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

Year/Date	Alt. Date	Status	Country	Venue
2017		IR	Belgium	Zolder
2017		IR	Belgium	Kampenhout
2018		EC	Slovakia	Trencin
2018		EC	Reims	France
2019		WC	Slovakia	Trencin

Final Race calendar 2017

Year/Date	Alt. Date	Status	Country	Venue
2017		EC	Italy	Pinerolo

Future Race calendar Championships

Year/Date	Alt. Date	Status	Country	Venue
2018				

Nominated Tyres for the 1/10th. Off-Road EC:

Allocations were made to each country as printed in the table form under item 2 on the agenda.
All Federations MUST confirm their FINAL Allocation Numbers for each event to the relevant Section Chairman by 21th. December LATEST.

7. RULE PROPOSALS.

Note: The EFRA Committee has studied all received proposals and has come to an opinion over each one, The EFRA Section Chairman will inform the floor of such positions.

APPENDIX 3 C ELECTRIC CARS PARTICULARS for 1/10 OFF ROAD

THE RULE SHOULD BE AMENDED TO READ:

1.2.

Existing Rule: There are two classes of cars: 2WD and 4WD. Both must be run and drivers are allowed to enter both classes.

Proposal: There are two classes of cars: 2WD and 4WD. Both must be run and drivers are allowed to enter both classes. Any car competing in the 4WD Class must have effective drive to the front and rear wheels (race breakages excepting). Any car which is designated as 4WD must be able to complete a lap of the track with either the front or rear drive-shafts removed with all settings of the remaining drive-train as it will be raced, in a reasonable time frame.

Remarks: On some track surfaces, 2WD cars can be faster. If 2WD is allowed in the 4WD Class, the Class will become "a joke".

Proposed by EFRA

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

2.

Existing Rule: **MEASUREMENTS AND WEIGHTS:**

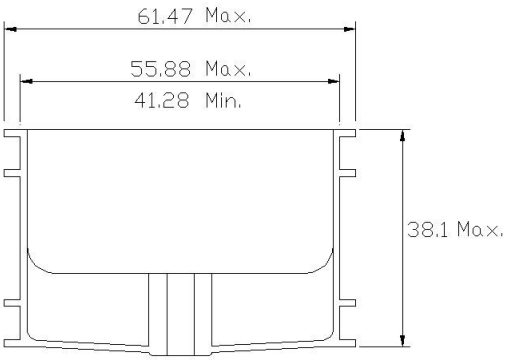
Maximum overall length:	460 mm
Maximum overall width:	250 mm (At any point of suspension travel)
Maximum overall height:	200 mm (to be measured with the suspension fully compressed)
Minimum weight 2WD cars:	1.474 gram
Minimum weight 4WD cars:	1.588 gram

A maximum of two (2) wings can be used, one at the front and one at the rear of the car:

Maximum size of Front Wing:	127mm wide with chord 63.5 mm.max.
Maximum size of Rear Wing:	177.8 mm wide with chord 76.2 mm max.
Maximum size of Wing side-dam:	Height 50 mm, length 100 mm.
Maximum overall diameter	Drawing Below
of wheel & tyre:	90mm
Wheel sizes:	
Min bead mounting diameter:	41,28 mm
Max bead mounting diameter:	55,88 mm

Bead mounting dimensions are measured at the point where the internal tyre bead meets the wheel.

Max wheel diameter:	61,47 mm
Max wheel width:	38,10 mm



Wheel width is measured at the circumference of the wheel where the tyre is retained, the centre of the wheel maybe outside this dimension.
'Venting' holes in the internal rim of the wheel are allowed – maximum of two (2) holes, of maximum 6.0 mm diameter.

Measuring equipment for width, length and height should be constructed preferably from metal or alternatively high quality board. The materials will be of suitable thickness to eliminate any distortion.
Design of the equipment to allow all points of the car to be measured.

