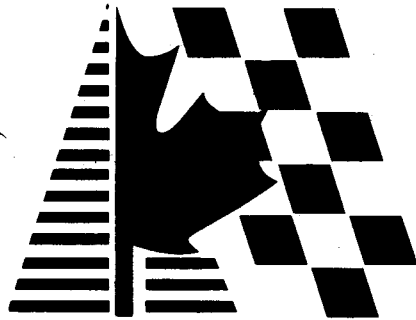


# **GENERAL COMPETITION RULES 1998**

*(or The Bible → King Wayne's Version)*



**ATLANTIC  
REGION  
MOTOR  
SPORTS**

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## GENERAL COMPETITION RULES 1998

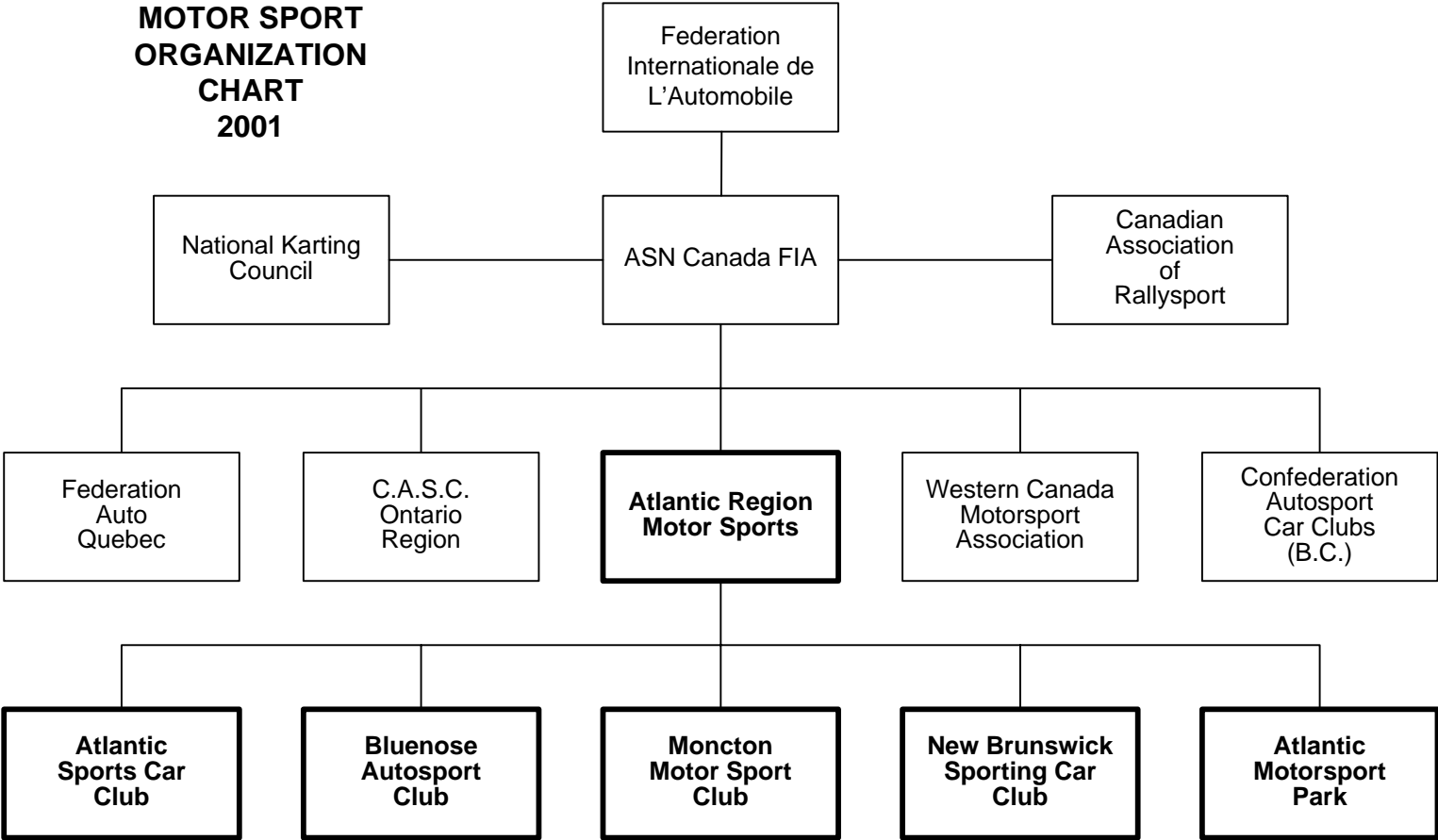
The "LOGO" used to identify Atlantic Region Motor Sports Inc., was designed by Mr. Howard Currie of the Moncton Motor Sport Club in November 1992.

### THE FOLLOWING IS AN EXPLANATION OF OUR "LOGO"

- |                   |   |                                                     |
|-------------------|---|-----------------------------------------------------|
| A stylized "A"    | - | represents the Atlantic Region                      |
| Checkered Flag    | - | represents Motorsport                               |
| Maple Leaf        | - | represents Canada                                   |
| 6 Lower Blue Bars | - | symbolizes the Water surrounding<br>Atlantic Canada |
| 4 Green Bars      | - | symbolizes the 4 Atlantic Provinces                 |
| 8 Upper Blue Bars | - | symbolizes the Sky                                  |

*A.R.M.S. 2001 Logo*

**MOTOR SPORT  
ORGANIZATION  
CHART  
2001**



## ATLANTIC REGION MOTOR SPORTS

### GENERAL COMPETITION RULES

#### TABLE OF CONTENTS

1.0	Region Executive
2.0	Affiliated Clubs
3.0	Members Notices
4.0	A.R.M.S. Executive Job Descriptions
5.0	Supplementary Regulations
6.0	Competition Licenses
7.A	Race/Rule Amendments
7.0A	Race Championship Regulations
7.0	Race Qualifying
8.0	Race Timing and Scoring
9.0A	Ice Race Regulations
9.0	Race/Rule of The Road
10.0A	Flagging Procedures
10.0	Race/Pits and Paddock
11.0	Race Organization at A.M.P.
12.0	Solo Championship Regulations
12.1.2	Race/GT Category Specifications
12.1.3	Race/Showroom Stock Specifications
12.1.4	Race/Improved Touring Specifications
12.1.5	Race/TT and SS Vehicle Classifications
13.0	Rally Championship Regulations
14.0	Protests and Appeals
15.0	Penalties
16.0	Appeals
17.0	Duties and Powers
18.0	Probation Letter as License
19.0	Driver or Official Review
20.0	General Definitions
21.0	Conduct
22.0	Race/Definitions
23.0	Race/Formula 1600 Regulations

**ATLANTIC REGION MOTOR SPORTS**

**GENERAL COMPETITION RULES**

**TABLE OF CONTENTS**

1.0	Region Executive
2.0	Affiliated Clubs
3.0	Members Notices
4.0	A.R.M.S. Executive Job Descriptions
5.0	Supplementary Regulations
6.0	Competition Licenses
7.0A	Race Championship Regulations
7.0	Race Qualifying
8.0	Race Timing and Scoring
9.0A	Ice Race Regulations
9.0	Race/Rule of The Road
10.0A	Flagging Procedures
10.0	Race/Pits and Paddock
11.0	Race Organization at A.M.P.
12.0	Solo Championship Regulations
12.1.2	Race/GT Category Specifications
12.1.3	Race/Showroom Stock Specifications
12.1.4	Race/Improved Touring Specifications
12.1.5	Race/TT and SS Vehicle Classifications
13.0	Rally Championship Regulations
14.0	Protests and Appeals
15.0	Penalties
16.0	Appeals
17.0	Duties and Powers
18.0	Probation Letter as License
19.0	Driver or Official Review
20.0	General Definitions
21.0	Conduct
22.0	Race/Definitions
23.0	Race/Formula 1600 Regulations

**ATLANTIC REGION MOTOR SPORTS  
GENERAL COMPETITION RULE**

**FORWARD**

The General Competition Rules of the Atlantic Region Motor Sports Inc. are intended to assist organizing clubs in the orderly conduct of Amateur Motor Sport Events in Atlantic Canada, as well as, promoting participant and spectator safety. The contents of this book are not a guarantee against death or injury to participants, officials, spectators and all others who attend Motor Sport events. There are no express or implied guarantees or warranties of safety resulting from the publication or compliance with these rules.

Atlantic Region Motor Sports Inc. (A.R.M.S.) wishes to thank and acknowledges the Sport Car Club of America (SCCA) for the partial use of their rules. Atlantic Region Motor Sports Inc. is in a much better position to conduct and promote "safe and enjoyable" Motor Sport events in Atlantic Canada as a result of these rules.

This book is intended to be in print until the year 2002. Yearly updates resulting from the Annual General Meeting will be produced and supplied to all members of Atlantic Region Motor Sports. A.R.M.S. reserves the right to revise these Rules and to issue supplements to them via the news bulletin "Motor Sport News", Technical and/or Race Bulletins.

**THIS BOOK BELONGS TO:**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone/Fax: \_\_\_\_\_

**ADDITIONAL GENERAL COMPETITION RULE BOOKS**

**ORDER FORM**

Atlantic Region Motor Sports will supply each member a copy of these General Competition Rules. If there is more than one A.R.M.S. member in a household an additional book will be only be supplied free of charge if there is an absolute requirement for a second book.

Additional books and updates can be purchased from Atlantic Region Motor Sports for a fee of \$15.00 per Book and \$5.00 per Update.

I wish to purchase \_\_\_\_\_ copy/copies (\$15.00 each) of the Atlantic Region Motor Sports - General Competition Rules and \_\_\_\_\_ copy/copies (\$5.00 each) of the updates. Enclosed please find the amount of \$\_\_\_\_\_.

**PLEASE PRINT**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

---

**Make Cheque Payable to Atlantic Region Motor Sports Inc**

**MAIL TO**

**Atlantic Region Motor Sports Inc.  
P.O. Box 31333  
Halifax, Nova Scotia  
B3K 5Y5**



**ATLANTIC REGION MOTOR SPORTS INC.**  
P.O. BOX 31333, HALIFAX, N.S. B3K 5Y5

# **VOTING PROXY**

**THIS IS THE OFFICIAL PROXY OF THE ATLANTIC REGION MOTOR SPORTS INC.**  
**BY LAW # 53 (C)**

The undersigned, being a member in good standing of \_\_\_\_\_  
(club) and the ATLANTIC REGION MOTOR SPORTS INC. (ARMS) as of October 1,  
\_\_\_\_\_, hereby appoints \_\_\_\_\_ a member in  
good standing of \_\_\_\_\_ (club) and the ATLANTIC REGION  
MOTOR SPORTS INC. (ARMS) as my (our) PROXY HOLDER, with full power of  
substitution to attend, vote and act on my (our) behalf in respect to any and all items of  
business that may arise at the ATLANTIC REGION MOTOR SPORTS INC. (ARMS) Annual  
General Meeting and the Race, Rally and Solo Events Discipline Workshops. The  
undersigned has the right to delete any portion of this PROXY they do not want to apply.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
(Member/Member Club)

Name/Position (Print): \_\_\_\_\_

AFFILIATED WITH





- 1.0 REGION EXECUTIVE**
- 2.0 AFFILIATED CLUBS**
- 2.1 NON AFFILIATED CLUBS**
- 3.0 MEMBERS NOTICES**
- 4.0 JOB DESCRIPTIONS**
- 5.0 SUPP REGULATIONS**
- 6.0 COMPETITION LICENSE**



# **ADMINISTRATION**

*Tim Hortons*®

*Tim Hortons*®

*Tim Hortons*®  
*Racing*

**WE WOULD LIKE TO EXTEND OUR THANKS AND  
APPRECIATION**

**TO ALL THE DEDICATED VOLUNTEERS**

**"Without you - Motorsport in Atlantic Canada would not exist"**

Tim Hortons Racing Team

## ADMINISTRATION

### TABLE OF CONTENTS

1.0	Region Executive	1
2.0	A.R.M.S. Affiliated Clubs	3
2.1	Non Affiliated Clubs	4
3.0	Members Notices	5
4.0	Executive Job Descriptions	6
4.1	President	6
4.2	Vice President	6
4.3	Secretary	7
4.4	Treasurer	8
4.5	Discipline Directors	8
4.6	Race Directorate	9
4.7	General Provisions	10
4.8	Executive Steward	10
5.0	Supplementary Regulations	11
5.1	Authority	11
5.2	Championships	11
5.3	Event Qualification	12
5.4	Permits	12
5.5	Supplementary Regulations	13
5.6	Results	14
6.0	Competition Licenses	15
6.1	Required	15
6.2	License Documentation	15
6.3	Incomplete Applications	16
6.4	Expiry Date	16
6.5	Medicals	16
6.6	Competition Numbers	16
6.7	Fees	17
6.8	License Validity	17

**1.0 A.R.M.S. EXECUTIVE:****Atlantic Region Motor Sports**

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 Halifax, N.S.  
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 Ph: (902) 465-2063  
 Fax: (902) 465-3027  
 Email: arms.inc@ns.sympatico.ca  
 Website: www.armsinc.ca

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 L5K 2K8  
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 Fax: (905) 403-8448  
 Email: asncdn@netcom.ca  
 Kart: asnkarting@netcom.ca

**K & K Insurance**

141 Adelaide Street West  
 Toronto, Ontario  
 M5H 3L5  
 Ph: (416) 943-0610  
 Fax: (416) 943-0615

**Translation Services**

Garry Cowan  
 46 rue du ruisseau  
 Lameque, N.B.  
 E8T 1L8  
 Ph: (506) 344-5397 (R)  
 (506) 344-2205 (O)

**President**

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 Fax: (902) 465-3027  
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 (902) 869-3639 (O)  
 Fax: (902) 465-3027

**Secretary/Treasurer**

Stewart O'Connor  
 22 Point Park Drive  
 Riverview, N.B.  
 E1B 1C5  
 Ph: (506) 386-5234 (R)  
 (506) 855-5458 (O)  
 Fax: (506) 854-0251  
 Email: ssoconn@nb.sympatico.ca

**License Registrar/Statistician**

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 B2X 3S9  
 Ph: (902) 434-7454 (R)  
 (902) 428-7617 (O)  
 Fax: (902) 465-3027  
 Email: ygmarks@ns.sympatico.ca

**Director - Rally**

Charlotte Partridge  
 Site 9, Box 6, RR2  
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 B0P 1L0  
 Ph: (902) 798-4712 (R)  
 Fax: (902) 465-3027

**Director - Solo**

Brian Jarvis  
 P.O. Box 50004  
 Southdale RPO  
 Dartmouth, N.S.  
 B2Y 4S2  
 Ph: (902) 429-4227 (R)  
 (902) 469-4309 (O)  
 Fax: (902) 461-1295  
 Email: Brian Jarvis @ns.sympatico.ca

**Director - Racing**

Ralph Brooks  
 104 Martin Lake Drive  
 Lake Echo, N.S.  
 B3E 1B4  
 Ph: (902) 829-3276 (R)  
 Fax: (902) 465-3027  
 Email: ralphbrooks@accesswave.ca  
 Work: rbrooks@staff.ednet.ns.ca

**Executive Steward**

Rick Gavel  
 100 Walker Avenue  
 Lr. Sackville, N.S.  
 B4C 4B3  
 Ph: (902) 865-9095 (R)  
 (902) 835-1660 (O)  
 Fax: (902) 465-3027

**Director - Karting**

Email: asnkarting@netcom.ca

**Co-Director - Rally**

Clarke Paynter  
 117 Richardson Drive  
 Dartmouth, N.S.  
 B2Z 1J4  
 Ph: (902) 435-3948 (R)  
 (902) 420-6228 (O)

**Co-Director - Solo**

T.B.A.

**Chief Scrutineer**

Geoffrey Schnare  
 129 Ross Road  
 Dartmouth, N.S.  
 B2Z 1B4  
 Ph: (902) 435-5366 (R)  
 Fax: (902) 465-3027  
 Email: we.three@ns.sympatico.ca

**Director - Ice Racing**

(See Director - Race)

**Director - 4 X 4**

(Activity Suspended)

(Directly Affiliated - ASN Canada FIA)

**2.0 AFFILIATED CLUBS:****A.S.C.C.**

Atlantic Sports Car Club  
 P. O. Box 31120  
 Halifax, Nova Scotia  
 B3K 5Y1  
 Contact: Brian Jarvis

Meets: 2<sup>nd</sup> Tuesday/month  
 Email: [ascc@ns.sympatico.ca](mailto:ascc@ns.sympatico.ca)  
 Web Site: [www.ascc.ns.ca](http://www.ascc.ns.ca)  
 Phone: (902) 429-4227 (R)  
 (902) 469-4309 (O)  
 (902) 461-1295 (F)

**A.M.P.**

Atlantic Motorsport Park  
 P.O. Box 434  
 Lr. Sackville, N.S.  
 B4C 2T2  
 Contact: Colin Harmer

Meets: By Notice - usually  
 Once per month  
 Email: [mountain@ns.sympatico.ca](mailto:mountain@ns.sympatico.ca)  
 Phone: (902) 865-8689 (Cars)  
 (902) 865-6287 (Bikes)  
 (902) 758-2237 (Track)

**B.A.C.**

Bluenose Autosport Club  
 P. O. Box 2724, D.E.P.S.  
 Dartmouth, Nova Scotia  
 B2W 4R4  
 Contact: Art Visser

Meets: Last Tuesday/month  
 except - July/August  
 and December  
 Call for meeting dates.  
 Phone: (902) 462-4647 (Res)

**M.M.S.C.**

Moncton Motor Sport Club  
 P. O. Box 422  
 Moncton, New Brunswick  
 E1C 8L4  
 Contact: Darrell Tower

Meets: 1<sup>st</sup> Tuesday/month  
 Email: [mmsc@istar.ca](mailto:mmsc@istar.ca)  
 Phone: (506) 388-9420 (R)  
 (506) 853-1010 (O)  
 (506) 853-3827 (F)

**N.B.S.C.C.**

New Brunswick Sporting Car Club  
 P.O. Box 23018  
 Saint John, New Brunswick  
 E2J 4M3  
 Contact: Jennifer Gerrits

Meets: 2<sup>nd</sup> Monday / month  
 Email: [mgerrits@nbnet.nb.ca](mailto:mgerrits@nbnet.nb.ca)  
 Email: [nbscc@nb.sympatico.ca](mailto:nbscc@nb.sympatico.ca)  
 Phone: (506) 659-2499 (R)

**2.1 NON AFFILIATED CLUBS:****A.R.R.C.A.**

Atlantic Region Race Control Association

P.O. Box 38011

Dartmouth, N.S.

B3B 1X2

Contact: Kaye Wilson

Phone: (902) 835-8820

**A.M.C.R.A.**

Atlantic Motor Cycle Racers Association

43 Polara Drive

Lr. Sackville, N.S.

B4C 2B7

Contact: Dave Shears

Phone: (902) 765-2462 (R)

Email: amcra\_dave@hotmail.com

**C.A.R.S.**

Canadian Association of Rally Sport

595 Elm Road

Stouffville, Ontario

L4A 1W9

Contact: Terry Epp

Phone/

Fax: (905) 640-6444

**3.0 MEMBERS NOTICES:**

- 3.1 Member clubs pay Annual Dues which are forwarded to A.R.M.S. Regional Office. Clubs are required to pay a levy per member. Rates are periodically set at the Atlantic Region Motor Sports Inc. Annual General Meeting.
- 3.2 The A.R.M.S. Handbook containing the Regional Supplementary Competition Rules, and other information, is included in each member's dues. The booklet is mailed to each member listed on the Regional mailing list in effect at the time of publication, and is sent to new members on receipt of membership dues, while supplies last.
- 3.3 The A.R.M.S. Membership is to be completed for each member, and forwarded to the Region along with the member's dues payment. This list shall be the sole basis of the Regional mailing list, and verification of membership. Completion and forwarding of the information is the responsibility of the Club to which the member belongs. Change of address notification shall be forwarded to the Region Treasurer and shall be noted as "Change of Address".
- 3.4 Members of Atlantic Region Motor Sports Inc. Executive may claim ten cents per km traveled to and from General and Executive Meetings of the Region held during their term of office. The first meeting for which a member may be reimbursed is that following the meeting at which he or she is elected. Alternatively, they may be reimbursed hotel costs plus meals if overnight stay is essential. Air fare from Newfoundland is allowed. Other expenses may be covered on an ad-hoc basis.
- 3.5 The By-Laws governing the procedure whereby the affairs of Atlantic Region Motor Sports Inc. are managed are the same as those of the ASN Canada FIA Inc. Copies of the By-Laws are available to individual clubs and members from A.R.M.S. Regional Office.



#### **4.0 REGION EXECUTIVE JOB DESCRIPTIONS:**

##### **4.1 President**

- 4.1.1 The President, if present, shall preside at all meetings of the members and Directors. He/she shall sign all documents and instruments which require his/her signature and perform all duties incidental to his/her office and shall have such other related powers and duties as may from time to time be assigned to him/her by the Region and the Atlantic Region Motor Sports Inc. Executive.
- 4.1.2 The President shall take any necessary and reasonable steps to ensure the productivity of the members of the Executive and through them the members of the Region.
- 4.1.3 It shall be the President's duty to monitor the directors of the Region and channel ideas, suggestions and problems to his/her Directors for action.
- 4.1.4 The President shall represent Atlantic Region Motor Sports Inc. at ASN Canada FIA Inc. committee and advisory meetings and all meetings requiring the involvement of A.R.M.S.

##### **4.2 Vice-President**

- 4.2.1 The Vice-President shall be vested with all the powers of the President and shall perform all duties of the latter in the case of disability, absence or refusal to act. The Vice-President shall perform other duties as are from time to time assigned by the Executive, and in particular, those enumerated below:
- 4.2.2 The Vice-President shall be responsible for new club development which shall consist of encouragement and assistance to clubs starting in the Region, with the aim of having such clubs become affiliated with A.R.M.S.
- 4.2.3 The Vice-President shall act as trophy custodian for all Region Championship trophies, maintaining them in good repair, ensuring that annual engraving is done, and liaising with the trophy donors.

- 4.2.4 The Vice-President shall be the official public relations officer for the Region clubs as well as the various news media.
- 4.2.5 The Vice-President shall assist rally, race, ice racing, karting, and solo event organizers when requested in obtaining sponsors for Regional status events.
- 4.2.6 The Vice-President shall, through the position as public relations officer for the Region, make known the position of A.R.M.S./ASN Canada FIA Inc. on safety through participation in Provincial and National safety campaigns.
- 4.2.7 The Vice-President and Secretary shall be responsible for the preparation and publication of the A.R.M.S. Handbook. In this regard, he/she is responsible for assembling all material, soliciting all advertising and preparing it for inclusion, production by offering to competitive bidding if circumstances permit, and distribution to individual members. The book shall incorporate all decisions reached at the Annual General Meeting of the previous year, and shall be distributed at least by February 1<sup>st</sup> of the applicable year.

### **4.3 Secretary**

- 4.3.1 The Secretary shall record and publish all minutes of General and Executive Meetings of the Region, publish agendas for meetings, prepare and publish the A.R.M.S. Bulletin, and other documentation as is required.
- 4.3.2 The Secretary shall conduct such correspondence as is necessary and required to progress affairs of the Region. He shall maintain files of correspondence and other material relevant and worthy of preservation. He shall maintain stocks of stationary for use by authorized persons.
- 4.3.3 The Secretary shall maintain the Region Membership File and shall produce a mailing list on the date of voting strength enumeration (currently October 1<sup>st</sup>) and more often during the year as time permits.
- 4.3.4 The Secretary shall assist the Vice-President with the production and publication of the A.R.M.S. Handbook. (See Section 4.2.7.)

**4.4 Treasurer:**

- 4.4.1 The Treasurer shall receive funds prescribed for dues, competition fees, advertising and other sources.
- 4.4.2 The Treasurer shall make disbursements by cheque to meet financial commitments.
- 4.4.3 The Treasurer shall maintain full and complete accounts in respect of the two items above in the form of a general ledger of receipts and cheques plus itemized accounts of income, expenses, accounts receivable and payable, and such other accounts and files as necessary.
- 4.4.4 The Treasurer shall produce a quarterly (or as required) Financial Report to give a complete but concise picture of the financial status of the Region. An Annual Financial Statement shall be prepared to the end of the Fiscal Year and be presented for audit.
- 4.4.5 The financial records of the Region shall be audited by an independent firm of chartered accountants. The audit shall be performed as soon as possible following presentation of the Annual Financial Statement, and the auditor's report, along with the Annual Financial Statement, shall be published in the regular Regional Bulletin issued following the Annual General Meeting of the Region. The records shall be audited prior to turning over the complete set of financial records to a newly elected Treasurer.

**4.5 Directors of Race/Rally/Solo/Karting/Ice Racing/4 X 4**

- 4.5.1 The Directors shall represent Atlantic Region Motor Sports Inc., on their Respective National Committees (if applicable), and may be called upon by that Committee to be chairman of such, and thus a member of a National Board of Directors.
- 4.5.2 The Directors shall review and approve all Supplementary Regulations for Regional status events, issue permits for each event, and authorize return of the performance bond for the event; receive all forms of competition income and forward

same to the Treasurer for accounting and further action as necessary.

\* 4.5.3 The Directors shall maintain the standings of all competitors in the Region status events for the purpose of determining the winner(s) of each of the annual championships contested in the Region; they shall ensure that these standings be published as often as considered necessary throughout the competition year.

4.5.4 The Directors shall be responsible for preparing a competition calendar based on Region status events, National events in the Region, and amalgamation of events to be run by Region Clubs; and for resolving conflicts arising between events within the Region.

\* 4.5.5 The Directors shall ensure that any rule changes are brought to the attention of organizers and competitors as soon as possible, and shall convey the feeling of the Region's members to a National Committee (if applicable) on any intended rule changes.

\* 4.5.6 The Directors shall be responsible for policy formulation, but shall not themselves be directly involved in the organization of events. Event organization is a club responsibility.

#### 4.6 a) Race Directorate

4.6.1 The Race Directorate shall:

- (a) Serve as a forum for club views relative to the development and conduct of racing in the Atlantic Region,
- (b) Be the co-ordinating body, subordinate to the Race Director for club racing activities,
- (c) Be responsible for policy making, but shall not be directly involved in race organization.

4.6.2 The Race Directorate shall be composed of:

- (a) The Race Director, who shall be the chairman,

\* 4.6 b) Solo Events Committee

- (b) One voting member from each A.R.M.S. affiliated club in the Atlantic Region. It shall be the option of individual clubs to refrain from representation on the Directorate if they so desire,
- (c) Non-voting appointed members as the Director may deem necessary.

#### **4.7 General Provisions:**

- 4.7.1 All eleven (11) positions identified and described above are filled by election at an Annual General Meeting of the Region, and are for a two year period. Elections are staggered to provide a measure of continuity as follows:

*Odd Numbered Years: President, Secretary, Director of Racing, Director of Solo Events, Director of Ice Racing, Director of 4 X 4*

*Even Numbered Years: Vice-President, Treasurer, Director of Rallying, License Registrar, Director of Karting*

In the event that the position of Secretary and Treasurer are combined in a single office, then the position of Secretary-Treasurer shall be filled by election on even numbered years.

Discipline Directors are peer elected at their respective workshops.

#### **4.8 Executive Steward:**

- 4.8.1 The Executive Steward shall be responsible for obtaining qualified persons to act as Stewards and Observers for ARMS motorsport events. He/she shall maintain licensing and applications records and shall ensure that all events requiring Stewards and Observers are manned. In addition, all files associated with the running of events, including but not limited to, the permit, insurance policy, stewards/observers reports, and all official qualifying times and official results.

**5.0 SUPPLEMENTARY REGULATIONS:****5.1 Authority:**

5.1.1 These rules are established for use in the Atlantic Region, concurrent with, and supplementary to the General Competition Rules and Race, Rally, Solo, Karting, and Ice Racing Regulations.

**5.2 Championships:**

5.2.1 The following Championships may be contested annually within the Atlantic Region:

- (a) Circuit Racing Regional Race Classes
  - (1) Formula Ford 1600
  - (2) Production Cars (GT - I, II, and III)
  - (3) Unlimited Series
  - (4) ITA, ITB and ITC Sedan Series
  - (5) Atlantic Challenge Series
- (b) Solo Events
  - (1) Slalom
  - (2) Hill climb
  - (3) Sprint
- (c) Rally
  - (1) Driver (Navex)
  - (2) Navigator (Navex)
  - (3) Driver (Performance-series)
  - (4) Co-Driver (Performance-series)
  - (5) Marque
  - (6) Club Teams
- (d) Karting (Affiliated Directly with ASN)
- (e) Ice Racing
  - (1) Engine Over - Rubber to Ice
  - (2) Engine Over - Metal to Ice
  - (3) Engine Opposed - Rubber to Ice
  - (4) Engine Opposed - Metal to Ice

Awards shall be made in each Championship consisting of a perpetual trophy for first place and dash plaques to such places as determined annually by the Regional Executive. In addition, awards may be made to the "Rookie of the Year" and/or the "Most Improved Competitor" in each of the championships contested.

- 5.2.3 Championship points shall be awarded to competitors who are members of an Atlantic Region Motor Sports member club, who are residents in the Region, and who are holders of the appropriate competition license.

**5.3 Event Qualification:**

- 5.3.1 Regional status for events will be awarded at the Annual General Meeting of the Region for the year immediately preceding the events.

**5.4 Permits:**

- 5.4.1 Permit applications shall be mailed with two copies of the Supplementary Regulations attached to the appropriate director at least sixty (60) days (15 days for Race Permit) prior to the event.
- 5.4.2 Although the bond system is not used in racing, the Regional Race Director reserves the right to impose fines in an attempt to ensure that the following conditions are met:
- (a) The event is run in accordance with established rules,
  - (b) The event is of acceptable standard for its status,
  - (c) The results are published as required by established rules,
  - (d) The permit application occurs within the set time frame (15 days prior to event) and is accompanied by 2 sets of Supplementary Regulations, as list of officials, proof of Insurance and the appropriate permit fee.

- 5.4.3 The penalty for late application for permit shall consist of an amount equal to the permit fee for each seven days delay in application, based on the postmark date, or date of receipt if by any means other than mail.
- 5.4.4 No permit will be issued for a Region Championship Event if application is received less than thirty (30) days prior to the event for rally and solo and fifteen (15) days for Race.
- 5.4.5 (a) Within 45 days of the running of an event, the appropriate director must indicate to the organizing club if all or part of the bond is to be returned. In the case of races, the Director shall impose any fines within this same time limit.
- (b) When advising clubs of the amount of the bond to be returned, the Director must provide the club with:
- (1) A summary of the organizers performance and shortcomings,
- and*
- (2) The specific reasons for parts or all of the bond being retained
- (c) In the case of extenuating circumstances, the appropriate director shall have the authority to mitigate the financial penalty, and may, in and event, set the level of financial penalty at any portion of the bond mount up to the total value of the bond.

#### **5.5 Supplementary Regulations:**

- 5.5.1 Supplementary Regulations must be mailed to all Region Clubs at least thirty (30) days prior to the event for Rally and Solo and fifteen (15) days for Race Events and should include a telephone number where out-of-town competitors can call, before they leave home, to receive any last minute notices or notice of cancellation.
- 5.5.2 Notice of any change or cancellation of a Regional or National status event shall be sent by Registered Mail to each Regional Club President and the appropriate director no later than



fourteen (14) days prior to the listed date of the event for Rally and Solo and ten (10) days for Race.

5.5.3 While Clubs are encouraged to mail the Supplementary Regulations to prospective competitors, it remains the responsibility of the competitor to obtain them.

5.5.4 Any event involving speed shall have stated in it's Supplementary Regulations that all persons shall proceed on the premises at their own risk. Signs to this effect shall be posted at all normal access points to the area.

5.6 Results:

Unofficially  
30  
Solo  
12,2,11.  
b)  
5.6.1 Results shall be mailed to all competitors within fifteen (15) days of the event. ~~exception~~ (Exception: See 12,2,11.)

5.6.2 Results of all events in two copies shall be mailed to the appropriate director within fifteen (15) days of the event.

5.6.3 Results shall comply with the National yearbook as to content. Rally results shall show the results of Club Team competition for the BLM Team Challenge shield and give the names of all officials who qualify as organizer or steward.

5.6.4 Awards shall be mailed or otherwise distributed and the appropriate Director notified within 30 day of the event.

~~5.6.5 Results are not deemed official final until the~~

## 6.0 COMPETITION LICENSES:

### 6.1 Required

- 6.1.1 Competition licenses are required for acceptance of a competitor in all types of A.R.M.S. sanctioned events. This applies to: All Races / Regional Hill climbs / Auto Slaloms / Rallies.

### 6.2 License Documentation

Competition licenses are available from the Regional License Registrar to all individuals who are properly registered members of an A.R.M.S. affiliated club, and who have submitted the necessary documentation in accordance with the following schedule:

- 6.2.1 Completed license application/waiver signed and witnessed.
- 6.2.2 Proof of A.R.M.S. club membership..... (photocopy of currently valid membership card)
- 6.2.3 Completed medical exam form for any A.R.M.S. Race, Kart, and Vintage License....**ONLY** the ASN Canada FIA medical form is acceptable. (Every year for aged 40 and over otherwise every second year Rally and Basic do not require medicals.)  
In addition a Medical History Form must be completed when applying for a "Race" license. This form is for use by the Race Day - AMP Medical Staff.
- 6.2.4 Full payment of license fee, including applicable surcharge.
- 6.2.5 Competition record card **ONLY** for Race, preferably photocopy or up-to-date card. This is also a requirement for any application for upgrading of race licenses, or results of one event from previous year, or signed authorization from region director or current year school certificate.

6.2.6 Licenses may be upgraded once only in a lifetime.

### **6.3 Incomplete Applications**

6.3.1 If the application for license, or license renewal is not complete, or if the above referenced documentation is not provided, the application will be delayed and may be returned by the Regional License Registrar.

### **6.4 Expiry Date**

6.4.1 Competition licenses expire on December 31<sup>st</sup> of each year.

### **6.5 Medicals**

6.5.1 Each competitor must maintain a valid ASN Canada FIA Inc. Medical Report on file with the License Registrar if he/she holds a racing license. In the Atlantic Region, Medicals expire on January 1<sup>st</sup> of the second calendar year after issue for competitors of age 39 and under, and expire on January 1<sup>st</sup> of each year for competitors aged 40 and over as per A.R.M.S. rules.

### **6.6 Competition Numbers**

6.6.1 A competition number must be registered by each individual intending to enter a car in any racing event in the Atlantic Region. Competition number registrations are valid for as long as a competitor wishes to retain the number, providing that this registration is renewed annually at a cost of \$10.00 per year.

## 6.7 Fees

- 6.7.1 Competition License Fee Structure for 2001 is as follows:

Applications for upgrade of a Competition License should be sent to the appropriate Discipline Director.

Driver Category	Fee
Basic	incl. with club membership
Solo - Regional	\$ 10.00
Race - Ice	\$ 25.00
Race - Regional	\$ 80.00

### Rally licenses are issued by:

Canadian Association of Rally Sport  
595 Elm Road  
Stouffville, Ontario  
L4A 1W9

- 6.7.2 New license will not be issued seventy-two (72) hours prior to any competition event. The License Registrar may issue a temporary renewal license during this period for an additional fee of twenty five dollars (\$25.00)
- 6.7.3 The normal processing time for the issue of a license is approximately fifteen (15) days from receipt of the application at the region office.

