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MEMBERS HANDBOOK 2024

EFRA®

RC MOTORSPORT EUROPE

ASSOCIATE MEMBERS 2024

XRAY
LUXURY MODEL RACING CARS

CORSATEC

MATRIX
RACING TYRES

LRP
BLUE IS BETTER

ONYX

OptiPOWER
...your passion

O.S.ENGINE

CAYOTE

Schumacher
racing-cars.com

RUDDOG

Gens ace

SWORKS

WORLD CHAMPIONS
EAM
EA MOTORSPORTS

SM SCHEPIS MODEL

HOT RACE
TIRES

MYLAPS
SPORTS TIMING

Intellect

ae
TEAM ASSOCIATED

SAMBA
MODELCARGO

fyrework.ai

EZ power

TEAM CORALLY

CAPRICORN

YMC
The Winning Tyres

AERO

GRP tyres

SUNPADDY

Mecatech

PRO-LINE

E.F.R.A. Executive Committee

EFRA Website: http://www.EFRA.ws

A full list of committee members can be found on the EFRA website, www.efra.ws - or click *here*.

Federation Contacts

Contact details can be found on the EFRA website, www.efra.ws - or click *here* or on the website of the particular National Federation.

List of EFRA Registered Timekeepers

Details can be found on the EFRA website, www.efra.ws - or click *here*

EFRA Referee List 2024

Details can be found on the EFRA website, www.efra.ws - or click *here*

E.F.R.A. Homologation Officers

Homologation Officer Body 1/8 1/10 and 1/12	**Krist Bultynck** Baronielaan, 39 8870 Izegem Belgium T: +32 485 59 49 69 E: body.homologation@efra.ws
Homologation Officer Body 1/5	**Craig Orman** 115 Bawtry Road, Wickersley Rotherham S662BL Great Britain M: +44 7787360205 E: vice.large.scale@efra.ws
Homologation Officer Battery and Motors	**Paul Worsley** 23, Prince Rupert Road Stourport-on-Severn Worcestershire DY13 0AS Great Britain T: +44 (0) 1299 871 137 M: +44 (0) 7946 750 010 E: electric.buggy@efra.ws
Homologation Mufflers and INS Boxes	**Sander De Graaf** Baan Aiara 888-84 Moo 7 Soi 3 Tambon Johor Amphoe 30310 Nakhon Ratchasima Thailand M: +66 649690718 E: muffler.homologation@efra.ws

E.F.R.A. Honorary Positions

Position	Name	Address	Tel No.
Hon. Life President	Gary Culver	Barrows Hill House Est Chinnock Somerset BA229EY Great Britain	+44 1935862495
Hon.Life Vice President	Peter Bervoets	P.O.Box 180 2100 AD Heemstede Netherlands	+31 23292068
Hon.Life Vice President	Bill Burkinshaw	The Leys Church Street Twyford Buckingham MK184EU Great Britain	+44 1296730682
Hon.Life Vice President	Jean-Luc Retornaz	BP 25 RD 10 2019 Route de Berre 13122 Ventabren France	+33 442288795
Hon.Life Vice President	Eduardo Piccolo	Largo Da Assuncao 2750 Cascais Portugal	+35 1967021520
Hon. Life Vice President	Frank Mostrey	Tenierslaan 28 1910 Kampenhout Belgium	+32 476 555 308
Hon.Life Vice President	Sander De Graaf	Baan Aiyara 888-84 Moo 7 Soi 3 Tambon Johor Amphoe 30310 Nakhon Ratchasima Thailand	+66 649690718

† Hon. Life President	Ted Longshaw
† Hon. Life Vice President	Dallas Mathiesen
† Hon. Life Vice President	Mike Drescher
† Hon. Life Vice President	Andre Van Der Linden
† Hon. Life Vice President	Heiner Martin
† Hon. Life Vice President	Mick Hill

E.F.R.A. Associated Members

Associated Member	WWW
Associated Electronics Inc	www.teamassociated.com
Capricorn s.a.s.	www.capricornrc.com
Genspow GmbH	www.gensace.de
GeNull	www.genull.de
Intellect Battery Co.Ltd	www.intellect-battery.com
Italtrading srl	www.italtradingstore.it
JSP Group Intl BVBA	www.promodels.be
Kiel Technology Ltd (Hong Kong)	www.fyrework.ai
Lautenbach Racing Products GmbH	www.lrp.cc
Marrone Racing Tyres Hotrace	www.hotracetyres.com
Mecatech	www.mecatech-racing-parts.it
MODELCARGO Racing	www.modelcargo.com
MRP S.r.l. (GRP Gandini)	www.grpgandini.it
MYLAPS Sports Timing	www.mylaps.com
O.S. Engines Mfg. Co.	www.os-engines.co.jp
Onyx RC Power Systems	www.onyxrcpowersystems.co.uk
PMT Pauselli Model Tyres S.R.L.	www.pmt-tyres.it
Premium RC	www.corsatec.net
Process Measurement & Analysis Ltd. (Optipower)	www.optipower.uk.com
Protoform	www.prolineracing.com
RUDDOG Distribution GmBH	www.ruddog.eu
Salvatore Schepis s.r.l.	www.schepismodel.com
Schumacher Racing Products	www.racing-cars.com
Shenzen Cayote Technology Co. Ltd.	www.cayote.com
Sworks MW Handel GmbH	www.mwrccars.at
Team EAM	www.teameamotorsports.com
Xiamen 3-Circles Battery Co.	www.3-circles.com
Xray s.r.o.	www.hudy.net
Xtreme di Boni Cristian	www.matrixtires.it

2. CONSTITUTION OF THE EUROPEAN FEDERATION OF RADIO OPERATED MODEL AUTOMOBILES EFRA

1. Name and scope

The name of the Federation is the European Federation of Radio Operated Model Automobiles (hereinafter referred to by the acronym EFRA). EFRA was established in 1973 and has since then been recognised as the first and sole continental authority to regulate and run European Championships for Radio Controlled car racing. EFRA's aim is to create rules to enable fair competition at RC car racing events across Europe at European Championship events, and these procedures may also be adopted by its members.

2. Objectives

The objectives of the Federation are:

a) The promotion of international Friendship and Co-operation, particularly (but not exclusively) on the continent of Europe, through and for the construction, competition and sport of radio-operated model automobiles.

b) The establishment of uniform International rules and regulations for such construction and operation.

c) The co-ordination of races and competitions, national and international and the keeping of records thereof and the distribution of information relating thereto.

d) The representation of its member countries in the world federation IFMAR (International Federation of Model Auto Racing) which coordinates model car racing in the world and organises World Championship races. EFRA is recognised by IFMAR as its representative for Europe and it's affiliate members. EFRA in turn recognises and supports the authority of IFMAR in all matters relating to the worldwide organisation of model car racing.

3. Membership

3.1 **Country Federation Membership.**

Membership of EFRA shall be open to the National governing body of Radio Controlled Car Racing in each country in Europe and those countries considered by the Executive Board to be acceptable in terms of proximity to Europe. Any application for membership must contain such information as the Executive Board of EFRA may from time to time require and must be accompanied by the then current annual membership fee. All membership applications shall be submitted for acceptance before the next General Meeting of EFRA. All membership applications shall be deemed as provisional until formally accepted by the General Meeting.

Such acceptance shall require a simple majority of votes.

Pending such acceptance however a provisional member shall be entitled to be represented at all EFRA sponsored events.

Any question that may arise regarding if the Applicant is in fact the governing body of the country it wishes to represent, or whether such country is in fact a country for the purpose of these rules, (as distinct from a province, country etc,) shall be decided at the General Meeting of EFRA by a simple majority. A General Meeting may, by a two thirds majority of the membership, cancel the membership of any member.

At least one month notice of any proposal to review a membership shall be given to all members and the executive shall, if so requested, transmit to all

members any defence or explanation which the member in question wishes to put forward.

3.2 **Manufacturer Associate Membership.**

a) Associated Membership to EFRA is available to bona fide manufacturers of RC model goods against an annual Associated Membership fee as decided by the EFRA AGM and published on the EFRA website.
Associated membership is valid from January 1st. for the calendar year. An Associated Membership carries no voting rights at:- AGM, General Meeting, Section Conferences or any Team Managers or International Jury meetings.

b) Benefits and rights of Associated Members:
Attend and participate to manufacturer meetings organised by EFRA. Attend General meetings as an observer.
Address the General Meeting subject to authorisation or invitation (a request stating the topic to be sent to the General Secretary in writing in due time to be included in the agenda).
Submit proposals regarding the sport of RC racing for the General Meeting or Conference agenda's.
Participate at Section meetings.
Participate in workgroups or specific taskforces when invited to do so by EFRA. Subject to authorisation by EFRA:- expose products, where it is possible, without trading rights at meetings. A nominal fee may be applicable and EFRA does not provide exposition accessories, stands or furniture.
Receive early notification about proposed constructional rule changes.
One page advertising in the concerned section of the electronic (pdf) version of the EFRA handbook. (Advertising of acceptable quality, pdf format A4 to be provided by the member).
Be advertised as Associated Member on the EFRA website (appropriate company logo to be provided).
Being listed in the EFRA handbook as an Associated Member (subject to the application being received in due time).
Considerable discounts on approval fees.
Associated Members have specific advertising rights as detailed in [c & d] below.

c) Use of EFRA Logo's by Associated Members:-
Associated Members of EFRA are allowed to state that they are an Associated Member of EFRA in any company advertising or on any products. EFRA will supply a specific logo (EFRA Associated Member) to be used for this purpose when a company becomes an Associated Member. Other wording such as: "EFRA Approved Manufacturer" etc. is specifically not allowed. The use of this logo does not constitute that any product is homologated/approved by EFRA. In the event of a company ceasing or resigning from being an Associated Member, then all references to EFRA and the use of any EFRA logo in advertising or on products must also cease.

d) Additionally; if EFRA has an homologation/approval process for any specific products, then an Associated Member is allowed to state that a specific product is approved by EFRA. This only applies to products that have been officially approved by EFRA and are included on an EFRA homologation or approved list. EFRA will supply a specific logo (EFRA Approved Product) for this purpose. Other wording such as:- "EFRA Legal, accepted, preferred, recommended" etc. is specifically NOT allowed. Any product not included on an official EFRA approved list must not bear any wording relating to EFRA

approval, although it can portray that the manufacturer is an Associated Member of EFRA. Associated Members that contravene this ruling can be banned for up to two (2) years from holding EFRA Associated Membership, or applying to obtain approval of any further products. It is also possible that any existing approved products could be removed from any approved lists. No refund or indemnities whatsoever will be granted. If any existing EFRA approved product is altered in any way resulting that the product no longer complies with EFRA rules, then the same penalties apply. AM's should gain permission from EFRA before using "EFRA Approved Product" on any item.

3.3 **Use of Logo's by Manufacturers not having Associate Membership.**

a) Manufacturers or Companies that are not Associated Members of EFRA are specifically NOT allowed to include any unauthorised EFRA logo, trademarks or wording in any advertising or on any products, that could be construed to depict any membership recognition by EFRA. This does not preclude any non- Associate Member from having products approved by EFRA and included on the relevant homologation/approved lists.

b) Manufacturers or Companies that are not EFRA Associated Members, but have specific products approved by EFRA, are allowed to portray in advertising or on the specific product that the product has been approved by EFRA. This only applies to products that have been officially approved by EFRA and are included on an EFRA homologation/approved list. EFRA will supply a specific logo (EFRA Approved Product) for this purpose and this is the only reference to EFRA that can be used. Any product not included on an official EFRA approved list must not bear any wording relating to EFRA approval, either in general advertising or on the product. Other wording such as:- "EFRA Legal, accepted, preferred, recommended" etc. is specifically NOT allowed.

c) Any unauthorised reference to EFRA by non-Associate Members is subject to a ban from any approvals or becoming an Associated Member for up to three (3) years. No claims whatsoever can be made against EFRA in such cases and EFRA retains sole rights to accept or refuse applications for membership or approval of products at any time. If any existing EFRA approved product is altered in any way resulting that the product no longer complies with EFRA rules, then the same penalties apply. Manufacturers/companies that are not Associated Members of EFRA should gain permission from EFRA before using "EFRA Approved Product" on any item.

3.4 Where EFRA has a homologation/approval process for any specific products, then an Associated Member is allowed to state that a specific product is approved by EFRA, using the wording: "EFRA Approved". EFRA will supply a specific logo for this purpose. Other wording such as: "EFRA Legal, accepted, preferred, recommended, etc." is specifically NOT allowed. This only applies to products that have been officially approved by EFRA and are included on an EFRA homologation/approved list. Any product not included on an official EFRA approved list must not bear any wording relating to EFRA approval, although it can portray that the manufacturer is an Associated Member of EFRA.

Associated Members that contravene this ruling can be banned for up to two (2) years from holding EFRA Associated Membership, or applying to obtain approval of any further products. It is also possible that any existing approved products could be removed from any approved lists. No refund or indemnities whatsoever will be granted.

If any existing EFRA approved product is altered in any way resulting that the

product no longer complies with EFRA rules, then the same penalties apply.
AM's should gain permission from EFRA before using "EFRA Approved" on any product.

3.5 Manufacturers not having Associate Membership.

a) Manufacturers or Companies that are not Associated Members of EFRA are specifically NOT allowed to include any EFRA logo/trademarks in any advertising or on any products. This includes the use of any EFRA Logo or any wording that could be construed to relate to any membership recognition by EFRA. This does not preclude any non- Associate Member from having products approved by EFRA and included on the relevant homologation/approved list.

b) Manufacturers or Companies that are not EFRA members, but have specific products approved by EFRA, are allowed to portray in advertising or on the specific product, the wording "EFRA Approved" for that specific product. This only applies to products that have been officially approved by EFRA and are included on an EFRA homologation/approved list. Any product not included on an official EFRA approved list must not bear any wording relating to EFRA approval, either in general advertising or on the product.
Wording such as: "EFRA legal, preferred, recommended" etc., is specifically not allowed.

c) Any unauthorised reference to EFRA by non-Associate Members is subject to a ban from any approvals or becoming an Associated Member for up to three (3) years. No claims what so ever can be made against EFRA in such case and EFRA retains sole rights to accept or refuse applications for membership or approval of products at any time.
If any existing EFRA approved product is altered in any way resulting that the product no longer complies with EFRA rules, then the same penalties apply.
Manufacturers/companies that are not Associated Members of EFRA should gain permission from EFRA before using "EFRA Approved" on any product.

4. Organs of the federation

4.1.a General Meeting

The Federation shall hold an Annual General Meeting in the month of November. A Special General Meeting shall be called if either the Executive Board of EFRA so resolves, or a request in writing signed by the Representatives of at least 1/3 of the member countries, is received. Notice of every General Meeting shall be given at least one month beforehand with general particulars of the business to be conducted, and details of any proposed alterations to this constitution or to the racing or construction rules and regulations. The Business at an Annual General Meeting shall be:

a) The election of Officers whose terms of office have expired, proposals for official posts must be lodged with the General Secretary at least 45 days before the General Meeting. The main Officers will form a Committee Board as follows:
Committee Board
1. The President
2. Vice President
3. General Secretary
4. Section Chairmen
5. Treasurer

Candidates for any Board position, can only be proposed by recognised officials of an EFRA Member Federation or by the existing Board of EFRA. EFRA reserves the right to refuse any such proposal from an EFRA Member Federation.The position of Vice President has to be from within the existing EFRA Board following any elections at the AGM and will be decided annually by the existing Board members. All candidates for office properly proposed under the provisions of this constitution shall be introduced to the General Meeting prior to the Section conferences. The meeting shall be given the opportunity to question candidates for election.

Each section shall also elect a Vice Chairman who shall deputise in the event of the Chairman's absence. One officer will be elected every two years to act as liaison between EFRA and IFMAR to maintain continuity of policy. The post of IFMAR liaison officer may be combined or separate from other post.

To carry out the task for Public Relationships one officer will be elected for two years.

b) President shall be elected for a 4 year term and the General Secretary, Treasurer and Section Chairmen shall hold office for 2 years and be elected at the Annual General Meeting.

c) To decide the date and venue of future European Championships. The Meeting may (but is not bound to) fix such dates and venues for up to three years ahead, from applications made in writing to the Executive not less than 45 days before such meeting.

General particulars of any such applications shall be included in the notice covering the meeting and the selection of the venue will be decided in the Section Meeting and approved by the AGM.

The voting system to select the venue is as follows: Each member country has one voting form with 3 choices. All 3 must be used.

1st choice will receive 4 points.

2nd choice will receive 2 points.

3rd choice will receive 1 point.

The two sites receiving the highest total number of points will go forward to a second ballot where a simple majority will decide the chosen site.

In the event of a tie, the relevant official may use his casting vote.

All balloting will be secret, but results will be published.

d) To decide the dates and venues of other EFRA-approved events during the following year, including the next Annual General Meeting if not decided previously.

e) To consider any matter or proposal which the Committee Board or the relevant official wishes to bring before the Meeting, particulars of which shall be included in the notice of the Meeting

f) To consider any matter or proposal of which a member has given notice in writing up to the 31st of August. Particulars of such shall be included with the notice of the General Meeting as required by Section 4 above.

The Committee Board will examine all proposals received for discussion at the Annual General Meeting and where necessary prepare them for presentation by eliminating duplication and contradiction. Where proposals concerning Section matters that have a broader effect on General Rules or Constitution matters are received, the Committee Board will endeavour to resolve conflicts and present appropriate proposals tothe General Meeting. The catalogue of proposals recognised to be presented at the upcoming

AGM should be sent to all EFRA members representatives/secretaries at least 4 weeks before the meeting.

Proposals from EFRA Members for IFMAR Constitutional and Racing Rule changes must first be submitted to the EFRA Annual General Meeting and shall be subject to the same rules and procedures as those in force for EFRA matters.

This procedure does not remove the absolute right of any Member to make proposals directly to the General Meeting, these direct proposals will be recorded on the minutes and will be voted in the next General Meeting.

g) To deal with any matter which, under these Constitution Rules failed to be dealt with by a previous General Meeting.

4.1.b. Voting

a) Following any proposal at a General Meeting each member country shall have one vote which shall be exercisable by a person duly authorised in writing by his governing body in such country.

b) Each country shall also be entitled to one vote at any section meeting for which the country has paid the section membership fee, exercisable by a person duly authorised as provided for above.

c) No proxy votes shall be allowed.

d) Section meetings shall form part of the AGM. Voting procedures for the Section meetings shall be as for the AGM. Decisions of the Section meetings relating to the Technical Rules or Financial affairs of general concern to EFRA shall be ratified by the AGM.

e) Any amendment to the Constitution of the Federation shall require a two-thirds majority of the Annual General Meeting.

Other proposals unless otherwise specified herein, shall require a simple majority only. The President or the relevant official shall, in the event of a tie, have a casting vote.

A resolution in writing, signed by the authorised representatives of all members, shall have the same effect as if it had been duly passed at a general meeting.

f) In the case that more than 1/3 of the Member federations of the effected section or the Executive Committee feel it is necessary, a postal vote can be allowed.

If there is a need to request a postal vote from all Member Federations, then a time limit of 30 (thirty) days shall be set for the return of the required voting form.

The decision made by postal vote shall be effective 30 (thirty) days after it has been published to all Member Federations, subject to the respect of the standard time frame.

Postal votes should only be used in the case of unforeseen circumstances and should not apply to any decision taken at the last AGM.

g) Before a voting process will be started, the total number of votes being present will be recorded. The voting result will be published to the auditorium and recorded in the minutes. Number of votes in favour and number of votes against and abstentions.

h) Correspondence: The official address of the Federation shall be the address of the General Secretary. Every member country shall furnish to the Executive Board an address for correspondence and any communications directed to that address shall be deemed to have been duly delivered by course of post.

i) The official language of the Federation is the English language.

4.2. Committee Board

The President or in his absence the senior Committee Board member present, shall take the chair at the General Meetings and in the event of a tie, be entitled (but not bound) to exercise the casting vote.

The Treasurer shall be entitled to demand and receive all money due to the Federation and shall keep proper accounts thereof.

All offices under the Federation shall be honorary but the officers shall be entitled to reimbursement of expenses properly incurred , but subject always to consideration and approval of AGM.

The committee board are empowered to employ paid assistants for secretarial and other duties within budget limits, which are defined and approved at the AGM and subject to the provisions of section 7 of this constitution. These paid assistants shall not hold EFRA committee-positions.

PRESIDENT:

1 Maintain contacts with IFMAR and other International Organisations Officials.
2 Co-ordinates the efforts of the different E.F.R.A. Section Chairmen and provides advice when problems occur.
3 Takes the chair at the E.F.R.A. AGM and at E.F.R.A. Committee meetings.
4 Proposes appointment of Honorary Officers to the E.F.R.A. AGM.
5 Visits important races.
6 Forms an Executive Working Committee with General Secretary and Treasurer to deal with all matters that affect the day to day running of E.F.R.A. general business.
7 Liaises/meets with Officials from Members.

GENERAL SECRETARY:

1 Takes the minutes at E.F.R.A. Committee meetings and the E.F.R.A. Annual General Meeting.
2 Publishes a record of the minutes of these meetings.
3 Updates lists of Member Countries and other interested parties such as Manufacturers, Magazines and Contact addresses.
4 Deals with the main correspondence from/to all Member Countries and maintains file copies of all relevant correspondence.
5 Co-ordinates the arrangements for the E.F.R.A. Meetings, i.e. Annual General Meeting. Liaises with the hotel, Member Countries and provides full details of the timetable of the AGM.
6 In conjunction with the President and Section Chairmen draws up the Agenda for the AGM and other EFRA meetings.
7 Co-ordinates the racing calendars of the E.F.R.A. Sections and arranges for the publishing of these calendars.
8 Keeps a record of the results of all E.F.R.A. sanctioned races.
9 Maintain copies of all Member Country Officials address changes for updating the E.F.R.A. database.
10 Visits important races.
11 Forms an Executive Working Committee with President and Treasurer to deal with all matters that affect the day to day running of E.F.R.A. general business.
12 Liaises/meets with Officials from Members.
13 Arrange for the completion and return of E.F.R.A. contracts applicable to EC events being organised the following year.

TREASURER:

1 Maintains a complete set of records of the Financial aspects of E.F.R.A. business.
2 Produces a full set of accounts as at the end of the financial year for presentation and acceptance by the Member Countries at the E.F.R.A. Annual General Meeting. Expenses can be split down into amounts of approx. 3000 €.
3 Keeps abreast of all facets of bookkeeping and the financial situation of E.F.R.A.
4 before the end of February following the AGM send invoices to all E.F.R.A. Member Countries regarding annual subscriptions, sanction fees for E.F.R.A. GP and EC events, entry fees for EC events.
5 During the year send invoices to Member Countries or persons when requested to do so.
6 Maintains a watching brief of outstanding invoices and one month after the date of maturity of the invoices he sends reminders to those Member countries who have not paid their invoices.
7 Every three months produces a report for all Committee Members giving details about the financial situation and status of all debtors.
8 Pays the expenses declarations of the Committee members within a week of receipt.
9 Refunds all the deposits as soon as the Section Chairman sends his approval.
10 Visits important races.
11 Forms an Executive Working Committee with President and General Secretary to deal with all matters that affect the day to day running of E.F.R.A. general business.
12 The Treasurer has to present the accounts and all assigned documents to the auditors prior to the AGM.

SECTION CHAIRMEN:

1 Effectively manages the Section for which he is elected at the AGM.
2 Provides information to other E.F.R.A. Officials as and when requested.
3 Attends the GP organised ahead of an EC and reports upon the track, the accommodation and the organising committee. When the section Chairman is not able to attend the event, he will appoint an EFRA delegate.
4 Attends the EC relevant to his section.
5 As soon as the race calendar of the next year has been published he oversees the distribution of the information of the Section events in appropriate language.
6 Issues race meeting sanctions after fully examining the information sent by the applicants following the decision made at the Section Meeting and the approval/acceptance by the AGM.
7 Updates the list of "A" registered drivers when needed and decides upon the validity of an EFRA Registration.
8 Co-ordinates the entries for EC and WC and settles re-allocations in co.operation with the Member Countries and the organisers.
9 Decides if the deposits paid for GP and EC events may be refunded and requests the Treasurer to refund any monies due.
10 Collects the results of all the E.F.R.A. sanctioned races.
11 Makes a report of the past racing season to be presented at the AGM.
12 Is a full member of the E.F.R.A. Committee with a seat in all E.F.R.A. Committee meetings.

13 Takes the Chair at the Section Meetings during the AGM.
14 Arranges for the minutes of the Section Meeting to be recorded and provides a copy of these minutes to the General Secretary.
15 Presents decisions made at the Section Meetings to the main AGM.
16 The Section chairman (or the EFRA appointed deputy) has the authority to provide clarification on the interpretation of rules.

4.3 Executive Committee

The President, Treasurer and General Secretary will form an Executive Working Committee to deal with all matters that affect the day to day running of E.F.R.A. general business. In regards of section business, they must be informed of the day to day running of the different sections.

4.4 Other officers

PR OFFICER:

1 Maintain contact with the EFRA Executive.
2 Carry out the promotional and communication work as decided by the AGM and EFRA Executive Committee.
3 Attends EFRA AGM and Committee meetings when needed.
4 Co-ordinates the production and distribution of the regular news.

IFMAR LIAISON OFFICER:

1 Maintains direct contact with IFMAR bloc officials.
2 Acts as a central co-ordinator for all matters between E.F.R.A. and IFMAR.
3 Provides information to/from IFMAR/FEMCA/ROAR/FAMAR to all Sections within E.F.R.A.
4 Puts forward proposals drawn up and approved by the E.F.R.A. Committee or by the AGM to IFMAR.
5 Attends EFRA Committee meetings when needed and AGM.
6 He attends IFMAR Meetings as the full representative of E.F.R.A.

HOMOLOGATION OFFICERS:

EFRA has a homologation or registration process for various products that are used in EFRA races.

For the various task officers are appointed. Products for homologation or registration are bodies, mufflers, batteries, INS boxes. Other products may be added in the future.

The aim for homologation or registration is to protect the products of manufacturers, to avoid products that are unsafe or do not follow international agreements (f.i. GBS for bodies) or environmental laws.

The task of the homologation officer is the following

1 Receives and acknowledges the products from Manufacturers wishing to have their products homologated or registered by E.F.R.A.
2 Passes invoice order to the E.F.R.A. Treasurer.
3 Checks the products against pictures, drawings or measurements or agreements provided by the Manufacturer. A 10% tolerance is acceptable in some occasions.
4 If the product is acceptable under E.F.R.A. standards, he sends a certificate to the Manufacturer. The certificate will bear the homologation or registration number which the Manufacturer must use to mark the product. Should there be any discrepancies, he will advise the Manufacturer in writing as to the exact reasons why the product was refused.
5 Copies of the homologation certificate and detailed drawings are passed to the General Secretary and IFMAR Liaison Officer.
6 Retains the original products for specification purposes during the life of the certificate and 2 years more.

7 Advises the E.F.R.A. Treasurer of homologation or registration expenses incurred.
8 At no time and under any circumstance will the product received for homologation or registration, including drawings and specifications be shown to or handed over to anybody involved with the manufacturing of model cars or parts for model cars.

AUDITORS:

1) The position of auditors is to be appointed by EFRA member countries and voted at each AGM for a period of duty of one year.
2) This position will be covered by two delegates, not belonging to the same national federation, nor being member of the same federation as the treasurer.
3) They have the right to inspect all actions or bookkeeping, which are in conjunction with EFRA's finances.
4) They must present their written report to the AGM. The EFRA Board must have knowledge about their comments prior to the AGM, so that board members may prepare their reactions.

4.5 Honorary officers

a) EFRA may if it so wishes elects an Honorary Life President and Honorary Life Vice President to the Federation on proposal from the Committee Board. Such persons shall be granted these Honorary titles in recognition of exceptional service to EFRA or Model Car Racing in general. There shall be only 1 Honorary Life President but there may be as may Life Vice Presidents as the Federation wishes. Election shall be by vote at the Federation AGM following proposal in accordance with the provisions of this Constitution.
b) Such Honorary Officers are elected to view the activities of EFRA in the light of their experience and provide help, advice and guidance should it be needed. They shall have the power to ask the Executive Committee Board to call an Extraordinary General Meeting should circumstances arise that threaten the well-being of EFRA.
c) The Honorary President and Vice Presidents can address the EFRA Committee Board and AGM but may not have a vote.
d) In the event of the resignation or other circumstances that prevents a properly elected EFRA Official from carrying out his or her duties, the Honorary Life President or a Vice President may be asked by such EFRA Officers as remain to deputise until such a time as the elected Officer is available or an Officer is elected. Such a request shall be by simple majority vote of the remaining EFRA Officers.
e) In the event of Honorary Life Officers being called upon to assist the Committee Board they will be entitled to reimbursement of any necessary expenses incurred. A Honorarium will not be paid.

5. Subscription

The Annual subscription of the Federation shall be fixed by resolution of a General Meeting. Such subscription will be invoiced to the Federation by the end of February of each year. If not paid within three months thereafter, representatives of a country in default may not, until payment take part in any activity of the Federation or be sponsored by; if not paid within twelve months, membership of the country in default shall cease.
To recover its active membership the member must pay the duly invoices pending.
The accounts will be closed on the 30th of September each year.

6. Technical Rule Changes

The date for introducing any construction/technical rule changes affecting General Rules will be decided at the Main AGM.

The date for introducing any constructional/technical rule changes within a Section, will be decided at the Section meetings.

Any important rule changes by any Section that effect more than one Section, including the date for introduction, will not become valid until approval of the Main AGM.

If the date for introduction of any construction/technical rule change is not specified at either a Section meeting or Main AGM, then the change will become effective twelve (12) months after the rule change has been approved. When deciding dates for introducing rule changes, due consideration should be given to: - Making existing equipment obsolete and any manufacturing processes required allowing the change. In all cases, changes for safety issues should be given priority.

3. EFRA SANCTIONS

3.0. During the extension of the Covid19 pandemic scenario in Europe the EFRA Executive Committee has the allowance to apply flexibility to the rules to make the day to day running of EFRA and its events operative. The allowance is extensible to implement extra safety measures when needed.

3.1. EFRA Sanctions

3.1.1. The object of EFRA Sanctions is to obtain uniform racing and organisational standards for major European events in all classes of radio-controlled model car racing.

Major European events are:
-European Championships
-EFRA Grand Prix
-International races with EFRA sanction

National Organisations are advised to adopt these standards and rules for use at Premier level national championships

3.1.2. To ensure the quality of these major events the minimum standards set by EFRA described here, must be met. The EFRA Section Chairman will authorise the events after the applicant has proved able to meet the minimum standards of EFRA.

3.1.3. To receive an EFRA sanction, an application must be done to the section chairman through the national federation.

3.1.4. The National Association of the host country will hold prime responsibility for the organisation and well running of the event. They have a duty to monitor the organisation of the event from the moment the EFRA Sanction is obtained until the official results of the race are sent to EFRA.

3.1.5. If the minimum standard is not met during the event, despite having an EFRA Sanction, then EFRA must consider to not returning the deposit(s) and/or retention performance bond in fully or in part.

3.1.6. The Executive Committee is given the power (authority) to apply suitable sanctions in case of refusal of a race-organiser to co-operate with EFRA following consultancy with the relevant EFRA officials involved.

3.1.7. The European Championships will preferably held during the summer months between the last full week in June until the middle of September. Changes to this pattern may only be made at the AGM or EFRA committee meeting.

3.2. European Championships

NOTE:- Rules 3.2.3 & 3.2.4 do not apply to Open Entry EC's

3.2.1. Each section may run a maximum of 4 European Championship events per year and in the event of there being more than 2 classes, it is the sections responsibility to decide which class shall be raced as secondary to the main class in any year. The section shall decide at the section meeting.

3.2.2 The venue of the European Championships is to be decided by the EFRA AGM, 2 years ahead. The applicant National Association must submit all details (as per a to q below) to the valid Section Chairman and the EFRA Secretary by 31st August latest. The Section Chairman and the EFRA Board will evaluate the proposed venue, facilities, personnel and dates. A list of acceptable applications will be presented to the section.

Accepted applications must be presented at the EFRA AGM Section meeting by the National Association in electronic format, preferably PDF, and a paper version must be given to each EFRA member country.

The Section Meeting will decide the venue after the presentations.

Each application must contain:

a. The organiser´s name, address, fax and telephone number and email address.
b. A single contact point for all correspondence/enquiries
c. Diagram of track indicating length, width and direction of racing
d. Drawing of the venue (preferably photograph) showing track, rostrum, pit area, timekeeping and general facilities
e. Details/location of the venue
f. Map of the area showing proximity of airports, port, roads, etc.
g. Basic details of race timetable and dates
h. List of race officials
i. List of approved frequencies and list of specific frequencies that cannot be used.
j. Practice facility (dates available, closed dates prior to the event)
k. Details of accommodation (at least three (3) local hotels/motels of different grade which must include daily rate including all taxes, if applicable and alternative accommodation e.g. camping. In case of camping at track site, the organiser has to deal directly with the campers. Team managers cannot be asked to take any responsibility for booking, payments, etc.
l. Any special accommodation deals, including all taxes, if applicable.
m. Information on transport available between hotel/s and track.
n. Voltage used in host country. Drawings of plug types.
o. Advice on whether each competitor is required to bring or mail one passport sized photograph of him/ herself and any mechanics or Team Manager for attachment to identity badges
p. Marshalling details if needed (availability of marshals for practice/ qualifying/ finals).
q. Web address of the organizing club

The Section Chairman will investigate the applications and must advise or propose acceptance to the AGM. The Chairman is entitled to reject applications when information is inadequate or unsatisfactory.

3.2.3. The host Club proposed by the National Association must have successfully organised one Major EFRA Sanctioned event, in the 4 years prior to the application, preferentially on the proposed track. If the National Association is experienced in holding EC events and is 100% involved in the organisation

of the proposed EC event this requirement could be waived. During the year before a European Championship an EFRA sanctioned event will take place. If an EFRA Referee is present at this event in the previous year before the EC, the EFRA Referee will check that all EFRA Standards are met. If due to any reason, the EFRA Referee finds that required EFRA Standards are not reached he will inform directly on that subject to the EFRA Section Chairman & the EFRA General Secretary. During all EC events, an observer for the organiser of the next European Championship for the specific Section/Class must be present at least 3 days. An EFRA sanctioned event must be held on the same track minimum two (2) months, maximum four (4) months before the EC.

Any of the above requirements can be waived by the EFRA Section Chairman or EFRA Board if it is considered that the organising Club and the National association has the required experience and organising skills.

3.2.4. The National Association of an EFRA country hosting a European Championship or World Championship is subject to cover the extra expenses of the EFRA involvement in that race.

3.2.5. For a European Championship, a contract will be signed by EFRA, the National Federation and the Organiser. It must be received by EFRA by 31st January.

If after the 31st January any of the classes of an European Championship event is having an allocation under a 25 % of the maximum number of entries with a minimum of at least 5 countries, then EFRA, after consulting with the organizer may consider the cancellation or the change of status of event.

3.2.6. At the AGM section meeting preceding the event the host country of European Championships will be asked to demonstrate to the meeting that they have the organisation and facilities needed to stage the event. They should also confirm that the club involved will be able to honour any promises or obligations made by their successful application the previous year.

3.2.7. The section meeting may decide to re-allocate the event to a "safe" venue of it's choice if rule 3.2.6. is transgressed

3.2.8. As soon as practical after the decision confirming the organiser of an European Championship, the host club should be sent a copy of the EFRA handbook.

3.2.9. At the latest, 100 days before the European Championships in question, there should be a meeting between the National Federation contact and the host club to confirm that everything is running according to the Handbook. Minutes of this meeting required to be forwarded to relevant section chairman and general secretary within 10 days (English language).

3.2.10. A member Association cannot organise a National Championship race on the same days of a European Championship in the same class/section.

3.2.11 A venue can only apply for one European Championship event per year and this for all sections together. When an organisation applies for more than one section and this organisation is assigned more than one European Championship event, the relevant Section Chairman has to announce at the AGM which European Championship will be organised. In the case of the non-accepted/postponed venues, the choice is given to the second location, unless there is no other alternative.

3.3 EFRA GRAND PRIX

3.3.2. Each EFRA member-country may organize 1 (one) official EFRA Grand Prix per year per class. Each section may run a maximum of 3 (three) EFRA Grand Prix per year.

An EFRA Grand Prix must have an EFRA Sanction. In order to obtain such, an application must be sent to the EFRA General Secretary to be received at the designated date.

At the AGM must each presumptive organizer make a presentation containing relevant information such as pictures of the accommodation, hotel information, camping and charges to be paid, details of facilities such as water, electric power, W.C. and showers.
For each entry the organizer will pay EFRA €15,- . The total amount will be settled with the deposit.

3.3.3. Following proposals from the sections will the EFRA Race calendar be finalized and presented at the AGM during the Sunday morning session. As soon as practical after the decision confirming the organizer of an EFRA GP, the host club should be sent a copy of the EFRA handbook. Any EFRA Grand Prix Organizer who changes a date following an AGM decision will lose the EFRA Sanction for official EFRA Grand Prix status. Only an enforced change beyond the control and influence of the organizing club is liable to be accepted for discussion by the EFRA Committee.

3.3.5. National Federations organizing EFRA Grand Prix are subject to the Sanction-fee established at rule 3.5.

3.3.6. If an EFRA ranking system is used, each section determines their own procedures.

3.4. INTERNATIONAL AND PROMOTIONAL RACES WITH EFRA SANCTION

3.4.1. For important International and Promotional (PR) events other than European Championships and EFRA Grand Prix, an EFRA Sanction can be requested, in writing only. The EFRA Sanction will be an official recommendation of EFRA to the special event, to ensure a minimum standard. These races may not be called EFRA Grand Prix. The EFRA Section Chairman or the EFRA Board will decide if the EFRA sanction should be granted.

3.4.2. National Federations organizing International and Promotional (PR) races with an EFRA Sanction are subject to a Sanction-fee established at rule 3.5.

3.4.3. Organisers of important Promotional (PR) events can apply for an EFRA sanction to obtain EFRA recognition for the event . The event will then be included in the EFRA calendar and listed in Event Information . PR events are subject to an EFRA sanction fee that will be invoiced to the respective Federation . There will be no handling fees for PR events. The EFRA Section Chairman or the EFRA Board will decide if the EFRA sanction should be granted.

3.5. EFRA SANCTION FEES

3.5.1. All the EFRA Sanction fees are established annually by the AGM and published in the minutes of the meeting.

3.5.2. EFRA will invoice respective Federation or Applicants through the federation for the EFRA Sanction fee by the end of February of the year the race is scheduled. The invoice must be paid to EFRA within 30 days of the invoice date.

3.5.3. The organising Federation must pay all fees for World Championships, European Championships, Grand Prix's and International Races at the beginning of the year of the Championship within 30 days of the invoice date.

3.5.4. A deposit is payable for all sanctioned G.P.'s. Copies of the result and the referees report should be send to the EFRA General Secretary and Section Chairman.

3.5.5. Non-payment of charges invoiced by EFRA by the due date, may lead to withdrawal of the EFRA Sanction and therewith the official status of the event.

3.5.6. If an EFRA Event is cancelled for whatever reason, the sanction fee can be retained.

3.5.7. FEES (all amounts quoted in Euro)

Membership Fees

Annual Subscription	250
Associate membership	1000

Sanction Fees & Deposits:-

European Championship	460
EC Retention bond: See Rule 3.6.8.	
Grand Prix sanction fee	200
Grand Prix deposit	600
International Race sanction fee	200

Entry Fees:-

European Championship	130
European Championship 2 classes	185

Current two class events are:
1/10th Off Road 2WD and 4WD,
1/12th Spec and Mod,
1/8th and1/10th IC On Road 40+,
1/8th GT IC and Electric,
1/10th Electric on Road: Mod with F1/FWD, or Spec with F1/FWD.

Grand Prix (maximum)	50

EFRA Supporting fees:-
EFRA Golden Sponsor (max. 5) to be negotiated with EFRA
EFRA Single Event Title Sponsor to be negotiated with EFRA, and income to be shared with Organising committee by contract.

EFRA Handling fees:-

European Championships	30	
GP	15 Euro per. entry	
International Race	5 Euro per. entry	
International Promotional Race	no handling fees taken	
World Championships	IFMAR Rates and 10% added For EFRA in US Dollar	
	2024	10%
Entry fee 2 classes electric	275	302.5
Entry fee IC class	250	275
Entry fee stand alone electric class	250	275
Entry fee short 3 days event	225	247.5
Supporting class during WC event, 25 USD for IFMAR	125	137.5
Supporting class before or after WC event, 40 USD for IFMAR	175	192.5

Homologation Fees

Mufflers	120	(50% discount for Associate)
Bodyshells	500	(50% discount for Associate)
Large Scale Bodyshells	500	(50% discount for Associate)
INS-Box	800	(50% discount for Associate)
Batteries	500	(50% discount for Associate)
Brushless 05 Motors	50	Per Motor Class.

All transport costs for homologations to be paid by the manufacturer.
After 5 years a body will disappear from the list unless the manufacturer asks for a license for another period of 5 years. The fee for an extra period is 40% of the normal homologation fee.
All above fees applicable starting November 2022.
Paypal payment is accepted and can be done as a friend and family payment. In any other case 5% on the amount needs to be added. If the transfer costs are not covered, they will be claimed.

3.6. ALLOCATION PROCEDURE FOR EUROPEAN AND WORLD CHAMPIONSHIPS

3.6.1. For European and World Championships, member countries can apply for allocated places in the Sections for which they have registered and paid. A member country that is 'new' to any Section for the following year can apply for allocated places, providing they have officially informed the EFRA General Secretary they will be registering for the particular Section prior to the AGM.
Within each Section (or Class), each member country to be registered for the Section is entitled to have at least one (1) place allocated at the AGM which must be confirmed by 21st January.
Application for places to be submitted to the Section Chairman before or at the AGM.
The first twenty (20) direct nominated allocations from the Section ranking lists existing in Large Scale are subject to the approval of their National Federation for these drivers.

3.6.2. At the Annual Conference, each Section establishes the allocations for the next years Championships (additional to the entitled one (1) place), from the official applications of the registered member countries submitted to the Section Chairman.
Final Numbers MUST be confirmed to the relevant Section Chairman by 21st Jan. latest, following the conference. Any places not confirmed by this date can be reallocated to member countries that have places on the reallocation list.

3.6.3. When determining the allocations for each country; host country places and defending Champion places (3.6.6 & 3.6.7), together with any Section rules relating to current World Champions should be established first. Then the following points should be considered, in order of priority:-

a. total number of drivers;
b. international results at E.C./ W.C./ Grand Prix;
c. places taken up at the last E.C.;
d. participation in international racing;
e. length of membership of EFRA.

Separate procedure exists for Electric Sections (see Appendix 3, 7.2.5.)

3.6.4. At the Annual Conference, the Chairman will propose the allocations-list to the Meeting. The Meeting may, within reason, discuss the proposed list and may ask for changes. In case of disputes, the Meeting can decide the dispute on a simple majority vote.

3.6.5 The procedure for allocating entries is also used for re-allocation unless otherwise stated so. 40 days before the EC and 60 days before a WC the places not taken up by the Countries will be reallocated by the Section Chairman. The registration must be done at the EFRA web site 40 days before the EC. Failing to register this data in time may lead to re-allocation of the corresponding places. The Meeting may recommend preferential re-allocation of places to countries with small initial allocations. Preferential re-allocation places must be specified in the allocations list.

3.6.6. For a European Championship the host country is allowed 2 extra places in addition to their original allocation.

3.6.7. The defending section/class Champion is allocated 1 place with the sole exception of the B class Champion who is allocated 1 place at the immediate next year European Championship A.

3.6.8 For each European Championship, places will be allocated at the AGM. Federations MUST then confirm their Final Numbers for each event to the relevant Section Chairman no later than 21st January following the AGM. NOTE: ALL EFRA; invoices, payments or deductions will be based on the Confirmed

Final Numbers submitted by 21st Jan. for each event. A 'change of mind' to these Confirmed Final Allocation Numbers, for whatever circumstances, DOES NOT CONSTITUTE A REFUND.

EFRA will invoice the Federations according to the Confirmed Final Numbers (21st Jan.) with the amount being as detailed in GR 3.5.7 for the current year. Invoices will be sent to the Federations by the end of February and must be paid to the EFRA Treasurer no later than end of March. EFRA will receive 20 euro from each entry fee, based on the total of Confirmed Final Numbers (21st Jan). EFRA will pay the organising Federation 75/80% of the remaining entry fee (after the 20 euro deduction), based on the Confirmed Final Numbers. This amount (75/80%) will be paid to the Organising Federation at least one month before the event, unless a written agreement has been received by the Treasurer to effect payment in a different manner. The remaining 20/25% of the entry fees (after the 20 euro deduction) will be retained by EFRA as a 'performance bond' to cover any expenses for : Referee, Time-Keeper, Race Director or any other key positions if EFRA deem it is necessary to appoint such positions. Any balance from the 'performance bond' will be paid to the Organising Federation after the correct completion of the event.

EFRA will inform the Organising Federation the Confirmed Final Numbers that will be paid by 1st. Feb.

The Section Chairman is responsible for controlling all event allocations and must inform the EFRA Treasurer the Confirmed Final Numbers for EFRA to: invoice Federations and pay the correct number of allocations to the Organising Federation.

NOTE: The above 'performance bond' can be varied at 20-25% at the discretion of the Section Chairman.