Proposal: **MEASUREMENTS AND WEIGHTS:**

Maximum overall length:	460 mm
Maximum overall width:	250 mm (At any point of suspension travel)
Maximum overall height:	200 mm (to be measured with the suspension fully compressed)
Minimum weight 2WD cars:	1.474 gram
Minimum weight 4WD cars:	1.588 gram

A maximum of two (2) wings can be used, one at the front and one at the rear of the car:

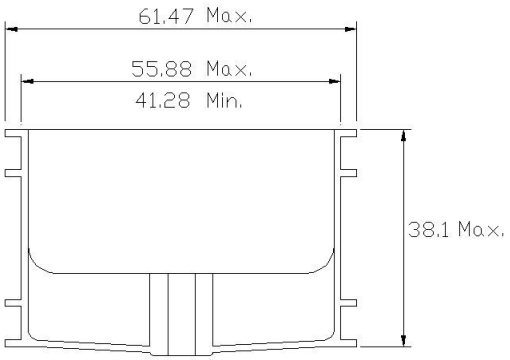
Maximum size of Front Wing:	127mm wide with chord 63.5 mm.max.
Maximum size of Rear Wing:	177.8 mm wide with chord 76.2 mm max.
Maximum size of Wing side-plates:	Height 50 mm, length 80 mm.

Vertical 'fins' included or attached within the wing area, must be no higher (or lower) than any side-plates. If no side-plates are used, any vertical 'fins' within the wing area must not exceed 50mm maximum overall (top to bottom). Front or Rear bi-level wings are not permitted

Maximum overall diameter	Drawing Below
of wheel & tyre:	90mm
Wheel sizes:	
Min bead mounting diameter:	41,28 mm
Max bead mounting diameter:	55,88 mm

Bead mounting dimensions are measured at the point where the internal tyre bead meets the wheel.

Max wheel diameter:	61,47 mm
Max wheel width:	38,10 mm



Wheel width is measured at the circumference of the wheel where the tyre is retained, the centre of the wheel maybe outside this dimension.
'Venting' holes in the internal rim of the wheel are allowed – maximum of two (2) holes, of maximum 6.0 mm diameter.

Measuring equipment for width, length and height should be constructed preferably from metal or alternatively high quality board. The materials will be of suitable thickness to eliminate any distortion.
Design of the equipment to allow all points of the car to be measured.

Remarks: Wing side-plate sizes need to be more realistic. Vertical fins within the wing need to be detailed, as some unusual designs have been suggested. Bi-level wings would make chord measurement difficult to achieve. Accepted by IFMAR.

Proposed by EFRA

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

---

8. ELECTION OF VICE SECTION CHAIRMAN.

.

Frank Mostrey is willing to restand

9. ANY OTHER BUSINESS

10. ITEMS FOR GENERAL DISCUSSION.

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

MEETING TO CONTINUE WITH ELECTRIC TRACK SECTION MEETING.

EFRA ANNUAL GENERAL MEETING

HOTEL NH Wien Airport,
Vienna Austria
5-6th of November 2016

AGENDA ELECTRIC - TRACK.

1. CHAIRMAN'S WELCOME — Mr Chris Hardisty

The Electric Track Chairman opened the meeting at

2. APOLOGIES FOR ABSENCE

Apologies have been received from:

Member Countries presents, section subscription, allocations etc:

COUNTRY	PRESENT	SECTION SUBSCR	EC 1/12		EC 1/10 Touring		
AUSTRIA							
BELARUS							
BELGIUM							
BULGARIA							
CROATIA							
CZECH REP.							
DENMARK							
ESTONIA							
FINLAND							
FRANCE							
GERMANY							
GREAT BRITAIN							
GREECE							
HUNGARY							
IRELAND							
ITALY							
LUXEMBOURG							
MONACO							
NETHERLANDS							
NORWAY							
POLAND							
PORTUGAL							
RUSSIA							
SLOVAK REP.							
SLOVENIA							
SPAIN							
SWEDEN							
SWITZERLAND							
TURKEY							
TOTAL			**0**	**0**	**0**	**0**	**0**

Allocations can be changed till December 21th 2016.

Other persons present:

3. MINUTES OF 2015 SECTION MEETING

November 2015 – Barcelona, Spain

Matters arising from the minutes:

The minutes were checked and accepted as written at the AGM 2015.