## 6.8 License Validity

The A.R.M.S. member clubs will have 45 Calendar days to remit the appropriate region membership levies to A.R.M.S. before their member's Competition License becomes valid. (National Pro / Regional Race / Regional Solo II). Failure to comply will result in License Cancellation. *The date will be calculated from the date at the bottom of the membership application form in the section reserved for "Club Use Only".*

*A.R.M.S. 2001 Competition License*

<b>7.A &amp; B</b>	<b>RULE AMENDMENTS</b>
<b>7.0A</b>	<b>CHAMPIONSHIP REGS</b>
<b>7.0</b>	<b>QUALIFYING</b>
<b>8.0</b>	<b>TIMING &amp; SCORING</b>
<b>9.0A</b>	<b>ICE RACE REGULATIONS</b>
<b>9.0</b>	<b>RULES OF THE ROAD</b>
<b>10.0A</b>	<b>FLAGGING PROCEDURES</b>
<b>10.0</b>	<b>PITS &amp; PADDOCK</b>
<b>11.0</b>	<b>RACE ORGANIZATION - AMP</b>
<b>12.1.2</b>	<b>GT SPECIFICATIONS</b>
<b>12.1.3</b>	<b>SHOWROOM STOCK</b>
<b>12.1.4</b>	<b>IMPROVED TOURING</b>
<b>12.1.5</b>	<b>IT/SS CLASSIFICATIONS</b>
<b>12.5.34</b>	<b>MISCELLANEOUS</b>
<b>16.0</b>	<b>FUEL CELL</b>
<b>17.0</b>	<b>DRIVER RESTRAINT SYSTEMS</b>
<b>18.0</b>	<b>ROLL CAGES</b>
<b>22.0</b>	<b>DEFINITIONS</b>
<b>23.0</b>	<b>FORMULA - 1600 REGULATIONS</b>



# **RACE REGULATIONS**

**2001 UPDATE**

## GENERAL COMPETITION RULES

### RACE REGULATIONS

#### TABLE OF CONTENTS

**PLEASE NOTE:** The "Duplicated Sections" designated by the letter "A" represents the original Sections of the Atlantic Region Motor Sports Inc. Those "Duplicated Sections" *not* designated by the letter "A" have been adopted and have become part of these General Competition Rules.

SECTION	DESCRIPTION	PAGE
7.A	1999 Rule Amendments	1(a)
7.B	2001 Rule Amendments	1(b)
7.0A	Race Championship Regulations	1
7.0	Qualifying/Starting/Grids	8
8.0	Timing/Scoring/Finishers/Winners	16
9.0A	Ice Race Regulations	23
9.0	Rules of The Road	37
10.0A	Flagging Procedures	44
10.0	Pits and Paddock	50
11.0	Race Organization A.M.P.	53
12.1.2	GT Category Specifications	55
12.1.3	Showroom Stock Specifications	100
12.1.4	Improved Touring Specifications	107
12.1.5	IT/SS Vehicle Classifications	123
12.5 - 34	Miscellaneous	127
16.0	Safety Fuel Cell Specifications	137
17.0	Driver Restraint Systems	139
18.0	Roll Cages	142
22.0	Definitions	159
23.0	Formula - 1600	194

**7.A 1999 RULE AMENDMENTS: ('98 AGM Workshop)**

**7.A.1 HEADLIGHTS: (IMPROVED TOURING)**

***SCCA Rule 10(g) - "Exposed headlights, parking lights and side marker lights shall be taped."***

**ARMS - Due to the high cost of light replacement on some models HEADLIGHTS MAY BE REMOVED. (ARMS organized events only). The resulting cavity MUST BE SEALED and CANNOT be used for cool air intake or cooling of any kind.**

**7.A.2 VEHICLE CLASSIFICATIONS:**

- (a) Effective January 1, 1999 the 1996 Hyundai Accent is moved from GT2 to GT3.
- (b) The 1986-1987 Honda Civic "1500 Si" and the 1985-1987 Honda CRX "1500 Si" will remain as "Improved Touring B" cars. (ARMS organized events only)

**7.A.3 QUALIFYING AND PRACTICE:**

- (a) Effective January 1, 1999 "Qualifying and Practice" sessions will be combined into one (1) thirty (30) minute session. This is done to facilitate a one (1) hour Atlantic Challenge Race.
- (b) The starter will show a "Halfway" signal (Rule 7.8A(c) )
- (c) Other races MAY BE shortened to accommodate the one (1) hour Atlantic Challenge Race.

**7.B 2001 RULE AMENDMENTS: ('00 AGM Workshop)**

**7.B.1 VEHICLE CLASSIFICATIONS:**

- (a) Effective January 1, 2001 the 1996 Hyundai Elantra 16v will be classed as ITA
- (b) Effective January 1, 2001 all "tube frame" GT2 cars are moved to GT1 and shall be permitted any modifications, provided these modifications are within safety parameters.

**7.B.2 INFORMATION PURPOSES:**

- (a) You are reminded that it is the intention of A.R.M.S. to introduce "Scales" at the beginning of the Season. The Scales will be present at a least two additional events throughout the year.
- (b) **Use of Antifreeze Prohibited:** (The following Sections Amended)
  - 12.1.2 - GT Category Specifications
    - Section D 3 (a) Page 62
    - Section F 4 (h) Page 97
  - 12.1.4 - Improved Touring Category:
    - Section D 3 (a) Page 113
- (c) **Additional Stress Bars:** (The following Section Amended)
  - 12.1.4 - Improved Touring Category:
    - Section D 5 Page 116
- (d) **Towing Eyes:** (The following Section Amended)
  - 12.30 - Towing Eyes Page 135



7.A.4 **INFORMATION PURPOSES:**

*You are reminded of the following:*

(a) **DRIVER'S SEAT: (SCCA Rule # 18.3.5)**

"The Driver's Seat shall be firmly mounted to the structure of the car. In cars where the seat is upright (most common in GT and Production cars) the back of the seat shall be firmly attached to the main roll hoop, or its cross bracing, so as to provide aft and lateral support. Bulkheads, firewalls, rear decks or similar structures of suitable strength may be used as a substitute for the main roll hoop or cross bracing to provide the required seat back support".

(b) **STRESS/STRUT BARS: (SCCA Rule # 5.d.8)**

"No other relocation or reinforcement of any suspension component or mounting point is permitted."

**THEREFORE**

Upper and Lower Stress/Strut Bars are **NOT PERMITTED** in "Improved Touring" racing.

**7.0A RACE CHAMPIONSHIP REGULATIONS:**

**7.1A ELIGIBILITY QUALIFICATION:**

7.1.1A All drivers must be in possession of a valid A.R.M.S. or ASN competition license in order to compete.

7.1.2A Cars must conform to specifications required of cars classed in GT I, GT II, GT III and Atlantic Challenge Series.

7.1.3A The Region Race Directorate reserves the right to admit any entry which does not conform to the above.

7.1.4A A minimum of three cars on the starting grid shall constitute a class. One car in class will score 14 points and two cars in class will score 21 and 17 points

7.1.5A All cars must carry A.R.M.S. and ASN class identification.

7.1.6A All vehicles must have their engine, transmission, and differential drain plugs secured in such a manner as to prevent accidental spillage on the track. Safety wiring or applying silicone are suggested as appropriate methods of securing plugs. The scrutineer of the event shall have the final judgment on whether or not a drain plug is secure.

**7.2A CHAMPIONSHIP POINTS:**

7.2.1A The Region Racing Championship shall be contested in the classes outlined in Section 5.2.1 (a).

7.2.2A Points will be awarded in each class on the basis of class finish position as per the scale below.

1 <sup>st</sup>	30 pts	6 <sup>th</sup>	18 pts	11 <sup>th</sup>	10 pts	16 <sup>th</sup>	5 pts
2 <sup>nd</sup>	27 pts	7 <sup>th</sup>	16 pts	12 <sup>th</sup>	9 pts	17 <sup>th</sup>	4 pts
3 <sup>rd</sup>	24 pts	8 <sup>th</sup>	14 pts	13 <sup>th</sup>	8 pts	18 <sup>th</sup>	3 pts
4 <sup>th</sup>	22 pts	9 <sup>th</sup>	12 pts	14 <sup>th</sup>	7 pts	19 <sup>th</sup>	2 pts
5 <sup>th</sup>	20 pts	10 <sup>th</sup>	11 pt	15 <sup>th</sup>	6 Pts	20 <sup>th</sup>	1 pt

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A.R.M.S. - 1998 Race Regulations

- 7.2.3A Ties shall be broken by the competitor who achieves the greatest number of higher scores. Any remaining ties shall favor the driver who scored the most points first.
- 7.2.4A In the case of premature termination of a race, points will be awarded based on the order of cars when the race was terminated, provided that a minimum of 50% of the distance has been covered.
- 7.2.5A To qualify as a finisher of a race, each driver must compete a minimum of 50% of the distance in laps and cross the finish line under his own power within 5 minutes of the winning car.
- 7.2.6A All Region Championship Races must be at least 15 km in length and the number of laps required must be stated.
- 7.3A **SAFETY:**
- Full Driver Safety equipment ( see current SCCA Regulations) required for Driving Schools and Novice Races except that a car may enter an AMP School without a roll bar, at the discretion of the Chief Instructor. Cars so equipped will not be permitted to compete in any race.
- 7.4A **LATE REGISTRATION:**
- Competitors registering late relative to the date specified for the event in the Supplementary Regulations for any Regional Event shall be assessed a \$25.00 late registration fee in addition to the registration fee published for the event.
- 7.5A **IMPROVED TOURING:**
- These rules are to be used by cars running Improved Touring (i.e. over 5 years old). These are the 1998 SS/IT SCCA rules.

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A.R.M.S. - 1998 Race Regulations

**7.6A Unlimited Class:**

A.R.M.S. Unlimited Class shall be any closed wheel car that is A.R.M.S. safety legal (i.e determined by the scrutineer as safe). The car need not conform to any A.R.M.S. recognized class.

**7.7A Tires - GT I / GT II / GT III:**

Cars running in the GT I, GT II, GT III as well as the Atlantic Challenge Series, may run any tire (i.e. slicks or radials, etc.) When SS/IT cars run their own race, they must use the DOT tires as set by class rules but may run slicks etc. in the above stated races. When this happens, the use of alternate wheels other than those allowed in the SS/IT rule is permitted. Rules requiring the tire footprint to be inside the body work still applies.

**7.8A Starts:**

(a) The pole sitting race car will assume the role of pacing the field at a slow and constant speed and in accordance with instructions that may be given by the Steward or Race Director. Drivers shall approach the start area in gridded formation, maintaining a cars length of distance behind the car in front and a cars width of distance from the car beside.

(b) A single finger from the starter indicates one (1) lap remaining in the race.

(c) The Starter will show a "Halfway" signal

**7.9A Rookie Driver:**

A Rookie Driver is anyone who competes in more than two (2) races in their first year.

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A.R.M.S. - 1999 Race Regulations

**7.10A Advertising:**

The top six (6) inches / fifteen (15) centimeter of the windshield on all sedans must be made available for Series Sponsorship.

**7.11A Pace / Chase Cars:**

All occupants of the Pace Car and Chase Car must wear approved helmets.

**7.12A Driver Meeting:**

A mandatory Drivers Meeting shall take place before any racing starts on race day.

**7.13A License Suspensions:**

In addition to the Suspensions listed in the Protests and Appeals section of these GCR's the Atlantic Region Motor Sports may suspend competition licenses of members in default to A.R.M.S. or an A.R.M.S. affiliated club. This also applies to members whose club may be in default to A.R.M.S.

**7.14A FF 1600 Scheduling:**

Organizers must schedule more than one half hour between races whenever possible.

**7.15A Race Gridding:**

7.15.1A All reasonable attempts will be made to limit the GT grid to TRUE GT cars and the faster IT cars when the size of the grid is large.

7.15.2A Grid order for the races shall be determined by the result of a timed qualification session(s) prior to the race(s) as outlined in the event Supplementary Regulation or as stated at the Driver's Meeting.

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A.R.M.S. - 1998 Race Regulations

7.15.3A In the case of no timed qualification session being held, the grid order for races shall be determined in the following manner

- (i) GT / IT / Unlimited and Atlantic Challenge Races:
- (a) Cars will be gridded according to the drivers results in the previous race in that series (i.e. GT race grid positions will be determined by the finishing position in the previous GT race, etc.) DNF's from the previous race are considered as being included in the results.
- (b) Any drivers not attempting to start the previous race in the applicable series will be gridded after (i - a above) in order of current Regional Point Standings for that series.  
EXAMPLE 1: In a GT race GT 2 driver with more points than a GT 1 driver will be gridded ahead of the GT 1 driver. The same consideration will be given to the drivers points in GT 3, ITB and ITC. EXAMPLE 2: A driver who has raced more than one GT class (GT 1, 2 or 3) shall have his/her points total determined by totaling points earned in all GT classes. This same consideration will be given to IT drivers who have driven in more than one IT class.
- (c) Any Drivers not included in the previous race results and having earned no points in that series for the current year will be gridded behind (i - a & b above) at the discretion of the grid Marshall giving priority consideration to the drivers' ability and potential car speed, in the interests of safety.
- (d) At the first race of the year, cars will be gridded according to the prior years' Regional Race Results for that series. A GT 2 driver will be gridded ahead of a GT 1 driver if he/she has more points than the GT 1 driver. This same consideration will be given to drivers in GT 3, and in all IT race series drivers. If a driver has earned points in more than one class for the applicable race, his/her total points will be used to determine their starting position.

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A.R.M.S. - 1998 Race Regulations

New drivers or drivers with no points in the race series will be gridded at the grid Marshall's discretion according to driver ability and potential car speed.

- (ii) The maximum number of cars on a grid at AMP shall be 35. The Regional Race Director will have the final say in determining which entries are dropped should entries exceed the above number.
- (iii) Any driver starting any regional points race as a "race school" driver for license requirements will be gridded at the extreme back of the race grid.
- (iv) Any driver who, in the opinion of the grid Marshall, has arrived late for Gridding will be held in pit lane and only released once all race starters have taken the green flag.

**7.16A DRIVER CONDUCT:**

Arguing with officials while being gridded is rarely successful and only serves to delay the start of a race. Excessive arguing, abuse, and delay from drivers may result in that driver forfeiting his grid position and starting from pit lane, or exclusion from the race completely. (Also refer to Section 21.3 a, b, & c - Conduct).

**7.17A CLASSES:**

Effective January 1, 1994, A.R.M.S. will adopt the S.C.C.A. - GT. preparation rules. We will, however, reduce the number of S.C.C.A. classes from 5 to A.R.M.S. current GT I, II, III.

**7.18A ENGINE TEAR DOWN:**

Major mid-day tear down of engines will be avoided in favor of sealing and impounding etc. of the cars.

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A.R.M.S. - 1998 Race Regulations

**7.19A A.R.M.S. IDENTIFICATION:**

The Atlantic Region Motor Sports will supply A.R.M.S. Decals with race licenses sufficient to apply to both sides of the car.

**7.20A TIMING SYSTEM:**

All clubs organizing events at AMP shall use the A.S.C.C. timing system and pay \$200.00 per day rental for the equipment. Timing system operating personnel will be provided on a volunteer basis (i.e. no charge). Under no circumstances will this equipment be loaned to other clubs or organizations.

**7.21A RULE BOOKS:**

S.C.C.A. rule books now apply solely except for rules found in the A.R.M.S. General Competition Rules / Handbook (i.e. local rule and Protest and Appeals procedures. Please disregard CASC and ASN books for local racing.

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A.R.M.S. - 1998 Race Regulations



## 7.0 QUALIFYING AND STARTING

### 7.1 FORMING THE GRID

#### 7.1.1 Number of Cars Allowed on the Course

- A. The maximum number of cars that may be started simultaneously on any course shall be twenty-five (25) per mile.
- B. The maximum number of cars that may occupy a course in practice, qualifying, or a race shall not exceed twenty-five (25) per mile, and then only if an extreme speed differential does not exist between the fastest and the slowest cars.
- C. Only the Executive Steward of the Division may authorize an increase in this number or may require a decrease for any or all car classes.

#### 7.1.2 Grouping Cars by Class

- A. All cars shall race in their respective classes. One (1) car in a class shall constitute a class. A car shall not compete in more than one race class in the same race group.
- B. Dual entry is permitted. Separate entry forms and fees are required for each class entered. Only one (1) Vehicle logbook is required, but shall contain a picture of each configuration.
- C. The Chief Steward shall approve the proposed classification. He or she shall not approve if the car is so dissimilar or the car/driver combination otherwise unsuitable so as to pose a hazard to safety or an impediment to the fair competition among the other cars in the class and race group.

#### 7.1.3 Combining Classes

- A. Any Formula class may be combined with Sports Racing cars.
- B. Whenever possible it is preferable to combine Sports Racing cars with appropriate Formula classes than with Production or GT cars.

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A.R.M.S. 1998 - Race Regulations

- C. Formula Vee may also be combined with other Formula classes, including F500.
- D. SCCA Spec Racer may be combined with G and H Production and GT-5.

#### 7.1.4 Additional Classes

Competitions for classes, other than those specified in Section 12., Automobiles, shall not jeopardize a full schedule of competitions for the recognized classes. Organizers may also schedule extra competitions for other classes, provided specifications are clearly set forth in Supplementary Regulations.

#### 7.1.5 Starting Positions

- A. Cars shall be positioned at the start in order of their official qualifying times without regard to engine displacement or class, with the fastest cars nearest the starting line, unless the Supplementary Regulations specify a different method.
- B. In case of a tie in qualifying times, the second fastest lap, then the third fastest, etc., shall be used to break the tie.
- C. It shall be the car/driver combination which qualifies a starting position.
- D. The fastest qualifier shall have the choice of the inside pole position (nearest the direction of the first turn) or the outside. Absent a choice, the pole position is assumed to be the inside. When outside position is chosen, the second qualifier will be inside, the third outside, the fourth inside, etc. Continue to alternate the entire grid.
- E. Non-Qualifiers may be gridded behind qualifiers by the Chief Steward per GCR 6.1.2.
- F. Cars not in position on the grid prior to the one (1) minute signal (7.5.1 and 7.5.2) shall relinquish their starting positions and shall start from the back of the field.

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A.R.M.S. - 1998 Race Regulations

### 7.1.6 Oversubscribed Classes

Qualifying for an oversubscribed single class race shall be split into two (2) groups. The race grid shall be split into two (2) groups. The grid shall be determined in accordance with 7.1.5., Starting Positions. If the Chief Steward determines that there is a significant difference in track conditions between the two (2) qualifying sessions, he or she may recommend the parallel column procedure to the Stewards of the Meeting. If they approve, one-half of the grid shall be taken from each session and gridded in columns (e.g., one column of a 2-2 grid from each session). The fastest car overall, regardless of track conditions, shall have the pole position and be followed by the cars from its session in order of qualifying time.

## 7.2 STARTING THE ENGINE

In all SCCA competitions, engines shall be started with a starter operated by the driver in normal driving position, except F500, and an on-board or supplementary power supply. Carburetor or fuel injection systems may be manipulated and/or primed in the process of starting cars. Push starts are permitted only as specifically authorized herein.

### 7.2.1 Push Starts on the Grid

A driver unable to start the car on the false grid may push start provided the car is back in position prior to the one minute signal. Push starts on the false grid shall be under the supervision of the Grid Marshal to guarantee they are done in a suitable manner. After the one-minute signal, the right to start the car by push starting is relinquished.

### 7.2.2 Late Starters

After the field has left the grid, the Chief Steward may add an alternate entry that has started or permit a gridded entry to push start and join the field at the back of the pack. The Chief Steward shall direct whether the car may enter the track during the pace lap or start from the pit exit after the green flag has been displayed.

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A.R.M.S. - 1998 Race Regulations

**7.3 THE START****7.3.1 Starter's Orders**

Drivers and automobiles shall come under the orders of the Starter from the time the Chief Steward delegates this control to the Starter until the competition is completed.

**7.3.2 Classification of Car as a Starter**

*To be considered a starter, a car shall receive the green flag at the start or, in the case of an aborted start, cross the control line. Cars entering the race after the start shall also be considered starters. A car shall enter the race before the checkered flag is displayed in order to be classified as a starter.*

**7.3.3 False Start**

A false start shall occur when a driver under the Starter's orders moves forward from his or her prescribed position before the start. In the case of a rolling start, this movement shall refer to improving the driver's position in relation to the moving field by moving out of line or passing prior to the waving of the green flag. If the Chief Steward determines that a false start has occurred, and the race has been started, that driver or drivers may be black-flagged and held in the pits or at the start line for a period of up to one minute. Other penalties may also be imposed. (See 20., Penalties)

**7.3.4 Aborted Start**

Should an aborted start occur and additional pace laps be run, those additional laps will be scored as race laps and timing will start when the pole car crosses the timing control line unless otherwise specified by the Supplementary Regulations for the event.

**7.3.5 Starting Line for Timing and Scoring**

For a rolling start, the starting line shall be the control line on the crossing of which the timing commences unless otherwise provided in the Supplementary Regulations.

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A.R.M.S. - 1998 Race Regulations

## 7.4 STARTER

### 7.4.1 Responsibility

The starter shall operate directly under, and shall carry out the orders of, and shall be responsible solely to the Chief Steward.

### 7.4.2 Function

The Starter shall control the competing drivers by conveying to them the orders of the Chief Steward during the practice and during competitions until the competitions are concluded. During this period cars are "under the Starter's orders.

### 7.4.3 Location

The Starter shall be stationed so as to be at all times in a location of maximum visibility to the competing drivers. The Starter shall have immediate communication with the Chief Steward.

### 7.4.4 Equipment

The Starter shall be equipped with a complete set of signal flags required by the SCCA General Competition Rules.

## 7.5 SCCA STANDARD START (ROLLING START)

The following rolling start technique shall be known as the SCCA Standard Start and shall be utilized at all SCCA races, unless an alternate procedure has been approved by the Divisional Executive Steward and is set out in the Supplementary Regulations for the event.

1. On instruction of the Chief Steward, a signal, plainly audible or visible to the full grid, shall be given at five (5) minutes and at one (1) minute prior to the scheduled starting time of each race. This will alert drivers to man their cars, and crews to complete last-minute preparations.
2. At the one-minute signal the Starter or Grid Marshal shall take a position in front of the grid, visible to all competing drivers, and shall give the signal to start motors by rotating

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A.R.M.S. - 1998 Race Regulations

the furled yellow flag in small circles directly overhead for a sufficient length of time for all drivers to observe.

3. The Starter or Grid Marshal, after observing that all unnecessary personnel have left the grid and that all drivers are in their cars and apparently ready, shall next raise his or her free arm as a signal for drivers to raise one of their arms indicating that their cars are running, and that they are prepared to start the pace lap. The Starter or Grid Marshal shall, by looking directly at each car individually and altering his or her position as necessary to do so, satisfy himself or herself that each driver on the grid is indicating this ready signal.
4. The Starter or Grid Marshal shall next signal all drivers to lower their arms by lowering his or her free arm in a definite movement.
5. If a pace car is employed, the Starter or Grid Marshal shall first signal it to begin moving prior to releasing the field. The Starter or Grid Marshal shall, as soon as possible, signal the drivers to begin the pace lap by moving the furled yellow flag in parallel arcs from front to back. The pace lap is to be run at considerably less than racing speed.
6. The pace car, with emergency lights flashing, shall position itself at the head of the pack. It shall proceed at a constant slow speed, the front row drivers having been instructed not to pass the pace car until the green flag has been displayed. If a pace car is not utilized, the "pole" car shall serve the same function as a pace car from its position in the front row. In the event the race is not started, necessitating another pace lap, depending on conditions, the pace car may overtake the field and resume its function, provided the front row drivers have been previously advised of this plan. Otherwise, the "pole" car shall assume the duty of the pace car, remaining in this front row position.
7. During the pace lap, the Starter shall be positioned at a safe location where the approaching field can be clearly viewed, and where he or she can be seen by all the drivers in the grid. The Starter shall remain motionless, with the green flag hidden, and no other flags visible.
8. Upon determining that the approaching field is at a constant slow speed, well bunched and in line, and close enough that all drivers can see the flag, the Starter shall suddenly and continuously wave the green flag, until all cars have passed the start line. The race shall be underway.

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A.R.M.S. - 1998 Race Regulations

throughout the field at the instant the green flag is waved and passing may occur at any point, within reasonable safety standards.

9. If the Starter determines that the field is not in good order, or that some drivers have improved their positions by moving out of line or by passing prior to the waving of the green flag, the Starter shall abort the start by making no flag movements whatsoever, and at the same time shake his or her head in a negative manner, to indicate that a start shall not take place. This will inform the drivers to proceed on another pace lap. All flag stations shall display a yellow flag during all pace laps. Drivers will raise one hand to indicate that the start is aborted. (Except as provided in 7.6.2)
10. There shall be one (1) pace lap, all laps after the first pace lap count as race laps.
11. A car may not improve its position in the field once it comes under the Starter's orders, regardless of circumstances. A car that fails to start with the pack or falls out of position during a pace lap relinquishes its grid position. It may rejoin the field only at the rear of the pack. A car that improves its position is guilty of a false start and may be penalized as provided in 7.3.3., False Start.
12. It is to be emphasized that the SCCA Standard Start is a rolling start, not a "flying" start. While the pace lap may proceed at a brisk pace, the field shall be slowed at a sufficient distance before the start line to allow orderly grouping of the field. The actual speed immediately prior to the start is somewhat dictated by the types of cars, size of the field, and course layout. Only one (1) Official shall be designated to brief the front row drivers before each race, preferably the Starter, acting under the orders of the Chief Steward.

#### 7.6 SPLIT STARTS

1. Split starts are recommended where there is a large differential in speed or cornering ability between the classes or categories in a single race group. The procedures for a split start shall be set out in the Supplementary Regulations or explained at a Drivers' Meeting. The group containing the car with the fastest qualifying time shall start first.
2. The second group also should be led by a pace car which should keep the first group in sight (on the longest straight). If the first group gets a green flag, then the second group automatically gets a green flag. Anyone jumping the start in the second group may be penalized.
3. A starting judge should be appointed for a split start.

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A.R.M.S. - 1998 Race Regulations

**7.7 RESTARTS**

When a race is restarted, each pace lap shall count as a race lap. In a timed race, the clock shall be restarted when the field is dispatched. No replenishment of or assistance to cars shall be allowed after a race is stopped and before it is restarted. However, any method of restarting the engine is permitted.

If a race is stopped, the Chief Steward may:

1. Order a complete restart according to the original starting positions;
2. Restart the cars in a single file in the overall order in which they completed their last completely scored lap;
3. Restart from a scoring tape or a lap chart whichever best fits the conditions at hand.

**7.8 PACE CAR(S)**

The Chief Steward is responsible for the operation and control of the pace car(s).

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A.R.M.S. - 1998 Race Regulations



## 8.0 TIMING, SCORING, FINISHES, AND WINNERS

### 8.1 TIMING AND SCORING

1. The Timing and Scoring systems described in this section shall be required for SCCA National races. It is recommended that these systems be used at Regional races and Drivers Schools.
2. The Chief of Timing and Scoring should employ the Timing and Scoring systems described below in recording the performance of cars in competition. These systems should enable the Timing and Scoring staff to produce the following information: a set of grids for each race group, a set of time cards for each car from qualifying and the race, continuity tapes, independently prepared lap charts, provisional results, and final results. Titles as used in this section are used in a functional sense. The Chief of Timing and Scoring may delegate any task to any member of the Timing and Scoring staff as appropriate.
3. Should there be insufficient staff to run two separate systems as described, the Chief of Timing and Scoring should notify the Chief Steward. The Chief Steward may then decide to waive the two-system requirement, allowing the Chief of Timing and Scoring to use the Timing and Scoring staff in the most productive manner possible. In this case, the Timing system should be used to establish grid positions and the Scoring system should be the primary source of information for tabulating race results. Overall timing of class leaders during races is recommended to provide the information described in section 8.9.2. Any protests concerning the Timing and Scoring requirements will not be accepted.
4. **The Timing system:**
  - A. It is recommended that an electronic timer (such as a Chronomix, a Meca, a Heuer, Alge, or similar device) be used. The timer shall be actuated by a photoelectric cell or other means on the timing control line. Times should be recorded to the 1/1000th of a second. The minimum acceptable resolution for an electronic timer is 1/100th of a second. The electronic timer may provide data to an appropriate computer program capable of processing the data and printing results.
  1. There shall be a minimum of three independently prepared tapes. The tapes shall record the car numbers in the order they cross the timing control line. The tapes should indicate "yellow flag," "black flag," or "red flag," as

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A.R.M.S. - 1998 Race Regulations

personally observed and/or officially observed or reported. "Checkered flag" should be written on the final tape when the checkered flag has been displayed. These tapes should be compared and audited, corrected if necessary, and then the car numbers will be matched with the times recorded by the electronic timer. These tapes may be shared with the Scoring System.

- B. An acceptable alternative to an electronic timer is a group of Timers with stopwatches. The stopwatches should time to the nearest 1/100th of a second. The minimum acceptable resolution for a stopwatch is 1/10th of a second. Timers will record the cumulative time of passage for their assigned car(s), then compute and record the individual lap time. Timers should note on the time card for each assigned car such occurrences as "pit stop," "black flag," "checkered flag," "off course," etc., as personally observed and/or officially observed or reported. At the end of each session, the Timer will indicate on the time card the fastest lap time for each assigned car.
- C. For the start of a qualifying session, the electronic timer (and/ or stopwatches) shall be started simultaneously on a signal given by the Chief Timer.
- D. At the end of each qualifying session, the Chief Timer shall audit the time cards produced from the timing system. These time cards should show the cumulative times as well as the lap times. Once the Chief Timer is satisfied that the times are correct, a Provisional Grid should be prepared, as described in GCR 7.1.5, Starting Positions, and posted. At the expiration of the protest period, these Provisional Grids may be considered final.
- E. For the start of a race, the electronic timer (and/or stopwatches) shall be started simultaneously when the first car crosses the timing control line at the completion of the pace lap.
- F. At the end of each race, the Chief Timer shall audit the time cards produced by the timing system. Once the Chief Timer is satisfied that the times are correct, and the order of finish agrees with the Scoring system, Final results should be prepared as described in GCR 8.9.2, Final Results.

**5. The Scoring system:**

- A. There shall be a minimum of three independently prepared tapes. The tapes shall record the car numbers in the order they cross the timing control line on consecutively numbered sheets. The sheet number should coincide with

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A.R.M.S. - 1998 Race Regulations

the overall leader's completed laps. The tapes should indicate "yellow flag," "black flag," or "red flag," as personally observed and/ or officially observed or reported. "Checkered flag" should be written on the final tape when the checkered flag has been displayed. These tapes should be compared and audited, corrected if necessary, and then distributed to the Charters. These tapes may be shared with the Timing System.

- B. A minimum of three independent lap charts should be prepared. These charts can be done either on paper or on a computer and can include charts generated by the Timing system. They shall be prepared so that position and lap count are indicated on different axis. Each car's number shall be entered on the chart in the order recorded on the tape, appearing on the chart only once for each lap. Some method shall be used to indicate on the lap chart all cars taking the checkered flag as shown on the final tape. The Charters should indicate the overall and class position and laps completed for each car.
- C. At the end of each race, the Chief Scorer shall compare the three charts. Once the Chief Scorer is satisfied that two of the three charts are correct, Provisional Results may be posted as described in GCR 8.9.1. It is strongly advised that the Chief Scorer determines what errors prevented the third chart from agreeing with the other two.

## 8.2 CONTROL LINE

A car crosses a control line when any portion of the car first intercepts the vertical plane of the control line, as observed by the officials assigned to record the passage, who may be aided by suitable automatic or semi-automatic equipment.

## 8.3 DEAD HEATS

In case of a dead heat, the competitors concerned shall share the prizes allotted to their places in the Results. (See 6.2.4., Dead Heats, with respect to allocation of National Race points.)

## 8.4 FINISHERS

1. In order to be considered a finisher, a car shall complete half the distance covered by the overall winner of the race. If the race length is an uneven number of laps, divide the overall winner's laps by two and round down to the nearest whole integer. A car has five (5) minutes after the checkered flag is displayed to complete his or her lap.

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A.R.M.S. - 1998 Race Regulations

2. A car may be considered a finisher if it is pushed across the control line or driven using on-board power (e.g. starter motor). Pushing may only occur in the pit lane. Pushing a car on the racing surface is strictly forbidden.

#### **8.5 SHORTENED RACES**

1. If a race is stopped at less than fifty (50) percent of its scheduled time or distance and is not restarted, it shall be considered incomplete. Championship points shall not be awarded, and organizers shall not be required to distribute trophies or other awards.
2. A race that is stopped at fifty (50) percent or more of its scheduled time or distance, and not restarted, shall be scored as a complete race as of the end of the last completely scored lap (even if that lap is less than fifty (50) percent of the scheduled distance).

#### **8.6 WINNER**

The winner shall be the competitor who covers the prescribed distance of the competition in the least time, or the greatest distance within the prescribed time of the competition. If the race is shortened, the leader of the last completely scored lap is the winner, provided the race is completed. (See 8.5.1.)

#### **8.7 CHECKERED FLAG**

The checkered flag shall be displayed first to the winner as he or she completes the prescribed distance of the course or crosses the finish line after completing the prescribed time, and then to the other finishers as they cross the finish line. If the checkered flag is displayed first to the wrong car, the race shall still finish when the actual winner crosses the finish line.

##### **8.7.1 Late Checkered Flag**

If the checkered flag is not displayed at the scheduled end of the race (in other words, if a race is one or more laps longer than scheduled), the race shall be scored as if it had ended at the scheduled length.

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A.R.M.S. - 1998 Race Regulations

**8.7.2 Winning Car Not Running**

In timed duration races if the winning car is not running at the expiration of the prescribed time, the checkered flag shall be displayed to the highest placing car still running. The winner is not required to take the checkered flag.

**8.8 LAP RECORD**

The official lap record for each class, at each circuit, shall be set during a race and not in practice or qualifying. When a driver is disqualified for an illegal car, the lap times (lap record) are disqualified also.

**8.9 RESULTS****8.9.1 Provisional Results**

- A. One of the two lap charts or a printout showing order of finish and number of laps completed for each car shall be posted and titled as Provisional Results. The time of posting shall be noted on the Provisional Results and an announcement made.

**8.9.2 Final Results**

1. At the expiration of the protest period, Provisional Results may be considered final. The Final Results should be titled  
  
as Final or Official Results and shall include the following types of information: description of event, timing and scoring information, and driver information.
2. The description of the event shall include: location of event, date, sanction number, name of conducting region, length of course, and duration of race (laps or miles).
3. The timing and scoring information shall include: total number of entries, including DNF's and DNS's, the overall and class finishing positions for all starters, the number of laps completed for all starters, the overall time of the race, the winner's margin of victory, the winner's average speed, the fastest lap time for all starters and any new course records.

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A.R.M.S. - 1998 Race Regulations

4. The driver information shall include: driver's full name, hometown, state, region of record, car number, car make and model, and car year as required per GCR.
5. Optional information to show on the Final Results includes: the overall time and average speed for each class winner, pit stop information, accident reports, and sponsorship. It is strongly recommended that the competition license number be included in the driver information. This may be provided on documents (i.e. Entry List) other than "Final Results" and submitted to the national office, divisional pointskeeper and other officials.
6. When a car is disqualified, excluded, or withdrawn, the results should list the cars in the original finishing order, noting the cars that have been affected. The results should show the final overall and class positions, as adjusted, for all finishers. The disqualified car (or cars) should be footnoted thusly: "Car number (X) is disqualified (or excluded or withdrawn); all subsequent cars moved up."