3.6.9 European Championship places that are allocated at the AGM and confirmed as Final Numbers (by 21st. Jan.) that are not paid by end of February may be reallocated to other countries by the Section Chairman. Real located entry fees will be paid to and retained by EFRA. EFRA will invoice each reallocated entry to the member countries without specifying the drivers name etc. No money can be paid at the event. Reallocation entry fees will be 150% the specified entry fee (GR 3.5.7), unless:.

a) The final number of places allocated to the country concerned is still less than, or the same as, the Final Number agreed (submitted by 21st Jan.).
b) The country concerned has places on an official Reserve List due to the event being oversubscribed and such places were requested at the time when the Final Numbers were confirmed (21st. Jan.). If additional reallocated places are awarded that increases the total number of entries at the event to more than the Confirmed Final Numbers (submitted by 21st. Jan.), EFRA will pay the organising country the additional numbers.

The Section Chairman is responsible for controlling all event allocations/ reallocations and must inform the EFRA treasurer the Confirmed Final Numbers including any reallocated places for each Federation, for EFRA to invoice the Federations concerned and to pay the correct number of allocations to the organiser. At EC events where places are allocated/reallocated, any places not filled by the stated deadline dates (due to cancelations or reduced entry numbers) can be allocated to late entries subject to the agreement of the Section Chairman. Such places must be requested by a member Federation and will be charged at the 150% rate. Late entry requests may be declined if all entry details have been 'frozen' and submitted to the organiser.

3.6.10 For an IFMAR World Championship or IFMAR sanctioned event, places will

be allocated at the AGM. Federations MUST then confirm their Final Number 'required' for each event to the relevant Section Chairman no later than 21st Jan. following the AGM. (It should be noted that numbers "required" by Federations may not be possible to award, based on the number of allocations granted to EFRA). When the Final Confirmed Allocation Numbers have been agreed; then a 'change of mind', for whatever circumstances, DOES NOT CONSTITUTE A REFUND.

The entry fees are payable in € at the actual exchange rate. in advance to the EFRA Treasurer. The entry fee is established by IFMAR and is subject to a 10% EFRA surcharge. The EFRA Treasurer will invoice member Federations separately for all WC allocations by the end of March and these must be paid by the end of April, or within one month of invoice in the case of re-allocations. Re-allocations will be charged at the normal entry fee rate. Once requested by a member country, no WC allocations can be cancelled or fees repaid.

3.6.11 All contractual correspondence between EFRA, Organiser and Federation Rep related to EC's and WC's must be sent by email and receipt must be confirmed or by a means which has traceability.

3.7. LEGAL LIABILITY

3.7.1. EFRA is unable to, and will not, accept any legal liability for any event for which it has granted an EFRA Sanction and accepted a sanction fee.

3.7.2. The organisation of EFRA is responsible for maintaining Rules and Procedures as agreed by the EFRA member countries, for which all EFRA sanctioned events must comply with. EFRA Officials cannot and will not accept any legal liability resulting from any situation that may take place at an EFRA Sanctioned event at which they are acting in an advisory or supporting role. EFRA or their officials are not responsible for any claims relating to; injury, damage or loss of equipment or any other financial loss resulting from any procedures or equipment used by the organiser at any EFRA sanctioned event. EFRA is not responsible for any claims for any financial loss as a result of an EFRA sanctioned event having to be cancelled or curtailed. Competitors or 'their guardian' can be requested to sign an agreement to these conditions before taking part in any EFRA sanctioned event.

4. INTERNATIONAL DRIVERS REGISTRATION

4.1. OBJECT OF THE INTERNATIONAL DRIVERS REGISTRATION:

EFRA Member Federations are authorised to approve driver Registration on the EFRA website entry system for persons that are current members of their Federation. Registration approval is for one calendar year ending on 31st December. Federations must review current members each year. A driver's Registration number should remain unchanged from year to year and must not be used for re-issue to other drivers. Each number is a personal number.

4.1.1. Competitors can register their personal data on the EFRA website database (www.efra.ws). Competitors can only register for entry to WC and EC events by using the EFRA entry system for the specific event(s), but will NOT be considered as having a confirmed entry to the event(s) until their National Federation has APPROVED the registration. When registering to compete at a WC, EC or GP event, the competitor must agree to accept and comply with all EFRA rules and procedures.

4.1.2. Entry approval: for entries at EC's or WC's must be made by the National Association that have granted and approved the EFRA Registration, using

the entry system on the EFRA website (www.efra.ws). The registration will have a unique number issued by the Federation and must include the two letter country code of the National Federation with the Registration Number. Event Organisers will register the EFRA Registration Numbers. Each National Federation shall be entitled to issue EFRA Registration and/or Approval to :-

1) It's National Federation Members (holding Federation country passport) that have current membership, that are deemed acceptable by the Federation. 2) To National members of other countries represented in EFRA, providing :-
   a) The driver can produce definitive proof of residing in the country issuing and approving the registration.
   b) That their parent National Federation (the country of their passport) gives its prior agreement to the issuing of the registration by another Federation. This can only exist on an annual basis and will cease to be in force at the end of each year. c) That their parent National Federation has cancelled any approved EFRA registration originally issued if such exists.

4.1.3. No person that is authorised by their parent National Federation (country of passport) to apply for EFRA Registration by another National Federation, is allowed to hold EFRA Registration from their parent National Federation valid for the current year. If for exceptional reasons, an EFRA Registered driver wishes to change the nationality of his registration during any year, he is only be able to do so after having obtained his parent National Federation's consent and once his parent Federation registration has been cancelled.

4.1.4. A National Federation cannot grant any EFRA Registration to a foreign person belonging to a country not yet represented in EFRA, or from any other country belonging to another IFMAR Bloc. **This can only be done by the EFRA Board in exceptional circumstances.**

4.1.5. All competitors at EFRA Grand Prix and other EFRA sanctioned events (not including EC´s or WC's) must have a valid National Licence issued by their National Federation where one exists. In the event of a National Association not existing, the drivers registration can be authorised by an EFRA Section Official. Drivers with EFRA Registration take precedence over non-EFRA registered drivers at an EFRA Grand Prix in the event of over subscription.

4.1.6. Recognised Nationality of a competitor or driver:- All EFRA drivers, irrespective of their nationality used for their registration, participating in any IFMAR World Championship or EFRA European Championship event, shall retain the nationality of their passport in all official documents, meetings, information bulletins and prize-giving ceremonies.
Any driver found doing this, will not be allowed EFRA Registration for the next 2 years.

4.1.7 Any European driver who has a European passport and holding EFRA Registration (or previously EFRA licenced) in the past years in any class, and who has participated in an EC in any class in the past years, is not allowed to participate in a World Championship in any class for another International Bloc. Any driver found doing this, will not be allowed EFRA Registration for the next 2 years.

4.1.8. If IFMAR does not hold a Large Scale Off-Road World Championship event in any year:- Then drivers from other Blocs within IFMAR can apply for EFRA Registration and pay the entry fee directly to EFRA for an entry in the Large Scale Off-Road European Championship event of that year. This only applies to Large Scale Off-Road. (See rule 4.1.3 b which is applicable).

4.2 CANCELLATION OF INTERNATIONAL EFRA REGISTRATION.

4.2.1 Member Federations have the absolute right to issue, approve or cancel International Registration.

4.2.2 EFRA additionally reserves the right to cancel or withdraw International Registration from any driver who:

a) Has been adjudged to have flagrantly and repeatedly broken EFRA or IFMAR rules.
NOTE: The issue of Warnings for driving offences during a race would not in normal circumstances constitute grounds for cancellation of International Registration.

b) Has been excluded from his National Federation. Note: See rule 8.14.10.

4.2.3 Cancellation of EFRA International Registration must be authorised by the EFRA Executive Committee. Any appeal in the decision must be received in writing by the EFRA secretary within 30 days.

4.2.4. The driver must be given 14 days notice in writing of any such hearing which will normally be included in the Agenda of an Executive Committee Meeting.

4.2.5 The driver has the right to appeal within 14 (fourteen) days of the decision.

4.3 TEAM DRIVING:

4.3.1 In a case where team driving, unsporting behaviour or conduct by persons that is construed as being prejudicial to a fair race are suspected, the EFRA designated referee will take action. In cases where Race designated officials agreed that such action have occurred and they have been unable to take action, they will report to the most senior EFRA official present, or otherwise the Section Chairman, who may take any action apart from issue penalty or sanction. The senior EFRA official, or Section Chairman will present the full circumstances of any such report to the EFRA Committee at the next meeting opportunity.

4.3.2 Any driver directly involved must be called to represent himself/herself at a meeting of the EFRA Committee and will be given due notice according to rule: 4.2.4. Any failure to attend or otherwise represent himself/herself will be taken into consideration.

4.3.3 For instances of team driving, gross misconduct, serious unsportsmanlike behaviour, conduct prejudicial to a fair race, the EFRA Committee may exercise its right to refuse the subject attending or participating in any meeting or event for incremental periods of six month up to a maximum period of five years.

5. GENERAL REQUIREMENTS EFRA EVENTS

5.1. GENERAL REQUIREMENTS TRACK

5.1.1. Access: approach by car must be possible to within at least 100 mtr. of the pits.

5.1.2. Parking: parking for competitors must be available within 100 mtr. of the pits.

5.1.3. Spectators area barriers must separate spectators from the track and the pit area.

5.1.4. Public conveniences: water and toilets for both competitors and spectators must be provided.

5.1.5. Refreshments: a place should be provided for this purpose.

5.1.6. Electricity: 230 V must be available in the drivers area for charging batteries and using solder iron. The organiser can allow the use of other electric equipment if power supply is sufficient.

5.1.7. Hotel and camping: sufficient and reasonably priced hotel and camping facilities within 20 minutes of the track must be available.
Wherever possible, it is preferable that camping should be at trackside. Any charges must be fixed before arrival of competitors and mentioned in the invitations.

5.1.8 An EFRA Press Area must be put in place by the Organizer of any EFRA European Championships, that must be protected against bad weather and must be equipped with tables, chairs, electricity supply. EFRA Press Area must have a Quality of Service (QoS) capable unrestricted internet connection, which is shared using QoS between EFRA Media Partner and other media representatives. Sharing is done in way, that EFRA Media Partner has up- and downstream bandwidth, which fulfils the requirements of yearly revisited specifications agreed at AGM together with EFRA technical representative and EFRA Media Partner. These requirements will be announced during AGM and published in meeting minutes.

5.1.9. Track requirements are specified per appendices.

5.2. ACCOMMODATION REQUIREMENTS

5.2.1. Drivers pitting area must accommodate all drivers and be equipped with tables, chairs and protection against bad weather (outdoor racing). The driver's rostrum must be easily accessible from the driver's area. Based on the Final entry list supplied by the Section Chairman, the organiser will allocate pitting spaces so that drivers from the same country pit together, providing the pitting area allows.

5.2.2. The driver's rostrum must accommodate 10 drivers with minimum 80cm space for each driver.
Width of the rostrum must be minimum 1.25 mtr.
Height of the rostrum - floor to be:-

Standard	Between 2 and 3 mtrs
1:12 Electric Track Section	Between 1 and 3 mtrs
1:10 Electric Off Road Section	Between 1.5 and 3 mtrs

Access to the rostrum must be by a solid stair, with a minimum width of 1.20 mtr. The use of individual stands on the rostrum is only valid for people under 160 cm and on their own risk. A strong parapet is mandatory. The rostrum must be protected or capable of being protected against bad weather.
A sand box and a fire extinguisher must be placed on the rostrum when the transmitter impound is placed there.

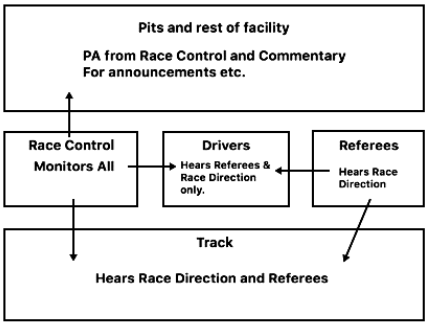
5.2.3. The driver's rostrum must be placed in a position that provides equal view of the track to each of the drivers at any place on the rostrum, during practice and racing. The view may not be obstructed by any object (pillar, flagpole, other drivers etc.). The distance from the front of the rostrum to the nearest part of the track is recommended to be between 2 and 4 mtr.

5.2.4. Timing and lap counting area must be located at a slow part of the track, with a good view of the track for all lap counting officials. The number of the car must be readable for at least 2 seconds from that area. Car numbers must be used as provided by the Organisers. EFRA will supply EC organizers with car numbers, it's compulsory to use the provided numbers

5.2.5. Timing and lap counting area must not be accessible to competitors or spectators.

5.2.6. A result board must be positioned at a convenient place not far from the timing and lap counting area and accessible to all competitors. The result board must be protected against rain and wind. An electronic score board is recommended.

5.2.7. A suitable public-address system must be provided. It must be capable of fulfilling the referee's requirements on the rostrum (7.1.24), making clear announcements to the pit area and able to make safety announcements on the track area. It must have some means over riding any commentary in the track and pit area. It is not allowed to feed any commentary to the rostrum and pit lane.



5.3. SAFETY

5.3.1. The safety of the spectators is of prime importance and must be considered when laying out track and spectators area.

5.3.2. The safety of officials, helpers, competitors and accompanying people is of equal importance, but it is assumed that they are more aware of any potential danger.

5.3.3. Spectators, competitors and officials must be efficiently protected against the cars by adequate barriers.

5.3.4. When dots are used as barriers to prevent shortcutting of corners, they must be placed in a way that cars cannot "fly" into the public when they hit the dot at full speed.

5.3.5. Technical inspection must always include the bumpers (no sharp edges allowed), or other protruding parts of the cars. They may never be placed or designed in such a way as may cause serious injuries in case of an accident.

5.3.6. First-aid supplies: The minimum should be available in case of necessity. It is recommended that there also is equipment to clean eyes in case of accident with splashing glue, methanol, petrol etc.

5.3.7. First-aid: a first-aid officer should be present during events to which large crowds will be attracted.

5.3.8. Police and ambulance services must have easy access to all areas both public and restricted.

5.3.9. A public liability insurance, against accidents, and legal liability is compulsory for all events. The cover must be applicable to all competitors and officials, irrespective of their nationality or sporting status.
A copy of the insurance certificate should be presented to the Section Chairman prior to the event.

5.3.10 Mobile phones are not allowed to be used on the rostrum, pitlane or on the track. Other transmitting devices, except those who are needed by the organiser, are not allowed to be used. With the exception of the drivers radio equipment and the equipment mentioned at 8.6.2.b).

5.3.11 In the case of a race which is interrupted for more than 60 minutes for reasons beyond the control of the organizers (e.g. bad weather conditions with safety

risks for all persons at the meeting), the referees together with the Race-director will decide, after consulting with the EFRA Representative (if present) whether to cancel or continue the meeting.
If the planned number of practice rounds, qualifying rounds and finals not being possible to complete, then priority will be given in the order of one Controlled Practice Round.
Minimum number of Qualifying Rounds as detailed in Section rules.
Finals. (Finals take precedence over additional Qualifying Rounds).

5.3.12 In the interest of safety any battery pack carried on a model car must be able to be disconnected quickly in an emergency.
Note: Direct soldering of battery packs is not acceptable.
All racing batteries, car and radio equipment, irrespective of the kind of material of its composition, must be charged 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.

5.4. LAPCOUNTING AND TIME KEEPING AND COMPUTER REQUIREMENTS

5.4.1. 2 completely Independent systems must be used simultaneously at EFRA Sanctioned events..

5.4.2. For European Championships only, EFRA will check both systems.

5.4.3. These systems must satisfy the requirements of EFRA and therefore must be proposed and explained in the application.

5.4.4. Both systems will be operated by the organising club.

5.4.5. The first system must produce a record of all the individual lap times of all cars and the number of laps and final times after finishing.

5.4.6. The second system will be used as a back up system and must produce a record of all individual lap times and the number of laps and final times after finishing.

5.4.7. Lap times and final times must be recorded in hours, minutes, seconds and 1/100th of seconds. At least 1 (one) Lap Recording System must be capable of this.

5.4.8. Electronic systems are used, printouts must be kept with the record sheet, on which the final result is written down.

5.4.9. The results from the first and second system are compared and in case of differences, the time-keeping official should examine the data produced and in particular the lap time-sheets. The final decision on the result is the responsibility of the Timekeeper.

5.4.10. Race director and/or lap counting official at EC's must have a suitable working personal computer with proper, race proven programs to sort the lap times, print results from heats, final positions after each series of races within 15 minutes.

5.4.11. The time-keeping official is responsible for publication of the final results. He must store all the data produced by the 2 systems until the end of the meeting. They can be used in case of protest against the result.

5.4.12. Electronic systems must be connected to a reliable power source (Preferably not a generator). Connecting plugs must be firm and not easy to disconnect. When 2 electronic systems are run simultaneously, they should not be connected to the same power source.

5.4.13. For timekeeping accommodation requirements, see 5.2.5. and 5.2.4.

5.4.14. The official result sheets containing results of all heats, semis and finals, must be sent to the EFRA Section it concerns within 10 days of the race.

5.4.15. The clubs that apply for an EFRA event must guarantee (mandatory), that the software to be used for time-keeping provides the capability of online

streaming of the lap times (lap by lap, in real time). The software used must also have the capability to store, and show online, through the hole event, the reports (including general classification) after the different heats or finals.

5.5 CLASSIFICATION OF DRIVERS

5.5.1. Qualification for finals will be based upon each driver's best single score achieved during the qualifying heats, or upon points achieved during qualifying rounds/ heats as detailed by Section/Class rules. General rules

5.5.2. In the case of more than one driver recording identical best results at the end of qualifications, the next best result is taken unless otherwise stated at class/ section rules.

5.5.3. In the case of more than one driver recording identical best results in a final the driver starting with the highest number is classified as the fastest. (e.g. if numbers 5 & 2 are equal then 5 is deemed as the highest final placing)

5.5.4. In the case of more than one driver recording identical best results in a final and having used all possibilities to sort them out without success, the qualification order will decide.

5.5.5 Any driver not starting any final (DNS) will receive maximum points for that final +1

6. ORGANISATION OF EFRA EVENTS

6.1. RACE ORGANISATION REQUIREMENTS

6.1.1. Preliminary Checks: Before applying for an EFRA sanctioned event, the host club must:

a) Be confident they can offer foreign competitors a race that is worth the travelling and expense in all respects;
b) Have the track available from at least Friday-morning prior to the race (09.00 till 18.00 hours minimum), unless stated differently by section appendix;
c) Be sure the track and accommodation comply with the rules as described in chapter 5 and the section appendix;
d) Have enough experienced volunteers to organise the race, and set up a committee for this purpose to cover: lap counting and timekeeping, technical inspection, and race control facilities, organise marshalling and to arrange hotel accommodation and publish race results in the internet as the race advances.
e) Have the necessary authorisation to hold the race, i.e. from the owner of the track or property, with regard to noise, spectators, refreshments, chargeable entries etc.
f) have the right insurance for an international event.

6.1.2. Request for EFRA Grand Prix and European Championship (see chap.3) The organising club must request the race through its National Association, who will forward this request to EFRA as described in paragraph 3.2.2. and 3.3.3. The National Association may reject such a request even before sending it to EFRA, they being in the first instance responsible for such a race.

6.1.3. Request for EFRA Sanction or other major international meetings are made in the same way. Such requests can be made to EFRA at any time of the year but before 31 August of the previous year.

6.2. INVITATIONS AND FORMS FOR EUROPEAN CHAMPIONSHIPS

6.2.1. The host Federation shall provide sufficient copies of the necessary information to the EFRA Section Chairman not less than 120 days before the event. The information shall include a program to be approved by the Section Chairman, a plan of the track, directions to the track, hotel accommodation etc.

The invitation must state whether the race is to be run in a clockwise or anti-clockwise direction.
The Section Chairman must make sure that all EFRA contact addresses receive this information, together with the entry forms, not less 90 days before the event. The information should, at the same time, be published on the EFRA website www.EFRA.ws.

6.2.2. For European Championships the National Federation is responsible for registering their national team at the EFRA tool, at the latest 40 days before the event. They may submit a waiting list for up to 4 drivers additional to their country allocation for reallocation purposes. Those extra 4 names must be clearly pending on EFRA approval.
In respect to Events open to IFMAR collaboration, overseas drivers will be registered by their respective IFMAR Bloc.

6.2.3. 55 Days before the event any places not taken will be re-allocated by Section Chairman, using the procedure established at the AGM. The reallocation will be published to all the participating countries 40 days before the event at the latest. If the re-allocated places do not fill the entire series of heats, the host country may provide the remaining drivers. The entry fee for such will be the normal allocation fee.

6.2.4. Only drivers with an international EFRA Registration can participate in a European Championship.

6.2.5. Organisers must confirm the entries of all competitors participating in the race, 30 days before the event at the latest, to both the National contact address and each competitor and through publication on the official website of the event.

6.3. INVITATION AND ENTRY FORMS FOR EFRA GRAND PRIX ETC.

6.3.1. Invitations, Entry forms and time tables with additional information must be published on, or linked from, the EFRA web site at least 60 days before the event. This information must be at least in English language.

6.3.2. The National Association distributes the entry forms to the interested drivers, completing the entry form and sending it to the organizing Club is the responsibility of the individual driver. The organizer may request payment of the entry fee in advance. If this is requested the entry form must specify the methods of payments. Among those an IBAN number with all data needed for international Bank transfer is required; other methods of electronic payment (e.g. credit card or pay-pal) are also acceptable.
If payment in advance is requested the entry is not confirmed until payment is done. Only due to exceptional circumstances the payment might be refunded in the event of a no-show previously communicated.
Closing date for the entries must be marked on the entry form but should not be later than 7 days before the event.

6.3.3. The maximum number of entries at an EFRA Grand Prix may not exceed 120 under normal circumstances or 144 in the event of heats and finals of 12 drivers or more.

6.3.4. Drivers who cannot take part because of over-subscription should be notified by the organisers.

6.4. PROMOTION AND SPONSORING

6.4.1. EFRA events must be organized in such a way that the sport is well represented to both the spectators and the competitors. Enough advertising must be made in the area to draw spectators and to interest the Press in the EFRA event.
All event information should be hosted on the EFRA website. Live streaming of the event including results is required

6.4.2. When sponsors are attracted, they may only be offered advertising space on cars or drivers (shirts or jackets), when the sponsors name does not conflict with any manufacturer of cars, radio equipment, engines (related to the model car sport), present or represented in the race.
Sponsors may not demand from the organisers the exclusive use of their name or their product by all competitors during the event.

6.4.3. Local promotion of the Event is the responsibility of the local organisers and the National Federation, the latter will liaise with EFRA to co-ordinate materials to ensure consistency.
Minimum requirements will be the information provided at the application as requested at rule 3.2.2.
International promotion of the event is EFRA Responsibility, this will be done via the driver database and regular updates to social media and any other outlets as EFRA sees fit. It is the intent that All EFRA registered drivers receive information about All the events that EFRA sanctions.

6.5. CONVENIENCE AND SECURITY

6.5.1. For European Championships, public convenience and refreshments must be available to all competitors from the first day of the event onwards.

6.5.2. For EFRA Grand Prix, public convenience and refreshments must be available to all competitors from Friday onwards.

6.5.3. All possible action must be taken to avoid any danger for public or competitors (see 5.3.). The police must be advised of the meeting.

6.5.4. The Pit area must be secure. All possible care must be made to safeguard both the drivers and their equipment.

6.5.5 : Animals in pits and working areas are strictly forbidden.

7. RACE OFFICIALS

7.1. REFEREES List see chapter 1

7.1.1. The main task of Referees is to observe the racing and in particular good sportsmanship during racing.
He will ensure that the current EFRA rules are observed by everybody.
The referee for a Championship should be nominated at least 60 days previous to the event.

7.1.2. Referees are part of the International Jury when a meeting is called by the Race Director. The Referees will advise on any dispute regarding procedures associated with driving, marshalling or rostrum area behaviour.

7.1.3 At all EFRA EC's with allocated places, the Section Chairman will directly appoint the Head Referee from the EFRA approved list with a grading of 'A' or 'B' for the Section Class. The Head Referee must be from a country outside the host Federation. The Section Chairman will inform the host Federation and Organiser who has been appointed. The host Federation will nominate a second Referee for the Section Chairman to approve. This person should preferably be on the EFRA approved list for the Section Class (any grade), but can be a competent National Referee with experience for the Class. The host Federation must also provide suitably qualified substitute(s) to assist or stand in when needed. For GP's; the same procedures applies, except that the EFRA Head Referee at a GP event can be of any Grade (A, B or C) from the EFRA approved list. EFRA does not pay any referee expenses for GP's or sanctioned International races.

7.1.4. EFRA referees are appointed by EFRA for a period of two (2) years after being proposed by their National Federation. The EFRA Referee form must be used and the registration year will be indicated on the Referee list, chapter 1.

EFRA referees must be experienced and unbiased people with a good knowledge of the English language and EFRA rules. They must have acted as Referee at least at National level in that class before being proposed by their National Federation. Each Section will prepared a list of approved Referees from those proposed together with an indication of their experience level.
EFRA Referees are divided in 3 categories
Grade C: Grand Prix or International Meetings
Grade B: European Championships
Grade A: World Championships
Grade A and B EFRA Referees must, after proposed by National Federation, receive the sanction of the appropriate Section Chairman.
Appointment to be made by the EFRA Executive Committee.

7.1.5. EFRA will pay the travelling costs (agreed in advance) and 50 € per racing day as a compensation for the effort dedication of one Non-National Referee appointed by EFRA to European Championships with allocated places at the AGM. All other costs (Hotel, meals, sundries etc.) to be covered by the organiser. EFRA will retain a 'performance bond' (rule 3.6.8) from the Entry Fees paid to the Organiser/Federation to cover these costs and any balance will be paid to the Organiser/Federation at the end of the year, or when all costs have been ratified and the EFRA officials have confirmed the event was to EFRA standards. It is assumed that the Organiser will reserve adequate and decent hotel accommodation for the EFRA appointed Referee and provides comfort at trackside (lunches, refreshments, dinner-party ticket etc.). If the accommodation reserved by the Organiser is deemed unsuitable, the EFRA Referee has the right to seek an alternative. The EFRA Referee is entitled to claim a maximum of 100 Euro (or equivalent) for Hotels, meals, sundries per. 24hr. period. Higher costs will be the responsibility of the Referee. All costs claimed, must be duly documented on the expense claim to EFRA with receipts provided. The EFRA Referee will inform the Organiser/Federation of the costs that will be claimed prior to leaving the event. The organiser has the right to settle some/all of these costs direct, therefore reducing any claim by EFRA against the 'performance bond'.

7.1.6. REFEREES DUTIES

At EFRA events at all times during the qualifying heats, both referees in turn will watch and observe the racing from start to finish.
During the finals both referees must observe the racing from start to finish. The host Federation must provide suitably qualified substitutes to stand in for these referees should they be called away from their duties. The expenses of these substitutes must be clarified in advance between host Federation and the organising club.

7.1.7. Both referees always work together, they take decisions and issue warnings and instructions. The referees may take action after an initial warning, but in all cases a maximum of 3 warnings means automatic disqualification.

7.1.7 a The Referees will agree on any time or other penalties to be awarded following consultation with the Race Director taking into account the likely advantages to be gained by Jump Starts etc. on individual tracks. They will also decide the practical limits for numbers of pit lane mechanics. This will normally be limited to:

a) I mechanic plus Team Manager during qualification
b) 2 mechanics plus Team Manager during finals.

If space permits these numbers can be adjusted upwards.

7.1.8. POINTS OF OBSERVATION

7.1.8a. Bad sportsmanship during racing, i.e. impeding the progress of other participants, deliberate slowing down (including deliberately slowing down and/or coasting past any noise testing equipment with the intention of avoiding the checks) or waiting for another car, deliberate crashing into another car, deliberate cutting of corners and reckless driving in general.

7.1.8.b Team driving, conduct unbecoming or interfering with the fair outcome of a race (refer to rule 4.5 UNSPORTMANSLIKE BEHAVIOUR)

7.1.9. Unsporting behaviour of drivers and mechanics involved in the racing.

7.1.10. Incorrect use of the entry and exit to the pits.

7.1.11. Repairs and refuelling outside the pit area.

7.1.12. Cars that do not conform to the regulations before the start is given or during the racing (i.e. loss of the bodyshell, exceeding the noise-rules due to loss or damage of the silencer).

7.1.13. Cars that are in an undriveable or dangerous condition due to damage or malfunctioning of the car.

7.1.14. Starting procedure, i.e. writing down start line infringements and if necessary reporting these to the time-keeper.

7.1.15. It is not the duty or the responsibility of the referee to check that the cars confirm to the technical rules. This is always the responsibility of the Technical Inspector. The Section Chairman (or the EFRA appointed deputy) checks the methods used for technical inspection.

7.1.16. REFEREES AUTHORITY

7.1.16a. The referee issues warnings in the event of infringements of any of the points as described under 7.1.8.-11 and ultimately may even issue a black-flag (disqualification) when his warnings are not effective.

7.1.17. Warnings and instructions are announced by the referee himself and he keeps a record of the warnings and instructions issued (referee-notes). 3 Successive warnings lead to disqualification (black flag). Instructions issued by the referee must be observed immediately.

7.1.18. Warnings for bad sportsmanship (7.1.8.-7.1.9.) are announced with the words: "FIRST WARNING TO CAR NO.....FOR BAD DRIVING".

7.1.19. Warnings for mis-use of the pit are (7.1.10 and 7.1.11) are announced with the words: "FIRST (SECOND) WARNING TO CAR NO.....FOR MIS-USE OF THE PIT AREA".

7.1.20. Instructions for repairs (7.1.12 and 7.1.13.) are announced with the words: "CAR NO.....REPAIR BODY, SILENCER, CAR ETC".

7.1.21. The warnings and instructions issued by the referee are indisputable and final and may not be interfered with by anyone. Under no circumstance may a warning or an instruction from the referee lead to the interruption of the whole race.

7.1.22. Appeals against the decisions of the referee must be addressed to EFRA General Secretary, after the meeting and in writing. EFRA is not obliged to act on such a complaint, but will seriously study it and answer.

7.1.23. REFEREES FACILITIES

Referees must be offered a place from where they can observe the track from the view as seen by the drivers. At an EFRA EC must this place be on the rostrum. The place must be separated from the drivers area, to assure a quiet and undisturbed working environment. Protection must be given against bad weather (walls, roof etc).

7.1.24. The place must be equipped with 2 chairs, a table, a microphone and a monitor to watch the race order. With the microphone the Referee must be able to announce his warnings or instructions at any time during the race. A system

of preference for the Referees microphone over the announcers microphone must be provided by organisers.

7.1.24a Referees should be able to communicate verbally with each other, the Race Director and Lap Counting Supervisor.

7.1.25. It may be assumed that the referees comfort is provided for by the organisers (lunch, refreshments, dinner-party etc.).

7.1.26. REFEREES REPORT (EFRA REF: REFEREE 92-1/7)

7.1.26a. Both referees make up their official EFRA report directly after the race, provide a copy to the Race Director, and send copies of it to the Section Chairman and General Secretary. The report should contain general information about the organisation, accommodation and races.
Referee notes with issued warnings etc. should to be included.

7.2. TIME KEEPING SUPERVISOR AT EUROPEAN CHAMPIONSHIPS

7.2.1. For all European Championships, EFRA will approve a Time-keeping Supervisor to check the systems provided and operated by the organising club.

7.2.2. EFRA will not be responsible for the costs.

7.2.3. EFRA approves the equipment of both Time-keeping systems.

7.2.4. The organising club must provide experienced lapcounters and a suitable accommodation for the Time-keeping Supervisor.

7.2.5. The Time-keeping Supervisor is responsible for recording all the individual lap-times and total laps plus finishing time of all drivers during all heats, semi-finals and finals.
He is not responsible for the classification of the results, nor for the selection of drivers for semi-finals and finals.

7.2.6. After the finish of any heat, semi-final or final, the results of the first and second time-keeping system are compared by the Time- keeping Supervisor and in case of differences between the 2 systems, the Time-keeping Supervisor investigates both results and takes the decision on the final result. Only the results approved by the Time-keeping Supervisor may be published to the competitors and are official.

7.2.7. In case of protests against results, the Time-keeping Supervisor together with the Race-Director will check on the questioned result and will take the decision.

7.2.8. All results, written, printed or otherwise, in their original condition are property of EFRA and kept by the EFRA Time-keeping Supervisor until the end of the event (see 7.2.1.). After the event all relevant data will be sent to EFRA (rule 5.4.14). Copies of the original data are left with the organisers.

7.3. RACE OFFICIALS

7.3.1. Mandatory Officials.
In EFRA Sanctioned races it is mandatory to have the following Official positions held by different persons:

a. Race-Director
b. Time-keeper
c. Technical Inspector
d. Risk Management Officer.

Other Officials have to deal with:

e. registration of entrants, checking licences, collection of fees;
f. supervise transmitter impound;
g. giving start and finish signals;
h. lap-counting and time-keeping;
i. recording and publishing results;
j. separation of public/drivers area and track

k. supervising the marshalling around the track;
l. track marshalling.

7.3.2. Qualification of Officials.
All Officials must be properly trained and experienced persons, with the main positions held by persons with international experience and a good knowledge of the rules and the English language. All main Officials must be able to converse in English.

7.3.3. Selection of the Officials.
For EFRA Sanctioned races, the organising club may select all the Officials. The Race-Director must be approved by the National Association. For European Championships the Race-Director must be known and approved by EFRA as well.

7.3.4. All Officials, except Referees and the Time-keeping Supervisors, are subordinate to the Race-Director, who issues detailed instructions for all jobs.

7.3.5. No Official is allowed to take part in a race.

7.3.6. Officials should be clearly distinguished from competitors and spectators by wearing a band or otherwise.

7.3.7. No Race Official is empowered to make interpretations of any EFRA Constructional or Procedural Rule either during technical inspection or racing without full approval of the International Jury. During the meeting of the International Jury which is convened for the purpose of approving any such interpretations, it is the duty of the Section Chairman (or the EFRA appointed deputy) to provide authoritative guidance on the interpretation of any rule in question.

7.4. INTERNATIONAL JURY

7.4.1. The international jury consists of the section chairman if present, all Team-Managers or their deputy of the countries present, the Race Director and the 2 EFRA Referees. All decisions are taken by simple majority, one vote per person and no proxy votes. In case of parity of votes, the Section Chairman has the deciding vote. The result of each decision must be published in writing.

7.4.2. During a meeting of the International Jury, at least 2/3 of all countries must be present at the meeting. The Team Manager or his deputy must be present.

7.4.3. Responsibilities of the International Jury:
a. to adjudicate in unforeseen situations.
b. to adjudicate in the case of protests if needed.
c. to amend the schedule.
d. to check that the race is run according to the official EFRA rules.

7.4.4. When necessary, the Race-Director calls an International Jury meeting. The Referees may also call an International Jury meeting to settle disputes or protests against unforeseen situations. A written agreement of a minimum of 3 Team Managers have the power to call an International Jury meeting.
The Race-Director must provide a room or other place for the international jury to meet in seclusion.

7.4.5. The international jury is not responsible for the organisation and the well running of the race.

7.4.6 The International Jury may only adjudicate in the interpretation of the official EFRA rules. It may not either alter or ignore the rules and may not instigate it's own rules.

7.5. TEAM MANAGER

7.5.1. The Team Manager or a nominated deputy, approved by the Race Director should be present during all official racing and is a member of the International

Jury. The Team Manager is appointed by his national association at least 6 weeks before the event.

7.5.2. Responsibilities of the Team Manager are:

a. To complete registration on behalf of his team providing the organisers with all driver's EFRA data and transponders.
b. Has the right to be present at the technical control. either before, during or after the end of the race, in which team members participate.
c. Look after the welfare and behaviour of his team and take care they receive proper accommodation in the pits area.
d. He must attend the Team managers meeting(s) prior to the start of the race.
e. He is the link between his team and the race direction by receiving all information referring to.
   -time table changes
   -transponder issues
   -results after every qualification round, sub finals, semi-finals and finals
   - other information referring to the race.
f. He is allowed to stay in the pit area when a race of one of his team members is in progress.
g. He will receive a list with Transponder numbers from Race Control for his drivers before the official race (timed practice) starts, so he can check that there are no discrepancies

7.5.3. At Championships, Team-Managers preferably do not take part in the race. They must speak English.

8. GENERAL RACE PROCEDURE

8.1. PRACTICE AT EUROPEAN CHAMPIONSHIPS

8.1.1. At European Championships, at least 1 series of organised practice in heats per class is compulsory. It is compulsory to run at least the last round of the organised practice with official starting, official time keeping with the results published, as in official racing.

8.1.2. Results scored during organised practice could determine the start order (when using delayed start) in Round 1 of the qualifying heats.

8.1.3. Organised practice must be seen as a last rehearsal and test for both the organisers and the drivers and therefore all EFRA rules have to be followed seriously.

8.1.4. Free practice for all drivers CAN be allowed prior to the organised practice. In order to give every driver the same free practice and organised practice time a ticket system may be used under the control of the Race Director.
Whether it is free, organised or timed practice, the identity of each driver must be carefully checked upon arrival on the rostrum.

8.1.5. Free practice on the day of racing may be allowed by the organisers till 30 minutes before the start of the first heat. This is not compulsory.

8.1.6. Free practice may only be allowed between the start of the first heat and the finish of the main final at the discretion of the organiser. Free practice is not mandatory. If free practice is planned it must be well known to everybody fairly in time.

8.1.7. A driver, not taking part in the organised practice, may not complain later to the organiser in case of radio-interference etc.

8.1.8. During Free and Control Practice driver's must follow Race Control instructions -

may be given in a written paper prior to the event start -, specially all instructions related to marshalling and technical inspection - e.g. go to his marshalling position after a practice, or mark chassis prior to the start of the qualifying. If a driver does not follow those instructions he will lose his best qualifying result

8.2. PRACTICE AT OTHER EFRA SANCTIONED RACES

8.2.1. At least one day of practice in heat format for all drivers who wish to take part is recommended; normally Friday.

8.2.2. During the free practice the frequency board must be in use.

8.2.3. An organised practice of only one series of only one class is optional. This organised practice should be used as a last rehearsal and test and must include official time-keeping (see 8.1.1.).

8.2.4. Practice on the race-days may be allowed till 30 minutes before the start of the first heat and after the prize-ceremony, but is not compulsory.

8.2.5. When the organizer has started organized practice, all drivers must respect the time schedule and the heats set. If a driver is caught cheating, for instance taking part in two different practice heats the driver will be disqualified from the race.

8.3. ARRANGEMENT OF THE HEATS

8.3.1. For arranging the heats the organiser must consider the skill of each driver. If the section has a grading system for registration, only drivers with the same grading may compete in the same heats.

8.3.2. One arrangement of heats may be used for one class only and must be different for following classes, with the purpose of finding different opponents.

8.3.3. Organisers may only change the composition of a heat when there is a serious and obvious problem that cannot be solved otherwise.

8.3.4. Prior to commencement of Qualifying Rounds, drivers should be re-grouped for qualifying heats taking into account the results from final rounds of Free Practice or from Controlled Practice and/or upon the Race Officials observations. For EFRA GPs, the reseeding has to be based on controlled practices from Friday and Saturday.

8.4. REGISTRATION

8.4.1. At European Championships drivers registration must take place on the day prior to the race. Registration will be done by the National Team Manager.
During registration the drivers EFRA Registration is checked. The registration numbers will be registered by the race organiser.

8.4.2. At EFRA Grand Prix and other EFRA sanctioned races, drivers registration may take place up till 30 minutes before the start of the first heat.

8.4.3. Driver's registration must involve:
- paying the entry fee (G.P.'s only, if not previously collected in advance);
- checking the required drivers license;
- receiving a list with the heat arrangement/timetable, including the frequencies used;
-receiving other necessary information

8.4.4. At every EFRA event, pre-registration may be requested by the organizers. Limit date for pre-registration must be 72 hours before the official limit time for registration. Pre-registration must involve:
Name of driver
Country
The required drivers license
EFRA Registration number
Transponder number

Email Address and agreement of the driver to send results.
And may involve: Payment in advance and/or sending a picture for accreditation.

8.6. TRANSMITTER AND TRANSMITTER IMPOUND

There can be 2 different kinds of transmitter:.

a) Transmitters with a crystal that can be changed. See rules 8.6.1 / 8.6.3 /8.6.6
b) Transmitters using a software decoding system that seeks for a free channel. Anybody using these kind of transmitters cannot ask for a delay for radio interference.

8.6.1. Transmitters (as in 8.6 a) must be constructed in such a manner, that the crystal can be changed and all competitors must have at least one alternative frequency available. Voltage supply to the transmitter must not exceed the manufacturer's type approval or National authority recommendations. Any driver found to be using external or additional battery packs must have proof that it conforms to the radio manufacturer's specifications. No changes or additions are allowed on the antenna unless authorised by the original manufacturer.

8.6.2. Electronic driving aids : Steering and driving/brake can only be operated by direct action of the driver using the Radio. The use of traction control devices, active suspension devices and any steering control aided by gyroscopes or 'G'-force sensors is strictly forbidden. Sensors are only allowed for the purpose of passive data recording and not for adjusting the performance of the car whilst in motion. It is not allowed to use any form of telemetry with active transmission.
Clarification: It is not allowed for any wireless signals to be transmitted from the car to an external source during the race that is judged to give the driver a competitive advantage during that particular race! Drivers found using any of the above forbidden items/devices will be subject to disqualification from the event where the items are used and can be banned from all EFRA and IFMAR events for a period of 5 - 10 years.

8.6.2.b) Radio communication is allowed between Driver and Mechanic at certain classes.
Radio Communication Rules:

a: Only designated public service bands with a maximum power output of 500 mW are allowed.
b: Radio communication can only be used by the driver their pit crew, only while their driver is on the drivers' rostrum for the duration of the race.
c: A single ear piece or one sided head set type that is not audible to others and does not reduce the ability to hear the referees' calls must be used.
d: All equipment must comply with the local & country radio communications rules.
e: Not allowed, any 2.4 GHz radio equipment.
f: Radio equipment cannot be used at any other time within or around the complex.
g: Race management has the right to test, decline or withdraw the use of any and all equipment without question.
h. The equipment must not be carried whilst marshalling.

Note: Rules, b, c & f, do not apply to race management.

8.6.3. Spare transmitters must have the crystals removed and if possible must be kept out of the pits.
8.6.4. Transmitters may never be taken onto the track during racing.
8.6.5. Transmitters will be under the control of the Race Organisers.
8.6.6. Transmitter impound is not mandatory. It's up to the Race director in accordance

with the EFRA representative to have an impound or not.

8.6.7. Should the Race Director and Organiser decide not to have a compulsory Transmitters Impound, then such decision can be changed following a request of at least 3 Team Managers present.
If a Transmitter Impound is not mandatory, then drivers can only switch on the transmitter when on the rostrum, or under supervision at Technical Inspection. In event of drivers marshalling, there must be a place next to the rostrum where they can place their transmitters while acting as marshals.

8.6.8. Transmitters are impounded immediately after a request by the Race Director or other Official. When impounded for the first time, transmitters are marked with heat-number or with identification number of the driver and are stored accordingly.

8.6.9. The transmitter impound must be close to or if possible on the rostrum. Transmitters must be protected against bad weather and stored in a safe and secure manner to prevent any damage to the transmitter.

8.6.10. Transmitters are only released for the next race immediately prior to the race start and must not be removed from the official area's or switched-on until the previous race has been declared finished. Transmitter-impound must take place immediately after the driver has completed his race or has finished driving and is leaving the drivers rostrum.

8.7. TECHNICAL INSPECTION

8.7.1. Admission Inspection must always take place in an area protected from intrusion and before the start of the first heat. Cars must be presented for inspection as requested by the Officials any time during the meeting. Random checks on technical specifications can be done during the whole race. During Technical Inspection only the Driver or Mechanic and the Team manager are entitled to be present in addition to Race Officials. Under all circumstances it is the responsibility of the driver that his car is within the EFRA rules during a race meeting. If a car is found illegal during heats, sub-finals or final, the drivers result will be made void and the car has to stay in technical inspection until the result is published and the protest time is over.

8.7.2. At European Championships admission inspection must take place before the controlled timed practice.

8.7.3. Technical inspection must include a thorough check-out of the car, weight limit, motor, muffler, tank, batteries, tyres, homologation of bodies, spoiler and overall dimensions. At European Championships, also of the transmitter (see 8.6.2.).
Any tank found illegal after a heat or final shall be removed from the car and inspected for a second time after an initial "cool down period" of 15 minutes. This period of 15 minutes is only necessary in case the temperatures are above 20° C. The use of artificial aids to cool the car, tank and/or the fuel in the cool down period is forbidden. Only EFRA approved equipment for measuring are allowed.

8.7.4. Only one car per driver per class will be accepted. When transmitters are checked, spare-transmitters may also be presented for inspection.

8.7.5. When a car or a transmitter does not comply with the rules, changes may be carried out before presenting it for final admission.

8.7.6. Cars which have passed Technical Inspection must be marked with the drivers identification number, consisting the registration Entry number. This number must be applied inside the chassis plate.

8.7.7. For each competitor the race has officially started after technical inspection and admission of his car.

8.7.9. At European Championships, all cars of finalists go into a "Parc Fermé", immediately after the finish of the final and are inspected. Cars must remain with the Officials, untouched by drivers or mechanics. Any race distortion must be ignored. Inspection must be at least on:

-engine (motor)
-tank capacity (batteries)
-battery-pack and weight
-chassis (dimensions)

8.7.10. Point 8.7.9. may be applied at EFRA Grand Prix or other EFRA sanctioned races, but is not compulsory.

8.7.11. The marked part of the car, normally the main chassis, may be changed. This would be subject to any technical criteria detailed within each Section. The original marked part must be left with the organisers until racing has finished

8.7.12. If a car is found to exceed the limits of dimensions on checking immediately after a race positive proof of race damage may prevent disqualification. If a car fails to pass the technical inspection, the driver's result/time is only discarded from that heat. In a final, or sub-final, it will mean last position of that final.