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

4. CORRESPONDENCE RECEIVED

. Any correspondences from the 2016 season……

5. CHAIRMAN'S REPORT

. A full report of the Season is presented by Section Chairmen

6. PRESENTATIONS FOR APPLICATIONS - EC AND GP'S 2017/18

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.

Year/Date	Alt. Date	Status		Country	Venue
2017		EC	1/12	Netherlands	Sittard
2017		EC	1/12	Slovakia	Trencin
2018		EC	1/10	Switzerland	Lostallo
2018		EC	1/10	Slovakia	Trencin
2018		EC	1/10	Austria	Wiener Neustadt

Final Race calendar 2017

Year/Date	Alt. Date	Status		Country	Venue
2017		EC	1/12		
2017		EC	1/10 Touring	Spain	Almussafes

Future Race calendar Championships

Year/Date	Alt. Date	Status	Country	Venue
2018				

Tyres for the 1/10th Touring Car EC 2017:

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

7. ALLOCATIONS

Allocations were made to each country as printed in the table form under item 2 on the agenda.
All Federations MUST confirm their FINAL Allocation Numbers for each event to the relevant Section Chairman by 21th. December LATEST

8. RULE PROPOSALS

Note: The EFRA Committee has studied all received proposals and has come to an opinion over each one, The EFRA Section Chairman will inform the floor of such positions.

APPENDIX 3 B ELECTRIC CARS REQUIREMENTS FOR ELECTRIC ON ROAD CLASSES

THE RULE SHOULD BE AMENDED TO READ:

5.4.

Existing Rule: European Championships: A list of allowed substances or products will be published with the entry form.

Proposal: At EC's it is only allowed to use the tyre additive agreed by the section meeting at the EFRA AGM together with the race organiser (race organiser will make their recommendation).

Remarks: This proposal should be seen in connection with the LRP porposal for new rule 6.3.6 on handout tyres. Allowing only one additive at the ECs would further strengthen the ideas behind handout tyres. Further benefits: - Additional revenue for the organizers as they would sell the additive. - Reduced costs for the drivers as there is no search for the required additives; instead it is provided and available.

Proposed by LRP electronic GmbH,

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE IS NEW:

6.3.5.

Existing Rule: Technical Inspection can demand to check the tyres prior to each start

Proposal: 6.3.6 At EC's it is only allowed to use the tyres that were agreed by the section meeting at the EFRA AGM together with the race organiser (race organiser will make their recommendation). There will be a single control foam front tyre pre-glued to the wheel (tyre and wheel to be same for all drivers) and a single control foam rear tyre pre-glued to the wheel (tyre and wheel to be same for all drivers). These tyres have to be commercially available via model/hobby shops. For use at the EC, the tyres must be bought from the organiser. For each competitor there must be at least 1 set of tyres available to be bought for practice at the EC. Price fixed for each EC event at 60.- E for 3 sets, this price only for tires used at event. 6.3.7 2 sets of 4 tyres are allowed for qualifying, and 1 additional set of 4 tyres is allowed for finals. Tyres from qualifying may be used in the finals. For Modified only: 5 sets of 4 tyres are allowed for qualifying, and 1 additional set of 4 tyres is allowed for finals. Tyres from qualifying may be used in the finals. 6.3.8 Tyres/wheels may not be modified except trueing and using the handout additive. Changing of tires between drivers is not allowed. Drivers must have their wheels and tyres marked by Technical Inspection and this marking can be done at any time. 6.3.9 The Technical Inspector must mark wheels/tyres before being presented to Technical Inspection for qualifying heats and finals. 6.3.10 Unmarked wheels/tyres may not be used on the car during qualifying heats and finals but are allowed for practice. 6.3.11 Technical Inspection shall be responsible for recording the number of tyres used by each driver. 6.3.12 No extra sets are allowed for a re-run of a heat. 6.3.13 All set of tyres for qualification have to be returned by the driver by the end of each qualification day to the organizer (tyre impound). Not returning the tyres in the announced time by the organizer will be punished with the lost of the best heat. The not returned set of tyres have to be checked and released for further use by the technical inspection.