#### 8.10 MEDIA

It is strongly recommended that at spectator events the Chief Timer and Scorer meet with the Course and Regional Press Officers in order to establish close cooperation with the announcer and all media, and to arrange for fast transmission of unofficial and official Timing and Scoring information to these people.

The track announcer and all media at spectator events should be furnished as quickly as possible with Unofficial Qualifying times as they occur, thus providing constantly updated unofficial grid positions, but making certain that this information is clearly titled "Unofficial." When the qualifying times become Official, together with the Official Grid, these should be transmitted at once to the announcer and media. During the race, up-to-date standings should be provided, as well as average speed records established, etc. These can be Unofficial until verified or corrected. Within a very few minutes after the completion of each spectator race, and prior to the preparation of Official Results which require time consuming auditing and verification, Unofficial Results showing at least the top ten (10) finishers, the winner's average speed, fastest lap turned in miles per hour, time and/or distance separating the first three finishers, and overall time for the race should be transmitted to the track announcer and media. Again caution is recommended to ensure that this information is clearly labeled "Unofficial."

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A.R.M.S. - 1998 Race Regulations

It is always preferable that the Circuit announcer and any radio and television announcers receive information relating to Timing and Scoring from members of the Official Timing and Scoring personnel, via the Circuit or Regional Press Officer.

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A.R.M.S. - 1998 Race Regulations

## **ICE RACE REGULATIONS**

### **TABLE OF CONTENTS**

9.0A	Ice Race Supplementary Rules and Reg's	23
9.1A	General	23
9.2A	Safety Equipment	25
9.3A	Vehicle Eligibility	26
9.4A	Vehicle Condition	28
9.5A	Authorization Modifications	28
9.6A	Refueling	30
9.7A	Race Format	30
9.8A	Entry Fee	32
9.9A	Event & Championship Awards	32
9.10A	Points	33
9.11A	Finishers	33
9.12A	Penalties	34
9.13A	Required/Recommended Equipment	35
9.14A	Organizers	35
	Information Purposes Only	36

*A.R.M.S.- 1999  
Ice Race Regulations*



**9.0A ICE RACE SUPPLEMENTARY RULES AND REGULATIONS:**

All races are sanctioned by A.R.M.S. and are held under the International Sporting Code of the FIA, the General Competition Rules of A.R.M.S., A.R.M.S. Race Regulations and the Supplementary Rules and Regulations contained herein.

A.R.M.S. will NOT sanction events held on frozen surfaces with a water depth of more than six (6) feet.

A.R.M.S. will only sanction events held on flooded land or at the Whittenburg, Nova Scotia location described herein.

Ice thickness MUST be in excess of sixteen (16) inches.

**9.1A GENERAL:**

**9.1.1A Insurance (provided by organizer):**

- (a) Public Liability and Property Damage: \$3,000,000 all inclusive
- (b) Participant Accident Insurance:
  - 1) Accidental death and dismemberment \$7,500
  - 2) Weekly Indemnity, 52 weeks \$ 75
  - 3) Medical Reimbursement \$7,500

**9.1.2A Medical Facilities (Minimum):**

- (a) vehicle present with flat surface to act as ambulance.
- (b) first aid personal with comprehensive first aid kit.

**9.1.3A Stewards:**

An ARMS Chief Steward shall be appointed for the series by the directors of ARMS.

**9.1.4A License Requirements:**

- (a) Competitors (also known as "drivers") must hold a current A.R.M.S. affiliated club membership.
- (b) Competitors must also hold a current A.R.M.S. Ice Racing License, or better.

**9.1.5A Eligibility:**

- (a) Eligibility of entrants shall be restricted to members of ARMS, ASN, and/or FIA affiliated clubs.
- (b) Non-drivers shall be unrestricted as to motorsports affiliation.
- (c) All entrants, passengers (also known as "co-drivers"), workers, officials, pit crews, and any others associated with each or any event must sign official waiver forms before commencement of the day's activities.
- (d) All drivers and passengers under the age of 19 must have signed consent of parent or guardian in order to compete.
- (e) Organizers and officials reserve the right to refuse entry to any person deemed unsuitable for any reason in the opinion of the organizer or organizing club.
- (f) Organizers and event officials reserve the right to terminate a person's entry and/or competition at any time during the event.

**9.1.6A Entry:**

- (a) All competitors must complete the requirements for registration, scrutineering, and payment of entry fees before gaining access to the racing area.
- (b) All drivers must attend the drivers' meeting before racing begins.
- (c) All drivers must state their intended class(es) of competition for points accumulation before the start of competition.

**9.1.7A Scrutineering:**

- (a) Each event shall have a chief scrutineer who shall ascertain that all vehicles are checked for compliance with safety requirements and allowed modifications as per these regulations.
- (b) All vehicles must pass scrutineering before being allowed to practice, qualify, or race.

- (c) The scrutineer may re-inspect any vehicle at any time during the event.
- (d) Organizers may refuse entry to any vehicle deemed not meeting the required standards, either before or during competition.

**9.1.8A Alcohol and Drugs:**

During an event, the consumption of any alcoholic beverage, narcotic, or dangerous drug in the working pits or any portion of the race course by any race official, competitor or worker is strictly forbidden. It is the driver's responsibility to ensure that all members of his pit crew, etc comply with this regulation.

**9.1.9A Passengers:**

A maximum of one passenger will be allowed in each vehicle, subject to conditions found in these GCR's.

**9.2A SAFETY EQUIPMENT:**

**9.2.1A Helmets:**

- (a) Helmets must meet minimum Snell 1985 "M" standard or better.
- (b) Helmets may be either open or full face style.

**9.2.2A Seat Belts:**

- (a) All occupants must be equipped with a minimum of three point safety harness (lap plus diagonal shoulder strap), stock type of similar. Material of all straps shall be of nylon or dacron polyester and in new or perfect condition and shall have a minimum width of two inches.
- (b) All restraint harness installations are subject to the approval of the scrutineer who may specify requirements in excess of those specified above if he deems the existing installation inadequate.
- (c) The use of seat belts/harnesses is mandatory during all practice, qualifying and racing.

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A.R.M.S.- 1998  
Ice Race Regulations

- (d) A four, five, or six strap harness is strongly recommended.

**9.2.3A Head Restraint:**

A system of head restraint to prevent whiplash and to prevent the occupants from striking the underside of the roll bar is strongly recommended.

**9.2.4A Side Protection:**

All doors must be closed and secure. Inside or outside reinforcement may be added.

**9.2.5A Window Safety Nets:**

- (a) Window safety nets must be used on all car door windows next to occupied seats if there is no window, or if the window glass is not up.
- (b) If a door next to an occupied seat is permanently fastened (sealed, pinned, etc.) the window must be down and a window safety net used.

**9.3A VEHICLE ELIGIBILITY:**

**9.3.1A Permitted Vehicles:**

- (a) Entry will be restricted to production vehicles with a maximum of 2800 cc, powering a maximum of two wheels.
- (b) Vehicles may be engine over drive wheels, or engine opposed to drive wheels.
- (c) 4-wheel drive vehicles meeting rule 9.3.1.a above may be used, providing they can be operated in 2-wheel mode only.
- (d) Larger 4-wheel drive vehicles (1/2 ton trucks, etc.) may be considered if numbers warrant. Such vehicles will run by themselves, in their own class. Potential entrants in this class must contact the Region Ice Race Director before planning to enter.

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A.R.M.S.- 1998  
Ice Race Regulations

**9.3.2A Required Modifications:**

- (a) Hubcaps, trim rings, etc. must be removed.
- (b) All side marker lights should be removed or taped over entirely, unless integrated into head and tail light units.
- (c) All other lights should be removed or taped so as to control broken fragments in the event of breakage.
- (d) A minimum of one red light must be positioned at the rear of the vehicle and available to be on if conditions are deemed necessary by event organizers. Stock tail lights may be used.
- (e) A metallic firewall must separate the driver's compartment from the engine compartment.
- (f) A metallic firewall must also separate the driver's compartment from the trunk compartment if it contains the fuel tank. If the stock rear seat is securely fastened in place, a metallic firewall is not required behind it.
- (g) All occupied seats must be securely mounted.
- (h) Exhaust systems must exit to the rear of the driver's seating position and must direct exhaust gasses away from the vehicle body and driver. Mufflers are not necessary unless stipulated by event organizers.
- (i) Radiators are free, both type and position. Radiators located in the driver's compartment must be securely attached and safely installed, with protection against hot fluid and fans.
- (j) All loose objects in the interior that might be dangerous in the event of contact must be removed or secured.
- (k) All vehicles must be equipped with competition numbers on both sides of the vehicle.
  - 1) numbers must be a minimum of 9" high, 1.5" stroke width.
  - 2) numbers must be of contrasting color to their mounting surface.
  - 3) numbers are assigned primarily to a driver's vehicle, not to the driver.
  - 4) numbers are assigned by the Region License Registrar on a first come, first served basis.

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A.R.M.S.- 1998  
Ice Race Regulations

**9.4A VEHICLE CONDITIONS:****9.4.1A Oil & Fluids:**

- (a) Any vehicle burning oil or any other fluid in such a manner as to cause impairment of vision to any officials or competitors shall be barred from competition.
- (b) Any vehicle leaking various fluids may be excluded from competition if such leakage poses a hazard to competitors or environment.

**9.4.2A Hazardous Vehicle Conditions:**

Any vehicle competing may be excluded from competition if any condition is found which may be considered hazardous in the opinion of the officials. Such a vehicle may be allowed to return to competition if the situation has been resolved to the satisfaction of the organizers.

**9.4.3A Appearance:**

All vehicles should make every effort to appear in good repair and condition. Paint schemes are to be in good taste.

**9.5A AUTHORIZED MODIFICATIONS:****9.5.1A Bumpers:**

- (a) Standard bumpers may be retained, substituted, or discarded entirely.
- (b) Substituted bumpers are free as to type, materials, and construction.
- (c) Bumpers should not extend out beyond the widest part of the vehicle's bodywork.
- (d) Bumper ends or brackets shall not protrude or display sharp edges that would cause excessive damage to competitors' vehicles or tires.

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2814 Old Sambro Road, N.S. B3V 1E8

A.R.M.S.- 1998  
Ice Race Regulations

**9.5.2A Wheels & Tires:**

- (a) Wheels are free; any width or diameter. Must be securely attached.
- (b) Non-studded class tires are free. Must be filled with air online "loading"
- (c) Studded-class tires are free as to tire, stud type, count or attachment. No bare rims.
- (d) Above regulation (9.5.2A(c)) must result in safety for all competitors, officials and spectators. Any studding deemed unsafe by officials will be banned from competition.

**9.5.3A Suspension:**

Suspension is free, subjected to safety considerations.

**9.5.4A Chassis and Coachwork:**

- (a) Any part of the interior other than those deemed necessary for safe operation may be removed. (Subject to GCR's).
- (b) Seats may be substituted or removed. All occupied seats must be securely attached.
- (c) Substitution of body panels is allowed.
- (d) Any sharp edges deemed dangerous by organizers must be repaired or eliminated.

**9.5.5A Electrical:**

- (a) Battery must be firmly secured in position.
- (b) The battery type and location are free. However, if located in the driver's compartment, it must be enclosed in a marine type box and securely mounted.

**9.5.6A Ballast:**

Ballast of any safe type may be added, providing it is securely attached in such a manner as to not endanger occupants or other competitors.

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A.R.M.S.- 1999  
Ice Race Regulations

**9.5.7A Engine & Drive Train:**

- (a) Engine modifications are free.
- (b) Transmissions and clutches are free.
- (c) Locked or limited slip differentials are allowed.

**9.5.8A Fuel & Fuel Systems:**

- (a) Fuel is restricted to pump gasoline. Additives are allowed.
- (b) Fuel tank location may be moved. If done, tank must be securely fastened. (see 9.3.2.f - required modifications).
- (c) Carburation/injection is free. Air cleaners are free.

**9.6A REFUELING:****9.6.1A Procedure:**

- (a) Refueling should take place in the pits or paddock only.
- (b) If pits/paddock location is on the ice, vehicle must be removed to land to refuel (environmental protection).
- (c) During refueling, the vehicle engine must be off, and all persons out of the vehicle.
- (d) No persons shall be under the vehicle during refueling.
- (e) Failure to observe all parts of rule 9.6.1A may result in exclusion from the event.

**9.7A RACE FORMAT:****9.7.1A Series:**

- (a) There will be an "A" series and a "B" series in all non-studded races (rubber to ice class).
- (b) Each series will have the same number of races, the same number of laps, and the same format.
- (c) The purpose of having two identical series is to enable two drivers to share a single vehicle.
- (d) Each class and series will be called forward on a rotational basis.

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A.R.M.S.- 1999  
Ice Race Regulations



**9.7.2A Grid Positions:**

- (a) Grid positions for the first race of the event for both "A" and "B" series shall be determined by competitors' registration time and/or arrival on the grid.
- (b) Grid positions for all subsequent races in both series will be determined by the race results of the previous race in all classes and series, with an inverted start.
- (c) Competitors who did not finish the previous race will be placed to the rear of the grid.
- (d) Latecomers will be placed to the rear of the grid.
- (e) Organizers reserve the right to place cars on the grid at their discretion.
- (f) Starts will be from a standing start, or at the organizer's discretion.

**9.7.3A Drivers:**

- (a) A driver is defined as the person behind the wheel of the vehicle. Another person in the vehicle is defined as "co-driver" or "passenger".
- (b) A vehicle and number combination shall normally be shared by two drivers maximum, one driver per series. Any deviation from this situation must be cleared by event organizers.

**9.7.4A Classes:**

- (a) Competing vehicles will be divided into four classes for scoring purposes. There are:
  - Class 1 - Non-studded - Engine over drive wheels
  - Class 2 - Non-studded - Engine opposed to drive wheels
  - Class 3 - Studded - All vehicles except 4 x 4
  - Class 4 - 4 x 4 - All four-wheel or all-wheel drive vehicles
- (b) Class 3 races will all be held at one time, either before Class 1 and 2 races begin, or after Class 1 and 2 races have finished. (Both "A" and "B" series).
- (c) Competing vehicles may enter two classes by running in both studded and non studded races with a change of tires.

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A.R.M.S. - 1998  
Ice Race Regulations

**9.8A ENTRY FEES:****9.8.1A General:**

An entry is defined as one person only. An entry shall not be shared by more than one driver.

**9.8.2A One Series Entry Fee:**

- (a) A "series" is made up of either "A" races, or "B" races.
- (b) A driver entered in one class and one series shall pay a single entry fee.

**9.8.3A Two Series Entry Fee:**

A driver wishing to enter a second series in the same class will pay a second entry fee.

**9.8.4A Two Class Entry Fee:**

A driver wishing to enter a second class will pay no additional fee. Example: A driver entered in Class 1 can enter Class 3 or Class 4 at no additional cost.

**9.9A EVENT AND CHAMPIONSHIP AWARDS:****9.9.1A Single Event Awards:**

- (a) There will be single event recognition of class winners and overall standings.
- (b) There will be event points awarded to all competitors in each class.

**9.9.2A Season Series Awards:**

- (a) There will be a season series recognition of class winners and overall standings.
- (b) Season standings will be based on accumulation of points awarded at each single event.

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A.R.M.S.- 1998  
Ice Race Regulations

- (c) Season standings will be accumulated in all series and classes run during the season.
- (d) Ties will be broken by:
  - 1. Total of class wins
  - 2. Total of top three placings.

**9.10A POINTS:**

**9.10.1A Point Structure:**

- (a) Points will be awarded on the basis of the number of vehicles started, and the number of vehicles a competitor finishes ahead of, plus self, at the conclusion of the race.
- (b) Bonus points will be awarded to the top three finishers, with 3 bonus points to the winner, 2 bonus points to second place, and one bonus point to the third place vehicle.
- (c) Points will be awarded in all regular races in all classes, and in both "A" and "B" series.
- (d) Points shall only be awarded to a class if that class has a minimum of three entrants.
- (e) Points are awarded to a vehicle/number combination, not to a driver.

**9.11A FINISHERS:**

**9.11.1A Determination:**

- (a) The race is determined to be finished when the first competitor to complete the required number of laps has crossed the finish line. All other competitors must complete the lap they are currently running to qualify for points.
- (b) Those vehicles failing to meet rule 9.1.a. will be classified as "Did Not Finish" (DNF) and will be excluded from being eligible to receive points for that race only.
- (c) All finishers will receive points based on their finishing position.

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A.R.M.S.- 1998  
Ice Race Regulations

- (d) DNF's will be placed to the back of grid for their next race.

**9.12A PENALTIES:**

**9.12.1A Conditions:**

- (a) Penalties shall be assessed by the officials for unnecessary body contact or overly aggressive driving.
- (b) Penalties shall be given for Unsportsman-like Conduct on or off the course.
- (c) Penalties shall be given for any infraction of the rules by drivers, passengers and/or pit crew members.

**9.12.2A Types of Penalties:**

- (a) Penalties may take the form of a verbal and/or written warning.
- (b) Penalties may result in the alteration of a driver's finishing position, and/or loss of points.
- (c) Penalties are at the discretion of the event steward.

**9.12.3A Exclusion:**

- (a) The Chief Steward may exclude from competition any entrant whose conduct on the track or in the paddock is detrimental to the good name and reputation of the sport and/or A.R.M.S.
- (b) Exclusion may take the form of:
  - (1) individual race results
  - (2) remainder of the race event, or all of the following event
  - (3) the remainder of the season

**9.12.4A Protests and Appeals:**

As stated in the ARMS Race Regulations and the General Competition Rules of ARMS

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A.R.M.S.- 1998  
Ice Race Regulations

**9.13A REQUIRED, RECOMMENDED EQUIPMENT:****9.13.1A Roll Bars & Cages:**

- (a) Roll bars are *mandatory* on all studded class and open vehicle. A side intrusion bar across the door is strongly recommended.
- (b) Specific roll bar installation and materials are subject to the approval of the Chief Scrutineer at each event.
- (c) Open vehicles and vehicles without permanently fixed steel roofs must be equipped with a covering from the windscreen to the roll bar. This must be installed to keep the roll bar from sinking into the snow in the event of a rollover.
- (d) A roll bar complying with A.R.M.S. racing standards is strongly recommended.

**9.13.2A Other Equipment:**

- (a) It is recommended that each vehicle contain a securely fastened fire extinguisher.
- (b) Each entrant should be in the possession of a basic first aid kit.

**9.14A ORGANIZERS:****9.14.1A Final Authority:**

- (a) The organizer shall have the right to make any changes, deletions, or amendments to these rules that they might deem necessary.
- (b) The organizer reserves the right to be the final authority on any issue that may arise as concerning the organization of the event.
- (c) Final interpretation of all rules, decisions or any other question or disputes that may arise as a result of the competition rests with the steward of the event.

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2814 Old Sambro Road, N.S. B3V 1E5

A.R.M.S. - 1999  
Ice Race Regulations

**INFORMATION PURPOSES ONLY:****Additional Information:**

- (a) Additional information may be obtained by contacting a member of an Atlantic Region Motor Sports affiliated club, or club member, or the Region Race Director at 1-902-829-3276.
- (b) All events are located at the same site, unless otherwise notified.
- (c) The event site is located approximately 10 km. from Stewiacke, just before Wittenburg, and on the road that runs between Alton, just south of Brookfield, and Middle Musquodoboit on the East Shore.
- (d) Specific directions are as follows:

00.0 km.	Exit hwy #102 at Exit 11
00.5 km.	Stop. SA at intersection. SI "Mid.Musquodoboit V a l l e y " , "Stewaike"
00.9 km.	Bear right after R.R. tracks. SI "Kitchener St"
05.8 km.	Stop. TR at intersection. SI "Wittenburg"
08.0 km.	SA past old blue/red oxide tractor mailbox on left
10.5 km.	TR onto dirt track, across the yellow/dark red bungalow, unpainted barn

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A.R.M.S. - 1999  
Ice Race Regulations

**9.0 RULES OF THE ROAD****9.1 ON-COURSE****9.1.1 Passing**

The responsibility for the decision to pass another car and to accomplish it safely rests with the overtaking driver. The overtaken driver has the responsibility to be aware that he or she is being overtaken and not to impede the overtaking car. The overtaken driver shall not block. Any driver who fails to make use of the rear view mirror, or who appears to be blocking another car seeking a pass, may be black flagged and/or penalized. (See 20., Penalties)

**9.1.2 Hand Signals**

- A. Before entering the pits from the course, the driver should signal by raising an arm.
- B. An overtaken driver shall point to the side on which an overtaking driver should pass.
- C. The driver of a stalled car shall raise both arms to indicate that he or she shall not move until the course is clear.

**9.1.3 Off-Course Excursions**

The driver is required to follow the pavement or marked course during a competition, and shall not gain an advantage from an off-course excursion. Unless otherwise provided by Supplementary Regulations, whenever a driver leaves an artificially marked course or an airport circuit with all four (4) wheels, he shall re-enter the course at the same spot where he went off, and cannot simply re-enter further down the course, subject to the directions of the Corner Worker controlling re-entry.

**9.1.4 Counter-Race Direction Driving or Towing**

During an event it is expressly forbidden to drive or tow a car, at any time under any conditions, in a direction opposite to that in which the event is being run without the specific approval of the Chief Steward. Infraction of this rule may result in a penalty. (See 20., Penalties)

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A.R.M.S. - 1998 Race Regulations

**9.1.5 Stopping on a Course; Accepting Assistance**

- A. If a driver is forced to stop his or her car on the course, he or she shall make every effort to place the car in such position that it will not be a danger or obstruction to other competitors.
- B. Drivers shall obtain no assistance during the race other than from their pit crews and in the pits. This does not preclude assistance by Race Officials for safety reasons.
- C. For assistance during restarts, see 7.7.

**9.1.6 Use of the Engine Self-Starter on Course**

Cars shall not be moved under power of the starting device while on the course, except to remove them from a hazardous position to one of greater safety.

**9.1.7 Passengers**

No one shall ride outside the cockpit area or on the coach work of any automobile at any time, including victory laps.

**9.2 SAFETY CAR (Pace Car)**

The use of a pace car is authorized in an emergency situation, at the discretion of the Chief Steward. The Chief Steward shall designate the driver of the car, preferably a current or recent National license holder. In the event a pace car is used, no car, unless directed to do so by an Official in the pace car, shall pass the pace car. The Official shall wave cars by until the leader is behind the pace car. All cars shall then hold position until the pace car has left the course and the green flag is displayed. Any car passing the pace car without being directed to do so may be black flagged, penalized, or both.

**9.3 RAIN RACING PROCEDURE**

If a race is started in the dry, and it starts to rain on all or part of the course, the Chief Steward may use the following procedure: If the race has covered half distance or more, it may be stopped with the checkered flag at any time. If the race has not reached

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2814 Old Sambro Road, N.S. B3V 1E5

A.R.M.S. - 1998 Race Regulations



half distance, the black flag "ALL" procedure shall be used to bring all cars into the pits, and fifteen (15) minutes will be allowed for installing rain tires if the driver elects to do so. At that time cars shall be restarted in single file in the positions that they had the lap before the black flag was displayed.

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**10.0A FLAGGING REGULATIONS****10.1A NATIONAL FLAG**

- used to signal the start of a race. Starter may use green.
- on instruction by the Clerk of the Course.

**10.2A BLUE FLAG**

- (a) **STEADY** - Another competitor is following you closely.
- (b) **WAVED** - Another (faster) competitor is trying to overtake you. Wave the flag and then point it at the intended competitor.
- (c) **DO NOT USE THE BLUE:**
  - during the first laps of an event when cars are grouped together.
  - when equally matched drivers are racing together for several laps.
  - when a driver is aware he is about to be passed (he move over or signals to the approaching car)
- (d) **DO SHOW THE BLUE:**
  - in cases of obvious blocking
  - when backmarkers are being passed by the leaders.
  - when a faster car is working its way through the field.
  - use it more often during races when the track is wet and visibility is poor because of spray the blue is the best means of warning.

**10.3A YELLOW FLAG(S)****(A) GENERAL**

The *steady* yellow flag is to forewarn that the next station has a hazard, or that the previous condition still exists. **NO PASSING**

The *waved* yellow flag(s) warns of dangerous situation(s) in the station waving the yellow(s). **NO PASSING**

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The *waved yellow flag(s)* warns of dangerous situation(s) in the station waving the yellow(s). **NO PASSING**

The *waved double yellow* warns of extreme danger. Drivers must slow down and be prepared to alter their line significantly or, in extremes, be prepared to stop. **PASSING.**

The *double stationary yellow* warns of a double waved in the next station. **NO PASSING**

**(B) WAVED YELLOW**

Stalled or disabled car(s) in dangerous position(s).

**(1) PROCEDURE**

- NOTIFY TOWER A.S.A.P. - wave flag for TWO LAPS - display a steady yellow for TWO laps

- then, depending on track conditions:

(i) When the obstacle cannot be removed- when it has been decided that a situation has become permanent, and the obstacle cannot be removed, revert to a **no flag condition.**

**OR**

(ii) When the track is completely cleared - display a green for two laps

**(C) DOUBLE YELLOWS**

If the track is very badly blocked, but there is still an open line, wave double yellow flags. NOTIFY THE TOWER. A marshal must be posted well ahead of the incident and off of the racing surface to direct traffic to the safe line (see page for signals).

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A.R.M.S. 1998 - Flagging

If the track is completely blocked, display waved double yellow, post a marshal to direct traffic, NOTIFY THE TOWER, AND AWAIT INSTRUCTION FROM THE TOWER. The clerk may order a full course yellow or a red flag. Do not display a red flag unless ordered to do so by the tower.

**(D) INCIDENTS AND EXAMPLES**

**SINGLE WAVED YELLOW.** A spinning or temporarily out of control car on the track; A car stalled off of the normal racing line. The station before the waved yellow will display a stationary yellow.

**WAVED DOUBLE YELLOW - MAJOR INCIDENTS WHERE THE TRACK IS PARTIALLY BLOCKED.** A car has rolled and has come to rest on the racing surface; Two cars have tangled and come to rest leaving only one safe line through the corner; Complete blockage by one or more cars.

The previous corner will display **DOUBLE STATIONARY YELLOWS.** You may request a full course yellow but this call comes from the tower only.

**(E) YELLOW WITH WHITE**

- Emergency response vehicle on track
- definitely an incident ahead.
- waved yellow with steady white means emergency vehicle is at that station. The station before will display a steady yellow and a steady white. Station after incident should display green.

**(F) BEFORE RACING STARTS/BETWEEN RACES**

- marshals out sweeping - one steady yellow

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**10.4A RED FLAGS**

A red flag held steady means: stop racing and proceed slowly around the track to your pit or other area designated by officials. Be prepared to stop. Drivers must use extreme caution.

**THIS FLAG MUST NEVER BE USED EXCEPT BY ORDER FROM THE CLERK OF THE COURSE. THE CODE FROM CONTROL IS "RED FLAG, RED FLAG, RED FLAG".**

**10.5A WHITE FLAGS**

The full course steady white flag is shown when a service vehicle is on the track or the pace car is out. It is waved in the station as the safety vehicle passes through. When a disabled car is circulating, the white flag is waved as the disabled car passes through station, then is displayed as a steady until it passes through the next station then is removed. **IF THE VEHICLE STOPS IN YOUR STATION, REPLACE THE FLAG WITH A YELLOW.**

**10.6A YELLOW WITH VERTICAL RED STRIPES**

Slippery course flag - use caution the track is slippery due to oil, sand, gravel, rain, pieces of race car, etc.

- held steady by the Safety Marshal who will display the flag for FOUR laps.
- Corner four at AMP has Safety Marshal's stand that is blind to drivers entering the turn.

The oil flag should be displayed from the main marshal's stand to aid visibility.

**NOTE: As a rule, make sure that your flag placement is visible to the driver well in advance of the corner so that he may properly prepare.**

- When displayed because of a local shower, the marshal should point to the sky as well.
- If it is a major spill, the flag may be held with both hands and moved in a downward motion (i.e., slow down).

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**10.7A GREEN FLAGS**

- displayed for the first two laps of a race unless, during those laps, the station requires a yellow, at which time normal yellow flagging rules apply. (ASN - NOT USED).
- displayed for two laps after an incident is completely cleared and the yellow dropped. If a situation is permanent, see above.
- May be used to start the race
- The green flag is displayed at the first station after the station displaying yellow(s) as the result of an incident. **THE NO PASSING ZONE EXTENDS FROM THE FIRST STATION DISPLAYING YELLOW TO THE GREEN FLAG.**

**10.8A BLACK WITH ORANGE DISK**

- displayed by bridge and/or a designated corner accompanied by car number.
- denotes mechanical trouble. The driver is to report to his pits directly.

**NOTE: The station just before the pit entrance may be given the "meatball" to use with a chalkboard. It may only be used on instructions from the Clerk of the Course through control.**

**10.9A BLACK**

- displayed from starter's bridge and accompanied by the car number the driver must stop and report to the Clerk of the Course.
- Another form of this is a cautionary flag divided into black and white triangles. Both indicate unsportsmanlike driving, are displayed with a number by the starter but the black and white is a warning to the driver to improve or be black flagged.

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**10.10A CHECKERED****END OF RACE OR PRACTICE SESSION****GENERAL NOTES ON FLAGGING**

- Wave flags in a figure eight while holding the end of the handle.
- when displaying a steady flag hold the outer edge and display the flag over your head.
- On street courses, you may have to display flags through a hole in fencing. Double yellows may be displayed by overlapping the butt ends of the flags, gripping them with one hand and waving them through the access hole.
- The placement of flagging stations is always a compromise between the safety of the flagger and the function of informing the drivers as to what is coming up around the corner. Make sure that your flags are in the driver's unobstructed line of sight, that waved flags are waved vigorously, and that there is nothing the color of any flag near the stand that could result in confusion.

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**10.0 PIT AND PADDOCK****10.1 RULES OF THE PITS****10.1.1 Pit Area Defined**

The Supplementary Regulations for an event shall designate a hot pit area in which competing cars and their equipment and crews shall be placed during their assigned time to use the track for practice, qualifying, or racing ("track time"). This area shall be divided by a protective barrier into storage space for tools and equipment and "hot pits." The "hot pit" shall be the pit area in which the car itself is placed and which is part of or connects with the access road leading directly to the track.

There may be a definite place in the pits assigned by the Chief Pit Marshall, or selected with his or her assent, for the accommodation of each competing car's equipment and crew, and in which repairs shall be accomplished during track time. Fueling is not permitted in the hot pits or on the false grid unless authorized by the Supplementary Regulations or the Chief Steward.

**10.1.2 Required Equipment**

In the "hot pit" lane, fire extinguishers, with a nominal ten (10) pound dry chemical agent capacity having a minimum UL 60 BC or ABC rating, shall be placed at fifty (50) foot intervals along the pit wall. If the event calls for refueling stops during the race, each pit crew shall provide one (1), minimum ten (10) pound /60 BC or ABC rated fire extinguisher for their own use.

**10.1.3 Number of Authorized Crew Members in the Pits**

A car shall have a crew of no more than four (4) attendants in the pits in addition to the driver or drivers. This number may be modified by the Supplementary Regulations or at the discretion of the Chief Steward.

**10.1.4 Authorized Personnel in the Pits**

Any crew member in the pits shall be a member of the SCCA and hold an SCCA license. Minors sixteen (16) years of age and older may be issued pit credentials only if they hold the proper minor

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A.R.M.S. - 1998 Race Regulations

Crew License. All other persons under eighteen (18) years old, are prohibited from entering the pit area or any other hazardous area. Any known medical condition (including pregnancy) which could affect medical fitness to perform the duties of a crew member may prohibit admittance to the pit area or any other hazardous area.

**10.1.5 Control**

Pit crews are at all times under the control of the Pit Marshall

**10.1.6 Pit Barrier**

Unless the car is actually in the hot pit, no one shall be allowed across the pit barrier, except that not more than two (2) crew members may do so for the purpose of signalling to the driver.

**10.1.7 Overshooting the Pit**

If a pit-bound driver overshoots his or her pit, the car shall either be pushed back into the pit by hand, or else continue for another lap. No car may be pushed back to the pit under conditions which would constitute a hazard.

**10.1.8 Retiring to the Paddock**

A car once moved to the pits shall remain there or on course during its track time. A car that enters the paddock during qualifying and subsequently re-enters the track shall forfeit any qualifying times recorded prior to re-entry. A car that is removed from the pits or course during a race is ineligible to return during that period of track time, except when provided for in the Supplementary Regulations or when approved by the Chief Steward.

**10.1.9 Pets**

Pets are prohibited in the pits.

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A.R.M.S. - 1998 Race Regulations

**10.1.10 Air Bottles/Gas Cylinders**

All compressed air bottles/gas cylinders, with a pressure in excess of 200 psi, shall have a protective structure around their gauges and valves when in the pit/grid/pre-grid areas.

**10.1.11 Riding on Vehicles**

No one shall ride outside the cockpit area or on the bodywork of any automobile *at any time*, including victory laps.

**10.1.12 Fueling of Vehicles**

Fueling is not permitted in the pits or on the false grid unless authorized by the Supplementary Regulations or the Chief Steward.

**10.2 RULES OF THE PADDOCK****10.2.1 Paddock Area Defined**

Any area on the race track grounds where a car is located, other than during its track time is called the Paddock. If possible, it will be delineated in the Supplementary Regulations and equitable amounts of space in it assigned to each competitor.

**10.2.2 Pets**

A pet may be in the paddock, provided it is enclosed in a vehicle or on a leash. When a pet is on a leash, it shall be controlled by an adult, and the leash may not exceed ten (10) feet in length.

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A.R.M.S. - 1998 Race Regulations

## 11.0 RACE ORGANIZATION AT AMP

Race organization at A.M.P. can be divided into two general categories: the organization and running of the actual event, and the provision of the track facilities, spectator facilities, etc. A.R.M.S. Clubs are responsible for the first part ... they select the dates and events, choose organizers, name officials, accept entries, arrange marshals, and operate the actual race. A.M.P., its board, and other volunteers prepare the track itself, and provide facilities such as paddock areas, toilets, canteens, and operate the gate for paying spectators, advertise events to the public, and generally operate the facility, and organize a public entertainment event, of which the RACE is the key element. It is essential then that each party understand which portion it is responsible for and who to contact if assistance is required, information must be passed, etc. Accordingly, here is a brief outline of responsibilities for some of the directors of your track who are most directly connected with the events A.R.M.S. clubs organize:

### 11.1 Car Liaison - *Officer*:

Responsible for presenting all car / track related issues to the Board of Directors. Works closely with all drivers to ensure all concerns are addressed and brought to the attention of the Board of Directors.

### 11.2 Motorcycle Liaison - *Officer* :

Responsible for presenting all motorcycle / track related issues to the Board of Directors. Works closely with all drivers to ensure all concerns are addressed and brought to the attention of the Board of Directors.

### 11.3 Safety Team Liaison/Medical Rescue Team (MRT) - *Officer*

Responsible for reporting all medical safety related issues at the track. Act as liaison for the Rescue Team and report on general track safety.

### 11.4 Safety Team Liaison/Marshalling (ARRCA) - *Officer*:

Responsible for the reporting of all marshalling related issues at the track. Act as liaison for the marshalling group as well as reporting issues related to the communications and public address systems.

