

USRA

United Slot Racers Association

1971-2018

Racing Into Our 5th Decade Of National Championships

2018 Rule Book

*By accepting membership into the USRA as a racer or commercial member, you are agreeing to comply with all rules and bylaws in this rule book and **not** to bring any legal actions against the USRA or any of its officers.*

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BYLAWS

ARTICLE I

A. DEFINITION OF BYLAWS

These bylaws constitute the code of rules adopted by the United Slot Racers Association (hereinafter USRA), for the regulation and management of its affairs.

B. PURPOSES & POWERS

The primary purpose of the Association is to establish rules and procedures to standardize the sport of slot car racing, and to further the general interests of all persons engaged in the hobby/sport of scale model slot car racing.

C. BOOKS & RECORDS

The association will keep correct and complete books recording all receipts of Association income and all disbursements of expenses incurred by the Association.

D. NON-PROFIT OPERATIONS

The Association will not have nor issue shares of stock. No dividend will be paid and no part of the Association's income will be distributed to its members or officers. The Association may pay reasonable compensation to members or officers for expenses incurred on behalf of the USRA.

ARTICLE II – MEMBERSHIP

A. DEFINITION OF MEMBERSHIP

The members of this Association are those persons having membership rights in accordance with the provisions of these Bylaws.

B. CLASSES OF MEMBERSHIP

The Association will have the following classes of members: General Membership and Commercial Membership. General Members and Commercial Members in good standing may enter sanctioned events.

C. MEMBERSHIP DUES

The membership dues payable to the Association by members will be in such amounts as may be determined from time to time by vote of the members. Dues are payable annually. Dues are \$15.00 for General Membership at the national level and \$25.00 for Commercial Membership, which are payable to the National Treasurer during the year, or at the National race event. Only products of USRA commercial members will be approved for use at USRA regional and national competitions. Elected USRA officials will receive a paid Membership. All monies are U.S. funds.

D. VOTING MEMBERS

All members will be entitled to vote in the Online Vote for Bylaws and the election of the National Director. Members attending the National Championships will vote on the Divisional Officers and the National Championship site during the General Meeting. The voting for Division Officers will be done by paper ballot.

E. TRANSFERABILITY OF MEMBERSHIP

Membership in this Association is non-transferable and non-assignable.

F. TERMINATION OR SUSPENSION OF MEMBERSHIP

Membership will terminate or be suspended with this Association on any of the following events:

1. The death of a member.
2. Conduct detrimental to the sport, subject to the discretion of the Board of Directors, will result in suspension.
3. Dishonesty with respect to the handling of USRA funds.
4. Commercial members found by the Board of Directors to be operating outside of the bounds of proper conduct either in the marketing and production of products or in violation of specific USRA rules with respect thereto will be subject to suspension, or in extreme cases, expulsion from the USRA. This action would, pursuant to Article XI, Section A, preclude their products from use in competition in sanctioned events for the duration of the suspension or, in the case of expulsion, until readmittance. The Board of Directors will decide length of suspensions after a full investigation. Such investigation will include a full and fair opportunity for the member and any other individuals directly involved to be heard.

ARTICLE III – EMERGENCY CLAUSE

A. EMERGENCY RULE CHANGES

The USRA Board of Directors may add, delete, or modify any rule(s) to ensure fairness in the sport of slot car racing in “Emergency Situations” only. All decisions will be final.

ARTICLE IV – OFFICERS

ROSTER OF OFFICERS

The officers of this Association are charged with the responsibility of conducting general business in the name of the Association at the national level, to include the publication and administration of rules, the management of The Association's financial affairs, publicity in any medium, and other necessary business, and said officers are hereby granted such authority.

1. National Director.
2. Division Director (one for each Division).
3. Treasurer.
4. Technical Directors (one for each Division).
5. Assistant Technical Directors (one for each Division).
 - a) Additional Assistant Tech. Director(s) will be appointed from the region of the Nats Host Track to function as a liaison.
 - b) Board of Directors: The USRA BOD will be filled by the following officers: Current National Director, Current Div 1 Director, Current Div 1 Tech Director, Current Div 2 Director, Current Div 2 Tech Director, Outgoing National Director.
6. Webmaster (optional)

SELECTION OF OFFICERS

The term of the officers will be as follows:

Beginning in 2012 the National Director will be elected to a two---year term; he/she can succeed once (two consecutive term limit) and will remain on the BoD as a past ND for two years following the expiration of the elected term.

Beginning in 2013 the Division Director will be elected to a term of two years; he/she can succeed once (two consecutive term limit). For 2012 the Division Director will be elected for one year.

Beginning in 2012 the Assistant Tech Director will be elected to a term of two years. At the beginning of the second year of the term he/she will move to the office of Division Tech Director. Beginning in 2013 only a Division Assistant Tech Director will be elected annually. The Division Tech Director will serve a one---year term for 2012.

Each officer will remain in office until a successor to such office has been elected and qualified. The changeover date will be on October 1 for the Wing Car Division. The Scale Division changeover date will be June 1.

NATIONAL DIRECTOR

The National Director will chair the general membership meeting, and will have full and final authority to make decisions on technical matters that have not been approved by vote of the members of the Association. He/she has the authority to cancel or relocate the site of the USRA Nationals, in accordance with the national rulebook procedures. He/she has the responsibility of ensuring that the rulebook is updated in accordance with the annual vote of the membership. The National Director may not be a manufacturer, owner, or employee of any company manufacturing or distributing "Restricted Products" used in USRA racing. The National Director may appoint an assistant to function as a

Communications Director. The Communications Director will assist in the USRA custodial requirements of record keeping as required by law or the USRA Bylaws and communicating public announcements as necessary. He/she will be responsible to publish all of the following in accordance with the USRA Rules and in a timely manner: current rulebook, BoD decisions, proposals, and vote results.

DIVISION DIRECTORS

(Wing Car & Scale Divisions)

The Assistant Directors will perform all duties when the National Director is absent or is otherwise unable to act. The Assistant Director of each Division will exercise control over their respective Division. The Assistant Directors may not be manufacturers, owners, or employees of any company manufacturing or distributing "Restricted Products" used in USRA racing.

TREASURER

The Treasurer will be responsible for the collection of dues from the membership, and for the preparation of an annual report on the finances of the Association. He/she will be responsible for the distribution of the National USRA Rulebook to the membership.

TECHNICAL DIRECTORS

(Wing Car & Scale Divisions)

The Technical Directors will be responsible for the review of technical specifications proposed in rules changes and for the technical inspection for rules compliance of entries in National Championship events. He/she will be a member of the Committee reviewing equipment modifications (which have not been approved by membership vote) for acceptability in USRA competition, and will head the Technical Committee. The Tech Directors may not be manufacturers, owners, or employees of any company manufacturing or distributing "Restricted Products" used in USRA racing.

WEBMASTER (optional)

The Board of Directors may appoint or retain a Webmaster for the maintenance and operation of the official USRA website. National Director must approve all content.

ARTICLE V – COMMITTEES

A. OFFICIAL COMMITTEES

The Board of Directors may create certain committees by appointment that will have specific prescribed authority in the management of the Association. Committee Members may not be manufacturers, owners, or employees of any company manufacturing or distributing "Restricted Products" used in USRA racing.

Suggested committees are as follows:

Rules/Technical Committees – There will be a Rules/Technical committee for each division, which will consist of the Division Director, the Division Tech Director, and the Division Assistant Tech Directors. This Committee shall be responsible for reviewing all rule proposals and making the appropriate recommendation to the BoD for the Online Ballot.

Product Approval Committee – This committee will consist of the National Director, the Division Tech Director and the Division Assistant Tech Director for each respective Division.

Ethics Committee – If needed, this committee will be a minimum 3-person panel consisting of former USRA Officers and/or Members at Large. It will be responsible for monitoring the compliance of Commercial Members with the USRA rules and Bylaws. Any USRA Member in good standing may bring an item to the Ethics for consideration. Decisions of any Ethics Committee become recommendations first for the Divisional Director and then the BOD to consider, and are not binding until passed by a vote of the BOD.

ARTICLE VI – AMENDMENT & MODIFICATION OF BYLAWS & TECHNICAL RULES

All by-law proposals will be reviewed by the USRA Board of Directors as applicable. The BOD will decide if the by-law proposals should be placed on the respective online voting ballot.

1. Voting on technical/class rules/general rules proposals for individual classes will be conducted in a Drivers Meeting prior to qualifying for the individual classes on the days those individual classes are raced at either the Division 1, or Division 2 Nats. Only those members entered in the National Championship Race/class will be allowed to vote. Amendments to technical specifications, class rules, or general rules of the USRA require a simple majority vote of the membership present at the Nats individual class meetings or general meeting.
2. The deadline for submitting Technical/Class/General Rules Proposals will be March 1 for Division 2 (Scale) and July 1 for Division 1 (Wing Car). The respective Division Officers (Scale or Wing) and the National Director will review the proposals to insure continuity and validity per the Division they were proposed to.
3. The submitting member must be present at the race/class/general meeting for the proposal to be brought to the floor for voting. Paper ballots will be used in lieu of a show of hands.
4. All USRA Bylaws proposals MUST be submitted, in

writing by the close of the USRA Wing Car National Championship and can be submitted by any current D-1 or D-2 member or Manufacturer member to any current USRA Officer. The member does not have to be present and the by-law proposal can be submitted electronically.

ONLINE VOTING

1. Annual Bylaws Online Vote

- a)** The Online Ballot will be posted on September 15. The voting will commence immediately and will close on September 29.
- b)** The General Membership will vote in this election.
- c)** This election will be for changes to the Bylaws and National Director.

2. Online Voting Procedures

- a)** A USRA official will be appointed by the National Director each year to officiate in the voting. This official's name will be published on the USRA website along with contact details.
- b)** Paid members will be notified of the online voting by email sent to the email address they provided when signing up to the USRA. Public notice of the beginning/ending dates/times will be posted on the USRA website, USRA Facebook page, and Old Weird Herald. Final results will be posted on the USRA website homepage at the completion of the vote.
- c)** The current membership number and matching name are required and votes must be received prior to the published deadline to be counted.
- d)** Any ties will be broken by a vote of the Board of Directors.
- e)** Amendments to the by-laws of the USRA require a simple majority vote of the membership through an annual online vote.

FORMAT OF PROPOSED RULE CHANGES

- 1.** By-laws proposals must include an explanation of how they will impact the current rules and must be submitted by the deadline stated in the opening paragraph of Article VI. A USRA BOD Member will review the proposal with the person submitting the proposal for clarity/definition and for the intent/meaning prior to it being submitted to the full BOD for consideration of being placed on the Online By-laws ballot.
- 2.** Technical/Class/General rules proposals must include an explanation of how they will impact the current rules in each Division and/or classes and must be submitted by the deadlines in Article VI #2. An applicable USRA Division BOD member/Officer will

review the proposal with the person submitting the proposal for clarity/definition and for the intent/meaning prior to it being submitted to the applicable Division BOD for consideration of being placed on the ballot to be voted on at that Divisions National Championship Event/Race/Class per Article VI #1 and #3.

3. The USRA National Director and/or the respective USRA Division Director and/or their designee shall be present at the respective Divisional class and General meetings as well as all pre-meetings for the purpose of announcing the proposals, discussion of proposals and counting votes.
4. The next year's rulebook for both divisions and by-laws will be publicly available via the USRA Website no later than December 1.

ARTICLE VII -- GENERAL MEETING

A. ANNUAL MEETING

A general meeting will be held annually in conjunction with the National Championship events. Business will include:

1. Presentation of the Division's financial report.
2. Election of divisional officers.
3. A limited period of general discussion regarding proposals to be put before the USRA membership on the Online/Postal vote.
4. Nats site selection vote, if the division is required to perform such selection at the Annual Meeting.

B. CLASS MEETING

There will be a meeting for each class prior to qualifying and rules proposals submitted and approved by the Division BOD will be discussed and voted on as outlined. Voting will be conducted by paper ballot.

C. ORGANIZATION

For various administrative purposes the 48 contiguous states into 11 Regions

1. Northern California, Northern Nevada, Oregon, Washington
2. Southern California, Southern Nevada, Arizona
3. Idaho, Montana, Wyoming, Colorado, Utah, New Mexico
4. North Dakota, South Dakota, Nebraska, Kansas, Oklahoma, Texas
5. Minnesota, Wisconsin, Iowa, Illinois, Missouri
6. Arkansas, Louisiana, Mississippi
7. Michigan, Indiana, Ohio, Kentucky
8. Tennessee, North Carolina, South Carolina, Georgia, Alabama, Florida
9. Virginia, West Virginia, Maryland, Delaware

10. Pennsylvania, New York, New Jersey

11. Rhode Island, Massachusetts, New Hampshire, Vermont, Maine



ARTICLE VIII – SANCTIONED RACING EVENTS

A. National Championship

1. A National Championship shall be conducted annually for each division of USRA (i.e., major racing category).
2. All entry forms and/or tech sheets are and will remain the property of the USRA. All forms must and will be turned over to USRA officials only.
3. Once the hosting track has been established, the actual Nats race schedule will be determined in collaboration with the hosting track and the USRA Divisional Director. Once a mutual agreement is decided upon by both parties, the final schedule will be sent to the national director for final approval.
4. The annual Scale National Championship Race shall be held between April 1 and May 7.
5. The annual Wing Car National Championship Race shall begin and finish in the month of August.

B. Sponsorship

USRA sanctioned events shall not take on the name of any company nor individual engaged in commercial sale of, or production of, products sold for the purpose of slot racing nor any entity deriving commercial benefit from the sport of Slot Car Racing. This would not preclude a retail establishment from normal promotional billing, but would

specifically exclude manufacturers or distributors from usurping the USRA image for their benefit. There are no such restrictions placed on major corporations not operating in or affiliated with persons or firms operating commercially in the sport of slot car racing, and such outside sponsorship is encouraged.

C. Nats Site Selection Voting Procedure

1. Wing Car and Scale Division site selection: the following voting procedure will be used during the annual Wing Nats. All fully paid members of the USRA present at the National Championship are entitled to vote for the site of the next year's National Championships in that division. A written ballot will be used for all voting. Votes will be collected during the days preceding the day of the last race. The morning of and prior to that race the vote will be tabulated and the results announced. Should there be a tie in the vote, a track that has not had a Nats before will be declared the winner, if all have had a prior Nats then the totaled votes of current Board of Director members present at the Nats, will break the tie. Results will be announced and recorded immediately at the conclusion of the voting, including actual numbers of votes for each site.
2. If the raceway that is selected to host a USRA Nats is sold or closes, the race automatically goes to the alternate location. (This does not mean that if a slot car track is sold and replaced in the same location, under the same owner, the race will be moved; only if the slot racing business itself changes hands). If the alternate site also has been sold or closed, the USRA National Director must either:
 - a) Select a new site to host the National Championship.
 - b) Cancel the race for that year.

D. Bidding On A National Event

Any raceway or persons involved in slot car racing may make a bid to host a National Event. Following is a list of guidelines that may be helpful in preparing presentations.

1. The raceway or promoter should be well established with a reputation for organizing and directing quality races. Raceways that have hosted well--- attended events will receive preference in the selection process.
2. If it desires to submit a bid for a USRA National event, a raceway must notify the USRA Director of its intentions by May 31 for Division I and February 7 for Division II. Notification in writing is required.