8.7.13. The car shall be measured for width, length and height using equipment as detailed in each Sections Technical rules. The equipment should be constructed preferably from metal, or alternatively from high quality board suitably stiffened to prevent distortion.

The car must freely fit such equipment with any steer able wheels set in the straight ahead position, and comply with any maximum dimensions due to suspension movement that may exist in the Section rules.

The measurement of the wheelbase may be made by simple measurement of axle centre distances with suspension in any position but Race Directors should be prepared to make more exact checks in cases of doubt or protest. If is suggested that the wheels are removed and the wheel spindles are firmly placed on the blocks whilst accurate measurements are made.

8.7.14. The equipment used for technical inspection by the organiser must be made available to competitors at all reasonable times.

8.7.15. All lists of approved equipment, (i.e. Bodies, mufflers and batteries) must be available on EFRA's webpage from the 1st of March every year. This is the finale lists for this year and no changes will be made before the next year. Equipment homologated during the year will not be put on the list until 1st of March next year.

8.8. TEAM MANAGER MEETING

8.8.1. A Team Managers Meeting must be held prior to each race and per class. It must be held in English. The Race Director must call the meeting, Team-managers, Referees and other Officials must be present.

8.8.2. Team Manager meeting have to be completed at least 1 hour before the start of the first timed practice and the following points must be covered as a pre-race briefing:

- security and safety items;
- starting procedure, explanation;
- disciplinary questions;
- other items concerning the contestants;
- changes in the organisation or procedures;
- presentation of the main Officials and Referees.

- details of the penalties that may be awarded and the circumstances that they will be awarded under.
- details of the number of mechanics etc. authorised to enter the pit lane during racing.

Team managers are links to distribute this info to their respective drivers All Team Manager Meetings must have its correspondent "distribution information time" advised to be 20 minutes.

8.9. FLAGS

8.9.1. If flags are used then: Starting flag: the national flag of the country where the race is held.
Finish flag: chequered flag.
Black flag: the car in question must immediately stop in the pit to receive instructions

8.9.2. The use of the black flag by the Referee (see 7.1.8.-9.):
- drivers who impede the progress of other participants;
- unsporting behaviour;
- participants driving in a manner deemed to be dangerous.

8.9.3. The use of the black flag by either the Referee or the Race Director (see 7.1.12..13.):
- Vehicles judged to be in an undriveable or dangerous condition; after repairs have been carried out and after the Race Director or the Referee have approved the repair, they may continue their race;
- Vehicles which lose their bodies or other parts must immediately stop and carry out the necessary repairs after which they may re-start.

8.9.4. The black flag is operated by the Flagman (Starter), who receives his instructions to do so from either the Race Director or the Referee. Under no circumstance may he use the black flag on his own authority.

8.9.5. No response to the black flag (verbal or physical) within three (3) laps will lead to disqualification of the concerned participant of the whole event.

8.10. PENALTY CAUSES

Time penalties should be awarded as stop and go penalties where possible. The Referee and/or Race Director should inform the driver and the penalty should be announced through the sound system and the driver should bring the car into the pit lane in the immediate next three (3) laps where it will stay the amount of time that the race organiser has decided depending on track layout. The 'stopped' time should be announced at the Team Managers Meeting. It will not be allowed any repair or refueling during the penalty being served.
The Referees may declare during the race, but they are not obliged to, a RACE INCIDENT UNDER INVESTIGATION for possible infringements committed in the last minute or last 2 laps of the concerned race, whatever of the 2 options may be larger in time. Those RACE INCIDENT UNDER INVESTIGATION can be decided by the Referees in the next immediate minutes to the final of the race after checking it. In the case that there is no possibility to call a driver for a stop and go penalty (e.g during the last 2 -3 laps of the actual heat or final), the Referees will announce that an appropriate time penalty will be applied (Large scale: 1 lap). When a time penalty is applied, the Organiser will ensure the following criteria is applied:-

1) The competitor receiving the time penalty will have his actual Race Time (time on track) reduced by penalized time.
2) Organiser to check results to establish the time of the last lap using the Penalised Race Time.

3) The organiser will amend the published time for the penalised driver to show a time of -- "the number of seconds over his Penalised Race Time, added to the normal Designated Race Time for drivers not receiving a penalty".

Examples:- Designated Race Time is 10 mins. (600 sec.). Driver X receives time penalty of 10 Sec., therefore his Penalised Race Time is 590 sec.

1) X crosses the timing loop at 595 sec. at the end of lap 12. His corrected time will be published as 12 laps in 605 sec.
2) X crosses the timing loop at 589 sec. on lap 12. He can continue and completes lap 13 at 620, (31 sec lap).

His corrected time will be published as 13 laps in 630 sec.

8.10.A Penalties in time, laps or even disqualification issued by EFRA Referee:

8.10.1. Unsporting behaviour (see 7.4.);
8.10.2. Deliberate corner-cutting;
8.10.3. When a car is re-entering the race other than from the point at which it left the track (not in case the engine has stopped and has to be re-started. Then the car re-enters the race from the pits);
8.10.4. When repairs are made to the car other than in the pit area off the track;
8.10.5. If the car is pushed over the finish-line (must finish under its own power);
8.10.6. Not returning to the pits after finishing a race;
8.10.7. Driving in the opposite direction of the race direction at any time.

8.10.B Penalties in time, laps or even disqualification, issued by the Race Director:

8.10.8. If orders of Race Officials are not obeyed;
8.10.9. If acting contrary to the EFRA Rules;
8.10.10. If a driver changes his complete car for whatever the reason;
8.10.11. If a driver changes his frequency without permission of the Race Director;
8.10.12. If a driver does not return his transmitter to the transmitter impound immediately after the finish of the race;
8.10.13. Penalties in time or laps may be issued by the time-keeping Official in the case of early starts (see starting procedures).
8.10.14. The bad behaviour and deportment of any competitor or assistant person to a competitor during the whole event, which could injure the image of the sport, may become subject to National or International (EFRA) sanction;
8.10.15. All Warnings and penalties must be noted on the result sheet and on the result board for the drivers (preferably in red).

8.10.C Drugs

8.10.16 If drugs or alcoholic impacts a competitor, competitor mechanics or an Official, the penalties for a competitor will be immediate disqualification. An official and competitors mechanics will immediately be taken out of service.
8.10.17. Any driver, representative or mechanic behaving abusively may be expelled from the meeting (a meeting may be one or more days and consist of more than one event/class).

Any incidents that are likely to bring the sport into disrepute can be subject for further action from the Executive Committee.

8.11. PROTESTS

8.11.1. Only drivers participating in the race may enter a protest.
8.11.2. At European Championships a protest can only be made through the Team Manager.
8.11.3. Protests may concern:

- the Organisation (act against the rules);
- Officials (act against the rules);

- Results (only when proof can be presented showing the result is wrong);
- Other competitors (acting contrary to the rules to the disadvantage of the one entering the protest or the one the Team Manager is representing).

8.11.4. Only written protests, handed over to the Race Director within 20 minutes after the publication of results of the heat or occasion to which it concerns, will be considered.

8.11.5. 100 € or equivalent in the host countries currency has to be paid to the Race Director, on behalf of EFRA, who will only then accept the protest. The time of receipt of the protest must be recorded.

8.11.6. The protest must contain relevant information for the Race Director to be able to discuss the protest and decide.

8.11.7. The Race Director together with either the Referee(s), the Timekeeping Supervisor or the International Jury, will deal with the protest and decide. This decision is final.

8.11.8. The decision must made within 30 minutes after the acceptance of the protest. Only for important reasons and when the International Jury has to meet, may the decision be delayed to 60 minutes max.

8.11.9. When a protest concerns semi- or finalist, either the decision must be taken 10 minutes before the start the latest, or the start must be delayed until 10 minutes after the decision.

8.11.10. After the final race, there will be a ''protest period" of 20 minutes after the provisional results have been published in writing on the score-board.
For this purpose, the publishing time of the provisional results must be noted down on the result-sheet.
During these 20 minutes, protests against the results may be presented to the Race Director who will then act according 8.11.7 and 8.11.8.
If no protests are presented within the 20 minutes "protest period", the provisional results become official and final and may be announced.

8.11.11. Appeals to EFRA against the decisions of the International Jury may only be made if submitted to the Race Director in writing with a further appeal fee of 500 € (or equivalent), payable to EFRA, before the end of the event.
Appeals are only allowed against decisions of rule interpretation or of decisions made by the international jury after protest and not the fact of rules (see rule 7.4.6).
In cases where the international jury has adjudicated in cases of protest the decision of the jury is maintained until the appeal is considered.
In cases where the international Jury has made an interpretation of the rules the decision is suspended pending consideration of the appeal.
Appeals against the decision of referees shall also be made in writing to EFRA (see rule 7.1.22) and will not alter or interfere with the race in progress and will not suspend any decision of the referees.
Appeals to EFRA must be considered at the next Executive committee meeting or before the next AGM and are always to be considered as final.

8.11.12. If protest is upheld, the protest-fee of 100 EUR must be remitted immediately. If protest is rejected money will be sent/given to EFRA. If the appeal of rule 8.11.11 is accepted money involved must be sent/given to EFRA, whose will act accordingly.

8.11.13. The Race Director may, without a protest being made, correct results which he may deem necessary, after consultation with his organising staff and referees.

8.11.14. Protests against the decisions of the Referee, concerning the racing, are not possible. The Referees decisions are indisputable (see 7.1.21 and 22).

8.11.15 The result/decision of a protest (including the evidence used to come to said conclusion) must be made formally to the protestor in writing as well as published on the event notice board for all to see.

8.12. LAP COUNTING PROCEDURE

8.12.1. At EFRA sanctioned events, the lap counting is to be done automatically by means of an automatic lap counting system and a transponder fitted inside the cars body shell.
All competitors must supply their own Personal Transponder and are responsible for ensuring that the organizer is advised of the unique number.

8.12.2. The fitting of the correct transponder inside the cars body shell, and ensuring it has adequate signal strength is the responsibility of the driver.

8.12.3. If a driver loses the transponder during the race, or if a transponder malfunctions after starting the race-clock, the lap counting supervisor must try to count the laps and time manually. If a competitor chooses to use a transponder which is not the same manufacture of the timing decoder being used, then the competitor must accept full responsibility for any laps or times that are not recorded. In such cases, the time-keeper is not required to perform a manual count or adjust times, but may do so at his/her discretion.

8.12.4. If a driver forgets to fit or activate the transponder during the race, the Race Director and the lapcounting supervisor will decide whether the laps are counted or not. There is no appeal against their decision.

8.12.5. Transponders must be moved to a better position in the car on the race-directors instruction, if lapcounting problems occur. Failure to comply may result in lost laps.

8.12.6. It is the responsibility of each competitor to ensure that no parts of his racing equipment generates any form of signal that in any way interferes with the automatic lap counting system. If it is proven, that interference is being caused, the Race Director must instruct the driver to modify the offending item and if this does not prove possible, the driver will be excluded from the racing.

8.12.7. The result of a heat, subfinal or final should consist of the number of laps and the time of the last finish line passing in minute, seconds and 100 of seconds.

8.12.8. The organiser of EFRA events must put a minimum of screens in the pit lane, boxes and visitors area in order for everyone to be able to follow the races on site.

8.12.9. The organiser of EFRA events must be able to produce and display on line live results from lap counting for everyone to be able to follow the races on line.

8.13 PRIZES AND PRIZE CEREMONY

8.13.1. Immediately after the finish of the race and before the drivers leave the drivers rostrum, the unofficial winner must be declared for the public and a symbolic first place award is presented. This award must be returned to the organisers immediately after the unofficial ceremony.

8.13.2. Immediately after the official result is published, the prize-ceremony must be held.

8.13.3. Winners are not entitled to claim prizes by right.

8.13.4. Prizes must be announced in the race-program. The actual prizes must correspond with the prizes as announced. They must be of a reasonable value according to the standard of the race.

8.13.5. Cash prizes or any other means of payment (paper tickets or coins of an obvious exchangeable value) are strictly forbidden.

8.13.6. Gifts not exceeding the price of an one-eight scale car kit may be given.

8.13.7. EFRA will award the first three drivers of each official European Championship

with a golden (first), silver(second) and bronze (third) medal.

8.13.8 The best driver under 17 years will also receive an EFRA award. Competition age for Junior drivers will be determined by their age on the 1st January of the year of the event.

8.13.9 The best female driver will also receive an EFRA award.

8.14 EVENTS ORGANISED BY ASSOCIATED MEMBERS

8.14.1 Events organised by associated members under endorsement of EFRA may not be subject to prize money or to starting premiums.

8.14.2 Applications for such events should be sent to both the President and the Secretary of EFRA at least 6 months before the start of the event

8.14.3 Such events may not have the title nor be referred to as Grand-prix, European or National Championships.

8.14.4 At least one official EFRA representative must be present. EFRA does not pay any expenses and all costs are to be supported by the organising associate member. This EFRA representative will be integrated in the officials listing and have the right to be present at all meetings and have access to all parts of the premises as an observer and auditor.

8.14.5 The relationship between the associated member and EFRA shall be that of independent identities for all purposes, and in no event shall persons employed by either party be held or construed to be representatives of the other.

8.14.6 Racing formats and classes may be different from those described in the EFRA handbook The parts of the EFRA rules that will be applied should be clearly stated as well as the deviations on technical rulings. However the parts in the EFRA handbook referring to Legal liability, safety, security, conveniences, frequencies and drugs can under no circumstances be waived as being part of the rules fully in force.

8.14.7 The organizer accepts full responsibility for all necessary authorizations and to comply with local laws and regulations. The Associate organiser at its sole cost and expense shall procure and maintain during the term of this event with insurers of recognised responsibility for all insurances needed policies with adequate coverings.

8.14.8 Whenever prizes in merchandise are given they must be spread over at least 15 participants and have to be comparatively within reasonable proportion to each other

8.14.9 The Associated member will defend, indemnify and hold EFRA harmless from and against any and all liabilities, damages, losses, claims, fines, penalties, assessments, demands, actions, suits and judgments, including all fees, costs and expenses incidental thereto, that may be charged to, asserted against or incurred by EFRA by reason of any loss, damage or injury of any kind or nature whatsoever in any manner or to any extent resulting from or arising out of the articles or services covered by the endorsed event except to the extent resulting solely and directly from EFRA's gross negligence or wilful misconduct.

8.14.10 EFRA Registered drivers are allowed to participate at events organised by EFRA Associated Members, but their EFRA International Registration may be withdrawn if they participate at International events not recognised by EFRA.
Note: The valid EFRA Section Chairman is the only person that has the right to determine events not recognised. His decision is final and cannot be protested.

8.15. MARSHALLING

Positions for marshals must be spread equally around the track and may not obstruct the vision of the drivers.
The positions must be numbered. When a position is located at a dangerous

part of the track (i.e. the straight or a fast corner), this position must be equipped with protection for the Marshal (a wall, tyres, a gate etc.).
The marshal's position must be furnished with gloves and/or other protection and a safety jacket which is compulsory to wear. For IC events, it is mandatory (safety reasons) that the marshal position is also equipped with a plastic or wood baton as an aid to kill a running engine.

8.15.1 Only drivers taking part in the competition may and must marshal the heat following their own, (subject to 8.15.4). The first heat will be marshalled by the drivers of the last heat.
Other than running marshals, all other marshals must remain at their posts until replaced. No other persons, except officials are allowed on the track while the race is in progress.

8.15.2 Failure to Marshal:

1. Qualifying by Fastest Time system: Failure to marshal during Qualifying or provide a competent substitute agreed with the Race Director, will result in the loss of the driver's best Qualifying time. Applied when all Qualifying has been completed.
2. Qualifying by Round by Round system: Failure to marshal during Qualifying will result in a driver being demoted in the Final Qualifying Classification by a 'fixed' number of places. This will be applied when all Qualifying Rounds have been completed and direct to the Overall Qualifying Classification before designating any; Finals, Sub-Finals, Super-Pole races etc.
   The number of places demoted will be equivalent to dropping one Final or Sub-Final and retaining the same grid position number in the demoted Final. Therefore drivers within the number of places demoted will move one place higher in the adjusted Qualification Classification. The number of places demoted will vary for different Sections or Classes.
   eg. Straight Finals with no 'bump-up' (most Electric Classes) – A grid 2 demoted to B grid 2.
   Single side Finals with 'bump-up' – A grid 2 demoted to B grid 2.
   Xmas Finals (A & B tiers) with 'bump-up'
   With some drivers direct to Main Final – Main grid 2 demoted to B Semi grid 2.
   With no drivers direct to Main Final – B Semi grid 2 demoted to B Quarter grid 2.
   This could be applied more than once to any driver that repeatedly fails to marshal during Qualifying.
   (Note: See also App. 2 Rule 2.4, extra detail for 1/8 Off-Road).
3. Finals: If ccompetitors are required to marshal Finals, then failure to marshal in a Final will result in being placed last in the appropriate Final. Failure to marshal is clarified as: not being at the correct marshalling point 30 seconds prior to the start of a controlled practice, qualifying heat or final.

A substitute marshal is only allowed if the driver is physically disabled

- Notification of the substitute must be made to the Race Director prior to the start of the race which the driver is racing in.
- If a substitute is being used for the whole event, notification must be made prior to the beginning of the first Time Practice Round.
- The driver who is substituted must stay at the Race Director's disposal in a designated area (not in the pit) up to the end of each race where he is substituted.

Failure to comply with these provisions will result in the same losses as if

a driver does not comply with his marshalling duty. Designated marshals who repeatedly fail to marshal will be excluded from further participation at the event on the basis of Unsporting Behaviour and their Federation will be informed to take corrective action.

8.15.3 The organisation of drivers marshalling for the final will be the responsibility of the organiser. The main system for such will be the following one: For finals, large teams provide the most marshals, maximum 2, smaller teams 1 and very small teams none (but may volunteer to help). Marshals will be allocated designated points. Team Managers to ensure that these points are covered at all times by drivers. Only drivers taking part in the competition may and must marshal finals unless a substitute is allowed by the Race director due to physical disability. Alternative secondary systems like: Each driver taking part in a final must provide a marshal for his car number position or Drivers not bumping-up to the next sub final will marshal the positions of their car number in the immediate next sub final (descent from rostrum and go to marshal), or the driver marshal the precedent final on his side of the Christmas tree with the non-filled spots to be covered by the club can be used following a decision made by the Race Director together with the referees and the Section Chairman if present.

8.15.4 The organiser must provide a marshal for any unfilled position i.e. previous heat had less drivers or marshals missing.

8.15.5 It is the Team Manager's responsibility to ensure that drivers marshal finals. Country allocations will be decided pro-rata. Team Managers who do not fulfil their duties regarding the organisation of marshals will be reported to their Federation with the intention that they are not nominated at future events.

8.15.6 For large scale racing Marshals are not allowed. Mechanics will act as Marshals out from the pit lane. This rule cannot overrule national insurance regulations.

8.15.7 All marshals must wear safe and sensible footwear that will not become detached when performing marshalling duties. (Sandals are not acceptable).

9. STARTING PROCEDURES

9.1. Purpose of the EFRA qualifying system is to create more equal chances for the drivers.

9.1.1 The Race Director will appoint a suitably qualified person(s) to perform the duties required by Race Control in respect of all procedures required for the operation of the timing software and a Start Official to be responsible for the start and finishing procedures of all cars in Qualifying and Finals.

9.2. Starting procedure for qualifying It can be either:

a. Staggered Start: All cars are released one by one by the starter at an interval of approx. 1 second (track lay-out depending). Missing the starting procedure means that the car has to start his race from the pits or the starting line after the last car has started from the designated starting area.

b. Flying Start: Cars will be driven at the track from the moment the track is declared "Open" for practice or warm-up, there will be no call for starting procedure. The Start Official will give a 2 minutes warning to the start, this will be announced through the sound system, you will also get the time "1 minute to the start", "30 seconds to the start" and "10 seconds to the start". An audible signal and the mention "clock is running" will indicate that the heat has started. During this procedure timing cant be adjusted.

Common conditions: Each car will have its own timing. The total time will be the one designed in each class appendix.

9.3. Staggered Start: Timing/counting starts for each car separately the first time that car passes the start-line. For any cars not starting when directed, the latest that their individual clocks will be started is when:- Either:

a) Any of the cars complete a full lap. Or:

b) Maximum one (1) minute after the designated first car was called to start.

The actual starting position has to be a few meters before the start-line.

Flying Start: Timing/counting starts for each car separately the first time that car passes the start-line or as maximum as when a 150% of a standard lap-time for the track has passed since the clock is running.

9.4. The position of the lap-timing antenna (loop) within the track at EC events must have the approval of the EFRA Section Chairman (or the EFRA appointed deputy).

10. RULING

10.1 PRECEDENCE

10.1.1 As long as appendix rules concerning specifications and race procedure do not clash with EFRA's spirit regarding fair racing they take precedence over the general rule governing the same item.

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APPENDIX 1
1/8th, 1/10th and GT8 SCALE TRACK CARS Combined

1. ALLOCATIONS FOR EUROPEAN CHAMPIONSHIPS.

1.1. The allocations for the EFRA European Championships 1/8th. and 1/10th. 200 mm scale and GT8 (E and IC) will be established by the section meeting and published in the minutes.

1.2. For allocation and re-allocation procedures see Gen. 3.6. and 6.2.
For ALL CLASSES: Allocations will only be offered for EC and WC events to those member countries that have written to request places.

1.3. All countries receive re-allocated places in the order of the Allocation-list, unless stated otherwise in this list.

1.4. The number of entries for EFRA European Championships is 100 with a maximum of 120. Accommodations for at least 100 drivers must be available. If the number of entries exceed 100, the accommodation must be sufficient for all participants.

1.5. Applications for all EC's must be done in writing by using the applications forms to be presented at the annual AGM section meeting.

2. RACING FORMAT EFRA EUROPEAN CHAMPIONSHIPS AND GRAND PRIX.

2.1. European Championships are held in following classes:

a) European Championship 1/8th IC. European Championship 1/10th Touring Car Sedan bodies. In the year there is an IFMAR World Championship outside the EFRA Bloc, dates between EC and WC must be separated with at least 4 free weekends between the finals. In the years there is an IFMAR WC in the EFRA Bloc, there will be no European Championship (see schedule IFMAR, www.ifmar.org).
One special EFRA medal will be awarded to the fastest driver under 17 year in each class. So everybody of 16 years old at 1st of January, or younger can compete for this medal. One trophy must be awarded by the Organizer for each class.

b) European Championship GT8 E and IC

c) European Championship 1/8th Track 40+ and 1/10th 200 mm 40+. This will be one combined event. EC 40+: Open to all drivers of 40 years, including those who become 40 that year and older.

d) NATIONS CUP. At every European Championship A EFRA will hold a Nations Cup, with drivers competing as a team representing their countries. When race is over, the best two (2) drivers of each country will represent their country at this Nations Cup. Both results will be added together by points (according to the rule 3.3.6) and give the result of their National Team.

2.2. Free practice for an EC track must be open from Monday. It will not be allowed for all competitors in the event to practice for 10 days before this Monday (see also Gen. 8.1.) For 1/8th and 1/10th Class held at the same event: Pit lane refuelling may be forbidden during free practice at an EC if it is necessary to facilitate a quicker turn-around of drivers (every five minutes).

2.3. Free practice for Grand Prix events must be allowed at least from Friday preceding the event (see Gen. 8.2.).

2.4.1. General Qualifying format for EC's:
5 Rounds of Qualifying will be run, irrespective of the number of drivers. Qualifying is 7 minutes + last lap for GT8 - both E and IC. A point system will be used to establish the qualifying result.
The top 4 ranked drivers after completion of the qualifying heats will move up

directly to the main final and take the top 4 positions on the starting grid. The other drivers will start in the finals as per qualifying ranking. Depending on time available all finals higher than 1/64th can be shorter than 20 minutes (for instance 10 minutes). See also 2.6. The number of Rounds to count is as follows:

1 Qualifying Round completed	1 by laps and total time.
2 Qualifying Rounds completed	1 best by laps and total time.
3 Qualifying Rounds completed	2 best point scores to count.
4 Qualifying Rounds completed	2 best point scores to count.
5 Qualifying Rounds completed	3 best point scores to count.

Any Qualifying Round has to be completed for any Heats in that Round to be awarded points that count. 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 etc.

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.

(NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round)

Overall Qualifying positions are decided by each driver 'best' (lowest) points being added together, based on the number of Rounds to count as shown in above table. In the event of a tied position, the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (e.g. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared. Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded.

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 as the table above.

Rain procedure: Only rounds ran under the same conditions will count. Same conditions means: no differences in average lap time by more than 20%. The Race director together with the referee will make the final decision.

2.4.2. General Qualifying format for EFRA GP's.

For 1/8th,1/10th and GT8 E and IC: 3 groups of Qualification will be run irrespective of the number of drivers. After Control Timed practice groups of qualification will be divided as follow according to the ranking :

- Q3 : first 5 drivers in Control Timed Practice will be classified directly in the last round according to the ranking.
- Q2 : thirty percent of drivers (30%) after Control Timed practice minus drivers directly classified in Q3 (first 5) will be classified directly in Q2. In case of 30% of drivers result a non-integer number , the lowest integer number will be taken (i.e. 12.5 will result 12 drivers).
- Q1 : Seventy percent remaining (70%) of drivers after Control Time practice will race first round of qualification. In case of 70% of drivers result a non-integer number, the highest integer number will be taken (i.e. 50.5 will result 51 drivers).

Qualification procedure will start with procedure as follow:

- Q1 : 3 rounds of 10 minutes in flying start system (see 9.2.b General rules). The best 3 consecutives laps in the 3 rounds combined will be used to stablish the qualifying result in Q1. The best 12 drivers in the ranking after 3 rounds will

bump up to the Q2. Drivers directly classified for Q3 will have a 10 minutes free practice between Q1 and Q2.

- Q2 : Ranking list of Q2 will be based according to the best 3 consecutive laps for drivers who classified directly to the Q2 and drivers who bump up for Q1 (all together). For Q2 , 2 rounds of 10 minutes in flying start system (see 9.2.b General rules). The best 3 consecutive laps in the 2 rounds combined will be used to stablish the qualifying result in Q2. The best 7 drivers in the ranking after 2 rounds will bump up to the Q3.
- Q3 : Ranking list of Q3 will be based according to the best 3 consecutive laps from positions 1 to 12. For Q3, only 1 round of 10 minutes in flying start system (see 9.2.b General Rules). The best 3 consecutive laps in the round combined will be used to stablish the qualifying result in Q3. The best 3 drivers will bump up directly to the Main Final.

The final ranking for subfinals will be based according of the results of Q3, Q2 and Q1. These results will not be combined which mean that results of different rounds of qualification will be used to arrange subfinals (i.e. position 4 in Q3 will be 1st in semi A, position 5 in Q3 will be 1st in Semi B and so on . . .). Length and number of rounds can be adjusted according to the number of entries if needed in agreement with EFRA Official present at the event.

If two (or more) competitors achieve an equal time in best 3 consecutive laps, the driver with single best lap of the three laps counted will solve the tie. In the event of continuing tie, then the second-best lap will count to solve the tie and so on.

Rain procedure: Only rounds ran under same conditions will count. Same conditions means: no differences in average lap time by more than 20%. The Race Director together with the referees will make the final decision. For any other procedure under rain conditions will follow rule 4.5 appendix 1.

2.5. Time Schedule: The time schedule should not be rigid but adapted to the number of entrants. As a guideline at EC's with 100 or more entrants the schedule should be as follows:

Wednesday & Thursday: Technical inspection. All cars must pass technical inspection before Controlled Timed Practice.

Thursday: Controlled Practice, Controlled Timed Practice and Qualifying 1 & 2 in the afternoon.

Friday: Qualifying Rounds 3 to 5, (for 2,3,4 and 5 Top Qualifiers), lower finals up to 1/64.

Saturday: 1/32 upwards, 1/16th, 1/8, 1/4 final; Practice 2 direct Qualifiers, 1/2 final, L.C.Q., final.

The time schedule and the number of heats can be adjusted by the race director with agreement from the EFRA representative due to weather and unforeseen conditions and the number of total drivers at the event.

For EFRA European Championship, the race director should seed the Controlled Practice heats, Controlled Timed Practice heats based on the EC from last year.

The heats shall contain a maximum of 12 drivers. These Controlled Practice heats will be of 10 minutes duration. The Controlled Timed Practice heat will be of 4 minutes duration. The ranking from controlled timed practice will be used to make the heats for the qualification heats. The schedule of all practice heats including each practice heat starting time will be carried out by the organisation of the event and it should be given to the Team Managers (only in EC) & published for general knowledge.

2.6.1. General format for sub-finals and main final at EC:

The lower finals are 20 minutes up to 1/64 finals. Time for all finals higher than

1/64th to be set at team managers meeting. The duration of the main final is 45 minutes.
Sub-finals: The best 3 in each sub-final move up to the next final.
Semi-finals: The best 3 of each semi-final move up to the main final.
Starting order for the drivers who moved up to the main final is based on number of laps and time for positions 3 to 10. In different circumstances it will be number 1 from the A semi-final who gets the number 3 and the number 1 from the B semi-final who gets the number 4 etc. Semi-final B is the first final to start on the Saturday afternoon.
After Practice direct Qualifiers cars (top 4 drivers), both cars must be kept in Parc Fermé. Additionally, after the first semi-final all cars will be put in Parc Fermé in technical inspection and they will be released after completion of the technical inspection of the 2nd semi-final. This will give all drivers that proceed to the final equal time for preparation.
Last chance final: A special final the top 6 drivers of each semi-final who did not bump up drivers of semi-finals who not bump up into the final (12 drivers in total). Duration will be 15 minutes and winner of the final will bump up into the final with number 11.The order of starting grid in the Last chance final will be according to the results in laps and time on both semi-finals combined.
NOTE: The LCF result will not be used to determine the final event rankings - the LCF is ONLY to decide the 11th qualifying position for the main final all other positions will be disregarded. Final event rankings will use the original finishing positions of the semi finals.

2.7 During the race 2 (two) mechanics are allowed in the pitlane .
No starter boxes are allowed on the track at the start of any finals. Starter boxes taken to the grid will result in the concerned driver receiving a stop and go penalty. A car which cuts on the starting grid is required to be returned to the pit lane and will start the race from the pit lane after all other cars have started.

2.8 When the Qualification has been completed, the top 3 qualifiers must do a press interview with the cars (not only with the body) in a place that the organiser must prepare on the track. This place must be equipped with a table with an EFRA MEMBERS banner and chairs for the drivers. The EFRA official media partner will have preference for the first 5 questions. When the main final has been finished, we will have the same procedure for the 3 first drivers in the final, when the result has been declared official for the race director.

3. TRACK SPECIFICATIONS

3.1. Track surface should be unsealed asphalt or coarse finish with any joints smoothed.

3.2. Minimum length must be 200 metres (advised 240-300 m.).

3.3. Minimum width of the track will be 4 m. between marking lines. (advised for new tracks 4 m between the marking lines). The maximum width is 6.50 m. The marking lines must be 8-10 cm wide and either white or yellow. They must be approximately 20 cm away from the edge of the racing surface.

3.4. Maximum distance from the middle of the drivers rostrum to the furthermost point of the track must be 60 metres.

3.5. Vision: no obstacles may interrupt the vision from the driver's rostrum to any part of the track.

3.6. A broken line may be drawn in the middle of the straight to aid vision. No lines may be drawn in corners other than the outer marking lines.

3.7. The refuelling and pit area should be clearly distinguishable from the main track and as close as possible to the drivers' rostrum. Exit from and entrance to the main track is advised to be on a slow part of the track.

3.8. Track design must include both right and left hand turns and must have a straight of minimum length 45 metres.

3.9. Outside barriers must provide a positive means of stopping a car which misses a corner or runs out of control. The primary consideration for selection of the outside barriers shall be the protection of the spectators and not the cars.

3.10. Inside barriers must deter corner-cutting and prevent cars reaching other parts of the track. Inside barriers must be positioned and dimensioned to prevent cars from flying over the outside barrier into the public enclosures. The barriers must be smooth. When cones or dots are used, they should not be higher than 5 cm.

3.11. Barriers must be a minimum of 20 cm away from the marking lines on the track.

3.12. The inner and outer surrounds to the track must be of grass or other suitable materials such as concrete. The object of these surrounds is to slow down any car that leaves the racing surface. The car must be able to leave the infield or outfield unassisted to minimise the need for Marshall's assistance. Marshal posts must be positioned at 30 m intervals around the track. They may not obstruct vision of the drivers. The post must be numbered. When a post is located at a dangerous part of the track (i.e. the straight or a fast corner) this post must have protection for the marshal (a wall, tyres, a gate, etc.).

3.13. A start/finish line must be painted across the track, preferably in front of the time keeping position. The first start line box must be located more than 10 m. away from the following corner.

3.14. Only a Le Mans type of start will be used. For Le Mans type of starts, 12 numbered boxes will be located on the edge of the track, at an angle of 20-45 degrees to the track, min. 4m apart. Starting position can be approved by highest EFRA official at race in discussion with Race director and Organiser. The boxes must be 70-100 cm long and 30-40 cm wide.

3.15 The track must have a special area cordoned off to be used for the application of the tyre control procedures

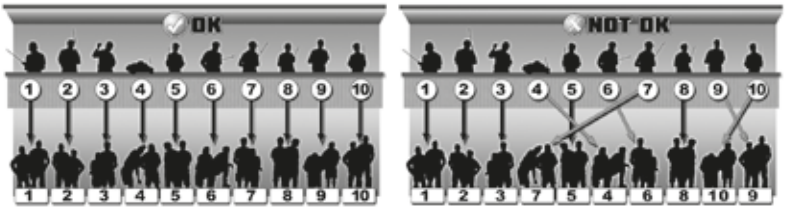
4. RACE PROCEDURES 1:8, 1:10 and GT8:

4.1: CONTROLLED PRACTICE AND CONTROLLED TIMED PRACTICE PROCEDURES for all EFRA races:

All practice in EFRA races will be defined with the best result of 3 consecutive laps of the driver. The result will be used in the following procedure:

For EC's: The race director should seed Controlled Practice and Controlled timed Practice according to the EC from last year. Controlled Practice shall contain a maximum of 12 drivers. These Controlled Practice heats will be of 10 minutes duration. The Controlled Timed Practice will be of 4 minutes duration. The results of the Controlled Timed Practiced will determinate allocations to participate in the EC A. This ranking list will not consider drivers who are classified directly in the EC A (25 first drivers for EFRA GP series, current WC 1/8th if European, current WC 1/10th if European, current EC 1/8th and current EC 1/10th). The total amount of drivers for EC A will be 64. Rest of the drivers will race in EC B. EFRA Section Chairman together with Race Director and Referees have the right to switch drivers from Euro B to Euro A under justified situations (deliberate slow down, weather conditions, etc.).

Drivers can stand anywhere on the rostrum on a first come first served basis and mechanics MUST stand directly underneath their driver in the pit lane wherever possible or in the same order. Only for all finals, drivers with the lowest starting numbers will choose their position on the rostrum one by one to the highest number and the mechanics must stand under the driver where this is possible or in the same order.



4.2. STARTING PROCEDURE OF HEATS FOR EC's
Starting of the qualifying will be in flying start according to the rule CHAPTER 9 STARTING PROCEDURES rule 9.2.b.

4.3. Qualifiying for EC's.
Qualifying runs and Finals are run by "time plus completion of lap" system. Qualifying heats are 4 minutes duration for 1/8 and 1/10 and 7 minutes duration for GT8 classes. For duration Lower Finals and Main Final see 2.6. The use of a personal transponder is mandatory.
When the time is over, an audible signal is given. A car finishes when it passes the finish line after the finish-signal is given. The car must immediately return to the pits and may not hinder other cars still racing.
In case of doubt (on the finish-line when time is over), a car may race one more lap and finish. Whether he finishes or not when time was completed, is up to the Time-keepers and cannot be disputed.
After returning to the pits, the engine must be stopped immediately and the transmitter turned off and impounded if needed.

4.4 Qualifying, rolling start system for EC's:

1. There must be a minimum 3 min. gap between the end of one heat and the start of the next heat.
2. An audible warning will be given at 2 minutes, 1 minute and again at 30 seconds prior to the official start, in English and other languages as appropriate.
3 Drivers must cross the timing loop within a limit to be decided by the race director (which shall be the average lap time taken from timed practice plus 50%) of the start signal being given by the timing system

4.5. RAIN PROCEDURE DURING QUALIFYING:

1. The Race Director and the Referees are jointly responsible for the decision to stop a race in the event of rain.
2. On the result sheets the Race Director or the appointed official must mark a heat 'WET' when the heat was raced under wet conditions (20% differences in lap times). On the corresponding record sheets, this must also be marked. The Race Director together with the Referees will decide in case of any doubt. Heats are generally considered to be 'WET' when there is any rain or moisture on the track and it is obvious to the Race Director that the cars cannot perform to their maximum capability. The Race Director may decide to postpone qualifying if it is likely that qualifying can be resumed within reasonable time.
3. Due to the points system and when weather and time permits, the Race Director must try to complete as many Rounds as possible under equal circumstances.
4. When continuation is judged to be senseless, or when other drivers should be offered a fair chance to drive under dry conditions, the Race Director together with the Referees may decide to end a heat or cancel a complete heat. (4.8.1.).

5. When 1 Round is finished under dry conditions, the Race Director can postpone the qualifying until the track is declared fully dry again. If it is likely that this will interrupt the qualifying for more than 1 hour, the Race Director may decide to open the track for controlled practice.
6. In case of interruption due rain situation when a round of qualification is running, all this ROUND of qualification will be discarded.
7. When race director declares the race to be wet, a second car can be used as a rain car in same conditions like in sub-finals and final (see 4.8).

4.6. Qualification Order and Finals.

1. After all Qualifying Rounds have been completed the Qualification order is established, by taking the total counted points result of each driver.
2. In case of more than one driver recording identical best results of qualifications the next best result is taken.
3. In the case of more than one driver recording identical results in a Final, the driver starting with the higher start number is classified as the faster, e.g. if number 5 and 2 have equal times, 5 is deemed to have the higher final placing.
4. The Sub-Finals and Main Final are run according to the schedule printed in the official race program, which may only be changed by a team managers majority vote.
5. After all Sub-Finals and Main Final are completed, a final result list is prepared based on laps and time, bearing in mind the Sub-Final order. In case of rain see 4.8.

4.7. STARTING FOR SUB-FINALS AND FINAL

Starting for sub-finals and final will be on a 'Le Mans' type grid, with the faster Qualifier starting in front of the slower. Finals, Le Mans start grid:

1. There must be a minimum 5 min. gap between the end of one final and the start of the next final. Also a minimum of 2 minutes must be allowed between the issuing of the transmitters and the start of the final.
2. An audible warning will be given at 1 minute and again at 30 seconds prior to the official start, in English and other languages as appropriate.
3. From 30 seconds until 10 seconds countdown the cars must be held at the starting boxes. If a car is not at the starting box at 10 seconds countdown(due to unforeseen problems) the car may start from the pit lane after other cars have officially started. The race director and referees will monitor for the abuse of this procedure.
4. For all finals, from 10 seconds until 3 seconds prior to the start, a second by second countdown will be made in English.
5. For Le Mans Grid Starts: at 5 seconds prior to the start, the Starter will lower the starting flag and at 3 seconds the flag will be fully down. At this point, all cars must be released by the mechanics, who will all step back 1 meter. The cars must remain in the boxes, no part of the car touching the starting line.
6. From 3 seconds; the verbal count-down stops and the actual start-signal will be given by the Starter after a period of between 0 and 5 seconds has elapsed. If the grid is not to the satisfaction of the Starter, he may require a restart, re-commencing with the count-down from 30 seconds.
7. The official start signal will be audible by means of a 'hooter' (computer operated signal), operated by the Starter/Timekeeping supervisor. This signal will also start the Timing Systems.
8. Jump-starts, (i.e. any part of the car touching the starting line) will be penalised with a 'STOP and GO' penalty. The time for this 'STOP and GO' has

to be set at the team managers meeting before the actual race starts and will have a maximum of 10 seconds. This penalty is issued by the Starting Official, Race Director or the Referee and must be announced immediately after the start. The penalty will be marked on the result-sheet.

9. Under no circumstances will the race be stopped due to a jump-start.
10. The Starter may only interrupt the race and make a restart in the event that he considers the starting procedure, or the start was not carried out correctly.
11. Delayed start: Providing the starter has not called 30 seconds (the trial lap, see 4.3 is part of the procedure after 30 seconds) for the cars to the start line, any participant of the semi-final and final may request a delay of 10 minutes to carry out repairs on his car. This delay can be granted only once for each semi-final and the final. The track must be open. When 10 minutes timeout are finish, time keeping will call for 2 minutes to start. Any driver asking for a delay will start from the end of the grid (11th position to be painted on the track) or from the pit lane in case he is not within time at the grid.

4.8. RAIN PROCEDURE Sub-Finals:

In case of different weather conditions during Sub-Finals, the final classification will be as follows: Place 4 of Sub-Final A and Place 4 of Sub-Final B will both be awarded place 11th equal in the general classification. Place 5 of Sub-Final A and place 5 of Sub-Final B will both be awarded place 13th equal in the general classification and so on…

WET CAR: When a race director declares the race to be wet, a second car can be used as a rain car. This car cannot be used (shared) by another driver/s in the same event. The rain car has to be scrutinised and be visibly marked as a rain car (different colour or different sticker/marks) in due time before it is used. One rain car cannot be marked for several drivers. Multiple marking of the chassis is not allowed. Removing of existing marks to mark the chassis for another driver is not allowed and will be seen as violation of existing regulations. This rain car can only be used in wet conditions and not in dry conditions. This car cannot be used when the heat or final has already started. Once you start (in time) with a rain car you must finish with this rain car.

4.9. RACE INTERRUPTIONS:

1. In the case of a race which is interrupted for more than 60 minutes for reasons beyond the control of the organisers (bad weather conditions with safety risks for all persons at the meeting), the referees together with the Race-director will decide whether to cancel or continue the meeting.
2. In the case of an interruption of a heat the entire heat will be re-run.
3. In the case of an interruption of a sub-final or main final the following procedure will be used:
   A. If less than 10 minutes of a final has been run, the results will be cancelled, and a new start given for the total time of the final. Vehicles may be repaired before the new start.
   B. If more than 10 minutes of the final have been run, the results at the moment of the interruption will be kept. The new start will be given for the time which remains to complete the final. Vehicles may not be repaired before the new start. The two results will be added to give the final and definitive placing. If the second start cannot be made for any reason, the results from the first part will be used as the final and definitive placing.

C. When the interruption takes place after 75% or more of the race is past, the results as at the time of the interruption becomes the final result. At the moment of the interruption of the race, the drivers will leave their vehicles on the start-line under the control of the Race Director. They may switch off the radio and stop the engine. There will be no repairs carried out to the vehicle or changing of tyres. Any driver who does not observe this rule will be immediately disqualified.

5. GENERAL TECHNICAL SPECIFICATIONS

All measurements referred in this appendix are minimum or maximum values. All measurements for the motor dimensions to be considered with 2 digits behind the comma, all other measurements to be considered 1 digit behind the comma. Measurements must be within their maximum or minimum values under all Circumstances.

5.1. TYRES/Rims:

Tyres must be black, except for writing on the side wall (exceptions only after EFRA agreement). Foam and/or rubber tyres can be used. Treatment of tyres with any type of additive is strictly not allowed.

TYRE DIMENSIONS FOR 1/8th: Maximum width of rear tyre: 64.0 mm.

TYRE DIMENSIONS FOR 1/10th: Maximum width of front & rear tyre (across side-walls): 31.0 mm.

5.1.1 SPECIFICATIONS FOR CONTROL TYRE

Definition of Control Tyre: 1 set (front and rear), 1 brand, 1 diameter front, 1 diameter rear, 1 shore for front and 1 shore for rear.

A Control tyre is mandatory for: Controlled time practice (which are used for seeding), Qualifying, Sub-finals and final. Price will be fixed for all EFRA season and will be revised in each AGM:

Price will be set in agreement with EFRA and Manufacturer for the current season.

Diameters for 1/8th: 69.0mm front and 76.0mm rear

Diameters for 1/8th electric stock: 64mm front and 70mm rear - tire trueing in the pit shall be allowed as there exist many different split options between the brands.

Shore hardness for 1/8th: 32 front and 35 rear (final number of shore after consultation with the organiser).

Diameters for 1/10th: 62mm front, 64mm rear

Shore hardness for 1/10th: 37 front and 40 rear (final number of shore after consultation with the organiser)

PROCEDURE FOR CONTROL TYRE (specific rules for drivers): -

- Only EFRA chosen supplier controlled tyres can be used (Hand-outs).
- Reused tyres will be allowed.
- Mandatory sets for official race: 8 (eight) sets. For EFRA GP's minimum sets will be fixed by Section Chairman. Specific for 1/8th electric class: As the class needs less tyres, mandatory quantity of tyres shall be fixed by considering different tire wear..
- When drivers arrive at the track, regarding Official sets of tyres (8 sets) drivers will get tickets to be exchanged in Controlled Area.
- Drivers have to pay for Official Sets directly at the track to the Official Tyre Supplier..
- If the hand out tyres have any visible defects (bad gluing, visible damage to tyre or rim) the effected tyre(s) can be exchanged before the race start

by race control. Production tolerance (including shore hardness) will not be considered as a defect. Tyres must be used as they are supplied and will be given out and fitted in the controlled area. (No modifications to the rims, except the hole for the axle, no shore meters can be used to select tyres)

- During their race time, drivers can use tyres from their box in the controlled area. After finishing their race time, drivers must leave their tyres in their box and leave the pit area without tyres. If any tyre leaves the pit, it cannot be used in the Official race anymore.
- When drivers finish their participation in the event, they can collect their used or unused tyres from the controlled area and keep them.-For free practice, drivers have free choice of tyres used, but no treatment is allowed. From the start of the controlled timed practice, drivers have to use the Hand-out tyres.
- In case of rain (decided by the Race director after consultation with the Section Chairman), any alternative tyre can be used which has not been treated in any way, with the aim to get more or less traction.