### 11.5 Promotions Manager - *Officer*:

Responsible for all aspects of marketing, advertising and promotions. Works closely with AMCRA and ARMS to co-promote the track. In

addition, this position is responsible for negotiating all signage sales and contracts and manages all press issues.

**11.6 Track Manager - *Officer:***

Responsible for all physical aspects of the track including but not limited to the racing surface, paddock area, water, sewage and well. Coordinates with the Vice President to develop a "to do list" for all work parties and develops a cost analysis for all major construction.

**11.7 President - *Board of Directors:***

Chief executive officer of the society, secures potential sponsorship, and seeks Financial support; negotiate contracts on behalf of the Board for canteen, gate control, waste removal and track rental to non-member clubs. This position is also responsible for all legal matters that may arise as well as securing insurance for the track and its' Directors. He is also in communication with all the member clubs regarding all issues concerning the track.

**11.8 Vice President - *Board of Directors:***

Vice President is required to fill the Presidents position when required. He is responsible for all incoming correspondence, track schedule, member club rentals and scheduling all work parties. Communicates with car and motorcycle liaison to ensure information exchange with all members.

**11.9 Treasurer - *Board of Directors:***

Maintains accurate and timely financial statements as well as managing all receivables and payables for the track. He also prepares and reports all HST returns as required by government agencies.

**11.10 Secretary - *Board of Directors:***

This position is responsible for notifying all members of meetings call by the President and records the minutes of these meetings.

**11.11 Members at Large - *Non Voting Members of the Board:***

The Board of Directors may appoint an individual(s) of member clubs to act as Members at Large. These positions shall be given specific duties as may, from time to time, be dictated by the Board.



### 12.1.2 GT CATEGORY SPECIFICATIONS

These specifications are part of the SCCA General Competition Rules (GCR), and all automobiles shall conform with GCR Section 12., "Automobiles."

#### A. PURPOSE

The GT Category is intended to provide the membership and interested manufacturers with the opportunity to compete in purpose built, highly modified replicas of series produced automobiles. To that end, cars shall be classified in GT Classes based on their competitive potential. The Club may alter or adjust specifications and require, permit, or restrict certain specific components to equate competitive potential.

#### B. INTENT

It is the intent of these rules to allow modifications useful and necessary in the construction and preparation of an extremely high performance road racing vehicle. It is understood that such a vehicle can be updated and/or changed from marque-to-marque, based on member interest and manufacturer incentive. With this in mind, the Club will use the following guidelines in the determination of the suitability for classification in the GT Category:

1. Basic vehicle size, shape, engine displacement, and cylinder head design of the standard and/or alternate engine(s).
2. Member interest.
3. Manufacturer interest and potential support to competitors.
4. Vehicle production quantities of no less than 3000 units of the specified make/model within a twelve (12) month period, all such units being approved by the EPA and DOT for sale in the United States (Production Cars that have been reclassified into the GT Category need not meet minimum production quantities).

#### C. SPECIFICATIONS

The SCCA shall publish the GT Category Specifications (GTCS) containing recognized specifications for each car eligible to compete

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in the GT Category during the calendar year. Cars shall be listed according to the manufacturer's make and model designation. In the case of doubt involving specifications not adequately described in the GTCS, Scrutineers/Stewards may refer to maintenance manuals, spare parts books, general catalogs and performance catalogs published by the vehicle manufacturer, MVMA specifications, and FIA Homologation Certificates for the make and model, or may inspect other cars of the same make and model.

1. GT Category automobiles shall be divided into Classes based on relative performance as follows: GT-1, GT-2, GT-3, GT-4, and GT-5.
2. Cars may be updated or backdated within, the specifications of the recognized make and model as listed on the Approved Automobile List of the GTCS (GT-1), or as listed on a single GT Specification Form line of the GTCS (GT-2/3/4/5).
3. Cars shall meet or exceed their minimum specified weight, as listed in the GTCS, as qualified or raced, with driver.
4. No permitted component/modification shall additionally perform a prohibited function.
5. Turbocharging/supercharging is not permitted.
6. Construction of tube frame cars is permitted. Standard maximum track dimensions for all cars, unless otherwise noted, are as follows:
 

GT-1	70.0" F & R
GT-2	64.0" F & R
GT-3	60.0" F & R
GT-4	60.0" F & R
GT-5	60.0" F & R

GT-1 cars shall refer to Section D.5.b.3., of the GT-1 Rules for wheelbase restrictions.

7. Those dimensions given with no decimal point are considered to be absolute, e.g., 34mm shall measure less than or equal to 34.00mm and two (2) inches shall measure less than or equal to

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2.000". Those dimensions expressed with a decimal point are considered to have been rounded down from the next decimal number, e.g., 1.73" shall measure less than or equal to 1.734".

- a. Weight is an absolute minimum.
- b. Track is an absolute maximum.
- c. Rim width is an absolute maximum.
- d. Venturi size is an absolute maximum.

#### D. AUTHORIZED MODIFICATIONS (GT-1)

##### 1. Engine (GT-1)

###### a. Component Modification

1. It is permitted to lighten, balance, or modify in shape, by any mechanical or chemical means, the standard, optional, or alternate components of the engine, provided it is always possible to positively identify them as such.
2. Material shall not be added to these components unless specifically authorized by these rules.
3. The original direction of engine rotation shall be retained.

###### b. Induction System

1. All inducted air shall pass through the throttle venturis.
2. The specified carburetor(s) or specified fuel injection may be modified. The number, model, type, throttle bore and/or venturi restriction shall remain as specified. Refer to Section E.1 .a. of these rules for additional induction specifications.
3. Any air filter(s), velocity stack(s), and or air box(es) maybe fitted. Air may be ducted to the carburetor or fuel injection provided that the ducting is completely contained within the engine compartment and that the air to be ducted is supplied through normal (or as specifically authorized herein) openings in the bodywork. Cars may duct air to the carburetor airbox through an opening in the back of the hood, rectangular

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in shape, maximum width of 20 inches, maximum length of 3.5 inches.

4. Intake manifolds are unrestricted.

5. Any throttle linkage may be used. All throttle linkages shall be equipped with more than one system of positive throttle closure.

c. **Fuel System**

1. Any fuel line(s) may be used. All fuel line(s) passing through the driver/passenger compartment shall be made of metal braided hose with AN-Series threaded couplings.

2. Any fuel pump(s), filter(s), and pressure regulator(s) may be used. Such components may not be located in the driver/passenger compartment, but their location within the bodywork of the car is otherwise unrestricted.

d. **Emission Equipment**

1. Exhaust emission control equipment shall be removed in their entirety. When air injection nozzles are removed from a cylinder head, the resultant holes shall be completely plugged.

e. **Cylinder Heads: (GT-1)**

1. The standard production, optional, or specified alternate(s) cylinder head(s) shall be used. Any valve guides and valve seats may be used.

2. Material(s) may be added to the combustion chamber(s) and interior ports/passages of the cylinder head(s). The addition of such material(s) shall not enable the combustion chamber and/or interior ports/passages to be moved external to the original physical limitations of the cylinder head(s).

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3. V-6 and V-8 General Motors engines are permitted: Buick, Chevrolet, Oldsmobile, Pontiac, Brodix, Brownfield, Dart, or Edlebrock cylinder heads of cast iron or aluminum. Any cylinder head(s) utilized shall be of a conventional design (siamesed intake ports, two (2) valves per cylinder, all valves inline), direct replacement type.

4. V-6 and V-8 Ford engines are permitted: Ford Motorsports SVO inline-valve or canted-valve cylinder heads of cast iron or aluminum.

5. V-6 and V-8 Chrysler engines are permitted: MOPAR Performance conventional design (siamesed intake ports, two (2) valves per cylinder, all valves inline), direct replacement cylinder heads.

**f. Camshaft and Valve Gear**

1. Any camshaft(s) mounted in the standard location(s) may be used. Any cam followers may be used. Springs and mounting hardware which act directly on the cam followers may be added.

2. Camshaft drive mechanism is unrestricted.

3. Push rods, rocker arms, and rocker arm supports are unrestricted.

4. Valves are unrestricted.

5. Valve springs, retainers, keepers, and seals are unrestricted.

**g. Block**

1. The standard production, manufacturer's heavy duty (of the same basic materials as the original block), or specified alternate engine block shall be used.

2. The block may be bored and/or sleeved to achieve the correct displacement.

3. The block may be machined, and O-rings may be added to replace or supplement the head gasket(s).



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4. The crankshaft main bearing caps may be substituted. Additional main bearing caps and/or bolts may be used provided that no material is added to the block for their attachment.

**h. Pistons and Rods**

1. Pistons and piston pins are unrestricted. The compression ratio is unrestricted.
2. Connecting rods are unrestricted, provided that they are made of a ferrous material, e.g., steel. Aluminum, titanium, graphite, etc., rods are prohibited.

**i. Crankshaft and Flywheel**

1. The crankshaft is unrestricted, provided it is made of the same basic material as the standard production crankshaft. Those vehicles originally equipped with an iron crankshaft may use a steel crankshaft. All alternate crankshafts shall retain the same angle(s) of crank throws as the original crankshaft.
2. The use of any crankshaft vibration damper is permitted.
3. The use of any flywheel and clutch is permitted.

**j. Oiling System**

1. The use of any oil pan (sump), oil pump(s), and/or oil pickup(s) is permitted. Oil pump(s) shall be mechanically driven by the engine. Dry sump systems are permitted. Any oil tank(s) used by such a system shall be located within the bodywork, and any oil lines utilized within the system shall be metal or metal braided, equipped with AN-Series threaded couplers.
2. The use of any oil filter(s) is permitted.
3. The oil tank(s), cap(s), oil filter(s), and any fittings attached thereto shall be isolated by a metal bulkhead(s), so that in the event of any spillage, leakage, or failure, oil will not reach the driver. Refer to Section D.10.j.1. of these rules for additional safety requirements for the oiling system.

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**k. Electrical System**

1. The use of any driver operated electrical starter is permitted.
2. The use of any ignition system (except magneto ignition) is permitted, provided the number of spark plugs remains the same as that of the standard production, optional, or alternate cylinder head(s). Driver controlled adjustable spark timing is prohibited.
3. The remaining components of the engine electrical system are unrestricted. Refer to Section D.10.d. 1., and 2., for additional safety requirement for the electrical system.

**l. Exhaust System**

1. The components of the exhaust system are unrestricted. Refer to Sections D.8.a.3.B., and D.8.a.9.B., of these rules for additional exhaust system and bodywork specifications.
2. The exhaust system shall meet the specifications of GCR Section 15., "Sound Control."

**m. Other Engine Components**

1. Alternate engine components considered replacement parts, such as seals, bearings, water pumps, nuts, bolts, studs, washers, and gaskets are permitted. Bushings or offset keys of unrestricted origin may be installed.
2. Generator/alternator, crankshaft, and water pump pulleys are unrestricted.
3. Engine mountings are unrestricted.
  - A. Cars with the engine mounted longitudinal to the chassis may relocate the engine in a longitudinal direction, centered along the longitudinal centerline of the vehicle as defined by the track. A one (1) inch transverse deviation tolerance from the absolute centerline is permitted.

Unless otherwise so fitted in its standard production location or specifically authorized in the vehicle's GTCS specifications, said relocation shall align the center of the

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foremost spark plug hole with the front axle centerline.

1. Transverse mounted engines may be relocated for axle/CV joint alignment. Alternately, they may be relocated to a longitudinal position if authorized specifically by the GTCS.

4. General Motors, Ford, and Chrysler front mounted V6 engines may be positioned so that the center of the foremost spark plug hole is no more than 4.5 inches behind the front axle center line (bellhousing and transmission locations are the same as a V-B motor).

**2. Engine, Rotary Piston (GT-1)**

**a. Component Modification**

1. Rotary piston engines in GT-1 may be prepared using GTCS specifications 12.1.2.D.1.a., b., c., d., j., k., l., and m..

2. The standard production or specified alternate rotor housings shall be used. No changes in the epitrochoidal curve of the motor are permitted.

3. The capacity of the working chamber(s) shall not be changed.

4. The eccentric shaft may be replaced with another of the same basic material, but no changes in its eccentricity or bearing journal dimensions are permitted.

5. The rotor(s) is/are unrestricted, provided the material and number of lobes remains unchanged.

**3. Cooling System (GT-1)**

**a. Radiator (USE OF ANTIFREEZE IS PROHIBITED)**

1. Any water radiator is allowed, provided that there are no changes to the exterior bodywork to accommodate its use. It shall not be located in the driver! passenger compartment. Radiator overflow line(s) shall terminate in a catch tank.

2. Separate expansion or header tank(s) are permitted. Any such tanks shall not be located in the driver! passenger compartment.

3. The heater core and all attendant heater controls, lines, and accessories

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may be removed in their entirety, but shall not be modified or replaced.

**b. Radiator Fan**

1. The cooling fan(s) may be modified, substituted, or removed.
2. Electrically operated cooling fan(s) may be installed, provided it/they serve no other purpose.

**c. Radiator Shroud/Ducting**

1. The original radiator shroud may be altered, removed, or replaced.
2. Sealing or shrouding the airflow area between the normal grill opening and the water radiator is permitted.

**d. Water Pump**

1. The water pump(s) may be replaced with any other water pump(s) mechanically driven by the engine.

**e. Thermostat**

1. The thermostat(s) may be modified or replaced with blanking sleeves or restrictors.

**f. Oil/Lubricant Coolers**

1. The use of any engine, transmission, and differential cooler(s) is permitted, provided that it/they are mounted completely within or under the bodywork, but not in the driver/passenger compartment.
2. Associated cooler pumps and lines are permitted for the transmission and differential coolers.
3. Air may be ducted to said coolers only through normal openings in the bodywork. Air ducts or other openings shall be added to body parts only where specifically authorized by these rules. Refer to Section D.8.a.12. of these rules for additional ducting specifications.
4. Air may be ducted to the rear brakes and rear mounted coolers from an interior bulkhead behind the driver. Air may also be ducted

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to these components from free air under the car, provided that such under car ducting does not create "ground effects." Refer to Section D.6.a.3. of these rules for additional brake ducting specifications.

**4. Transmission/Final Drive (GT-1)**

**a. Component Modification**

1. It is permitted to lighten, balance, or modify in shape, by any mechanical or chemical means, the standard, optional, or alternate components of the transmission and final drive, provided that it is always possible to identify them as such.

**b. Transmission**

1. Automatic transmissions are not permitted unless specifically authorized on a vehicle's GTCS line.
2. Any readily available manual transmission having no more than five (5) forward speeds and an operable reverse speed may be used, provided that it is fitted in the same basic location used in the standard production automobile. Any relocation or repositioning of the transmission-to-engine dimensional relationship shall be specifically authorized by the GTCS. Sequential shifting transmissions are permitted with a 50 lb. weight penalty. Air, hydraulic or electric actuation of the gearshift mechanism is not allowed.
3. Front engine/transmission vehicles shall locate the front mounting surface of the transmission within sixteen (16) inches of the back of the engine block.
4. Any shift linkage may be used.
5. The linkage between the clutch pedal and the clutch housing/clutch actuating mechanism is unrestricted. A mechanical linkage may be replaced with a hydraulic system.
6. Transmission mountings are unrestricted.

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**c. Final Drive**

1. Any axle tube, final drive housing, gear ratio, limited slip or locked differential may be used. Final drive units which permit ratio changes while the car is in motion are prohibited.
2. Heavy duty propeller shaft(s) and/or drive shaft(s) may be used. A minimum of two (2) steel 360 degree "loops" shall be installed of sufficient strength to prevent the driveshaft(s) from contacting the ground in the event of shaft and/or U-joint failure. Said loops shall be located within twelve (12) inches of the front of the shaft, and as close as practical to the rear universal joint.

**5. Suspension (GT-1)**

**a. Ride Height**

1. No part of the car to the rear of the front tire opening, including the exhaust, may touch the ground when two (2) tires on the same side of the vehicle are deflated.

**b. Suspension Components**

1. Suspension components may be reinforced, modified, or replaced with units of alternate design, and their mounting points may be relocated. The addition or substitution of anti roll bars, camber compensating devices, and/or suspension stabilizers is permitted. If these devices or any other suspension components extend into the driver/passenger compartment, they shall be completely sealed off from said compartment by metal panels.
2. Hubs, bearings, spindles, axles, U-joints, CV joints, bushings, ball joints, and rod ends may be freely modified or substituted.
3. The wheelbase of the automobile shall not be changed or relocated in the fore/aft direction. A tolerance of +/- 2.00 inches from published specification shall be



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permitted unless otherwise noted in the GTCS.

c. **Springs/Shock Absorbers**

1. Suspension springs may be replaced with others of unrestricted origin and type.
2. Shock absorbers are unrestricted, except that the number of shock absorbers fitted shall not be changed from that of the standard production automobile.
3. Shock absorber mountings are unrestricted.

d. **Suspension Control**

1. The manufacturer's basic system of front suspension shall be retained, i.e., independent. Strut type front suspension may be replaced with a double A-arm type suspension.
2. The manufacturer's basic system of rear suspension may be retained, i.e., independent, live axle, etc.. All forms of independent rear suspension may be replaced with a closed tube beam, live axle suspension. Cars originally equipped with live axle rear suspension shall not replace said suspension with any type of independent suspension.
3. Automobiles originally manufactured as FWD vehicles may convert to RWD, but shall only use a closed tube beam, live axle rear suspension.

e. **Steering**

1. The front wheels only shall be steered by the driver.
2. The type of steering is unrestricted, provided that a collapsible type of steering column is used. Refer to Sections D.9.b.1., and D.10.b.1. of these rules for additional steering specifications.

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## 6. Brakes(GT-1)

### a. Brake Components

1. The use of any dual master cylinder and/or pressure equalizing device is permitted. All cars shall be equipped with a dual braking system operated by a single control. In the case of leakage or failure to any point in the system, effective braking power shall be maintained to at least two (2) wheels.
  2. Servo assist braking systems are unrestricted.
  3. Backing plates or shields may be removed. Brake air ducts may be fitted, provided they extend only in a forward direction, and that no changes are made in the bodywork for their installation. Refer to Section D.3.f.4. of these rules for additional brake duct specifications.
  4. Parking brakes may be removed.
  5. The brake lines shall be steel tubing, metal braided hose, or flexible brake hose. Lines may be relocated and given additional protection.
  6. Brake discs, calipers, and/or drums are unrestricted, provided that the discs or drums are mounted in the same location (e.g., outboard vs. in-board) as the standard production automobile.
  7. Water spray brake cooling systems are permitted. No water cooled calipers are permitted.
  8. Carbon brake rotors are prohibited.
- ### 7. Wheels and Tires (GT-1)

#### a. Wheels

1. Wheels shall be made of steel, aluminum, magnesium, or a combination thereof. Multi-piece wheels shall utilize mechanical fasteners (bolts, rivets, etc.) for assembly.
2. Wheels may be thirteen (13), fourteen (14), fifteen (15), or sixteen (16) inches in diameter, but all four (4) wheels shall be of the same diameter.

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3. Wheels shall have a maximum width of twelve (12) inches.
4. Centerlock or quickchange wheels are permitted.

**b. Tires**

1. Tires are unrestricted, except that they must meet the requirements of GCR Section 13.2. 1.D.

**8. Body/Structure (GT-1)**

**a. Configuration/Modifications**

1. The intent of these bodywork/configuration rules is to maintain the recognizable external features of the standard production automobile while providing for necessary safety and performance modifications.
  - A. Lightening of the bodywork is permitted, but the exterior shape of the body shall not be changed except where specifically authorized herein.
  - B. The method of bodywork attachment is unrestricted, and shall meet the requirements of GCR Section 12.8., "Loss of Bodywork."
  - C. Maximum overall car width shall not exceed 84.75".
  - D. Approved Trans Am bodywork is permitted unless otherwise specifically prohibited by these rules.
2. Any bodywork components may be fabricated of alternate material(s), provided that their shape remains as specified herein, unless specifically prohibited elsewhere in these rules.
3. Fenders may be flared for tire clearance, provided that their shape and opening contour in horizontal projection is similar to the original opening.
  - A. Modified wheel opening(s) shall not confuse the identity of the car. The fender flares shall completely cover the wheels and tires, and may extend into the doors and bumpers.
  - B. Rear fenders may have holes or slots to accommodate exhaust outlets. These holes or slots shall be below a line seven (7) inches above the bottom of the rocker panel, and shall be no

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wider than seven (7) inches.

- C. The inner fender panels separating the wheel wells from the engine compartment may be altered, replaced, or removed, provided that there are panels which provide total separation between the wheel wells and the driver/ passenger compartment.
- 4. The hood and deck lid/trunk hinges and latches may be removed. The hood and deck lid/trunk may be "molded in" with other bodywork components to create "one-piece" front and rear ends. Misalignments or modifications to create ventilation openings where none previously existed are prohibited.
- A. The hood may be modified for clearance of an airbox, provided that such alteration does not confuse the identity of the car.
- 5. Bumpers that are not an integral part of the bodywork may be removed, providing that all projecting hardware is also removed. Alternately, they may be replaced with replicas of alternate material(s). In those cases where bumpers are an integral part of the bodywork, they may be replaced with replicas of alternate material(s). Bumper bracket holes in the bodywork may be covered, provided such covering serves no other purpose.
- 6. The standard grille(s) or approved facsimile(s) shall be retained, except where covered by the front spoiler or intermediate spoiler mounting device.
- 7. The original angle of the windshield shall be maintained unless alternate components and/or specifications are specifically authorized in the GTCS.
- 8. All cars may use an standard safetyglass windshield, mounted in the stock location and at the stock angle. In addition to any other method of retention, the windshield shall be secured within the specifications of GCR Section 12.32., "Wind shield Clips." Windshields of alternate material (i.e. Lexan) are permitted. Alternate windshields must be of .250" minimum thickness and manufactured by an approved supplier (list of suppliers available by request: additional manufacturers may be considered with written request and documentation). Alternate material windshields

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must be identical in size and curvature to the original glass component. Alternate material windshields must have in addition, three (3) inner supports to prevent the windshield from collapsing inward. These supports must be 0.75" by .125" minimum strips of aluminum. Spacing between these inner supports must be eight (8) inches minimum

9. The rear quarter (side) and rear windows may be made of clear, transparent, and uncolored polycarbonate material having a minimum thickness of 0.125".
  - A. In addition to any other method of retention, all rear windows shall be secured within the specifications of GCR Section 12.32., "Rear Window Straps."
  - B. NACA ducts may be added to the rear quarter windows.

#### 10. Doors

- A. Driver and passenger door window glass or plastic shall be removed. Inside door handles, door panels, window cranks and mechanisms, and other interior trim pieces may be removed.
- B. The doors shall be pinned or otherwise positively fastened to prevent their opening in the event of an accident. Standard door hinges and latches may be removed, but the doors shall remain capable of being opened or removed.
- C. Doors may contain holes or slots to accommodate exhaust outlets. Any such openings in the door(s) shall be below a line seven (7) inches above the bottom of the rocker, and no wider than seven (7) inches. A maximum of two (2) such exhaust openings are permitted on the door.

#### 11. Spoilers

- A. A front spoiler may be fitted. It shall conform to GTCS Section 12.13.F.4.b.12, except that joint separations need not be shown. The spoiler "pan" area forward of the leading edge of the front wheel openings shall be flat and follow, but not exceed, the line of the front fender/spoiler bottom. No components may protrude or extend below this plane.
- B. Only a flat plane rear spoiler, contiguous with the rear bodywork rearward of the rear window, shall be permitted. It

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shall comply with the following:

1. **Height:** No higher than eight (8) inches, measured from the bodywork along the face of the spoiler, from the point of attachment to the top of the spoiler. In the case of a spoiler with a curved top edge conforming to the shape of the bodywork (rearview), the measurement is to be made perpendicular to the tangent of the body at the point of attachment. In the case of a spoiler mounted with a vertical mounting flange on the rear face of the bodywork, the measurement shall be made ignoring any slight amount of mounting flange exposed due to the curvature of the rear bodywork at the point of attachment.
2. **Width and Overhang:** No wider than the body, excluding fender flares, from the forwardmost point of the spoiler (or mounting flanges) rearward. It shall not extend rearwards of the rearmost extremity of the bodywork for the entire width of the car (when viewed vertically from above the car at any point, the spoiler shall not protrude beyond the bodywork).
3. **Mounting:** Spoilers shall be strong enough to be self supporting, and shall be mounted directly to the rear hatch, deck, or trunk lid. A mounting flange no greater than one and one-half (1-1/2) inches wide, contiguous with the bodywork (either forward facing on the top surface of the bodywork or downward facing on the rear surface of the bodywork) shall be employed. No other forward facing sheet metal supports are permitted. Supplemental bracing may be added in the form of two (2) rods (maximum diameter one-quarter inch), mounted at least ten (10) inches inboard from the ends of the spoiler. Small rear supports may be added.
4. **Configuration:** the spoiler shall be a single plane spoiler (a straight line in any vertical crosssection), uniform in height from the rear bodywork. There shall be no gaps or openings below the spoiler for its entire width. Only enough curvature (in a fore-and-aft direction as viewed from above) shall be permitted to facilitate mounting. The use of fences, end rails, Gurney lips, wickerbills, or other forward facing lips or aerodynamic devices is prohibited.



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**NOTE: O.E.M. rear spoilers are not permitted unless specifically listed on the vehicle's specification form.**

12. Glass/plastic headlights, front parking and signal lights, lenses, and bulbs shall be removed. Other front lighting parts and ancillaries may be removed. Headlight, front parking and signal light, and similar standard openings in the front of the car may be used for ducting air to the engine, front brakes, and/or coolers. Such ducting may pass through interior panels for these purposes.

A. The cross sectional area of a single duct shall not exceed the cross sectional area for the original (single) headlight lens.

B. It is not permitted to relocate the standard openings for headlights, parking lights, signal lights, etc.. The headlight openings shall be covered with a wire screen or a panel of an alternate material, provided that such covering does not confuse the identity of the car.

C. The side marker light assemblies shall be removed, and the resultant openings shall be completely closed.

13. The windshield wiper system is unrestricted.

14. Floors

A. Driver/Passenger Compartment: The floor of the driver/passenger compartment shall maintain the basic shape and position of the original floor, i.e., flat and horizontal, relative to the car and rocker panels. It may not be curved, angled, recessed, or channeled other than as specifically authorized by these rules, and shall be made of steel and/or aluminum only.

1. On the passenger side of the driver/ passenger compartment (only), the floor may be raised up to ten (10) inches, or a secondary floor installed at that level, to accommodate the installation of the exhaust system and mufflers. Such raising of the floor shall serve no other purpose.

2. The driver/passenger compartment floor shall cover the area from the forward firewall the full width between the rocker panels, and shall extend no further aft than the

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forwardmost point of the rear wheel openings. The floor panels between the rocker panels and the outboard frame rails may be cut out or removed.

3. Floor panels between the engine bay firewall and the forwardmost point of the front wheel openings are prohibited.

C. The fuel cell bottom and/or floor behind the rear wheel opening shall be flat, angled upwards, and shall follow, but not exceed, the line of the rear fender bottom.

9. Driver/Passenger Compartment .Trunk (GT-1)

a. Seating

1. All standard production seats and seat backs shall be removed. The driver's seat shall be replaced with a seat suitable for racing and meeting the requirements of GCR Sections 18.3.4., "Driver's Seats," and Section 18.1.2., "Head Restraints."

2. The driver's seat shall be located on the left side of the vehicle, and shall be located so that another seat of equal dimensions could be fitted to the passenger side of the car.

b. Steering Wheel

1. Any steering wheel and wheel quick release mechanism complying with GCR Section 13.2.1 .U., may be used. Refer to Section D.5.e.2., of these rules for additional steering specifications.

c. Gauges/Accessories/Driver Convenience

1. The replacement, addition, or removal of accessories (gauges, switches, indicators, etc.) is permitted. Such installations and/or modifications shall have no influence on the mechanical performance of the car. Similarly, they shall not include the substitution or replacement of any element of the bodywork or chassis except where specifically authorized by these rules.

2. Fresh-air ducts to the driver may be added to the A-pillar area. They shall be distinctly separate parts from the bodywork.

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3. The use of any mirror(s) meeting the requirements of GCR Section 13.2.1.R., is permitted.

**d. Interior Modifications Firewall/Bulkheads**

1. Modifications may be made to the driver/passenger compartment for the convenience of the driver and to permit the installation of required safety equipment. Such modifications shall have no influence on the mechanical performance of the car. Similarly, they shall not include the substitution or replacement of any element of the bodywork or chassis except where specifically authorized by these rules.
2. Floor mats, upholstery, and all interior trim shall be removed.
3. There shall be a firewall between the driver/passenger compartment and the engine compartment/ bay. It shall be made of steel and/or aluminum and shall be transversely positioned in the approximate location of the original.
  - A. It shall extend, at minimum, from the left outboard frame rail to the right outboard frame rail, and at maximum from the left outer door skin to the right outer door skin.
  - B. It shall be designed, in conjunction with the floor and driver/passenger compartment interior panels and bulkheads, to prevent the passage of and isolate the driver from flame, fluids, and debris.
4. There shall be a steel and/or aluminum bulkhead completely separating the driver/passenger compartment from the compartment containing the fuel cell.
  - A. The forward most element of this separation shall consist of a vertical transverse bulkhead behind the driver, extending the full width of the compartment from the floor to the top of the door.
  - B. Behind this rear bulkhead there shall be a steel and/or aluminum horizontal bulkhead the full width of the interior of the car, extending from the vertical bulkhead to the rear of the car.
  - C. These two bulkheads shall, together, completely cover and isolate the fuel cell, rear suspension, coolers, ducting, etc., so that none of these items are visible when viewed from above.

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- D. All fuel filler, overflow, vent, discriminator, or return lines or components that extend beyond the limits of the vertical or horizontal bulkheads into the driver/passenger compartment shall be metal, metal braided line, or independently shielded with an additional steel and/or aluminum bulkhead.

5. An additional vertical, transverse bulkhead is permitted behind the driver. It shall be located above the mandatory vertical bulkhead and shall allow the driver adequate vision to the rear. It is recommended that this additional bulkhead be made of a clear, transparent polycarbonate material. No portion of this additional bulkhead shall be considered to be part of the necessary separation of the driver from the fuel cell and attendant lines and components.

c. Trunk (does not apply)

10. Safety(GT-1)

a. Roll Cage

1. The chassis shall be completely constructed of steel tubing. Monocoque or semi-monocoque methods of construction are prohibited except in the case of a vehicle constructed using the original unibody. In all cases, the chassis shall incorporate a full roll cage meeting the requirements of GCR Section 18., "Roll Cages.
2. NASCAR-type side door bars are strongly recommended.
3. Removable roll cages and/or bracing are prohibited. The roll cage shall be a fully welded, integral part of the chassis.
4. All cars constructed after January 1, 1988 shall meet the roll cage tubing size requirements of GCR Section 18., specified for cars weighing more than twenty-five hundred (2500) pounds.

b. Steering Column/Locks

1. The steering column shall be a collapsible type, either by layout design or by column construction, and shall comply with GCR Section 12.27., "Steering Wheel Locks."

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c. **Fuel Cell**

1. A fuel cell complying with GCR Section 16., "Safety Fuel Cell Specifications," shall be fitted.
2. The maximum fuel cell capacity shall be 120 liters (31.68 gallons U.S.).
3. No part of the fuel cell shall be closer to the ground than six (6) inches, unless contained within the basic structural frame rails of the vehicle and located forward of the rear axle.
4. The fuel cell shall be located in approximately the same location as in the original vehicle, or may be relocated behind the rear axle. It shall not be located within the protected area of the driver/passenger compartment unless specifically authorized in the GTCS.

d. **Kill Switch/Battery**

1. An master electrical system cutoff switch meeting the specifications of GCR Section 12.26., "Master Switch," is required.
2. The battery is unrestricted, provided that it meets the specifications of GCR Section 12.11., "Batteries."

e. **Driver Restraint System**

1. A safety harness meeting the specifications of GCR Section 17., "Driver's Restraint System," is required.
2. Three (3) inch wide shoulder harness straps or three (3) inch wide padding on the shoulder harness straps is required.
3. A driver's side window net meeting the specifications of GCR Section 12.29., "Window Safety Nets," is required.

f. **Fire Systems**

1. A fire system meeting the specifications of GCR Section 12.22., "Fire System," is required.

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2. The minimum capacity of the fire system shall be ten (10) pounds.
3. The system outlets/nozzles shall be directed to the driver in the driver/passenger compartment, and to the fuel cell, pump(s), etc., in the fuel cell compartment. An additional outlet/nozzle directed to the engine compartment/bay is recommended.

**g. Scattershields**

1. A scattershield meeting the specifications of GCR Section 12.23., "Scattershields/Chain Guards," is required.

**h. Vents/Breathers/Catch Tanks**

1. The installation of any vent or breather on the engine, transmission, or final drive is permitted, provided that it/ they meet the specifications of GCR Section 12.25., "Oil Catch Tanks, Filters, and Breathers."

**i. Brake Lights**

1. Two (2) operating brake lights and two (2) operating tail lights are required at the rear of the car.
2. The original tail light and brake light lenses shall be retained, and shall be located in their original positions.

**j. Hoses/Lines**

1. All fuel, oil, and coolant lines (including those lines that perform fill, overflow, vent, return, etc., functions) which pass through the driver/passenger compartment shall be made of metal or metal braided hose, and shall be equipped with AN-Series threaded couplers.
2. No oil or fuel line located to the rear of the transverse engine compartment firewall shall be located in a compartment or otherwise restricted area which also contains any component of the exhaust system.



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**k. Towing Eyes**

1. All cars shall be equipped with towing eyes or straps meeting the requirements of GCR Section 12.30.

**E. APPROVED AUTOMOBILES/NOTES 1. Notes (GT-1)**

**a. Carburetors/Fuel Injection**

1. All cars shall use a single Holley Model 4150 carburetor, restricted to one and eleven-sixteenths (1-11/16) inch throttle bore, unless alternate carburetion and/or dimensions are specified in the GTCS.

2. Unless otherwise specified or permitted by the GTCS, fuel injection is prohibited on GT-1 automobiles as of January 1, 1994.

3. Pushrod V-6 engines may run a single Holley Model 4500 carburetor, but the minimum weight shall be increased to that of the same displacement fuel injected car.

4. V-8 engine cars with engine displacements of greater than 366 cubic inches (6.0 liters) shall use a one and three-eighths (1-3/8) inch throttle bore restrictor plate, mounted beneath the carburetor

Required Restrictor Plate for GT Engines over 6.0 Liters (366C1D). Throttle Restrictor Plate Material: Aluminum, Thickness 0.75" Maximum. 1.375" Restrictor - Hole must be maintained for a depth of 0.125" Minimum Relief angles to clear Butterflies, Unrestricted.

5. Refer to Sections D.1.b. and c. of these rules for additional induction system specifications.

**b. Weight**

1. The weight chart, below, is applicable to all cars unless alternate weight(s) is/are specified in the GTCS.

**WEIGHT CHART FOR GT-1**

Type - cubic inches (liters) = Carb

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V-6 - up to 275 (4.5)	= 2430
V-8 - up to 311 (5.1)	= 2680
V-8 - 312 (5.1) to 335 (5.5)	= 2780
V-B - 336 (5.5) to 366 (6.0)	= 2880
V-8 - over 366 (6.0) *	= 3180

\* With restrictor to 1-3/8" throttle bores per restrictor plate diagram.