3. Each bid for the USRA Nationals must be accompanied by a refundable deposit of \$500.00 (raceway or personal Check). Deposits will be returned promptly to the unsuccessful bidders after the Nats site determination is made. The deposit for the successful bid will then be deposited and returned after the National Event (two weeks) provided there are no financial problems such as bad checks, failure to deliver advertised pay--- outs, etc. If financial problems occur, the deposit will be forfeited and the USRA treasurer shall use the full amount of the deposit funds to correct bad checks or other losses in an equitable way. The disbursement of Nats site deposit funds, if any, is to be included in the treasurer's report.
4. A raceways desiring to bid will make its presentation available online via a link on the USRA website by March 1 for Division 2 and July 1 for Division 1.
 1. The presentation can be a video, PowerPoint/slideshow or other standard electronic means of media presentation. Presentations should include:
 - a) Contact information, and pictures of the raceway or host site and of previous races (if possible).
 - b) A summary of selected past races, including race schedule, number of entries, etc.
 - c) Details about the facility's track(s) and lap counter system(s), including information concerning track power, batteries, color, braid recess, power polarity, etc.
 - d) Information concerning lodging, airlines, restaurants, and places of interest.
 - e) Pictures of available pit space.
 - f) Letters of approval from local City Directors, and radio and/or television stations.
 - g) It is strongly suggested that prospective Nats raceways consult at length with the owners and/or managers of previous Nats host raceways to insure a complete understanding of the challenges attendant to conducting a USRA Nats.
5. All bids **must include the following** in the bid proposal:

All financial details of the race including the following points. Any changes to these once the bid has been won must be approved by the Board of Directors, once sufficient reasons for the changes have been given and investigated.

 1. Guaranteed prize purse over and above the usual 50% of entry fees.
 2. Payout structure.
 3. Entry fees for all races.

4. Cost of track time.
5. Any other fees or costs racers will incur.

E. Site Eligibility And Area Rotation

In order to encourage participation by racers nationwide, the National Champions shall be moved around the country every year. The National Championship may not be held in consecutive years by the same or adjoining areas unless there are no other bids. The USRA map shall be used to define areas.

No raceway can host the USRA Scale National Championship Event twice within a three year period. If a raceway hosts the Scale National Championship they cannot host another Scale National Championship within a three year period of the year they hosted their last Scale National Championship Event unless there are no other tracks bidding for the Scale National Championship Event.

No raceway can host the USRA Wing Car National Championship Event twice within a three year period. If a raceway hosts the Wing Car National Championship they cannot host another Wing Car National Championship within a three year period of the year they hosted their last Wing Car National Championship Event unless there are no other tracks bidding for the Wing Car National Championship Event.

F. Scale Nationals Track

To be considered to hold the annual Scale Nationals a raceway must have their own or have access to a flat track suitable for holding the traditional flat track events.

G. Wing Car Nats Schedule

Classes contested are as follows: Grp F, One Motor Box 12, Group 27 Lite, Two Motor Open, Group 7 Pro. Start the races on Wednesday and end on the following Saturday or Sunday. An Open warm and Geezer Grp 7 races are optional.

H. Scale Nats Schedule

Classes contested will Group 10, 4---1/2" Stock Car or 1/24 JRL/Indy Car (host raceway choice), GTP, LMP, GT-12, 1/24 Eurosport, 1/32 Eurosport, and Formula 1 1/32.

I. Hand---Out Motors

Concerning "hand---out motors", the primary initiative is to have quality and affordable competitive racing. Every effort possible will be made to rotate the choice between member manufacturers equally. However, the USRA BoD in conjunction with the Nats Host owner(s) will make the choice based on performance, reliability, availability, cost, etc. See respective class rules for a list of motors allowed for the respective class.

ARTICLE IX – EQUIPMENT APPROVALS

1. Manufacturers of products who wish to have their components accepted for use in restricted classes in USRA sanctioned events at the national or regional level must be Commercial Members of the Association and must conduct themselves in a manner conducive to the best interests of the sport.
2. Manufacturers must submit one piece of each component for which they seek approval to the respective Divisional Tech Director by July 1 for evaluation and inspection.
3. Each Divisional Tech Director will report their findings and decisions directly to the USRA National director. The manufacturer will be notified accordingly. Approval will be pending subject to the Manufacturer having product in production to begin filling orders by October 1.
4. The National Tech Directors may remove any restricted products that they can prove are no longer commercially available. Refer to Article X, Commercial Availability.
5. The products submitted to the USRA for product approval are the property of the USRA, and not the individuals in the respective positions of the USRA. All products are to be available for inspection at the Nats. Products must be turned over to the incoming Tech Director by the outgoing Tech Director.
6. When submitting new products to the USRA, manufacturers must provide a written request including a definitive description of the product and if it supersedes a previous product or if it is completely new. If a product is similar to a previous product the Manufacturer will also provide information that will assist a Tech Director in identifying the product.

ARTICLE X - COMMERCIAL AVAILABILITY

1. Major components for Group and restricted racing (motor, motor parts, chassis, chassis parts, bodies) must be readily available to all participants sufficiently in advance of the race event for all participants to be able to compete on an equitable level.
2. "Commercially---available" means that the product must be "readily available" through at least six (6) retailers across the country and one (1) Commercial Distributors. A Commercial Distributor is defined as business that engages in "Business to Business" sale of slot car products and does not sell direct to

retail customers (end users). Commercial Distributors for 2018 are Crawley Distributing, Eagle Distributing, ERI, and REH. "Readily available" means that a retailer/distributor must be able to procure product from the manufacturer to reasonably supply demand for the products in a timely manner. This rule does not compel a retailer/distributor to stock slow-moving products, but does require the retailer to act as an order/supply point for the manufacturer's products. Whereas the USRA New Year begins October 1, Member Manufacturers should have newly approved products available to begin filling orders on that date. Manufacturers experiencing any delays in meeting this deadline shall notify the USRA for consideration of an extension. Failure to comply may result in the revocation of the approval of that product for the upcoming year. Additionally Member Manufacturers must provide a list of distributors and retailers where their products can be found to the USRA official handling the product submissions for the relevant division before October 1.

3. The number of pieces required to be available for a product to be considered commercially---available varies (adequate for current market conditions and will be reviewed by the BoD as necessary) motors, tagged armatures, restricted chassis, and any other restricted components.
4. A product will be considered to be no longer commercially---available after production has ceased. Products in this status that have been approved for competition will continue to be legal for USRA competition for a period of no longer than three years after production ceases. For motors and armatures specifically this time is extended to five years. Manufacturers must notify the National Director in writing when a USRA approved product ceases production.
5. All products which are considered to be commercially---available as well as restricted products must meet retail specifications and must be sold at standard industry discounts through approved dealers. Any product that is restricted in retail price by the USRA may be adjusted in retail price according to the annual cost of living, maximum 5% annually.

Article XI – TIRES

1. All Tires in the Wing Division Tagged Armature classes must be purchased through the raceway at the National Event. All Tires will be marked by the raceway owner and/or tech director. Tires will be checked at tech, during mid race techs and at any time the tech director deems necessary. Any racer found to be racing non marked tires during racing will have to change to marked tires during green flag conditions, on the first infraction. The second infraction will result in immediate disqualification from the class.
2. All Tires sold to hosting raceway must be sold at “Normal Industry Discount” (No short discounts) and meet retail requirements for applicable classes that have retail requirements.

GENERAL COMPETITION REGULATIONS (Wing Car)

I. DRIVER CLASSIFICATION

A. Sponsored Racer

1. Sponsored racers originally were “Team Racers” that represented a manufacturer of major components and as such received merchandise (major components/ motors, armatures, chassis) directly from a major manufacturer at less than retail prices. This will continue to be the definition of a sponsored racer although the racer may not have an affiliation with a particular “Team”.
2. A racer receiving assistance from their raceway, employer, or individual are not considered sponsored.
3. Whereas the USRA is unable to monitor who purchases what from whom, any racer’s status is subject to be reviewed by the BoD.

B. Amateur

1. Those racers with average driving and/or technical abilities.
2. Any racer 14 years of age or older who wins an Amateur class may continue through that Nats as an Amateur. They will be allowed to defend their title **one time** and then they are **required** to compete as an Expert/Pro in that class and all lower classes. They may compete as an Amateur in all higher classes.

C. Expert/Semi---Pro

1. Those racers with above average driving and/or technical abilities, any racer who has won a USRA Wing Championship in any Amateur division and Sponsored Racers may only compete in the Expert divisions in the same and any lower class.
2. No racer may run Pro Group 7 and Semi---Pro Group 7 at the same event.

3. Any racer that wins Semi---Pro at the USRA Wing Championship must move to Pro the following year.

D. Pro Group 7

1. Those racers with exceptional driving and/or technical abilities, any racer that has previously won the USRA National Championship in G7 Semi Pro, and Sponsored Racers.
2. Any racer who was classified as a Pro and that has not competed in the National Championship in five years may apply to the Board to have their racer status changed from Pro to Expert/Semi---Pro. This will also apply to a racer that voluntarily or mistakenly entered the Pro class but does not meet the rest of the requirements for Pro Classification.

E. Senior Open (Geezer)

All drivers age 50 or over are permitted in this class. Pro Group 7 rules will be followed.

Classes to be raced at the National Event. The following are the only eligible racers who may compete in each class at the Wing Nats.

Class	Amateur	Expert/Pro	Pro
Group F OMB	X	X	
Amateur Group 12	X		
Expert Group 12		X	X
Amateur Intl 15	X		
Expert Intl 15		X	X
Amateur Cobalt 12	X		
Expert Cobalt 12		X	X
One Motor Open (one combined race)	X	X	X
Group 27 Light	X	X	X
Senior Open (if racer qualifies according to class rules)	X	X	X
Amateur Group 27	X		
Pro/Expert Group 27		X	X
Semi-Pro Group 7	X	X	
Pro Group 7			X

Wing Racing Payouts & Prizes

1. Race merchandise certificates and/or cash payouts will be at least 50% of the total entry fees for each race, and will be paid to at least the top 8 finishers.
2. Amateur and Expert Race prize payout will be in merchandise certificates and/or trophies.
3. Payout will be in cash to Pro Group 7, Senior Open, and Sponsored Pro Group 27 racers. Amateurs or Experts competing in Pro Group 27 will receive merchandise prizes.

II. RACE PROCEDURE

A. Registration

1. All cars shall be inspected and impounded prior to qualifying.
2. No cars will be accepted after announced registration closing time.
3. The chassis should be engraved with the driver's entry number, class, and the initials of the tech inspector. The body should be marked with a distinctive spot of non-removable paint or ink.

B. Acknowledgement

All racers entering an event should be aware of the rules governing it, and withdrawal is not an option in the case of a protest.

III. NO SMOKING

Smoking is prohibited within the raceway at all USRA events.

IV. NO ALCOHOLIC BEVERAGES

No alcoholic beverages may be consumed within the raceway or within close proximity. Consumption of these beverages must be confined to those establishments licensed for this use.

V. FIREARMS

Firearms are prohibited within the raceway at all USRA events.

VI. DRIVERS MEETING

A Drivers Meeting will be held prior to qualifying to discuss race and qualifying procedures, marshaling responsibilities, racer conduct, glue rules, track calls, disqualifications, track tech, etc. Drivers with specific questions should ask them at this time. Also rules proposals submitted and approved by the Division BoD will be discussed and voted on as outline in the opening paragraph of Article VI. Voting will be conducted by paper ballot.

VII. TRACK PREREQUISITES (Voltage)

At all USRA National Events OMO and 27 Lite qualifying and race voltage is 14.3v max. For all other classes qualifying voltage is 16.0v max. and race voltage is 14.3v max. This voltage is to be measured unloaded, without cars on the track, using accurate digital voltmeters to measure the values.

VIII. TRACK CONDITIONS

A. Limited Glue

1. Glue zones must be clearly marked, and be no more than ten inches (254 mm) in length as measured from the start of the curve backwards. Glue may be applied to glue zones only and then may be spudged or smoothed past zone and through turn with glue spudger and/or hand (fingers).
2. Glue may be removed from the turns with a clean, dry, rag only. Care must be taken to avoid changing conditions on adjacent lanes.
3. All gluing and cleaning of the track braid and straights must be completed before the power comes on. No glue or other chemicals may be put down or removed from the track surface while the track power is on.

B. Spray Glue

1. The track will be cleaned and sprayed prior to the racing and maybe re--- sprayed as deemed necessary by the race director(s).
2. The track surface in the turns may not be touched or altered in any way. No addition, deletion, or redistribution of the glue is allowed without specific and prior race director approval.

C. Track Cleaning

All braid and the track surface of all straight sections and the bank may be cleaned in both spray glue and limited glue conditions.

D. Accidental Spillage

If an accidental spill occurs, the race director may re---spray the affected area to restore fair racing conditions.

IX. QUALIFYING

See individual classes starting on for additional qualifying specifics.

A. Order

1. All Classes: Determined randomly, such as by blind draw.

B. Format

1. Time --- a one---minute run is allowed to establish the fastest single timed lap. Back up times will be recorded to break ties. Grp F, OMB and Amateur GP-12 will run a single one minute qualifying round.
2. The first qualifier will receive a one---minute glue break period.
3. Byes --- A racer may take one bye for any reason (may abort initial qualifying attempt and re---attempt during the bye round).
 - a) Each racer will receive two 30---second rounds for qualifying.
 - b) Cars will be technically inspected prior to their bye round.
 - c) Times made during the initial attempt and the bye round will count.
 - d) Byes will be run (racers remaining time less a thirty second deduction) at the end of qualifying for each respective class; order will be the same as the original round.
4. If a lap timer is not available, qualifying may be conducted in the form of a one---minute run for total laps and sections. Adequate marshaling must be available.
5. Each racer will be given a specified amount of time (not to exceed fifteen seconds) to get hooked up to begin his/her qualifying round. This should be set into the computer to automatically start the time and make it uniform for all racers. Any registered racer not present to qualify when called will be given an automatic bye. Any racer unavailable for the bye will stand by his/her previous best, or if no times are recorded, will be placed in the first (lowest) level of consolation races.
6. Local Option Format (excluding National Competition):
 - a) One minute with no byes.
 - b) One minute with bye with no loss of time.

X. EUROPEAN (STAGGERED) LANE ROTATION

1. USRA events will follow the European or staggered system. The rotations for tracks marked with American Model Raceways colors are as follows:
2. Consis --- Racers will race on either the red or the black set. Racers on the red set (red, green, blue, purple) rotate down the track to purple and then jump to red continuing rotation down the track. Racers on the black set (black, yellow, orange, white) rotate up the track to white and then jump back to black continuing rotation up the track.
3. Quarterfinal, Semi, and Main Event races --- Racers running on the red set rotate down the track to purple, keeping on the red set. After running

purple, rotate to the black lane of the black set. After running white, jump to red and rotate as indicated for the red set. Continue until all eight lanes have been run.

XI. AUSTRALIAN RACE FORMAT

1. All entrants will contest a series of Consis, Heats, Quarterfinals, Semifinals, and Finals depending on the number of entries.
2. All races designated as Consis will be contested over 4 lanes only, running on either the red set (red, green, blue, purple) or the black set (black, yellow, orange, white).
3. All other races will be contested over 8 lanes.
4. All races will be on a "move up" basis. The following schedule has been adopted to ensure that a minimum of four drivers move up from each race. The following has been created with the intention of racing with no "Round---Robin" races.

1---8: Main only.

9---10: top 2 qualifiers go to Main, run Semi, and top 6 move up. 11---16: 2 Semis and a Main.

17: Top 10 Qualifiers go into Semis, 7 remaining go into 1 Quarter, and 6 move--- up to Semis.

18: Top 10 Qualifiers go into Semis, 8 remaining go into 1 Quarter, and 6 move--- up to Semis.

19: Top 12 Qualifiers go into Semis, 7 remaining go into 1 Quarter, and 4 move--- up to Semis.

20: Top 12 Qualifiers go into Semis, 8 remaining go into 1 Quarter, and 4 move--- up to Semis.

21---23: top eight qualifiers move to Semis, all others divide into 2 heats moving up 4 most lap totals from each. Then run two Semis and a Main.