PROCEDURE FOR CONTROL TYRE (specific for manufactures/brands)

- Only EFRA registered manufacturers/brands allowed to be Official Tyre Supplier. They must be registered at the Official Tyre Supplier list before 31st of January.
- Requirements to be Official Tyre Supplier for EFRA events:
    1. All manufactures/brands must be Associated Member in EFRA.
    2. They must have enough capacity to provide necessary amount of tyres for EFRA events. The Official tyre suppliers have to provide a minimum sets as follow: Mandatory tyres for Official race + Tyres booked for drivers for free practice + Tyres needed for finals + Margin to cover additional demands no less than 30%
    3. Official Tyre Supplier has to be completely in charge of tyre distribution of tyres. This means: provide tyres directly at the track, take care of all regarding payments (they will accept cash and recommended credit card / Paypal payments), handling Official tyres together with organiser (except controlled area), prepare ticket system and, in general, all minor things needed for the Control Tyre System.
    4. Manufactures must assure a good quality of tyres, which means right hardness (with minimum tolerance), balanced tyres, good quality of gluing and right hole for the axle.
    5. EFRA will carry out control of TYRES during the event at discretion to assure these requirements. EFRA reserves the right to refuse selected manufacturers before the event if they cannot assure quality needed and/or EFRA has the right to ban Manufacturers as Official Tyre Supplier for a period between 1 to 5 years if they don't provided handout tyres according to the EFRA requirements. Decision from EFRA in this point is final.
- Manufacturers/Brands as Official Tyre Supplier have the right to:
    1. To make any promotion by themselves as EFRA Official Tyre Supplier.
    2. To get enough space on the track during EFRA EVENTS to handle all necessary regarding Control Tyre System.
    3. To put banners on the track as EFRA Official Tyre Supplier with a maximum of 5 banners. If more banners on the track or another kind

of advertisement, that will be in agreement with the organiser.
4. To get all benefits for EFRA Associated Members.

- After 31st of January a final list with the Official Tyre Suppliers will be published on the EFRA webpage. In that list, Official Tyre Suppliers will get races according to a rotation list. Rotation list means: First company in the list get first EFRA event. Then, this company goes back to the list, the next one will get the next EFRA event, and then go back to the list, and so on. Agreement between EFRA and Official Tyre Supplier is allowed.
- In the years when there is an IFMAR WC in the EFRA Bloc, all EFRA races at the WC track (Warm up, EFRA GP series...) must be done with the same tyres selected for the IFMAR World Championship. Additionally, if any GP or Warm up must be done on the track at same year where EC will be held, such races will be raced with same tyres.

5.2. Fuel may only contain methanol (methyl alcohol, CAS number 67-56-1), lubricating oil, a small content of anti- corrosion chemicals and maximum 16% for 1/8 and 16% for 1/10 of nitro methane (Cas number 75-52-5) IN WEIGHT (not in volume). The specific gravity of the mixture may not be heavier than 0.859 grams/cc at 20°C and standard atmospheric pressure. For quick testing a Nitromax 16EU can be used, but in case of failure with the Nitromax an official density meter must be used to control the specific gravity of the fuel including the temperature recorded during the test. A specific table will be produced to report the density (grm/cc) based on the temperature (from 0 to 50°C). The tolerance on the measurement will be +/- 0.5% based on the data reported in density table. Any violation with fuel which means any proof of the use of other additives as mentioned will mean 5 years of disqualification from any EFRA and IFMAR event.

If an EFRA World Championship Event is to be run at a Country which permits the use of a heavier content of nitro methane (up to 25% in volume) and the Organizer can ensure EFRA and the participants its supply track side, then the limits will be according to the IFMAR with a maximum 25% of nitro methane (Cas number 75-52-5) in volume, using for quick testing the corresponding Nitromax tool.

5.3. All vehicles must be equipped with brakes and a clutch in such a manner, that the vehicle may be held stationary with the engine running.

5.4. Each motor must be equipped with an exhaust system and inlet silencer (INS-box) to reduce the amount of noise. A Registered muffler and Homologated INS-BOX is mandatory. In case of rain and on instruction of the Race Director, drivers can use something else as an INS box (In this case the INS box is not mandatory). EFRA´s definition of a noise level is always final. Any modification to the muffler or INS Box is forbidden.

5.5. Only EFRA registered mufflers are allowed at EFRA sanctioned events. The EFRA registered number must be engraved on the sidewall of the muffler. The tail pipe must be oriented on or below the horizontal Race directors have the right to measure at track side and take out cars that make too much noise. EFRA´s definition of a noise level is always final. For 1/8th and GT8 IC, a 3-chamber muffler is mandatory. For 1/10th a double chamber design, including silencer chamber, must be fitted.

5.6. The aerial must be flexible. Carbon, metal, etc. is not allowed.

5.7. The body and spoiler must be made of a flexible material and be painted properly. All windows must remain clear or be semi-transparent. When initially entered in a meeting the body must be neatly finished.

5.8. The minimum weight limit of the cars:
1/8th Class: 2350 grams for 4WD cars.
1/10th Class: 1650 grams.
GT8 IC Class : 3500 grams.
GT8 E Class: 3800 grams.
For all Classes: The weight limit will be checked with the cars ready to race but with empty fuel tanks and with transponder (personal or with battery). The weight will be checked on a digital scale balance and can be done before the start of the heat, sub-final, final or after the end of either. If the weight is found to be under the minimum weight the driver will be disqualified from the heat, sub-final or final.

5.9. Baseboard for checking the width of the car.
1/8th Class: The car shall be measured for width by placing it on a baseboard equipped with two side rails of minimum 40.0 mm height spaced 267.0 mm apart and a length of 637.0 mm for Formula and Sports cars and 610.0 mm for GT cars which includes provision for checking the maximum height.
1/10th Class: The cars shall be measured for width by placing it on a baseboard equipped with two side rails of minimum 40.0 mm height spaced 200.0 mm apart and a length of 460.0 mm x 175.0 height (incl. 10 mm spacer).
For both Classes: Base-board and rails must be constructed of high quality board suitably stiffened to prevent distortion. The car must roll freely between the side rails with any steerable wheel set in the straight ahead position without any part of the wheels, bumpers, body shell or any other part of the car touching the side rails irrespective of the compression or extension of the suspension. Measurement of the wheel base may be made by simple measurement of axle centre distance, but Race Directors should be prepared to make more exact checks in case of doubt or protests.
It is suggested that the wheels are removed and the wheel spindles firmly placed on V-blocks whilst accurate measurements are made. It is the responsibility of the driver to ensure that his car complies with the regulation at all times when it is on the track and the organiser may check any car for compliance with the regulations at any time during the race meeting. If a car is found to exceed the limits of dimensions on checking immediately after a race, positive proof of race damage may prevent disqualification.

5.10. Checks at the technical inspection:

a) Before the race all cars will be checked and during the heats the following random checks will be made:
- Weight limit.
- Muffler & motor.
- Body and wing/spoiler.
- Overall dimensions.
  The chassis is to be indelibly marked before the race and if a driver wants to change it, he must present the new and the old to the inspection officer.

b) During sub-finals, all cars moving up to the next final plus the next one are to be checked. In addition to the above mentioned checks the following are to be done during sub-finals:
- Weight limit.
- Muffler.
- Body and wing/spoiler.
- Overall dimensions.
- Marking of the chassis.
- Fuel tank capacity.

c) The same checks must be made after the Main Final for the top 4 places with the additional requirement to check engine compliance.

5.11 Only two (2) servos are allowed.

5.12 It is not allowed to use any electronic parts for "Traction Control and/or braking control (ABS)" which can control the power of the transmission by means of a feedback system. It is not allowed to use any form of telemetry with active transmission.

5.13. List of approved equipment: All lists of approved equipment (i.e. bodies, mufflers and batteries) must be available on EFRA's webpage from the 1st of March every year. This is the final list for that year and no changes will be made before the next year. Equipment registered and homologated during the year will not be put on the list until the 1st of March next year.

6 1/8th CLASS TECHNICAL SPECIFICATIONS.

6.1. The engine may have a total capacity of not more than 3.50 cc. A maximum carburettor diameter of 9.00 mm.

6.2. The fuel tank including filter and fuel pipes up to the carburettor may hold a maximum of 125.00 ml. No loose inserts allowed. Any tank found illegal (>125 ml) after a heat or final shall be removed from the car and inspected for a second time after an initial "cool down period" of approx. 15 minutes. This period of 15 minutes is only necessary if ambient temperatures are above 20° C.

6.3. Overall dimensions of the car:

- Wheel base: 270.0 - 330.0 mm, overall width max. 267.0 mm
- Overall width of the body max.: 267.0 mm, measured on all points on the body.

The lower sides between the two front and rear wheel arches will not be taken into account for technical inspection as long as they are not wider than 277 mm. If the body is wider than 277 mm on the lower sides the technical inspection has the right to take action with a warning for the first occurrence but disqualification from the race result for any further occurrences. For all finals: bodies must first pass technical inspection for verification and a first warning is not applicable.

6.4. Rims: The rim must not exceed 54.0mm. An edge to reinforce the rim on the inside (car-side) of 2.0 mm thickness and 3.0 mm height is allowed, flange diameter max. 60.0 mm. Any fixing bolts or other equipment installed in the wheel rims may not extend beyond the exterior of the wheel rim.

6.5. The front of the vehicle must be equipped with a bumper in such a manner, that it will minimise an injury if it makes contact with other participants or members of the public. The bumper must be made from a flexible material with all corners and sharp edges radiused. The contour of the bumper will follow the contour of the body with which it is being used. At no point may the bumper protrude more than 5.0 mm in front and 13.0 mm on the sides of the body.

6.6. If a rear bumper is fitted it must finish not more than 50.0 mm behind the rear axle. Rear diffuser is allowed as long as they don't finish more than 50.0 mm behind the rear axle.

6.7. All EFRA sanctioned events will be raced with open/closed cockpit prototypes/ sportscars/ can-am type/GT-P's/Group-C or similar cars. All lists of approved equipment, (i.e. Bodies, mufflers and batteries) must be available on EFRA's website from the 1st of March every year. These are the final lists for the year and no changes will be made before the next year. Equipment homologated/ registered during the year will not be put on the list until 1st of March next year.

6.8. A realistic driver figure (minimum 3 colours) made to 1/8 scale must be fixed in

the correct position in open cock-pit cars. The windscreen and windows must be translucent (i.e. Not completely painted-in).

6.9. All bodies must have the front and rear wheel arches cut out if the original was so designed.

6.10. CUT OUTS

The windscreen must not be cut out. One hole of max. 6.0 sq. cm for cooling is permitted-side windows and rear windscreen may be removed..It is not allowed to bend windows to the outside - all parts of the vehicle must be covered, except:

a) Cooling head of engine.
b) Air filter.
c) Aerial (max. 10.0 mm).
d) Outlet pipe of muffler.
e) Fuel filler cap.
f) Roll-over bar.

Only if these parts are extending the body. Cut-outs for above mentioned parts are to have no more than 10.0 mm clearance. In addition to this, the following holes are allowed:

g) For muffler outlet.
h) For fuel filler cap (50.0 mm maximum, round, viewed from above, or oval 40 mm x 60mm maximum). Note: Hole for roll-over bar and fuel filler cap can be combined. It's not allowed to combine fuel filler cap with Air filter hole and/or cooling head engine hole.

The following rules refer to the GT-P/Group-C body: In case of the Proto types or open cockpit cars, a clearance of 10 mm around the fuel filler cap is allowed.

i) For radio switch (max. 10.0 mm)
j) For glow plug (max. 20.0 mm).
k) Fuel mixture valve (max 15.0 mm).

6.11. Specific body attributes:

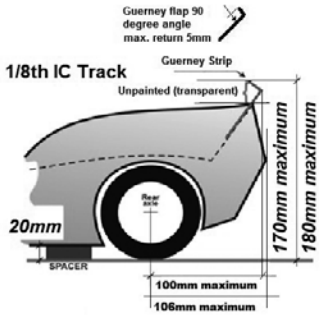
a) Group C: Cars eligible for this class are those that have been used under "Group C" rules in the FISA Sportscar World Championship.
b) GT1/GT2-Cars: Cars eligible for this class are those that are or have been racing in FIA GT Class. This can be either GT1 or GT2 cars like McLaren F1, Porsche 968 GT1, Ferrari F40, Marcos etc. The cut-out of the body at the rear is free after the rear axle, but rear lights must be fitted if the original is equipped with these.
c) GT-P cars, eligible for this class are those that are or have been racing in the FIA "GT-P" class (see Le Mans 1999), or the Petit Le Mans Series in America.
d) Proto type CAN-AM cars: eligible for this class are those that are of have been racing in any official championship.

Homologation procedure: For all types of cars, the body shape behind the rear axle is not subject to control. The outer edge of the wheels must be covered at the centre of the axles viewed from the top. All bodies must be homologated by EFRA. The homologation number of the body must to be visible, during the painting it will be possible to maintain transparent or semi-transparent the EFRA number.

Minimum weight of the body:145 grams. The body must be ready to race, which means, painted with gurney trip, stiffness, stickers and any other allowed parts. It's not allowed to add extra weight into the body to set up minimum weight. Clarification of extra weight: any part/glue that is only used to set up minimum weight of the body and also it could be used to improve performance in any

way. It's allowed to add glue or adhesives to strengthen of the body

6.12. Wings and Spoilers:
Separate wings and spoilers are not allowed. Only a Gurney strip mounted on the rear of the body is allowed. The "Gurney" should not be higher than 5mm with a 90 degrees angle (see drawing). Maximum height for the body, side and rear wing is 170mm with the chassis raised on 20 mm blocs. This maximum height with the Gurney Strip is 180 mm on a 20 mm spacer.
The maximum overhang is 100 mm measured from the rear axle centre point. See drawing.
Maximum dimensions: Group "C", GT-P, Can-Am, GT1 and GT2 cars max. width: 267 mm, max. height: 170 mm (180mm for flat chassis pancars) (on 20 mm blocs). Overall, maximum height including a Gurney strip 180 mm (190mm for flat chassis pancars) (on 20 mm blocs). Max distance behind rear axle: 100 mm (110 mm for 2wd & flat chassis cars).



6.13. 4WD cars can be used without any technical restrictions except those listed in Section 5. The use of separate front wheel brakes, except through transmission is also not allowed (locking of a one-way bearing is allowed).

6.14. A roll bar may be fitted which must not project more than 30 mm above the cooling fins or roof, in case of, for instance a saloon car.

7 1/10th CLASS TECHNICAL SPECIFICATIONS:

7.1. The engine may have a total capacity of not more than 2.11 cc. Engines will be air-cooled, with front rotary valve, two-stroke induction. The engines may have a maximum of four (4) ports in the liner, including the exhaust port, seen with the piston at lowest position. No form of forced induction is allowed. No form of variable port timing.
Only glow plug ignition is allowed. One additional gap in the bottom (skirt) of the piston is allowed. No additional holes in the piston are allowed. Additional slits or holes in the liner for cooling purposes are allowed as long as they do not reach the top of the piston at lowest position. Standard and conical glow plugs are allowed. Reference to 'hole' in this rule means any hole that is surrounded completely by material.

7.2. Engine internal modifications are allowed as long as they are within parameters of rule 7.1.

7.3. A maximum carburettor diameter of 5,50 mm.

7.4. The fuel tank including filter and fuel pipes up to the carburettor, may hold a maximum of 75.00 ml. No loose inserts allowed. Any tank found illegal (>75.00 ml) after a heat or final will be removed from the car and inspected for a second time after an initial "cool down period" of 15 minutes. This period of 15 minutes is only necessary in case the ambient temperatures are above 20°C.

7.5. Overall dimensions:

	Min. (mm)	Max. (mm)
Wheelbase:	230.0	270.0
Width without body:	170.0	200.0
Width with body:	175.0	205.0
Length incl. body & wing:	360.0	460.0

Height of the top of the roof (measured with a 10 mm spacer under the chassis plate level):	120.0	175.0
Wing width incl. side dams:	125.0	200.0
Wing:		55.0
Side dams:		35.0 x 50.0
Wing overhang (at rear):		10.0
Wheel dia. (measured at tyre bead location):	46.0	50.0
Wheel width (incl. tyre bead) and tyre width (across side walls):		
Front:		31.0
Rear:		31.0

Although the wheel diameter at tyre bead mounting location must not exceed 50.0 mm diameter, an edge to reinforce the rim of 2.0 mm thickness and 3.0 mm height is allowed, giving an overall wheel diameter max. 56.0 mm

7.6. Wheels must be fixed by a screw or nut. The screw or nut installed in the wheel rims may not extend beyond the exterior of the wheel rim. Quick change wheel systems are not allowed. No automatic / spring charged or electric system to change the wheels is allowed (only manpower).

7.7. The front bumper must follow the body contour and must be constructed so as to minimise injury that may result from being hit by a car. The bumper must be made from foam rubber or a flexible plastic material.

7.8. Bodies must be a 1/10 scale touring car in character, their design being inspired by vehicles that exist or have existed and must comply to the GLOBAL BODY SPEC 1/10th IC Track. Bodies need to be sent to the Body shell Homologation Officer for approval as indicated in appendix 9.

The EFRA Registration Number has to be embossed in the body at an edge of the front window.

Minimum weight of the body: 90 grams. The body must be ready to race, which means, painted with rear wing (rear wing can be painted or clear), stickers and any other allowed parts. It's not allowed to add extra weight into the body to set up minimum weight. Clarification of extra weight: any part/glue that is only used to set up minimum weight of the body and also it could be used to improve performance in any way. It's allowed to add glue or adhesives to strengthen of the body.

7.9. The rear of the body may not be cut higher than 50.0 mm measured with a 10.0 mm spacer under the chassis plate when level.

7.10. Details of all; front and rear lights, grills, air intakes and windows must be clearly contrasted from the surrounded paintwork. No parts of the car except the muffler outlet may protrude outside of the body shell, when viewed from above. No parts of the car except the antenna, body posts, transponder, may protrude outside the body shell, when viewed from the side wall. No additions or reshaping to the original moulded body shell (no body stiffeners allowed).

7.11. Cuts outs:

Only the following holes and sizes are permitted in the body shells:

- Maximum two holes may be cut with a maximum diameter of 60.0mm each. **Note:** holes may not be combined. Minimum distance between holes: 5,0mm.
- A hole with max. diameter of 35.0mm is allowed just above the engine cooling head for easy glow plug access but cannot be combined with any other hole, minimum distance between holes: 5.0mm.
- Both front side windows and rear window can be removed for ventilation, but not the side rear windows, which must remain intact. Small holes can be made

for the body posts, transponder, carburettor adjustment and radio antenna (max. dia. of 10mm).
- The hole for exhaust pipe must be of reasonable size.
- No other holes are permitted.

7.12. Wings and spoilers:
- One wing and one spoiler may be mounted to any car (if the original full-size car had more, it is allowed to do the same). Wing and spoiler must be made from a flexible material.
- Wing and spoiler may not be fixed to body with piano wire (they must be mounted directly to the body).
- Wing and spoiler must not protrude outside the maximum height and width of the body (incl. the side dams).
- Rear wings must be mounted in the same place as was intended by the body manufacturer. The overhang must not exceed 10 mm at the furthest point, measured from the most rear point of the body.
- Side dams may be fitted but must be a reasonable representation of those fitted do the original car, fit in a rectangle with the measurements defined, and must not project above the height of the roofline.
- The height of the wing may be adjusted but the wing, including side dams, must not extend higher than the roofline.
- Wings (excluding side dams) are to be of single moulded construction (no flat packs/bend your own).
- Any sticker or graphics will not be allowed on any part of the roof, independent of size and/or position.

7.13. 4WD and 2WD cars can be used without any technical restriction except those listed in Section 7. The use of separate front wheel brakes, except through trans.

7.14. Roll bars (roll over bars) must be kept under the body.

9. PENALTIES

9.1. Referees must issue a verbal blue flag warning to slower drivers or to make drivers that are not within the same lap as the car that is about to pass him, to make way and not to obstruct the passing car. This warning must be announced "ATTENTION DRIVER (Name)".

9.2. Failure to respond to the verbal blue flag will result in an official warning and the driver must make a mandatory pit-stop for 10 seconds. During this mandatory stop the Referee will administer the official warning directly to the driver. In the case that there is no possibility to call a driver for a stop and go penalty, the Referee and/or Race Director will announce a time penalty of 10 seconds.

9.3. Any driver who is given 2 (two) official warnings will be immediately disqualified from the race in progress. After 3 (three) warnings the driver will be disqualified from the entire event.

9.4. Deliberate waiting for other cars will be treated as a verbal blue flag offence and a"Stop/Go"penalty issued. The Referee will advise the driver that his behaviour has been noted and that he should race normally. Failure to follow the Referees instructions will result in immediate disqualification. In the case that there is no possibility to call a driver for a stop and go penalty, the Referee and/or Race Director will announce a time penalty of 10 seconds.

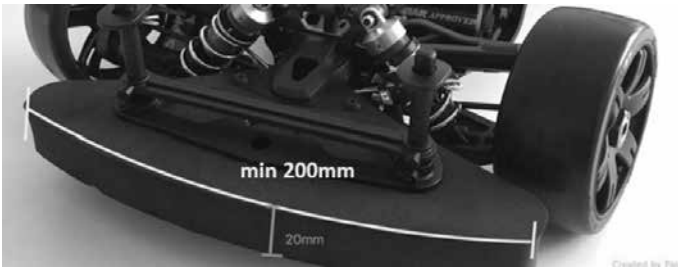
9.5. Deliberate obstruction of other cars in an attempt to influence the result of a race will lead to immediate disqualification and loss of his/her International Registration until after the next event of the same kind. (e.g. GP/EC/WC).

9.6. The complete car and fuel gun to be over the board for fuelling. Failing this will result in a stop and go penalty or drive through depending on the track, and discretion of Referee.

10. GT TECHNICAL RULES

10.1 Technical rules

A WET car can be used once the race has been declared WET by the race director.
The chassis must have a minimum kick-up 5 degrees in front. No carbon fibre chassis allowed. The kick-up needs to have a minimum length of 30mm and lower suspension arms must be mounted on the kick-up.
Kick-up must start at a reference point from the middle point of the gearbox (or main gear) min 100/max 230mm.
Drive shafts must be used all around. All driveshaft must be made in steel (not lightweight materials like Aluminium or Titanium).
Brake System: Maximum 2 brake system in Central Drive Shaft / Central braking only on crown wheel (spur gear). Only standard mechanical brakes are permitted. Up to two brake discs are permitted anywhere on the centre driveshafts. Brakes may not be located on the outboard axles.
One-ways, spools, locking "Torsion-type," or externally adjustable differentials are not permitted. Front & Rear geared Differentials can only be tuned with the use of silicone-based oils. No centre differential allowed. Ball differentials not allowed/only gear differentials. Front and Rear differential gear ratios must be identical. Front or rear underdrive or overdrive is not permitted. The rear differential must be "finger proof", so it must be at least partly covered in case of an open differential. The final drive ratio front and rear must be the same.
Overall dimensions of the chassis:
Height: minimum height 155.0mm with chassis plate on 20mm blocks.
Wheel base between 320-379mm
Length Maximum: 590mm
Width max 310.0mm, including wheels, axles and wheel-nuts.
The front of the car must be equipped with a bumper made from flexible "foam" material with all corners and edges rounded off. The contour of the bumper will follow the contour of the body. The bumper may not protrude in front of the body. Minimum dimensions 200 x 20mm.



The maximum capacity for the fuel tank is150cc max, including all internal tubing.
The Clutch must be a centrifugal type with a maximum of 4 shoes. No axial engagement of the shoes (No "Centax" Type clutches). Clutch must use radial centrifugal shoes only in conjunction with Std parallel sided cylindrical clutch bell similar design to the unit shown.
Direct Drive, i.e. single speed or maximum two speed gear box allowed.

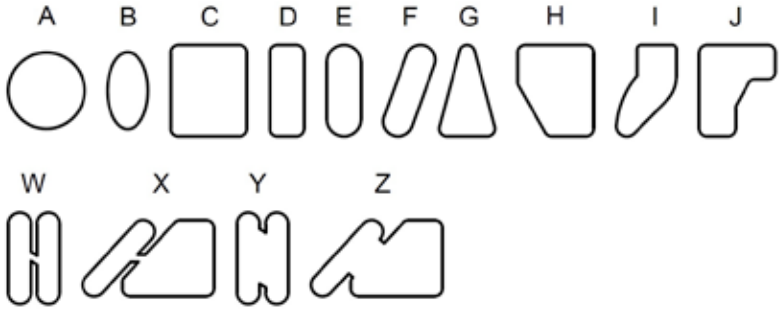
10.2 Engine rules

Engines allowed will be .21 or 3.5cc engines. Maximum carburettor diameter is 7mm. The motor shall be air cooled. Conical plugs allowed.

Number of Ports. 3 Outlet ports, is defined as consisting of 1 (one) main Outlet port and 2 outlet booster ports, regardless the name and dimensions, every hole is to be considered as one of the 3 allowed.

A maximum of 5 inlet ports or booster ports. Any hole will be considered as one of the 5 allowed.

The definition of 'port' is a hole in the cylinder liner for fuel inlet or exhaust extraction. The inlet and exhaust holes/ports can be any regular recognised shape, eg. Circle, Ellipse, Square, Rectangle, Triangle, Pentagon etc., or Polygon shapes that are recognised as not being regular shapes joined with a 'slot' or hole. Corners and ends of any shape can be radiused and any individual side does not have to be a straight line. A maximum of two additional "lubrication" holes are allowed under the exhaust ports, with the restriction they will start opening with the piston closing the exhaust port Examples:- Shapes A to J are allowed. Shapes X to Z are not allowed. See drawing below:



The INS box is mandatory.

Engines must be capable of running a heat of minimum 7 minutes on one tank of 150cc fuel to avoid excessive tuning.

Approved / registrated or homologated 3 chamber mufflers according to the EFRA list, including INS box list . It is not allowed to use some kind of trumpet to direct the exhaust fumes outside for muffler outlet pipe, they make too much noise. Using a rubber stinger on the outlet pipe is OK, as long as the noise is not higher. Definition of Trumpet in this instance: Any addition to the pipe or body that increases the DB levels, as determined by race management. Bodyshell mounted exhaust deflectors with the sole aim of preventing exhaust byproducts (ie oil) to remain inside the body shell or impact the rear tyres are permitted so long as these are mounted in such a way as not to be seen as adding significant weight to an underweight body shell and should only be mounted with plastic hardware or glue. These must be made from flexible lexan type materials only - rigid/hard materials such as 3D printed deflectors are not allowed.

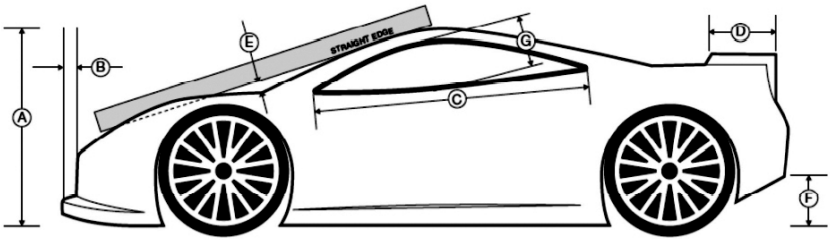
10.3 Body Rules

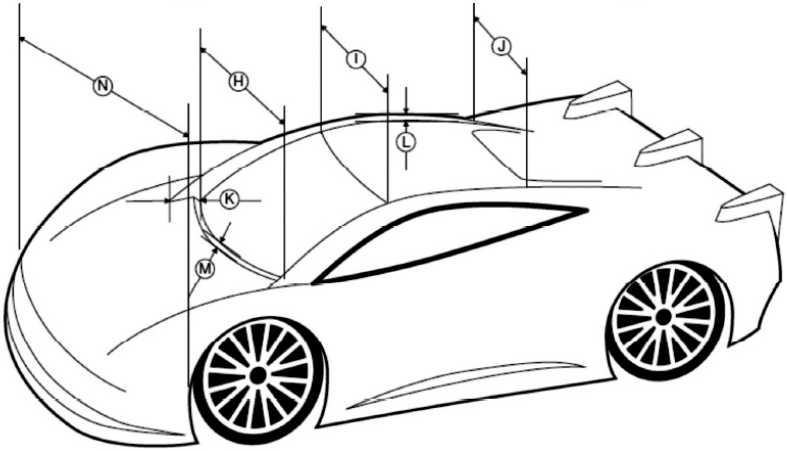
Bodies must be EFRA homologated (carry the EFRA number in the windscreen AND be on the current year homologation list) and have been previously commercially available at least 3 months prior to the EC 1/8th scale GT1, GT2, Super GT, DTM, or V8 Supercar cars, 2 door GT bodies.

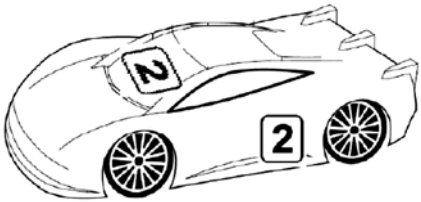
At least a body with a separate wing like in touring cars. Height of wing

max. 10mm higher as rooftop. Measurement taken with chassis plate on the ground. The roof cannot be designed in such a way that ribs or vins are used to manipulate the height. The measurement of the height of the car is done on the highest point of the rooftop, excluding any air intake scoops, ridges or any other extention from the actual true rooftop Maximum width body 317mm. Wing compared to body and wing overhang, same as sedan 1/10th class, max 20mm. Wing can be unpainted/clear.
Wing width max 310 mm, including side plates, but never wider at the rear of the body. Wing chord max 80 mm. Wing endplates maximum 40 x 80mm.
The body must be mounted to the sprung mass of the car at front and rear. No mounting on the suspension uprights allowed.
Minimum weight of the body: 250 grams. The body must be ready to race, which means, painted with rear wing, stickers and any other allowed parts. It's not allowed to add extra weight into the body to set up minimum weight. Clarification of extra weight: any part/glue that is only used to set up minimum weight of the body and also it could be used to improve performance in any way. It's allowed to add glue or adhesives to strengthen of the body. Flexible exhaust deflectors which are mounted to the bodyshell in such a way as to not be construed to add significant weight and can only be mounted with plastic hardware or glue.
The body must have visible windows, body panel and trim markings, and the windows must be mostly clear. Some intrusion for creative painting purposes and tinting is permitted, but the windows must be transparent. Bodies must have headlights and grill details.
1 piece body moulding to avoid internal aerodynamics. A diffuser mounted on the rear of the chassis is allowed as long as it stays inside the body and not wider as the inner measurement of the wheels. The diffuser must be made of flexible material without any sharp edges.
No internal body supports / stiffeners / braces allowed to avoid lightweight bodies with internal modifications and add-ons, excluding reinforcement of the wheel arches and back boot lit is allowed. The body must rest on a maximum of 7 posts, of which 5 can protrude outside the bodies. The wing must rest on maximum 3 body posts which are not wider as 50x 20 mm each.
The body must be made from an existing car design, for which the name must be mentioned on the request for homologation. After been approved the name of the body is free to avoid license fees etc.
Bodies must be within the GBS dimensions by IFMAR. See drawings below.

A) Minimum 155,0mm (with chassis on 20mm blocs),
B) Maximum 15 mm depth
C) Minimum 170mm
D) Maximum 3 posts 50mm x 20 mm
E) Minimum 12,0mm, gap between straight edge bottom and hood plane where it meets windshield.
F) Maximum 75,0mm (with chassis on 20mm blocs)
G) Minimum 36mm
H) Minimum 200mm
I) Minimum 145mm
J) Minimum 130mm (top inside edge of C-pillar)
K) Maximum 8mm depth of A-pillar above the windshield surface plane
L) Maximum 5mm height of outer roof rail above the roof surface plane
M) Maximum 4mm stagger between hood and windshield
N) Maximum 317mm, minimum 300mm overall width

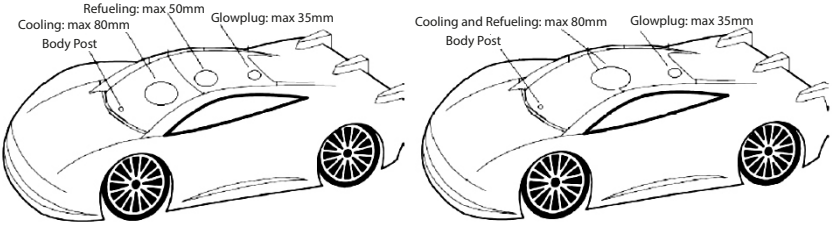






Numbering of the cars. Cars will be numbered 1 to 10 or 1-12 in each heat. The car must have 3 numbers. Only the numbers supplied by EFRA will be used on the cars. They may not be cut out to eliminate the background. 2 Numbers on the sides in front of the rear wheels, 1 in front on the hood or window. These numbers will change during the qualifying heats (after re-seeding).
EFRA will provide other numbers for altered heats and for sub-finals and final.

Holes in the body. Holes in the body for fuel-gun, fuel tank opener, aerial, glow-plug, carburetor access and exhaust. Rear and side windows may be removed. Maximum height of 75mm cut-out at rear on 20mm blocks. One opening may be made in the front windscreen with a maximum dimension of 80.0mm in any direction for refueling and/of engine cooling. An additional hole for refueling in the roof of 50mm is allowed and 35mm for the glow plug. Minimum distance between holes is 5mm. An extra hole for ty-rap to open tank in the front windscreen will be allowed, max. 10mm See drawings:



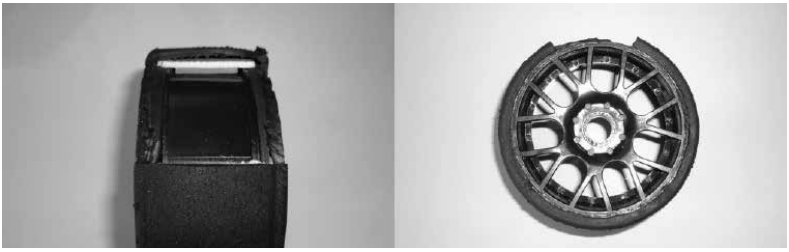
10.4 Tyre Rules

Controlled tyres for all EFRA events for GT class which means 1 brand. The official tyre supplier must be EFRA ASSOCIATE MEMBER. Procedure about selection of manufacturer and how to manage tires on the track must be according to the rule 5.1.1. Appendix 1 PROCEDURE FOR CONTROL TIRE. EFRA has to be informed of the price of set of tyre and EFRA has the right to impose a fix price for a set of tyres. Once chosen for an event the same manufacturer is not allowed to supply tyres for the next EFRA GT event.

Tyres for front and rear are the same dimensions. The tyres must be made of rubber, no foam tyres. An insert is allowed. Tyres must be limited per driver for practice and race with only 1 extra set for the main final. Tyres must therefore be impounded, 1 box per driver. Holes in the rubber tyres are allowed, so as the rim will be better for temperature. No additives on the tyres allowed under any circumstances.

Tyres width, max 45mm

Rim measurement, spoke design, see picture. No dish like rims.



Rim Off set positive, +/- 7 mm because the use of controlled tyres.

The rims must have a minimum 75mm and maximum 85mm diameter.

The minimum diameter of a tyre must have at any point in the race will be 98mm and maximum is 102mm. One compound to be used for the entire event under dry conditions and one specific different set in case of rain.

Wheels must use a 17mm hex hub consistent with the dimensions and function of the hubs used in 1/8 off road racing. The wheel must be affixed by a 17mm wheel nut, threaded on to the hex hub. Quick change mechanisms are not permitted.

Number of control tyres for an EFRA event must be specified and will depend on track layout and tyre wear. This will be announced in the Stage1 report A drivers allocated control tyres will be used from Control Timed Practice up to and including the drivers FIRST final. For each bump-up final and main final drivers can purchase 1 additional set per final driven. All used tyres from the drivers initial allocation available for re-use during ALL finals.

As a recommendation EFRA will advise 3 sets for the whole official event

which include control time practice, qualification and 1 final. (excluding free practice). For bump-ups and main final it will be available extra sets. All used tyres available for re-use. Tyre changes during finals are permitted only using the tyres from the drivers original allocation.
In the event of event being declared WET by the race director the use of WET tyres is free (no control tyre required once the event has been declared WET)

10.5 PROHIBITED or NOT ALLOWED

- Use of one way bearings, except for the 1st gear of a 2-speed transmission.
- Belts.
- Extra Body support struts for lightweight bodies, except those mentioned in the rules.
- The use of traction control devices, active suspension devices and any steering control aided by gyroscopes/'G'-force sensors is strictly forbidden.
- 4 wheel brakes. Independent controlled braking on the front wheels is not allowed.
- Hydraulic braking systems.
- More than 2-speed transmissions.
- Quick change wheel systems are not allowed, or the use of electric, spring or flywheel based tools to change wheels.

11 ELECTRIC 1/8th CARS

11.1. Car must be an 8th scale electrically powered character representation of a racing car within the given dimensions. Maximum width of car is 267 mm, this excludes the body shell which has it's own dimensional rules.

11.2. On all cars braking must be a combination of electronic speed controller and motor (dynamic braking) only via the single speed fixed transmission to the rear wheels.

11.3. All cars must be fitted with a failsafe device, this can also be incorporated into the receiver or speed controller.

11.4. 1/8 Scale Electric Track Cars will be driven by Lithium based batteries with a nominal voltage of no more than 15.2 volts (4S). It is allowed to use 2 x 2S or 4 x 1S. If multiple individual batteries are connected together (in parallel or series), then all batteries used must be of the same manufacturer brand and same Part Number.
Only homologated batteries shown on the EFRA Approved Lists on the official EFRA website will be legal for use at EFRA sanctioned events.
All Lithium Batteries must comply with the published data shown on the EFRA Approved Battery Lists. Batteries that are not compliant with the dimensional rules or published weights will not be allowed.
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 penalised 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.
The maximum charging cut-off voltage is 4.20v per cell in series (16.80v for 4S). Organisers can check this voltage at any time during the event.
All Rules concerning:- Technical Specifications, Race Procedures, Homologation Procedures, for Lithium Batteries can be found in NEW APPENDIX 4.
SUSPENSION CLASS (4wd With Suspension)

11.5. Minimum weight to be 2500g (ready to race).

11.6. The brushless motor (maximum of 2800kv) and speed controller combination must be or have been previously commercially available and have a maximum recommended retail price (RRP) of 500 Euro including all taxes. The motor must have a 5mm pinion shaft.

11.7. Speed controller reverse operation must be disabled.

FLAT PAN CLASS (4wd Without Suspension)

11.8. Fixed chassis cars without any moving suspension components. No dampers allowed, or springs. No oil may be used other than on bearings/belts and drivetrain.

11.9. Minimum weight to be 2100g (ready to race).

11.10. The brushless motor (Maximum of 2200kv) and speed controller combination must be or have been previously commercially available and have a maximum Euro recommended retail price (RRP) of 500 Euro including all taxes. The motor must have a 5mm pinion shaft.

11.11. Speed controller reverse operation must be disabled.

11.12. BODIES

Bodies must follow same rules like 1/8th IC cars (see 6.7 to 6.9 Appendix 1).

11.13. CUTS OUTS

One cut out for cooling of motor and esc is permitted with a total area of 40x40mm. Conveying guides inside the body are permitted but no outside additions.

11.14. WINGS AND SPOILERS

Wings and spoilers must follow same rule like IC cars (see 6.12 Appendix 1).

RACE FORMAT

11.15. QUALIFICATION

1. Heats must be separate between categories: modified and stock. If the number of drivers in one category is less than 10 drivers, all drivers racing in 1/8th electric class must race together and then, and results will be separated.
2. The Qualifying Heats will be 5 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds
3. 5 Rounds of Qualifying will be run, irrespective of the number of drivers. Qualifying will be 5 minutes + last lap
4. In Qualifying Rounds the Round by Round point system will be used (same system as IC cars, see 2.4 Appendix 1).
5. The qualifying heats will be a maximum of 10 drivers and where possible equal number of drivers in each.
6. Starting for qualifying heats will be from the start line or pit lane, using the staggered start system (one by one). In each Round, the order of starting Heats will be same as rule 4.2 Appendix 1.
7. The qualifying results will determine the composition of all finals with the top 10 proceeding to the "A" final and so on down.

11.16. FINALS

1. Durations for finals will be: 5 minutes + last lap (flat pan cars) and 5 minutes + last lap (suspension cars).
2. There will be 10 drivers in all finals where possible. Finals will be organized for all competitors. 3. If the lowest Final has less than 3 drivers, they will be mixed as equally as possible in the next Final, respecting their qualifying position for their start order.
3. If the lowest Final has less than 3 drivers, they will be mixed as equally as

possible in the next Final, respecting their qualifying position for their start order.

4. The winner determined from the combined "A" finals will be the champion. If the A finals cannot be completed, the awards will be made based on the final Qualifying positions.
5. All finals will be run in 3 legs from slow to fast.
6. If three leg finals are run, then the best 2 out of 3 to count
7. The winner of a final gets 1 point; the second gets 2 points and so on up to 10 points for the 10th driver. In the event of a tie regarding time in a Final, the points will be equally awarded to each driver and the next driver not tying will be two points more.
8. In the event of a tied position the driver with the single highest finishing position in either of the best 2 finals that counted will be awarded the tie. In the event of a continuing tie then the laps and times from the highest finishing position will be compared. The driver with the fastest laps and time total will be awarded the tie. In the case of a continuing tie, then the times from the second-best position will be compared. When some drivers of a final do not run a final, they will be awarded the remaining points in the order of their car numbers.
9. Cars, which do not pass the start/finish line after the prescribed race time, will be classified according to the number of laps recorded. The "A" finalist with the lowest number of points will be the winner of the International Race.
10. All final results will be published at least 10 minutes before prize giving.
11. There will be awards at least for all "A" finalists, and the winners of any other final. If no round of Final(s) are completed the results of the event are taken on qualifying positions.

12 GT ELECTRIC POWERED (GT EP)

All electric final groups will consist of 3 legs for all with a duration of 7 minutes per leg.Construction and

Technical rules of the GP class should be followed with the below EP rules being specific deviations for the electric class. Where there is no rule below the GP rule will be followed. Brushless motors with the following maximum dimensions:

Brushless motors with the following maximum dimensions:

Diameter: max . 44 mm

Length: max . 75 mm

Motors with and without sensor are allowed.

The use of a WET car is allowed once the race has been declared WET by the race director .

GT Electric Track Cars will be driven by Lithium based batteries with a nominal voltage of no more than 15 .2 volts (4S). It is allowed to use 2 x 2S or 1 x4S.

If multiple individual batteries are connected together (in parallel or series), then all batteries used must be of the same manufacturer brand and same Part Number.

Only homologated batteries shown on the EFRA Approved Lists on the official EFRA website will be legal for use at EFRA sanctioned events. All Lithium Batteries must comply with the published data shown on the EFRA Approved Battery Lists. Batteries that are not compliant with the dimensional rules or published weights will not be allowed .

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 penalised 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.
The maximum charging cut-off voltage is 4.20v per cell in series (16.80v for 4S). Organisers can check this voltage at any time during the event.
All Rules concerning:- Technical Specifications, Race Procedures, Homologation Procedures, for Lithium Batteries can be found in NEW APPENDIX 4.
Motors should have a maximum KV rating of 2800.
In GT EP cars is not allowed to cut the front windshield. The antenna hole (10 mm) and side windows can be cut out. Rear window can be removed. Additional cooling holes in the front where normally is the radiator of the respective body are allowed. If the dimensions of a single hole is bigger than 10 x 12 mm the area needs to be covered from inside with a corresponding grid.
The electrical / electronic equipment consists of the battery (LiPo hardcase), controller (ESC) and a servo for steering. Electronic driving aids such as ESP and ABS are prohibited. Telemetry is allowed as long as they function is part of the remote control and the receiver, as well as the associated sensors. This applies also to passive devices for recording data, and video that have no device for radio transmission. No kick up needed.
No Chassis Kick Up is required but can be used. Chassis material can be carbon fibre or aluminium alloy. No other materials are allowed such as titanium.
The EP class will have the same number of controlled tyres as the GP class and follow the controlled tyre procedures . The only exception being that as EP class do not have bump-up finals EP drivers cannot purchase additional tyres for the finals and must use the original tyre allocation for all track events including all final legs.

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APPENDIX 2
1/8th SCALE OFF ROAD CARS

1. ALLOCATIONS FOR EUROPEAN CHAMPIONSHIPS

1.1. The number of drivers and the National Allocations for the European Championships will be decided upon at the EFRA AGM annually according the following chart.

	GP	EC B	ECA/ ECA+	EC Masters40+	Electro 1/8
Days	Fri./Sun.	Fri./Sun.	Tue./Sat.	Fri./Sun.	Fri./Sun
Min/Max No of drivers	120/144 max	120/144 max	150/180	120/144	120/144 max
The Venue (Track, Rostrum, pits space, commodities, etc…) must be sufficient for all participants.					
Recommended Date	2nd weekend of the month	2nd weekend June	2nd weekend July	2nd weekend September	Late August or late September
Compulsory Registration	EFRA or National	EFRA	EFRA	EFRA	EFRA
Allocation	NO	YES	YES	YES	YES
Restrictions	NO	See 1.5	NO	NO	NO

1.2. EC A+ with more than 150 drivers can only be allocated to federations that have already organized a successful EC B or EC A in the precedent years.
The National Federation must confirm the capacity of the organizer for an event with more than 150 drivers. In order to ensure the appropiate rotation in thevenues of ECA & ECB, when considering aplications for each kind of event, the venues who had not allocated one of those in the preceeding 3 years will have preference.