#### WEIGHT IN POUNDS WITH DRIVER

2. All cars using a production based manual transmission having no more than four (4) forward speeds and a working reverse speed may reduce the listed weight by fifty (50) pounds.
    - A. Note: a production based manual transmission is defined as a unit that retains original type gears (i.e., no straight cut, dog ring type gears). It shall be located in the same basic position as used in the production automobile, retaining the standard bellhousing dimensions, and may use any shift linkage.
  3. All cars competing on ten (10) inch wide rims may reduce the listed weight by fifty (50) pounds.
- c. **Approved Automobile List (GT-1)**

Make/Model	Wheel base
<b>American Motors Corporation</b>	
Concord	108.0"
Javelin	109.0"
Spirit	96.0"
<b>Chrysler Corporation</b>	
Chrysler Laser X/T	97.0"
Dodge Daytona	97.0"
Dodge Avenger	106.0"
<b>Ford Motor Company</b>	
Mustang (1965-68)	108.6"
Mustang (1969-70)	108.0"
Mustang (1979-93)	100.5"
Mustang (1994-)	100.5"

Roof height 46.5" mm. (measured from the ground). Air may be ducted to the

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carburetor airbox through an opening in the back of the hood, rectangular in shape, maximum width of 20", maximum length 3.5". Opening may extend 1" into the windshield. Approved SCCA Pro Racing bodywork allowed.

Probe V-6 or V-B	99.0"
Thunderbird (1983-89)	104.0"
Thunderbird (1990-)	105.0"

<b>Ford Motor Company Lincoln/Mercury</b>	
Capri (1979-86)	100.5"

<b>General Motors Corporation Buick</b>	
Regal	108.1"
Somerset	108.1"

<b>General Motors Corporation Chevrolet</b>	
Beretta	103.4"
Only a beam-type, live-axle rear suspension is permitted.	
Camaro (1967-69)	*108.0"
Camaro (1970-81)	*108.0"
Camaro (1982-92) V-6 or V-8	*101.0"
Camaro (1993-) V-6 or V-8	*102.0"
Corvette (1963-67)	*98.0"
Corvette (1968-77)	*98.0"
Corvette (1978-82)	*98.0"
Corvette (1984 -96) V-6 or V-8	*96.2"
Corvette (1997) V-8	104.5"

\*Alternate transmissions: THM350 based or THM400 based 3 speed.

Lumina (1990-)	106.0"
Monte Carlo (1995)	106.0"
Monza	97.0"

Air may be ducted to the carburetor airbox through an opening in the back of the hood, rectangular in shape, maximum width of 20", maximum length 3.5". Opening may extend 1" into the windshield. Approved SCCA Pro Racing bodywork allowed.

<b>General Motors Corporation Oldsmobile</b>	
Cutlass Ciera (1987-)	105.0"
Cutlass (1988-)	104.0"
Toronado (1987-)	105.0"
Aurora (2dr.)	106.0"

Air may be ducted to the carburetor airbox through an opening in the back of the hood, rectangular in shape, maximum width of 20", maximum length 3.5". Opening may extend 1" into the windshield. Approved SCCA Pro Racing bodywork allowed.

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**General Motors Corporation Pontiac**

Fiero	94.0"
3300cc (4-cyl.), multi-carb weight - 1830lbs.	
3100cc (GM V-6) weight - 1830 lbs.	
4500cc Chevrolet 90 deg V-6 weight =2430 lbs.	
V-6 engine may be repositioned longitudinally in the engine bay along vehicle centerline.	
Transverse V-6 may deduct fifty (50) lbs.	
Firebird/Trans-Am (1969)*	108.0"
Firebird/Trans-Am (1970-81)*	108.0"
Firebird/Trans-Am (1982-1992)*	101.0"
Firebird/Trans-Am (1993-)*	102.0"
Grand Prix	106.0"

\*Alternate transmissions: THM350 based or THM400 based 3 speed. Air may be ducted to the carburetor airbox through an opening in the back of the hood, rectangular in shape, maximum width of 20", maximum length 3.5". Opening may extend 1" into the windshield. Approved SCCA Pro Racing bodywork allowed.

**Mazda**

RX-7	95.2"
RX-7	95.7"
1 2A engine, multi-carb or fuel injection weight - 1780 lbs.	
1 3B engine, multi carb or fuel injection weight - 1830 lbs.	

**Nissan**

300ZX/Z31	101.2"
3000cc V-6 engine, multi-carbs weight - 1880 lbs.	
300ZX/Z32 (1990-)	101.2"
VG30D V-6 engine, (3) 48mm IDF with 40mm venturis weight - 1930 lbs. Permitted alternate hood: P/N 99996-Z32HP	

**Porsche**

911	89.4"
3800cc 6, multi-carb or fuel injection weight, twin-plug head, dual ignition distributor weight - 1880 lbs. Factory spoiler P/ N 930-512-023-00 & 930-512-021-00 (or kit# 930-512-901 01). Entire assembly only (with rubber lip). No alternate materials, no reproductions.	
911	
As prepared to Porsche Cup specifications. Cars must meet all SCCA safety specifications including fuel cell. Competitor must have in his possession a copy of the	

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current Porsche Cup Preparation rules.

**Boxster** 89.4"

Alternate engine: 3.8 liter air-cooled, multi-carb or fuel injection, twin-plug head, dual ignition distributor, weight - 1880lbs.

**Shelby**

**Cobra**

90.0"

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## F. GT-2, 3,4,5, PREPARATION RULES

### F.1 GT Cars registered as GT cars prior to Jan. 1, 1990.

All GT cars registered as GT cars prior to January 1, 1990 shall use the manufacturer's original engine location, i.e., front, mid, rear; drive location, i.e., front or rear, and type of front and rear suspension, i.e., MacPherson strut, double A-arm, live axle, semi trailing arm, etc., unless authorized by the GTCs for a specific make and model.

Front engined GT cars registered as GT cars prior to January 1, 1990 may be converted to Section F.2., specifications, *but shall meet ALL specifications of Section F.2.*

### F.2 GT cars registered as GT cars after Jan. 1, 1990.

All front engined GT cars registered as GT cars after January 1, 1990 shall utilize MacPherson strut or double A-arm front suspension. A-arm front suspensions shall have the shocks attached to the outboard end of an upper or lower control arm. Rocker arms, push-pull rods, etc., are prohibited. Front wheel drive cars may convert to rear wheel drive. *Cars running in GT3, 4 and 5 that retain the original front wheel drive configuration may retain the original type of rear suspension.*

Rear wheel drive configurations shall use a live "closed tube" rear axle. Front wheel drive cars shall use a beam rear axle, unless otherwise so specified on the specification line. Cars classified in GT2 whose original configuration was front engine, rear drive with independent rear suspension, may utilize any form of independent rear suspension at a weight increase of 100 lb.

All 1990 model year and later rear and mid-engined GT cars may use the manufacturer's original type of suspension or double A-arm front and rear independent suspension as defined above. All rear and mid-engined GT cars manufactured prior to the 1990 model year shall retain the manufacturer's original type of front and rear suspension.

All GT cars registered as GT cars after January 1, 1990 or updated to Section F.2., specifications shall utilize left side driver placement.

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**F.3 Safety Equipment required on all cars.****a. Bulkheads**

1. A metal bulkhead shall separate the driver/front passenger compartment from the compartment containing the fuel cell. The fuel cell, cap, filler neck, and all fittings shall be isolated so that in case of spillage, leakage, or failure, fuel will not reach the driver. The bulkhead separating the driver/passenger compartment from the fuel cell shall not be above the bottom of the rear window and the bottom of the side/quarter windows. There shall be no partition extending from the bulkhead and/or floor up to the inside of the roof behind the driver/passenger compartment.
2. A firewall shall separate the engine compartment from the driver/passenger compartment. (Refer to GCR Section 12., "Firewalls" and Section 22., "Firewall.")

**b. Fuel Cells**

A safety fuel cell complying with GCR Section 16., shall be installed. All fuel cell vents shall incorporate check valves to prevent fuel spillage. Dry-break refueling couplings and discriminator valves may be installed, provided they do not extend beyond the bodywork.

**c. Roll Cage**

A roll cage complying with the GCR Section 18., shall be installed, and shall include side bars across driver's door opening.

**d. Windows**

1. A window safety net complying with the GCR Section 12., shall be installed to prevent the driver's arms and/ or head from protruding through the window opening.
2. Windshield safety clips and rear window safety straps shall be installed on all closed cars. Three (3) clips (3 inch x 1 inch x 1/8 inch) shall be bolted or riveted to the body at the top of the windshield. Two (2) clips (3 inch x 1 inch x 1/8 inch) shall be bolted or riveted to the cowl and extend over the bottom edge of the windshield.

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Clips shall be spaced a minimum of twelve (12) inches apart. The rear window shall be secured with two (2) metal straps (1 inch wide x 1/8 inch thick) bolted or riveted to the body at the top and bottom of the rear window. Windshields of alternate material (i.e. Lexan) are permitted. Alternate windshields must be of .250" minimum thickness and manufactured by an approved supplier (list of suppliers available by request; additional manufacturers may be considered with written request and documentation). Alternate material windshields must be identical in size and curvature to the original glass component. Alternate material windshields must have in addition, three (3) inner supports to prevent the windshield from collapsing inward. These supports must be 0.75" by .125" minimum straps of aluminum. Spacing between these inner supports must be six (6) inches minimum.

3. **Windshield - Open Cars:** The windshield and all side and rear glass on open cars shall be completely removed, including all mounting brackets and fixtures, and a suitable windscreen installed.

Said windscreen shall be made of a transparent material and shall not exceed the height or width of the original windshield/screen. The replacement windscreen shall be fitted within the vertical planes of the frontmost and rearmost elements of the original windshield/screen.

4. **Ducts** may be installed in the rear side windows for the sole purpose of cooling the driver.

e. **Fire Systems**

An on-board fire extinguishing system complying with the GCR Section 12., is required with a minimum capacity of five (5) pounds. Outlets shall be directed to driver and fuel cell compartments (engine compartment optional).

f. **Master Switch**

g.

A master switch complying with the GCR Section 12., is required.

g. **Scattershields**

A scattershield or explosion-proof bell housing complying with the GCR Section 12., is required.

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**h. Mirrors**

Mirrors shall provide visibility to the rear and both sides of the car.

**i. Oil Catch Tanks**

Oil catch tank(s) complying with the GCR Section 12., is required.

**F.4 Authorized Modifications**

The following modifications are authorized on all GT-2, 3, 4, and 5 cars. Modifications shall not be made unless specifically authorized herein. No permitted component/modification shall additionally perform a prohibited function.

**a. General**

1. It is not permitted to make any changes, alterations, or modifications to any component produced by the manufacturer, unless specifically authorized by these rules, or required by the GCR.
2. Any springs (including torsion bars) may be replaced by others of unrestricted origin, unless specifically prohibited by these rules.
3. Where alternate suspension and/or drive train equipment is authorized, modifications to the car/chassis are permitted to install authorized equipment, provided the modifications serve no other purpose.
4. Component parts of the bodywork, such as hood, doors, fenders (see item B.8.), deck lid, rocker panels, etc., may be lightened or replaced by ones of alternate materials, provided the shape is identical to the original or approved alternate. The original roof, windshield pillars, and angle of the windshield shall be maintained.
5. Spare wheel and tire shall be removed.
6. Glass and/or plastic headlights, front parking lights, front signal lights, lenses, and bulbs shall be removed. Headlight openings shall be covered with a wire mesh screen or panel having the same contour as the original

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lens, mounted so that the headlight bezel/rim remains in place, maintaining the standard appearance of the Production automobile. Side marker light assemblies shall be removed and the resulting openings covered with a plate whose dimensions do not exceed those of the original parts; side marker lights that are an integral part of the taillight assembly cannot be removed. Other lighting parts and operating mechanisms may be removed. In the case of pop-up headlights, the entire assembly may be removed and the opening covered with a screen or plate (as above, without the headlight bezel/rim requirement) which provides a stock appearance. It is not permitted to relocate the standard headlight, parking light, signal light, etc., openings. Taillights shall be in the original location and shall be the original style/type of taillight for the make, model, and year of car.

Ducts from headlights, front parking lights, and front signal lights in the front of the car may be used for ducting air to the engine, front brakes, and/or oil cooler(s). These ducts may pass through interior panels for this purpose. The cross section area of a single duct shall not exceed the cross sectional area of the original (single) headlight.

**b. Chassis and Bodywork**

The purpose of the following rules is to maintain recognizable external features of the manufacturer's make and model, while providing necessary safety and performance modifications.

Restrictions regarding external body shape and use of belly pans is aimed at preventing attempts to obtain ground effect or streamlining. Provisions in the rules permit one-off chassis and frames, to reduce the cost of building and repairing GT cars, not to permit high technology (streamlining and/or ground effects). The original roof, windshield pillars, and angle of the windshield shall be maintained unless alternate components and/or specifications are specifically authorized in the GTCS. Semi-monocoque or monocoque construction is prohibited.

1. The external shape of the body cannot be changed, except when specifically authorized. Standard grills, window openings, rain gutters, or approved facsimiles shall be retained. All external trim and model identification may be removed. Misalignment or modifications to create ventilation where none previously existed are prohibited.



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One piece front and one piece rear bodywork is allowed. Rocker panels and doors may be parted and/or integrated with associated body panels. Rocker panels of an alternate material may be a flat vertical panel having the same dimensions as the original component when viewed from the side. Overall width of the vehicle/rocker panel measured at the door sill must remain stock. Roof/A-pillars shall be separate pieces. *The cowl trim panel may be modified or removed.*

2. Chassis, frame, or subframe may be lightened, reinforced, or replaced, provided components and attachments are not relocated, except where specifically permitted. Reinforcing does not authorize the use of belly pans forward of the firewall, or aft of the front edge of the rear wheel opening. The floor behind the rear wheel opening shall be flat and follow, but not exceed, the line of the rear fender bottom. Only the fuel cell container may protrude or extend below this plane.
3. No part of the bodywork or chassis, to the rear of the front wheel opening, shall touch the ground when both tires on the same side of the car are deflated.
4. The firewall and/or floor may be replaced with aluminum alloy or steel providing they remain in the same locations as the recognized model. Firewalls may be modified or notched for installing headers, or carburetors, or to allow engine relocation as authorized by these rules.
5. Bumpers may be removed providing all projecting hardware is removed except when it (they) are an integral part of the bodywork, in which case it (they) may be replaced with replica(s) of different material. Non-integral bumpers may be replaced with a replica of alternate material or removed. Bumper bracket holes in the bodywork may be covered provided such covering serves no other purpose.
6. The driver seat shall be replaced with a racing-type bucket seat providing lateral support for the torso. Seat mountings shall be reinforced. (See Section 18., "Driver's Seat.") Driver's seat shall be located so that another seat of equal width dimensions could be fitted to the passenger side of the car (no center seating). The driver's seat shall be firmly mounted to the structure of the car. In cars where

the seat back is upright, the back of the seat shall be firmly attached to the main roll hoops, or its cross bracing, so as to provide aft and lateral support. Bulkheads, firewalls, rear decks, or similar structures of suitable strength may be used as a substitute for the main roll hoop or cross bracing to provide the required seat back support. Rear seat and seatback shall be removed. The passenger seat shall be removed.

7. Doors may be pinned, but not bolted, to prevent their opening in case of an accident. Standard door hinges and latch mechanisms may be removed, but the doors shall be capable of being opened or removed. Interior door panels may be removed and the door window slots may be covered. Pins or straps may be added to hood and deck lid to supplement or replace the latches. Hood and deck lid hinges may be removed.
8. All driver and front passenger door window glass shall be removed. Window cranks and mechanisms may be removed. Rear quarter, rear side, and rear windows may be of transparent (clear) polycarbonate material, minimum thickness 1/8 inch, but shall remain in the same position in the frame or opening as the original glass it replaces; rubber molding optional. Rear windows/hatchbacks and deck lids shall be completely closed. No bumper blocks or other means of poor alignment of bodywork will be permitted.
9. The contour of the fender may be changed for tire clearance, provided the shape (in horizontal projection) is the same as the original and does not confuse the identity of the car. Fender openings shall be of the shape and size as the original. The tire shall not extend beyond the fender openings at the highest point of the tire. Tires and wheels shall remain completely inside the body. The rear fender flares on GT-2 cars may extend forward into the door, no more than 26 inches from the rear axle centerline (GT-2 only). Wheel opening location may be altered in accordance with the allowable wheelbase tolerance in order to maintain vehicle's stock appearance. Ventilation openings, other than those which are standard production on the recognized model, are prohibited.

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10. Inner fender panels separating the wheel wells from the engine compartment may be altered or removed. Rear inner fender panels may be altered, replaced, or removed provided there are panels providing total separation between driver compartment and wheel wells.
11. Replacement, addition, or removal of accessories (gauges, switches, indicators, etc.), or other interior modifications for driver convenience, or to permit installation of required safety equipment, is authorized provided such modifications have no influence whatever on the mechanical performance of the car. Such modifications do not include the substitution or replacement of any bodywork or chassis component except those specifically authorized by these rules. Floor mats and all interior trim shall be removed.
12. A spoiler may be fitted to the front of the car. It shall not protrude beyond the overall outline of the car as viewed from above, or aft of the forward most part of the front fender opening (cutout), and shall not be mounted more than four (4) inches above the horizontal centerline of the front wheel hubs. The spoiler shall not cover the normal grill opening at the front of the car. An intermediate mounting device may be used on cars whose front bodywork is above the four (4) inch minimum. Openings are permitted for the purpose of ducting air to the brakes, radiator, airbox and/or oil cooler(s); equal openings may be placed in the standard lower front panel directly behind openings placed in the spoiler. When bumpers are retained, the spoiler and bumper shall appear to be two separate parts. The spoiler "pan" area forward of the leading edge of the front wheel openings shall be flat and follow, but not exceed, the line of the front fender/spoiler bottom. No components may protrude or extend below this plane.
13. Only a flat plane rear spoiler, contiguous with the rear bodywork rearward of the rear window, is allowed which complies with the following:
  - A. Height: No higher than three (3) inches (four (4) inches for GT-2) measured from the bodywork along the face of the spoiler from the point of attachment to the top of the spoiler. In the case of a spoiler with a curved top edge conforming to the shape of the bodywork (rearview), the measurement is to be made perpendicular to the tangent of the body at the point of attachment. In the case of a spoiler mounted with a vertical mounting flange on the rear face of the bodywork, the

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measurement shall be made ignoring any slight amount of mounting flanges (see below) exposed due to the curvature of the rear bodywork at the point of attachment.

**B. Width and Overhang:** No wider than the body, excluding fender flares, from the forward most part of the spoiler (or mounting flange) rearward. Shall not extend rearwards of the rearmost extremity of the bodywork for the entire width of the car (when viewed vertically from above the car at any point, the spoiler shall not protrude beyond the bodywork).

**C. Mounting:** Spoilers shall be strong enough to be self supporting and mounted directly to the rear hatch, deck, or truck lid. A mounting flange no greater than one and one-half (1-1/2) inches wide, contiguous with the bodywork, (either forward facing on the top surface of the bodywork or downward facing on the rear surface of the bodywork) shall be employed. No other forward facing sheet metal supports are allowed. Supplemental bracing may be added in the form of two (2) rods (maximum diameter one-quarter inch), mounted at least ten (10) inches inboard from the ends of the spoiler. Small rear supports may be added.

**D. Configuration:** The spoiler shall be a single plane spoiler (a straight line in any vertical cross section) uniform in height from the rear bodywork with no gaps or openings below the spoiler for its entire width. Only enough curvature (in a fore and aft direction as viewed from above) shall be permitted to facilitate mounting. The use of fences, end rails, Gurney flaps, wickerbills, or other forward facing lips or aerodynamic devices is prohibited.

**NOTE:** O.E.M. rear spoilers are not permitted unless specifically listed on the vehicle's specification form.

**c. Suspension and Wheels**

1. Wheelbase may be changed from -3" to +1" from printed stock dimensions in a fore/aft direction.
2. Suspension components may be reinforced, modified, or replaced as long as the type of suspension is not changed from that authorized in this GTCS.
3. Suspension mounting points, including suspension springs, may be relocated.
4. Suspension springs may be replaced with others of unrestricted origin.

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5. Modifications or substitution of hubs, bearing, spindles, axle shafts, universal B joints, flex joints, and CV joints is permitted.
6. Addition or substitution of antiroll bars, camber compensating devices, and/or suspension stabilizers is permitted. If these devices extend into the driver/passenger compartment, they shall be completely sealed off by metal panels. (Ref: GCR Section 22., Stabilizer.)
7. Suspension bushings and joints may be replaced by others of different material and/or design. Offset bushings and spherical bearings are permitted, including adjustable type.
8. Steering arms, pitman arms, and steering linkage component parts may be modified, reinforced, or substituted. The steering system may be changed and/or relocated.
9. The steering wheel may be replaced and rake of the steering column may be altered. A collapsible type of steering column equivalent to Federal Motor Vehicle Safety Standard No. 204 is required in all cars registered after January 1, 1983 and highly recommended for prior registered cars. GT cars registered after January 1, 1990 or GT cars converted to Section F.2., specifications shall have left side driver placement.
10. Substitute wheels of any type may be used provided their dimensions and the track they determine are within the limits specified in the GTCS for that model. All four (4) wheels shall be of the same diameter.
11. Shock absorbers: It is not permitted to alter the number of shock absorbers. The make of shock absorber and its points of attachment may be moved. Shock absorbers may have load bearing capacity; e.g., gas filled or coil over. When using load bearing shocks, the original springs may be removed. GT cars registered after January 1, 1990 or GT cars converted to Section F.2., specifications shall have the shock absorber attached to the outboard end of an upper or lower control arm. Rocker arms, push-pull rods, etc., are prohibited.
12. Wheels: Material is unrestricted, provided it is metal. All four (4) wheels shall be the same diameter, and the same

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rim size shall be used on the same axle, refer to specification lines for wheel sizes. The only authorized wheel size will be 13 x 7 for all GT-4 vehicles and 13 x 6 for all GT-5 vehicles, unless alternates are listed on vehicle specification line.

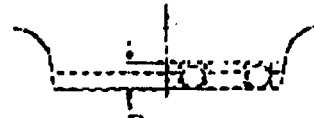
**d. Electrical Systems**

1. Standard battery may be replaced by one of different make and capacity. The battery may be relocated and shall be securely mounted and enclosed in a non-conductive protective box. (See GCR Section 12.)
2. The electrical/electronic system may be modified or replaced provided an operating starter motor and two (2) brake lights are retained.
3. Any distributor or transistorized ignition system (including crank triggered), firing the same number of spark plugs as the original distributor, may be used.

Magneto ignition is prohibited unless listed in the GTCS. Ignition wiring and spark plugs are unrestricted.

**e. Engine and Drive Train/General**

1. Exhaust manifold(s), header(s), tailpipe(s), and muffler(s) may be of unrestricted origin. The exhaust pipe(s) and/or muffler(s) may be recessed into the floor panel and rocker panel. The exhaust may be recessed into the bottom of the door or rear fender below a line seven (7) inches above the bottom of the rocker. There may be a maximum of two (2) such areas in the door or fender, with the maximum length for each no more than seven (7) inches. Note that the exhaust outlet shall still be mounted as low as possible; this does not authorize exhaust outlets through the door. Exhaust opening(s) shall exit to the rear of the wheelbase centerline and away from the body.



180 degree headers: The passenger's side floor pan may be



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raised not more than ten (10) inches to accommodate the installation of the exhaust system and muffler(s) provided such raising of the floor serves no other purpose. Exhaust may pass through the rear bodywork no higher than the rear axle centerline.

2. All GT Category cars shall comply with GCR Section 15., "Sound Control."
3. Exhaust emission control air pumps, associated lines and nozzles, and EGR devices cannot be modified in any way except that they may be completely removed. When air nozzles are removed from the cylinder head, the holes shall be completely plugged.
4. Substitution or modification of the clutch and/or flywheel is permitted.
5. It is permitted to lighten, balance, or modify in shape, by tooling, the standard or optional components of the engine and drive train, provided it is always possible to identify them as such. Material shall not be added to these components unless specifically authorized by these rules.
6. Alternate engine and drive train components considered replacement parts, such as seals, bearings, valve guides, push rods, water pump, timing chains/belts and sprockets, nuts, bolts, studs, washers, and gaskets are permitted. Bushings or offset keys of unrestricted origin may be installed.
7. The substitution of valve spring retainers and keepers is permitted. Valve springs are unrestricted (including number) provided the type and location remain unchanged.
8. Generator (alternator), crankshaft, and water pump pulleys may be altered or replaced with others of unrestricted origin. Any crankshaft vibration dampener is allowed.
9. Any oil pan (sump), oil pump(s), and/or pickups are allowed. Oil pump(s) shall be driven mechanically by the engine. Dry sump systems are permitted. The oil tank shall be located within the bodywork. The oil tank, cap, and all fittings shall be isolated so that in case of spillage, leakage, or failure, oil will not reach the driver. Any oil filter(s) may be used.
10. Installation of any vent or breather on the engine, transmission, or differential is permitted (See "Oil Catch Tanks"). Crankcase vacuum devices are prohibited. (See GCR Section 12.)
11. Any readily available transmission having no more than five (5) forward speeds and a reverse may be used, providing the location is the same as the Production automobile. Any shift linkage may be used. Sequential shifting

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transmissions are permitted with a 50 lb. weight penalty. Air, hydraulic or electric actuation of the gearshift mechanism is not allowed. For front engine, rear drive cars requiring the transmission to be attached to the engine, the transmission front seal shall be within twelve (12) inches of the back of the engine block. On front engine/rear drive cars, the transmission front seal is that seal which is within 5" of the gear on the input shaft which meshes with the foremost gear on the counter/layshaft.

12. Heavy duty propeller shaft(s) and/or drive shaft(s) may be used. Steel retaining strap(s) shall be used to prevent drive shaft failure from dropping or entering driver compartment.

13. Any axle tube, final drive housing, gear ratio, limited slip, or locked differential may be used. Final drive units which permit ratio changes while the car is in motion are prohibited. GT cars registered after January 1, 1990 or GT cars converted to Section F.2., specifications, using the front engine/rear drive configuration, shall use a "closed tube" rear axle housing.

14. Engine and transmission mounts may be of alternate shape and/or material. Cars with engines mounted longitudinal to the chassis MAY relocate the engine in a longitudinal, not lateral, direction within the following restrictions:

A. V8, V6, and V4 engines shall align the center of the foremost spark plug hole in line with the front axle spindles.

B. In-line six (6) cylinder engines shall align the center of the first spark plug hole (from the front) in line with the front axle spindles.

C. In-line four (4) cylinder engines shall align the center of the first spark plug hole (from the front) in line with the front axle spindles.

D. Rotary engines shall align the forward most spark plug hole in line with front axle spindles.

E. The engine may be rotated about the crankshaft centerline (lean over) a maximum of fifteen (15) degrees unless otherwise noted and shall not cause hood bulges.

15. Transverse mounted engines may be rotated for axle/CV joint alignment. Any front mounted engine may be rotated to a longitudinal position that places the crankshaft centerline on the longitudinal centerline of the car (shall conform to all restrictions in Section 12.1 .2.F.4.e). The engine may be rotated

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about the crankshaft (lean over) a maximum of fifteen (15) degrees unless otherwise noted and shall not cause hood bulges. Any available transmission having no more than five (5) forward speeds and a reverse gear may be used provided it is mounted to the rear of the engine. Only a beam (live) closed tube axle type rear drive may be used.

**f. Engine, Reciprocating**

1. Engines may be rebored a maximum of 1.2mm (0.047 inch) over the standard bore size listed in the GTCS. A cylinder block from any model from the same manufacturer which is of the same material and dimensionally identical throughout, except for non-critical bosses, is permitted.
2. Crankshaft main bearing caps may be modified or substituted. Main bearing cap straps or girdles and/or additional main bearing cap bolts may be used, provided that no material is added to the block for their attachment.
3. The crankshaft may be replaced with another of the same basic material, but with no change in stroke and provided the angles of the crank throws remain the same. The engine firing order shall remain unchanged.
4. Connecting rods may be replaced with any connecting rod of steel (ferrous) material. Aluminum, titanium, and non-metal connecting rods are prohibited, except where fitted as standard.
5. Any pistons and piston pins may be used.
6. Any camshaft(s) may be used, provided locations are (is) the same as standard.
7. Any cam followers may be used, except that roller cam followers shall not be used unless fitted as standard equipment.
8. Any rocker arms and rocker assembly supports may be used.
9. Valve sizes are unrestricted except when limited by the GTCS for specific automobiles. Centerlines shall not be altered. Valves may be of alternate material; non-metal is prohibited.
10. Compression ratio may be altered by machining, using any head gasket(s) or elimination of head gasket(s).

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**g. Engine, Rotary Piston**

1. The capacity of the working chamber(s) shall not be changed.
2. The eccentric shaft may be replaced with another of the same basic material, but no changes in eccentricity or journal dimensions are permitted.
3. Rotor is unrestricted, providing the material and number of lobes remain unchanged.
4. Alternate rotor housings are allowed only as listed in the GTCS for specific automobiles. No changes are allowed in the epitrochoidal curve in alternate housing.

**h. Cooling System (USE OF ANTIFREEZE IS PROHIBITED)**

1. Cooling fan(s) may be modified, substituted, or removed. Electrically operated cooling fan(s) may be installed, provided it (they) serve no other purpose. The use of any engine, transmission, and/or differential oil coolers(s) is (are) permitted provided it (they) are mounted completely within or under the bodywork, but not in the driver/passenger compartment. Associated oil cooler pumps and lines are permitted for the transmission and differential. Air ducts may be fitted to the oil cooler(s) as specifically authorized herein.
2. Any water radiator is allowed, provided there are no changes in the exterior bodywork to accommodate its use. It shall not be located in the driver/passenger compartment. Separate expansion or header tank(s) are permitted, provided they are mounted in the engine compartment. The heater core may be removed entirely but not modified or replaced.
3. Sealing or shrouding the airflow area between the normal grill opening and the water radiator is permitted.
4. On water cooled cars, thermostats may be modified or replaced with blanking sleeves or restrictors.
5. Alternate fan and fan shroud are permitted on air cooled engines.

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**i. Fuel Induction System**

All inducted air shall pass through venturi(s), maximum one (1) per cylinder or rotor.

1. Any air filter(s) may be used, or the filter(s) may be removed. Velocity stack(s) and/or air box(es) may be fitted. Air may be ducted to the carburetor(s) provided the ducting is contained within the engine compartment and air is supplied through normal openings in the bodywork (or as specifically authorized herein).
2. Any fuel pump(s) may be used and the location(s) may be changed. Fuel pump(s) shall not be located in the driver/passenger compartment.
3. All fuel/oil lines passing through the driver/passenger compartment shall be steel or metal braided hose. Number of fuel lines is unrestricted.
4. Carburetors:
  - A. Reciprocating engines: Carburetor(s) and intake manifold(s) are unrestricted except as limited in the GTCS for a specific make/model. All cars with restricted carburetion are required to use I.R. manifolds with no plenums or balance pipes unless otherwise restricted for specific automobiles. Intake manifold(s) shall be attached to the head(s) without modification to the head(s).
  - B. Rotary engines: Carburetor and intake manifold are unrestricted except as limited in the GTCS for a specific make/model. All cars with restricted carburetion are required to use I.R. manifolds with no plenums or balance pipes. Intake manifold(s) shall be attached to the end cover(s) or rotor housing(s) without modification to the end cover(s) or rotor housing(s).
  - C. No portion of the intake manifold(s) may extend into the intake ports (reciprocating and rotary engines.)
  - D. Carburetors shall incorporate a butterfly-type throttle plate for engine speed control.
  - E. Where Weber or Weber-type carburetors are specified and

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used, they shall retain their standard configurations of fuel distribution. This is to prohibit annular discharge carburetors.

- F. Where Weber carburetors are specified, Weber-type carburetors may be substituted. The following are approved Weber-type carburetors:  
Weber, Solex, 5K, Mikuni, and Delorto.
5. Supercharging/turbocharging and fuel injection are prohibited, except as specified in the GTCS for a specific make/model.
  6. Float(s) shall not be removed or altered to produce (a) floatless carburetor(s).
  7. Any throttle linkage may be used.
  8. Induction systems shall be equipped with a positive method of throttle closing by means of (an) external spring(s).

**j. Brakes**

1. Any dual master cylinders and/or pressure equalizing regulating device(s) are permitted.
2. Servo-assist systems are unrestricted.
3. Backing plates/dirt shields may be ventilated or removed. Brake air ducts may be fitted within the provisions of these rules.
4. The hand brake may be removed.
5. Brake lines shall be steel or metal braided hose. They may be relocated and may be given additional protection.
6. Brake rotors, calipers, and/or drums are unrestricted except as limited by the GTCS for a specific make/model. Brake rotors/drums shall be located in the original position (e.g., inboard vs. outboard).
7. Water cooled brakes are permitted, maximum reservoir capacity two (2) gallons, maximum line size 3/16 inch I.D.. The water shall be atomized by an atomizing nozzle, and the water shall enter the air duct a minimum of twelve (12) inches from the centerline of the spindle/axle.



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### 12.1.3. SHOWROOM STOCK CATEGORY

These specifications are part of the SOCA General Competition Rules (GOR) and all automobiles shall conform with GCR Section 12., Automobiles.

#### A. Definition

The Showroom Stock Category shall be considered primarily as a form for the membership to race street stock automobiles. Eligibility of cars may be discontinued at any time, for any reason other than competitive stature. The proof of legality or illegality shall rest upon the protestor and/or protestee.

**NOTES:** Showroom Stock category cars shall be in compliance with Federal Standards, specifically ARB and EPA certifications, and as specified for each automobile listed on its specification line and as permitted by these rules. A Shop Manual for the specific make, model, and year of automobile is required to be in the possession of each entrant. It is intended to aid Scrutineers in identifying parts and the configuration of the automobile. Overhaul procedures which in the slightest way would increase performance are not to be utilized; e.g., milled heads/blocks, porting, etc. Blueprinting and balancing are inconsistent with the philosophy of this class and are not permitted.

#### B. Automobile Eligibility

Cars eligible for competition in a given year are those classified by the Competition Board by March 1, of that year. The Competition Board may reclassify cars during their first year of competition, effective the following year. Cars classified will be approved by ARB, EPA and DOT for sale in the United States. They shall be models intended to be available to the general public for purchase.

The Competition Board may classify any particular model of a car or permit on specific options listed on the spec line for that car. No unlisted models or options are eligible. If no specific model or options are listed, then the classified car shall be the base model with no options. A car shall be eligible for five (5) calendar years beginning on January 1st of its model/year.

Current model year cars will be eligible for classification consideration if they are available to the general public through the normal dealer network by March 1st

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of the model year. To be considered for classification a factory workshop manual and a Motor Vehicle Manufacturers Association (MVMA) "Manufacturers Motor Vehicle Specifications" form or equivalent shall be on file with the Club Racing Department. Only those cars listed each year are eligible to compete. No updating or backdating of cars, models, specifications, and/or components thereof shall be permitted. Additions and deletions of automobiles shall be at the discretion of the SCCA. Automobiles sold by the Manufacturer/Distributor that are designated not for public use or cannot be licensed are not allowed in SS classes. The vehicle identification number (VIN) shall correspond with the model automobile classified. VIN plates or stampings shall remain in place. If there is a minimum of two (2) VIN plates or stampings that corresponds with the model automobile, it may be raced (cars registered with SCCA prior to January 1, 1989 require only one VIN plate or stamping). The tenth (10) position letter of the VIN determines the model year of the car ("P"=1 993, "R"=1 994, "S"=1 995, "T"=1 996, "V"=1 997, etc.).