24---32: 4 Quarterfinals, 2 Semis, and a Main.

33---34: Top 26 from qualifying into Quarters. Remaining racers into one 4---lane 2x3 race using red set, black set rotation with the top 6 moving into Quarters. 2 Semis and a Main.

35---36: top 28 qualifiers into Quarters. Remaining racers run one 4---lane 2x3 race using red set, black set rotation with top 4 moving to Quarters. Then 2 Semis and a Main.

37---38: top 22 qualifiers into Quarters. Remaining run two 4 lane 2x3 races using the red set black set rotation. Top 5 from each move into Quarters. Then 2 Semis and a Main.

39---48: Top 16 qualifiers into Quarters. Remaining racers into four 4---lane 2x3 races using red set, black set rotation. Top 4 from each race moving into Quarters. Then 2 Semis and a Main.

49---54: Top 22 qualifiers into Quarters. Remaining racers into four 4---lane 2x3 races using red set, black set rotation. Top two from each moving into Quarters plus two top lap totals not

finishing 1or 2. Then 2 Semis and a Main.

55---64: Top 16 into Quarters. 17---32 into consis. Remaining into four sub---consis using 4 lane 2x3 red set, black set rotation. Four move up each race. Then two Semis and Main.

65---80: Top 16 qualifiers into Quarters. Qualifiers 17---32 into consis. Qualifiers 32---48 into sub---consis. Qualifiers 49---80 into sub---sub---consis. All consis using red set black set rotation with 4 lanes 2x3 races. Top 4 from each moving up.

81---unlimited: using same as sub---sub---sub---sub.

5. Lane choice will be determined first by qualifying position then by lap total and position from previous heat.

In moving racers up from Consis, Quarterfinals, or Semis, the same logic applies. Lane choice selection order is determined by the total laps turned by the winners of the qualifying race.

6. For Main event move---ups first pick goes to the racer with the most laps out of the two Semis, second pick goes to the racer with the most laps out of the other Semi.

7. Choices are then alternated between Semis. Third pick goes to the second--- place finisher in the Semi that had first pick, and fourth goes to the second--- place finisher in the Semi with second pick, etc.

Racers are seeded into the appropriate Semis, Quarterfinals, or Consis according to the following pattern (example given for Semis and Quarterfinals; Consis same pattern as Quarterfinals).

8. Heats, Consis, and Quarterfinals are run: D, C, B, A.
9. Semis are run: B, A.

24 or fewer entries

Qualifier #

Semi---A

1

3

5

7

9 or winner Heat-A

11 or second Heat-A

13 or third Heat-A

15 or fourth Heat-A

Semi---B

2

4

6

8

10 or winner Heat-B

12 or second Heat-B

14 or third Heat-B

16 or fourth Heat-B

25 or more entries

	Semi---A		Semi---B	
	Quarter A or B winner w/most Quarter A or B	Quarter C or D winner w/ most Other winner of Quarter C or D	Other winner of	
	Second place from Quarter with first pick			
Qualifier	Quarterfinal---A #1	Quarterfinal---B 2	Quarterfinal---C 3	Quarterfinal---D 4
	8	7	6	5
	9	10	11	12
	16	15	14	13
	17	18	19	20
	24	23	22	21
	25	26	27	28
	32	31	30	29

Second place from Quarter with second pick Continue alternating for remaining picks

XII. DURATION OF RACES

<i>Race</i>	<i>Heats</i>	<i>Heat Length</i>	<i>Lane Change</i>
Mains			
1. Pro/Semi---Pro Group 7	8	5 minutes	5 minutes
2. Group 27/27 Pro	8	4 minutes	4 minutes
3. Group 27 Lite & OMO	8	4 minutes	4 minutes
4. All other Wing Car	8	3 minutes	4 minutes
Semis			
A. Pro/Semi---Pro Group 7	8	3 minutes	4 minutes
B. Group 27/27 Pro	8	2 minutes	3 minutes
C. All other Div---1 Classes	8	2 minutes	3 minutes
Quarterfinals			
1. Pro/Semi---Pro Group 7	8	2 minutes	3 minutes
2. Group 27/27 Pro	8	2 minutes	3 minutes
Consis & Sub---Consis			
A. Pro/Semi---Pro Group 7	4	3 minutes	3 minutes
B. Group 27/27 Pro	4	2 minutes	3 minutes
C. All other Div---1 Classes	4	2 minutes	3 minutes

XIII. MISCELLANEOUS PROCEDURES (Div. 1 & 2)

A. Black Flag

The race director is obliged to black flag any car which is dragging, interfering with other cars, or continuously de-slotting due to mechanical problems. Upon being black-flagged, the driver must bring the car in for repairs immediately. If the problem is not corrected, the black flag may be enforced again as required.

B. Track Calls

1. The power will only be turned off for extremely unfair or dangerous situations. The following are the only acceptable reasons:
 - a) Braid up.
 - b) Power failure (one lane or all).
 - c) Debris in slot.
 - d) Lap counter or track equipment failure.
 - e) An unmarshallable car.
 - f) Car in wrong lane (rider). **In both Wing Car and Scale divisions, riders will be track calls.**
2. During a track call, there will be absolutely no work performed on the cars or lane preparation. Doing so will result in a 20-lap penalty. A second infraction will result in disqualification. This restriction applies to both drivers and their pit helpers.
3. During track calls due to e) above, an unmarshalable car, racers may continue to work on cars in the pits, if the cars are already in the pits at the time of the track call. A car may not be taken from the track into the pits during a track call. Work may not be carried out during tracks calls a), b), c), or d) above, i.e. braid up, power failure, computer problem, etc.
4. In the Scale Division, if a driver is judged by the race director to have made an unnecessary track call, he/she will be penalized five (5) laps. Repeat offenders may be disqualified from the race at race director's discretion.

C. Lap Counter

1. The lap counter will be considered correct unless it can be proved otherwise. The counter should be corrected if necessary (as when a car crosses in the wrong lane). If a major error occurs in the counting process that cannot be corrected, the race director may at his option:
 - a) Assign responsible stewards to count laps or verify the counter.

- b) Add or subtract mutually---agreeable laps as established by race officials and drivers.
 - c) Restart the segment.
 - d) Restart the race from the latest possible point.
2. Laps should not be added or subtracted unless the race director is certain the counter is incorrect.
 3. For a major error in counting, the steps taken should preserve as much of the race as possible, while remaining as fair as possible to all racers.

D. Marshaling

All drivers are expected to marshal the race(s) preceding their own races. Substitute marshals must be acceptable to the race director and drivers. Good racing is not possible without good marshals. Every racer is required to do his/her part both before and after racing if necessary. Failure to fulfill marshaling responsibilities will result in lap penalties and/or disqualification. All cars will be impounded after all races to insure fair and proper marshaling responsibilities. Cars will be returned and move-up drivers will be given equal time to prepare for upcoming races.

E. Lane Change

1. Following each lane change, all cars must be returned to the track in the position where they stopped. Cars may be moved backwards to allow easier restarting. Putting a car back on the track forward of its original position will result in a five lap penalty. A second infraction will result in disqualification. It is the driver's responsibility to know where his car stopped. When a car is removed from the track during racing the same rule applies. Corner marshals should notice the cars stopping in their section and pay close attention to cars near the lap counter section. At the conclusion of the race all cars are impounded and fall under the control of the tech director, and remain impounded at his discretion. Cars will be left on the track until the order of finish is positively determined.
2. **Racers are required to use lane change cards at all National Championship events.** These cards must stand vertically in the slot of the lane the driver will be changing to at the end of the break. Lane cards may not be wider than the slot width. If a lane is without a lane card during a lane change (except in the case where a returning driver was sitting out) the car must be moved back as far as possible towards the lap counter, but not to a position where any extra laps would be gained.

F. Unsportsmanlike Conduct

1. Unsportsmanlike conduct on the part of a driver or turn marshal will be subject violators to immediate disqualification at the discretion of the race director. Verbal abuse or profanity will not be tolerated. The race director may first warn drivers, marshals, or pit helpers if their behavior is unacceptable. Serious or repeat violations will result in a five---lap penalty for the first infraction and disqualification for the second.
2. Repeat offenders of any of the unsportsmanlike conduct guidelines maybe prohibited from future USRA events.

G. Protests

A competitor may protest another racer's equipment by officially informing the race director. Special provisions for armature protest are in the following section.

A racer must be aware of the rules when entering a USRA event and withdrawal is not an option in the case of a protest.

1. Any racer in a USRA---sanctioned race whose motor is protested and then refuses to have his/her motor torn down shall be banned from competition in any USRA race for a period of one year from the date of said infraction.
2. Non---Armature Protest Procedure:
 - a) A written protest must be filed with the race director within 20 minutes of the end of a Main event. Where racers are moving up into another race, protests must be made within 10 minutes of the end of the race in which the protested racer competed.
 - b) A protest fee of US\$10.00 must accompany the written protest. The race director will hold this protest fee.
 - c) The race director is responsible for notifying the appropriate USRA officials of the protest. The USRA officials in attendance will then carry out an investigation and make a decision on the protested equipment.
 - d) Should the protest be upheld, the protest fee will be returned to the protesting racer. Should the protest not be upheld, the protest fee will be retained by the USRA.
 - e) The right of appeal to the highest---ranking USRA official in attendance is granted to both the protestor and protested. The decision rendered by this USRA official is final and cannot be further appealed.

XIV. ARMATURE PROTEST

(Restricted Classes Only)

1. Any competitor may protest another racer's armature. He/she must officially inform the race director, at which time the race will be stopped.
 - a) The protester may "buy---a---look" by posting a US\$2.00 fee. He/she is then entitled to look at the suspected armature in the car.
 - b) If not satisfied, he/she may formally protest which requires posting a fee equal to double the current manufacturer's suggested retail price of the protested armature.
 - c) At this time, the armature must then be non---destructively and indelibly marked (suggested method is unique Dremel marks on the shaft). Extreme care must be exercised to avoid damage to armature balance and delicate components such as ball bearings, motor brushes, etc.
 - d) An impartial race steward must then be charged with the responsibility of observing and verifying the authenticity of the armature for post race inspection. The race will then be restarted.

Thorough disassembly and inspection must be conducted immediately upon completion of racing, in a manner assuring accurate technical verification. Armature stack length will be measured, and if within specs, the inspection will proceed to the wire. This can be accomplished by destroying any epoxy or similar binder with extreme heat (suggested method is to use a small torch). Then dissecting the armature with a Dremel and carefully measuring the wire and counting the turns. The fees will be held by the race director until resolution of the matter, then promptly surrendered to the appropriate party. Likewise, any winnings and/or points will be held pending the outcome of the inspection.

2. "Buy a look" proceeds go to the protested party, if not applied to a formal protest.
3. There is a maximum fee of US\$100.00 for protesting Group 27 armatures.

GENERAL TECHNICAL RULES

All cars/racers are expected to comply with these guidelines. All drivers are responsible for the legality of their equipment. There is one car per driver per class, and one driver per car per class. The foundation for rules interpretation is "that if it is not stated as being permitted then it will not be allowed". **The National Director and/or the Rules Committee will clarify any rule that is in question or is being interpreted improperly.**

I. SCALE

The scale to which the cars must be built is 1/24 of the

size of an actual race car. For the 1/32 Eurosport and Formula 1/32 classes, cars must be built to 1/32 of the size of an actual race car.

II. WIDTH

All Wing cars may not be more than 3.25 inches (82.55 mm) wide at any point. Round head body mounting pins may extend beyond this width. Other type body pins such as glass head type are not allowed.

III. WHEELS

All cars must have two front and two rear wheels, with rubber tires.

1. No rear tire minimum diameter. Rear wheels maximum width is .810 inches (20.57 mm), unless otherwise specified.
2. Front tire minimum diameter is .500 inches (12.7 mm), unless otherwise specified.
3. Front wheels, or one---piece wheel/tire units, must rotate on their axles.
4. Front wheels must be mounted so as to contact the racing surface, as the car is rocked to the side, before grounding on the chassis or body. This rule applies only to the Wing Car division.

IV. CLEARANCE

For all classes, the minimum track clearance of chassis, gear, and motor is .032" inches (.80 mm) prior to the beginning of the race unless specified otherwise. Once the race begins, a minimum rear clearance of .032 inches will be utilized during "mid---race tech inspections. No parts may drag. Guide flag/braid, and front and rear tires are exempt from this rule. Any cars found to have less than .032" clearance during race tech, must be correct and reteched before going back on the track during green flag racing.

V. GUIDE FLAG

One guide or pickup device per car.

VI. BODY

Body designs should resemble full---size race cars. Manufacturers are urged to maintain scale proportions. Variations are allowed to conform to state---of---the--- art practices.

1. Paint: All bodies must be fully painted and opaque when sitting on the tech block, except for the sides of the body, which may remain clear. Bodies should be detailed to resemble full---size race cars. Exhaust pipes, body lines, injector stacks, mirrors, and decals are optional.
2. Numbers: All cars must display three numbers of reasonable size and position, 1/4 inch (6.35 mm) minimum.

3. Interior: All cars must contain a suitably painted, 1/24 scale driver, with helmet, shoulders, arms, and steering wheel, mounted in the original cockpit position at all times during race. May be made of any material, paper included.
4. Windshield: Wing Car bodies must have windshield "lines" molded into the bodies to be approved. Windshields must be proportionate to the scale of the 1/24 body.
When painted and presented for tech, a minimum of 50% of the windshield opening must be left clear and interior/driver must be visible. Bodies cannot have any clear areas outside the original molded windshield lines of the body.
5. Wheel Wells: Wheel wells must be transparent, or cut to the horizontal centerline of the front wheel. When viewed from either side of the car, 75% of both of the front wheels must be visible through the wheel wells.
6. Body Openings: The chassis must be completely covered by the body and air control when viewed from above, except for the cockpit opening or USRA legal body openings (such as accurate representations of vents, scoops, etc.).

VII. AIR CONTROL DEVICES (Wing Car Division Only)

No part may exceed 2.5 inches (63.5 mm), measured from the tech block surface. No air control devices can be opaque.

1. Side dams may be a maximum of 2.5 inches (63.5 mm) high behind the rear wheel centerline and continue on a taper to a maximum of 2.0 inches (50.8 mm) high at a point 3.75 inches (95.25 mm) forward of the rear wheel centerline. The same taper may continue ahead of the front wheels.
2. All air control devices must have their front edges taped and their outside corners rounded to a degree which will minimize the chance of injury to race participants and spectators.
3. May affix any decals or markings on any air control surface (including spoiler) but air control surfaces cannot be opaque.
4. Diaplane maximum length is .500 inches (12.7 mm). Corners must be rounded to help prevent injury to race participants and spectators.

VIII. PARTS REPLACEMENT

Any component may be replaced during competition except the original chassis or body. Any racer found to have switched chassis or body will be disqualified. All replacement parts must conform to the class rules.

IX. GENERAL TECHNICAL SPECIFICATIONS

A. AMATURE STACK LENGTH

Any armature that has been purposely altered or tampered with to make the stack appear longer in an attempt to circumvent the stack length rules as listed shall be declared illegal at the tech inspector's discretion. Stack length minimums shall be required on all three poles of the armature (using calipers with the faces across each end of the pole) and only the actual lamination material shall be used to determine this figure. This is meant to specifically exclude, for example, such practices as the insertion of spacer---type materials between the laminations, abnormally thick applications of coatings, or any other method of artificial compliance with the rule.

Any armature presented for tech inspection that is found to be illegal for competition (such as short stack) will be impounded until the completion of the racing class.

Litz and/or flat wire may not be used in any class with armature wire specifications.