1.3. For allocation and re-allocation procedures see General Rules 3.6. and 6.2.
At ECA and EC Brushless up to 24 spots may be offered for overseas drivers following a reciprocal or global agreement

1.4. If a driver has not registered by midday on the first day of the event, then his place can be re-allocated or deleted from the list unless that driver has contacted the organiser to explain his reason for not registering on time.

1.5. A 4WD European Championship for B Class drivers may be organized each year. Entries will not be allowed for drivers who have already won that event or who have ranked in the first forty (40) places of any of the preceding two (2) 1/8th Off Road EC A Championships and to any driver who has ever taken part in an EFRA European Championship A main final in any class of racing in the last 15 years. To be run if possible the 2nd weekend of June.

1.6. Allocations lists with reallocations for EC A & B to be published on EFRA website: 5 weeks before the first day of the event.

1.7. a). A Masters40+ EC may be organized each year, Preferably Mid September. A designated tyre system may be used for this event following a decision made at the previous section meeting.
b) An Electro 1/8 Buggy event may be organized each year, preferably late August of late September and out of summer season if it is hold indoors.
The Main final to be 3 races of 10 minutes duration.

1.8 All European Championship organizers must inform EFRA before 31 December the year before about the best tyre combinations for their track.

2. RACING FORMAT EUROPEAN CHAMPIONSHIPS AND G.P.

2.1 All Events, formats and timetables should be adapted to the real number of entrants and facilities. The 3 days events, i.e. the GPs, the European Championship for B class drivers and all other ECs but ECA will have the same format as specified in the following rules adapted to a 3 day event with only four (4) attempts at qualification, only two (2) to count, weather permitting. Entries will be limited to 120 drivers, special allowance can be given by the EFRA AGM Section Meeting up to a maximum figure of 144 drivers, and reseeding of the heats will only be done in case of clear necessity on the criteria of the R.D. and Referee. Order of the rounds will be always the same, from 1 to 12. With the fastest drivers into the last groups. At the GP held at the event intended to host the European Championships in the previous year and in the same year i.e. the warm up event, the full race program should be used and tested including the reseeding of heats after practice.

2.2 QUALIFICATION HEATS:

a) If the host country wants to, and the facilities can accommodate 180 drivers, qualifying rounds can be up to 15 cars. This decision will be made by the Section Chairman, the Referee and the Race Director.

b) Each driver should be entitled to a maximum of 5 attempts at qualification, weather permitting.

c) Starting for qualifying will be with "Flying start". The track will be opened normally with a 3 minute warning to the start, this will be announced through the sound system, you will also get the time "2 minutes to start", "1 minute to start", "30 seconds to start" and "10 seconds to start". Deliberate stops waiting for the signal at the track and cutting the track to find a better position in it are infringements to be penalized unless otherwise authorized by common decision of the Race Director and the Referees communicated at the Team Manager Meeting
The announcement: "Clock is running" will indicate that the heat has started.
All qualifying runs and finals are ran by "time plus next lap" system.
Qualifying heats are of 5 minutes duration.

d) All drivers will be entitled to a sub-final.

e) Heats will be run, normally, in the following sequence for the 5 qualifying rounds:
Round 1: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15
Round 2: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 1, 2, 3
Round 3: 8, 9, 10, 11, 12, 13, 14, 15, 1, 2, 3, 4, 5, 6, 7
Round 4: 10, 11, 12, 13, 14, 15, 1, 2, 3, 4, 5, 6, 7, 8, 9
Round 5: 12, 13, 14, 15, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11

f) When the first car finish its qualifying time then no other car is allowed to exit the pit lane after being served by the mechanics.

2.3. TIMED PRACTICE SYSTEM

a) The practice for drivers will only be run in the way of rounds in heat order. On Tuesday there will be at least 5 rounds of practice, all of at least 5 minutes track time. On Wednesday before the start of the 2 rounds of Reseeding there will be a "track shake-down round" early in the morning, only the Wednesday Reseeding rounds will count for reseeding. These rounds will be of 10 minutes duration with the last 5 minutes timed. Announced as rule

2.2. if needed. Best 3 consecutive laps inside the whole 10 minutes or the complete last 5 minutes may be used for reseeding purposes. The selection of the reseeding system is done by the Race Director, the Timekeeper and the Referees and must be clearly advised before the start of practice. Results of the timed practices will be published (laps and times). Points will be awarded according to the result selected for reseeding in each round. The best single point result scored out of these two rounds will be used to sort drivers by performance and to reseed them before the real qualifying rounds. In event of a tie second point result will be taken into account to solve the tie.

b) Reseeding: After timed practice and subject to frequencies and common sense the top 24 drivers will be place in the last 2 heats with correspondent number of each country up to a maximum of 5 drivers in each heat. The first 2 drivers take 1st place in the last 2 heat heats, next 2 in second place and so on. Use this system to include 144/180 drivers and avoid small teams being placed in the same heat. The sort out problems round after reseeding can be done either the afternoon immediately after the opening ceremony or early morning the next day.

2.4. QUALIFYING SYSTEM

In each round drivers will score points based on laps and times achieved. 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.

(NOTE: drivers not recording a time in any Round score points corresponding to the total of entrants to the event, not modifying other drivers result inside that round, failure to marshal at a round will result in a 16 place demotion that will be applied to the drivers final qualifying position when all qualifying has been completed.).

Overall Qualifying positions are decided by each drivers "best" (lowest) points being added together, based on the number of rounds to count . In the event of a tied position the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (eg. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared.

Out of 5 (five) completed rounds 3 (three) to count .

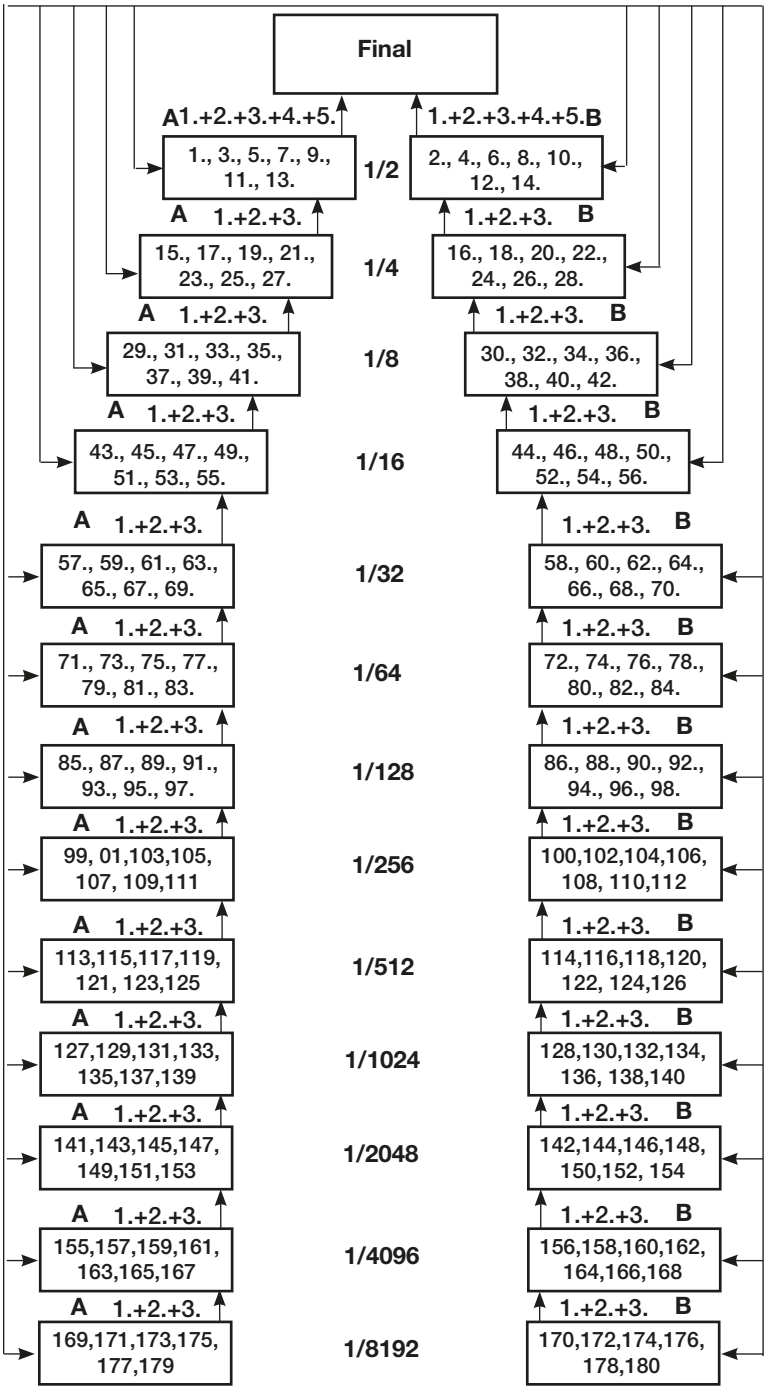
Out of 3 (three) and 4 (four) completed rounds 2 (two) to count .

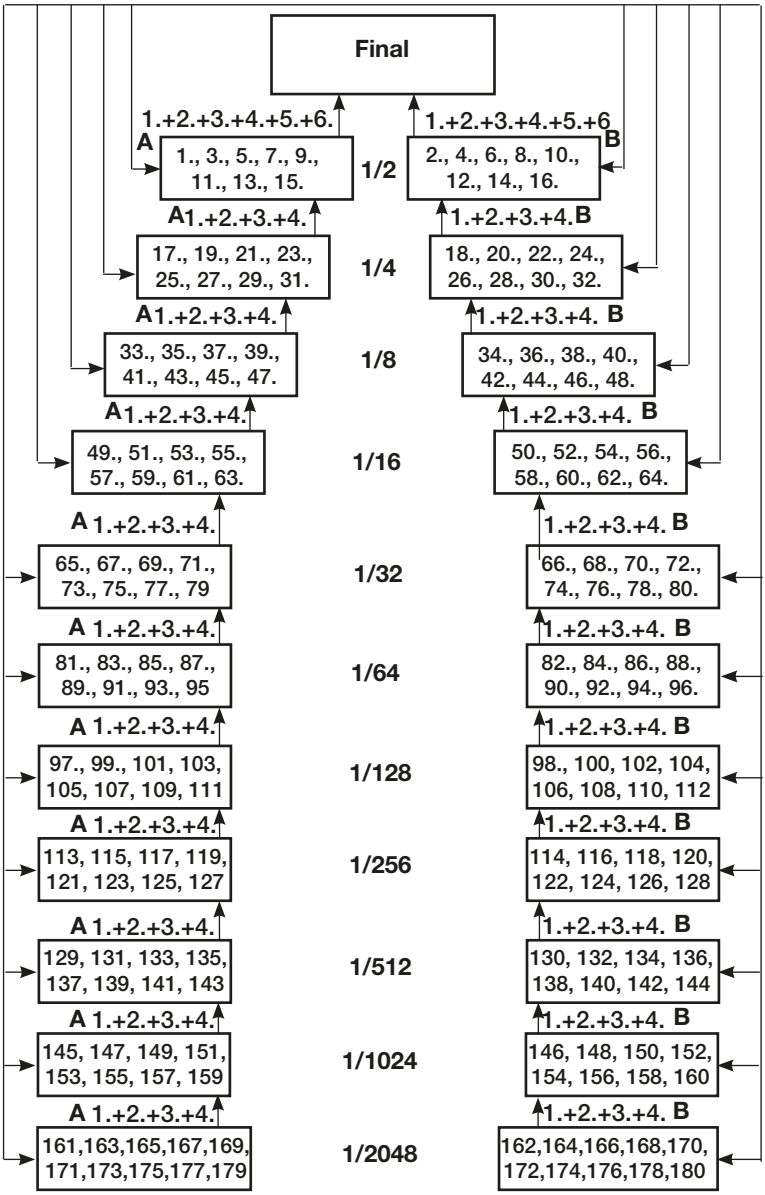
Out of 1 (one) and 2 (two) completed rounds 1 (one) to count.

2.5 FINALS

All finals can be of 12 cars with 4 cars progressing to next final, and 6 cars from each semi final proceeding to Main A Final, together with a 13th car, that spot will be decided on a race of 15 minutes duration, after the first exhibition final.

Marshaling at ALL FINALS will be done either by one of this 2 systems or by a combination of both: 1.- By providing a marshall by each driver taking part in the final to cover the marshalling position of his car number, if there is no marshall then the driver can not race and must cover that empty position and/


Final
A1.+2.+3.+4.+5.
1.+2.+3.+4.+5.B
1., 3., 5., 7., 9., 11., 13.
1/2
2., 4., 6., 8., 10., 12., 14.
A 1.+2.+3.
1.+2.+3. B
15., 17., 19., 21., 23., 25., 27.
1/4
16., 18., 20., 22., 24., 26., 28.
A 1.+2.+3.
1.+2.+3. B
29., 31., 33., 35., 37., 39., 41.
1/8
30., 32., 34., 36., 38., 40., 42.
A 1.+2.+3.
1.+2.+3. B
43., 45., 47., 49., 51., 53., 55.
1/16
44., 46., 48., 50., 52., 54., 56.
A 1.+2.+3.
1.+2.+3. B
57., 59., 61., 63., 65., 67., 69.
1/32
58., 60., 62., 64., 66., 68., 70.
A 1.+2.+3.
1.+2.+3. B
71., 73., 75., 77., 79., 81., 83.
1/64
72., 74., 76., 78., 80., 82., 84.
A 1.+2.+3.
1.+2.+3. B
85., 87., 89., 91., 93., 95., 97.
1/128
86., 88., 90., 92., 94., 96., 98.
A 1.+2.+3.
1.+2.+3. B
99, 01,103,105, 107, 109,111
1/256
100,102,104,106, 108, 110,112
A 1.+2.+3.
1.+2.+3. B
113,115,117,119, 121, 123,125
1/512
114,116,118,120, 122, 124,126
A 1.+2.+3.
1.+2.+3. B
127,129,131,133, 135,137,139
1/1024
128,130,132,134, 136, 138,140
A 1.+2.+3.
1.+2.+3. B
141,143,145,147, 149,151,153
1/2048
142,144,146,148, 150,152, 154
A 1.+2.+3.
1.+2.+3. B
155,157,159,161, 163,165,167
1/4096
156,158,160,162, 164,166,168
A 1.+2.+3.
1.+2.+3. B
169,171,173,175, 177,179
1/8192
170,172,174,176, 178,180


Final
1.+2.+3.+4.+5.+6.
A
1., 3., 5., 7., 9., 11., 13., 15.
1/2
2., 4., 6., 8., 10., 12., 14., 16.
1.+2.+3.+4.+5.+6
B
A1.+2.+3.+4.
17., 19., 21., 23., 25., 27., 29., 31.
1/4
18., 20., 22., 24., 26., 28., 30., 32.
1.+2.+3.+4.B
A1.+2.+3.+4.
33., 35., 37., 39., 41., 43., 45., 47.
1/8
34., 36., 38., 40., 42., 44., 46., 48.
1.+2.+3.+4. B
A1.+2.+3.+4.
49., 51., 53., 55., 57., 59., 61., 63.
1/16
50., 52., 54., 56., 58., 60., 62., 64.
1.+2.+3.+4. B
A 1.+2.+3.+4.
65., 67., 69., 71., 73., 75., 77., 79
1/32
66., 68., 70., 72., 74., 76., 78., 80.
1.+2.+3.+4. B
A 1.+2.+3.+4.
81., 83., 85., 87., 89., 91., 93., 95
1/64
82., 84., 86., 88., 90., 92., 94., 96.
1.+2.+3.+4. B
A 1.+2.+3.+4.
97., 99., 101, 103, 105, 107, 109, 111
1/128
98., 100, 102, 104, 106, 108, 110, 112
1.+2.+3.+4. B
A 1.+2.+3.+4.
113, 115, 117, 119, 121, 123, 125, 127
1/256
114, 116, 118, 120, 122, 124, 126, 128
1.+2.+3.+4. B
A 1.+2.+3.+4.
129, 131, 133, 135, 137, 139, 141, 143
1/512
130, 132, 134, 136, 138, 140, 142, 144
1.+2.+3.+4. B
A 1.+2.+3.+4.
145, 147, 149, 151, 153, 155, 157, 159
1/1024
146, 148, 150, 152, 154, 156, 158, 160
1.+2.+3.+4. B
A 1.+2.+3.+4.
161,163,165,167,169, 171,173,175,177,179
1/2048
162,164,166,168,170, 172,174,176,178,180
1.+2.+3.+4. B

or 2.- The driver marshal the precedent final of his side of the Christmas Tree with the non filled positions over 8 positions covered by the organizer, with same penalty for non present, not to drive later on.
"A" series sub-finals will be composed of Odd places drivers following qualification. "B" series sub-finals will be composed of Even placed drivers after qualification. Every qualifying driver must progress to the main final in accordance with the accompanying Christmas tree. All sub-finals up to and including 1/128th A and B will be of 15 minutes duration. Then from 1/64th to quarter finals 20 minutes, Semi-final A and B 20/30 minutes, the final should be 45/ 60 minutes. The top 3 (three) / 4 (four) from each up to the quarter finals progressing to the next sub-final and the first 5 (five) / 6 (six) from each semi-final progressing to the Main Final. After the finish of the quarter finals each semi finalist ("A" and "B") is entitled to 10 minutes practice time with numbers and appropriate radio frequencies (See attached Christmas tree). TQ driver after qualifying will have the right to practice in both semifinals. First semifinal to start no sooner than15 minutes after the end of practices. If the first subfinal is 1/1024 or less then all subfinals will be 20 minutes duration. There will be an exhibition final for +40 drivers after the 2 semi finals and before the main final, length of the final will be 20 minutes. Drivers will qualify for that final according to their results achieved at qualification rounds, top 10/12 will have the right to compete in this final except those who have reached the semi finals.
There will be an exhibition final for under 17 drivers after the Masters40+ final before the main final, length of the final will be 20 minutes. Under 17 final is for all drivers who are 16 or younger on the 1st January of the year of competition. Drivers will qualify for that final according to their results achieved in the qualification rounds, top 10/12 will have the right to compete at this final. In the case of no under 17 driver in the main final, then the winner of the under 17 final will be the junior European Champion.

2.6. TIMETABLE

The timetable for E.C. shall be as follows: The Race Organiser should schedule all events for each day to be completed and the track closed by 20:00. Maximum daily activity at the track to be 12 hours.

TUESDAY	A.M. Registration & Technical Inspection + 1st & 2nd rounds Timed Practice (5 minutes) P.M. 3rd, 4th & 5th rounds Timed Practice (5 minutes)
WEDNESDAY	Early in the morning shake-down round + from 10:00 2 Reseeding rounds (10 minutes) P.M. OPENING CEREMONY Reseeding of drivers from Reseeding round points. Top 24 in last 2 heats 25-48 in next preceeding 2 heats 49-72 in next preceeding 2 heats 73-96 in next preceeding 2 heats 97-120 in next preceeding 2 heats 121-144 in next preceeding 2 heats 145-180 in first 3 heats 1 round of timed practice in the new reseed groups to sort out problems
THURSDAY	3 rounds qualifying
FRIDAY	A.M. 2 rounds qualifying P.M. 1/8192 Finals A & B (A is run first)

1/4096 Finals A & B
1/2048 Finals A & B
1/1024 Finals A & B
1/512 Finals A & B
1/256 Finals A & B
1/128 Finals A & B

SATURDAY 64 Finals through to "A" Final
Final to commence 15.30

Official Prize Giving Ceremony to be held after Main Final at a time to be announced by the Organisers.

2.7 **DRIVING FORMAT FOR 1:8 OR ELECTRIC FOR EUROPEAN CHAMPIONSHIP**

2.7.1 QUALIFICATION HEATS Like rule 2.2

2.7.2 TIMED PRACTICE SYSTEM

a) The practice for drivers will only be run in the way of rounds in heat order. On Friday there will be 5 rounds of practice, 1st, 2nd & 3rd of 5 minutes duration and a 4th and 5th of 10 minutes track time if possible. The two (2) last rounds of controlled practice, (named as 4th & 5th previously) will count for reseeding and be known as Reseeding Round 1 & 2. These rounds will be of 10 minutes duration. Results of the timed practices will be published (laps and times). Points will be awarded according to the result selected for reseeding in each reseeding round. The best single point result scored out of these two rounds will be used to sort drivers by performance and to reseed them before the real qualifying rounds. In event of a tie the best time and laps out of the counted result will be taken into account to solve the tie..

b) Reseeding: After timed practice and subject to frequencies and common sense the top 24 drivers will be place in the last 2 heats with equal number of each country up to a maximum of 5 drivers in each heat. The first 2 drivers take 1st place in the last 2 heats, next 2 in second place at each heat and so on. Use this system to include 120/144 drivers and avoid small teams being placed in the same heat. The sort out problems round after reseeding can be done alternatively Friday afternoon after the opening ceremony or early Saturday morning.

2.7.3 QUALIFYING SYSTEM Like rule 2.4

2.7.4 FINALS 12 fastest drivers will qualify for A-final.
Drivers placed from 13 to 25 will be placed to B-final.

1-12 → A-final
13-25 → B-final
26-37 → C-final
38-49 → D-final
50-61 → E-final
62-73 → F-final
74-85 → G-final

Finals will start with the last chance final for drivers qualified to B final.
All finalists entitled to a practice final except those at the B final that run the last chance final.
There will be 13 drivers and the fastest will bump up to A-final, 13th position on the grid. From there the finals will run from lower finals towards A-final. Duration of finals will be 10 minutes. All finals are run 3 times, counting 2 fastest by points. The winner of a final gets 1 point; the second gets 2 points and so on up to 13 points for the 13th driver. In the event of a tie regarding time in a Final, the points will be equally awarded to each driver and the next

driver not tying will be two points more. In the event of a tied position the driver with the single highest finishing position in either of the best 2 finals that counted will be awarded the tie. In the event of a continuing tie then the laps and times from the highest finishing position will be compared. In the case of a continuing tie, then the times from the second best position will be compared. When some drivers of a final do not run a final, they will be awarded maximum points +1. If final rounds are cancelled due to weather conditions or unforeseen circumstances, 1 out of 1 or 1 out of 2 rounds is calculated.

Only at FINAL A: 240 seconds (4 minutes) of time-out to be requested up to 30 seconds to the start, only for mechanical problems (to be verified by the race director) and only one time per leg and the driver asking for time will be placed last on the starting grid at that A final leg. The other cars must remain at parc ferme (as indicated by the race director). The remaining cars are allowed to be switched off only.

For any Class that has rules that decides the Champion at EC or GP events by running multiple 'A' (Main) Finals, then when the Champion for the event has been declared, this driver will not take part in any further Finals that are to be run. This only applies to 'A' (Main) Finals.

TIMETABLE

2.7.5 Friday: Registration and technical inspection 3 rounds of free practice 5 minutes of duration 2 rounds of timed practice for reseeding, 10 minutes in duration Opening ceremony Sort out problem round (if needed)

Saturday: 5 rounds of qualifying Sunday Last chance final 3 rounds of finals Exhibition final (youth and/or +40) Price giving ceremony All days recommended to end by 18:30.

3. TRACK

Minimum Width: 4 metres with 25 cm tolerance, and a posible exception for 10-12 meters chicane with a minumum there of 3 meters.wide.

Minimum Length: 250 metres

3.1 SURFACE

Artificial surfaces should be of the same type used for road construction.

They must not be potentially dangerous or pollutant.

Within the total length of the track 50 percent (50%) minimum must be from natural soil.

Any section made from artificial surface must not be longer than ten (10) metres.

A natural soil section must always separate two (2) artificial surface sections.

At place of the lap counting antenna, there must not be any metallic structure.

Deterioration of the natural soil area must not uncover obstacles in the transit area between natural soil and artificial surface (overlapping slope must be smooth and of sufficient length).

The track must be suitably drained.

3.2 JUMPS AND OBSTACLES

Their sizes must be in relation with the scale of the car.

3.3 SAFETY

Safety for everybody must be the most important aspect when designing a track and at every moment while race is on progress. All non authorised people will have to leave the track area when the call 1 minute to start is given. Press and media will be informed of this rule by the organizer.

3.4 MAINTENANCE

The track surface may only be repaired at the following moments:
Any time at the end of any practice round during practice days, and after the practice and before the qualifying rounds.
At the end of day one of qualifying.
At the end of qualifying and/or at the end of the second day of qualifying.
The Race Director can authorise repairs, if he considers the track to be unsafe at any time with the agreement of the referees.

3.5 OTHER TRACK SPECIFICATIONS

3.5.1 A pit lane must be provided that has a convenient and safe entrance and exit to and from the racing surface. It must be separated from the racing surface by a secure barrier. There must be a second barrier of at least the same specifications of the outer barrier between the pit lane and the working pit areas. The design of the pit lane access and exit must be done to prevent high speed racing at the pit-lane.

3.5.2 All refuelling, repairing, or servicing of cars must be accomplished with the vehicle fully behind the barrier between the pit lane and the working pit area, and not in or over the pit lane. Cars may be placed on top of the pit wall for servicing provided the wall has been designed so that the car is secure and stable.

4. RACE PROCEDURES

Race procedures shall be as follows with the addition of the non contradictory rules of section 4 of Appendix 1 up to 4.9, basically part of 4.1 (mechanics position), rule 4.3 , rule 4.7.7 to 4.7.11 and rule 4.9 . It is forbidden to cut the track during the warm-up minutes unless otherwise advised and it is forbidden to overtake while the formation lap is on progress (if existing). It is not allowed to the mechanics go to or to come back from the starting grid when count down has started, penalty for that is a 10 seconds stop & go.
For all finals & qualifying, drivers with the lowest starting numbers may choose their position on the rostrum (at qualifying to be choosen only 1 time previously to its start) and the mechanics must stand under the driver where this is possible or in the same order.
In case a race cannot be completed for whatever reason the final ranking will be made as follow:
Ranking of sub finals will be used up to the level where the last pair of sub finals A & B have been run.
Above that level, for the remaining drivers, the qualification ranking will be used.

	A	B	
Final	Not Raced	Not Raced	↑ Ranking Qualification
….	Not Raced	Not Raced	
Sub Final N	Raced and void	Not Raced	
Sub Final N-1	Raced	Raced	↑ Ranking Sub finals
….	Raced	Raced	
Sub Final N-x	Raced	Raced	

Parc Fermé:
All cars of the the first semi-final will be impounded in parc fermé during the

later semi-final. All cars of both semi-finals will be released at the same time.
Delayed Start:
As long as the starter has not called the cars to the start line (30 seconds to the start call), every participant of the semi-finals and the final may request a delay of ten (10) minutes for repairs on his car. The delay will be granted only once for each semi final and main final. The track shall be closed to all cars during the delay period. The driver that asked for the delay has to start last from the startgrid (11th or 13th position). At the Chart, the one raced and void must be the A side, first column (we always race A first).

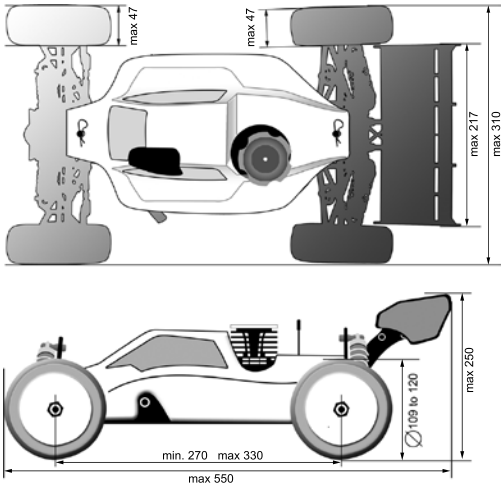
4.1 The track for a European Championship MUST be either newly built or repaired to a 50% new layout before the day it is open for the main event practice. Whether the track is a new track made for the event or an existing track it can not be open to drivers for practice before the day the official practice is scheduled. The National Federation and the organising Club must forbid any use of this track 4 weeks before the event. One car may be run by the event organisers for a maximum of 20 minutes, to prove the suitability of the new lay-out.

4.2 For Electric 1/8th all finals will use a "Le Mans" or "F1" type grid start, with a minimum of 3 meter alternating intervals with two rows of cars. Cars must be placed forward facing to their markerline or start box.
If F1 start is used, then the Top Qualifier shall choose if the first car on the grid shall start on either left or right side and shall be used for all finals.

5. TECHNICAL SPECIFICATIONS

4 WD 1:8 OFF ROAD CARS

5.1. GENERAL DIMENSIONS



a) Overall length 550 mm maximum
b) Overall width 310 mm maximum with the car standing over 27 mm blocs
c) Wheelbase 270 - 330 mm.
d) Overall height measured from the ground including rollbar with full suspension compression 250 mm. maximum (this measurement does not include the receiver aerial).

e) Minimum weight is 3.200 kg for 4 WD.
f) No other function than steering and throttle/brake are allowed to be operated with the Radio Control by the driver. Any other electronic system placed in the car different than the personal transponder and a possible switch on-off is not allowed with the sole exception for the Electric cars of its Motor, the Speedo and Fans.
g) Wheel overall diameter must be between 109 and 120 mm. Wheel overall width 47 mm maximum.
h) 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 distorsion.
i) The front of the vehicle chassis must be equipped with a plastic bumper (no metal at all) in such a manner that it will minimise damage in the case of it entering into contact with other participants, marshals or any person. The bumper must be made from flexible material (plastic) with all corners and sharp edges rounded off. If a rear bumper is used it must follow the same principles.

5.2. ENGINES & TANK

a) Internal combustion engines with maximum capacity 3.5 ccm.
b) Fuel tank capacity: 125 ccm including all piping tubes and filter up to the carburettor.
The tank shall be measured using the official EFRA measuring cylinder or in the event of damage to the official cylinder, a cylinder to DIN standard.
c) The capacity of the fuel tank must not be adjusted by insertion of any loose object
d) Any tank found illegal (>125 ml) after a heat or final shall be removed from the car and inspected for a second time after an initial "cool down period" of 15 minutes. This period of 15 minutes is only necessary in case the track air temperature is above 20° C.

5.3. SILENCER

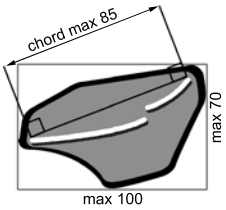
5.3.1 Each engine must be equipped with an exhaust system and inlet silencer to reduce the amount of noise generated by the car.
The maximum noise level for a muffler with INS box is 83 dB´s, measured at ten (10) metres distance and one (1) metre high for a single car.
EFRA´s definition of a noise level is always final.
Only EFRA homologated mufflers published for the season are allowed on EFRA sanctioned events. The EFRA homologation number must be engraved/laser marked on the sidewall of the muffler.

5.3.3 EFRA may noise test any car at any time during the event. EFRA noise testing equipment will make all tests regarding noise levels. EFRA's definition of noise is final. From 2017 when the noise trap is in use penalties may be given at qualifying (loss of the drivers best result) or finals (minus 1 lap on the final).

5.4. TYRES

All tyres must be black with the exception of side wall lettering and a side wall dot circle (max. 7mm) or a thin line (max. 3mm) to indicate the hardness of the compound. The application of any additives within the event perimeter is strictly forbidden. The penalty for that is immediate disqualification.
No spikes, tubes or additional items intended to increase traction may be either glued to the outside of tyres or passed through tyres from the inside. All EFRA ECs on 3 days scheme can be run under a designated wheel (insert, tyre and wheel to be the same for all drivers) system, no use of tyre additives are allowed at all.

5.5. WINGS



The rear wing with a maximum overall size 217 mm length and a chord of no more than 85 mm may be fitted. -The multiplane wings are authorized -The width of 85 mm is measured between the lower leading edge and the higher trailing edge. The side dams of the wing must have the IFMAR dimensions: "The side dams of the wing must have a maximum horizontal width of 100 mm and a maximum height of 70 mm. (irrespective of the orientation)

The side dams must be able to contain a square area of minimum 40 mm width and a minimum height of 50 mm to place the car identification numbers".

- The single of multiplane wing must be registered inside the contour of the side dams.
- A front wing, in between the front shock absorber holder and the front of the body-shell is valid, on condition to be made of Lexan or equivalent material (carbon fibre is forbidden) and that it is cut so as not to injure a marshal who may take the car by the front. No sharp angles are allowed, all angles must be rounded. All other front wings are prohibited, wings on wishbones are prohibited. There will be no other aerodynamic aid to the body-shell other that the 2 wings allowed here.
- The wing and the side dams must be made out of flexible material, no carbon fibre, with angles rounded.

5.6. APPEARANCE

a) Cars shall be a reasonable representation of the style of car used for offroad, desert or trial racing.

b) Full bodyshells of saloon style are permitted but may only be trimmed to expose a maximum of 50% of the tyres at full suspension depression. If such bodyshells are fitted, provision for trimming shall be as in Section 5.6d.

c) Where a roll-cage is fitted, an open wheel style bodyshell must be fitted underneath the cage so designed as to enclose R/C equipment and fuel tank with sufficient front and side areas to allow clear display of racing numbers.

d) Openings may be cut in the shell for the mounting posts, the antenna and the pipe ends and to allow access to fuel filler, switch, and engine adjustments, and a maximum of a third of the wind screen to assist in cooling the engine if not already opened by the fuel tank access. **Clearance around such ítems shall be kept to a minimum.** The front and rear ends of the shell must retain some of the original profile of the two ends of the shell.

e) The car parts holding the car identification number must be fitted, if it becomes loose or detached it must be fixed in the immediate next lap.
"Acceptance of a saloon bodyshell by another EFRA Section shall be deemed to simply approval by the Off-Road Section for racing purposes".

5.7. 1/8th Offroad all European Championships should only use 16%EU. Fuel may only contain methanol (methyl alcohol) CAS number 67-56-1), lubricating oil, a small content of anticorrosion chemicals and maximum 16% of nitro methane (Cas number 75-52-5) IN WEIGHT (not in volume). The specific gravity of the mixture may not be heavier than 0.859 grams/cc at 20°C and standard atmospheric pressure. For quick testing a Nitromax 16EU can be used, but in case of failure with the Nitromax an official density meter must be used to control the specific gravity of the fuel including the temperature recorded during the

test. A specific table will be produced to report the density (gr/cc) based on the temperature (from 0 to 50°C) The tolerance on the measurement will be +/- 0.5% based on the data reported in density table. Any violation with fuel which means any proof of the use of other additives as mentioned will means 5 years of disqualification from any EFRA and IFMAR event. If an EFRA Event is to be run at a Country which permits the use of a heavier content of nitro methane (up to 25 % in volume) and the Organizer can ensure EFRA and the participants its supply track side, then the first part of the former 5.7 rule wording will enter in force: "Fuel may only contain methanol (methyl alcohol) CAS number 67-56-1), lubricating oil, a small content of anti-corrosion chemicals and maximum 25% of nitro methane (Cas number 75-52-5) in volume. The specific gravity of the mixture may not be heavier than 0.91 grams/cc at 20°C and standard atmospheric pressure. For quick testing a Nitromax 25 can be used".

5.8 Electric 1/8th Technical

5.8.1 MOTORS:

Can : Maximum overall length is 77.00 mm measured from the mounting face of the motor to the furthest most point of the end bell, not including solder tabs, lead wires or original manufacturer's logo or name. Motor mounting holes must be on 1.00- inch (25.40mm) centers.

Stator: Motor stator maximum outside diameter is 39 mm.

Rotor: External shaft diameter shall be 5mm with a maximum 12-slot stator.

5.8.2 BATTERIES:

1/8 Scale Electric Off-Road Cars will be driven by Lithium based batteries with a nominal voltage of no more than 15.2 volts (4S). It is allowed to use 2 x 2S or 4 x 1S. If multiple individual batteries are connected together (in parallel or series), then all batteries used must be of the same manufacturer brand and same Part Number.

Only homologated batteries shown on the EFRA Approved Lists on the official EFRA website will be legal for use at EFRA sanctioned events.

All Lithium Batteries must comply with the published data shown on the EFRA Approved Battery Lists. Batteries that are not compliant with the dimensional rules or published weights will not be allowed.

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 penalised 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.

The maximum charging cut-off voltage is 4.20v per. cell in series (16.80v for 4S). Organisers can check this voltage at any time during the event.

All Rules concerning:- Technical Specifications, Race Procedures, Homologation Procedures, for Lithium Batteries can be found in NEW APPENDIX 4.

TRANSMISSION AND DRIVE:

- Single speed transmissions only
- 4WD
- No reverse mode allowed.

5.8.4 BODYSHELLS

Body Style: The body has to be able to carry the EFRA Numbers at the front and both sides as high as possible, the wing sidedams plates are also a valid place for side numbers. The body has to have a real car shape.

Body shell holes/vents: Only 9 ventilation holes with a maximum diameter of 10 mm, the body mounting holes and one small hole for the antenna are allowed.

Windows are not allowed to be removed. All Gears and connectors must be covered from above.

5.8.5 SPECIAL ELECTRIC SAFETY RULES

At Technical inspection it will be checked that no battery shows any deformity or manipulation. Batteries have to be firmly attached and protected by the chassis or body.

Maximum voltage before any run 16:80 v before the start of the run.

6. NATIONS CUP

At every European Championship A&B EFRA will hold a Nations Cup, with drivers competing as a team representing their countries. Before the start of the official qualifying rounds each Team Manager will provide the Race Director with a maximum of four (4) names of drivers which will represent their country at this Nations Cup. Out of this four drivers the best result in points according to their final position achieved of the best three (3) of them will be added together and give the result of their National Team.

7. TROPHIES

The organiser must furnish, at least, the following trophies for the prize giving ceremony:

- Appropriate trophy for positions 1-2-3 at the 4 standard classifications, Absolute final, Female results, under 17 final and over 40 final.
- Trophy for the winner of each other electric final.
- Trophy for positions 4-13 of the Absolute final classification.
- TQ Trophy, to be presented after classification is completed.
- 3 pairs of plates for the Mechanics of positions 1-2-3 of the Absolute final classification EC A and EC B.
- 3 set of 5 plates to the Nations Cup positions 1-2-3. EC A and EC B
- 1 Trophy for the manufacturer of the winner car at the EFRA EC A
- 1 Trophy for the manufacturer of the winner engine at the EFRA EC A
- 1 Trophy for the manufacturer of the winner tires at the EFRA EC A

8. EFRA RANKING LIST 1/8 BUGGY

A general classification shall be published at the end of the racing season.

The sum of the 4 best results in points of the last 3 seasons to be the final score of each driver. Points shall be given as follows:

EFRA GP1 (Less than 30 drivers)

50	46	42	38	34	32	30	28	26	24
22	21	20	19	18	17	16	15	14	13
12	11	10	9	8	7	6	5	4	3

EFRA GP2 (30 to 60 drivers)

75	71	67	63	61	59	57	55	53	51
49	48	47	46	45	44	43	42	41	40
39	38	37	36	35	34	33	32	31	30
29	28	27	26	25	24	23	22	21	20
19	18	17	16	15	14	13	12	11	10
9	8	7	6	5	4	3	2	1	1

EFRA GP3 (60 drivers plus)

100	96	92	88	84	82	80	78	76	74
73	72	71	70	69	68	67	66	65	64
63	62	61	60	59	58	57	56	55	54
53	52	51	50	49	48	47	46	45	44
43	42	41	40	39	38	37	36	35	34
33	32	31	30	29	28	27	26	25	24
23	22	21	20	19	18	17	16	15	14
13	12	11	10	9	8	7	6	5	4
3	2	1	(1 for places greater than 83)						

EUROPEAN CHAMPIONSHIP

300	280	260	240	220	210	200	190	180	170
165	160	155	150	145	140	135	130	125	120
115	110	105	100	99	98	97	96	95	94
93	92	91	90	89	88	87	86	85	84
83	82	81	80	79	78	77	76	75	74
73	72	71	70	69	68	67	66	65	64
63	62	61	60	59	58	57	56	55	54
53	52	51	50	49	48	47	46	45	44
43	42	41	40	39	38	37	36	35	34
33	32	31	30	29	28	27	26	25	24
23	22	21	20	19	18	17	16	15	14
13	12	11	10	9	8	7	6	5	4
3	3	3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2	2	2

1 for places greater than 140

WORLD CHAMPIONSHIP

500	450	400	350	320	290	260	230	200	170
160	155	150	145	140	135	130	125	120	115
110	105	100	95	90	89	88	87	86	85
84	83	82	81	80	79	78	77	76	75
74	73	72	71	70	69	68	67	66	65
64	63	62	61	60	59	58	57	56	55
54	53	52	51	50	49	48	47	46	45
44	43	42	41	40	39	38	37	36	35
34	33	32	31	30	29	28	27	26	25
24	23	22	21	20	19	18	17	16	15
14	13	12	11	10	9	8	7	6	5
4	4	4	4	4	4	4	4	4	4
3	3	3	3	3	3	3	3	3	3
2	2	2	2	2	2	2	2	2	2

1 for places greater than 140

For the latest news and updates go to www.efta.ws or click *here*

APPENDIX 3
ELECTRIC CARS
A GENERAL
1. RACETRACK SPECIFICATIONS for electric classes

1.1.1 For EFRA-sanctioned events, where non-permanent tracks are used, the track plans have to be submitted to the Section Chairman for approval.

1.1.2 Track-design must include both right and left-hand turns and one or more straights.

1.1.3 Minimum track length: 120 meters.

1.1.4 Outside barriers must provide a positive means of stopping a car that misses a corner or runs out of control.

1.1.5 Track marking equipment must be such a shape and size to prevent the entrapment of a car or the drivers view becoming obscured. 'Horizontally laid triangular column' shaped barriers and 'Bot dots' are not to be used.

1.1.6 Farthest point of the track must not be more than 50 meters away from driver's rostrum.

1.1.7 Time-keeping: preferable on a slow part of the track to enable accurate counting.

1.1.8 Marshall positions based on car numbers must be equally spread around the track. It should be clear which part of the track the specified position is responsible for.

1.1.9 A 220-volt electrical supply must be available at EC meetings with one outlet for every four drivers in close proximity to their pitting area. All safety precautions must be observed.

1.1.10 For the EFRA staggered start system one start line must be marked across the track, preferably close to the time-keeping's pick-up loop position (otherwise two).

1.1.11 All finals will use a "F1" type grid start with a minimum of 2/3 meter alternating intervals (Sections to determine) with two rows of cars. Cars must be placed forward facing to their marker-line or startbox.

1.1.12 Wherever possible the start line(s) must be accessible without crossing any other part of the track, i.e. accessible from the external boundaries.

1.1.13 The start line will be white or yellow coloured, have a minimum width of 5cm and shall cover the total width of the track and will also be marked on the barriers. There shall be marked boxes for the final F1 grid.

1.1.14 Top Qualifying driver may choose his starting position on the grid either left or right, this then to be the configuration for all remaining finals.

1.1.15 Marshall intervention must be minimised by using smooth obstacles such as dots or cones, of appropriated heights.

1.2. Specific track requirements for 1/12 & 1/10 Touring class tracks

1.2.1 Indoor track surface must be needle carpet with smooth joints properly attached to the floor.

1.2.2 For onroad racing, only smooth surfaces will be allowed.

1.2.3 Indoor Limits: minimum track width 2 meters between the marking lines. At the start line the track must be at least 3 meters in width as far as the first turn. Mark. ing lines must be either white or yellow, minimum width of 2.5 cm, and must be at least 20 cm away from the edge of the racing surface or track barrier.

1.2.4 The track surface for 1:10Electric Saloon Cars can be both asphalt or needle carpet.

1.2.5 The track surface for 1/12th electric sports cars must be indoors on needle carpet.

1.3 Specific track requirements for 1/10 Off Road class tracks

1.3.1 Width: 3 metres minimum.

1.3.2 The spirit of scaled down off Road racing must be adhered to. (Modified On-Road tracks are not considered suitable).

1.3.3 If two Classes (2WD & 4WD) are to be held on the same track, it is preferred that the track should be significantly different for the two Classes. Reverse operation is acceptable. If tracks contain permanent jumps/features that cannot be easily changed or used it the reverse direction, then it is permissible to use the same track layout for both Classes (2WD & 4WD), subject to agreement with the Section Chairman at least two (2) months prior to the event.

1.3.4 Maximum track length: 250 meters.

1.4 Requirements for time-keeping equipment

1.4.1 The main timing PC must automatically announce the following in clear English: 2 minutes to the start of the race 30 Seconds to the start of the race (& start order for staggered starts at this point) 10 second countdown and start 'Sound' for line starts (i.e. finals) 10 second countdown and call the cars off the line in case of staggered starts Time calls and race order every 2 minutes Cars finished & race over

2. MOTORS FOR ELECTRIC SCALE CARS:

FROM 2018, all Rules concerning:-

Technical Specifications and Homologation Procedures for Brushless Motors 05 Size, have been moved to NEW APPENDIX 4.

Each Electric Section, for all EC and GP events will clearly state which class of motors are to be used.

From May 2016, only motors included on the EFRA Homologation Lists are allowed at EC and GP events in the Electric Classes.

3. BATTERIES

FROM 2018, all Rules concerning:-

Technical Specifications, Race Procedures, Homologation Procedures, for Lithium Batteries have been moved to NEW APPENDIX 4.

Each Electric Section will define the number of cells and nominal rated voltage.

3.1 1/12th. Cars will be driven by lithium based (LiPo/LiFe) batteries with a nominal voltage of no more than 3.8 volt (effective from 01.03.17). Receiver batteries are allowed.

3.2 1/10 Touring scale, TC, FWD and 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.