### C. Classification

Automobiles eligible for competition shall be divided into two (2) classes at the discretion of the SCCA. These classifications will be reviewed on an annual basis and will be effective as of January 1st. No new classifications will be made after March 1<sup>st</sup>. Those automobiles selected for competition each year, by class are as follows: *SSA (regional status only)* SSB and SSC. Eligible automobiles in SSB and SSC may compete in regionals only for a maximum of two (2) additional years.

### D. Technical And Safety Items

The following represent the only safety items and modifications permitted and required on automobiles involved in Showroom Stock competition. The addition of safety items not specifically listed is not permitted. The points covered at Technical and Safety Inspection shall be: Items in Sections D. and E. No permitted component/modification shall additionally perform a prohibited function.

1. Eligibility for class entered - compliance with GCR and SSS.  
A complete and up-to-date Vehicle Logbook.
2. Installation of a roll cage as specified and in accordance with Section 18.2., of the GCR. Roll cages shall be bolted or welded into the automobile and shall be contained entirely within the driver/passenger compartment. Carpet/padding may be cut for roll cage installation. Rear braces may pass through interior trim panels.
- A. Mounting plates welded or bolted to the car.:

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1. Each mounting plate shall be at least .080" thick if welded and 3/16" thick (with appropriate backing plates). There shall be a minimum of three (3) bolts per mounting plate if bolted.
2. Each mounting plate shall not be greater than 100 square inches and shall be no greater than 12 inches or less than 2 inches on a side.
3. Whenever possible, mounting plates shall extend onto a vertical section of the structure (such as a rocker box).
4. The mounting plate may be multi-angled but must not exceed these dimensions in a flat plane.
5. Any number of tubes may attach to the plate or each other.
3. Installation of a fire extinguisher or fire system as specified in GCR 12.22..
4. Installation of a safety harness system as specified in Section 17, of the GCR.
5. Exposed headlights, parking lights, and side marker lights shall be taped. Fog/driving lights mounted on or below the bumper shall be removed, and all resulting holes shall be covered to prevent air passage through said holes.
6. Cars with convertible tops shall have them stowed as provided by the manufacturer. Removable hardtops or roof panels and hatchback privacy covers shall be completely removed from cars that are so equipped. Sunroofs, removable roof panels and "T" tops are permitted only if installed by the manufacturer of the vehicle. Sunroofs must be retained on the vehicle and securely bolted in place unless operating rails adequately secure the panel.
7. All cars shall run with both front door windows fully open (down) and shall have driver's side window safety net per GCR 12.29.. Any cars where a window safety net cannot be installed, arm restraints shall be used. Arm restraints are not an acceptable substitute for window nets in other cars. Window safety nets shall be mounted in such a manner to provide protection in the event the driver's door opens.
8. Interior mirror(s) may be replaced with a multipanel type mirror, but shall not extend beyond the confines of the interior.
9. Appearance shall be neat and clean. Automobiles that are dirty either externally or in the engine or passenger compartments, or that show bodywork damage or

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that are partially or totally in primer, or that do not bear the prescribed identification marks shall not be approved for competition. Vehicles may be painted any color(s).

10. Not included or used.
11. All mud flaps shall be removed.
12. Passive restraint systems shall be deactivated. -
13. Air bags shall be disarmed and may be removed. -
14. The driver's seat may be replaced with a seat designed for racing with a one piece bucket-type shell which provides lateral support for the torso. Seat padding and mounting hardware may be attached to the seat shell. If an alternate seat is installed, it shall be firmly mounted to the structure of the car and to the main hoop of the roll cage, or the seat restraint shall comply with GCR Section 18.3.5.

If car is to be used on public roads, these items shall be reactivated/rearmed/replaced when not in competition.

15. Towing eyes per GCR Section 12.30 may be fitted.

#### **E. Vehicle Preparation**

The following represents the only items authorized in the preparation of a vehicle for Showroom Stock competition other than safety items as required in Section 12.1 3.D. Modifications shall not be made unless specifically authorized herein. No permitted component/ modification shall additionally perform a prohibited function.

1. All vehicles shall be in compliance with the applicable Federal and State standards for the area in which the car is delivered.
2. Hub caps, wheel trim rings, jack, and tools shall be removed.
3. Spare wheels and tires may be removed.
4. All markings shall be readily removable.

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5. **All adjustments shall be at the manufacturer's specification and/or within the manufacturer's specified tolerances. Adjustment to the limit of the available range is not permitted.**
6. **Tires:** All cars shall run the tire size as listed for the vehicle in the SSS or an authorized replacement size. When authorized replacement tires are used, the same size of tire shall be used on each axle (front tires need not be the same size as rear tires).

All tires shall be approved and shall be offered for sale over the counter through the manufacturers' tire dealer network. Racing, recapped, and regrooved tires are prohibited. The brand of tire and tire pressures are unrestricted. The only modifications allowed to tires are having treads "shaved" or "trued"

All cars may run tires of the speed rating of their choice. For size determination, the molded section shall be used. All cars are allowed a section increase of 10mm or 20mm (e.g., 195 may use 205 or 215). All cars are allowed an aspect ratio increase or decrease of 5 or 10 (e.g., 55 may use 45, 50, 60 or 65). All cars listed with an aspect ratio of 75 or higher may use an aspect ratio of 70.

7. **Wheels:** Wheels shall be standard equipment for the make, model, and year of automobile, or as listed in the SSS Book and approved by ARB and EPA certification for that automobile. All four (4) wheels shall be the same style and material.
8. **Radios and air conditioners** are the only options permitted and may be non-manufacturer, standard equipment, or except as shown for each car in the SSS. Two-way radios may be used. Hand controls are allowed in those instances where the driver can demonstrate the physical need for them.
9. **Fluid hoses and clamps, oil filters, and belts (fan, alternator, etc.)** may be substituted with others of equivalent OEM specifications.
10. **An official factory Shop Manual** for the specific make, model, and year shall be presented at Tech Inspection at every event.
11. **Brake fluid:** May be substituted with other equivalent OEM specification.

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12. **Lubricants:** Lubricants may be substituted with any lubricant. Additives are unrestricted.
13. **Carburetor jetting:** Carburetor jets shall be as delivered as standard equipment by the manufacturer.
14. **Rear-end ratio:** Rear-end ratio shall be as delivered as standard equipment by the manufacturer.
15. **Spark Plugs: Authorized --** Spark plugs listed in spark plug manufacturer's Application Charts, Owners Manual, Official Factory Shop Manual, or equivalent OEM justified by one cross reference chart. Use of resistor or non-resistor type spark plug allowed.
16. **"Special performance"** specifications from the manufacturer which go beyond those listed on a specification line for a car will not be considered valid.

Any manufacturer determined to be supplying false specifications to competitors or to SCCA will be advised that the specifications shall be withdrawn or the eligibility of the car(s) involved will be terminated. The Competition Board is authorized to implement these terminations on an immediate basis without the Board of Directors' approval.

In the case of service circulars, recalls, etc., the burden of proof of validity will be upon the competitor.

17. **Ride height:** Ride heights specified in the 555 books will be used as a guideline only. If there is a discrepancy, more detailed inspection will be necessary.
18. **Sunroofs and "T" tops** are required to be installed by the manufacturer of the car.
19. **Power steering and power brakes** are allowed only if the car was delivered in that configuration.
20. **Batteries** may be replaced with those of alternate manufacture provided they are of similar amp-hour capacity and weight.
21. **Weight:** The minimum weight as listed on the specification line is without driver. Ballast is not permitted.



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22. **Fuel:** Only the type fuel specified by the Owners or Shop Manual may be used without additives of any type, or pump gasohol (Ethanol mixed with no-lead gasoline.)
23. **Removal of Air Conditioning System:** The factory and/or after market air conditioning systems may be removed provided that at least the following items associated with the system are also removed: compressor, condenser, H.D. radiator, H.D. springs/sway bars, H.D. shocks, larger tires, engine and transmission oil coolers, and cooling fans. All duct work, wiring, Freon lines, valves, evaporators, and dryers may remain. Items that serve a dual purpose, such as the alternator/air conditioning compressor bracket, may not be substituted.
24. A radiator screen of one-fourth (1/4) inch minimum mesh may be added in front of the radiator and contained within the bodywork.
25. Air Filter Elements may be substituted with other air filters of equivalent specifications and fit in the stock location with no modifications. Must be substantiated by a minimum of one (1) manufacturer cross-reference for specific vehicle application.
26. Fuel Filters may be substituted with other fuel filters of equivalent specifications.
27. Brake pad/lining of any manufacture may be used.
28. The Competition Board may approve the use of automatic transmissions and/or hand controls on a case-by-case basis.

#### **F. Driver Schools**

"Showroom Stock cars that are not eligible to race because of their model year are allowed at SCCA Driver's Schools provided all safety equipment is in satisfactory order."

#### **CROWN TIRE SERVICE (ATLANTIC)**

3200 Kemper Rd., Halifax, N.S. B3K 4X1

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**12.1.4 IMPROVED TOURING CATEGORY**

These specifications are part of the SOCA General Competition Rules (GCR) and all automobiles shall conform with GCR Section 12, Automobiles.

**A. PURPOSE**

Improved Touring classes are intended to provide the membership with the opportunity to compete in low cost cars with limited modifications, suitable for racing competition. To that end, cars will be models, as offered for sale in the United States. They will be prepared to manufacturer's specifications except for modifications permitted by these rules.

Cars from the previous four (4) model years and the current model year will not be eligible. No car older than a 1968 model of any listed vehicle will be accepted for Improved Touring competition. Turbocharged/Supercharged cars are not eligible for Improved Touring competition. Cars need not be eligible for state license or registration.

**B. INTENT**

It is the intent of these rules to restrict modifications to those useful and necessary to construct a safe race car. This class is intended to allow a variety of popular, inexpensive cars to be eligible; however, those determined by the Club to be outside of these parameters will not be classified. Entrants shall not be guaranteed the competitiveness of any car, and competition adjustments, other than reclassification, are not allowed. Other than those specifically allowed by these rules, no component or part normally found on a stock example of a given vehicle may be disabled, altered, or removed for the purpose of obtaining any competitive advantage.

Note: This new statement of purpose and intent eliminates the dual purpose version which does not accurately reflect the current IT technology. In addition, it emphasizes the philosophy that we will give you a place to race your car and have fun, but not guarantee that you will be competitive.

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### C. SPECIFICATIONS

The SCCA shall publish the Improved Touring Category Specifications (ITCS) containing the officially recognized specifications for each car eligible to compete in the Improved Touring Category during the calendar year.

To maintain the stock basis of Improved Touring, updating and/or backdating of components is only permitted within cars of the same make, model, body type (e.g., sedan, station wagon, convertible, etc.), and engine size as listed on a single Improved Touring Specification Line. *Any updated/backdated components shall be substituted as a complete assembly (engine long block, transmission/transaxle, induction system, differential/axle housing).* No interchange of parts between assemblies is permitted, and all parts of an assembly shall be as originally produced for that assembly (such parts may, however, be painted or plated). Additionally, it is not permitted to "create" a model or type of car by updating or backdating assemblies. Parts or assemblies which the manufacturer lists in factory service manuals or parts guides for a particular model which supersede or replace original parts or assemblies are permitted. Documentation of the superseding parts or assemblies must be supplied to the Club Racing Department and the appropriate part numbers listed on that particular model's specification line.

To establish the originality and configuration of the vehicle, each driver/entrant shall have a factory shop manual for the specific make, model, and year of the automobile. This manual shall be presented when so requested at any technical inspection. If the factory shop manual is no longer available from the vehicle manufacturer, an aftermarket shop manual will be accepted with proof of non-availability from the vehicle manufacturer. The proof of legality shall rest upon the protestor and/or protestee.

The Vehicle Identification Number (VIN) shall correspond with the automobile classified, and will determine the model and type for competition purposes. A minimum of two (2) VIN plates and/ or stampings is required.

The SCCA shall specify the minimum weight for each classified car as qualified or raced, *with driver.*

**Drivers wanted.** 

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**D. AUTHORIZED MODIFICATIONS**

The following modifications are authorized on all Improved Touring Category cars. Modifications shall not be made unless authorized herein. No permitted component/modification shall additionally perform a prohibited function.

**1. Reciprocating Engines (only)**

- a. Any carburetor jets, needles, and/or metering rods may be used in the stock or approved optional carburetor(s). The number of carburetors may not be changed from standard. No venturi (including secondary or auxiliary) of any carburetor may be modified in any way.
  1. Certain cars have optional carburetors listed. On these cars, adaptor(s) may be used to mount the optional carburetor(s), provided the adaptor serves no performance function, i.e., plenum chamber, etc.
  2. External throttle linkage to the standard or optional carburetor(s) may be modified or changed. Choke mechanisms, plates, rods, and actuating cables, wires, or hoses may be removed. Method of operating the secondary throttle may not be modified.
  3. The original, standard intake manifold shall be maintained. No porting or polishing of the manifold is permitted except as allowed by rule D.1.1.
  4. All air entering the intake tract shall pass through the carburetor or fuel injection air inlet.
  5. All single carbureted cars may fit an approved optional carburetor. Approved optional carburetors are:

1 Weber 32 DGV/DGAV/DGEV  
1 Weber 32/36 DGV/DGAV/DGEV  
1 Weber 32/36 DFV/DFAV/DFEV  
1 Weber 34 DAT/DATR/DATRA/DMTR  
1 Holley-Weber 5200

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*A.R.M.S. 1998 - Race Regulations*

Weber carburetor(s) with swaged fuel inlet fitting shall be replaced by drilling and tapping the carburetor body for a threaded fitting. Fuel injection manifold(s) shall not be replaced with carburetor manifold(s) from a different model, type, or engine size in order to fit an optional carburetor. All cars equipped with multiple carburetors shall run the original induction system, except for modifications allowed by Sections D.1.a., and D.1.a.2., above

6. Fuel-injected cars may alter fuel mixture through the modification of the resistance values of the sensors which feed the computer. The computer shall remain unaltered. Air induction/orifice size(s) shall not be altered, and no new orifices shall be created by disconnecting standard equipment. External throttle linkage to the standard fuel injection may be modified or changed.
  - b. Any fuel pump(s)/filter(s) may be used. Pump(s) may be relocated, but shall not be located in the driver/ passenger compartment. If a mechanical pump is replaced, a blanking plate may be used to cover the original mounting location. Fuel line(s) may be replaced, relocated, and given additional protection. If the relocated line(s) passes through the driver/ passenger compartment, it/they shall be metal or metal braided, and shall be securely fastened. An external fuel pump pressure regulator may be installed.
  - c. Air cleaner assemblies may be modified, removed or replaced. Velocity stacks, ram air or cowl induction are not permitted unless fitted as original equipment.
  - d. Exhaust emission control air pumps, associated lines, nozzles, and electrical/mechanical EGR devices may be removed. If such items are not removed, they shall not be modified in any way. If EGR devices/nozzles are removed from a cylinder head or manifold, any holes remaining shall be completely plugged. Water to an intake manifold may be blocked or removed as part of the emission system.



1. If fitted, catalytic converter(s) may be removed.
  2. Those vehicles which have emission control devices removed and which are not registered and licensed for street operation may use any gasoline meeting the requirements of GCR Section 12.4., Fuel.
  3. Those vehicles registered and licensed for street use shall use the fuel specified by the workshop/ owner's manual.
- e. Any ignition system which utilizes the original distributor for spark timing and distribution is permitted. Internal distributor components and distributor cap may be substituted. Crankfire ignition systems are prohibited unless fitted as original equipment. Any spark plugs and ignition wires may be used. Ignition timing is unrestricted. Any battery of the same type, size, and voltage as the original may be used, provided it is fitted in the standard location. Additional battery hold-down devices may be used, and are strongly recommended. Cars originally equipped with two (2) 6-volt batteries may replace them with one (1) 12-volt battery installed in either of the original battery locations.
- f. Cars originally equipped with plastic/phenolic timing gears may substitute metal gears, provided that the design, dimensions, and cam timing remain as stock. Adjustable timing gears are prohibited on all cars unless fitted as stock.
- g. Any exhaust header and exhaust system may be used. Exhaust shall exit behind the driver, and shall be directed away from the car body. Original exhaust system heat shields may be removed. A suitable muffler may be necessary to meet sound control requirements (see GCR Section 15).
- h. Oil pans, pan baffles, scrapers, windage trays, oil pickups, lines, and filters are unrestricted. A pressure accumulator/"Accusump" may be fitted. The location of the filter and accumulator are unrestricted, but they shall be securely mounted within the bodywork. All oil lines that pass into or through the driver/passenger compartment shall be metal or metal braided hose. Dry sump systems are prohibited unless fitted as standard equipment. Engine oil and oil additives are unrestricted.
- i. Oil catch tanks are permitted. All engine breathers or vapor recirculation lines, if disconnected, shall vent to a catch tank of one (1) quart minimum capacity. Such catch tanks shall not be mounted in the driver/ passenger compartment. Original valve cover(s) may be modified to alter or to add breather/filler.
- j. Engines may be bored to a maximum of .040 inch over standard bore size. Factory oversize replacement pistons or their exact equivalent shall be used. Equivalent pistons shall provide the same dome/dish/ valve

*A.R.M.S. 1998 - Race Regulations*

## **Vantage Motors**

204 Robie St., Truro, N.S.

relief configuration, ring thickness and spacing, pin height relationship, weight, and compression ratio as factory replacement oversize pistons. Piston rings are unrestricted.

k. Balancing and "blueprinting" of the engine assembly are permitted. Lightening of parts beyond the minimum material removal necessary to balance is prohibited.

l. Manifold and cylinder head port matching is permitted. No material may be removed further than one (1) inch in from the manifold to cylinder head mounting face(s). Carburetor mounting surface(s) shall not be modified, and external dimensions of the cylinder head or intake manifold may not be reduced to facilitate internal porting. Two piece manifolds are not intended to be port matched at their intermediate point.

Valve guide material is unrestricted.

Where a factory specification for original cylinder head thickness can be proven, a tolerance of .025 inch less than the service limit will be permitted. Under no circumstances may the compression ratio be increased by more than one-half (.5) point. An offset key may be used, on the crankshaft only, to return cam timing to the factory specifications.

m. Any clutch disc and pressure plate of stock diameter may be used, provided that they shall be bolted directly to an unmodified stock flywheel. Balancing of the flywheel/clutch/pressure plate assembly is permitted. Lightening of the flywheel beyond the minimum material removal necessary to balance is prohibited. The addition of an external scattershield per GCR 12.23., is permitted and recommended.

n. Alternate water pump and alternator pulleys of any diameter or material may be used. Crankshaft pulleys with fewer grooves than stock may be substituted if air conditioning compressors and/or emission control air pumps are removed. Diameter and material of crankshaft pulleys shall remain as stock. Type of accessory drive (e.g., V-belt, toothed belt, etc.) shall remain as stock.

o. Hardware items (nuts, bolts, etc.) may be replaced with similar items performing the same fastening function(s). Cylinder head gasket(s) may be replaced with any gasket(s) having the same compressed thickness as stock. Other engine gaskets are unrestricted. Engine drive belts may be replaced with others of equivalent OEM specifications.

p. All engine components not otherwise listed in these rules shall meet factory specifications for stock parts. Where factory specifications are absent or unclear, e.g., cylinder head thickness and/or combustion chamber depth, etc., the Club may establish an acceptable dimension and/or allowable tolerance from stock.

**Drivers wanted.** 

*A.R.M.S. 1998 - Race Regulations*

2. **Rotary engines (only)**
  - a. Any porting or polishing is prohibited.
  - b. Rules D.1.a.-k., and D.1.m.-p., also apply.
  - c. Crankshaft pulley is unrestricted.
  - d. Rotor apex seals are unrestricted.
3. **Cooling System (USE OF ANTIFREEZE IS PROHIBITED)**
  - a. Any radiator may be used, provided it can be mounted in the original location and requires no body or structure modifications to install. Catch and/or expansion tanks may be added or substituted.
  - b. Oil cooler(s) may be added or substituted. Location within the bodywork is unrestricted, provided that it/ they are not mounted within the driver/passenger compartment.
  - c. Cooling fans may be removed or replaced. Electrically operated fans with manual or automatic actuation may be fitted.
  - d. Thermostats may be modified, removed, or replaced with blanking sleeves or restrictors.
  - e. Air conditioning systems may be removed in whole or in part.
  - f. Screens of one-fourth (1/4) inch minimum mesh may be mounted in front of the radiator and/or oil cooler(s) and contained within the bodywork.
  - g. Engine coolant fluid, coolant/heater hoses and clamps may be substituted. Heater hoses may be plugged. Heater water control valve(s) may be added or substituted. Heater core and hoses shall not be removed.
4. **Transmission/Final Drive**
  - a. Any final drive ratio is permitted provided it fits the stock differential/transaxle housing without modification to the housing.

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204 Robie St., Truro, N.S.

*A.R.M.S. 2001 - Race Regulations*

- b. Any limited-slip or locked differential is permitted.
- c. No alteration to the stock transmission gear ratios for the make, model, type and engine size of automobile is allowed.
- d. Hardware items (nuts, bolts, etc.) may be replaced by similar items performing the same fastening function(s).
- e. Shift lever may be bent above tunnel or floor.

**5. Chassis**

**a. Ride Height**

- 1. Minimum ride height is five (5) inches, to be measured at the lowest point of the rocker panel, but not to include welded seams or fasteners.

**b. Springs and Shock Absorbers**

- 1. Any shock absorbers may be used, provided they attach to the original mounting points. The number and type (e.g., tube, lever, etc.) of shock absorbers shall be the same as stock. The interchange of gas and hydraulic shock absorbers is permitted. Remote reservoir shock absorbers are permitted. The location of the reservoir is unrestricted. No shock absorber may be capable of adjustment while the car is in motion, unless fitted as original equipment.
- 2. MacPherson strut equipped cars may substitute struts, and/or may use any insert. On cars where the strut assembly also serves to locate a spring, the lower spring seat shall be permanently welded to the strut. Spring seat ride height location may be altered from stock.
- 3. Springs of any origin may be used, provided they are of the same number and type as originally fitted, i.e., coil, leaf, torsion bar, and that they shall be installed in the original location using the original system of attachment. Shackles or spacers may be used to adjust leaf spring ride height. Spacers, including threaded units with adjustable spring seats, may be used with coil springs, provided the spacers are not permanently attached to the shock/strut housing.

**Drivers wanted.** 

*A.R.M.S. 2001 - Race Regulations*

4. Spacers or lowering blocks may be used between leaf springs and the point(s) of attachment to the axle housing.
5. Coil-over struts or shock absorbers, where a threaded sleeve is permanently attached to a housing, are prohibited unless fitted as standard equipment.

**c. Suspension Control**

1. Any anti-roll bar(s), traction bar(s), panhard rod or watts linkage may be added or substituted provided its/their installation serves no other purpose. The mounts for these devices may be welded or bolted to the structure of the vehicle. No suspension control mount or component shall be located in the trunk or driver/passenger compartment unless installed by the manufacturer as original equipment. Traction bars used to control axle rotation shall be one piece solid bar or tube. Heim rod ends may be fitted.
2. On those cars where an anti-roll bar also acts as a suspension locating device, the diameter of the bar may be changed. Bar attachment and pivot points on the chassis and control arms shall remain as stock, except as provided for in these Rules, Sections D.5.d.1., and 3.

**d. Suspension Mounting Points**

1. Cars equipped with MacPherson strut suspension may decamber wheels by the use of eccentric bushings at control arm pivot points, by the use of eccentric bushings at the strut-to-bearing-carrier joint, and/or by use of slotted adjusting plates at the top mounting point. If slotted plates are used, they shall be located on existing chassis structure and may not serve as a reinforcement for that structure. Material may be removed from the top of the strut tower to facilitate installation of adjuster plate.
2. On other forms of suspension, camber adjustment may be achieved by the use of shims and/or eccentric bushings.
3. All forms of suspension may adjust caster by means of shims or eccentric bushings. Additionally, MacPherson strut-equipped cars may adjust caster at the upper strut mounting point/plate.
4. *Independent rear suspension mounting holes may be slotted and reinforced for purposes of camber and/or toe adjustment. Material may be removed from the top of the strut tower to facilitate installation of adjuster plate.*

**Vantage Motors**  
204 Robie St., Truro, N.S.

*A.R.M.S. 2001 - Race Regulations*

5. **Cars may add one (1) front stayrod, located in one of the following areas:**

**ARMS Sanctioned Events: one (1) additional front stayrod may be added**

- A. Between lower suspension mounting points.
  - B. Between the upper strut towers on MacPherson strut equipped cars.
  - C. Between upper front shock absorber mounts on cars with other forms of suspension.
6. **Bushing material, including that used to mount a suspension sub frame to the chassis, is unrestricted.**
7. **Rubber bump stops may be removed, but their chassis mounts, brackets, etc., may not be altered in any way.**
8. **No other relocation or reinforcement of any suspension component or mounting point is permitted.**
9. **Hardware items (nuts, bolts, etc.) may be replaced by similar items performing the same fastening function(s).**
6. **Brakes**
- a. **Brake pads, brake linings, and brake fluid are unrestricted.**
  - b. **Backing plates and dirt shields may be ventilated or removed. Air ducts may be fitted to the brakes, provided that they extend in a forward direction only, and that no changes are made in the body/structure for their use. Brake rotors and drums shall not be modified other than for truing within manufacturer's specifications.**
  - c. **Brake lines may be replaced with steel lines or teflon lined metal braided hose. Lines/hoses may be relocated and may be given additional protection. Brake fittings, adaptors, and connectors are unrestricted. Brake system circuitry may be revised, but no modification or substitution of the original master cylinder, its location, or mounting is permitted.**
  - d. **Brake proportioning valves may be used provided that they are of the in-line, pressure limiting type.**
  - e. **Parking brakes, mechanisms, and actuating components may be removed.**

**Drivers wanted.** 

*A.R.M.S. 2001 - Race Regulations*

**7. Wheels/Tires**

- a. **Any wheel/tire** may be used within the following limitations:
1. **Cars originally equipped** with twelve (12) inch wheels may fit thirteen (13) inch wheels. Cars originally equipped with metric 365 wheels may fit fourteen (14) inch wheels, and cars originally equipped with metric 390 wheels may fit fifteen (15) inch wheels. All other cars shall retain the wheel diameter fitted as original equipment for their make, model, and type. Knockoff/ quickchange type wheels are prohibited. Wheels must be made of metal.
  2. **Any DOT-approved tire** is permitted. Racing, recapped, or regrooved tires are not allowed. Tire size is unrestricted. The only modifications allowed to tires are having treads "shaved" or "trued."
  3. **Track may be changed** to accommodate larger tires, provided that there is safe tire/fender/ chassis clearance under all conditions of steer, bump, and rebound. Wheel spacers are permitted.
  4. **Tire tread** (that portion of the tire that contacts the ground) shall not protrude beyond the fender opening when viewed from the top perpendicular to the ground.
  5. **Any wheel stud, bolt, and or nut** is permitted.
  6. **Maximum allowable rim widths:** classes ITS and ITA .seven (7) inches; classes ITB and ITO .six (6) inches.

**8. Body/Structure**

- a. **Fenders and wheel openings** shall remain unmodified. It is permitted to roll under or flatten any interior lip on the wheel opening for tire clearance. Cars with plastic/ composite fenders may remove any interior wheel opening lip, but the resulting material edge shall be no thinner than the basic fender material thickness. Non-metallic inner fender liners may be removed.
- b. **A front spoiler/air dam is permitted.** It shall not protrude beyond the overall outline of the body when viewed from above perpendicular to the ground. This body outline does not include bumpers or bumper mounts. The spoiler/air dam shall be mounted to the body, and may extend no higher than four (4) inches above the horizontal centerline of the front wheel hubs. It shall not cover the normal grille opening(s) at the front of the car. Openings are permitted for the purposes of ducting air to the brakes, cooler, and radiator. Dealer installed or limited production front/rear spoilers/air dams/wings are prohibited.

**Vantage Motors**

204 Robie St., Truro, N.S.

*A.R.M.S. 1998 - Race Regulations*

**NOTE:** Integrated bumper assemblies are defined as those designs where an external non-metallic bumper cover completely encloses the primary energy-absorbing bumper and where this cover could be installed in its normal position with the underlying bumper removed. On cars with integrated bumpers, the front spoiler or airdam may be attached to the bumper cover.

- c. **No part of the car, except for the exhaust system and suspension components, shall be lower than the lowest part of the wheel rims.**
- d. **Windshield clips and rear window straps per the GCR Section 12.1 .2.C.3.d.2., (GT Specifications book) are permitted and recommended.**
- e. **Hood and trunk pins, clips, or positive action external latches are permitted. Stock hood and trunk latches may be disabled or removed; if so, some positive action external fastening method shall be used. Engine compartment insulation may be removed.**
- f. **Convertible tops and attaching hardware shall be completely removed. Manual and electric sunroofs, original or aftermarket, where the panel is not normally removable shall be retained and run in the closed position. Components (motors, cables, rails) may be removed provided the panel is securely retained. Removable sunroof or T-top may be retained if bolted or welded in, or removed completely.**
- g. **Any paint scheme and markings meeting GCR Section 12., specifications are permitted.**
- h. **All chassis/structural/electrical repair, if performed, shall be in concurrence with factory procedures, specifications, and dimensions. Unless specifically authorized by the manufacturer for repair or allowed by these rules, no reinforcement, i.e., seam welding, material addition, etc., is permitted.**
- i. **Body repair shall be performed using every reasonable effort to maintain stock body contours, lips, etc.. Any body repair modification having as its purpose increased clearance is prohibited. In those circumstances where stock trim/molding pieces are unavailable through all normal replacement channels, proof of such unavailability shall be provided by the competitor. Cars shall meet the requirements of GCR Section 13.2.1.C., Appearance, at all times.**
- j. **Radio antennas may be removed. Antennas for two-way radio may be added.**
- k. **Body side moldings, rocker panel moldings and wheel opening trim pieces (not stock flares) may be removed. Resulting holes may be filled.**

**Drivers wanted.** 

*A.R.M.S. 1998 - Race Regulations*



**9. Driver/Passenger Compartment - Trunk**

- a. **The driver's seat (only)** may be replaced with any seat suitable for competition, including a racing type bucket seat. If the driver's seat is replaced, factory seat tracks/ brackets may be modified, reinforced, and/or removed to facilitate replacement mountings provided they perform no other function. All driver's seats shall be provided with additional seat back support.
- b. **Any steering wheel** except wood rimmed types may be used. Any shift knob may be used.
- c. **Gauges and instruments** may be added, replaced, or removed. They may be installed in the original instrument(s) location using a mounting plate(s), or any other location using a secure method of attachment. Other than modifications made to mount instruments and provide for roll cage installation, the remainder of the dash "board" or panel shall remain intact.
- d. **Any interior or exterior mirrors** may be used.
- e. **Rear seat back, rear seat bottom cushion(s), sun visors, seat belts and their attaching hardware and bracketry** may be removed. In those automobiles where the rear seat back provides the only solid bulkhead between the driver/passenger compartment and an exposed stock gas tank, a metal bulkhead completely filling the exposed seat back opening shall be installed.
- f. **In those automobiles where rear seat back removal does not expose the stock gas tank directly to the driver/passenger compartment, a metal (only) bulkhead is optional.**
- g. **Carpets, center consoles, floor mats, headliners, sun roof liner and frame, dome lights, grab handles, and their insulating, attaching or operating mechanisms** may be removed. Other than to provide for the installation of required safety equipment or other authorized modifications, any other driver/passenger compartment alterations, gutting, or removal or substitution of driver/passenger compartment panels is prohibited. The driver's door window glass, window operating mechanism, inner door trip panel, armrest, map pockets, and inside door latch/lock operating mechanism may be removed and the inner door structural panel may be modified, but not removed. The stock side impact beam, if equipped, and the outside door latch/lock operating mechanism shall not be removed or modified. This gutting of the door shall only be made to the driver's door and shall only be made if roll cage incorporates NASCAR-style side protection extending into the door.
- h. **Any removable covers used to cover spare tires, tools, bins, etc.,** may be removed along with attaching hardware and bracketry. Carpets, mats, and their insulating or attaching materials may be removed from the floor and recesses of the cargo/ trunk/spare tire area.

**Vantage Motors**

204 Robie St., Truro, N.S.

*A.R.M.S. 1998 - Race Regulations*

- i. **Dead pedal/foot rest** and heel stop may be added.
- j. **Ducting may be added** to provide fresh air to the driver/ passenger compartment. This ducting shall be located in the driver and/or passenger window area, with no modifications to the bodywork.
- k. **Radio receivers** may be removed or replaced. Two-way radios are permitted.
- l. **Modifications** may be made to the foot pedals to improve the comfort of and control accessibility to the driver.
- m. **The Competition Board** may approve the use of automatic transmissions and/or hand controls on a case-by-case basis.
- n. **Ballast** up to 100lb maximum may be located in the front passenger footwell area, aft of the firewall and any foot well angle, and forward of the passenger seat.

#### 10. Safety

- a. **All cars shall have a roll cage installed.** The cage shall meet GCR Section 18., requirements for Showroom Stock cage configuration, tubing size, and material, except as provided for in these rules.

On cars where the rear window/bulkhead prohibits the installation of rear brace (e.g., Honda del Sol), the main hoop shall be attached to the body by plates welded to the cage and bolted to the stock shoulder harness mounting points. This installation design must also incorporate a diagonal bar connecting the top of the main hoop to the lower front passenger side mounting point ("Petty Bar"). Alternatively, the rear window may be removed and a clear, Plexiglas replacement installed. The rear cage braces may pass through this replacement window and through the engine cover or bodywork to allow connection to the frame or unibody. Such allowances shall be noted on the car's specification line.

- 1. **The cage need not be removable.** It shall be bolted and/or welded to the car.
- A. **Mounting plates shall be welded or bolted to the car.**
- 1. Each mounting plate shall be at least .080" thick if welded and 3/16" thick (with appropriate backing plates) if bolted. There shall be a minimum of three (3) bolts per mounting plate.

**Drivers wanted.** 

*A.R.M.S. 1998 - Race Regulations*

2. Each mounting plate shall not be greater than 100 square inches and shall be no greater than 12 inches or less than 2 inches on a side. *Cars registered prior to 10/1/95 are exempt from this rule.*
  3. Whenever possible, mounting plates shall extend onto a vertical section of the structure (such as a rocker box).
  4. The mounting plate may be multi-angled but must not exceed these dimensions in a flat plane.
  5. Any number of tubes may attach to the plate or each other.
2. It shall attach to the car at no more than eight (8) points, consisting of the basic cage with six (6) points and two optional braces.
  3. The forward part of the cage shall be mounted to the floor of the vehicle. In addition, if the two optional braces referred to in 1 0.a.2 are utilized they shall be mounted, one on either side, from the forward section of the cage to the firewall or front fender wells (see GCR Section 18.2, Figure 1).  
**NOTE:** This item is intended to clarify the intent of this rule to provide an additional driver foot protection option and NOT additional chassis reinforcement. No braces shall pass through the front firewall.
  4. Main hoop braces may be mounted at the rear shock mounts/towers or suspension pickup points. Such rear braces may pass through any mandatory or optional bulkhead or panel separating the driver/passenger compartment from the trunk/cargo area/fuel tank/fuel cell area, provided the bulkhead is sealed around said cage braces.
  5. A lateral, diagonal main hoop brace illustrated in Figure 1, GCR Section 18., is required. ANY number of additional reinforcing tubes are permitted within the structure of the cage, provided they are of the same material, diameter, and wall thickness as the main roll hoop. Such reinforcing tubes may pass through any mandatory or optional bulkhead or panel separating the driver/passenger compartment from the trunk/cargo area/fuel tank/fuel cell area, provided the bulkhead is sealed around such reinforcing tubes.
- b. Steering lock mechanisms shall be removed.
  - c. Fuel cells may be used, and are recommended, but shall be located within twelve (12) inches of the original fuel tank location. Additional reinforcement may be added to support the fuel cell, but such reinforcement shall not attach to the roll cage. Floor pan may be modified for installation. See GCR Sections 12.12., and 16., for requirements.