Remarks: Number of tyre sets and price to be discussed and decided at the AGM. This proposal is a result of the IFMAR meeting at the Worlds in Beijing where IFMAR, EFRA, ROAR, FEMCA discussed this. Consensus was achieved between all federations and the manufacturers that this would be desirable. We propose this rule addition as close as possible to the existing TC rules to have similar procedures and rules. Therefore LRP makes this proposal with the following reasons: - Controlled tires are common at all European and World Championships except 1:12. This is the case with rubber tires in TC as well as with foam tires in Nitro. - Handout tires provide fair competition and a level playing field for all competitors. - At the recent 1:12 Worlds in China, it was a big problem for drivers to compete because the needed tires were not available to all drivers equally. - Further benefits: - Additional revenue for the organizers as they would sell the tire and possibly the handout additive (see LRP proposal for rule App.3, 5.4). - Reduced costs for the drivers as there is no search for the required tires; instead they are provided and available.

Proposed by LRP electronic GmbH,

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

7.4.

Existing Rule: **1/10 Touring Cars 10.5T Spec. Brushless**

Proposal: **1/10 Touring Cars 13.5T Spec. Brushless**

Remarks: adjustment to match the proposal to change touring spec class to 13.5T, see proposed amendment for 7.1.1

Proposed by SRCCA Swiss R/C Cars Association,

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

7.4.1.

Existing Rule: Only 10.5T Spec Brushless motors according to App. 3A 2.2 are allowed.

Proposal: Only 13.5T Spec Brushless motors according to App. 3A 2.2 are allowed.

Remarks: adjustment to match the proposal to change touring spec class to 13.5T, see proposed amendment for 7.1.1

Proposed by SRCCA Swiss R/C Cars Association,

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

8.1.

Existing Rule: Cars specification
Maximum width: 190 mm
Front independent king pin, coil spring suspension is allowed. Suspension pick up points must be mounted inside the body. Independent front shocks are not allowed. The main chassis plate must not protrude from the body when viewed from above.
Minimum weight = 1050 grams including personal transponder.

Proposal: Cars specification
Maximum width: 190 mm
Front independent king pin, coil spring suspension is allowed. The displacement of the inner pick up points of the front suspension is limited to max. 40mm . Either the upper or the lower front arm has to be rigid and not part of the moving suspension (sliding king pin).
The main chassis plate must not protrude from the body when viewed from above.
Minimum weight = 1050 grams including personal transponder.

Remarks: Further specification of the front end for F1 cars to avoid discussions about the interpretation of "suspension points must be mounted inside the body". Depending on the F1 body, also pan car front ends would fit to such rules which for sure would not make sense to allow in an F1 class. Remove: "Independent front shocks are not allowed" since the usage of dampening on the front end is not a problem as long as the "sliding king pin" setup is imposed by this rule.

Proposed by SRCCA Swiss R/C Cars Association,

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

THE RULE SHOULD BE AMENDED TO READ:

8.2.

Existing Rule: Tires:
The tires will be decided by the section chairman early in the season and will remain in use for a minimum of one year. Tires can be warmed up with the appropriate equipment.

	Amended: Tyres to be chosen as per. Touring Car procedure for selection (Rubber type tyres, no foam)
Proposal:	Tires: Tyres to be chosen as per Touring Car procedure for selection (Rubber type tyres, no foam)
Remarks:	Somehow the proposed rule got mixed up with the amendment text from last AGM. Clean up to have a clear rule.

Proposed by SRCCA Swiss R/C Cars Association,

Seconded by: ..... o Not Seconded

The proposal: o Passed Unanimously o Passed with .... for, ... against and .... abstentions.

o Rejected with .... for, ... against and .... abstentions. o Amended

9. ELECTION OF VICE SECTION CHAIRMAN.

The position of Vice or Section Chairman has one candidate:

10. ANY OTHER BUSINESS

11. ITEMS FOR GENERAL DISCUSSION.

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