3.3 1/10 Off-Road Scale cars will be driven by lithium based (LiPo/LIFe) batteries with a nominal voltage of no more than 7.6v (LiPo)/ 6.6v (LiFe). Receiver batteries are not allowed.

3.4 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.

3.5 **The maximum charging cut-off will remain at 4.20v per cell.**

4. ELECTRONIC DRIVING AIDS

4.1 The radio control receiver in the car may operate steering and motor management. A separate battery supply for the powering of the timing equipment is allowed. Using the receiver to capture electrical signals from sensors carried in the car is prohibited, be it wireless or not.

4.2 Automated steering, gyroscopes to control car movement, traction control, active suspension are not allowed

4.3 The speed controller may have a device to limit the current/voltage passed

from the batteries to the drive motor (e.g. timed delay, current limiter, keyboard programs) as well as a passive data recording device but setting or programming of these devices must only be possible whilst the car is stationary.

4.3.1 Events that are designated for using 'Spec. Class Brushless motors' will only allow a Speedo that has a 'zero timing profile', that does not alter the preset mechanical timing of the motor in any way and disables any advanced motor control; functions (ie. Boost, Cheat mode, Turbo etc.). This profile is known as ' Boost 0'.
The commutation sequence is limited to "6-step" type and commutation of the Speed control must follow the motors hall sensor signals 1:1. Therefore no change of timing (either advance or retard) is allowed at any RPM." When the "Boost 0" profile is activated, it will be identified by a blinking LED while the ESC is armed and in neutral position.

4.4 No other signals than these for the official lap counting transponder may be sent from the car.

4.5 Any competitor found in contravention of the spirit or fact will be disqualified from the meeting. The race organiser has the right to inspect any car, its components and transmitter at any time during the race event.

5. DRIVER PROCEDURE

5.1 Before your heat, and if hand out equipment is to be used, collect the handout items from dispatch and mount them to the car.

5.1.1 When hand out auto-timing equipment is used, it is the driver's responsibility to fit it appropriately to the car and to remove it after timed heat if required.

5.2 When a personal transponder is used the driver is entirely responsible for the efficient functioning of the device.

5.3 As soon as race control allows, switch on and drive car to the start line.

5.4 When your heat has finished, retrieve the car, switch off car and transmitter and bring it to scrutinizing along with any handout equipment if required.

5.5 Marshal the heat following your own at the numbered position corresponding to your car number.

5.6 Collect your car from scrutinizing after marshalling.

5.7 The race director may demand the drivers to stand on the indicated positions on the rostrum.

5.8 The race director has absolute authority at the meeting but refer to your team manager if you encounter problems.

5.9 It is not allowed to enter/access the rostrum until the previous race is declared over by race control. It is not allowed to leave the rostrum before the race is declared over by race control. Penalties can be applied to competitors that do not adhere to this procedure.

5.10 At 1/12 Track, 1/10 Track and 1/10 Off-Road electric events, no radio communication or any other form of communication deemed to be an advantage between the driver and pit crew is allowed during any Heat or Final. There will be no form of 'coaching' to drivers during any Heat or Final.

7. EUROPEAN CHAMPIONSHIPS

7.1 European Championships will take place every year there is no World Championship in the concerned class held within Europe. However the general meeting can decide otherwise if deemed to be in the interest of the sport.

7.1.1 European Championships are held in the following classes:
1/10 Off-Road Modified, 2WD & 4WD as separate Classes.
1/12 Modified, using no less than 6.5 turn modified brushless and blinky.
1/12 Spec using 13.5 T Spec. brushless and blinky.
1/10 Touring Cars Modified & 1/10 Touring Cars using 13.5T Spec. Brushless

1/10 Formula One using 21.5T Spec. Brushless.
1/10 Touring Car FWD using 21.5T Spec. Brushless and Blinky
Starting May 2016, only motors included on the EFRA Homologation Lists are allowed at EC and GP events in the above Classes.

7.1.2 On any track chosen at the EFRA AGM, specifically for hosting an EC event, no practice or race event can be held in the 21 days before the start of the EC for participants in the EC event, even if it is with another Class of car.

7.2 ALLOCATIONS

7.2.1 The country allocations for the EFRA European Championships will be established by the section meeting and published in the minutes.

7.2.2 Allocation and re-allocations are according to the general rules.

7.2.3 If available all countries receive re-allocated places in order of the allocation list, unless stated otherwise in this list. Any Federation requiring to be considered for re-allocations should put their request in writing to the Section Chairman no later than 21st January.

7.2.4 100 entrants for 1/12 and 130 for 1/10 Off-Road (One may consider up to 150 participants if timetable and facilities i.e. driver tables etc, permit) are to be accepted for European Championships and GP´s. For 1/10 Touring Car Modified & 1/10 Touring Car 13.5T Spec. Brushless up to 150 entrants have to be accepted for European Championships and GPs. The allocations 1/10 Touring Car modified will be decided at the section meeting first. When all allocations are confirmed the remainder of unfilled entries made available as open entry for the 1/10 Touring spec class.

7.2.5 For EC's any countries allotment is in no case to be higher than 33% of the total number of allocated entries ("No-Show's" and last minute cancelling drivers are not to be considered).

7.2.6
a) The preceding year's European Champion will automatically be allocated a place from the EFRA allocation for the World Championships.
b) The reigning World Champion, if European, will automatically be allocated a place in the following two European Championships.
c) The reigning European Champion will automatically be allocated a place in the following European Championship

7.2.7. Drivers that finished in the Top 10 at a 1/10 Touring Car Modified European Championship (indoor or outdoor) in the last two championships held are not allowed to participate at the 1/10 Touring Cars 13.5T Spec. Brushless and the TC FWD 21.5T Spec. Brushless Blinky European Championship. At the 1/10 Touring Car modified & 1/10 Touring Car 13.5T Spec. Brushless European Championships drivers are only allowed to enter one of the two classes. All other drivers may compete in either 1/10 Touring Car Modified and TC FWD or1/10 Touring Car 13.5T Spec . Brushless and TC FWD.

8. TIME TABLES:

8.1 The Race Organiser must schedule all events for each day to be completed and the track closed by 18.30 hours. The pit area must be available for 1:30 hour after the last race. For 1/12th scale events it is recommend to complete each day by 19.30. It is recommended to end the last day early enough to allow participants to start their return journey.

8.1.1. 1/12th EUROPEAN CHAMPIONSHIP:

Friday: 1-2 Rounds of un-timed practice (organizers discretion) 2 Rounds of timed practice Opening Ceremony (a limited heat re-seed, based on average lap times of timed practice 1 & 2, will be carried out while the opening ceremony is taking place) 1-2 Rounds of timed practice

in new heat format 1 Round of qualifying (In heats used for the last 2 rounds of controlled practice). Total of 5 or 6 rounds of qualifying to be run depending on amount of participants). 6 rounds of qualifying recommended to be run.

Saturday: 1 Round of controlled practice in heats (warm-up) 4-8min recommended.
5-6 Rounds of Qualifying (depending if one round was run on Friday already)

Sunday: 1 Controlled practice for A-final
3 rounds (legs) of all finals

8.1.2. 1/10th Touring, 1/10th Formula One & 1/10th FWD EUROPEAN CHAMPIONSHIP:

DAY 1:* 09:00 Registration, Open and a minimum 2 timed practice rounds, 2 seeding rounds and 1 Qualifying Round after the reseed

DAY 2:* 09:00 1 timed practice (minimum) and 4 Qualifying Rounds

DAY 3:* 09:00 1 Practice Final (minimum) and 3 finals for all. There will be a minimum of 10 min between start of round.
Based on the numbers of participants, this timetable can be changed by the organiser with agreement by the section chairman.
*To be agreed at AGM.

8.1.3. 1/10 Elec. Off-Road EUROPEAN CHAMPIONSHIP:

MONDAY:	2WD Free practice in Heat order, Registration and Technical Inspection. Last two Rounds will be Seeding Rounds using best 2/3 consecutive laps from either Round. For seeding Rounds, control tyres must be used with cars passing Tech. except for chassis marking.
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:	4WD Free practice in Heat order, Registration and Technical Inspection. Last two Rounds will be Seeding Rounds using best 2/3 consecutive laps from either Round. For seeding Rounds, control tyres must be used with cars passing Tech. except for chassis marking.
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.

8.2 TIMETABLE FOR GRAND PRIX MEETINGS

8.2.1 The timetable for Grand Prix will be left to the discretion of the Organisers taking into consideration the number of competitors in each class. Organiser can determine the Timetable for all racing

9. RACING FORMAT EFRA EUROPEAN CHAMPIONSHIPS AND GRAND PRIX

9.1 PRACTICE

9.1.1 Free practice for E.C. events must be allowed as stated in the concerned timetable. No practice or racing is allowed on the track for participants in the EC in any Class for 21 days preceding the EC (see also General rule 8.1.).

9.1.2 For all EC's: 2 series of organised practice with cars grouped in heats will be held with at least one using the official time-keeping system.

9.1.3. Practice heats at 1/10 Touring Car Modified, 1/10 Touring Car 13.5T Spec.Brushless, 1/10 F1 European Championships &1/10 TC FWD European Championships must not be longer than 5 minutes. In between two heats there can be a break of up to 3 minutes maximum.

9.2 START PROCEDURE

9.2.1 There will be a minimum of seven (7) minutes between the starts of heats, (10) ten for 1/12th.

9.2.2 Qualifying heats: the delayed start procedure (Staggered Start) will be used and a verbal start signal, mentioning the car number, will be given for each car. Cars must start when directed by the Start Official. Cars not starting when directed may start after the last car has crossed the lap counting loop

9.2.3 Finals: After the 30 seconds signal, cars not on their start grid must be placed at the rear of the grid. An audible signal generated by the timing equipment will be given after the "ten seconds" in a random delay of between 1 and 5 seconds.

9.2.4 Jump-starts (after 10-second signal) -front wheels crossing start line or their marked startbox - 10-second penalty. Front wheels crossing the line or box by one-meter: 1 lap penalty. Jump-starts are no reason for a re-start.

9.3 RESTART PROCEDURE

9.3.1 The Race Director or the Assistant Director, in absence of the race director, may order a restart.

9.3.2 In the event of an aborted start procedure; race must restart at least from the "30 seconds" before the start" announcement.

9.3.3 If the race is stopped before the first car has completed a full lap of the track then the race will be immediately re-started after the reason for the stoppage has been cleared. If the race is stopped after the first car has completed a full lap then the race will be re-run at a convenient time allowing for the recharging of batteries.

9.4 QUALIFYING

9.4.1 1/12 Track:- The Qualifying Heats and Finals will be 8 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds. The Round by Round point system will be used. This system awards points to all drivers based on their finish position against all others for each round individually.
All cars must be cleared by technical inspection before any result can be used for seeding.
When the ´Round by Round´ qualifying method is used, the number of Qualifying Rounds to count are as follows :-

Number of Rounds completed	1	2	3	4	5	6
To count - 1/12	Void	1	2	2	2	3

If less than two Rounds are completed the event is declared null and void.
Any Qualifying Round has to be completed for any Heats in that Round to be awarded points that count. 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. (NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round).

Overall Qualifying positions are decided by each drivers 'best' (lowest) points being added together, based on the number of Rounds to count as shown in above table. In the event of a tied position the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (eg. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared.

Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded.

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 as the table above.

9.4.2 1/10 Off-Road:- The Qualifying Heats and Finals will be 5 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds. The Round by Round point system will be used. This system awards points to all drivers based on their finish position against all others for each round individually.

When the ´Round by Round´ qualifying method is used, the number of Qualifying Rounds to count are as follows :-

Number of Rounds completed	1	2	3	4	5	6
To count - 1/10 Off-Road	Void	1	2	2	2	3

If less than two Rounds are completed the event is declared null and void.

Any Qualifying Round has to be completed for any Heats in that Round to be awarded points that count.

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. (NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round)

Overall Qualifying positions are decided by each drivers 'best' (lowest) points being added together, based on the number of Rounds to count as shown in above table. In the event of a tied position the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (eg. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared.

Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded.

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 as the table above.

9.4.3 1/0th Touring Cars, Formula 1 and TC FWD:- The Qualifying Heats and Finals will be 5 minutes and the last lap plus the time to complete this last lap up to a max of 40 seconds.

All cars must be cleared by technical inspection before any result can be used for seeding.

At the start of the event at Team Managers Meeting (on Friday morning) it will be decided if the Qualification Rounds will be declared dry or wet based on the weather conditions

9.4.3a The Round by Round point system will be used. The number of Rounds to count are as follows:

Number of Rounds completed	1	2	3	4	5	6
To count - 1/10 Touring Car	Void	1	2	2	2	3

If less than two Rounds are completed the event is declared null and void.

Any Qualifying Round has to be completed for any Heats in that Round to be awarded points that count.

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. (NOTE: drivers not record. ing a time or having a time disqualified in any Round score points for last place in that Round)

Overall Qualifying positions are decided by each drivers 'best' (lowest) points being added together, based on the number of Rounds to count as shown in above table. In the event of a tied position the driver with the single highest finishing position in either of the best Rounds that counted will be awarded the tie (eg. 1+3 = 4 beats 2+2 = 4). In the event of a continuing tie then the laps and times from the best points Round will be compared.

The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the second best scores will be compared. Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded.

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 as the table above.

9.4.3b If weather conditions mean that the qualifying is run in wet and dry conditions then each competitors 2 fastest times will be added together to decide the Final Qualifying order.

Any Qualifying Round has to be completed for the times of any Heats in that Round to be used.

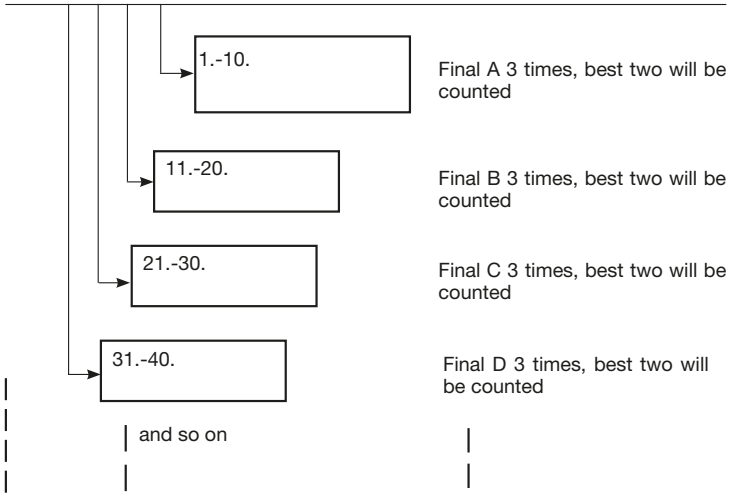
If it is impossible to complete all qualifying heats under the same weather conditions, (wet, semi wet or total dry) the following rule will become effective:- *See diagram overleaf.*

Before the start of every heat the race director has to announce if it will be a dry heat or a wet heat.

The Race Director is also allowed to declare during a Heat, that the Heat is "now running under wet conditions". After a Heat has been completed, the Race Director can declare that the specific Heat was run under wet conditions if he/she decides the average lap times during the heat (or part if the Heat) were more than 20% slower.

If every Heat (Group) has at least one dry race in the Qualifying Rounds completed, then the 2 fastest times from all completed Rounds will be used. If any Heat (Group) does not have a dry race, then only the 2 fastest times from the wet Rounds will be used to decide the Final Qualifying order.

9.4.4 Any driver incurring a penalty which results in his time and therefore points in any Round being disallowed, then all drivers below the disallowed position will



move up one place. (In the event the penalized driver is a tie on obtained points the one with the best time will be lost).

9.4.5 The qualifying heats will be a maximum of 10 drivers and where possible equal number of drivers in each.

9.4.6 Cars will start in one line across the track in staggered start mode for the qualifying heats.

9.4.7 During the first round of qualifying, heat-starting order will be determined by the driver's performance in seeding rounds based on the drivers 2-3 best consecutive laps. During further rounds, heat-starting order will be by the fastest time of drivers in the heat from any previous rounds results used for qualifying positions.

9.4.8 In order to give drivers an equal chance during qualification, organiser may re-seed these drivers that are obviously way above or under the average in their group into a more suitable heat whenever possible. If lap times are used to reseed, then all cars must have passed technical inspection. Drivers must use their own car. From start of seeding Round 1 all cars must pass technical inspection.

9.4.9 Off road heats will be run in the following sequence for the 5 qualifying rounds:
Round 1: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13
Round 2: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13,1, 2, 3
Round 3: 7, 8, 9, 10, 11, 12, 13 1, 2, 3, 4, 5, 6
Round 4: 10, 11, 12, 13 1, 2, 3, 4, 5, 6, 7, 8, 9
Round 5: 13,12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1.
On road heats will always be run from 1 to 15.

9.4.10 If the number of Heats differs from the format detailed in 9.4.9, or if the event is planned with more/less Rounds, a sequence following this general theme has to be used.

9.4.11 The qualifying results will determine the composition of all finals with the top 10 proceeding to the "A" final and so on down.

9.4.12 Off road: One round of controlled practice using the official time keeping will be organized for the A finalists. On road: A controlled practice will be applicable to all finals.

9.4.13 Qualifying results will be published after each round

10 FINALS

10.1 There will be 10 drivers in all finals where possible. Finals will be organized for all competitors.

10.1.1 If the lowest Sub-Final has less than 4 drivers, the Race Director can decide if they should be mixed as equally as possible with the next Sub-Final, respecting their qualifying position for their start order, or if the lowest Final is run with less than four competitors.

10.2 The winner determined from the combined A finals will be the champion. If the A finals cannot be completed, the awards will be made based on the final Qualifying positions.

10.3 Off Road: The 'A' Final will be run in three legs. All other Finals will be one leg. Each race of the main 'A' Finals (and others if more than one) will be considered a separate race. The Finals will be run from slow to fast.
On Road: All Finals will be run in 3 legs from slow to fast.

10.4 If three leg finals are run, then the best 2 out of 3 to count.

10.5 The winner of a final gets 1 point; the second gets 2 points and so on up to 10 points for the 10th driver. In the event of a tie regarding time in a Final, the points will be equally awarded to each driver and the next driver not tying will be two points more.

10.6 In the event of a tied position the driver with the single highest finishing position in either of the best 2 finals that counted will be awarded the tie. In the event of a continuing tie then the laps and times from the highest finishing position will be compared. The driver with the fastest laps and time total will be awarded the tie. In the case of a continuing tie, then the times from the second best position will be compared.
When some drivers of a final do not run a final, they will be awarded the remaining points in the order of their car numbers.

10.7 Cars which do not pass the start/finish line after the prescribed race time, will be classified according to the number of laps recorded. The "A" finalist with the lowest number of points will be the European Champion or the winner of the grand prix.

10.8 All final results will be published at least 10 minutes before prize giving.

10.9 The minimum trophies/awards that will be supplied by the Organiser is:- All "A" finalist drivers, top three drivers in the 'B' final and the winners of all other finals. If no round of Final(s) are completed the results of the event are taken on qualifying positions.

11. TECHNICAL INSPECTION

11.1 All cars may be called for technical inspection at any time but must always be presented for scrutinizing. (11.4 remains in force).

11.2 Failure to meet the technical rules will result in loss of the concerned heat result.

11.3 Non-compliance obviously resulting from race incidents will not be accounted for at scrutinising

11.4 After "A" finals the cars must be collected and impounded by organiser's staff ("parc fermé").

11.5 The motors of the top 3 finishers may be dismantled and 'stripped' in order to check there conformity with EFRA rules. This can only be done by an EFRA appointed person immediately after the race. But if not possible in the period of time determined by the EFRA appointed person after the race, then during any period of time required the rules of 'parc ferme' apply to these items.

11.6 It is allowed to change the chassis of the car, providing the replacement is of the same design, spefications and material as the original item that was registered

prior to the start of racing. The new chassis has to be registered and presented to the authority.

12. GENERAL REQUIREMENTS FOR COMPETITION CARS IN ELECTRIC CLASSES

12.1 Cars must be realistic and when initially entered in the meeting have neatly finished and complete body shells.

12.2 Open cockpit cars must have a realistic driver figure fitted in an appropriate position at all times when racing. This consists of at least a driver's head/helmet and should be painted in a realistic appearance, colour and garb.

12.3 The body and chassis must be securely joined at all times when the car is on the track. Driving on the track without body is not allowed at any time.

12.4 All cars shall have identifying numbers in at least three positions, right, left and on front of the car. The numbers must be put on the body shell so the numbers are easily seen by the referee or race director.

12.5 No car shall be constructed so as to be dangerous or damage the track surface or other competitor's cars.

12.6 The cars must allow fitting a time keeping transponder in a suitable position with the correct orientation.

12.7 Any type of speed controller, not causing interference's of any kind to lap count, computers, transmitters etc., may be used, but it must be contained within the car and not protrude through the body shell.

12.8 All cars must have a transparent windscreen. Open or painted windscreens are not allowed except for models of prototypes that did not have windscreens.

12.9 Side or rear windows must be clear. The driver may have his name on the side window in the same scale as the car.

12.10 Openings in the body must be appropriate to the full size prototype (Scoops, vents etc.).

12.11 Wheel arches must be cut out if the prototype ran that way.

12.12 Tyres must be black except sidewall detailing.

12.13 Openings for wing mount or antenna shall provide no more than 10 mm clearance.

12.14 Definition of a wing: A wing is an additional item attached to the car.

12.15 Definition of a Spoiler: A spoiler is that which is moulded in the body.

12.16 Spoiler and side dam dimensions include that which is moulded into the body.

12.17 Bumpers are not required. If fitted, bumpers must be constructed so as to minimise injury that may result from being hit by a car. The overall width may not exceed the overall width of the front of the car, including wheels.

12.18 Wire bumpers shall be made of wire between 2.5 mm and 4 mm in diameter. Bumpers made from sheet type material shall be between 2.5 mm and 6.5 mm thick, with all exposed edges smooth and well rounded. Closed cell foam (i.e Pu-RIM) bumpers may be 2cm thick Rigid blade-like bumpers made of hard, non-resilient material such as metal, brittle plastic, plywood, masonite etc., are not allowed.

12.19 All weight minima are applicable to cars equipped with fixed personal transponder.

B REQUIREMENTS FOR ELECTRIC ON ROAD CLASSES

1. GENERALITIES

1.1 On carpet tracks a minimum ground clearance of 3mm (excluding spur gear) for 1/12 and 5mm for 1/10 is mandatory at the start of each heat and final.

1.2 Up to a maximum of two chassis may be submitted to Technical inspection, either of these chassis may be used at any time during the event. The second chassis may be approved after the event has started.

1.3 All racers are only permitted to use ONE car on the track during each practice run. This rule counts for all open practice rounds on the first day of the EC (free and controlled). The rule is the same for all classes, all racers, and all team, only ONE car per run .

2. BODIES:

2.1 Any newly homologated bodies must have the part number moulded into the front windscreen. For 1/10 Formula One Spec class, no body homologation is required.

2.2 Body cannot be trimmed higher than lower body trim lines.

2.3 No portion of chassis, wheels and tyres, or equipment may extend beyond body except to the rear. (Exception -Formula car suspension chassis and abbreviated bodies with no engine cover).

2.5 In all classes where possible, an 8th scale number must in addition be placed on the roof of the body (NASCAR style) for absolute best identification. Numbers on front windscreens must be avoided

2.6 The organizers will supply the numbers.

3. ROLL-OVER MASTS:

3.1 A rollover mast may be fitted. If so, it must have a blunt end for safety reasons, terminate in a closed loop at least 4.75 mm O.D. or a ball or button not less than 8 mm in diameter.

3.2 If a rollover mast and radio antenna is fitted, the antenna must be part of the mast along its length. Max. Height from ground 35 cm.

4. BUMPERS

4.1 All cars may run a rear bumper, which must be behind rear tyres.

4.2 If used, front bumpers must be flat; parallel to the ground in all directions.

5. TYRE ADDITIVES / TRACTION IMPROVING TREATMENTS:

5.1 All Tyre treatments, governed by health, nuisance and track damage considerations will be at the discretion of the organisers and EFRA. i.e. Normally only odourless tyre cleaners or traction additives will be allowed.

5.2 It is down to the organiser / section chairman to specify the additive to be used at an event.

(1/12 scale only) A list of legal additives will be maintained by the Section Chairman and published at least 1 month prior to each event. Only tyre additives on the published list may be used. New additives may be added during a season, subject to approval by the section chairman.

The use of tyre treatments is the user's responsibility. EFRA draw organiser's attention to the possible hazard created by large numbers of competitors using tyre treatments in a confined space. EFRA recommend that the competitor adheres to the methods of usage as stated by the supplier of the treatment.

5.4 At European Championships 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).

5.5 It is recommended that the chemical components of these products must be harmless for people and environment. Liability at the use of tyre additives lies at the user and manufacturer.

6. PARTICULAR TO 1/12th SPORTS CARS

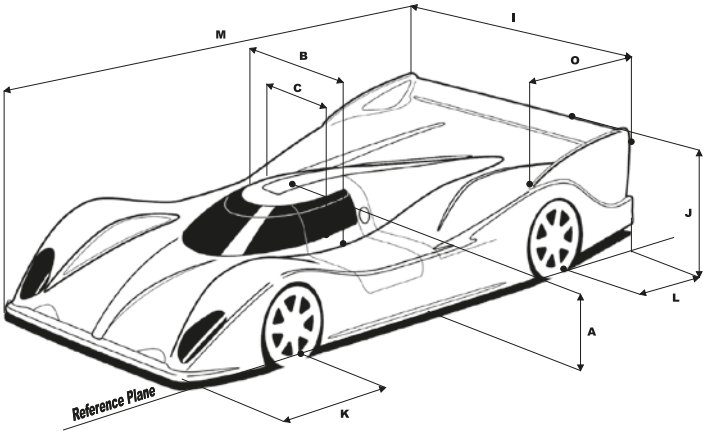
The ethos of this class is the preparation and piloting skills, while operating within tightly controlled rules, bring rewards rather than the technological advantage of any particular marque of car. The rules have been questioned relating to drive and suspension. We will assume that the following is true.

Rear suspension and drive. Single solid one-piece axle only. No independent suspension allowed. A differential may be used.
Anything other than this will be presented at the first meeting of the EC for the team Managers to consider if the deviation in within the spirit of the sport.
The 1/12th class is separated in two main classes: LMP and GT 17.5.
The rules outlined below may not necessarily cover every single aspect of car construction - drivers are required to follow the spirit and intention of these rules if any ambiguity is discovered.
LMP Class: The LMP class is a representation of Prototype Sports cars as e.g. LeMans Cars and is intended for experienced or professional drivers. he LMP class is divided into "Modified" and "SPEC 13.5T" class.
LMP 17.5 class: The LMP class is a representation of current FIA GT Competition cars with a more scale look. With a lower motorisation than the "SPEC 13.5T" class, the "LMP 17.5T" class is intended for beginners and senior drivers. Due to a lot of commonalities to the LMP class the "LMP 17.5T" class can be used as a starting base for an upgrade to LMP or a downgrade from LMP to ensure keeping racing costs reasonable.
On LMP 17.5T any 17.5T Brushless Motor of the EFRA Homologation List for Brushless Spec Motors (17.5) can be used with any Speed controllers (ESC) using "0-Boost/Blinky" Mode "Speed Controllers" according approved Blinky ESC's list.
Drivers who finished in an A-Main final in LMP "Modified" or "SPEC 13.5T" in the previous season at a World Championship, a European Championship or a National Championship are not allowed to start in the GT 17.5 class in the actual season.
Only GT12 bodyshells are allowed in this Class. The minimum weight of the car with bodyshell and transponder fitted is 790 gram. Only 17.5T Spec. Brushless Motors are allowed from the current EFRA Homologation List. The ESC must be a Zero-timing, no 'boost' version with 'blinky' mode activated. Only batteries listed on the current EFRA 1S Stick Lithium Battery Homologation List can be used.

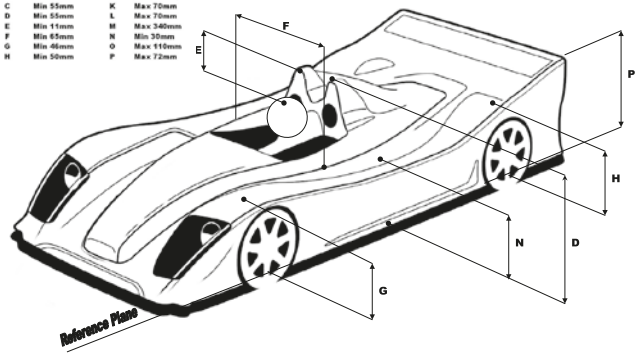
6.1 BODIES:

6.1.1 LMP body shells must be submitted to the EFRA Body shell Homologation Officer for approval. A list of homologated bodies must be sent with the drivers package and to the organisers and be available on the EFRA website.
The following is the specification for approval of 1/12 Prototype Sports car body shells. They should be used by the Homologation officer to enable clear and consistent application of standards for future approvals,
Lower body cut line is to be used as the reference plane for all height dimensions.
Minimum cockpit height – Closed cockpit – 55mm (Excluding any air scoops / air boxes) Minimum cockpit width – Closed cockpit – 70mm (Measured at the point it intersects with the side pod)
Minimum cockpit width - 55mm (measured at the lower window line)
Minimum Roll bar height – Open cockpit – 55mm
Maximum distance from Drivers helmet to top of roll bar – Open cockpit -11mm
Minimum cockpit width – Open cockpit – 65mm (Measured at the point it intersects with the side pod)
Minimum front wheel arch height – 46mm (Including vents) (measured at a point 15mm from edge of body)
Minimum rear wheel arch height – 50mm (measured at a point 10mm from edge of body)
Maximum overall width – 176mm
Minimum overall width – 168mm

Max. wing / spoiler height – 65mm
Max. front overhang (From centre of front wheel)– 70mm
Max. rear overhang (from centre of rear wheel) – 70mm
Max. length overall – 340mm
Minimum side pod height – 30mm
The side dam must blend fully (disappear) into the main body shape within 110mm of the rear edge of the body/side dam.
Max side dam height – 72mm



A	Min 55mm	I	160 to 176mm
B	Min 70mm	J	Max 65mm
C	Min 55mm	K	Max 70mm
D	Min 55mm	L	Max 70mm
E	Min 11mm	M	Max 340mm
F	Min 65mm	N	Min 30mm
G	Min 46mm	O	Max 110mm
H	Min 50mm	P	Max 72mm

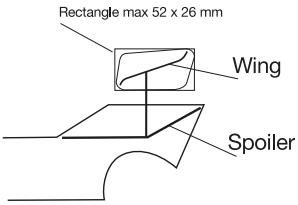


The body side forward of the side dam must have a radiused edge, no lips or upward extensions are acceptable
Bodies must be a reasonable representation of a full size LMES / ALMS / LMP / WSC prototype.
Open cockpit cars to have twin roll bars as current LMES / ALMS
Open cockpit cars must have a representative drivers helmet and cockpit opening
The name of the prototype must be used for the homologation process.
The name of the prototype does not have to be used for general sales and marketing.
Only fins or strakes that are present on the full size prototype will be allowed.
The body must not be cut above the lower cut line.

Cut-outs in the shell will be allowed only if clearly defined on the full size prototype.
Once Homologated there must be no changes to the design, trim lines, detail lines or any feature of the body. All changes will require resubmission for approval and an additional revision letter added to the part number- Example 15001A - Original - 15001B for a 2ndRev. Etc
The manufacturer's par number must be clearly marked on the shell alongside the windscreen area
All new homologation must meet the above criteria.

6.1.2 Wheel cut-outs may not be more than 15 mm larger than tyre radius (Exception -scale size and/or shape wheel cut-outs). Wheel wells must be cut out if those on the original car were cut out.

6.1.3 Only one wing is allowed on the car unless the actual car had a second wing. The second wing must be scale within 10% in size and location. The wing may be not closer than 6.5 mm to any part of the body other than the tail fins or side dams.



6.1.4 Maximum width: 172 mm, the wing profile must fit in a rectangle of 52mm (height) x 26 mm.
Spoilers: Max. Spoiler height: 25 mm, max length 35 mm.
These dimensions include the moulded in portions of the body, the use of a gurney flap to extend the wing length is acceptable.

6.1.5 Wing and Spoiler GT class: Only one wing is allowed on the car, maximum dimensions to be, width 165 mm, chord 50mm, unless the original car had more than one wing. The second wing must be to scale within 10% in size and location.

6.2 MEASUREMENTS AND WEIGHTS

6.2.1 LMP: Maximum overall width of the car: 172 mm (Excluding shell)
Minimum weight: 730 grams.

6.2.2 GT17.5 Minimum Wheelbase: 184 mm
Maximum Wheelbase: 222 mm
Maximum overall width of the car: 172 mm (Excluding shell)
Minimum weight is meant ready to race including lap-counting transponder during the race/heat/final.
Minimum weight GT class: 790 grams.

6.2.3 Bumpers: Bumpers may be fitted but must be designed to minimise injury that could result from being hit by a car, also to reduce the risk of damage to other cars. Rigid bumpers made from non-resilient materials such as metal are not allowed. Other sheet materials should have an edge radius not less than 1.5mm.
Bumpers must not protrude of the body and being fitted in the shape of the body.

6.3 TYRES

6.3.1 All tyre sizes apply at the start of the race.

6.3.2 Tyres Minimum width 13 mm. Maximum width 40 mm. The tyre width is measured at the widest part of the tread or sidewall.

6.3.3 Any tyre diameters will be allowed. The diameter must be maintained over at least the minimum width of the tyre.

6.3.4 Tyres must not be wet or greasy from additive at the start of a heat or final.

6.3.5 Technical Inspection can demand to check the tyres prior to each start.

7. PARTICULAR TO 1:10 ELECTRIC SALOON CARS

7.1 BODIES:

7.1.1 Only bodies that comply to the body guideline for 1:10 electric touring car bodies as per drawings in this handbook of real touring cars that have a minimum length of 420mm in the original car are allowed. No GT or Sports car bodies allowed. All Touring car bodyshells to be submitted to the EFRA Bodyshell Homologation officer for approval.

7.1.2 The rear bumper cut-line to be maximum 35 mm from the body cut line as detailed in GBS drawings

7.2 **GBS1 Rules**

Although EFRA has accepted the GBS 2 rules and manufacturers have been working on the new bodies, EFRA believes this rule must be deferred and re-addressed at the 2024 EFRA AGM.

MEASUREMENTS AND WEIGHTS

(NOTE: Heights measured with chassis on 15.0 mm block, based on 5 mm ground clearance)

Maximum overall width (with body): 195 mm

Maximum overall width (without body): 190 mm

Minimum weight: 1320 gram

Wing: maximum wing size including endplates: 190w x 40d x 20h mm Wings to be mounted directly to the body (no spacer between shell and wing), on the moulded mounts provided at the back of the shell.

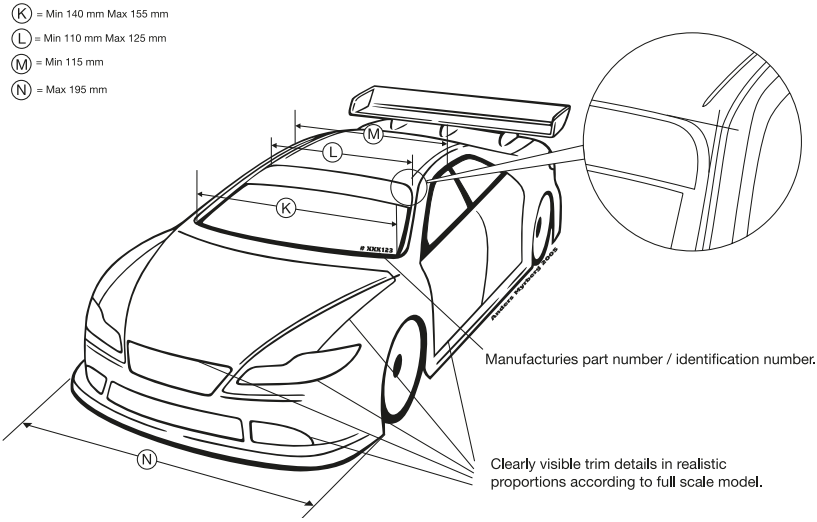
All features (front splitter/bumpers) from the original moulding must remain on the shell.

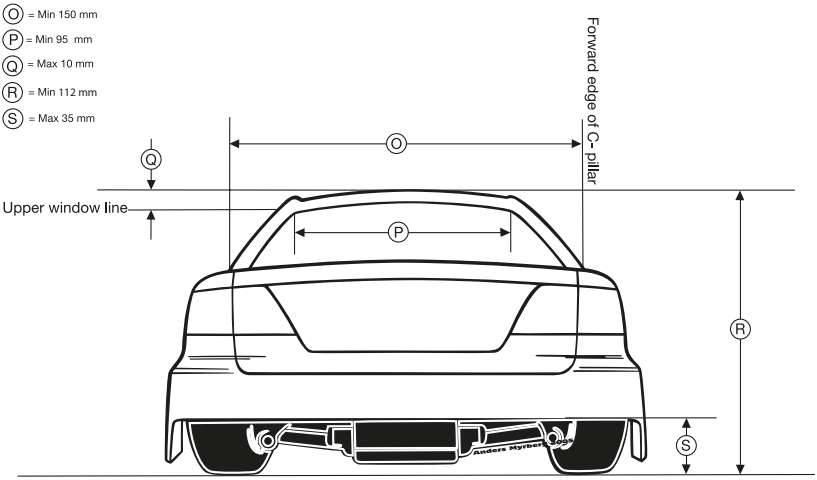
Maximum wheel rim diameter (excl. ribs): 50 mm

The use of multiple-speed transmissions (gearboxes) and slipper clutches is not allowed.

All cars must have independent suspension operating on all four wheels (no PRO 10 cars allowed.

Only a fixed single ratio transmission is allowed and it may not include mechanical devices between the drive motor output and the gearbox input for the purposes of controlling torque (e.g. slipper clutches).





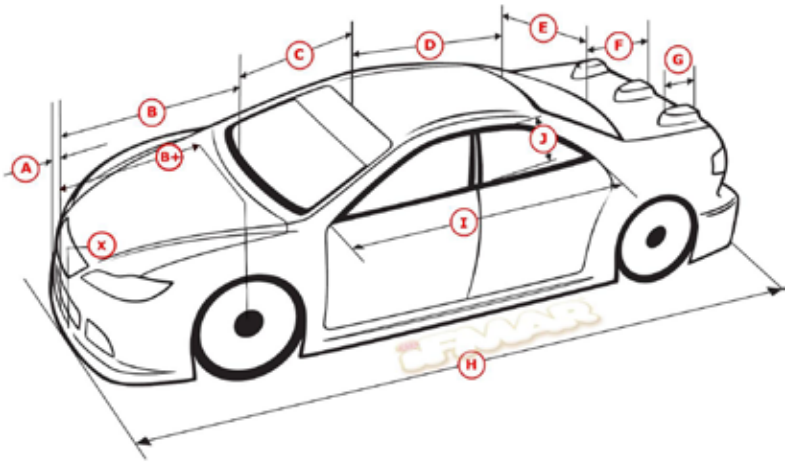
To assist competitors maintain consistent heights when using different wheels/ tyres, dimensions R and S will be measured with the chassis on a 15.0 mm block. Dimensions will be based on a 5 mm ground-clearance and will therefore be :- R = 122 mm, S = 45 mm.

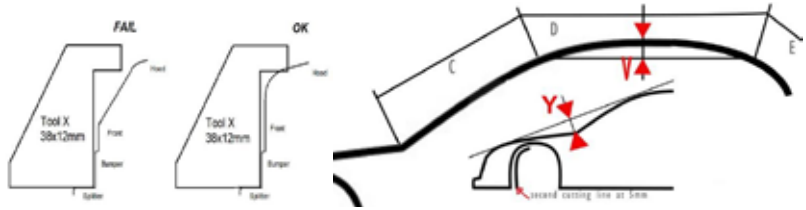
GBS2 Rules

Although EFRA has accepted the GBS 2 rules and manufacturers have been working on the new bodies, EFRA believes this rule must be deferred and re-addressed at the 2024 EFRA AGM.

7.2 MEASUREMENTS AND WEIGHTS
(NOTE: Heights measured with chassis on 15.0 mm block, based on 5 mm ground clearance)

All submitted body shells must comply with the “global body specifications” (GBS)




FAIL
OK
Tool X
38x12mm
Tool X
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C
D
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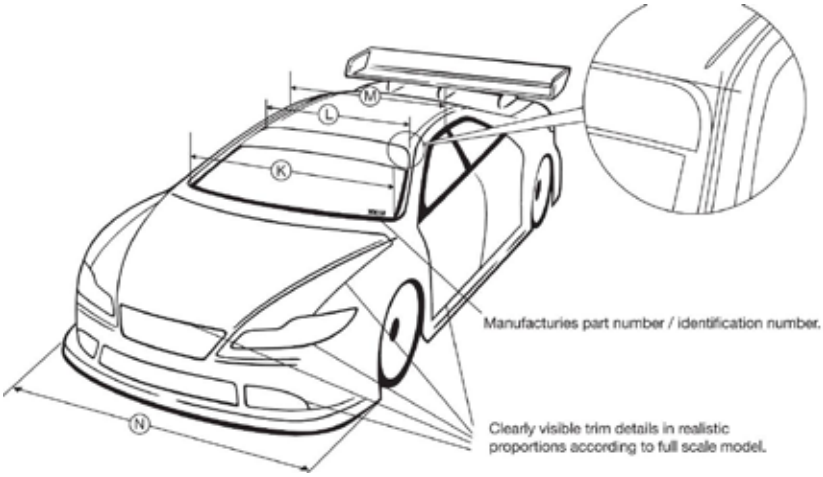
M
L
K
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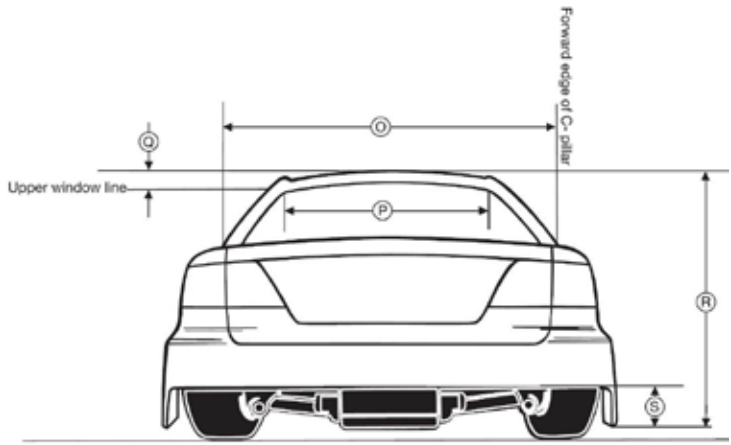
Manufacturies part number / identification number.
Clearly visible trim details in realistic
proportions according to full scale model.


Forward edge of C- pillar
Q
O
Upper window line
P
R
S

Maximum overall width (with body): 195 mm
Maximum overall width (without body): 190 mm
Minimum weight: 1320 gram
Wing: maximum wing size including endplates: 190w x 40d x 20h mm Wings to be mounted directly to the body (no spacer between shell and wing), on the moulded mounts provided at the back of the shell.
All features (front splitter/bumpers) from the original moulding must remain on the shell.
Maximum wheel rim diameter (excl. ribs): 50 mm
Cut lines from the original moulding are part of the homologation. Any homologated body used by a driver which can be proven to be cut along the original moulded cutting lines, is ok to be used in the race. The cutting lines must still be visible on the trimmed body shell. This excludes the wheel arch lines.
ELECTRIC 1/10 ISTC GBS body:

A – Front bumper width – min 4mm to max 10mm
B – Length of the motor hood – min 115mm max 150mm
B+ - From the front end (bumper included) to the front wheel middle – max 105mm
C – Height front window – min 75mm to max 85mm
D – Car roof length – min 95mm to max 105mm
E – Height rear window – min 65mm to max 75mm
F – Trunk length – min 60mm to max 65mm
G – Rear wing posts (max 3) – max 25mm
H – Bodyshell overall length – min 410mm
I – Front door to rear door width – min 170mm
J – Side window height – min 35mm to max 45mm
K – Width of the lower front windscreen – min 140mm to max 155mm
L – Width of the higher front windscreen – min 110mm to max 125mm
M – Width of the car roof (middle) – min 115mm
N – Overall width of the bodyshell – max 195mm
O – Width of the forward edge of the C-pillar (rear point of I-measurement) – min 150mm
P – Width of the higher rear window – min 95mm
Q – Difference between highest point on the roof and the upper line of the side window – max 5mm
R – Bodyshell height – min 115mm (measured from the bottom cutline of the bodyshell)
S – Rear bumper height – max 35mm (measured from the bottom cutline of the bodyshell)
V – Difference between highest top of the roof and the upper front window line – max 5mm
X – Height of the front motor hood (measured from the upside of the bumper) – min 38mm x 12mm
Y – Gap between straight edge bottom and hood plane where it meets windshield – min 9mm

7.2.1 Bodies shall be neatly finished. Details of all front and rear lights and windows must be translucent.
Air intakes, front grills, cooling grills and eventual drivers must be clearly contrasted from the surrounding paintwork.

7.2.2 Only One (1) single level rear wing may be used with the body shell.

7.3 TRANSMISSION AND SUSPENSION

The use of multiple-speed transmissions (gearboxes) and slipper clutches is not allowed.

All cars must have independent suspension operating on all four wheels (no PRO 10 cars allowed) .

Only a fixed single ratio transmission is allowed and it may not include a mechanical device/s between the drive motor output and the gearbox input for the purposes of controlling torque (e.g. slipper clutches) .