B. CONTROLLER SPECIFICATIONS

Any controller/choke may be used as long as the controller/choke uses no batteries or additional power sources to increase or regulate voltage or amperage at track braid. Specifically prohibited are voltage multipliers or doublers, transformers, batteries, encapsulated components, and capacitors. Specifically allowed are simple wire chokes, and diodes. These devices lower power but do not regulate it. A variable choke operated by the driver shall not be considered regulated. Relays, if used, must be powered by track current only.

Controllers/chokes are subject to inspection by USRA officials to verify compliance with the above rules. Transistorized controllers such as the Ruddock DR40 are approved for USRA use.

X. TIRE RUBBER

No Speed type rubber or rubber deemed as Speed type rubber may be used in any race. Determination will be at the discretion of the USRA. Use of this rubber may result in penalties to the racer, up to and including disqualification. Manufacturers are asked not to produce "Race Tires" utilizing speed rubber for use at USRA National events. Speed type rubber may be used for qualifying in 27L, TMO, Geezer, WarmUp and Pro Grp 7 classes only.

XI. SPEC TIRES

Spec tires will be marked by the USRA prior to shipment to the host raceway. A minimum of two brands of tires shall be available for the specific class using spec tires. They must be purchased from the host raceway at the event.

Classes – Group F, One Motor Group 12 (OMB) and Amateur GP-12, price \$13.00.

WING CAR SPECIFICATIONS

Group F

Grp F is open to any racer not racing Grp 7 type classes.

Once a racer has won in the Group F class and he/she is over the age of 14 they may not compete in this class again.

Glue: The National Championship race will run using **spray glue** only. The raceway owner/race director/USRA BOD will collectively determine the formula and application of the spray glue.

One minute qualifying with no bye round. The National Race will run an all main format. Mains will be seeded according to qualifying order.

A. Motors

1. Only the ProSlot 4002FK is allowed.
2. Springs and brushes may be changed. Springs must be of three---coil type from a USRA---approved manufacturer.
3. Motors must remained sealed

B. Chassis

1. Any current, legal USRA Grp 12 chassis. Chassis may not be modified except the pans may be removed.

C. Bodies

Any USRA---approved body may be used.

D. Tires

Spec tires will be marked by the USRA prior to shipment to the host raceway and must be purchased from the raceway at the event. The price of tires will be \$13.00 per pair.

E. Gears & Axle

1. Any gear ratio or pitch may be used. Drilled gears are permitted.
2. Only solid axles may be used. May have flats.
3. Axles must be a minimum of 3/32 inch in diameter.

F. Bearings

No ball, roller, or other frictionless bearings are allowed.

G. Weight

No minimum weight for Group F

One Motor Group 12 (OMB)

All General Rules also apply. .

Glue: The National Championship race will run using **spray glue** only. The raceway owner/race director/USRA BOD will collectively determine the formula and application of the spray glue.

One Motor Group 12 (OMB) will be run an all main format.

One minute qualifying with no bye round.

Mains will be seeded according to qualifying order.

H. Motors

See C Can Motor Specifications. USRA Maximum Retail Price applies .Use Expert Group 12 motor rules. Shunt wire, any springs, insulation may be used. May use can and endbell ball bearings/

I. Chassis

1. Any current, legal USRA Grp 12 chassis. Chassis may not be modified except the pans may be removed.

J. Bodies

Any USRA---approved body may be used.

K. Tires

Spec tires will be marked by the USRA prior to shipment to the host raceway and must be purchased from the raceway at the event. The price of tires will be \$13.00 per pair.

L. Gears & Axle

1. Any gear ratio or pitch may be used. Drilled gears are permitted.
2. Only solid axles. May have flats.
3. Axles must be a minimum of 3/32 inch in diameter.

M. Bearings

Ball, roller, or other frictionless bearings are allowed.

N. Weight

No minimum weight for OMB

Group 12

Group 12 will be contested in both Amateur and Expert Driver Classifications. See Amateur Driver Classification regarding the "Move---up" Policy. **Amateur and Expert will be run using spray glue only.**

All General Rules also apply.

A. Motors

See C---Can Motor Specification. USRA Maximum Retail Price applies.

B. Armature

1. See Armature Technical Specifications table for armature specs.

2. Must be commercially available, as defined in the Bylaws Article X.
3. USRA Maximum Retail Price applies.

C. Chassis

1. USRA Maximum Price applies. Chassis for the Group 12 class must be commercially---available and be specifically approved on an "as---submitted" basis, in accordance with the following parameters:
 - a) Any chassis, which has been submitted and approved, that retails for the USRA Group 12 Chassis maximum price or less (see USRA Maximum Retail Price, in completed form.
 - b) Chassis must be commercially-available separately, and may also be available in an assembled ready---to---run car.
 - c) See the Approved Components for GP-12 for the list of approved chassis.
2. Chassis may be made of any material.
3. Chassis containing steel components, except steel wire, pillow blocks, motor brace, and lead wire retainer:
 - a) Must have a guide mount that is integral.
 - b) Must be one continuous piece extending from the guide mount to the rear axle line, to which the rear pillow blocks are attached.
 - c) The bottom of the guide mount must be level with the bottom of the chassis with no offset.
 - d) Chassis may be sold as kits, but must be commercially available in an assembled form. Kits must be assembled in a manner identical to the assembled production chassis except as noted.
4. Front body mounting tubes must be rigidly attached to the chassis (no shakers or floating mounts).
5. Rear body mount may be floated on any steel chassis, but must remain in original location as on the RTR car. Steel pin tubes may be used.
6. May only reposition front wheel mount location on any chassis but wheels must be able to be seen through body wheel well opening. No other component may be altered or repositioned from its original location in ready to run car.
7. Minimum weight of a completed, RTR car will be 72 grams at ALL times during a race.

D. Modifications

Pre---assembled chassis may be re---soldered, but components may not be altered or repositioned, chassis kits must be assembled the same manner as production chassis. Anything not listed here is illegal.

1. Static bracing, consisting of straight piano wire may be added to solder joints only. Wire may not be

bent at any angle so as to constitute a brace. Wire may not be soldered to anything else other than the component it is parallel to.

2. No floating pans.
3. Brass and lead may be used for weight.
 - a) Weights must be solid, rigidly attached, and not used as a brace. All weight may only be attached to the front and/or to any existing weights. Weight may not be soldered to the center rail or to the side rails.
 - b) Weights may extend no more than one (1) inch (25.3 mm) back from the center of the guide hole.
 - c) No modifying or bracing of chassis will be considered to be legal weight.
 - d) Weights may be soldered to the bottom of the chassis if the chassis and attached weight clear the track by 1/16 inch (13.05 mm) at all times.
4. A lead wire retainer may be added.
5. A motor support tube or wire may be added, not to exceed 1---1/2 inches (38.1 mm) in total length behind the motor. Motor must be soldered to this brace or it will be considered an illegal chassis brace. Chassis may have steel pillow blocks and motor brace.
6. May solder or glue oilites in place.

E. Prohibited Modifications:

1. Tie wire.
2. Changes in size, dimension, shape, or location of any component.

F. Lightweight Components

Since the GP-12 class is intended to be an entry---level class, many of the rules are designed to discourage the use of complicated, state of the art, or expensive components. Therefore, special lightweight components are specifically prohibited, including:

- a) Magnet wire or magnet type wire as a substitute lead wire.
- b) Hollow or special lightweight axles.

G. Gears

Any gear ratio or pitch is allowed. Drilled gears are permitted.

H. Axles

1. Axles retailing for US \$5.99 or less may be used.
2. Axles with flats are allowed.
3. Axles must be a minimum of 3/32 inch in diameter.

I. Wheels

Fronts may be drilled.

Rear tires for Amateur Group 12 will be a spec tire, marked by the USRA prior to shipment to the host raceway and must be purchased from the raceway at the event. The price of the tire will be \$13.00.

Rear tires/wheels used may have a MAXIMUM Outside Wheel Diameter of .650" or smaller. Any wheel(s) that are .650" O.D. or similar MUST be used. No "waffled/cross drilled" wheels may be used. Drilling is allowed in the backside hub boss area only. Any tires selling for a Retail Price of \$16.00 per pair or less with a Max O.D. of .650" or smaller must be used. Tires will be marked and must be purchased from the raceway at the National Championship Event per the USRA Bylaws.

J. Bearings

No ball, roller, or other frictionless bearings are allowed. No proposals to modify this restriction will be accepted in the future, as voted in at the 2005 Wing Car general meeting.

K. Weight

Minimum weight for GP-12 cars is 72 grams at all times while racing.

INTERNATIONAL 15

International 15 will be contested in both Amateur and Expert Driver Classifications. See Amateur Driver Classification on regarding the "Move---up" Policy. Amateur and Expert will be run using spray glue. All General Rules also apply.

A. Motor

1. Can must be mass produced, and commercially---available, as defined in the Bylaws Article X. Cut---outs and machine work are allowed.
2. Can inside dimension minimums are defined as not less than: Length --- No restrictions.
Width --- .835 inches (21.21 mm).
Height --- No restrictions.
3. Magnets must be ceramic. Magnets containing rare earth materials (defined as elements with atomic weights 58 through 71) are not allowed. No neodymium magnets or materials allowed.
4. Ball bearings are allowed.

B. Armature

(Note: the reference regarding machine winding was eliminated in 2006.)

1. See Armature Technical Specifications tab for specifications.
2. Must be commercially available, as defined in the Bylaws Article X.
3. USRA Maximum Retail Price applies.

C. Chassis

1. No chassis restrictions. Any material may be used.
2. Racer---constructed chassis are specifically allowed.
3. Ball bearings are allowed.

D. Axles, Wheels, Tires, and Gears

Axles must be a minimum of 3/32 inch in diameter.

Must comply with General Technical Rules otherwise no restrictions.

Rear tires/wheels used may have a MAXIMUM Outside Wheel Diameter of .650" or smaller. Any wheel(s) that are .650" O.D. or similar MUST be used. No "waffled/cross drilled" wheels may be used. Drilling is allowed in the backside hub boss area only. Any tires selling for a Retail Price of \$16.00 per pair or less with a Max O.D. of .650" or smaller must be used. Tires will be marked and must be purchased from the raceway at the National Championship Event per the USRA Bylaws

E. Bodies

Must be commercially available, as defined in the Bylaws Article X.

COBALT 12

Cobalt 12 will be contested in both Amateur and Expert Driver Classifications. See Amateur Driver Classification regarding the "Move---up" Policy. Amateur and Expert will be run using spray glue. All General Rules apply.

A. Setup

1. No restrictions.
2. Ball bearings are allowed
3. May use single, quad (4), or six (6) magnet motors only.

B. Armature

1. See Armature Technical Specifications table for Specifications.
2. Must be commercially available, as defined in the Bylaws Article X.
3. USRA Maximum Retail Price applies.

C. Chassis

1. No chassis restrictions. Any material may be used.
2. Racer---constructed chassis are specifically allowed.
3. Ball bearings are allowed.

D. Axles, Wheels, Tires and Gears

1. Axles must be a minimum of 3/32 inch in diameter.
2. Must comply with USRA General Technical Rules, otherwise no restrictions.
3. Rear tires/wheels used may have a MAXIMUM Outside Wheel Diameter of .650" or smaller. Any wheel(s) that are .650" O.D. or similar MUST be used. No "waffled/cross drilled" wheels may be used. Drilling is allowed in the backside hub boss area only. Any tires selling for a Retail Price of \$16.00 per pair or less with a Max O.D. of .650" or smaller must be used. Tires will be marked and must be purchased from the raceway at the National Championship Event per the USRA Bylaws

E. Bodies

Must be commercially available, as defined in the Bylaws Article X.

GROUP 27 LITE

This class is open to any competitor, regardless of driver ranking or classification. The National Championship race will run using spray glue. The raceway owner/race director/USRA BOD will collectively determine the formula and application of the spray glue. Qualifying will be done at race voltage (14.3v max) in a single session of 1 minute. Cars will be impounded after qualifying and brought to the starting line after the seeding process is complete. The racer will be allowed to put the lane sticker in place but not perform any work on the car. All General Technical Rules apply.

A. Motors

1. Cobalt magnet singles only --- .400" tall X .440" long (+/- 5%).
2. Ball bearings allowed in can and endbell.
3. No restrictions on can and endbell.
4. NO MOTOR BRUSH CHANGING or ANY COMPONENT
5. No MOTOR BRUSH CHANGES AT ALL once the car is in tech for the race, during racing or lane changes. Components include, set up, armature, endbell, magnets, can, brushes, springs and bearings

B. Armature

1. See Armature Technical Specifications table for armature specs.
2. Timing may be adjusted to allow for factory variations.
3. Must be commercially available, as defined in the Bylaws Article X.

C. Chassis

1. USRA Approval Required; may be submitted to USRA as a kit; must be Commercially Available; will have a Maximum Retail Price as listed.
2. Chassis must be made of steel with a minimum thickness of .047"; must be one continuous piece from the guide mount to the rear axle centerline, to which the rear pillow blocks and rear pillow blocks are attached.
3. Basic chassis cannot be modified; and must remain as submitted with regard to rail widths, including slots for pillow blocks, etc. Any commercially available pillow blocks may be used.
4. Minimum length is 4.100" as measured from the center of the guide flag hole to the center of the axle.
5. Pin tubes may be brass or steel; maximum 5/8" length; additionally a 1/2" length of pin tubing or maximum .035" piano wire brace to the pin tube may be used.

Axles, Wheels, Tires, & Gears

1. Axles must be a minimum of 3/32" in diameter.
2. Must comply with General Technical Rules; otherwise no restrictions.

E. Bodies

Must be commercially available, as defined in the Bylaws Article X.

F. Race Format -- All Main

1. Two motors allowed for race including qualifying.
May change motors during the race and switch back (A--B---A).
Main seeded by qualifying positions 1st--8th A Main, 9th -16th B Main. A and B Main with odd number in the Higher of the two mains A and B. 17th – 24th C Main, 25th-32nd D Main.
No round robins. The mains will be run in reverse alphabetical order with the A Main being run last.
2. Racer with the largest lap total is the winner, regardless of which Main he/she races in.
3. Mains will be 4 minutes on and 4 minutes off.
4. The standard marshaling process will be followed (A will marshal D and H will marshal E).
5. Spare motors must be teched in with the car. The spare motor will be marked and impounded. When the racers wishes to change motors, they must get the motor from the race or tech director.

GROUP 27

Group 27 will be contested in both Amateur and Expert Driver Classifications. See Amateur Driver Classification on regarding the "Move---up" Policy. All General Rules also apply.

A. Set---up

No restrictions.

B. Armature

1. See Armature Technical Specifications table for armature specs.
2. Timing may be adjusted to allow for factory variations.
3. Must be commercially available as defined in the Bylaws Article X.

C. Chassis

No restrictions.

D. Axles, Wheels, Tires, & Gears

1. Minimum axle diameter is 3/32".
2. Must comply with General Technical Rules; otherwise no restrictions.

E. Bodies

Must be commercially available, as defined in the Bylaws Article X.

TWO MOTOR OPEN (TMO)

This class is open to any competitor, regardless of driver ranking or classification. All General Technical Rules apply.

A. Motor

1. No restrictions to setup or armature.
2. Motor Definition – A “Motor” when quoted in relation to One Motor Open racing shall include can, endbell, armature, can bearing, endbell bearing, and endbell hardware.
3. NO MOTOR BRUSH CHANGING or ANY COMPONET CHANGES AT ALL once the car is in tech for the race, during racing or lane changes. Componets include, set up, armature, endbell, magnets, can, brushes, springs and bearings.
4. Entrants may only use two (2) motors per race.
5. All motors shall be marked before the start of a series race in a way where it is possible to tell if the motor has been opened after the race. If a racer needs to open their motor during the race it must be opened and worked on under the guidance of the tech director or his/her appointee, then re--- sealed. If paint/nail polish is to be used, a different type should be used for each race, and care must be taken to ensure that the number of motors marked equals the number of racers entered.
6. Random checks should be carried out during the race to ensure that only marked motors are in the cars.
7. If a racer is found with a non---marked motor is his/her car at any time during the race he/she shall be disqualified immediately.