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*A.R.M.S. 1998 - Race Regulations*

- d. *An electrical master ("kill") switch is required. See GCR Section 12.26., for requirements.*
- e. *Installation of a fire extinguisher or fire system as specified in GCR 12.22., is required.*
- f. *Safety harness systems, window nets, and fire extinguishers shall meet or exceed all requirements for Showroom Stock vehicles. Installation of an on board-fire system meeting the specifications of GCR Section 12.22.1., is permitted and recommended.*
- g. *Exposed headlights, parking lights, and side marker lights shall be taped. OEM light assemblies mounted on or below (but not in) the bumper shall be removed, and all resulting holes shall be covered to prevent air passage through said holes.*
- h. *Towing eyes per GCR Section 12., may be fitted.*
- i. *Spare wheels and tires may be removed.*

**E. CAR CLASSIFICATION**

*No vehicle with an automatic transmission shall compete in the Improved Touring Category. Station wagons are prohibited.*

**Drivers wanted.** 

*A.R.M.S. 1998 - Race Regulations*

**12.1.5 Vehicles Classified in Touring, Showroom Stock and Improved Touring****TOURING "1"**

BMW M3  
 Chevrolet Camaro 93+  
 Ford Mustang 93+  
 Honda Prelude VTEC  
 Nissan 300ZX  
 Pontiac Firebird 93+  
 Porsche 968  
 Toyota Supra 93+

**SHOWROOM STOCK "A"**

Acura Integra GSR  
 BMW 325i  
 BMW 325is  
 Dodge Stealth (Non-Turbo 2WD)  
 Ford Probe GT  
 Ford Mustang (6 cyl)  
 Honda del Sol VTEC  
 Honda Prelude Si  
 Mazda MX-6 LS  
 Mitsubishi 3000GT (Non-Turbo 2WD)  
 Saab 900SE (V6)  
 Volkswagen Corrado SLC

**SHOWROOM STOCK "B"**

Acura Integra (3-Door)  
 BMW 318is  
 Chrysler Neon Coupe ACR (TwinCam)  
 Ford Contour SE  
 Mazda Miata "R"  
 Mercury Mystique (V6)  
 Nissan Sentra SE-R (2.0)  
 Nissan 240 SX SE  
 Saab 900S  
 Toyota Celica GT  
 Toyota MR2 (Non Turbo)

Volkswagen Golf GTI (VR6)  
 Volkswagen Jetta GLX (VR6)  
 Volvo 850 GLT CR

**SHOWROOM STOCK "C"**

Chrysler Neon ACR (4 Door)  
 Honda Civic EX Coupe  
 Honda del Sol Si  
 Honda Prelude S  
 Mazda MX-5/Miata (1.6)  
 Mazda MX-6  
 Mazda Protégé LX  
 Nissan 200 SX SE-R  
 Toyota Celica GT (Coupe & Liftback)  
 Toyota Celica GTS  
 Toyota Paseo  
 Volkswagen Golf Sport III  
 Volkswagen Jetta III

**IMPROVED TOURING "S"**

81-83 Alfa Romeo  
 87-89 BMW 325i / is  
 73-76 Jensen Healey (Roadster)  
 90 Mazda Miata  
 84-85 Mazda RX 7 (13B)  
 86-89 Mazda RX 7 (13B)  
 87 Nissan 200 SX (V6)  
 70-73 Nissan/Datsun 240 Z  
 73-74 Nissan/Datsun 260 Z  
 75-78 Nissan/Datsun 280 Z  
 79-83 Nissan/Datsun 280 ZX  
 84-88 Nissan 300 ZX (2 Seater)  
 68-70 Nissan/Datsun SRL 311U  
 88-90 Oldsmobile Calais  
 85-87 Pontiac Fiero V6 (2.8)  
 88 Pontiac Fiero GT (2.8)

**Vantage Motors**

204 Robie St., Truro, N.S.

*A.R.M.S. 1999 Race Regulations*

87 Porsche 924S  
 83-88 Porsche 944 (2 Valve)  
 82-85 Toyota Supra  
 86½-87 Toyota Supra  
 80 Triumph TR-8  
 90 Volkswagen Golf GTI (2.0)

**IMPROVED TOURING "A"**

86-89 Acura Integra (1.6)  
 90 Acura Integra  
 70-78 AMC Gremlin (6 cyl)  
 79-83 AMC Spirit (6 cyl)  
 71-74 BMW 2002 tii  
 75-80 Buick Skyhawk  
 86-87 Chevrolet Cavalier Z24  
 81-83 Chevrolet Citation X-11  
 68-69 Chevrolet Corvair 140  
 75-76 Chevrolet Cosworth Vega  
 78-80 Chevrolet Monza (V6)  
 86 Dodge Daytona  
 84-86 Dodge Omni GLH (2.2)  
 83-84 Dodge Shelby Charger  
 74-78 Ford Mustang II (V6)  
 79 Ford Mustang III (V6)  
 80-82 Ford Mustang III (L6)  
 88 Honda Civic DX (1500)  
 86-87 Honda Civic Si (1500)  
 89-90 Honda Civic Si (1600)  
 85-87 Honda CRX Si (1500)  
 88-90 Honda CRX Si (1600)  
 76-78 Mazda Cosmo  
 71-74 Mazda RX 2  
 72-78 Mazda RX 3 / RX 3SP  
 74-78 Mazda RX 4  
 79-85 Mazda RX 7 (12A)  
 72-73 Mercury Capri I (2600)  
 74-75 Mercury Capri I (2800)  
 76-77 Mercury Capri II (2800)

89 Nisan 240 SX  
 75-80 Oldsmobile Starfire (V6)  
 75-80 Pontiac Sunbird (V6)  
 76 Porsche 912E  
 73-76 Porsche 914 (2.0) (4cyl)  
 77-82 Porsche 924 (2.0)  
 87 Renault Alliance GTA  
 86-89 Toyota Celica GTS  
 79-81 Toyota Celica Supra  
 84-85 Toyota Corolla GTS (16V)  
 86-89 Toyota Corolla GTS  
 87 Toyota FX-16  
 85-89 Toyota MR-2 1.6 (16V)  
 69-76 Triumph TR6  
 87-89 Volkswagen Golf GTI (16V)  
 86-88 Volkswagen Scirocco (16V)

**IMPROVED TOURING "B"**

75-79 Alfa Romeo Alfetta Sedan  
 72-75 Alfa Romeo GTV (2000)  
 75-79 Alfa Romeo Alfetta GT/GTV  
 72-83 Alfa Romeo Spider (2000)  
 81-84 Audi Coupe  
 81-83 Audi 5+5  
 84-86 BMW 318i  
 80-83 BMW 320i (1.8)  
 77-79 BMW 320i (2.0)  
 68-76 BMW 2002  
 72-77 Chevrolet Vega  
 81-85 Dodge Charger 024 (2.2)  
 76-77 Dodge Colt (2.0)  
 78-80 Dodge Omni (1.7)  
 80-87 Dodge Omni (2.2)  
 74-78 Fiat 124 Spider (1.8)  
 79-83 Fiat 124 Spider (2.0)  
 79-81 Fiat Brava (2.0)  
 85-87 Ford Escort/Escort GT (1.9)  
 73-78 Ford Mustang II (2.3)

**Drivers wanted.** 

*A.R.M.S. 1999 Race Regulations*

79-88	Ford Mustang III (2.3)	73-80	Saab 99 EMS
71-74	Ford Pinto (2.0)	79-86	Saab 900
74-80	Ford Pinto (2.3)	89	Suzuki Swift Gti
90	Geo Prism Gsi	71-73	Toyota Celica I (2.0)
90-91	Geo Storm Gsi	74-80	Toyota Celica II (2.2)
79-83	Honda Accord (1.7)	81-84	Toyota Celica II (2.4)
84-87	Honda CRX (1.5)	83-84	Toyota Celica III (2.4)
83-84	Honda Prelude II (1.8)	83-84	Toyota Celica III GTS
75-78	Lance Beta Coupe (1.8)	86	Toyota Celica ST
83-89	Mazda 323 (1.6)	80-82	Toyota Corolla (1.8)
79-82	Mazda 626	76-81	Triumph TR 7 (2.0)
83-84	Mazda 626 (FWD)	85-89	Volkswagen Golf GTI & GT
88	Mazda MX 6	82-84	Volkswagen Jetta (1.7)
74-80	Mercury Bobcat (2.3)	81-84	Volkswagen Rabbit (1.7)
71-74	Mercury Capri I (2.0)	83-84	Volkswagen Rabbit GTI
79-86	Mercury Capri III (2.3)	81	Volkswagen Scirocco I (1.7)
85-86	Mercury Lynx (1.9)	82-84	Volkswagen Scirocco II (1.7)
68-80	MG / MB (1.8)	85-87	Volkswagen Scirocco
77-79	Nissan 200 SX / S10 (L20B)	69-74	Volvo 142/144 (2.0)
80-81	Nissan 200 SX / S10 (Z20)	75	Volvo 242/244 (2.0)
82-83	Nissan 200 SX / S10 (Z22)	76-81	Volvo 242/244 (2.1)
84-86	Nissan 200 SX / S12 (CA20)		
73	Nissan 610 (1.8)		<b>IMPROVED TOURING "C"</b>
74-76	Nissan 610 (2.0)	68-69	AH Sprite (1275)
89	Nissan Sentra	68-71	BMW (1600)
71-75	Opel Sedan (1900)	76-83	Chevrolet Chevette (1.4)
69-73	Opel GT (1900)	76-83	Chevrolet Chevette (1.6)
71-75	Opel Manta (1.9)	71-78	Dodge Colt RWD (1.6)
79-80	Plymouth Fire Arrow	79-84	Dodge Colt FWD (1.6)
78-79	Plymouth Horizon (1.7)	89	Dodge Colt
79-80	Plymouth Horizon TC3 (1.7)	70-73	Fiat 124 Coupe
80-87	Plymouth Horizon (2.2)	72-73	Fiat 124 Special TC
81-85	Plymouth TC3/Tourismo (2.2)	70-73	Fiat 124 Spider
84	Pontiac Fiero (2.5)	74-78	Fiat X-19 (1.3)
70-73	Porsche 914 (1.7)	79-83	Fiat X-19 (1.5)
74-75	Porsche 914 (1.8)	82-85	Ford Escort EXP
72	Saab 99 E	81-84	Ford Escort / Escort GT

## Vantage Motors

204 Robie St., Truro, N.S.

*A.R.M.S. 1999 Race Regulations*

78-80	Ford Fiesta	83-86	Nissan Sentra (1.6)
89	Ford Festiva	87-88	Nissan Sentra / B12 (E16)
89	Geo Spectrum	76-80	Plymouth Arrow RWD (1.6)
76-78	Honda Accord (1.6)	79-83	Plymouth Champ (1.6)
73-79	Honda Civic (1.2)	89	Plymouth Colt
75-83	Honda Civic CVCC (1.5)	83-85	Renault Alliance (1.4)
84-87	Honda Civic HB/Sedan	84-87	Renault Alliance (1.7)
76-82	Isuzu I-Mark	83-85	Renault Encore (1.4)
81-85	Mazda GLC (FWD)	84-85	Renault Encore (1.7)
89	Mitsubishi Mirage	83-84	Renault Fuego (1.6)
82-85	Mercury LN7	76-78	Renault LeCar R5 (1.3)
81-84	Mercury Lynx (1.6)	79-83	Renault LeCar R5 (1.4)
68-74	MG Midget (1275)	71-79	Toyota Corolla SR 5 (1.6)
75-79	MG Midget (1500)	81-83	Toyota Starlet
71-73	Nissan (1200)	73-80	Triumph Spitfire
79-82	Nissan 210 (1.4)	78-80	Volkswagen Rabbit (1457)
79-82	Nissan 210 (1.5)	75	Volkswagen Rabbit (1471)
74-78	Nissan B210	76-78	Volkswagen Rabbit (1600)
68-73	Nissan PL-510	80	Volkswagen Rabbit (1600)
83-86	Nissan Pulsar NX	75-80	Volkswagen Scirocco
82-83	Nissan Sentra (1.5)	71-77	Volkswagen Super Beetle

**Drivers wanted.** 

*A.R.M.S. 1999 Race Regulations*



**12.5 IDENTIFICATION:****12.5.1 Numbers and Class Letters**

Numbers shall be placed on the front and both sides of the car so that they are legible. Numbers shall be no more than two (2) digits, and shall meet the approval of the Chief of Timing and Scoring. Three (3) digit numbers may be used when individually approved in advance by the Chief of Timing and Scoring. Class letters shall be placed on both sides of the car so that they are legible. *Rear numbers are recommended.*

**12.5.2 Size of Numbers and Class Letters**

Numbers shall be at least eight (8) inches high, with a 1.5 inch stroke on a contrasting background. Metallic (reflective) numbers and class letters are prohibited. The distance between two (2) numbers shall be at least as wide as the stroke of the numbers. Class letters shall be at least four (4) inches high, with a half (1/2) inch stroke on a contrasting background.

**12.5.3 Logo:**

See Section 7.1.5A

**12.6 ADVERTISEMENTS AND GRAPHICS:**

Advertising and graphics (names, symbols and logos) may be displayed on cars provided they are in good taste and do not interfere with identification marks and A.R.M.S. logos.

**12.7 MECHANICAL CONDITION:**

The Chief Technical and Safety Inspector shall have the responsibility for approving every car before it is allowed to take part in a competition. The inspection procedures used to carry out this responsibility are set out in Section 13., Technical and Safety Inspection. A driver or entrant whose car is disapproved and who drives it in competition or who presents it for recheck after disapproval without the corrections specified may be penalized as provided in Section 20., Penalties.

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2810 Westville Rd., New Glasgow, N.S.

*A.R.M.S. 1998 - Race Regulations*

**12.7.1 Alterations or Damage After Inspection**

Cars which have been altered or damaged after they have been approved at technical and safety inspection shall be subject to reinspection and reapproval.

**12.8 LOSS OF BODYWORK:**

All major body components such as front and rear hoods, fenders, doors, and windscreens shall be maintained in normal position throughout the competition. If loss of bodywork is a safety hazard, the car may be black-flagged. A car completing a competition with bodywork missing may be penalized.

**12.9 WEIGHT:**

All cars shall meet or exceed the minimum weight specified with driver (except Showroom Stock and Improved Touring which is without driver), exactly as they come off the race circuit, at the conclusion of a race or qualifying session. Cars found to be underweight at impound are subject to penalty and shall have it noted on the next page of the Vehicle Logbook. The car shall be weighed at the next event and meet the proper minimum weight before being allowed to qualify.

**12.9.1 Ballast**

Ballast may be added to all cars (except Showroom Stock and Improved Touring) as required, to meet minimum weight, provided it is securely mounted within the bodywork and serves no other purpose.

**12.10 NOISE:**

The maximum sound pressure level from a car on track shall be measured as provided in Section 15., Sound Control.

**12.11 BATTERIES:**

Battery location is unrestricted within the bodywork (except Showroom Stock and Improved Touring). If located in the driver/ passenger compartment, wet cell batteries shall be in a nonconductive marine type container or equivalent. The hot terminal shall be insulated on all cars. All batteries (on-board power supplies) shall be attached securely to the frame or chassis structure independent of the marine type container.

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7 Cornwallis Ave, New Minas, N.S.

*A.R.M.S. 1998 - Race Regulations*

**12.12 FUEL CELLS:**

All cars shall be equipped with a fuel cell complying with specifications according to GCR Section 16., except Showroom Stock and Improved Touring cars.

**12.12.1 Capacity**

There shall be no restriction of fuel capacity or dimensions of the fuel cell, except where otherwise specified. The installation on more than one cell is permitted.

**12.12.2 Installation**

- A. Internal body panels may be modified to accommodate the installation of fuel cells as long as modifications serve no other purpose. In the event installation includes encroachment into the driver's compartment, a metal bulkhead shall prevent exposure of the driver to the fuel cell. The fuel cell shall not be installed any closer to the ground than six (6) inches, unless enclosed within the bodywork.
- B. Filler caps, fuel pickup openings and lines, breather vents, and fuel lines shall be so designed and installed that if the car is partially or totally inverted, fuel shall not escape. If the fuel filler cap is located directly on the fuel cell, a check valve shall not be required provided the filler cap is of positive locking type and does not incorporate an unchecked breather opening. If the filler cap is not located on the fuel cell, a check valve shall be incorporated in the fuel cell to prevent fuel from escaping if the cap and filler neck are torn from the tank.
- C. Fuel cell breathers shall vent outside the car.
- D. It is recommended that all lines and filler openings be incorporated in a single fitting at the top of the fuel cell(s).

**12.12.3 Fuel Cell Vent(s)**

Factory installed gasoline tank evaporative emission control devices shall be removed from all Production and GT Category cars. Fuel cell vents shall not

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219 North St., Bridgewater, N.S.

*A.R.M.S. 1998 - Race Regulations*

discharge to the driver/passenger compartments, even if installed that way by the manufacturer. It is not permitted to vent the fuel system through the roll bar/roll cage structure.

**12.12. Bulkhead**

There shall be a metal bulkhead between the driver/passenger compartment and the compartment containing the fuel cell. This includes fuel cells that are flush-mounted with driver/passenger compartment panels or otherwise exposed to the driver/passenger compartment.

**12.12.5 Location**

Fuel cells shall be located within twelve (12) inches of the standard tank or alternate tank as shown in PCS/GTCS. Free fuel filler location is allowed with installation of a safety fuel cell.

**12.14 AERODYNAMIC SKIRTS:**

Aerodynamic skirts are prohibited in Club Racing.

**12.15 ACCUMULATORS (e.g., Accusumps)**

An accumulator (e.g., Accusump) may be installed (except for Touring and Showroom Stock). Location is free, but it shall be securely mounted within the bodywork. All oil lines that pass into or through the driver/passenger compartment shall be of metal braided hose (e.g., Aeroquip).

**12.17 TRACK**

Track is the distance between the centerlines of the wheels as raced, without driver, measured at a horizontal plane through the wheel hub centerline. Alternatively, it may be measured from the inside of one wheel at the hub centerline height to the outside of the other wheel, then conversely from the outside of the first wheel at hub centerline to the inside of the second wheel. The two (2) dimensions obtained are to be added together and divided by two to obtain the average. Measurements are to be taken at both front and rear of the wheels and averaged to compensate for toe-in/out. Under certain circumstances it may be preferable to measure from the outside of one wheel to the outside of

**DARTMOUTH HYUNDAI**  
2306 Windmill Rd., Dartmouth, N.S.

*A.R.M.S. 1998 - Race Regulations*

another and from this dimension deduct the thickness of one wheel. This should be repeated 1800 opposite to the first measurement and the two dimensions averaged.

**12.18 WHEEL RIM WIDTH:**

Wheel rim width shall be measured at the base of the bead seat.

**12.19 LIGHTS - BRAKE AND TAIL:**

All non-Formula cars shall have two operating red brake lights. All Formula (open wheel) cars shall be equipped with a red taillight of at least fifteen (15) watts. This light shall be mounted as high as possible on the centerline of the car and be clearly visible from the rear. The taillight shall be illuminated when ordered by the Chief Steward.

**12.20 VENTILATION:**

All closed cars shall run with both front door windows fully open. Holes for ventilation in quarter or rear windows on Production or GT cars are not allowed, unless specified in PCS, GTCS.

**12.21 FIREWALL AND FLOOR:**

Firewall and floor shall prevent the passage of flame and debris into the driver's compartment. Belly pans shall be vented to prevent the accumulation of liquids, except composite/honeycomb structures. All rear engined Formula cars are required to have an undertray, from driver's foot area to the firewall, for protection of the legs and torso.

**12.22 FIRE SYSTEM:**

All cars shall be equipped with an On-Board Fire System except Showroom Stock, Touring and Improved Touring.

**12.22.1 On-Board Fire System Requirements**

- A. On-board fire systems shall use Halon 1301 or 1211, with a five (5) pound minimum capacity (by weight). There shall be a minimum of (2) nozzle locations, one in the driver's compartment and one in either the engine area

**VILLAGE HYUNDAI**  
24 Jennifer Drive., Truro, N.S.

*A.R.M.S. 1998 - Race Regulations*

or the fuel cell area. Manual or Automatic release is allowed. (GT cars see Section 12.1.2.B.10.f., or 12.1.2.C.3.e.) On-board fire systems may use AFFF material (i.e. SPA Lite, ZERO 2000, Coldfire 302), 2.25 liter minimum capacity (by volume). If such a system is used, the appropriate atomizing nozzles shall be used. All AFFF fire system bottles shall incorporate a functional pressure gauge and shall be marked with the manufacturers recommended "filled weight." All AFFF fire systems shall be serviced according to manufacturers specifications. On-board fire systems may also use CEA61 4 provided that the lines and nozzles are replaced in accordance with the manufacturers (3M) instructions. *All FM 100 fire suppression systems will be considered illegal in any SCCA competition vehicle effective 1/1/97.*

- B. The fire system cylinder shall be securely mounted, in such a manner that it can be checked during a Technical Inspection and may be removed for weighing periodically for compliance to full weight shown on the cylinder. (Weight is without valve assembly.)
- C. All on-board fire systems shall be identified with circle "E" decal. In GT and Production cars, two (2) circle "E" decals may be required, one at the release location and the second on the outside bodywork in line with or as near to the release location as possible.
- D. On Formula and Sports Racing cars, a circle "E" decal shall be located on the outside bodywork as near to the release location as possible.

#### **12.22.2 Hand-Held Fire Extinguisher Requirements**

The following are acceptable for Showroom Stock, Touring and Improved Touring cars:

- A. Halon 1301 or 1211, two (2) pound minimum capacity by weight.
- B. Dry chemical, two (2) pound minimum with a positive indicator showing charge. Chemical: 10 BC Underwriters Laboratory rating, potassium bicarbonate (Purple K) recommended, 1 A1 OBC Underwriters Laboratory rating multipurpose, ammonium phosphate and barium sulfate or Monnex.
- C. The fire extinguisher shall be securely mounted in the cockpit. All mounting brackets shall be metal and of the quick-release type.

**NARDOCCHIO'S HYUNDAI**  
**34 State Street, Sydney, N.S.**

*A.R.M.S. 1998 - Race Regulations*

**12.23 SCATTERSHIELDS/CHAIN GUARDS:**

1. The installation of scattershields or explosion-proof bell housings shall be required on all cars (except Showroom Stock, Touring, Improved Touring, and American Sedan) where the failure of the clutch or flywheel could create a hazard to the driver.
2. Chain drive cars shall be fitted with a protective case/shield to retain the chain in case of failure.

Minimum material specifications are:

.125	inch SAE 4130 alloy steel
.250	inch mild steel plate
.250	inch aluminum alloy

National Hot Rod Association approved flexible shields.

**12.24 DETACHABLE PANELS/SUNROOFS:**

Detachable hardtops, detachable panels, and detachable doors (e.g., Lotus 7) shall be removed, unless authorized in the Category. Rules or Specification Book for that car to remain in place. Movable panels such as sliding sunroofs shall be closed.

**12.25 OIL CATCH TANKS, FILTERS, AND BREATHERS:**

Oil catch tanks and engine breathers, whether directly or indirectly ventilating the crankcase, and all transmission/transaxle breathers shall be equipped with oil catch tanks. Minimum catch tank capacity shall be one U.S. quart for the engine and transmission/transaxle. Oil catch tanks and oil filters may be mounted in the driver/passenger compartment. A metal bulkhead shall prevent exposure of the driver to oil spillage. Oil catch tanks shall vent into the engine compartment or outside the driver's compartment. A crankcase vacuum breather that passes through the oil catch tank(s) to exhaust systems or vacuum devices that connect directly to exhaust systems is prohibited.

**12.26 MASTER SWITCH:**

All cars, except Showroom Stock and Touring shall be equipped with a master switch easily accessible from outside the car. Spec Racer Fords shall be wired per

**HYUNDAI OF HALIFAX**  
380 Bedford Hwy, Halifax, N.S.

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RFSRII. The master switch shall be installed directly in either battery cable and shall cut all electrical circuits but not an on-board fire system. It shall be clearly marked by the international marking of a spark in a blue triangle and mounted in a standard location. Off position shall be clearly indicated at the master switch location. The standard locations shall be as follows:

1. **FORMULA AND SPORTS RACING CARS** -In proximity to the right-hand member of the roll bar, but in a location so that it cannot be operated accidentally. It can be mounted on a bracket welded to the inside of the upright member or mounted so that the operating lever or knob is outside of the body panel immediately in-board of the upright member. This is the standard location on Formula cars built to the Constructor's Association requirements for Formula 1.
2. **CLOSED SPORTS RACING CARS, PRODUCTION CARS, IMPROVED TOURING AND GT CARS** -In front of the windshield on either the cowl or on top of the fender, but close enough to the windshield to be accessible if the car is overturned. Alternatively, it may be mounted below the center of the rear window or on a bracket attached by welding or clamps to the roll cage, easily accessible through the open window. (Drilling of holes in roll cage to attach the bracket is prohibited.)
3. **OPEN PRODUCTION, GT AND IMPROVED TOURING CARS** -May exercise a choice among the above locations.

**12.27 STEERING WHEEL LOCKS:**

Steering wheel lock devices shall be removed (except Showroom Stock and Touring).

**12.28 FORMULA CAR VISIBILITY:**

The driver of all Formula cars shall have a field of vision of not less than ninety (90) degrees to either side (total of 180 degrees) with both eyes, by turning his or her head, but without lifting his or her head forward or otherwise moving from the normal driving position. Plexiglass or similar uncolored transparent material may be substituted for existing bodywork. "Token" portholes do not satisfy this requirement. Only a structural member such as a roll bar brace or frame tube may interrupt the required field of vision.

**DOUG THISTLE HYUNDAI**  
Hwy 1, Dayton, Yarmouth, N.S.

*A.R.M.S. 1998 - Race Regulations*



**12.29 WINDOW SAFETY NETS:**

Window safety nets shall be used on the driver's side window of all closed cars. As of January 1, 1995 and thereafter, all window nets shall meet SF1 Specification 27.1., and shall bear an "SF1 Spec 27.1., Label" to that effect. The window net shall be equipped with a quick-release device. Nets shall be attached to the roll cage; plastic buckles and elastic cords are not permitted. *Holes in the rollcage to accomodate either support rod is unacceptable unless bushed and welded completely* Refer to Figure 4, "Proper Window Net Installation," for additional information on mounting methods.

**12.30 TOWING EYES:**

All CARS without an exposed roll bar shall have a towing eye or strap, front and rear, that does not dangerously protrude from the bodywork when the car is racing, to be used for flat-towing or hauling the vehicle. A removable towing eye carried inside the car is not acceptable. These towing eyes or straps shall be easily accessible without removal or manipulation of bodywork or other panels. Towing eye minimum ID two (2) inches. Towing Eyes must be Brightly Colored for ease of identification.

**12.31 WHEEL FANS:**

Wheel fans are permitted, unless otherwise restricted.

**12.32 WINDSHIELD CLIPS/REAR WINDOW STRAPS:**

Windshield safety clips and rear window safety straps shall be installed on all closed cars (except Showroom Stock, Touring and Improved Touring).

Three (3) clips (3 inch x 1 inch x 1/8 inch) shall be bolted or riveted to the body at the top of the windshield.

Two (2) clips (3 inch x 1 inch x 1/8 inch) shall be bolted or riveted to the cowl and extend over the bottom edge of the windshield. Clips shall be spaced a minimum of twelve (12) inches apart.

It is recommended that three (3) one (1) inch wide strips of steel or aluminum be installed behind the windshield to support it from collapsing inwards if it becomes damaged.

The rear window shall be secured with two (2) metal straps (1 inch wide x 1/8 inch thick) bolted or riveted to the body at the top and bottom of the rear window.

**12.33 FUEL AND OIL LINES:**

All fuel and oil lines, including gauge and vent lines, that pass into or through the driver/passenger compartment, shall be of steel tube or metal braided hoses or bulkheaded.

**12.34 DATA COLLECTION DEVICES**

Data collection devices are considered to be instrumentation and therefore allowed in all classes that permit the installation, replacement or addition of gauges, indicators or instrumentation.

**16.0 SAFETY FUEL CELL SPECIFICATIONS:**

All safety fuel cells shall be constructed and certified in accordance with the FIA FT-3 specifications. Where safety fuel cells are required in SCCA Competition, all safety fuel cells shall consist of a foam-filled fuel bladder enclosed in a metal container at minimum.

**16.1 FUEL BLADDER:**

1. All fuel bladders shall be constructed in accordance with the FIA FT-3 specifications.

**16.2 CONTAINER:**

1. **GT and Production Category**  
The bladder shall be installed in a container of .036 inch steel, .059 inch aluminum, or .125 inch Marlex, fully surrounding the bladder.
2. **Sports Racing Category and Formula Cars**  
The fuel bladder shall be completely surrounded by a container (which may also be a part of the structure or bodywork of the car) to ensure rigid and secure mounting of the bladder and provide additional protection. A minimum of .036 inch steel, .059 inch aluminum, or an approved equivalent is required for all vehicles.

**16.3 OTHER DESIGNS:**

SCCA may, at its discretion, approve safety fuel cells of other types and with basic specifications that differ from the bladder and container specifications above. In such cases, the manufacturer shall be required to demonstrate to the satisfaction of SOCA that such cells meet or exceed the crash resistant properties of cells meeting the standard specifications. SCCA may require independent laboratory analysis, comparative destructive testing, and such other tests it deems sufficient.

**16.4 FILLER CAP:**

A positive locking fuel filler cap (no Monza/flip-type) shall be used, and fuel pickup openings and lines, breather vents, and fuel filler lines shall be designed

and installed so that if the car is partially or totally inverted, fuel shall not escape. If the fuel filler cap is located directly on the fuel bladder, a check valve shall not be required provided the filler cap is of a positive locking type and does not incorporate an unchecked breather opening. If the fuel filler cap is not located directly on the fuel bladder, a check valve shall be incorporated in the fuel bladder to prevent fuel escaping if the cap and filler neck are torn from the bladder.

Fuel cell breathers shall vent outside the car. The cell need not incorporate a drain fitting. Fuel filler location is unrestricted when safety fuel cells are installed in Production and GT Category cars.

It is recommended that all lines, filler openings, and vents be incorporated in a single fitting located at the top of the fuel cell.

In Formula and Sports Racer cars registered prior to January 1, 1994, the filler cap and neck are exempt from the bulkhead requirements of GCR 12.12.4.

#### **16.5 ROTARY MOLDED CELL:**

The use of rotary molded fuel cells not having a bladder, or not contained in a metal can, is allowable in those cars that do not require the use of a fuel cell, but where they are an allowed option.

**17.0 DRIVER'S RESTRAINT SYSTEM:**

All drivers in SCCA-sanctioned speed events shall utilize either a five or six-point restraint harness meeting the following specifications. Arm restraints are required in all open cars. The restraint system installation is subject to approval of the Chief Technical and Safety Inspector. (Note: SFI requirements for Driver's Restraint System does not include arm restraints at this time. Window nets need not be dated.)

1. A five-point system, recommended for use in automobiles where the driver is seated in an upright position, consists of a three (3) inch seat belt, approximately a two (2) inch strap over-the-shoulder type of shoulder harness, and approximately a two (2) inch anti-submarine strap.
2. A six-point system, recommended for use in automobiles where the driver is seated in a semi-reclining position, consists of either a two (2) or three (3) inch seat belt, approximately a two (2) inch strap over-the-shoulder type of shoulder harness, and approximately two (2) inch leg or anti-submarine straps.
3. The material of all straps shall be Nylon or Dacron polyester and in new or perfect condition. The buckles shall be of metal-to-metal quick-release type except in the case of leg straps of the six-point system where they attach to the seat belt or shoulder harness straps.
4. The shoulder harness shall be the over-the-shoulder type. There shall be a single release common to the seat belt and shoulder harness.

The shoulder harness shall be mounted behind the driver and above a line drawn downward from the shoulder point at an angle of forty (40) degrees with the horizontal.

In cases where the driver is in a semi-reclining position, the shoulder harness shall be attached so that the angle between a line drawn through the driver's spine and the shoulder harness is forty-five (45) degrees or greater.

Only separate shoulder straps are permitted. ("Y"-type shoulder straps are not allowed.) "H"-type configuration is allowed.

*A.R.M.S. 1998 - Race Regulations*

It is recommended that the shoulder harness, where it passes over the shoulders, be three inches wide or have three (3) inch wide padding.

5. The single anti-submarine strap of the five-point system shall be attached to the floor structure and have a metal-to-metal connection with the single release common to the seat belt and shoulder harness.
6. The double leg straps of the six-point system may be attached to the floor as above for the five-point system or be attached to the seat belt so that the driver sits on them, passing them up between his or her legs and attaching either to the single release common to the seat belt and shoulder harness or attaching to the shoulder harness straps. It is also permissible for the leg straps to be secured at a point common to the seat belt attachment to the structure, passing under the driver and up between his or her legs to the seat belt release or shoulder harness straps.

All straps shall be free to run through intermediate loops or clamps/buckles.

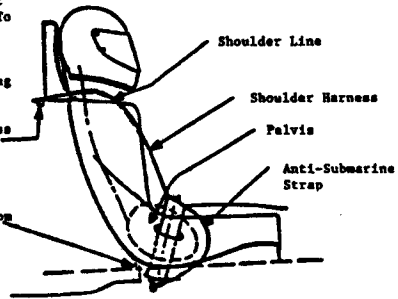
7. The minimum acceptable bolts used in the mounting of all belts and harnesses is SAE Grade 5. Where possible, seat belt, shoulder harness, and anti-submarine strap(s) should be mounted to the roll structure or frame of the car. Where this is not possible, large diameter mounting washers or equivalent should be used to spread the load. Bolting through aluminum floor panels, etc., is not acceptable.
8. As of January 1, 1995 and thereafter, all driver restraint systems shall meet SFI Specifications 16.1., and shall bear a dated "SFI Spec 16.1., Label," no more than five(S) years old. It is recommended that driver restraint systems be replaced every three (3) years. Driver restraint systems complying with FIA specification #8853/1985, including ammendment 1/92, may be used. FIA driver restraint systems shall be no more than five (5) years old. (Not all manufacturers are dating every belt in a set. They may be dating one of a pair of shoulder or lap belts or may only be dating one belt in an entire set. Scrutineers are reminded the restraint system needs only one date label.)

## DRIVER RESTRAINT

Shoulder Harness  
Should Be Installed  
90° To Spine At  
Shoulder Line To  
Minimise  
Compression  
Injuries Under  
High "G" Loading

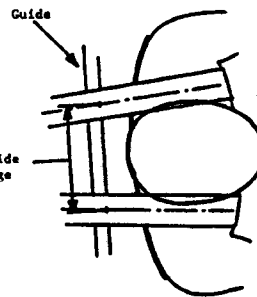
Shoulder Harness  
Guide  
Or Anchorage

Seat Back/Bottom  
Junction



3.0 Min/Max To Centerline  
Of Lap Belt At Seat Back  
Seat Bottom Junction  
Lap Belt Should Continue  
In Straight Line To Anchorage

4-6" At Guide  
Or Anchorage



**18.0 ROLL CAGES:**

These general specifications are for all automobiles. Roll cages are required in all automobiles.