7.4 TYRES

7.4.1. ISTC and FWD - Only moulded tyres are allowed (no sponge tyres).

Maximum tyre width 28 mm

Minimum tyre width 24 mm

F1 - Moulded rubber or foam tyres allowed. The choice must be declared at the AGM.

7.4.2. 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). For dry weather racing there will be a single control slick tyre with insert and will come pre-glued to the wheel (insert, tyre and wheel to be same for all drivers) and commercially available via model/hobby shops since minimum 3 months at the time the tyre choice will be presented at the AGM. For wet/damp conditions competitors will supply their own from the agreed list below. For use at the EC, the tyres must be bought from the organiser. For each competitor there must be at least 1 set of dry weather tyres available to be bought for practice at the EC.

Maximum price fixed for each EC event at the AGM. The supplier of the tyre must guarantee that the wheels tyres are of the same batch/production run. They must be the only source of supply for the event.

Note for 2023

See Stage 1 report for tyre types and part numbers.

7.4.3. Tyre Allowances:

For Spec. Class:- 2 sets of 4 dry weather tyres (rubber) are allowed for qualifying. Tyres from qualifying may be used in the Finals and 1 additional set of 4 dry weather are allowed for the Finals.

For Modified Class:- 3 sets of 4 dry weather tyres are allowed for qualifying and 3 additional sets of 4 dry weather tyres are allowed for the Finals.

For Formula Class:- 1 set of 4 dry weather tyres (rubber) are allowed for qualifying and 1 additional set of rear dry weather tyres are allowed for the finals.

For TC FWD Class:- 1 set of 4 dry weather tyres (rubber) are allowed for qualifying and 1 additional set of 4 dry weather tyres are allowed for the Finals.

7.4.4. Tyres from qualifying may be used in the finals

7.4.5. For wet/damp conditions a treaded tyre may be used but only when the Race Director gives his permission. This treaded wet tyre does not form part of the limited number of sets.

7.4.6. Tyres/wheels may not be modified other than the removal of the centre "sprue", if present, using a cutting action only. 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.

It is not permitted to subject the controlled tyres to any extreme high temperatures in order to shrink the insert and create more air-gap inside the tyre. If tyre warmers are permitted then this is the only external heat source allowed. If any other method of heating detected by the Technical Officers, it will

be reported to the EFRA Official responsible who will impound the tyres in safe custody until after the event.

7.4.7. The Technical Inspector must mark wheels/tyres before being presented to Technical Inspection for qualifying heats and finals.

7.4.8. Unmarked wheels/tyres may not be used on the car during qualifying heats and finals but are allowed for practice.

7.4.9. Technical Inspection shall be responsible for recording the number of tyres used by each driver.

7.4.10. No extra sets are allowed for a re-run of a heat.

7.4.11. All sets of tyres for qualification have to be returned by the driver by the end of each qualification day to the organiser (tyre impound). Not returning the tyres in the announced time by the organiser will be punished with the loss of the best heat time. The not returned set of tyres have to be checked and released for further use by the technical inspection.

7.5. 1/10 TOURING CARS 13.5T SPEC. BRUSHLESS

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

7.6 Transmission and Suspension: The use of multiple-speed transmissions (gearboxes) and slipper clutches is not allowed.

All cars must have independent suspension operating on all four wheels (no PRO 10 cars allowed) .

Only a fixed single ratio transmission is allowed and it may not include a mechanical device/s between the drive motor output and the gearbox input for the purposes of controlling torque (e.g. slipper clutches)

8. PARTICULAR TO 1/10 FORMULA ONE SPEC CARS

8.1. Cars specification:

Maximum width: 200 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 when rubber tyres are being used.

Minimum weight = 1010 grams including personal transponder when foam tyres are being used.

8.2 Tyres:

Tyres to be chosen as per. Touring Car procedure for selection (Rubber type tyres or foam tyres allowed)

8.3. Additive:

Only odourless additive is allowed (as per Appendix 3 B rule 5)

8.4. Bodies:

Only Formula 1 body styles are allowed. Body must be painted in a race inspired theme. Single color themes are allowed but you must the included sticker sheet to detailed the car.

All cars must have a drivers figure installed in the cockpit.

8.5. Wings:

Front and rear wings must be commercially available and made of a molded ABS Style plastic. and to a design to be decided at the AGM. Front and rear wings made of Lexan material will not be allowed (this includes bolt on Lexan front wings over a smaller ABS plastic wing).

Wings equipped with any type of remote adjustment or DRS are not allowed Maximum height of any part of the rear wing cannot exceed highest point of

the body. Any bolt-on, glued-on or moulded-in elevation on the body is to be ignored for the rear wing maximum height measurement.

8.6. Only 21.5T Spec Brushless motors according to App. 3A 2.2 are allowed. Speed controller rules to be the same as current Spec. Touring Car rules.

9 PARTICULAR TO 1/10 FRONT WHEEL DRIVE CARS

9.1 Only the front wheels of the car are allowed to receive the power from the motor and transmission – the rear wheels are not connected to the drivetrain in any way. An independent suspension must operate on all four wheels.

9.1.1 Cars specification

Maximum overall width:195 mm

Minimum weight = 1250 grams including personal transponder

Wing: maximum wing size including endplates:180mm wide and must be cut on the lines provided by the manufacturer. Wings to be mounted directly to the body (no spacer between shell and wing), on the moulded mounts provided at the back of the shell.

All features (front splitter/bumpers) from the original moulding must remain on the shell.

TC FWD car has to be only front wheel drive, four independently sprung wheels. The use of multiple-speed transmissions (gearbox) and slipper clutches is not allowed. No drive system may be connected to the rear wheels.

The dimensions of the car are within the 1/10th Touring car FWD dimensions.

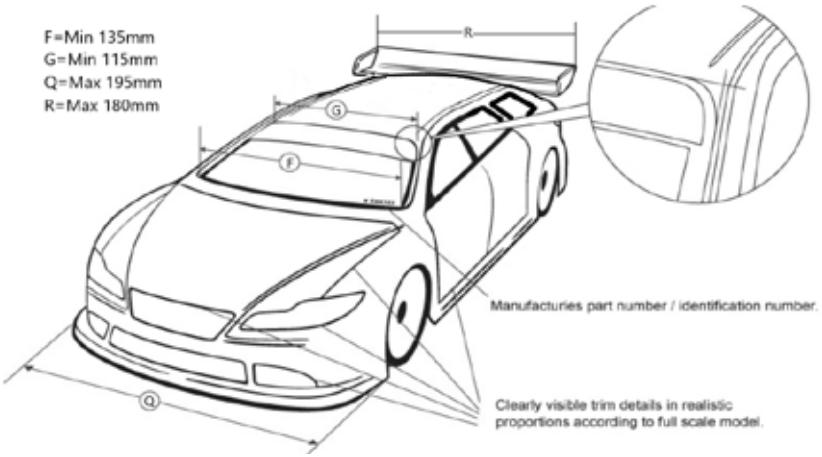
All electronic components (including motor, ESC and battery) must be contained entirely within the bodyshell, but otherwise the position of these items within the car and the general chassis layout is free.

Bodies:

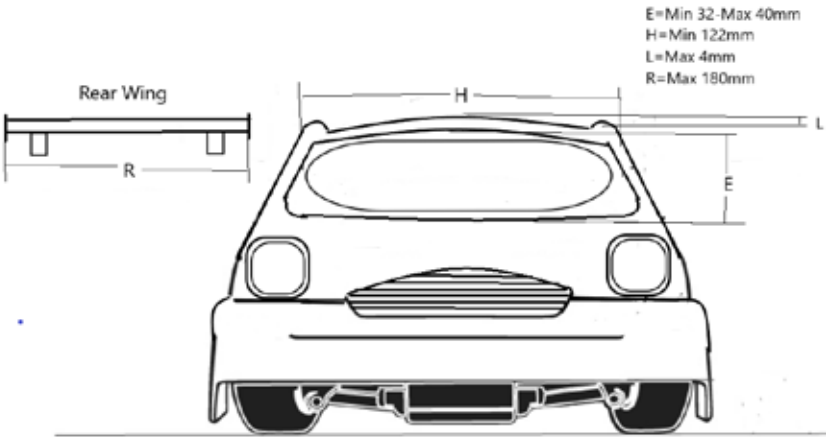
Only bodies that comply to the body guideline for 1/10th TC FWD as per drawings in this handbook of real TC FWD 5-doors that have a minimum length of 420mm in the original car are allowed. No GT or Sports car or 4-doors sedan bodies are allowed. All TC FWD bodyshells to be submitted to the EFRA Bodyshell Homologation Officer for approval.

GLOBAL BODY SPEC (GBS for FWD Electric On-road)

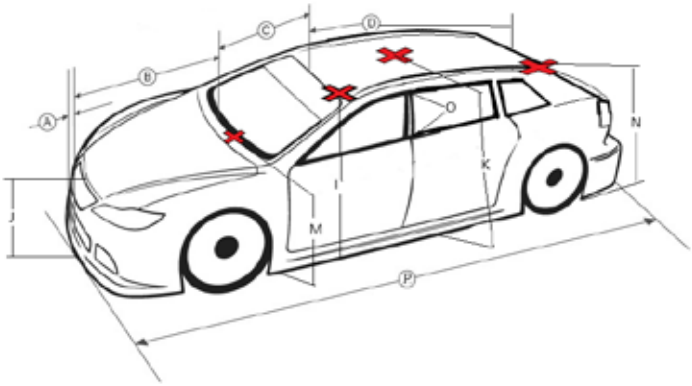
Also FWD and no TC



GLOBAL BODY SPEC (GBS FWD Electric On-road)



GLOBAL BODY SPEC (GBS for Electric FWD)



A - max 9mm	Front lip (measured in the centre).	K - min 112	Height from the cut line to the highest point of the roof of the bodyshell.
B - min 100 - max 110	Lenght of the motorhood.		
C - min 72	Height front window.	L - max 4mm	Difference between roof rail and highest point of roof.
D - min 175 - max 200	Roof lenght.		
E - min 32 - max 50	Height Rear window.	M - min 70 - max 78	Height from the cut line to the highest point at the level hood to front windshield.
F - min 135	Front window width below.		
G - min 115	Front window width above.		
H - min 122	Rear roof width (measured at the end of the roof).	N - min 105mm	Height from the cut line to highest point of the rear roof at the level of the end of the roof.
I - min 105	Height from the cut line to the highest point of the roof at the level of the front windscreen.	O - min. 35mm	Height side window (middle).
		P - min 410 - max 440	Length bodyshell.
J - min 45	Height from the cut line to the beginning of the hood (make a visible line).	Q - max 195mm	Overall width bodyshell.
		R - max 180mm	Width rear wing.

Any body must be a realistic representation of an original hatchback car as judged by the Homologation Officer.

Wings:
The rear wing must be commercially avalable and made of lexan only. The rear wing may have a maximum width of 180mm and must be cut on the lines indicated by the manufacturer.
No other kind of wings on the bodyshell are allowed.
Motor:
Any 21.5T brushless motor of the EFRA Homologation motorlist for Brushless Spec Motors (21.5) can be used with any Speed controller (ESC) using "0-Boost/ Blinky" mode. The Maximum gear ratio is 4.5. But depending on the length/layout of the track it can be adjusted by the section chairman after consultation in the team managers meeting.

C GT12 Technical Rules

This class is based on the principals of close, fair and low cost racing. This will make it both an ideal entry level class for the driver who wishes to try his or her hand at RC racing for the first time, but the rules for the class will also cater for the more competent driver who wishes to take their racing further. In the interests of keeping racing costs reasonable, there is strict guidance as to the use of additional upgrade parts and components. This should also ensure that the performance of each car is more dependent on driver ability and good setup than on budget.
The Rules outlined below may not necessarily cover every single aspect of car construction – drivers are required to follow the spirit and intention of these rules if any ambiguity is discovered.

1 Construction Rules

1.1 The essence of the sport of Radio-controlled car racing is competition between realistic models of racing automobiles. All cars must comply with dimensional requirements stated in these Rules.
All cars will use replica GT shells from the list of eligible shells given in Appendix 1

1.2 Minimum weight is 950 grams, ready to race including lap-counting transponder at all times during the race/heat/final.

1.3 Wheel rim diameter maximum is 40mm, and 26mm Width. Only commercially available wheels may be used. No modifications or changes to the original manufacturer's design and dimensions are allowed.

1.4 The tyres must be black except for side wall detail.

1.5 Tyre additive for each meeting is to be agreed by the organisor and the EFRA Electric Chairman.

1.6 Tyres must have a minimum width of 20mm and a maximum width of 26mm.

1.7 Wheel nuts and/or axles must not protrude more than 2.0mm beyond the outer edge of the wheels. No more than 1.5mm of wheel outer side may be exposed (not covered with rubber) on the outer edge of wheels.

1.8 Bumpers may be fitted but must be designed to minimise injury that could result from being hit by a car, also to reduce the risk of damage to other cars. Rigid bumpers made from non-resilient materials such as metal are not allowed. Other sheet materials should have an edge radius not less than 1.5mm.

1.9 Only one wing is allowed on the car, maximum dimensions to be, width 165mm, chord 50mm, unless the original car had more than one wing. The second wing must be to scale within 10% in size and location.

1.10 Overall maximum width of the rolling chassis to be 165mm including wheel nuts and axles, not including bodyshell. Wheelbase is to be 196mm minimum to 208mm maximum.

1.11 All cars must have clear windscreens, unless the actual car did not have clear windscreens.

1.12 Side and/or rear windows, if any, must be clear.

1.13 All cars to have clearly visible identifying numbers to the Race Directors satisfaction.

1.14 Numbers must be at least 25mm high with minimum stroke of 4mm. They must be black numerals on a white background.

1.15 No portion of the chassis or any equipment may extend beyond the body, except aerial masts, rear diffuser (if fitted) and up to four posts for the purpose of mounting the body shell.

1.16 Flexible masts/tubes only may be used.

1.17 Openings in the body other than ones appropriate to full size cars shall be kept to a minimum.

1.18 Wheel cut-outs may not be more than 10mm larger than the tyre radius. Exception- scale size and/or shape wheel well cut-outs. Wheel wells must be cut out if the original cars are cut out.

1.19 When initially entered in a meeting the body shell must be neatly finished and complete 1.20 Body and chassis must be securely joined at all times while the car is on the track.

1.21 Body shells must be listed in Appendix 1 to these Rules to be eligible for use. Body shells when painted must have a minimum of headlights, front grill and rear lights picked out in a realistic colour, size and shape that clearly separate them from the other body colours. Additional grills and intakes picked out in the same way are preferred. Windows will be clear, may not be cut out, and will be shaped as per the original car. Bodies must not be cut above the lower cut lines marked on the body shell. If there is a diffuser cut line, the bodyshell may be cut to this line.

1.22 Only one drive motor is allowed per car.

1.23 The minimum ground clearance of the car, not including the spur gear, is 3mm; minimum 1mm under the spur gear; this will be checked during scruitineering for each qualifying heat and final race.

1.24 Only Personal Transponders will be used to record laps.

3 Definition of Brushless Motor

3 .1 13.5 Spec. Brushless - Any motor listed in any of the Homologation List for Brushless Spec Motors 13.5 Spec

3 .2 17.5 Spec. Brushless - Any motor listed in any of the Homologation List for Brushless Spec Motors 17.5 Spec

4 Definition of a Zero-timing Speed Controller

4.1 Speed controllers may not be equipped with any form of automatic or programmable timing advance. If this feature is available on the particular speed controller it must be disabled and placed in an approved mode - i.e. the "ROAR blinking LEDs mode." Only Speed controllers from the Approved Blinky ESC's list may be used.

4.2 Reverse function must not be used in GT12-class.

5 Batteries Allowed

5.1 Only Batteries listed on the current EFRA '1S Stick Lithium Battery Homologation List' can be used. See Appx. 4

5.2 GT12 Cars will be driven by lithium based (LiPo/LiFe) batteries with a nominal voltage of no more than 3.8v.

6 Chassis and Components

6.1 The chassis component will consist of one continuous sheet of material that extends from a minimum 10mm ahead of the front axle line and runs continuously along the car to end 25mm minimum behind the rear axle line. The

chassis may not include any features designed to allow the front and rear axle to rotate along the central axis of the car relative to each other. (Intent – that the chassis supports all the suspension components and is sufficiently rigid not to be used as a working part of the suspension system/s).

6.1.1 Chassis shape and hole pattern to be homologated, Manufacturers may submit a maximum of 3 designs per 12 month period. Legal chassis listed in appendix 2.
- No modifications to chassis
- Design may be offered in a "alloy" or "composite" version
- Edges may be smoothed / sanded / sealed
- Chassis must be commercially available

6.1.2 Metals used in the production rolling chassis and any aftermarket parts may only be brass, steel or aluminum with the exception of the GT12 Super-Cup class where, solely for the use as turnbuckles, titanium will be allowed. Brass, lead, and steel may be used as weights.

6.1.3 Cutouts: Wheel cut-outs may not be more than 15 mm larger than tyre radius (Exception - scale size and/or shape wheel cut-outs). Wheel wells must be cut out if those on the original car were cut out.

6.1.4 Wing and Spoiler LMP class:
Only one wing is allowed on the car unless the actual car had a second wing. The second wing must be scale within 10% in size and location. The wing may be not closer than 6.5 mm to any part of the body other than the tail fins or side dams.
Wing: Maximum width: 172 mm, the wing profile must fit in a rectangle of 52mm (height) x 26 mm.
Spoilers: Max. Spoiler height: 25 mm, max length 35 mm.
These dimensions include the moulded in portions of the body, the use of a gurney flap to extend the wing length is acceptable.

6.1.5 Wing and Spoiler GT class:
Only one wing is allowed on the car, maximum dimensions to be, width 165 mm, chord 50mm, unless the original car had more than one wing. The second wing must be to scale within 10% in size and location.

6.2 All suspension systems must operate independently of the chassis component.

6.2.1 Separate dampers are only allowed on the rear suspension. Dampers requiring seals to prevent the egress of any type of damping medium are not allowed. (Intent – that dampers are non-sealed 'straw' or 'tube' style. Dampers with any type of damping medium contained in a sealed reservoir are not permitted).

6.3 Front suspension may be independent provided that the suspension design does not have any pivot, rod or other mechanism that alters the wheel camber in roll relative to the chassis during its full travel. (Intent – that suspension systems from Touring Cars, GT10 cars, 12th cars and F1 cars featuring pivoting suspension arms are not used).

6.4 The rear axle must not have any articulated element and may be fitted with a differential

6.5 Only a single fixed speed transmission is allowed.

6.6 Gears in the single fixed speed transmission must be 32DP or 48DP only.

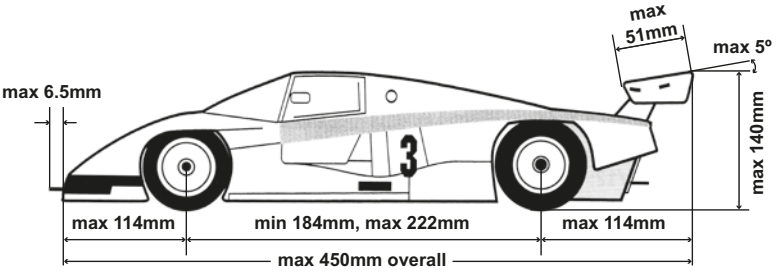
6.7 Rolling element (ball) bearings are allowed on the front and rear axles.

6.8 Cars may only have two driven wheels with the drive to the rear axle.

End of Construction rules

GT Body Shells

Only GT body shells are allowed. At the time of submission for homologation, the full-sized car upon which the body shell is based must be currently FIA homologated (for GT Competition) and have been raced within previous 3 years. All shells must be a reasonable representation of the full-sized car. The following link contains info on the current FIA GT homologated lists. Only cars listed in the GT3 class are eligible. Use "list of Homologated Vehicles classified by number". https://www.fia.com/homologations As part of the homologation process, the manufacturer's part number must be clearly marked in the lower corner of the windscreen area. Body shells when painted must have a minimum of headlights, front grill and rear lights picked out in a realistic colour, size and shape. The Body shells must not be cut above the lower cut lines marked on the body shell. If there is a diffuser cut line, the bodyshell may be cut to this line.



The following is the list of approved bodies for the GT class:

Kamtec

Kamtec Lotus GT1 (Kamtec part no. GT01)
Kamtec Ascari GT3 (Kamtec part no. GT02)
Kamtec Aston Martin (Kamtec part no. GT03)
Kamtec Type F (Kamtec part no. GT04)
Kamtec Porsche GT3 (Kamtec part no. GT05)

Mardave

Mardave Lotus GT1 (Mardave part no. V140)
Mardave Ascari GT3 (Mardave part no. V151)
Mardave Aston Martin (Mardave part no. V160)
Mardave GT2 (Mardave part no. V131)
Mardave Porsche (Mardave part no. V113)
Mardave Ginetta (Mardave part no. V161)

Penguin Custom Bodyshells

Lambo GT12 (part number PEN01)

Protoform

Protoform PF-M12 (Protoform part no. #1613-30)

Screwz4RC

Audi R8 (part number G903)

Zen-Racing

Zen-Racing GTM (part number PBGT02)
Zen-Racing GTF (part number PBGT03)

Montech

Montech MLGT3 (part number MT018001)

The following link contains info on the current FIA GT homologated lists. Only cars listed in the GT3 class are eligible. https://www.fia.com/homologations Use "list of Homologated Vehicles classified by number".

Chassis

The following is the list of approved Chassis's for the GT12 class.
Chassis shape and hole pattern to be homologated, Manufacturers may submit a maximum of 3 designs per 12 month period.
- No modifications to chassis
- Design may be offered in a "alloy" or "composite" version
- Edges may be smoothed / sanded / sealed
- Chassis must be commercially available

Schumacher

U3981 SupaStox Chassis 6 Cell/2s Saddle
U3957 SupaStox Chassis 4 Cell/1s/Shorty
U4649 SS GT - S1 Chassis
U4623 SS GT - C/F Chassis
U4816 Atom - Alloy Chassis
U7276 Atom CC - C/F Chassis

Zen-Racing

ZENC101 RSGT12 Main Chassis
ZENC106 RSGT12 Twill Carbon
ZENA100 RXGT12 Aluminium Chassis
ZENC150 RXGT12 Carbon Chassis

Mardave

MARCE-01 Mardave CE
MARCEC-01 Mardave CEC
MARAC-12 Mardave AC12
MARA-001 Assassin
MARGT-001 Assassin GT
MARVEN-001 Venom
MARVGT-001 Venom GT - Carbon Chassis
MARVCC-001 Venom CC - Alloy Chassis

ORE

R318 ORE TwelveGT Carbon
R653 ORE B2B Carbon
R722 ORE B2B-W17 Alloy

D PARTICULARS for 1/10 OFF ROAD

1. GENERALITIES:

1.1 Cars entered for off-road competitions should be reasonable representations of the style of full size cars generally accepted as being suitable for rally-cross, rallying or desert racing.

1.2 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.

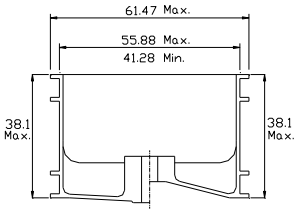
1.3 All open gears must be enclosed or protected so as to prevent injuries.

1.4 Any modification to the car is allowed.

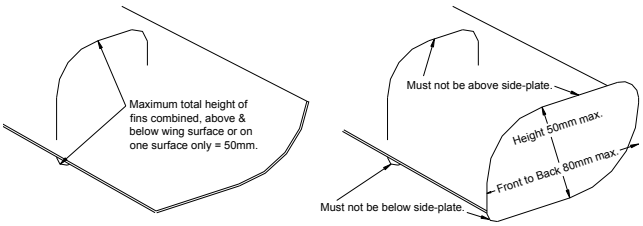
1.5 A differential may include a mechanism for apportioning torque over the axle/s (e.g. limited slip differential).This mechanism must only be capable of adjustment manually whilst the car is stationary

2 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: 127.0 mm 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 80 mm
Maximum overall diameter of wheel & tyre: 90 mm
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.
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. See diagram.



3 TYRES

3.1 Grand Prix: Any combination of commercially available 1/10th scale wheels and tyres may be used.

3.2 European Championships: The organiser will propose 1 type of tyre and compound and insert for each of the driven axles for 2WD and 4WD. For EC outdoor events using a predominantly Asto or Carpet surface, an additional 'wet' tyre, compound and insert can be nominated by the Organiser, but each competitor is restricted to two sets. 'A' finalists only, are allowed a third set. The manufacturer, full description, compound and Part # of the tyres chosen must be given and the Part # of the inserts. Tyre type, compound and inserts will be controlled and must be purchased at the event through the organiser. Tyres and inserts will only be available in a restricted area and should be sold to the driver by the organiser and if possible at a lower price. The mounting of the tyres onto wheels must be in a restricted area. The proposed tyre choice will be ratified at the EFRA Section AGM prior to the EC. The nominated tyres and inserts must be commercially available throughout the EFRA Nations. The manufacturer(s) of the chosen tyres will be notified which specific tyre and insert has been chosen as soon as the decision is finalised.

3.3 No metal or hard plastic may be used for spikes

3.4 Modifications to tyre tread patterns are allowed by trimming or removal, but the addition of any material to the tyre is prohibited excepting for the glue used to retain the tyre to the wheel. Tyre 'location beads' can be trimmed to fit the wheel, but tyre beads cannot be completely removed. The only items or materials that is allowed to be fitted inside the tyre is the nominated insert for the event.
"Cut and Shut" is permitted at Grand Prix only and even so if the parts of one or more different tyres are glued together, provided always that the constituent parts are all recognisable as coming from commercially available 1/10th scale tyres.

3.5 No sponge or foam tyres are allowed except for foam inserts completely enclosed within the sidewalls.

3.6 The organiser will supply the nominated fluid/spray to be used for tyre cleaning, prior to gluing to wheel. This is the only cleaner that can be used. Only cleaning of the tyre bead where the tyre is glued to the wheel is allowed.
No tyre additives other than water are allowed on any of the other surfaces of the tyre, inside or outside of any tyre. No additives are allowed to be applied to any tyre insert. Excess of glue deemed to alter the performance of the tyre is not allowed, but it is allowed to apply glue to the side-walls (only) of the Front tyres. No glue can be added to the original tread/block/pin area of the tyre. The use of any additives that is deemed by officials for the purpose of improving the tyre performance will result in disqualification from the event.

3.7 The use of any 'tyre warming device' is not allowed at any EFRA sanctioned events in 1/10 Off-Road (no tyre warming allowed). This includes Free Practice, Controlled Practice , Qualifying and Finals.

4 RAIN PROCEDURE for QUALIFYING

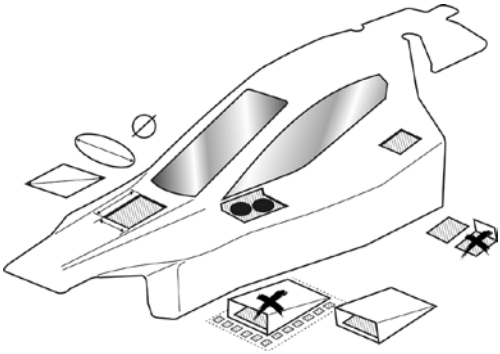
4.1 The Race Director and the Referees are jointly responsible for the decision to stop racing in the event of adverse weather conditions. If in doubt or they do not agree they can consult the EFRA rep. or his deputy (if at the meeting) for advice.

4.2 When Racing is suspended as per the rule above, then racing will recommence, when weather permits, with the heat that was next to be run prior to the interruption. If the serie of heats / round cannot be completed the same day that particulair round will be cancelled and next day will start with a new (complete) round.

4.3 Every effort should be made by the Race Director / organizing club to make necessary repairs to the racing surface prior to recommencement of racing to give the racers in the next heats an more or less equal chance to qualify compared to the heats raced before the meeting was stopped. If that is not possible racing should be re-started with the next qualifying round.

5 BODY SHELL HOLES/VENTS:

The front and rear ends of the shell must retain some of the original profile of the two ends of the shell. Front and rear facing areas within the body shell surface which are ´marked´ with the intention of removal to form "air scoops/ vents" are allowed to be removed, within a maximum dimension of 10mm in any direction regardless of the manufacturers marking. If no "marked" air scoops/vents are designed in the original mould to assist airflow to the motor or ESC, then material may be removed to a maximum of 10 mm. in any direction within a maximum square area of developed size 30 mm x 30 mm, in two places only. Windows are not allowed to be removed or include holes, other than for the purpose of the antenna.



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APPENDIX 4
LITHIUM BATTERIES FOR ALL ELECTRIC CLASSES - TECHNICAL, RACE PROCEDURES & HOMOLOGATION.

BRUSHLESS MOTORS 05 SIZE FOR 1/12th AND 1/10th ELECTRIC CLASSES.

1 LITHIUM BATTERIES - TECHNICAL SPECIFICATIONS:

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

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

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 exit wires or pin type connections. The outline shape of the battery 'hard-case' must be 'cuboid' (six flat surfaces with all angles 90 deg.), edges and corners can be radiused and a 'step' or 'recesses' are allowed in the area of tube connectors in the interest of safety to prevent any short circuit.

1.2 The maximum case sizes, including any manufacturer incorporated plugs or connections 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).

1.3 Batteries to comply with the weights specified on the EFRA homologation list, (maximum tolerance for manufacturers is +/- 4%).

1.4 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 pack nominal voltage of - LiPo 15.2v & LiFe 13.2v.

For 2S Packs:- the maximum connection "In Series" is two, to give a maximum pack nominal voltage of - LiPo 7.6v & LiFe 6.6v.

For 1S Packs:- cells can only be connected in parallel to give a maximum pack nominal voltage of - LiPo 3.8v & LiFe 3.3v.
NOTE: Cells with a nominal voltage of no more than 3.8v have been allowed at EFRA events since 1st. April 2017. All previously approved cells with a nominal voltage of no more than 3.7v maintain their approval.
The maximum charging cut-off will remain at 4.20v per cell.

1.5 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.

1.6 The case must have the original suppliers label intact, clearly 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: From 2017 onwards; Saddle Pack batteries that are 'hard wired together can state the nominal voltage of the combined number of batteries, BUT Saddle Pack batteries supplied as individual batteries (not hard wired together), MUST show the correct nominal battery voltage for each individual battery on the labels, not the combined voltage.

1.7 As EFRA events are International, EFRA will only accept batteries for approval that comply with the maximum energy capacities required by passenger airlines.

2. LITHIUM BATTERIES - RACE PROCEDURES:

EFRA will publish approved Battery Lists each year, showing all the batteries that have been homologated and are eligible for use at EFRA sanctioned events. This includes any batteries that are included on any 'official archive' lists. Only batteries shown on the official EFRA website will be legal for use at EFRA sanctioned events.
All Lithium Batteries must comply with the published data shown on the EFRA Approved Battery Lists. Batteries that are not compliant with the dimensional rules or published weights will not be allowed.

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

2.2 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.

2.3 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 voltage values detailed in rule 2.7 (below) will be penalised.

2.4 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 penalised 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.

2.5 The use of any additional heating of any type, to heat a LiPo/LiFe Battery is not allowed. The use of any cooling devices or "freeze" sprays of any type to cool a LiPo/LiFe battery is not allowed.

2.6 If multiple individual batteries are connected together (in parallel or series), then all batteries used must be of the same manufacturer brand and same Part Number.

2.7 4S LiPo/LiFe Batteries: may be charged to a maximum of 16.80v (LiPo) resp. 14.80v (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.

2.8 Batteries cannot be charged or changed during a race.

3. LITHIUM BATTERIES – APPROVAL PROCEDURES:

3.1 From 2009, EFRA only homologates Lithium based batteries. Lithium based (LiPo or LiFe) batteries must be submitted to EFRA for approval and be listed on the EFRA homologation lists before being allowed at EFRA sanctioned events. Manufacturers or their agents will be responsible for paying all approval fees. The approval fees for each individual battery are detailed in General Rule 3.5.7.

3.2 Submission dates:-
4S Batteries - A minimum of one individual battery has to be received by 1st Dec.
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.
Cells received after the above submission dates (1st Dec.) will not be included on the EFRA approved list for the following year

3.3 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.6, Part 3, Sub-Section 38.3, Tests T1 to T8.
(b) Technical Spec. sheet detailing; the recommended maximum charging rate, the maximum voltage when charging, case material, case wall thickness and method of sealing the case, the battery weight (max tolerance +/- 4%).
(c) Name and contact details of a minimum of two appointed distributors for the batteries in EFRA member countries.

3.4 New batteries have to be submitted to the EFRA Battery Homologation Officer for approval. Subject to the Homologation Officer being satisfied that the new battery conforms with technical specifications and commercial availability, the battery will be legal for use at EFRA sanctioned events from:
4S Batteries - the following April 1st.
2S Batteries - the following April 1st.
1S Batteries - the following March 1st.

3.5 Any changes to the technical specifications or visual appearance of the battery or casing after the original approval ,will require re-approval.

3.6 All previously approved batteries may be used for their lifetime or until their specifications no longer comply with the original one that was approved. It is the driver's responsibility to prove the legality of his batteries in case of doubt.

4. BRUSHLESS MOTORS (05 Size) FOR ELECTRIC 1/12th & 1/10th SCALE CARS:

All EC and GP events will clearly state which class of motors to be used. From May 2016, only motors included on the EFRA Homologation Lists are allowed at EC and GP events in the 1/12th. & 1/10th. Electric Classes.

4.1 EFRA homologate two types of Brushless Motors -- 'MODIFIED' & 'SPEC.'
(a) For MODIFIED motors: sensored or sensorless motors are allowed.
(b) For 'SPEC' Class motors: only sensored motors are allowed.

4.2 When the motor is sensored:-
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.

ALL MODIFIED & 'SPEC' Class Brushless Motors 05 size must comply with the following:-

4.3 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.

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

4.5 No hybrid motors allowed (mixing of parts from different manufacturers), with the exception of Rotors in Modified Motors only that were approved prior to 01.04.15.

4.6 No modifications, designs changes or removal of materials are allowed to any approved motor. Only 'optional' parts or rotors detailed on the EFRA Approved Lists are allowed. Any changes or modifications will require the motor to be re-submitted for approval.

4.6.1 It is the competitor's responsibility to ensure that any motor used at an EFRA sanctioned event complies with all EFRA rules. If any motor is found to NOT comply with the EFRA motor rules, any results using such motor will be disqualified, regardless if the motor is included on the EFRA homologation list. If there is definitive proof available; that the motor manufacturer supplied a motor (to the competitor) that does not comply with EFRA rules, then sanctions could be taken against the specific manufacturer(s).

4.7 Can Assembly (not including rotor shaft):- Overall maximum/minimum diameter is 36.02mm./34.00mm. measured at whatever point yields the maximum /minimum dimension, excluding solder tabs or lead wires.
Overall maximum/minimum length is 53.0mm./50.00mm. measured from the mounting face of the motor to the furthest most point of the end bell/plate, not including solder tabs, lead wires or original manufacturer's logo or name.
Motor mounting holes must be on nominal 25.0 to 25.4mm centres.

4.8 Can/Casing design requirements to allow verification of stator sizes, design and construction.
Rule has been updated many times to accommodate various manufacturer design changes:-

a) Before 2012, motors were not required to have any holes or slots for stator verification. Stators did not have to be removable.
b) From 2012, if the stator cannot be easily removed from the assembled motor, the Can/Casing was required to have holes or slots to allow measurement of the stator and visual appraisal of the laminates. Then from 01.03.18 a minimum two pairs slots or holes (each exposing 3mm of stator ends minimum), in line with the centre-line of the stator, that will allow measurement of the stator length. And slots or holes to allow visual appraisal of the laminates.
c) Starting 01.03.21, any new motor submitted for homologation must have a minimum of one full length slot in the motor casing, parallel to the centre-line of the stator, to allow all laminates to be viewed. This slot(s) must have length and width dimensions sufficient to allow stator length measurement using conventional measuring tools.

Older approved motors without all the above features retain their homologation status.

4.9 Stator: 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 (if needed) the three grooves for the screws used to hold the entire assembly together. Stator minimum length 19.30mm, maximum 21.00mm measured across the metal surfaces of the laminates and not including any coatings. The faces of the end laminates of the stator must be free of any coatings or mouldings for minimum 1mm from the outer circumference to allow direct measurement across the metal faces of the stator ends (to be applied to any new motor range submitted from 01.03.18). The outer circumference edges of the end laminates must be complete with no material removed, to allow accurate measurement. The thickness of the stator laminations is 0.35 +/- 0.05mm. All laminations must be of the same material.
NOTE : Whilst all laminates in the stator must have the 'same overall shape/ design', removal of sharp edges is allowed in the winding area on the end laminates (only) to offset damage to wire coatings. This is clarified as follows:- The top and bottom laminate in the stator stack of Brushless Motors covered by these rules may be deburred or chamfered only on the wire winding web/ leg, so long as the overall thickness of these end laminates is the same as other laminates in the stator and so long as the overall measured width of the wire winding web/leg of these end laminates is the same as other laminates in the stator. This requirement effectively restricts any deburring or chamfering to only the top and bottom laminates in the stator.

MODIFIED BRUSHLESS MOTORS - 05 SIZE
Specific Requirements & Dimensions.

4.10 Inside diameter of the stator must accept "plug" gauges of 12.5mm minimum, 16.0mm maximum.

4.11 The winding: Delta and Y wounded stators are permitted. Only circular (round) pure copper is permitted. There is no turn limit, but individual Classes may restrict the number of turns to a specific minimum.

No solid glue or 'filler' can be added to the wires of the final winding assembly. When the stator has been 'cut' to gain access to the wires, unwinding of the wires must be possible by normal 'hand' procedures. A small amount of lacquer added to the winding is allowed, providing unwinding by hand is possible.

4.12 The Rotor: Shaft diameter where the pinion gear mounts must be 3.175mm. Only one piece, two poles Neodymium bonded or sintered, or Ferrite magnetic rotors are permitted. The rotor will be identified with the manufacturers name or logo and the unique part number. Applies to all rotors in new motors or new optional rotors starting from 1st. April 2015 onwards.

Starting 01.03.21, any new motor or new optional rotor submitted for homologation must have the unique part number of the rotor etched/stamped on the external flat area of the rotor shaft (where the pinion is located). This must be the listed part number as shown on the homologation list. Rotor sizes/ dimensions are not acceptable.

Magnet: Minimum length 23,0mm. Maximum 27,0mm. Magnet minimum diameter 12,0mm, maximum 15,5mm. not including any non-magnetic balancing aids.

'SPEC' CLASS BRUSHLESS MOTORS - 05 SIZE

Specific Requirements & Dimensions.

The following rules have been agreed by various International organisations.

Applicable to motors of :- 21.5T, 17.5T, 13.5T and 10.5T wind limit.

4.13 Only sensored motors are allowed in the Spec. classes. It is not mandatory that sensored Speed Controls have to be used, or that the sensor "harness" has to be connected.

4.14 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.

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

21.5T Class:- 21.5 turns of - 2 wires at: 0.724 mm. maximum wire dia.
17.5T Class:- 17.5 turns of - 2 wires at: 0.813 mm. maximum wire dia.
13.5T Class:- 13.5 turns of - 2 wires at: 0.724 mm. maximum wire dia.
and - 2 wires at: 0.574 mm) maximum wire dia.
10.5T Class: - 10.5 turns of - 2 wires at: 0.813 mm. maximum wire dia.
and - 2 wires at: 0.643 mm) maximum wire dia.

Wire dimensions are before lacquer coating.

No solid glue or 'filler' can be added to the wires of the final winding assembly. When the stator has been 'cut' to gain access to the wires, unwinding of the wires must be possible by normal 'hand' procedures. A small amount of lacquer added to the winding is allowed, providing unwinding by hand is possible.

The electrical circuit through the windings can only be from the ends of the wires forming the designated number of turns. NOTE: The above metric wire diameter sizes are direct equivalents to the nominal AWG sizes previously shown. (Reference to AWG sizes removed for simplicity).

4.16 The Rotor: Shaft diameter where the pinion gear mounts must be 3.175mm. Only one piece, two pole Neodymium bonded or sintered, or Ferrite magnetic rotors are permitted.

The rotor will be identified with the manufacturer's name or logo and the unique rotor part number. Applies to all rotors in new motors or new optional rotors from 1st. April 2015 onwards.

Starting 01.03.21, any new motor or new optional rotor submitted for homologation must have the unique part number of the rotor etched/stamped on the external flat area of the rotor shaft (where the pinion is located). This must be the listed part number for the rotor as shown on the homologation list. Rotor sizes/dimensions are not acceptable

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.

From 01.11.2017 only one 'optional' rotor will be allowed for any range of new motor submitted (includes all wind Classes). Manufacturer to specify the optional rotor.

4.17 All 'SPEC' motors must have a unique marking or feature that is difficult to remove incorporated into the assembled motor to identify the motor is either a 21.5T, 17.5T, 13.5T or 10.5T Spec. Class motor. But 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.

5. BRUSHLESS MOTOR 05 Size - HOMOLOGATION PROCEDURE:

As agreed AGM 2015, EFRA will homologate '05' size Brushless Motors. Competitors at EC and GP events in 1/12th., 1/10th. Touring Cars and 1/10th. Off-Road Classes can only use '05' size Brushless Motors that are included on the EFRA Homologation Lists, starting 01.06.16.

5.1 Motors must comply with the following rules:

Modified Brushless Motors -- All requirements of App.4, Rules 4.2 to 4.12.

'Spec' (stock) Brushless Motors --All requirements of App.4, Rules 4. 2 to 4.9 and 4.13 to 4.17.

5.2 All 'Spec.' (stock) motors must have a unique Part Number which will be included on the homologation lists.

5.3 Any optional rotors must be submitted for approval. Only optional rotors listed will be allowed at EC and GP events.

5.4 When a motor (or rotor) has been approved and included on the relative list, the manufacturer must not change the; technical specification, visual appearance or description. Any changes will require a new Part Number and the motor (or rotor) will have to be resubmitted for approval.

5.5 New motors or optional rotors will NOT be added to the homologation lists within the four weeks preceding any EC event for any Class at which the motor (or rotor) can be used.

The 'cut-off' date will be at midnight 28 days before the first day that cars use the track detailed by any official schedule. Homologation fees have to be received by EFRA before any motor will be added to the homologation lists.

Sample motors must be received by the homologation officer a minimum of six weeks before any event, to allow time for all technical checks, availability checks, invoices raised and records to be completed.

5.6 Sample motors (or optional rotors) for homologation will only be accepted directly from the original manufacturer or an appointed distributor within the EFRA countries. Motors (or rotors) must be commercially available from the appointed distributors or shops throughout the EFRA countries , before being added to the homologation lists. Therefore availability must be confirmed when samples are submitted.

5.7 New motors have to be submitted to the EFRA Motor Homologation Officer as listed in the EFRA Handbook. Minimum one (1) sample must be submitted for each motor class requiring approval (Modified, Spec. - 10.5T, 13.5T, 17.5T, 21.5T).

The homologation fee for each class of motor will be as shown in General Rule 3.5.7.

APPENDIX 5
LARGE SCALE I.C. RULES

1. RACE FORMAT

1.1 There will be two annual European Championships to determine the European Champion in:
a.) 1:5 Scale Touring Cars Sport, Open and F1
b.) 1:6 Scale Off Road Cars 2WD + 4WD + Short Course
c.) 1:5 Scale Touring cars and F1, 40+
d.) The 40+ event will be run as an International Race.
Drivers can only enter one class at a European Championship. There will not be a 1:5 touring car European Championship event held in the same year as an IFMAR World Championship event held in Europe, the 3 EFRA GP's will determine the European Champion in Touring car and Formula 1 with the 2 best results counting.

1.2 The results of the EFRA-GP´s will give the EFRA ranking list.
The Ranking list will be a continually updated one, for every new EFRA GP, the oldest one will be deleted.

1.3 The number of drivers per event is limited for GP's to 110 and for EC's to 150.
There are 3 classes at a GP (TC Pro, TC Sport and F1), in case of more than 110 attendees wants to subscribe the numbers must be limited for each section to 76 TC and 34 F1 = 110 drivers in total. With permission from the Chairman, the track and facilities being suitable, the maximum number of drivers at a GP can be increased.
A minimum number of 25 participants from 3 different countries in a class at an EC is required for that class to be officially classified as a European Championship and a European Champion title given to 1st place.
If 2 weeks before an EFRA GP one class is oversubscribed and the second class does not reach the allowed number, these places can be given to the drivers on the waiting list in the other class.

1.4 Qualification for the European championships and World championships 1:5th Touring Cars and F1:
20 places for the European championships and 7 places for the World Championships for the following year's meeting/s will be offered to the highest ranked drivers competing in the large scale EFRA GP series. The remainder will be split as per normal between countries as outlined in general rule 3.6.
Only the EFRA GP Meetings will count for the points system, with the drivers best 2 meetings out of the 3 to count. Points will only be awarded to a driver if they compete in their final/s. If there are less than 3 EFRA GPs then they will all count.
Points system to use: 1 = 150, 2 = 147, 3 = 145, 4 = 144, 5 = 143, … 10 = 138, 11 = 135, 12 = 134 … TQ = 1 extra point.
If a concourse competition is held at an EC, only cars and bodies that are used in the race are eligible.

2. RACE PROCEDURE

2.1. Duration of the races:
Free practice: max. 8 minutes
Heats: 10 minutes (plus the last lap and time of the last lap)
Sub-finals: min. 15 minutes, max. 20 minutes up from the 1/32 final and 20 minutes for semi finals
Final Touring Cars: 30 minutes (plus the last lap and time of the last lap)

Semi Final Formula 1: 25 minutes, (plus the last lap and time of the last lap)
Final Formula 1: 25 minutes (plus the last lap and time of the last lap)

b) Both the Formula 1 and Touring car classes, the no. 1 and 2 ranked driver after completion of the qualifying heats will move up directly to the main final and take first and second position on the starting grid respectively.
Prior to the semi finals, the 2 direct qualifiers will have a 10 minute practice session (10 minutes for each class).

c) Sub-Finals: The first 3 drivers from each sub-final progress up to the next final.
Semi-final: The first 4 drivers from each semifinal ranking will progress up to the main final.

d) It is not allowed to drive a model car on any other place than the track and the marked track pit lane.

e) Radio communication between driver and pit lane is allowed but only one pair of headsets to be used and they can only be used by the driver on the rostrum and the mechanic in the pit lane.