B. Chassis

No restrictions.

C. Bodies

Must comply with General Technical Rules, otherwise no restrictions.

D. Axles, Wheels, Tires, & Gears

1. Minimum axle diameter is 3/32”.
2. Must comply with General Rules, otherwise no restrictions.

E. Race Format-- All Main

1. One round of 30---second qualifying using race power. Cars will be impounded after qualifying and brought to the starting line after the seeding process is complete. The racer will be allowed to put the lane sticker in place but not perform any work on the

car. Mains seeded by qualifying positions 1st--8th A Main, 9th -16th B Main. A and B Main with odd number in the higher of the two mains A and B.

2. No round robins. The mains will be run in reverse alphabetical order, with the A Main being run last.
3. Racer with the largest lap total is the winner, regardless of which Main he/she races in.
4. All races regardless of format will be 4 minutes on, 4 minutes off.
5. Qualifying and race voltage will be 14.3 volts maximum unloaded.
6. Marshaling will go as follows:
 - a) The standard marshaling process will be followed (A will marshal D and H will marshal E).
 - b) All other racers will race their Main, then marshal the following Main.

GROUP 7/OPEN (UNLIMITED)

All General Rules also apply.

A. Motor

No restrictions on setup or armature.

B. Chassis

No restrictions.

C. Bodies

Must comply with General Technical Rules; otherwise no restrictions.

D. Axles, Wheels, Tires, & Gears

1. Minimum axle diameter is 3/32".

2. Must comply with General Technical Rules; otherwise no restrictions.

E. Clearance

The minimum tech height for Group 7/Opens for qualifying is .032". There is no minimum tire diameter for Group 7/Opens during qualifying, .032" only applies during qualifying.

Approved Components for GP--12

C-Can Motors & Setups

Kamen	K101 K102
Koford	M504A Super Feather M504B (12) Spec 12 motor M527A Ultra Feather Gp-12 motor M508 set---up M547A Ultra setup M604, M605, M606, M607, & M630 magnets
Parma	455
Pro Slot	PS723-VIP Gp 12 motor PS723-SRS Gp 12 motor PS728 (12) Spec 12 motor PS750VIP Gp 12 setup PS750SRS Gp 12 setup
Red Fox	1001 Ultra Lite plated can 1153 Ultra Lite plated can (new hardware) 1154 G2 1155 G2 thin can 1160 Ultrafast plated 1170 Silver Bullet thin New endbell for all Red Fox motors Red Fox Gp 12 magnets flat tipped
Armatures-All Classes	
Camen	GP-12 Intl-15 C-12 27
Koford	M468-15 Legal thru 2019 M467-12-B&C (C-12) M467-15 (Intl-15) M468 Box (GP-12) M467-27A
Pro Slot	206 (Intl-15) 207 (C-12) 211 (27) 701 Series (GP-12) 702 (Spec-15)

GP-12/Grp F Chassis

Kamen	750
Koford	M500A M503

M511A Superspeedway Beuf
 M512A Short Superspeedway Beuf
 M513A Short Beuf Express
 M530A
 M530C
 M530E Ultra Beuf Express
 M530I Group F
 M530L 4.355 long Grp 12 w/o pans. Kit
 M530N 4.405 long Grp 12 w/o pans. Kit.
 M530 P 4.12 Assembled
 M530 O 4.12 Kit

Pro Slot

PS-317-12 Perimeter 4.330" long
 PS-318-08 Tripod
 PS-319 Spec 12

Red Fox

07-W
 07-P
 RFL

Approved Components for 27 Lite

27 Lite Chassis

Camen

2050.410 (4.100")
 2050.415 (4.150")
 2050.420 (4.200")
 2050.425 (4.250")
 2050.430 (4.300")
 2051.410 (4.10") Wedge
 2060.410 (4.100") Arrow
 2100.425 Emerson Wedge (4.250")
 2060,450 Arrow
 2095.410 Pyramid
 2085.410 Zoid Sans
 2090.410 Pyramid
 2070.410 Skinny
 2080.410 Zoid

Koford

M610B kit (4.300")
 M610D kit with gear guard (4.300")
 M610F kit (4.250)
 M610H kit (4.600)
 M610J kit with gear guard (4.600")
 M610L kit (4.250")
 M610N kit (4.200)
 M610P kit (4.150")
 M610R kit (4.100)
 M610T kit (4.120")
 M610U (4.120")
 M610Y 4.119 long 27 Lite Kit.
 M610Z 4.450 long 27 Lite. Kit

Red Fox	270 narrow motor box (4.300") RF27/12 (4.180") RF 27/15 (4.120")
Rosenberg Racing	RR27LU
Speed Tech	ST1 EX (4.100")

Bodies for Wing Car Classes

B52	7100	Z-28
	7100-2	Z-28 without rib
	7100-3	Z-28 dimple with rib
	7100-4	Z-28 dimple without rib
	7101	Secco
	7102	Elroy
	7103	Outrider
	7104	Endor
	7105	SkyWalker
	7106	Ormond
	7107	Excalibur
	7108	Quest
	7109	Falcon
	7109-2	Falcon with rib
	7110	Vanquish with rib
	7110-2	Vanquish without rib
	7111	Hype
	7112	Red Five

Camen	GTO II with rib
	GTO II without rib
	GTO III
	Supro
	Supro with rib
	Supro Long with rib
	Supro dimple
	Supro dimple with rib
	Supro dimple with rib long
	Carrera
	Venom
	Lotus
	Stirling 5220
	Stirling with rib 5225
	Wallman
	Dusti 1025
	Dusti 1025 with rib
	Zinon 5325
	Zinon with rib

Mustang
Sutra 5280
Sutra 2

Hi-Speed Products

001 Hurricane
001R Hurricane with rib
005R AL1
009 Hypercane
009R Hypercane with rib
010 Burin
010R Burin with rib
5290 Mustang with rib
5000 Vyper
5005 Vyper with rib

Koford

M214G Porsche
M214H Mercedes
M214I Peugeot
M214J Ferrari
M214J Tesla
M214J Tesla with rib

M 214 M55 Aero
M 214L5 Peugeot

Outisight

028 Tiga
029 Royale
029R Royale, with rib
029AW Royale SE
030 Vette
030R Vette, with rib
041 Infinity
041R Infinity, with rib
052 Viper
052R Viper, with rib
053 Cobra
053R C-2, with rib
054 Avenger
054R Avenger, with rib
055 Probe, with rib
056 Banshee
057 Viper, short
057 Viper, short, with rib
058 Reaper
100 Asp
101 Serpent
101N Serpent without rib
102 Royale 2K2
103 Vette 2K2

	106	V3
	107	V5 Viper
	108	Charger
	108R	Charger with rib
	109	ZR1
	109R	ZR1 with rib
Outisight	110	Saleen
	110R	Saleen with rib
	111R	Fugya
	112R	Fugu
Parma	70503	Phantom
Pro Products	Pro 104	Supra with rib
	Pro 104N	Supra without rib
	Pro 105	Daytona
	Pro 106	Venom
	Pro 107	Skype
	Pro 108	Royale-7
	Pro 110	Volt
	Pro 117	Fierro
	Pro 1407	TWP Hurricane
	Pro 1408	TWP Hurricane-Z
Red Fox	001	Shadow
	001A	Shadow with rib
	002	Tyfon
	003	G---2 Scorp
	004	Renault
		Foxtail
		Foxtail with rib
		Foxtail 2015 ver
		Foxstock
		Foxstock with rib
		Fat Fox
Sting Ray		
Shadow Dimpled		

CSC
Vyper 5000
Vyper 5005
Vyper 5015X

2018 Maximum Retail Prices for USRA Approved Products

Group 12 setup	\$66.04
Group 11/GTP setup: Contender/Competitor	\$66.04
16D set-up	\$26.57
16D set-up with aluminum spring cups	\$26.57
Intl-15 armature	\$46.40
C12 armature	\$46.40
Group 12 (GP-12 & GT-12) armature	\$46.40
GTP armatures: Wasp/Hornet/Super 16C/Super 16D	\$38.50
Group 11/GTP armatures: Contender/Competitor	\$36.75
27 Light chassis kit	\$92.70
Group 12 / Group F chassis	\$58.44
One Motor Group 12 chassis	\$58.44
GT-12 chassis kit	\$73.62

C-CAN MOTOR SPECIFICATIONS

A. General

Motor setups must be commercially available, as defined in General Rules, Section IX, and must be specifically approved for the GP---12 class on an "as--- submitted" basis. Approved motors are listed in the Approved Components for GP---12 listing.

Can and endbell must be mass---produced, full---dimensioned can type (full top, bottom, and two sides, without cheater tabs or other artificial attempts to meet dimensional specifications) without modification. No aluminum endbells allowed. Inside can dimensions are defined as not less than:

a) Length --- .925 inches (23.50 mm)

b) Width --- .835 inches (21.21 mm)

c) Height --- .560 inches (14.22 mm)

2. Aftermarket components that are not identical replacements of original parts as approved are not allowed. This means endbells, hardware, cans, etc., must be original for that brand and type of motor, with the following exceptions:

a) Approved single---piece magnets may be interchanged. Any magnet approved for use in any manufacturer's motor may be used in any other manufacturer's setups.

b) Manufacturers selling super magnets, or other components above the cost of original equipment replacement parts, are not allowed. A super magnet at higher cost and identical in appearance may not be detectable in a car, hence manufacturers selling identical---looking components at higher cost will lose approval for their motor (this would not rule out "matched" pairs of approved magnets).

3. Any motor set---up retailing for the USRA Group 12 motor maximum price or less (see USRA Maximum Retail Prices) may be used.
4. Anodized spring cups are allowed.

B. Magnets

1. Magnet dimensions plus or minus 10% are as follows:

a) Length --- .500 inches (12.70 mm)

b) Width --- .150 inches (3.81 mm)

c) Height --- .550 inches (13.97 mm)

1. Magnets must be commercially---available through major distributors.
2. No quad magnets allowed. Magnets must be single---piece ceramic only.
3. Magnets may not contain "rare earth" materials (defined as elements with atomic weights 58 through 71).

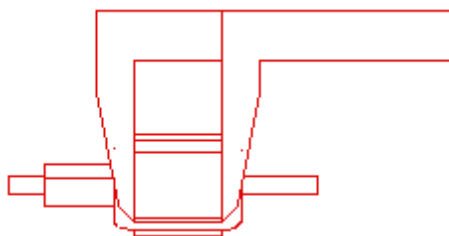
C. Can Modifications

Anything not listed here is not permitted or allowed.

1. Use of can and end ball bearing is allowed in all Scale, OM Box and Expert Grp 12 classes.
2. Can bushing may be soldered in place but may not be reversed or moved from original position. Diameter of bushing locator hole may be altered to allow the stock size bushing to be centered.
3. Outside diameter of bushing (excluding flange) may not be altered.
4. See table for adhesive rules. Need not retain magnet clips.
5. Magnet zapping is permitted.
Only single, one-piece magnets. No quad or multiple-piece magnets allowed.
Motor brushes and springs may be replaced and spring tension may be adjusted. See table for spring rules.
6. A 1/4" long x 1/8" wide x 1/8" deep notch may be cut in the can and magnet for axle clearance.
7. Prohibited modifications:
Cut-outs or machine work on can or endbell.
See C---Can Motor Specs table for shunt wire rules.
Adding endbell heat sinks.
Drilling holes in can or endbell.
Armatures and magnets may be intermixed between approved manufacturers. See table for mixing of other parts.
Definition of can shall not include surface treatment. If a manufacturer introduces a plated can they need not go through the submission process again. Plated can must sell for the same price as unplated version.

	Scale	Expert Wing	Amateur Wing	Group F
Magnet Adhesive	No Restriction	No Restriction	No Restriction	NA
Unrestricted Honing of Magnets by Racers	Yes	Yes	Yes	NA
Air Gap	No Restriction	No Restriction	No Restriction	NA
Interchangeable Endbells and Hardware	Yes	Yes	Yes	No
Endbell Ball Bearing	Yes	Yes	No	No
Shunt Wires and Spring Insulation	Yes	Yes	No	No
Can End Ball Bearing	Yes	Yes	Yes	No
Brush Springs	No Restriction	No Restriction	3 Coil	3 Coil

Measuring the stack of an armature



Armature Technical Specifications

Armature Type	Classes	Minimum Diameter	Maximum Diameter	Minimum Stack Length	Wire Size (minus insulation)	Min # series wou	Tag
Group 12	GP-12 GT-12	.513" 13.03mm	GP-12 .518" (13.16mm) GT12 .540" (13.72mm)	0.350" (8.89mm)	AWG #29 Gauge (0.0112- --0.0114")	50	At least '12' or '15'
Int 15	I15			0.440" (11.18mm)	AWG #29 Gauge (0.0112- --0.0114")	50	'15'
C 12	C12/15			0.350" (8.89mm)	AWG #29 Gauge (0.0112- --0.0114")	50	'12' or '15'
Grp27 27 Lite	Grp 27			0.440" (11.18mm)	AWG #27 Gauge (0.0141- --0.0143")	38	'27'
Wasp Hornet	GTP	.513" (13.03mm)	.540" (13.85mm)	0.350" (8.89mm)	AWG #30 Gauge (0.0099- --0.0101")	60	Super Wasp ('S---Wasp') Hornet ('HRT')
Contender Competitor	JRL GTP	.513" (13.03mm)	.540" (13.85mm)	0.440" (11.18mm)	AWG #30 Gauge (0.0099- --0.0101")	55	Competitor ('COM', 'COMP') Contender ('CONT', 'CTR')
Super 16C	GTP	.513" (13.03mm)	.540" (13.85mm)	0.490" (12.45mm)	AWG #28 Gauge (0.0125- --0.0127")	55	'S16C' 'Super 16C'
Super 16D	GTP	.513" (13.03mm) (Coating may be removed)	.560" (14.36mm)	0.490" (12.45mm)	AWG #28 Gauge (0.0125- --0.0127")	60	'S16D' 'Super 16D'
16D	Group 10 Stock Car	.513" (13.03mm)	.560" (14.36mm)	0.600" (15.24mm)	AWG #30 Gauge (0.0099- --0.0101")	70	'16D'

USRA Armature Specifications

- 1) Armatures must be commercially available as defined in General Rules, Section IX, and must be specifically approved for the class they are being used in, unless class rules specify otherwise.
- 2) Armatures must meet any price limits as defined in the USRA Maximum Retail Prices.
- 3) No split---stack/lamination arms allowed.
- 4) Only round copper wire can be used. Litz wire may not be used.
- 5) Armatures may be balanced.
- 6) Armatures may have factory commutator tie---wrap.
- 7) Armatures may be reconditioned which includes cleaning, dyeing, commutator re---truing, and re---balancing.
- 8) See Armature Stack Length in the General Technical Rules for clarification.
- 9) Armatures must be tagged according to the Armature Technical Specifications table indicating they were produced by a USRA--- approved manufacturer in compliance with these rules.

D-CAN MOTOR SPECIFICATIONS

Motors (Stock 16D)

A. General

Must be commercially---available, meet all USRA manufacturing specs, and be approved for use in this class by the USRA. A minimum number of 500 pieces is required for approval, and must be available through distributors and or raceways by Oct. 1 prior to the National Event.

B. Set-ups

1. Stock 16D style set---ups only. Must be commercially---available. Setup must retail for the USRA 16D Setup maximum price or less (see USRA Maximum Retail Prices). Setups sold with aluminum spring cups must retail for the USRA 16D Setup with Aluminum Spring Cups maximum price or less (see USRA Maximum Retail Prices) may compete.
2. 16D set---ups are to be submitted and sold as ready to run. Set---ups should be ready to install armature, brushes, spacers, springs with no further assembly work needed. Set---ups will have the magnets installed and retained using clips, can fingers folded over, and/or super glue. Can---end ball bearing is allowed; may solder in place. Endbell fully assembled and drilled for can screws. Parts kits are not acceptable as set---ups.

C. Modifications

No modifications allowed except as follows:

1. Racer may add can screws.
2. May add spacers to limit endplay.
3. May dye armature.
4. May re---true commutator.
5. May zap magnets.
6. Magnets may be shimmed
7. May glue magnets in place. Any adhesive may be used.
8. May change brushes and may use any three---coil springs.
9. May polish or hone magnets.
10. Balancing is allowed.
11. Armature may be reconditioned; coating may be removed.
12. There is no minimum air gap in 16D motors, beginning in 2008.
13. May interchange parts between manufacturer's set---ups.
14. Ball bearing allowed in can end only; may be soldered in place.
15. May use any USRA---approved C---can or D---can endbell hardware as replacement hardware. Aluminum or brass spring cups may be used as replacements.
16. May solder and/or glue endbell hardware together and to endbell.

D. Cans

1. Must be made from metal, and have no cutouts or metal removed from sides of can. The only allowable cutouts are the axle notches. Only one hole is allowed on the top and bottom of can. No strap---type cans allowed. Cans must have a full top and bottom. No cheater tabs on cans allowed.
2. Must meet the following minimum inside dimensions:
Height --- .600 inches (15.24 mm)
Width --- .875 inches (22.23 mm)
Length --- .950 inches (24.13 mm)

Definition of can shall not include surface treatment. If a manufacturer introduces a plated can they need not go through the submission process again. Plated can must sell for the same price as the unplated version.

Cans submitted for product approval after January 1, 2005, must be no lighter than the lightest approved can commercially---available on January 1, 2005. This is a manufacturer specification, not a racer specification. The minimum weight is 2.1 grams.

E. Magnets

Must be stock one piece single (no quads) ceramic magnets as found in the production motor, and meet the following minimum dimensions:

Height --- .570 inches (14.48 mm)
Length --- .650 inches (16.51 mm) Thickness --- .145 inches (3.68 mm)Mya

F. Armatures

See Armature Technical Specifications on for armature specs.

FK MOTOR SPECIFICATIONS

A. General

Must be commercially available, meet all USRA manufacturing specs and be approved for use by the USRA. A minimum of 500 pieces is required for approval and must be available through distributors and or raceways by Oct. 1 prior to The national event.

B. Set-ups/Motors

- 1. Stock Pro Slot 4002 FK style set-ups only. Must be commercially available. Set up must retail for the USRA FK set up max price or less.**
- 2. Set-ups are to be submitted and sold as ready to run. Set ups should be ready to install the armature, brushes, spacers, springs with no further assembly work needed. Set-ups will have the magnets installed and retained using the can “fingers” folded over with or without Super Glue. Endbell fully assembled and drilled for can screws. Kits are not acceptable as set ups.**
- 3. FK Set up pricing. Retail pricing is froze at 12.95 USD. No retail price increases until 2023 will be allowed and this rule can not be brought up for vote until the 2023 nats. This applies to any class using the PS-4002 Fk set ups.**
- 4. Complete Pro Slot Production Big Dog and X-12 FK motors must retail for 50.00 USD or less and price is froze until 2023. No price increases until 2023 and can not be brought up for vote until the 2023 nats.**

C. Armatures

- 1. Big Dog arms only for use in GTP class. Retail price of 31.50 or less is froze until 2023 and this can not be voted on until 2023.**
- 2. X-12 FK arms only for use in Am GT-12 class. Retail price or 34.50 or less is froze until 2023 and this can not be voted on until 2023.**

D. FK MODIFICATIONS

No racer modifications allowed except as follows:

- 1. May add can screws**
- 2. May add spacers to limit endplay.**
- 3. May dye armature.**
- 4. May re true commutator.**
- 5. May zap magnets.**
- 6. May glue magnets in place. Any adhesive may be used.**
- 7. May change brushes and springs MUST be 3 -coil.**
- 8. Must use stock single piece "black" Pro Slot Poly Neo magnets only. No silver or Hard neo magnets allowed. No shimming or honing allowed.**
- 9. Armatures may be rebalanced/reconditioned.**
- 10. Minimum arm diameter is .513".**
- 11. May use any Pro Slot approved hardware/hoods, etc. Pro Slot Copper hoods are approved. Aluminum or brass spring cups may be used.**
- 12. May solder and/or glue hardware together and to endbell.**
- 13. Can endbell ball bearing allowed in (4.5" Stock Car, GTP and Am GT-12) and may be soldered to can.**
- 14. Endbell ball bearing allowed in GTP and Am GT-12 classes only.**
- 15. Shunts and spring insulation allowed in GTP and GT-12 classes only.**
- 16. Must use stock Pro Slot 4002 FK cans only. No modifications except for axle "notching". A 1/4" long x 1/8" wide x 1/8" deep notch may be cut in the can and magnet for axle clearance.**
- 17. Must use stock Pro Slot 4002 FK endbells only. No modifications except for gluing endbell bushing/ball bearing in place.**

E. Cans

- 1. Must be made from metal and have no cutouts or metal removed from sides of can. The only allowable cut outs are the axle notch. No Strap type cans allowed. Cans must have a full top and bottom. No cheater tabs on cans allowed.**
- 2. Must have the following inside dimensions: Height .565" (14.26 mm) inches. Width .765" (19.44 mm) inches. Length .765" (19.44 mm) inches.**

F. Armatures

GTP Must use Big Dog arms only. PS-4010 55 turns of 30 AWG. Must be tagged BD.

Am X-12 Must use X-12 FK arms only. PS-4012 50 turns of 29 AWG. Must be tagged 12 or X-12.

Stock Car 4.5" Must use the Asian produced FK arms only. Must retain green arm stack coating. No arm grinding allowed. 65 turns of 30 AWG.

GENERAL COMPETITION REGULATIONS (Scale)

I. Driver Classification

A. Amateur Division

1. Racers with average driving or technical ability and newer racers.
2. At the National Championships (if applicable) , Amateur Division racers will use hand-out motors for all applicable classes except Amateur GT-12.
3. Junior class is for those 13 years of age and younger.

B. Expert Division

1. All drivers with exceptional driving or technical ability.
2. Any driver sponsored by a major manufacturer must race in this Division.
3. Any racer 14 years of age or older who has won in any Amateur class at the Scale Nationals must race Expert Division in all classes at any future Nats. BOD may apply this clause to champions from other divisions and associations after a review.

II. Scale Race Procedures

A. Race Format (Group 10, 4.5 Stock Cras, LMP, GTP, GT-12, JRLClasses)

1. All scale races will utilize Multiple Mains Formats.
2. All Div 2 Classes (GP10 – Eurosport) will have a 1 minute “warm---up”.
3. Mains will be seeded by qualifying.
4. Qualifying order will be determined by reverse order of sign in/tech. First in, last to qualify. If car fails to

tech, place in tech line is lost.

5. All Main events will be 8 x 3 minutes with 2---minute lane changes.
6. All scale races will be run under USRA spray glue conditions as described in section VIII.B.
7. Tools are allowed to be used during lane change. Braid juice and oil are allowed. Any other work is allowed except tire changes during the lane change. First offense: 5 lap penalty, Second offense: Disqualification.
8. Tires may be changed under green flag only.
9. Amateur and Expert race merchandise certificates and/or cash pay---outs will be at least 50% of the total entry fees for each race, and will be paid to at least the top eight finishers.

B. Eurosport Race Format (1/32, 1/24, and F1 Eurosport classes)

Qualifying order will be determined by a random draw. Each driver will receive one minute of qualifying time to establish his/her single fastest recorded lap time. Each racer will race in a Preliminary Qualifying race of eight 4 minute heats (no round robins). Seeding will be according to qualifying with 1---8 in the "A", 9---16 in the "B", 17---24 in the "C" and 25---32 in the "D" Race, etc. All races will be equal in number of cars as possible with the extra cars being seeded from the top down; example with 33 entries, A--- B---C will have 7 cars; D---E will have 6 cars.

Main seeded by qualifying positions 1st--8th A Main, 9th -16th B Main. A and B Main with odd number in the Higher of the two mains A & B.

1. The top eight racers in total laps from the Preliminary Qualifying race will advance to the Main Event race of eight 5 minute heats. The European lane rotation system will be used.
2. Lane changes will be one (1) minute between racing heats.
 - a) Working on cars between heats is restricted only to adjusting the braid, pushing in (but not replacing) body pins, straightening body, and changing the lane sticker.
 - b) No tools are allowed to touch the car during a lane change. Any other work on cars using tools, braid juice, and/or oil is allowed only under green flag racing conditions.
 - c) Tires may be changed ONLY under green flag racing conditions. Penalty is disqualification.
3. 1/24 Eurosport and 1/32 Eurosport will be cash pay-out. Formula 1 1/32 pay-out will be merchandise certificates.

C. Tracks

At the National Championships, Group 10, GTP, Amateur GT-12 will be raced on the new banked track(s). 4.5" Stock Car will be raced on the banked or oval track. LMP, JRL, Expert GT-12 maybe races on either banked or flat track. Euro 32, Euro 24 and Euro F1 will be raced on the flat track.

III. Scale General Technical Rules

A. Drivers and Interiors

1. All scale classes must use three---dimensional vacuum---formed interiors. No paper, flat, or thingie type interiors allowed.
2. Drivers must include at least head/helmet, shoulders, torso, arms and steering wheel.
3. Drivers/interiors must be appropriate size and scale for the class.
4. Drivers/interiors must be detailed using at least three colors and must be opaque.

B. Bodies

1. Must be commercially available and approved for use in the class.
2. Bodies must be fully painted, including sides of the body.
3. May reinforce body with tape and/or Lexan.
4. No air control devices allowed.
5. No alterations or additions to the manufacturer's dimensions are permitted.
6. Any cut---outs or openings must be the same as on the actual car.
7. Body must cover entire chassis when viewed from above.
8. All windows must be clear.
9. Front wheel wells must be cut out or left clear if the chassis /car has front wheels/tires.
10. No cutting into the top of fenders is allowed.
11. Must have three decal or painted numbers on the car in appropriate positions.
12. Chassis or track may not be visible through windows.
13. All Eurosport Classes are single body classes. The legal body will be the ISRA approved body.
14. In all classes that do not require front wheels (Group 10, LMP, GTP, GT-12, 1/24Euro, 1/32 Euro) and if front wheels/tires are not being used, body must have sticker fronts on the body and placed in the correct wheel arch area for body being used. The area behind the sticker fronts may be painted.

C. Wheels, Tires & Axles

1. Rear Wheels & Tires

- a) Scale classes may only run black rear tires. No dyed tires are allowed.
- b) Maximum rear tire width is .815 inches (20.7 mm) unless class rules specify another width.

c) Where .047" clearance is used, there is no minimum tire diameter, unless specified.

d) Where .032" clearance is used, there is no minimum tire diameter.

2. Rear Axles

a) 3/32 inch axles are allowed in all classes. 2mm axles allowed only in 1/32, 1/24, and F1 Eurosport classes.

b) No hollow or other lightweight axles may be used.

D. Clearance

1. Clearance will be measured under the rear of the car, directly under the rear axle and between the rear wheels, with the car at rest on a flat tech block with the guide in the tech block slot.

2. Clearance will be checked at the beginning of the race, with no check at the end. If a car is suspected to be dragging on the track during racing, the race director, at his discretion may check clearance. Any car found to be dragging the track will be repaired during green flag racing conditions.

3. For banked tracks clearance will be .047" inches for all stamped---steel chassis classes.

4. On banked tracks when using .047" clearance, a mid race clearance check may be carried out by the tech director/race controller at the beginning of any heat of any race. Any car found with clearance less than .039" inches at the beginning of any heat (except the first heat) will have to change tires and have the clearance rechecked under green flag racing conditions.

5. For flat tracks clearance will be .032 inches for all stamped classes.

6. See class rules for additional clearance rules.

E. Width

1. All cars (Group 10, 4.5 Stock Car, LMP, GTP, GT-12) may not be more than 83MM wide at any point. Round head body mounting pins and clips may extend beyond this width. Other type body pins such as glass head type are not allowed.

SCALE CAR SPECIFICATIONS

Stamped Steel Chassis Regulations

1. Chassis

a) Must be a commercially---available approved chassis.

- b)** Must be made of stamped and formed metal. The portions to which the motor attached must be steel. Floating pans may be steel, aluminum, or brass.
- c)** May use lightweight replacement pans and center sections.
- d)** May interchange parts from a single manufacturer; such as Flexi and Flexi---2 parts, JK long or short center sections, and heavy or light pans on JK chassis.
- e)** Chassis may have a maximum of three chassis parts consisting of one solid center section and maximum of two separate pans. No additional pans or two---piece center sections allowed.
- f)** No modifications except for the following:
- g)** May solder or glue motor, axle oilites, and front wheel retainers.
- h)** May add lead weight and tape to chassis.
- i)** May file holes in motor bracket to allow better gear mesh, but must retain a portion of motor bracket.
- j)** No oilite modifications allowed. May use offset oilites.
- k)** May add spacers between pan and center section.
- l)** May add a 1---inch (25.4 mm) long motor brace and a maximum of two upright braces (one for each upright).
- m)** The original manufacturer's plating may be removed only in areas to be soldered.
- n)** May add pin tubes. Pin tubes may be either solid or floating. May add lead wire retainer.
- o)** May change stock bite bar diameter supplied by the MFG to a bar with a d to .062 maximum and .039 minimum diameter. The bar must be steel, straight, round, no bends, no flats and does not deviate from stock.
- p)** Overall width maximum 83mm (3.268")
- q)** May solder on steel guide tongue reinforcement but the original tongue may not be removed, modified, or moved.
- r)** No other---modifications, soldering, cutting grinding or bracing allowed.
- s)** May use any guide, nut, spacers, lead wire and clips.
- t)** May perform reasonable filing of rear oilite chassis holes to allow for axle alignment.
- u)** On the Mossetti chassis...Must use either .062" dia brass tube or the M-1052 .064" stainless tube only. Must use push/body pins to retain the bar in the chassis.
- v)** Mossetti # 1051 wire is allowed to be used. Can not be modified or have it's shape changed from production wire size or bends. Can only be used to replace the straight pins used in the brass or stainless

tube.

- w)** Any USRA Approved Stamp Steel chassis that has a retail price of \$ 30.00 or less USD may be used.
USRA Approved Center Sections and Pans that have a retail price of \$ 15.00 each USD may be used.

GROUP 10

Single driver classification (no amateur/expert split).
All Scale General Technical Rules apply.

A. Chassis

See Stamped Steel Chassis Regulations.

B. Motors

Hand built 16D motor. See D-Can Motor Specifications for Stock 16D.

C. Bodies

Any type/style of USRA Approved Commercially Available body allowed. Body choice will be at the Nats Host Raceway discretion and will be announced in conjunction with the Nats Schedule.

D. Gears

Any gear ratio allowed.

E. Clearance See Scale General Technical Rules Clearance Section

F. Axles, Tires, & Wheels

1. See Scale General Technical Rules – Wheels, Tires, & Axles section.
2. Front wheel minimum---diameter is .500 inch (12.7 mm).
3. Sticker front wheels are allowed. No front axle is required when using stickerfronts.
4. When using front wheels requiring an axle (floppy rubber, plastic, metal with O---ring) axle must be made of steel. No hollow axles or other lightweight material allowed.