2.3 a) Number of drivers:

Heat: 10 to 15 drivers (only 1:5), track and facilities permitting.	
Sub-finals and finals:	Maximum 10 drivers
Final F1 EC	Maximum 10 drivers
Final F1 EFRA GP's:	Maximum 15 drivers, if the team managers agree

The race format will be notified in the event information and invitation material.

b) In the event that the transponder loop is before the exit to pit lane any car that should start from the pit lane will start from position 11 on the grid (unless the car was too late exiting the pit lane when called to the grid).

2.4 TIME SCHEDULE for EC

EC Tracks must be closed for Large Scale Racing, two weeks prior of the event.
No cars are allowed on the track before Monday morning.
General qualification format for EC´s:
There will be a Minimum of 4 and a Maximum of 6 series of 10 minutes heats depending on the number of drivers. The number of series, time schedule and heat order to be announced prior to the first round of qualification.
If there are 60 drivers or less, 6 rounds.
If there are >60 - <80 drivers, 5 rounds.
If there are more than 80 drivers, 4 rounds.
The event starts on Monday morning.
Approximate time schedule;-

Monday	09:00-18:00	Free practice (in full heats made by the organiser)
Tuesday	09:00-18:00	Free practice (in full heats made by the organiser)
Wednesday	09:00-18:00	Timed practice /tech inspection/qualification heats (a minimum of the car/body checked and marked, engine marking is optional)
Thursday	09:00-18:00	Qualification heats
Friday	09:00-18:00	Qualification heats, lower finals
Saturday	09:00-17:00	Sub-finals and final. Prize giving ceremony

2.5 STARTS

(see also General Race Procedures Chapter 8).
The arrangement of the free practise heats will be created from drivers previous meeting results, known ability and common sense by the organiser. The arrangement of the heats and numbering will be done using common sense and a drivers best 3 consecutive laps. The drivers must stand adjacent to their numbers on the rostrum, the mechanics must remain in their boxes along the

pit lane. For all finals, drivers with the lowest starting numbers may choose their position on the rostrum and the mechanics must stand under the driver where this is possible.

- 1 There must be a 3 min. gap between the end of one heat and the start of the next heat.
- 2 During qualifying an audible warning will be given at 1 minute and again at 30 seconds prior to the official start, in English and other languages as appropriate.
- 3 For all sub finals and main finals, a "Formula 1" type grid start will be used with each grid start position spaced a minimum of 5 meters apart.
- 4 For all finals, the track will be opened 5 minutes prior to the start of the final. At 2 minutes to go all cars will be called back into the pit lane and re-fuelling is allowed. All refuelling must be done through the fuel tanks screw on or flip top fuel cap. At 45 seconds to go the cars are called to the start line, all cars will leave the pits in number order and drive round the track to their respective starting positions. The 10 second count-down will commence within 5 seconds of all cars being stationary in their correct grid position. If a car has not left the pit lane at 30 seconds due to unforeseen problems, the car may start from the pitlane after the other cars have officially started. The race director and referees will monitor the pitlane for the abuse of this facility.
- 5 From 10 seconds until 3 seconds prior to the start a second by second countdown will be made in English.
- 6 From 3 seconds the verbal count down stops and the actual start-signal will be given by the Starter after a period of between 0 and 5 seconds has elapsed. If the grid is not to the satisfaction of the Starter, he may require a re-start, re-commencing the count down.
- 7 The official start signal will be audible by means of a hooter, operated by the Starter. This signal will also start the Timing Systems.
- 8 Early starts (i.e. any part of the car touching the starting line), will be penalised. (10 sec. up to 1lap) This penalty is issued by the Starting Official or the Time- keeping official and must be announced immediately after the start. The penalty will be marked on the result sheet.
- 9 Under no circumstances will the race be stopped due to a jump start.
-10 The Starter may only interrupt the race and make a re-start in the event that he considers the starting procedure or the start was not carried out correctly.
-11 Delayed start. As long as the starter has not called the cars to the start line, any participant of the semi-finals and final may request a delay of 10 minutes to carry out repairs on their car.This delay can be granted only once for each semi final and final. The track is closed and the remaining mechanics/drivers are only allowed to turn off the engine and receiver of their cars which must remain in the pit lane, tyre warmers are allowed to be used. They are not allowed to make any repairs or change any tyres. At the end of the 10 minute delay period (or if every participant is ready prior to the 10 minute time out), a complete new warm up time and start procedure will begin.
-12 When the starter calls the main final to the start line, the mechanics are not allowed to refuel the cars.
-13 The driver asking for the delay for what ever reason, except an error in frequencies of the race control, must start from the pit lane.

2.5.1 STARTING PROCEDURE OF HEATS

For qualifying heats no stop between practice time (warming up) and start of the heat. Just start the clock when practice time is over. (Flying start.)

-1 If the number of heats differ from 10, or if the event is planned with more/ less rounds, a sequence following this general scheme has to be used.
Round 1: 1,2,3,4,5,6,7,8,9,10
Round 2: 4,5,6,7,8,9,10,1,2,3
Round 3: 7,8,9,10,1,2,3,4,5,6
Round 4: 10,9,8,7,6,5,4,3,2,1

Starting for Sub Finals and Final will be on a Formula 1 grid depending on the track layout, with the faster Qualifier starting in front of the slower.

2.5.2.
-1 When the time is over, an audible signal is given. A car finishes when it passes the finish line after the finish-signal is given. The car must immediately return to the pits and may not hinder other cars still racing.
-2 In case of doubt (on the finish-line when time is over), a car may race one more lap and finish. Whether he finishes or not when time was completed, is up to the Time-keepers and cannot be disputed.
-3 After returning to the pits, the engine must be stopped immediately and the transmitter turned off and impounded.

2.5.3. Qualification Order and Finals.

-1 In each round drivers will score points based on laps and times achieved. The 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. (NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round). Overall Qualifying positions are decided by each drivers "best" (lowest) points being added together, based on the number of rounds to count. In the event of a tied position the driver with the single highest finishing position in any of the best rounds that counted will be awarded the tie (eg . 1+3+3 = 7 beats 3+2+2 = 7). In the event of a continuing tie then the laps and times from the best points Round will be compared . The driver with the fastest laps and time will be awarded the tie. In the case of a continuing tie, then the times from the next best scores will be compared. Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded. Out of 6 (six) completed rounds 4 (four) to count, Out of 5 (five) completed rounds 3 (three) to count. Out of 3 (three) and 4 (four) completed rounds 2(two) to count. Out of 1 (one) and 2 (two) completed round 1 (one) to count.
-2 In case of more than one driver recording identical best results of qualifications the next best result is taken.
-3 In the case of more than one driver recording identical results in a final, the driver starting with the higher start number is classified as the faster, e.g. if number 5 and 2 have equal times, 5 is deemed to have higher final placing.
-4 The sub-finals and final are run according to the schedule printed in the official race program, which may only be changed by team managers majority vote.
-5 Starting order for the drivers who moved up to the final is based on number of laps and time.

In different circumstances it will be number 1 from the A-final who gets the number 1 and the number 1 from the B-final who gets the number 2 etc.

2.5.4 During the warm-up period, or at any other time of a race in progress, deliberate stopping a car on the race track will lead to be penalised with a 10 second "stop and go" after the start of the race. Consecutive stopping on the race track will lead to immediate disqualification.

2.6. RAIN SITUATION

In case of different weather conditions during subfinals the final classification will be as follows: Place 4 of subfinal A and Place 4 of subfinal B will both be awarded place 11th equal in the general classification. Place 5 of subfinal A and place 5 of subfinal B will both be awarded place 13th equal in the general classification ..... and so on.

2.7. RACE INTERRUPTIONS

-1 In the case of a race which is interrupted for more than 60 minutes for reasons beyond the control of the organisers, the jury will decide whether to cancel or continue the meeting.

-2 In the case of an interruption of a heat the entire heat will be re-run.

-3 In the case of an interruption of sub-final or a final the following procedure will be used:

A. If less than 10 minutes of a final has been run, the results will be cancelled and a new start given for the total time of the final. Vehicles may be repaired before the new start.

B. If more than 10 minutes of the final have been run, the results at the moment of the interruption will be kept. The new start will be given for the time which remains to complete the final. The two results will be added to give the final and definitive placing. If the second start cannot be made for any reason, the results from the first part will be used as the final and definitive placing.

C. When the interruption takes place after 75% or more of the race is past, the results as at the time of the interruption becomes the final result. At the moment of the interruption of the race, the drivers will leave their vehicles on the start-line under the control of the Race Director. They may switch off the radio and stop the engine. There will be no repairs carried out to the vehicle or changing of tyres. Any driver who does not observe this rule will be immediately disqualified.

2.8.1. RAIN PROCEDURE DURING QUALIFYING

- 1 The Race Director and the Referees are jointly responsible for the decision to stop a race in the event of rain.
- 2 When all drivers have had at least one dry heat, all results will be counted.
- 3 When weather and time permits, the Race Director may decide to offer an extra heat to those drivers who did not have a chance to drive a heat dry
- 4 When not all drivers have had a chance to run a dry heat, only the wet results will be counted.
- 5 When continuation is judged to be senseless, or when other drivers should be offered a fair chance to drive under dry conditions, the Race Director together with the Referees may decide to amend the time schedule.

2.9. ACCIDENTS/CRASHES

a) A yellow flag situation will be announced, if an accident occurs. (This must be a yellow flashlight combined with an audible signal, that can be operated by the referees and the race-director) During the yellow period overtaking other cars is not allowed. Cars are required to slow down so that they can stop immediately.

Disregarding this rule will be penalised by deducting one lap from the result of the driver concerned in that particular heat, sub-final or final. An official warning has also to be issued. Racing will recommence at racing speed following display of a green flag or the official announcement "track is clear". Signals given by flags have to be visible for all drivers.

b) Mechanics are allowed to enter the track to save the car of their driver. The mechanic may restart the engine (3x) beside the track, but not repair the car. The mechanic may not disturb the progress of other cars in the race.
Mechanics or Spectators entering the track from outside the pit lane to save a car will produce a penalty for that particular car. (Penalties can be given as stop and go or one lap penalty. The referees will inform the Team Managers about the sort of penalty given.)
If serviced by a spectator then the car should remain stationary until touched by a mechanic to save a penalty given.
The duration of a stop and go penalty given must be always as long as decided by the Referees and announced during the Team Managers meeting prior to the race-meeting. It is not allowed for any of the race officials to change the time of the stop and go penalties during the race meeting.
The driver have three laps time to come in.
Three stop and go penalties for one car during one race will lead to disqualification (black flag).

3. TRACKS

3.1.1 Tracks for Large Scale racing will be inspected by EFRA Officials with regard to safety provisions for drivers, mechanics, race officials and spectators. EFRA Officials have the authority to ask for improvements to be carried out before racing starts.

3.1.2 A monitor must be placed in the pit area or under the rostrum during all international races. (WC/EC/GP)

4. GENERAL Technical Specifications

4.1. ENGINE and FUEL

For Formula 1, Off Road and Fifth Scale Saloon:

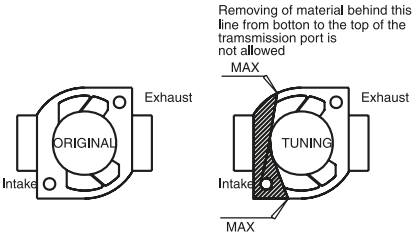
1. Only one marked engine allowed. In exceptional circumstances the race director may allow a second engine during the time of a wet track. The marked engine maybe repaired/serviced in technical inspection and the piston ring, gaskets and crankshaft seals maybe replaced without penalty. If any other parts are replaced or a second engine is used then the driver will receive an automatic stop and go penalty in their first final (during the first four laps).Each driver is only allowed to use a maximum of 2 engines per event.
2. The engine to be a single cylinder, 2 or 4 stroke.
Maximum of 23 cc for On Road touring cars.
Maximum of 26 cc for F1 and 2wd Off Road.
Maximum of 30 cc for 4wd Off Road.
Maximum of 32 cc for short course Off Road.
Electric starters can only be used in the pit lane and under no circumstances to be used on the race-track. There must be a secure protection on the flywheel cover to prevent people touching the flywheel or moving parts.
3. No Turbo charging, Fuel injection, Supercharging, Wankel or rotary valve/ distribution engines are allowed.
4. All ignition must be mechanically fixed, only manual static adjustment is allowed.

Touring car Open class and F1- The flywheel can only have 1 (one) pair of magnetic poles (i.e. one north and one south).There can only be a maximumof 2 coils (either a single combined LT and HT coil with the standard type ignition or two LT coils with the external ignition systems) working with the flywheel/rotor

Touring car Sport class- The engine must be a totally standard unmodified Zenoah as supplied by the manufacturer (including gaskets, bearings, seals, Carburettor etc) with the exception of these parts which may be changed/ upgraded- Carburettor Insulator block and/or a support bracket. Additional cylinder clamping bolts. Spark plug. Electric starter conversion is allowed Engine covers/cases maybe coloured

Off Road Engines- Only the standard Zenoah car engine type/size cast flywheel and ignition coil may be used. Additional parts are not allowed to be added to the flywheel but lightening and balancing is allowed. The minimum diameter of the flywheel is 88mm.

5. No Battery operated ignition allowed. Only a passive ignition system using R.P.M. as the single input parameter is allowed . Engine Control Units (ECU) are allowed but power must only come from the standard ignition coil.
6. Only open deck admission ports are allowed in engines up to 30cc, they maybe closed ports on engines over 30cc. The removal of material is free as long as the modified shape of the transfer/admission port walls are in the direction of the cylinder bore at all times.
7. The Cylinder block must be of a single casting. No independent liners or slipping liners are allowed.
8. The maximum numbers of admission ports is limited to 4.
9. Engine must be air cooled. The air being driven directly by the flywheel.
10. The crankshaft must be of split shaft configuration, with enclosed big end. No half crankshafts allowed.
11. An air filter must be fitted to the carburettor.
12. The maximum venturi diameter of the carburettor is limited to 13 mm for engines up to 30cc and 14mm for over 30cc.



13. Only fuel admitted will be petrol normally available at street petrol stations. The fuel must be bought at fuel station within the vicinity of the event. Details of the fuel station location and opening times should be provided by the race organiser prior to the event commencement, Fuel testing should begin prior to the start of qualification. Special fuel's like Avgas, race fuel etc. are strictly forbidden. The only additive allowed is mass production two stroke oil.

    Technical inspection may ask for a sealed bottle of that oil, to check it. If a fuel is found suspect, the driver will be asked to mix his fuel at technical inspection, so it can be verified.

    If an organiser is able to provide fuel at the track, all competitors have to use this fuel. The price of this fuel must not exceed the normal street price by more that 5%. Fuel tests may be made at random during the race. The fuel tester must be available to the competitors during the event., free fuel

test on drivers request can be provided only before controlled practice. After that, If a fuel is found illegal, the driver will be disqualified from the particular event. If a driver want's to protest that decision, he has to make a written protest to EFRA with a deposit of 500 Euros.

14. All drivers that qualify for the semi finals will have their fuel tank capacity tested prior to the semi finals. After testing the fuel tank will be emptied, the drivers fuel container will be marked and remain in technical inspection (facilities permitting) until the driver/car is preparing to go out on track for their semi final and main final warm up. Only fuel from the drivers own marked fuel container is allowed to be used.
    Any engine additives or treatments applied directly into the engine anywhere at an event is strictly forbidden

4.2. EXHAUST/NOISE REDUCTION

4.2.1 Maximum noise level is 81dB (A) measured at 10 metres, 1 metre above the track. The race director has the authority to decide a different method of measuring (using the EFRA noise trap) as long, as the result will be the same.
If a cars average over 10 or more laps exceeds the limit (with an additional +4db(A) for off Road and F1 classes) during the qualifying then the driver will loose their best qualifying result. If this level is exceeded during a final then the penalty is a 1 lap deduction at the end of that final. Under exceptional circumstances common sense will be used.
Both the Race Director and Referee's can decide if any car producing excessive noise is allowed to race.
Exhausts have to be of minimum three chamber type. No open exhausts or pipes are allowed.
The total exhaust must be inside the body, with the exception of the tail end of the pipe, which may protrude the body by no more than 10 mm.
No adjustable or moving parts are allowed in the manifold or muffler. The body may be cut out at that point max. 20 mm more than the tail end diameter.
Max. inside diameter tail end 13 mm.

4.2.2 All cars to be equipped with an air - box to reduce the intake noise of the carburettor. The air box must change the direction of air entering the carburettor by 90 degrees(or more). The exhaust must have a second muffler (if a two chamber exhaust is used) or be a three chamber type muffler. All three chambers must be designed so that the exhaust fumes will pass through and have to change direction twice to get the maximum possible noise reduction.
The design of that additional silencer is free, but with both systems together, the max. noise level must not be over 81 dB (A).

4.2.3 No refuelling allowed during racing for all cars in 1:5 Touring Cars and Off Road. Refueling is allowed only in Formula 1.

4.2.4 The Engines adjustments and warming are strictly forbidden in pits and working areas. They are allowed only on protected tables supplied by the Organisers, and in the proximity of pit lane, and of the Rostrum.

4.3. CAR

a. The car has to have a functioning brake, which has to be capable of keeping the car stationary whilst the engine is running.
b. A mechanical fail-safe has to be fitted to the carburettor which returns the throttle to a closed position in case of breaking of the throttle linkage.
c. Variable ratio transmission is not allowed.
d. Only 2WD (rear-wheel drive) In class Off road 4WD only four wheel drive cars are allowed.

e. No other function than steering and throttle/brake are allowed to operate with radio control by the driver. Any other electronic or hydraulic systems are not allowed in the car, with the exception of electronic fail save to stop the car in case of radio failure and the hydraulic brake system. Movable upper formula1 wing (DRS) can be operated together with brake or throttle function. A separate radio channel to operate DRS is not allowed.
f. The use of an electronic fail-safe system is highly recommended.
g. The ignition kill switch must be on his original place on the engine and the window on this side must be cut. The position must be market with an E (size 20 mm) on the bodyshell. To create more safety, it is allowed to have a second kill switch fixed near the rear window to allow easy access. This kill switch should be away from hot or moving parts.

4.4 TYRES

Tyres have to be black. The design of the tyre profile is free. It is not allowed to treat the tyres in the pit area. This means it is clearly forbidden. But if someone use it at home, it is recommended that the chemical components of these products must be harmless for people and environment. Liability at the use of tyre additives lies at the user and manufacturer. Oil of wintergreen, paragon and other strong smelling products are prohibited.

5. SPECIAL TECHNICAL SPECIFICATIONS

5.2 LARGE SCALE FORMULA

Only Formula one cars following the FIA 2000/1 (or younger) Formula One Regulations are allowed. Bodies must be the model of a existing car from the season 2000/1 or younger. Paintwork and colour is free. The design of the visible suspension parts must have the same appearance than the original F1 cars.

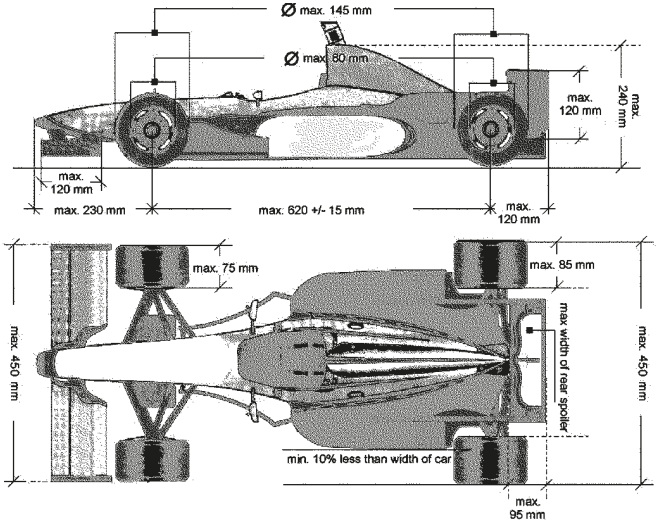
All cut-outs must exist also in the full size car. Cut outs for the engine and fuel tank are allowed in the area of the tank seal, starting device and adjusting screws for carburettor i.e. choke, neutral gear etc.

For Formula cars the side pods have to be used for the starting number. About the design of the Car numbers see 5. General Requirements EFRA Events 5.2.4

5.2.1 TECHNICAL SPECIFICATIONS

Minimum weight dry	10.000 g
Width Formula maximum	450 mm (incl. tyres)
Height maximum	250 mm
Wheel base	620 mm +/-15 mm
Fuel tank - capacity	Maximum 700 cm^3 with the fuel filter, fuel pipe and without any removable pieces inside
Tyres front diameter	142 mm +/- 5% = 134,9-149,1mm
Tyres rear diameter	142 mm +/- 5% = 134,9-149,1mm
Tyre width front minimum	60 mm, max. 75mm
Tyre width rear maximum	85 mm, rear wheels must be min. 5 mm wider than the front wheels
Rims outside diameter	80mm +/-5mm, indicators must be the same on tyres and rims.

No mixture of +/- is allowed on the wheels and tyres. No tyre will be measured after the race.



5.2.2 TYRES

Tyres must be semi-pneumatic rubber.

They must be moulded in one piece

In case of rain the use of rain tyre can be allowed by the race director.

5.2.3 FRONT SPOILER

Max width 450 mm max. cord 120 mm. The front spoiler must be fixed at the chassis, so that it can bend up or down in case of an accident.

REAR WING

The rear wing must fit into a side profile box of 95x120 mm. The number of added wings inside is free. The rear wing must not be wider than the space between the rear tyres.

The front part of the car should not overhang the centre of the front wheel by more than 230 mm. The rear wing and a the diffuser should not overhang the car by more than 120 mm.

The width of the side-pods must be min. 10% less than the overall width. They should not be higher than the tyres.

5.2.4 TANK SIZE, ENGINE RULES, AIR BOX, MUFFLER ETC.

Air box, muffler, engine rules, etc have to follow Large Scale General Technical Specifications.

Exhaust outlet pipes must exit within the body shell side pods and point down to the track.

5.2.5 F1 WINGS

Front and rear wing are part of the bodyshell of a F1 car and must be repaired immediately if they get damaged or come off the car.

5.3 1:5 Scale TOURING CARS

There is one series recognised in accordance to the 1:1 scale series namely the FIA World Touring Car Cup, following FIA .

Touring cars raced in recognised mainstream national series in the past 10 years like Australian V8 Supercars, CTCC ;German Procar, Italian Super Stars will also be allowed with the only restriction that rear wing has to follow 5.3.5.

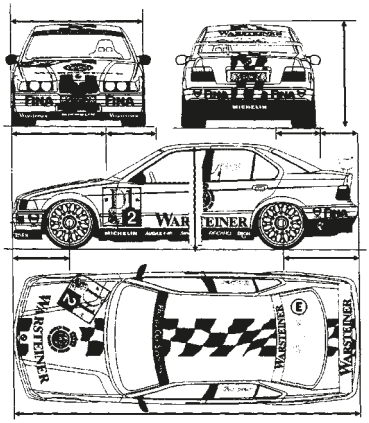
5.3.1 GENERAL SPECIFICATIONS

The car body has to comply with the calculated scale dimensions 1:5 with the allowance of using the following tolerances.
Length: within scale +/- 10%
Width: max. 395 mm measured at the widest point of the bodyshell
Height: within scale +/- 10%
Minimum wheel base: 500mm
Maximum wheel base: 535mm
Tank capacity: 700 cm (including pipes to and from the carburettor and any fittings). If a ventilation chamber/catch tank is fitted, it must be fitted above the tank and be transparent.
Minimum weight, without fuel: 10.000 g
Maximum weight, without fuel : 12.000 g

5.3.2 All 1:5 cars have to be genuine scale in all details and proportions and be a fully detailed model of an existing 1:1 touring race car. If the allowed tolerances are used, then all parts of the model in that particular view have to be within the same sign (wheelbase-, length,- //wheelbase+, length+). Mixtures of car designs are not allowed.
The minimum length of a Super Touring Car is 4.200 mm that gives a minimum length of 798 mm in scale including max.-tolerance.
All recognized cars must have a minimum length of 4,200 mm/165.35 in. All bodies that are produced world-wide, descend from a original touring car racing and are commercially available, under consideration of Paragraph 5.3, will be allowed. Only bodyshells that are approved by EFRA will be allowed to race in EFRA sanctioned events. The EFRA homologation number has to be permanently engraved or moulded in within the space normally used for car registration numbers at the rear end of the model. The minimum weight of the body is 500g ready to race including wing and wing support plate if used. The weight excludes any side guards/bracing or air ducts and if these are fitted they must be either removed or identical items provided if requested by technical inspection to allow the body weight to be calculated. Weights are NOT allowed to be added to the body.

5.3.3 BODY

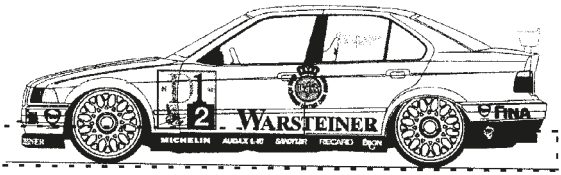
Bodies have to follow the description in point 5.3.2. They have to be properly fixed to the chassis and must cover the outer edge of the wheels at the centre of the axle when viewed from the top.
It is not permitted to cut the windscreen out. The side and rear windows may be cut out for cooling. It is not allowed to open them by cutting out only some holes. Also it is not allowed to mould air channels into the side windows to guide air into the interior. The body shells have to be painted and all windows to remain clear.
All parts of the car have to be covered by the body. Only the radio antenna is allowed to come outside. All openings in the body have also to be in the existing 1:1 race car.



It is not allowed to modify the car body by cutting it over the marked trim lines or to widen it by heating it or parts of it.
The start numbers must be placed according to the drawing (and the corresponding picture). About the design of the Car numbers see 5. General Requirements EFRA Events 5.2.4.
If the race-meeting has started, a competitor is only allowed to change the body shell in case of damage to a body shell of the same brand and car design.
Only allowed for manufactures: Aerodynamic modifications at the front, the sides and the rear below the wheel hub centre are free subject to the requirements for ground clearance, overall length and overall width.
The modifications have to correspond to the original. The materials have to be the same as that of the bodyshell. The homologation number has to be engraved. A photo of the modification 1:1/1:5 have to be sent to the responsible Homologation Officer.

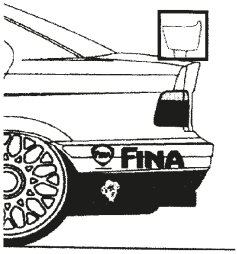
5.3.4 GROUND CLEARANCE

The measurement of the body shell height will be made with 6mm ground clearance.



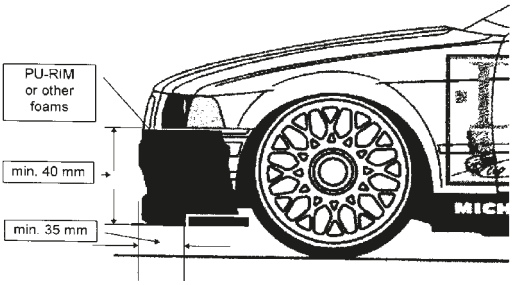
5.3.5 WING/SPOILER

A single rear wing is permitted as long as it does not exceed the front view profile and the length of the car. The wing has to fit in a side "profile box" measuring 60 mm x 60 mm per side and should not overhang the end of the car. Extension pieces extending past the main end plates are not allowed



5.3.6 BUMPER

A bumper has to be fitted to the chassis. Bumpers have to be designed in a way that they fill the front of a car body completely and be a minimum height of 40mm.The material used has to be flexible like PU-RIM or other foams, that are used in 1:1 car construction to absorb impact energy. At no point may any part of inflexible material for bodyshell mounting protrude from the body more than 10mm. If an opening is created through the foam bumper for cooling air, the combined thickness of the foam (above and below the cooling hole/slot) must still be a minimum of 40mm in height.



5.3.7. TYRES

Rim Diameter	max.: 107 mm
Rim and fitted tyre Diameter	max.: 136 mm
Rim and fitted tyre width - front	max.: 75 mm
Rim and fitted tyre width - rear	max.: 80 mm

Only semi pneumatic rubber is allowed. Foam tyres are not allowed.

5.3.8 Electric Touring Cars
Introduce Electric cars into the GP series for 2018, run as a separate class.
Minimum Weight 11Kg
Maximum Battery Size 25Ah, 8s.
The same battery size must be used during qualifying and finals.
All batteries must be either hard cased or enclosed in a box in the car and charged in a Lipo bag.
Semi Finals and Main Final 20 minutes duration.
Bumpers, wings, tyres etc as per the engine driven touring cars.

5.4 Large Scale Off - Road Rules

Technical requirements for Large scale off road racing with 2WD and 4WD.

5.4.1 Technical classes and weight
All cars have to be large scale
Only rear wheel drive allowed in the 2wd class
Minimum weight limit 10kg for 2wd, 12kg for 4wd, and 14kg for short course.
Weight limits for a race ready car with transponder / PT but no fuel load
Modifying or self builder cars are allowed, as far as those fulfil the technical rules mentioned. Maximum weight limit for any car is 20kg.

5.4.3 Exhaust: Exhaust as per General Technical Specifications, 4.2 Exhaust/Noise Reduction, except:
The exhaust end pipe may be outside the shell. This pipe must be fitted rearward or to the ground and within the size of the car.

5.4.4 Fuel tank sizes
The maximum content of the fuel tank including pipes to the carb is 700 cc for 2WD, 800 cc for 4WD and 850cc for the Short Course class.

5.4.5 Only 2 wheel rear drive is allowed in 2WD-class. Only all-wheel drive is allowed in 4WD-class.
Cars with electric drive, propellers or rocket-fuel drive are not allowed
Cars can only have 1 gearing: no multispeed transmissions allowed

5.4.6 Clutch and brake: The model cars must have a working clutch and brake system. Other than Active ABS systems there are no restrictions for brakes.

5.4.7 Bumper: All models must have a front bumper, a rear bumper is allowed but not mandatory. Bumpers must be made from a flexible material. The front bumper must have a minimum width of 100mm, a maximum size of 220 mm width, and 300 mm minimum width for short course. A rear bumper can have a max size of 380 mm width.

5.4.8 Tyres and wheels
Wheels: maximum diameter 160mm and maximum width 75mm.
Tyres: maximum diameter 190mm and maximum width 85mm.
Only wheels and tyres designed and made for large scale off road use are allowed and they must be commercially available .
The tyres have to be on the market a minimum of 4 weeks before the event starts.
The tyres must have been sold to everybody who wanted to buy them.

5.4.9 Chassis, Body measurements
Only large scale body shells are allowed.
The body must be fully painted except for the windows.
Short Course bodies must cover the wheels.
Motorstop access must be easy.
The chassis must be flat underneath and no screws may extend.

Car size
2wd & 4wd buggy:

Max length	820 mm
Max with	480 mm with fully compressed suspension
Max height	360 mm with fully compressed suspension
Max wheel base	599mm

Short course truck:

Min length	850 mm
Max length	1000 mm
Min width	480mm Track measured at full suspension ride height
Max width	530 mm Track with fully compressed suspension
Min height	300 mm
Max height	350 mm with fully compressed suspension
Min wheel base	600 mm
Max wheel base	650 mm.

5.4.10 Wing

The wing must be made from a flexible material

2WD Max size:	315 mm x 140 mm offroad.
Overhang max:	150 mm from the middle of the rear drive shafts
4WD Max size:	315 mm x 140 mm
Overhang max:	230 mm from the middle of the rear drive shafts

Short Course

Max size:	500 mm x 100 mm
Overhang max:	180 mm from the middle of the rear drive shafts

5.4.11 Marshalls have to be 16 years of age minimum. If not they need to have an experienced substitute who is made known to the race director. Through qualifying the on track marshals shall be from be from the previous heat (the last heat of the round will marshal the first heat) and marshal on their car number positions. For the finals, each marshal point will be allocated to a country to cover marshal duties through out all the finals. This will be based on each countries driver numbers (a large country team may be required to cover 2 marshal points, where as small country teams may be required to cover 1 marshal point between them). All marshals must be competitors at the event.

5.4.12 Race procedure's as in EFRA Large scale except:

Semi final duration will be 20 minutes.

The top 5 from each semi final will be promoted to the main final.

QUALIFYING SYSTEM: In each round drivers will score points based on laps and times achieved. The 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. (NOTE: drivers not recording a time or having a time disqualified in any Round score points for last place in that Round). Overall Qualifying positions are decided by each drivers "best" (lowest) points being added together, based on the number of rounds to count. In the event of a tied position the driver with the single highest finishing position in any of the best rounds that counted will be awarded the tie (eg. 1+3+3 = 7 beats 3+2+2 = 7). In the event of a continuing tie then the laps and times from the best points Round will be compared. The driver with the fastest laps and time will

be awarded the tie. In the case of a continuing tie, then the times from the next best scores will be compared. Only counting Rounds will be used to decide Qualifying positions (or ties), all other Qualifying Round scores and times will be discarded. Out of 6 (six) completed rounds 4 (four) to count, Out of 5 (five) completed rounds 3 (three) to count. Out of 3 (three) and 4 (four) completed rounds 2(two) to count. Out of 1 (one) and 2 (two) completed round 1 (one) to count.

5.4.13 Tracks

a) Size: Minimum preferred total length: 200 meter. Minimum preferred width between marking/lanes: 3.5 meter for GP's 4 meter for an EC. The point most far away from the middle of the drivers rostrum can be 60 meters

b) The track design can be made by the organiser. Obstacles as trees, etc cannot be inside the track area. The drivers view to the track must be free without obstacles of any sort.
The track must be made with a reasonable variety of small and large corners, left as well as right handed. The straights must have different lengths.

c) Marking
The lanes must be clearly viewable by the competitors on the rostrum and the track markers must be chosen in such way the cars will not be damaged if they hit the track markers. The track markers must be solid enough not to be moved by a single contact.

d) Track markings
The organiser must make sure a car can never come into the public. Safety of the public, drivers, mechanics and race directors / assistants must be maintained all time by a save and functional track surrounding. The track markers must be situated so that corner cutting is highly impossible and cars cannot enter another lane easily. Track markers can be made of wood, fire hoses filled with sand, rubber hoses etc. By choosing the track markers the safety of the public is far more important as preventing damage to the cars.

e) Start / Finish
There must be a clearly visible start/finish line. On the finish line the timing loop must be placed in such a way that the cars may not damage it. In case of a loose track surface the markings for start finish can be made on the track markers.

f) Pits: It needs to be separated from the track Pits entrance and exit needs to be at least 1 meter width.

g) The drivers preparation area needs to be within a reasonable distance of the track. It needs to have pit tables for all drivers and 220 volts available. Only drivers, mechanics and race officials can enter the pit area. They have to show ID cards, made available by the organiser to identify. Each driver should receive a card for himself and 2 cards for mechanics

h) Only weather resistant track surfaces to be used at European Championships from 2014 on.

5.4.14 All warnings and instructions must be clear to hear for all competitors and mechanics.

5.4.15 Adequate sanitary must be available during the event.

For the latest news and updates go to www.efta.ws or click *here*

APPENDIX 8
HOMOLOGATION OF MUFFLERS

1. GENERAL

Each motor must be equipped with an exhaust system and inlet silencer to reduce the amount of noise generated by the car. The noise level is a combination of RPM, motor design and performance, muffler, manifold, gearing and body. The better the combination, the more performance and more RPM. Since EFRA can only check 2 of these items (muffler and INS box) there is no way to control the noise in a good way on a track without extra measurements. The only solution is measurement on the track by means of a so called "Noise Trap". For the future we will talk about registration of mufflers and no longer about homologation, simply to avoid interpretations as that a homologated muffler is always OK. The legal noise level within the European Community is 83 dBs, without the need for extra personal protection. EFRA's definition of a noise level is always final. For 1/8 th IC track races only EFRA registered mufflers with a minimum of 3-chambers are allowed on EFRA sanctioned events. The EFRA registration number must be engraved on the sidewall of the muffler.

For 1/8th Off Road, only EFRA registered with a minimum of 3-chamber mufflers are allowed. The EFRA registration number must be engraved on the sidewall of the muffler. For 1/10th IC track, only EFRA registered 2-chamber mufflers list are allowed on EFRA sanctioned events. The EFRA registration number must be engraved on the sidewall of the muffler. For GT8 IC track races only EFRA registered mufflers with a minimum of 3-chambers are allowed on EFRA sanctioned events. The EFRA registration number must be engraved on the sidewall of the muffler. The sections will use a so called "Noise Trap" to check noise level on the events. Depending on the track layout the noise trap will be installed and used to take out cars that make too much noise. The final noise limit for an event must be set prior to timed practice.

All mufflers on the 2013 list that are still sold and manufactured must be registered again before March 1st 2014 to be able to be used for the 2014 season. The registration period will be limited to 2 years and needs to be renewed after that period. Mufflers that were allowed in 2013, EFRA 2103 till 2109 do not need registration for 2014, including the RCE mufflers with the double wall and rear muffler outlet. WHY REGISTRATION. Registration is needed to be sure mufflers are made according to specific dimensions. Registration is needed to make sure there is a product available in the shops Registration is needed to avoid self made mufflers used at club level. Registration is needed to control the design and weight which are part of the noise production.

2 REGISTRATION FEE

Will be: see General Rules 3.5.7. > 120 euro (60 euro for Assoc. Members).

3. REGISTRATION NUMBER:

Every accepted muffler is issued with an EFRA registration number which must be indelibly pressed or milled on the sidewall.

4. TECHNICAL DETAILS

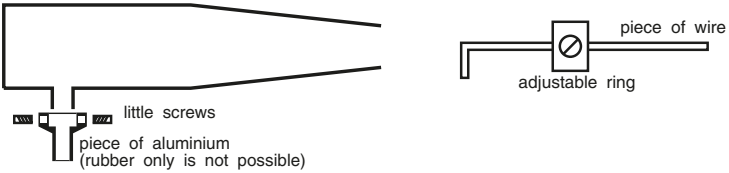
A very important factor in the control of the noise level of a muffler is the design of the mandatory 2nd and 3rd chamber and the total length of the outlet pipe. The outlet pipe for 1/8th scale may have a maximum of 8.00mm diameter. For 1/10th the maximum is 5.20 mm

5. TOLERANCES

Recognizing that the component parts of a muffler are joined together, it is quite clear, that there may be some slight differences in total measurements. This will not lead to dramatic noise level variation, but one important point must be mentioned: The 2nd cone must be in line with the outlet pipe, if this is a feature of the original design. The outlet pipe may have a minus-tolerance of 2 mm. To check the total length of the outlet pipe use a tool similar to that shown below.

6. PRACTICAL TIP

Some drivers cut the outlet pipe, because they fear damage during the race. Of course this is not allowed. To help in such a case, here is a tip:



7. EFRA REGISTRATED MUFFLERS

Updated lists of mufflers which are registrated each years will be found on the EFRA-website.

8. INS box dimensions.

The performance of the INS box is based on its form and measurements. Therefore it is strictly forbidden to change anything on its internal dimensions. The INS box for 1:8 and 1:10 are the same, only the foam filter has another dimension to fit the carburetor. A list of the approved INS-Box will be published on the EFRA webpage.

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APPENDIX 9
PROCEDURE FOR BODY-APPROVAL (1/8 TRACK, 1/10 TRACK, GT8 EP & GP, ELECTRIC TRACK & LARGE SCALE)

1. Any manufacturer, who wishes to submit a bodyshell for homologation must first contact the EFRA Treasurer who will invoice them the required amount and forward to them, together with the invoice, the EFRA Bodyshell Homologation Form. Sanction Fee will be set at the EFRA Annual General Meeting.

1.a Bodies for 1:10th, 1:8 class, GT8 EP/GP classes and Electric Track.
Anyone who wishes to have a body tested and homologated must submit 2 samples before December 1st to the body homologation officer. Bodies will be checked and verified between December 1st and February 28th and will be put on the EFRA webpage for publication on March 1st. After publication no other bodies will be added to the list before the end of the running year.

2. All manufacturers must submit the following to the EFRA Homologation Officer (DO NOT SEND BODY SHELL TO THE TREASURER):
   a) The completed EFRA Homologation Form by mail as a word document.
   b) Pictures of original 1/1 car body from two of the following elevations.
      - top
      - front end
      - rear end
      - side
   c) Any other information that may be necessary
      e.g. Race results for real car races
      Manufacturers data for production cars
   d) TWO examples of the model body from the final tool with all character lines and other elements present (included all stickers and window masks). This will be retained for referral. All wings custom designed for the body must be included.
   e) For Large Scale models it is only necessary to send 1 (one) example of the body shell. Drawings and photographs will be retained by the Homologation Officer as proof of the homologation. Bodyshell must be clearly marked (stamped or engraved) with the homologation number.
   f) All Bodies currently on the EFRA approved list will remain legal for five years or earlier removed.

3. Upon receipt of the above items, the Manufacturer will receive a confirmation from the Homologation Officer with the date of receipt. If any of the above items are missing, or photographs or other data are considered by the Homologation Officer to be of insufficient quality, homologation will be refused. The reason for refusal will be given.

4. Within one month of confirmation of receipt, subject to confirmation from the EFRA Treasurer that the sanction fee has been paid, the Homologation Officer will either:-
   a) Approve the body, when the model body is an acceptable representation of the original.
   OR
   b) Refuse homologation, when the differences from the original are too great. If the body shell is refuse the reason for refusal will be stated.

Each homologated body will have an unique EFRA number, even if the same type of bodyshell is already approved for a different manufacturer. The EFRA number must be set in an area immediately adjacent to the cockpit, preferably in front of the windscreen. Body homologation number must be visible at time of technical inspection. Therefore manufacturers must place the number in an area of the body which will not be cut out.(Bonnet in front of the driver, front spoiler, windscreen)

All shells with separate customised wings must have the homologation number moulded into all parts of the wing as well as the body. The wing must be submit¬ted for homologation at the same time as the body for which it is intended to be used. The wing may only be used with the shell with which it was homologated.

5. The homologation period lasts for five years, after which the body may be resubmitted, provided it still satisfies all regulations concerning the individual body class and is still in use.
6. The manufacturer may, if he wishes send a preliminary example of the model body to the Homologation Officer for interim advice. The body need not be taken from the final tool but all character lines and other details must either be moulded on or marked on the body in pen.

   Photographs etc. must be enclosed as in the full homologation procedure. The Homologation Officer will give a non-prejudicial opinion on whether the body would be homologated in finished form. If he decides that the body would not be approved, he may, if he wishes, give specific reasons. A fee to cover expenses will be charged for this service. Fee to be set at the EFRA Annual General Meeting.
7. Once approved, the bodyshell must not be modified in any way. Should the bodyshell be modified, the EFRA number must be filled in and an example of the modified body submitted to the Homologation Officer for full re-submission.
8. All information and examples of bodies sent to the Homologation Officer will be retained during the homologation period of five years. All examples of large scale bodies sent to the Homologation officer will be sent back to the manufacturer with the homologation number engraved in. The manufacturer has to retain the example body during the homologation period of five years. If the Homologation Officer suspects that a body has been modified post-homologation he may anonymously purchase an example of the body for checking. If he finds that the body has been modified it will be immediately removed from the approved lists.
9. After 5 years a body will disappear from the list unless the manufacturer asks for a license for another period of 5 years. The fee for an extra period is 40% of the normal homologation fee.
10. EFRA Homologation Officer:

    See List on page 4 in the contacts section
11. Special Homologation rules for 1:8 scale.

    The body must be a replica from an original race car.

    Cars must have raced in either Sports Can Am classes, Proto-type, Group-C, Le Mans, American Le Mans or GT1/GT2 classes.

    Bodies must be a 1:8 scale in character reproduction of vehicles that exist or have existed in the last five years. There will be an allowance of tolerance in all dimensions.

    Once homologated by the homologation officer the name of the body can be

changed to a name or production reference from the manufacturer. This name or reference will be used at the EFRA body list.
The rear of the body after the rear axle is free and does not have to be within the measurements of the original.
Overall dimensions of the car:
Wheel base: 270.00-330.00 mm, overall width max 267.00 mm
Overall width of the body max.: 267.00 mm, measured on top of the wing and on top of the sides and the lower front side.
The lower sides between the two front and rear wheel arches will not be taken into account for technical inspection as long as they are not wider as 277 mm.
The following differences from the original are allowed;
Side dams on the model after the rear axle may not be higher than 40 mm.
Side dams from the front axle till the rear axle may have the following dimensions;
From front axle over the first 150 mm, not higher than 8 mm and not more than 20 mm over the next 100 mm.
Behind the driver the body may be adapted to suit fuel tank. Driver may be moved slightly to the front or to the left or right to avoid conflicts with tank. Driver may not be cut because of fuel tank opening.
All bodies will have the EFRA number engraved into the body at such a place that it is visible all the time.
For minor changes the body will get an extension on the number, for instance, EFRA2004001 will be EFRA2004001A after the changes. After a second change it will be EFRA2004001B.
All changes must be submitted to the homologation officer and need to be accepted by EFRA and will be charged with 40% of the original homologation fee.
Different bodies with the same number are not possible.
Bodies must be presented to the homologation officer latest end of January and will be published on a list on March 1st the latest.

12. Body lists

Lists of the approved bodies will be published on the EFRA webpage.

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