G. Width See Scale General Technical Rules Width Section.

PRODUCTION 4-1/2 STOCK CAR

Single driver classification (no amateur/expert split).
The Nats host raceway will retain discretion for contesting this class or 1/24 scale JRL/Indy Car class. All Scale General Technical Rules apply.

A. Chassis

See Stamped Steel Chassis Regulations.

1. Must be a commercially---available, stamped and formed chassis with a 4-1/2 inch wheelbase and be approved for competition.
2. If using extenders, must use original manufacturer's extenders on the chassis they were designed for.
May solder extender to chassis. May remove front

wings for extender/front wheel clearance only.

B. Motor

See D---Can Motor Specifications, Motors (Stock 16D). FK Motor Specifications.

C. Bodies

See Stock Car Body Specifications.

D. Gears

Any gear ratio allowed.

E. Axles & Tires

1. See Scale General Technical Rules – Wheels, Tires, & Axles section.
2. Minimum front and rear axle diameter is 3/32 inch. MotoSteel axles only. No hollow or other lightweight axles. Drill blank axles are allowed.
3. Tires front and rear must be composed of black foam rubber only. No dyed tires allowed. May add nail polish to front tires.
4. Front tire minimum diameter is .675 inch (17.15 mm). Minimum front tire width 0.400 inch (10.16 mm). Minimum rear tire diameter is .790 inch (20.07 mm). Maximum rear tire width is .815 inch (20.7 mm).
5. Independent rotating front wheels are allowed.
6. Solid, one---piece front axles only; no stubbies. Axle must pass through both front uprights. Front axles may be soldered to uprights, but front wheels must rotate. Axle hole in front uprights may be enlarged to allow .675 inch front tires to touch track but 4---1/2 inch wheelbase must be maintained.

F. Clearance

See Scale General Technical Rules – Clearance Section.

G. Width

See Scale General Technical Rules Width Section.

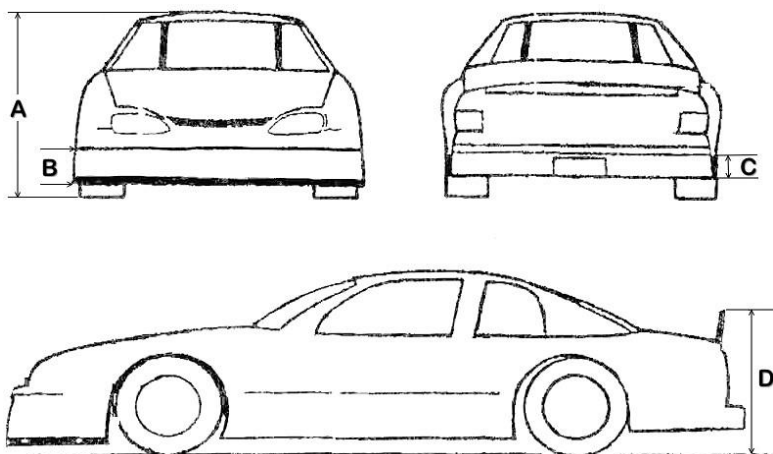
STOCK CAR BODY SPECIFICATIONS

A. Rules applying to both Group 10 (4”) & 4---1/2” Stock Car

1. See Scale General Technical Rules – Bodies section .
2. No air control devices allowed. No alterations or additions to the manufacturer's dimensions are permitted. Body must cover entire chassis when viewed from above.
3. May reinforce body with tape or Lexan.
4. Bodies must be fully---painted and all window areas must be left clear.
5. Body must have full Stock Car interior (Parma #809 or similar) properly--- painted, and installed in the

correct position, and completely covering interior. Chassis or track must not be visible when viewed from above.

6. Front wheel wells may be cut out or left clear. No cutting into the top of the fenders.
7. Must have three decal or painted numbers placed on body, one on each door and one on roof. Bodies should be painted to resemble real stock cars.
8. No wedging of bodies.
9. Tech Director reserves the right to allow or disallow any cars or bodies and his decision is final.



B. Dimensions/rules applying to Group 10 (4") Stock Car Only

1. 4---inch Stock Car bodies will be used. Should represent the full---size car. Only Stock Car body styles will be permitted. Bodies must have front and rear bumpers.
2. See Stock Car dimension diagram above for measurement points (B---D):
 - B)** Front Bumper: Minimum 1/8 inch (3.18 mm) measured from the top of bumper down.
 - C)** Rear Bumper: Minimum 1/8 inch (3.18 mm) measured from top of bumper down.
 - D)** Rear Spoiler Height: Maximum height 1---1/2 inches (38.43 mm) measuring from tech block.
3. For manufacturer specifications, please refer to the USRA website at www.usraslots.com.
4. Must retain a minimum of 5/8 inch (15.86 mm) rear valance measured from the trunk lid down. Rear bumper may be included in the measurement, but must also be minimum 1/8 inch (3.18 mm). May not cut out or put holes in rear portion of bodies.

C. Dimensions and rules applying to 4---1/2" Stock Car Only

1. Bodies must be 1/24 scale 4-1/2 inch wheelbase stock car bodies that are commercially---available and approved for USRA competition. Minimum length 7-1/2 inches (190.5 mm). Only body styles resembling Stock Cars will be permitted.
2. See Stock Car dimension diagram for measurement points (B---D):
 - B)** Front Bumper --- Minimum 1/4 inch (6.35 mm) measured from the top of bumper down.
 - C)** Rear Bumper --- Minimum 1/4 inch (6.35 mm) measured from top of bumper down.
 - D)** Spoiler height --- Maximum 1-5/8 inches (41.28 mm) height measured from tech block to top of spoiler.
3. For manufacturer specifications, please refer to the USRA website at www.usraslots.com.
4. Cars must have front and rear bumpers. Front bumper must be at least 1/4 inch (6.35 mm) tall, measuring from top of bumper down. Rear bumper must be at least 1/4 inch (3.18 mm) tall, measuring from top of bumper down.
5. Car must retain a minimum of 1---3/16 inches (30.16 mm) rear body valance. This will be measured from trunk lid down. Rear bumper may be included in the measurement, but must also be a minimum 1/8 inch (3.18 mm). May not cut out or punch holes in rear of the body.
6. Rear spoilers with a maximum height of 1---5/8 inches (41.28 mm) measuring from tech block to top of spoiler.
7. No additions or alterations to the manufacturer's dimensions are allowed.
8. No cutting into top of body or fenders allowed. No part of the chassis or tires may be visible when viewed from above. Maximum of 1/8 inch (3.175 mm) of tire may be visible as viewed from above.
9. Front wheel wells must be cut out.

GTP

Single driver classification (no amateur/expert split).
All Scale General Technical Rules also apply.

A. Chassis

See Stamped Steel Chassis Regulations.

B. Motor

Must be commercially available, meet all USRA manufacturing specs, and be approved for use in this class by the USRA. Ball Bearings are permitted in Can and Endbell ends of motor. One of the following motors may be chosen:

1. **D-Can:** Refer to D-Can Specifications . Super 16D armature must be used.

2. C-Can: Refer to C-Can specifications (. Armature must be Super 16C, Super Wasp, or Group 11.

3. FK Can: Refer to FK Can Specifications. Arm must be Big Dog FK.

C. Armature

Armatures must be commercially available as defined in the USRA Bylaws Article X and must be specifically approved for the class. Approved armatures types are Super Wasp, Hornet, GP---11 (Contender, and Competitor), Super 16D, Super 16C and Big Dog FK. See Armature Technical Specifications for specs.

D. Bodies

1. See Scale General Technical Rules – Bodies section.

2. Maximum height of body is 1---5/8 inches (41.28 mm).

E. Gears

Any gear ratio and any gears may be used. May solder pinion to shaft.

F. Axles, Tires, & Wheels

1. See Scale General Technical Rules – Wheels, Tires & Axles section.

2. Minimum Front Tire diameter is .500 inches (12.7 mm).

3. Sticker front wheels allowed.

G. Clearance

See General Scale Rules – Clearance Section.

H. Width See Scale General Technical Rules Width Section.

LMP

Single driver classification (no amateur/expert split).

All Scale General Technical Rules apply. Nats Host Raceway discretion: flat or banked track.

A. Chassis

See Stamped Steel Chassis Regulations.

B. Motor

Hand---out mini motors similar or equal to Hawk 7, Falcon 7, Pro Slot 4002, 4002FK. Every effort possible will be made to rotate the choice between manufacturers equally. However, the USRA BOD in conjunction with the Nats Host owner(s) will make the choice based on performance, reliability, availability, cost, etc., to insure the best quality racing possible.

D. Bodies

1. See Scale General Technical Rules – Bodies section.

2. Maximum rear height is 1---5/8 inches (41.28 mm).

3. Bodies do not need to be cut on the cut---line. The front of the body must maintain some vertical surface. "Blade" bodies will not be allowed.

E. Gears

Any gear ratio is allowed and any gears may be used.

F. Axles, Tires, & Wheels

1. See Scale General Technical Rules – Wheels, Tires, & Axles section.

2. Minimum front tire diameter is .500 inches (12.7 mm).

3. Sticker front wheels allowed.

G. Clearance

See Scale General Technical Rules – Clearance Section.

- H. Width** See Scale General Technical Rules Width Section.

GT-12

Dual Driver classification. Amateur/ Expert split.
Amateur GT-12 will be contested on banked track.
Expert GT-12 Nats host discretion flat or banked track

All Scale General Technical Rules apply.

A. Chassis

1. Must be a USRA approved GT-12 chassis; may be submitted to the USRA as a kit; must be commercially available; will have a Maximum Retail Price as listed in the table. Manufacturers are required to provide the USRA with one assembled chassis for technical reference purposes as a part of the approval process. Maximum assembled overall chassis width is 83mm (3.268")
2. Chassis kits must be assembled identically to the submitted chassis.
 - a) All parts must be in stock location.
 - b) May add lead weight.
 - c) May add a rear motor brace and an upright brace.
 - d) May use any size piano wire for chassis rails.
 - e) May use chassis with or without gear guard.
 - f) No other modifications are allowed.
3. Manufacturer must provide an assembly instruction sheet. The instructions must explain how to assemble the chassis like the assembled submitted chassis. Subject to the approval of the Scale Division Tech Director, the instructions may include minor modifications to the chassis.
4. Axle ball bearings are allowed.

B. Motors & Armatures

C-Cans and X12 armatures are used, ball bearings are permitted in can and endbell of motor. Refer to C-can specifications. Refer to X12 armature specification in table.
Expert GT-12 will use C-Can motors only.
Amateur GT-12 will use C-Can or FK Can motors only. Refer to FK specifications and C-Can specifications.

C. Bodies

1. Amateur Bodies

- a) Amateurs will use GTP bodies.

2. Expert Bodies

- a) Experts will use LMP bodies.
- b) Bodies do not need to be cut on the cut line. The front of the body must maintain some vertical surface. "Blade" bodies will not be allowed.
- c) Maximum rear body height is 1---5/8 inches (41.288 mm).
- d) Cut line does not need to be maintained along the sides of the body.
- e) The front skid plate of the chassis may protrude up to 1/16 inch outside of the body on each side. The rest of the chassis must be covered by the body when viewed from above.
- f) The body may be reasonably cut to allow clearance of the skid plates at the front.

D. Gears

No restrictions.

E. Wheels, Tires, & Axles

- 1. Black rear tires only. Rear tire diameter is unrestricted. Maximum tire width is .815 inches (20.7 mm).
- 2. Front wheel minimum diameter is .500 inches (12.7 mm).
- 3. Sticker front wheels allowed.
- 4. No hollow or other lightweight axles. May use 3/32 inch rear axles.

F. Clearance

Same as 1/24 Eurosport.

G. Width See Scale General Technical Rules Width Section.

1/24 EUROSPORT

All ISRA Rules apply. Refer to www.isra-slot.com. A recessed tech block (guide and rear wheels) is used when measuring the car dimensions except ground clearance. Including penalties listed on page 72.

A. Dimensions

1. Car

- a) Maximum height at rear wing is 35.0mm.
- b) Maximum width excluding body pins and tape is 83.0mm.
- c) Minimum vertical edge at front is 1.0mm.
- d) Minimum ground clearance under rear axle and between rear tires is 0.8 mm.

2. Wheels & Axles

- a) Maximum rear tire width is 20.7mm.
- b) Minimum rear tire diameter is 15.0mm.
- c) Minimum front wheel diameter is 12.7mm.

d) Minimum front wheel width is 0.8mm.

e) Minimum front wheel track is 72.0mm.

3. Chassis

a) Maximum length; center of rear axle and guide pivot hole is 125.0mm.

B. Chassis

Chassis are unrestricted except for the dimensions and the following limitations:

a) The front wheels must be positioned in the correct wheel arch position in relation to the body approved at the time.

b) Only one guide flag device per car is allowed.

C. Body

1. Eurosport 1/24 is a single body class. **Legal body is Red Fox (Brazil) ISRA Audi Concept ISRA 2016. Legal for 2018, 2019 USRA Scale Nats.**

2. The body must not deviate from its shape as produced by the manufacturer. The body must cover the entire chassis, including the rear axle and guide flag, in at least one unforced position. It can be fixed to the chassis with pins or cellophane tape.

3. Body decoration is unrestricted, but must be made in at least two different colors. The body must be completely opaque. Windows must be left clear. All four wheels must be completely visible when viewed from the side (see E. Front Wheels on. 57). Pin striping and/or bodyline detailing is mandatory.

4. Numbers must be displayed in at least three (3) different positions.

5. All cars must contain a painted and 1/24 scale three---dimensional interior with the driver's helmet, shoulders, arms and the steering wheel mounted in the original cockpit position. No portion of the chassis must be seen through the cockpit area when viewed from above. Body cutting must maintain every detail of the real car (i.e. lights, wheel position, etc.).

6. Two bodies per car are permitted, provided that they are painted, trimmed and mounted identically. The extra body is kept in the enclosed park and made available on the return of the other. During a service break both bodies are available to the driver.

D. Motor

No restrictions.

E. Front Wheels

Sticker front wheels allowed; must be placed in correct wheel arch position for body being used. In lieu of sticker fronts, chassis mounted front wheel/tires may be used; must be completely visible.

F. Rear Tires

The rubber portion of the tire contacting the track surface must be black.

1/32 EUROSPOORT

All ISRA Rules apply. Refer to www.isra-slot.com. A recessed tech block (guide and rear wheels) is used when measuring the car dimensions except ground clearance. Including penalties listed on page 72.

A. Dimensions

1. Car

Maximum height at rear wing --- 32.5mm.

Maximum width excluding body pins and tape --- 64mm.

Minimum vertical edge at front --- 1.0mm.

Minimum clearance under rear axle and between tires --- 0.8mm.

2. Wheels and axles

a) Maximum rear tire width --- 16.0mm.

b) Minimum rear tire diameter --- 15.0mm.

c) Minimum front wheel diameter --- 12.7mm.

d) Minimum front wheel width --- 0.8mm.

e) Minimum front wheel track --- 56.0mm.

3. Chassis

a) Maximum length; center of rear axle and guide pivot hole --- 105.0mm.

B. Chassis

1. Chassis are unrestricted except for the dimensions and the following limitations:

a) The front wheels must be positioned in the correct wheel arch position in relation to the body approved at the time.

b) Only one guide flag device per car is allowed.

C. Body

1. Eurosport 1/32 is a single body class. **Legal body is Kolhoza (Russian) ISRA Audi R15. Legal for 2017 and 2018 USRA Scale Nats.**

2. The body must not deviate from its shape as produced by the manufacturer.

3. The body must cover the entire chassis, including the rear axle and guide flag, in at least one unforced position. It can be fixed to the chassis with pins or cellophane.

4. Body decoration is unrestricted, but must be made in at least two different colors. The body must be completely opaque. Windows must be left clear. All four wheels must be completely visible when viewed from the side. See E –Front Wheel. Pin striping and/or bodyline detailing is mandatory.

5. Numbers must be displayed in at least three (3) different positions.

6. All cars must contain a painted and 1/32 scale 3D interior with the driver's helmet, shoulders, arms and the steering wheel mounted in the original cockpit position. No portion of the chassis must be seen through the cockpit area when viewed from above. Body cutting must maintain every detail of the real car (i.e. lights, wheel position, etc.).

7. Two bodies per car are permitted, provided that they are painted, trimmed, and mounted identically. The extra body is kept in the enclosed park and made available on the return of the other. During a service break both bodies are available to the driver.

D. Motor

No restrictions.

E. Front Wheels

1. Sticker front wheels allowed; must be placed in correct wheel arch position for body being used.
2. In lieu of sticker fronts, chassis mounted front wheel/tires may be used; must be completely visible.

F. Rear Tires

The rubber portion of the tire contacting the track surface must be black.

1/32 FORMULA 1

All ISRA rules apply. Refer to www.isra-slot.com penalties listed on page 72.

A. Dimensions

1) Car

- a) Maximum height at rear wing --- 30.0mm.
- b) Maximum width excluding body pins and tape --- 68.0mm.
- c) Minimum height of rear wing endplate/sidepod --- 12.0mm.
- d) Minimum ground clearance under front wheel support/axle --- 0.8mm.
- e) Minimum ground clearance under rear axle between rear tires --- 0.8mm.

2) Wheels and axles

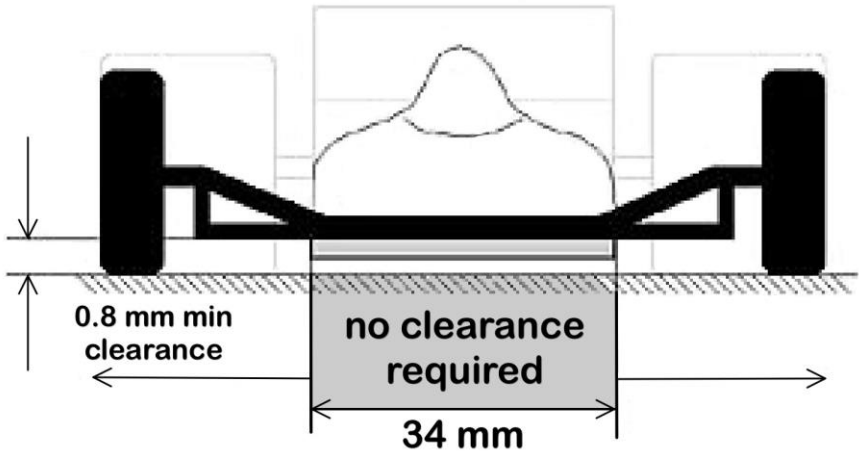
- a) Maximum rear tire width --- 16.0mm.
- b) Minimum rear tire diameter --- 15.0mm.
- c) Minimum front wheel diameter --- 14.0mm.
- d) Minimum front wheel width --- 4.0mm.
- e) Maximum front wheel width --- 10.0mm.
- f) Minimum front wheel track --- 62.0mm.

3) Chassis

Maximum length, measured between centers of rear axle and guide pivot hole --- 110.0mm.

- a) Maximum width of chassis pan section between pans --- 52.0mm.
- b) Maximum length of pans --- 68.0mm.
- c) Maximum width in front of pans, excluding front wheel supports --- 34.0mm.
- d) Maximum width behind pans, including. Rear axle supports --- 34.0mm.

Front Clearance



B. Chassis

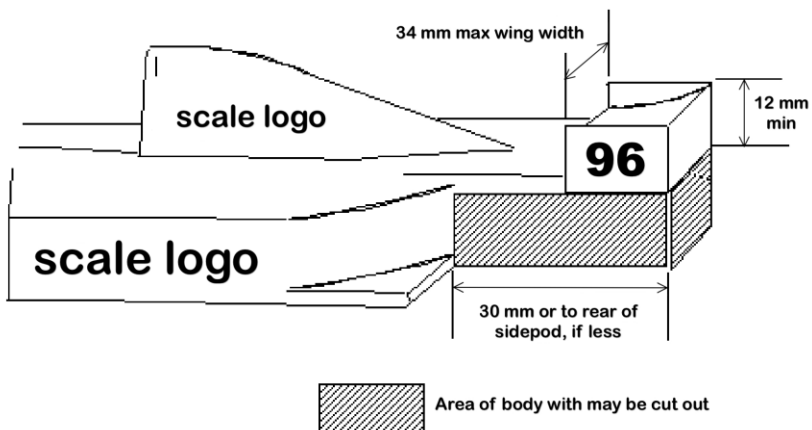
Chassis are unrestricted except for the following limitations: the motor must be mounted in the chassis in the "inline" position (i.e. in a 90° angle to the rear axle).

C. Body

1. Formula 1/32 is a single body class. Legal body for 2018 is **The Kolhoza (Russia) F1 body and will become legal for the 2018, 2019 and 2020 USRA Scale Nats.**
2. The body must not deviate from its form as produced by the manufacturer.
3. It can be fixed to the chassis with pins and/or cello tape.
4. The paint scheme must represent an actual F1 team's car from 1970 to present. Pearl, fluorescent, and metallic paints are only allowed if actually a part of an original paint scheme. The major engine cover and sidepod sponsors logo/name must be present.
5. The body must be completely opaque and over the entire chassis including the guide flag, in at least one unforced position. Excepted are axles, wheels, and the supports of the front axle. An additional exception is the rearward portion of the chassis pans not covered by the body. The chassis portion in this area must be painted black.
6. The numbers must be displayed in three positions: on both sides of the rear wing and on the front of the car. Numbers must be preformatted as a sticker or painted in decal quality. Hand-written numbers are not allowed.

7. All cars must contain a painted and 1/32 scaled three dimensional interior with the driver's helmet, shoulders, arms and steering wheel mounted in the original cockpit position. No portion of the chassis must be seen through the driver area when viewed from above.
8. Body cutting must maintain every detail of the real car (i.e. wheel position, etc.). Pin striping and bodyline detailing is mandatory.
9. Two bodies per car are permitted, provided that they are painted, trimmed, and mounted identically. The extra body is kept in the enclosed park and made available on the return of the other. During a service break both bodies are available to the driver.

The drawing below illustrates the accepted cutting line of the rear wing (greyed area) and the position of the scale logos and numbers at the rear.



D. Motor

No restrictions.

E. Front wheels

1. The front wheels must have a minimum diameter of .550 inches (14 mm) and a minimum width of .157 inches (4 mm) to a maximum width of .400 inches (10 mm).
2. The minimum front wheel track (width) must be 2.44 inches (62 mm).
3. They must turn on their center at 90 degrees to the track surface and have a black rubber/plastic perimeter.
4. The loss of a front wheel during the course of racing will be considered an infraction and must be repaired/replaced immediately.

F. Rear tires

- 1. The rear wheels must have a minimum diameter of .590 inches (15 mm) and a maximum width of .630 inches (16 mm).**
- 2. The rubber portion of the tire contacting the track surface must be black.**

Penalties for 1/24, 1/32 Eurosport, and 1/32 Formula One

- A. Illegal track call: -2 laps**
- B. Missing marshalling in race: -10 laps**
- C. Accidental crash on the straight in front of the drivers, caused by a drivers hand or a car in hand, or a touch of another drivers car by a pit crew member while removing or replacing a car in the pit zone: -10 laps. If it happens in another place on the track the penalty is 3 laps.**
- D. A car returned to the enclosed park after the closing of tech inspection: -10 laps**
- E. Unsportsmanlike conduct:**
 - a. First Infraction: Warning**
 - b. Second Infraction: -10 laps**
 - c. Third Infraction: Disqualification**
- F. Use of illegal parts: Disqualification**
- G. Driving an illegal car: 3 laps for every lap made from when the race controller recorded the car as illegal.**
- H. A repaired car that is put on the track elsewhere than the designated pit area: -3 laps**
- I. Use of illegal chemical substance at all times: -10 laps**
- J. Use of tools in lane changes or doing work other than changing lane sticker, pushing in body pins, and straightening braids: -10 laps**
- K. There must be only one driver/team per car and one car per driver/team during the race: Disqualification**
- L. A driver who hands his/her car too late to technical inspection will receive a 10 lap penalty enforced at their following stage of racing.**

- M. Only during the actual race time or qualifying, are drivers and/or their crew members permitted to work on their cars.**
- N. Drivers can call for a stop by no other word than "TRACK" and only in situations and areas pointed out by the race direction before the race. For every illegal call made by a driver there will be a 2 lap penalty imposed.**
- O. The number of laps made can only be the result of the lap counter. No lap correction is made for missed counting due to cars braids, nor lane jumping(rider) unless caused by a turn marshal placing the car on the wrong lane.**
- P. The use of obscene and coarse language at any occasion is considered unsportsmanlike conduct.**
- Q. The penalty due to unsportsmanlike behavior affecting the race results is 10 laps at the first infraction, and disqualification at the next infraction whatever the cause.**
- R. Purposely driving another person's car or exchanging an enrolled for another renders direct disqualification.**

1/24 JRL/INDY CAR

The Div 2 (Scale) host raceway may elect to run 1/24 JRL/Indy Car in lieu of 4 1/2" Stock Car. However, under no circumstances will both classes be run as official classes at a Nats event. All USRA General Rules apply. Single driver classification; no Amateur/Expert split. Nats host discretion JRL on flat or banked track.

A. Chassis

- 1.** May use the following chassis: FX 78, H&R, Mack F1, Parma Flexi 1 853 (may substitute Flexi 2 center 595B), Champion Turbo Flex, Champion Astro Flex with narrow pans.
- 2.** A total length of 3" of .063" piano wire may be used for any chassis bracing.
- 3.** Pin tubes may be added.
- 4.** Axle ball bearings allowed.
- 5.** Pan movements may be increased or restricted.
- 6.** No other modifications will be allowed.

B. Body

- 1.** Any 1/24 scale Indy/F1 production body.

2. Chassis must be completely covered when viewed from above; except for the front wheel assembly and rear wheels, axles, tires, and gear.

C. Motor

1. USRA approved C-Can setup (See list of Approved Components for GP-12, and C-Can Motor Specifications.
2. Must use USRA approved Super Wasp, Hornet, Contender, or Competitor Armature. See Armature Tech Specs and Scale Division Approved Components.
3. Aftermarket aluminum endbells with ball bearing allowed.

D. Gears

Any gears may be used. May solder pinion to armature shaft.

E. Wheels, Tires, & Axles

1. See Scale General Technical Rules.
2. Front wheels must be .600" min. in diameter and .300" min. wide.
3. May use drill blank axles front and rear; no lightweight axles allowed.
4. Front axles may be soldered to the uprights but front wheels must rotate.

F. Clearance

See Scale General Technical Rules – Clearance Section.

G. Width See Scale General Technical Rules Width Section.

SCALE DIVISION APPROVED COMPONENTS

**For approved Group 12 C-Can motors, arms,
and components refer Approved
Components for GP-12.**

Group 10 Motors – 16D

Pro Slot	2000 16D 2004 16D & S16D motor set-up
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Group 10 Armatures – 16D

Pro Slot	706 16D M2 blank 706B 16D .520-.560" dia.
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JRL Armatures

(May also be used for GTP racing)

Koford	Competitor
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Pro Slot	Contender 705 Contender M2 blank
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GTP Armatures

Super 16C

Pro Slot

Super 16C
700C Super 16C arm M2 blank
700C---B Super 16C .520---.540" dia.

Super 16D

Pro Slot

S16D
700 Super 16D arm M2 blank with coating
2001 S16D motor
700B S16D .520---.560" dia.

Hornet/Wasp

Koford

M468---SW Super Wasp

Pro Slot

Super Wasp
704 Super Wasp arm M2 blank
704B Super Wasp arm .520-.540" dia.

**Group 10 Chassis
(Also used with LMP and GTP)**

Champion

Turbo Flex Astro XE

Mossetti

MR-1002
MR-1003
MR-1004
MR-1006
MR-1007
MR-1008
MR-1009
MR-2002
MR-2003
MR-2006
MR-2006 N
MR-2006 BN
MR-2007
MR-2008
MR-2008 BN
MR-2009
MR-1052 as a replacement to the brass tube on
Approved Mossetti Chassis.

Parma

Flexi Kar
605

Flexi 5

Pro Slot	5000	SpeedFX C-can chassis
	5000C	C-Can center section
	5001	SpeedFX D-can chassis
	5001C	D-can center section
	5002	standard pans
	5003	medium pans
	5004	light pans

4-1/2 Stock Car Chassis

Champion	Turbo Flex Astro SE
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GT-12 Chassis

BSlotcar Performance	BSP GT-12-06
	BSP GT-12-10
	BSP 2014 GT-12

Dubick	GT12 2016
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Mack	Bull Dog GT-12
	Stinger GT-12
	Bulldog-2
	Bulldog-3
	Speed Chassis 1
	Speed Chassis 2 GT12
	Speed EVO GT12
	Stinger-2
	Tazer
	GT12 2016
	GT12 2018

PMP	GT12 2011
	GT12 2014
	GT 12 2017

Red Fox	RFGT12A
	RFGT12U unassembled kit
	RFGT12 2016

4 Inch Stock Car Bodies (Group 10)

Parma	1033 1/24
	'06 Ford
	Fusion
	HD 1127
	1/24 '06
	Charger
	1035 1/24 '08 COT stock car

Outisight 354 2K8 stock car

Red Fox RFSC38C Camry

4-1/2Inch Stock Car Bodies

Parma 1082 Monte Carlo
1055 '09 COT stock car body

Red Fox RFSC39C Fusion

Outisight 250 Monte Carlo

LMP/Pro GT-12 BODIES

Parma 1048 Dome
1083U 1/24 MG EX 257

Outisight 294 Peugeot
296 Audi R-18

Red Design Nissan

Red Fox RFSC Ferrari Concept
RFSC99C Peugeot 908
RFSC100C
Audi R18

GTP/AM GT-12 Bodies

HighSpeed Rouge

Outisight 066 Mercedes Ultimate
067 Cady
369 Bentley Ultimate

Parma 70526 Caddy HD
70516 Storm

Red Designs JR Long Rib
JR Short Rib

Red Fox RFSC41LC FighterHD
RFSC41SC Fighter HD /
Short
Star Fighter Long Rib

1/24 Eurosport Bodies

Red Fox Audi Concept 15 ISRA (legal for 2017, 2018, 2019 USRA Scale Nats)

1/32 Eurosport Bodies

Kolhoza ISRA Audi R15 1/32 scale (Legal for 2017 and 2018 USRA Scale Nats)

1/32 Formula Body

The Kolhoza (Russia) F1 body is legal for the 2018, 2019 and 2020 USRA Scale Nats.

1/24 F1/Indy Bodies

Outisight	336	F1
	337	Indy
Red Fox	RFSC35C	1/24 Indy
	RFSC29C	1/24 F1

USRA National Director

Roger Schmitt

DIVISION I (Wing)

Director.....Frank Sarkela
Tech Director.....Gary Puetz
Asst Tech Director.....

DIVISION II (Scale)

Director Roger Schmitt
Tech Director Roger Schmitt
Asst. Tech Director
Past National Director..... Shontel Howard
Webmaster Paul Kassens
USRA Forum OWH

<http://www.slotcartalk.com/slotcartalk/forumdisplay.php?56-USRA>

USRA Facebook...<https://www.facebook.com/USRAslots>

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