Roll cages may be of two (2) designs, low front hoop (top of steering wheel) or high front hoop (top of windshield). Specific installations are subject to approval by the Technical and Safety Inspectors at each event.

The Technical Staff of Club Racing shall have the responsibility to ensure specification compliance with SCCA safety standards. To that end, the Technical Staff of Club Racing may or may not accept alternate construction standards from any source that significantly vary from SCCA standards of protection.

**18.1 BASIC DESIGN CONSIDERATIONS:**

1. The basic purpose of the roll cage is to protect the driver if the car turns over, runs into an obstacle such as a guardrail or catch fence, or is struck by another car. It shall be designed to withstand compression forces from the weight of the car coming down on the rollover structure and to take fore/aft and lateral loads resulting from the car skidding along on its rollover structure.
2. A system of head restraint to prevent whiplash and rebound, and also to prevent the driver's head from striking the underside of the main hoop shall be installed on all vehicles. Racing seats with integral headrests shall also meet this requirement and have a support. The head restraint on non-integral seats shall have a minimum area of thirty-six (36) square inches and be padded with a non-resilient material such as Ethafoam® or Ensolite® or other similar material with a minimum thickness of one (1) inch. The head restraint shall be capable of withstanding a force of two-hundred (200) lbs., in a rearward direction. The head restraint support shall be such that it continues rearward or upward from the top edge in a way that the driver's helmet can not hook over the pad. The padded surface shall touch the helmet; it shall not be under fiberglass or other hard material.



3. Forward braces and portions of the main hoop subject to contact by the driver's helmet (as seated normally and restrained by seat belt/shoulder harness) shall be padded with non-resilient material such as Ethafoam or Ensolite or other similar material with a minimum thickness of one-half (1/2) inch.
4. No portion of the safety roll cage shall have an aerodynamic effect by creating a vertical thrust.
5. Roll cage or chassis design shall prevent engine intrusion into the driver compartment.
6. **Material:**
  - A. Seamless, or DOM (Drawn Over Mandrel) mild steel tubing (SAE 1010,1020,1025) or equivalent, or alloy steel tubing (SAE, 4130) shall be used for all roll cage structures. Proof of use of alloy steel is the responsibility of the entrant.
  - B. Minimum tubing sizes (all Formula, Sports Racing, GT, and Production Category automobiles, and all automobiles registered prior to June 1, 1994) main and front hoop (All dimensions in inches):

Vehicle Weight Without Driver	Material	
	Mild Steel	Alloy Steel
Up to 1500 lbs.	1.375 x .095	1.375 x .080
1500-2500 lbs.	1.50 x .095	1.375 x .095
Over 2500 lbs.	1.50 x .120	1.50 x .095 or 1.75 x .095
  - C. Minimum tubing sizes for (all Showroom Stock, Touring and Improved Touring Category automobiles registered after June 1, 1994) main and front hoop, downtubes, rear supports, diagonal:

Up to 1500 lbs	1.375 x .095 DOM / Seamless / Alloy	1501-2200 lbs	1.500 x .095 DOM / Seamless / Alloy or 1.500 x .120 ERW
2201-3000	1.500 x .120 DOM / Seamless / Alloy	or 1.750 x .120 ERW	

1.750 x .095 DOM / Seamless / Alloy (American Sedans may

*A.R.M.S. 1998 - Race Regulations*

construct to these specifications regardless of weight.)  
 3001-4000 lbs 1.750 x .120 DOM / Seamless / Alloy  
 -No ERW  
 Over 4000 lbs 2.000 x .120 DOM / Seamless / Alloy  
 -No ERW

Main hoop: 4 bends maximum, totaling 180 degrees  
 $\pm 10$  degrees.

Front hoop: 4 bends maximum or Front downtubes:  
 2 bends maximum.

Rear hoop supports: No bends.

If any of the above bend requirements cannot be met, all components of the roll cage shall be fabricated from the tubing size(s) listed for the next heavier category of automobiles.

- D. For purposes of determining tubing sizes, the vehicle weight is as raced without fuel and driver. The minus tolerance for wall thickness should not be less than .010" below the nominal thickness.
- E. An inspection hole at least 3/16 inch diameter shall be drilled in a non-critical area of all tubes with a specified size to facilitate verification of wall thickness.

#### 7. General Construction

- A. One (1) continuous length of tubing shall be used for the main hoop member with smooth continuous bends and no evidence of crimping or wall failure. The radius of bends in the roll cage hoop (measured at centerline of tubing) shall not be less than three (3) times the diameter of the tubing.

Whenever possible, the roll cage hoop should start from the floor of the car, and, in the case of tube frame construction, be attached to the chassis tubes by means of gussets or sheet metal webs with support tubes beneath the joints to distribute the loads. It is recommended that gussets be used at all joints.

- B. Welding shall conform to American Welding Society D1.1, Structural Welding Code, Chapter 10, Tubular Structures. Welds shall be continuous around the entire tubular structure. All welds shall be visually inspected and shall be acceptable if the following conditions are satisfied:
  - 1. The weld shall have no cracks.
  - 2. Thorough fusion shall exist between weld metal and base metal.
  - 3. All craters shall be filled to the cross section of the weld.
  - 4. Undercut shall be no more than 0.01 inch deep.
- C. Aluminum bronze or silicon bronze welding technique is permitted, but extreme care shall be used in preparation of parts before bronze welding and in the design of the attaching joints.

**18.2 SHOWROOM STOCK/TOURING ROLL CAGE:**

- 1. Full width roll cages are required in all Showroom Stock/ Touring automobiles. Roll cages installed in Showroom Stock/Touring automobiles are for driver safety and shall be contained entirely within the driver/passenger compartment without removing any panel or accessory not specifically authorized in these rules. The carpet/padding may be cut around the mounting base plates.
  - A. The cage need not be removable. It shall be bolted and/or welded to the car.
  - B. It shall attach to the car at no more than eight (8) points, consisting of the basic cage with six (6) points and two optional braces.
  - C. The forward part of the cage shall be mounted to the floor of the vehicle. In addition, if the two optional braces referred to in 18.2.1.B are utilized they shall be mounted, one on either side, from the forward section of the cage to the firewall or front fender wells (see GCR Section 18.2., Figure 1). No braces shall pass through the front firewall.

2. Removable roll cages and braces shall be very carefully designed and constructed to be at least as strong as a permanent installation. If one tube fits inside another tube to facilitate removal, the removable portion shall fit tightly and shall bottom by design and at least two (2) bolts shall be used to secure each such joint. The telescope section shall be at least eight (8) inches in length. Minimum bolt diameter is 3/8 inches.
3. For tubing sizes for front and main hoop and all required bracing, see 18.1.6.0.
4. **Main Roll Hoop:**
  - A. Main roll hoop (behind the driver) shall extend the full width of the driver/passenger compartment and shall be as near the roof as possible. It shall incorporate a diagonal lateral brace to prevent lateral distortion of the hoop (See Figure 1). *Any number of additional reinforcing bars are permitted within the structure of the cage, provided they meet the minimum tubing sizes per Sections 18.1.6.B and C.* It is required that the horizontal brace behind the driver's seat continue from the diagonal to the passenger side main hoop upright or that a second diagonal be installed in the main hoop.
5. **Front Roll Hoops:**
  - A. The front or side hoops shall follow the line of the front pillars to the top of the windshield (as close to the roof as possible) then horizontally to the rear attaching to the main hoop. These two side hoops are to be connected together by a tube over the top of the windshield, or
  - B. A front hoop following the line of the front pillars and connected by horizontal bars to the main hoop on each side at the top may be used, or
  - C. A top "halo" hoop following the roof line from the main hoop to the windshield with forward down tubes following the line of the front pillars to the floor.

- D. The front or side hoops may extend through the dash pad. This includes the forward part of the door panel if it is an extension of the dash panel.
- E. One (1) bar is recommended in a horizontal plane between forward cage braces in the dash area.

**6. Bracing:**

The main roll hoop shall have two braces extending to the rear attaching to the frame or chassis. Braces shall be attached as near as possible to the top of the main hoop not more than six (6) inches below the top and at an included angle of at least thirty (30) degrees. On cars where the rear window/bulkhead prohibits the installation of rear braces (e.g., Honda del Sol), the main hoop shall be attached to the body by plates welded to the cage and bolted to the stock shoulder harness mounting points. This installation design must also incorporate a diagonal bar connecting the top of the main hoop to the lower front passenger side mounting point ("Petty Bar").

**7. Side Protection:**

A side tube connecting the front and rear hoops across the driver's door opening is mandatory and across the passenger's door opening is allowed (recommended). The telescope section should be at least four (4) inches in length. Minimum bolt diameter 3/8 inches. The driver's window safety net may be mounted to this side tube and the top cage tube.

**8. Mounting Plates:**

- A. Each mounting plate shall be at least .080 thick if welded and 3/16" thick (with appropriate backing plates) if bolted. There shall be a minimum of three (3) bolts per mounting plate if bolted.
- B. Each mounting plate shall not be greater than 100 square inches and shall be no greater than twelve (12) inches or less than two (2) inches on a side.

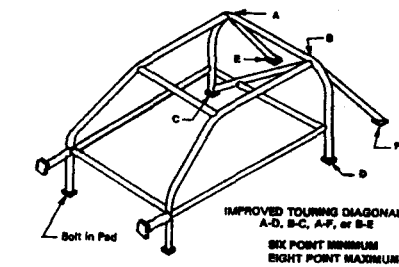
- C. Whenever possible, mounting plates shall extend onto a vertical section of the structure (such as a rocker box).
- D. The mounting plate may be multi-angled but must not exceed these dimensions in a flat plane.
- E. Any number of tubes may attach to the plate or each other.

**9. Hardware: (Bolts)**

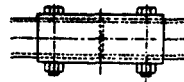
All hardware shall be Grade 5 or better, 5/16" minimum diameter.

- 10. In order to provide a secure seat back support a section of tubing equal to the roll bar shall be installed horizontally from the main hoop upright to the diagonal brace. This tube should be no higher than shoulder height.

**SHOWROOM STOCK REMOVABLE ROLL CAGE**



IMPROVED TOURING DIAGONAL  
A-D, B-C, A-F, or B-E  
SIX POINT MINIMUM  
EIGHT POINT MAXIMUM



*A.R.M.S. 1998 - Race Regulations*

**18.3 GT AUTOMOBILES ROLL CAGES:**

All GT automobiles shall have full width roll cages. Open automobiles without full windshields may have a low front hoop. All closed automobiles shall have full height (top of windshield) front hoops.

**18.3.1 Main and Front Hoops****A. Main Hoop:**

The main hoop (behind the driver) shall be full width of the cockpit. The main hoop shall be as near to the roof as possible on closed automobiles and not less than two (2) inches above the driver's helmet on open automobiles, with the driver seated normally and restrained by seat belt/ shoulder harness. A straight line drawn from the top of the main hoop to the top of the front hoop shall pass over the driver's helmet.

**B. Front Hoop:**

1. The front hoop shall follow the line of the front pillars to the top of the windshield and be connected, by horizontal bars, to the top of the main hoop on each side (as close to the roof as possible).
2. Two (2) side hoops following the line of the front pillars to the top of the main hoop may be used. These two (2) side hoops are to be connected by a horizontal bar over the top of the windshield. (See Figure 6), or
3. A top "halo" hoop following the roof line from the main hoop to the windshield with forward down tubes following the line of the front pillars to the floor.
4. Double "ear-type" joints are allowed, provided that they are fully welded at all mating surfaces.

**C. Fabrication:**

The main hoop shall be one continuous length of tubing with smooth continuous bends with no evidence of crimping or wall failure. The

minimum radius for all bends shall be three (3) times the tube diameter measured from the tube centerline. Whenever possible, the roll hoops should start from the floor of the automobile, and, in the case of tube frame construction, be attached to the tubes by means of gussets or metal webs in order to distribute the loads. On automobiles of frameless construction, consideration should be given to using a vertical roll hoop of 360 degrees completely around the inside of the automobile and attached with suitable mounting plates.

### 18.3.2 Bracing

All required bracing shall be the same diameter and wall thickness as listed in 18.1.6., Material. (Main and Front Hoops)

All main hoops shall incorporate a diagonal brace (same diameter and wall thickness as main hoop) to prevent lateral distortion of the main hoop.

#### A. Main Hoop Bracing:

Main hoops shall have two (2) braces extending to the rear, attaching to the frame or chassis. Braces shall be attached as near as possible to the top of the main hoop (not more than six (6) inches below the top) and at an included angle of at least thirty (30) degrees. *Open cars with a low front hoop shall have (Effective 1/1/99) two braces extending from the main hoop to the low front hoop. These braces shall be mounted no lower than six inches below the top of the front and main hoops as illustrated in Figure 7.*

#### B. Removable Bracing:

Removable bracing shall incorporate connectors of the double lug, tapered, or muff-type as shown in Figures 9, 10, and 11. The double-lug type shall include a doubler, gusset, or capping arrangement so as to avoid distortion or excessive strain caused by welding.

#### C. Front Hoop Bracing:

There shall be two (2) braces extending forward from the front hoop to protect the driver's legs. It is recommended that this bracing extend to the bulkhead in front of the driver's feet; but, in any case, it shall be integrated into the frame or chassis to provide substantial support for the front hoop.



**18.3.3 Side Protection - Open and Closed Automobiles**

- A. The minimum side protection shall consist of a side tube connecting the front and rear hoops across both the door openings. Additionally, there shall also be either a diagonal tube from the front hoop to the rear hoop bisecting the door opening below the horizontal side tube, or not less than two (2) horizontal side tubes. Additional tubing may be added. NASCAR-style door bars are recommended.
- B. In automobiles with full roll cage installations including side bars, interior door panels may be altered, replaced, or removed. When door panels are removed, all sharp edges or projections shall be protected.

**18.3.4 Mounting Plates:**

The thickness of mounting plates bolted to the structure of the car shall not be less than the thickness of the roll hoop or brace that they attach and shall be backed-up with a plate of equal dimensions on the opposite side of the panel, with the plates through-bolted together. A minimum of three (3) bolts per mounting plate is required for bolted mounting plates. All hardware (bolts) shall be Grade 5 or better with 5/16" diameter minimum. Mounting plates welded to the structure of the car shall not be less than .080" thick. Whenever possible the mounting plates should extend onto a vertical section of the structure (such as door pillar).

**18.3.5 Driver's Seat**

The driver's seat shall be firmly mounted to the structure of the car. In cars where the seat is upright (most common in GT and Production cars) the back of the seat shall be firmly attached to the main roll hoop, or its cross bracing, so as to provide aft and lateral support. Bulkheads, firewalls, rear decks, or similar structures of suitable strength may be used as a substitute for the main roll hoop or cross bracing to provide the required seat back support.

## 18.4 ROLL CAGES, FORMULA AND SPORTS RACING

### AUTOMOBILES

All Formula and Sports Racing automobiles are required to have full roll cages. Cage may be of two designs, low front hoop (top of steering wheel) or high front hoop (equal to rear hoop) but with no diagonal brace. Two (2) seat Sports Racers shall have full cockpit width cages per Figure 7. All tube frame automobiles shall have both front and rear hoops formed of tubing per 18.1.6. On automobiles of full monocoque construction, a fabricated sheet metal front hoop structure may be approved upon specific application to the SCCA. All Formula Car and Sports Racing roll cage tubing specifications must meet the current GCR specifications, effective 1/1/98.

#### 18.4.1 Main Hoop

The main hoop shall be constructed of tubing per 18.1.6. The minimum bend radius shall not be less than three (3) times the tube diameter measured from the tube centerline. The main hoop shall not be less than two (2) inches above the driver's helmet, seated normally and restrained by seat belt/shoulder harness. A straight line drawn from the top of the main hoop to the top of the front hoop shall pass over the driver's helmet. On Formula cars and single seat Sports Racers the vertical members of the main hoop shall not be less than fifteen (15) inches apart (inside dimension) at their attachment to the chassis. If the hoop does not go to the belly pan, proper gussets and tube triangulation shall be used under its attachment. On monocoque chassis the main hoop shall be welded to mounting plates not less than .080" thick. It is important that these plates be attached to the chassis in such a way as to spread the loads over a wide area. There shall be a plate of equal thickness on the inside of the monocoque with solid rivets or bolts (5/16" minimum bolt diameter) through the non-ferrous material.

#### 18.4.2 Front Hoop

Low front hoops must be no lower than the top of the steering wheel. It is recommended the hoop extend to the belly pan. If not, it shall be attached to the chassis with gussets and triangulation in order to spread the loads. In automobiles of full height (top of the steering wheel) monocoque or composite construction, a steel cap plate, not less than .080" thick must be attached as a rub block.

**18.4.3 Roll Cage Bracing**

- A. The main hoop must have two forward braces extending from the hoop and attached to the frame, monocoque, or front hoop. Braces must be attached as near as possible to the top of the hoop but must not be more than six (6) inches below the top and at an included angle of at least thirty (30) degrees. If these braces do not extend to the front hoop, an additional brace or gusset (14 gauge - .078" minimum thickness) must be installed between the lower frame rail and the upper frame rail at the point of attachment of the forward hoop brace. If these braces do not extend to the front hoop, an additional brace or gusset must be installed at the point of attachment to the main rear hoop or lower frame rail or other major frame member in such a manner as to reinforce the attachment point to help prevent collapse of the frame rail at the point of attachment. These tubes shall be 1" x .080" minimum and gussets shall be 14 gauge - .078" minimum thickness.

Two seat Sports Racers with full width main hoops must incorporate a lateral brace to prevent lateral distortion of the hoop (See Figure 7). All bracing on full width cages must be the same diameter and wall thickness as the main hoop. Formula and single seat Sports Racers under 1500 lbs., may use bracing with a minimum dimension of 1.0" diameter by .080" wall thickness. Braces attached to monocoque chassis must be welded to plates not less than .080" thick and backed up on the inner side by plates of equal thickness using bolts of Grade 5 or better with 5/16" minimum diameter.

- B. The front hoop must have two (2) braces near its top extending forward to protect the driver's legs. It is recommended that this bracing extend to the bulkhead in front of the driver's feet; but in any case it must be integrated into the chassis to provide substantial support for the front hoop. Full width front hoop bracing must be the same diameter and wall thickness as the main hoop.

Formula and single seat Sports Racers under 1500 lbs., may use tubing with a minimum dimension of 1.0" diameter by .080" wall thickness. When monocoque construction is used as bracing for the front hoop, it must be approved on an individual basis. If a high front hoop is used, it must be similar in shape to the rear hoop and have two horizontal tubes connecting the top of the front hoop to the top of the main hoop. The bracing for the main hoop remains the same.

- C. Removable bracing must incorporate connectors of the double-lug, tapered, or muff-type as shown in Figures 9, 10, and 11. The double-lug

type must include a doubler, gusset, or capping arrangement so as to avoid distortion or excessive strain caused by welding.

#### 18.4.4 Composite Chassis Safety Structures

- A. The basic purpose of safety structures is to protect the driver. This purpose is the primary design consideration.
- B. All cars must have at least two (2) roll over structures, but the use of titanium is prohibited.

The first roll over structure must be in front of the steering wheel, not more than 25cm forward of the steering wheel rim, and at least as high as the top of the steering wheel rim.

The second roll over structure must not be less than 50cm behind the first. It must be high enough for a line extending from the top of the front structure to the top of the rear structure to pass over the driver's helmet when he is seated normally in the car with his helmet on and the seat belt fastened. This second structure behind the seat must be symmetrical about the lengthwise centerline of the car and comply with the following dimensions: The top of the roll bar must be at least two (2) inches (5cm) above the driver's helmet when the driver is seated in a normal driving position. No second roll structure on a composite chassis will be considered unless it contains a main hoop having a minimum tubing size of 1.375" x .080" wall thickness. Supplemental braces must have a minimum tubing size of 1 .00" x .080" wall thickness.

The roll bar must be capable of withstanding the following stress loading applied simultaneously to the top of the roll bar:

- 1.5 (X) laterally
- 5.5 (X) longitudinally in either direction.
- 7.5 (X) vertically

where (X) = the minimum weight of the car.

The induced loads must be carried over into the primary structure of the chassis.

The ability of the roll bar to bear and distribute the load through the chassis must be demonstrated satisfactorily in test conditions to the SCCA. In conjunction with SCCA, manufacturers of cars utilizing carbon fiber composite survival cell construction will be required to designate repair locations capable of proper evaluation and damage repair. In the event of

damage to the chassis, repairs can only be made at these locations.

Proper documentation must be made in the vehicle logbook. No car will be allowed to compete after damage without following this procedure.

#### **18.4.5 Exceptions**

Any roll cage design which does not comply with the specifications in 18.4., will only be considered if it is accompanied by engineering specifications signed by a registered engineer.

The specifications must show the ability to withstand three (3) simultaneously applied loads.

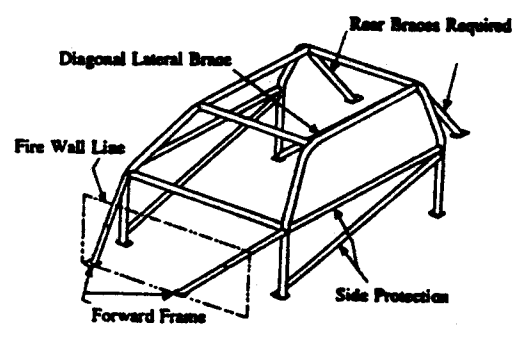
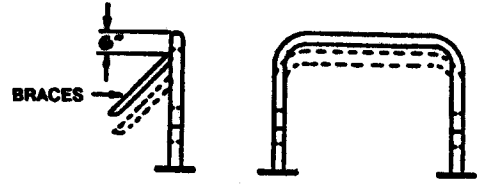
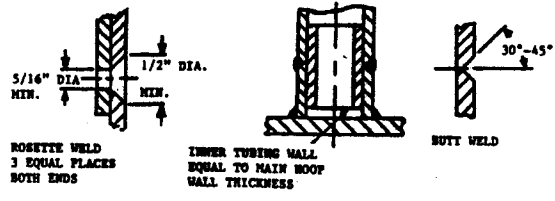
- 1.5 G Lateral
- 5.5 G Fore or Aft
- 7.5 G Vertical

#### **18.5 APPENDAGES:**

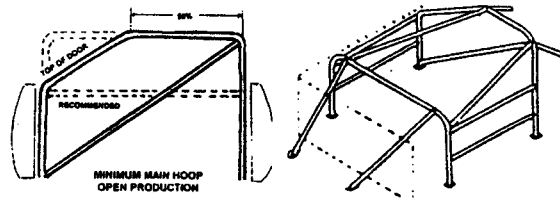
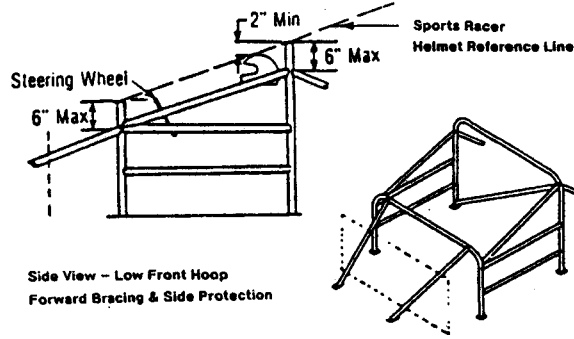
The following procedures are approved for modification to roll bars/cages that do not meet the two (2) inch required minimum:

The old main hoop may be cut off near the chassis mounting and a new main hoop of equal tube size or a section of equal tubing size may be added, and inner tube(s) must be used to mate all sections together. All braces must be minimum distance from top of hoop per GCR Section 18. All welding for this modification must be arc welded (mm.). The inner tube(s) must be rosette welded three (3) places near top and bottom.

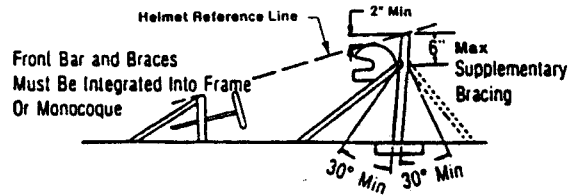
**RECOMMENDED ROLL CAGE  
HIGH FRONT HOOP  
OPEN AND CLOSED, GT**



**RECOMMENDED ROLL CAGE  
LOW FRONT HOOP  
OPEN GT, AND SPORTS RACER CARS**

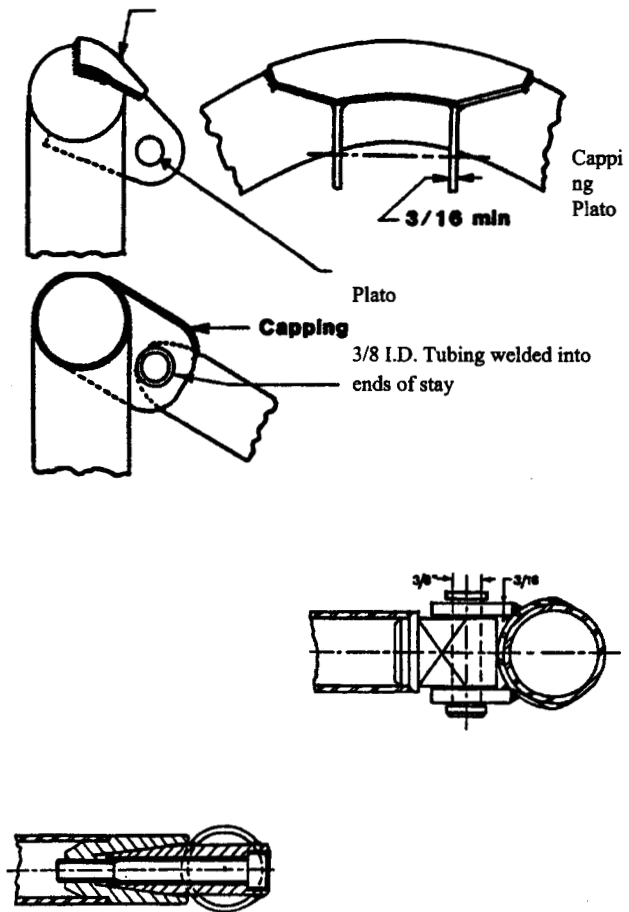


**FORMULA CARS**



REMOVABLE ROLL BAR BRACES  
ATTACHMENT DETAILS

158





**22.0 DEFINITIONS:****22.1. GLOSSARY**

**NOTE:** The definitions contained in this glossary are for informational purposes only and are only intended for the purpose of advising the reader of the common meaning of the words and phrases contained herein and said definitions are not to be used to alter, change, expand, or in any way modify any section of the GCR or are to be used or enforced as a rule.

**2 Cycle** - A reciprocating engine in which the intake, compression, combustion and exhaust phases are completed each revolution of the crankshaft.

**4 Cycle** - A reciprocating engine in which the intake, compression, combustion and exhaust phases are completed each two revolutions of the crankshaft.

**A-Pillar** - The forward most roof support in a passenger car, which also serves as the side support for the windshield.

**Accelerator Pedal** - A foot-operated device which allows the driver to vary the degree of opening of the induction system throttle(s).

**Accessible** - Capable of being reached without removal of other components.

**Accumulator** - A pressurized free-piston device, in which the compression of a fixed volume of air by the piston, upon the application of a force caused by fluid under pressure, provides a pressurized reservoir of the fluid.

**Adjustable Timing Gear** - A camshaft drive gear or sprocket which permits a range of angular adjustment of the outer portion relative to the attachment point of the driven camshaft.

**Advance Curve** - The degrees of distributor advance from the static setting as a function of rotational speed, usually achieved by a system of rotating weights, springs, and limit stops within the distributor body.

**Advance Plate** - The plate inside a distributor on which the ignition points are mounted, which is free to rotate over a prescribed angle in response to the actions of the advance mechanism(s), thus altering the phase relationship of the points and distributor cam.

*A.R.M.S. 1998 - Race Regulations*

- Advance Springs** - Springs which provide the restoring force against the actions of the advance mechanism(s) in a distributor.
- Aerodynamic Device** - An attachment to, or an integral part of, a car intended to generate atmospheric downforce by the action of air flowing through or around the attachment.
- Aerodynamic Skirts** - Body panels, movable or fixed, at the bottom of the sides of a car's body, which aid in the creation of "ground effects" downforce by ensuring that little air passing under the car can escape at the sides.
- Aeroquip Line** - A brand name, used generically, for a braided metal-covered hose.
- Air Cleaner** - An induction system component intended to filter particulate matter from the incoming air.
- Air Dam** - An air control device at the lower front of a car, intended to divert some of the air which would normally pass under the car when the car is in motion.
- Air Horn** - See Velocity Stack.
- Air Pump** - An engine-driven pump intended to provide a supply of air (without fuel) to the engine to assist in the reduction of pollution components.
- Air Throttle** - The valve which allows the driver to modulate the volume of air passing into a fuel injection induction system.
- Airfoil** - An aerodynamic device or part of a car which the flow of air over its surface will generate a vertical force by creating a pressure differential between top and bottom surfaces.
- Alter (verb)** - To change a component by modifying.
- Alternator** - A component intended to generate current with which to maintain a proper level of charge in the on-board storage battery.
- AN Coupler** - A threaded high pressure hydraulic coupling of the type normally used with metal braided hose.
- Annular Discharge** - A carburetor type in which the fuel is introduced into the flowing air from an annulus on the periphery of the main duct. **Anti-Roll Bar (Sway bar)** - A torsion control device connected to a car's structure, and to moving portions of the suspension, which is intended to control body roll. (Some types of ARB may also serve as a suspension component.)

**Anti-Submarine Strap** - A safety strap intended to provide additional support against motions of the driver's lower torso in the forward direction.

**Aspect Ratio** - The ratio of tire section height to section width, expressed as a percentage.

**Attachment Points (Suspension)** - The locations at which the fixed and moving ends of a shock absorber are mounted and/or the location of the suspension component on the frame or structure of a car.

**Automobile** - See Car GCR 2.10.

**Axle Housing** - The housing which contains axle shafts and may provide support for wheel hubs.

**Axle Shaft** - A shaft whose purpose is to carry rotational drive from a differential or transaxle to the driven wheels, or simply to support one (1) or two (2) und riven wheel hub(s).

**Axle Tube** - See Axle Housing. Also, the beam connecting the rear wheels on a front wheel drive car.

**Backing Plate** - A braking component used in drum type brake systems, generally to support the brake shoes and wheel cylinder(s) at a wheel.

**Baffle** - A plate or panel in a fluid container, which is designed to inhibit the rapid transfer of the fluid within the container when it is subject to changing dynamic forces.

**Balance (Verb)** - To minimize the dynamic off-axis forces of rotating components, or to equalize the weights of like reciprocating components.

**Balance Pipe** - A tubular induction system component which connects two (2) or more independent branches of the system.

**Ball Joint** - A bearing coupling, generally in suspension or steering systems, consisting of two (2) mating surfaces, one (1) convex and one (1) concave, which permits a range of angular displacements of the two (2) attached shafts over a prescribed range.

**Ballast** - Non-functional mass fastened inside a car to increase the weight of the car.

**Base Circle** - The constant radius portion of a camshaft lobe which is closest to the centerline of the camshaft.

- Battery (Storage)** - An on-board electrical storage component which may be used to activate electrical devices or systems, such as starter, ignition, etc.
- Battery Box** - A covered container for an on-board storage battery.
- Beam Axle** - A solid, non-rotating axle connecting the undriven wheels of a car.
- Bearing** - A mechanical component provided to allow connected parts to move with respect to one another in a manner consistent with durability and minimal friction.
- Bearing Carrier** - A housing in which the bearings carrying a shaft are mounted.
- Bell Housing** - A nominally bell-shaped extension or attachment to the engine or transmission which serves as a coupler between these assemblies, and usually encloses the clutch/flywheel assembly.
- Belt Drive (Car)** - A drive system in which the engine power is coupled to the driven wheels through a flexible belt and pulleys.
- Bezel/Rim** - Outer trim components which determine the assembled appearance.
- Bias Ply Construction** - A tire construction in which the structural plies of the main carcass form an angle considerably greater than zero relative to a cross section of the tire.
- Big End** - The crankshaft end of a connecting rod.
- Blanking Sleeve** - A replacement for a thermostat designed to divert the flow of cooling water away from the cooling system bypass circuit.
- Block** - The elemental component of a reciprocating engine which contains at least the cylinder location(s) and the crankshaft mounting points. **Blueprinting** - The practice of optimizing an engine, either by machining the most advantageous specifications within the normal range, or by using selected standard components.
- Body** - All parts of the car licked by the airstream and situated above the belly-pan/floor with exception of the roll bar or cage. For Formula and Sports Racing cars, further exceptions are those units definitely associated with the function of the engine or transmission.
- Body Panel** - A replaceable section of the body.
- Bodywork** - See Body.

- Bolt Pattern** - The arrangement of bolts or other fasteners used to join two (2) components.
- Boost** - The degree of induction pressurizing in a turbo/supercharged engine.
- Boot Cover** - A cover for the area behind the driver/passenger seating area in an open car.
- Bore** - The diameter of a cylinder.
- Boss** - A protrusion from a casting or forging which provides the surface(s) and/or structure necessary to accomplish particular function of the component.
- Brake Light** - A signaling light mounted on the rear of the car, which may be actuated only by driver braking actions.
- Brake Lining/Pad** - Replaceable friction material which accomplishes braking action by making rubbing contact with the brake drum or rotor.
- Brake Rotor** - The disc component of a braking system, which is attached to a wheel hub and provides a friction surface for braking actions.
- Braking System** - A system, including hydraulic and mechanical components, which allows the driver to reduce the velocity of a car.
- Breather Vent** - An aperture which allows the flow of air into or out of an enclosure.
- Bulb** - A lighting system component which contains the actual light emitting element(s).
- Bulkhead** - A partition separating compartments.
- Bump Steer** - The change in toe-in or toe-out which results from changes in suspension geometry as the wheel(s) rises or falls from its neutral position.
- Bump Stop** - A cushioning pad which acts as the limit to suspension travel in one vertical direction.
- Bumper** - A semi-rigid attachment to the structure of a car at the front or rear, which is intended to absorb a portion of low speed front or rear collision forces.
- Bumper Block** - See Bump Stop.
- Bushing/Bush** - A sleeve or tubular insert, whose purpose is to reduce the dimension(s) of an existing hole.

- C-Pillar** - The body roof support bordering on the rear window or hatch.
- Caliper** - A braking system component which is the disc brake equivalent of a wheel cylinder, and converts hydraulic pressure into mechanical braking force at a wheel.
- Cam Carrier** - That portion of a reciprocating engine that contains the supporting bearings for an overhead camshaft.
- Cam Cover** - Equivalent to a valve cover in an engine with an overhead cam.
- Camber** - The angle of a wheel relative to true vertical. Negative camber implies that the top of the wheel is closer than the bottom to the car's centerline.
- Camber Compensator** - A wheel location device designed to control the wheel camber under varying conditions of bump/rebound.
- Camshaft** - An engine component, driven by the crankshaft, whose function is to actuate the valves, and often, to drive other engine components.
- Camshaft Timing** - The phase relationship of the camshaft to the crankshaft, which determines when in the crankshaft cycle the valves will open.
- Canard** - A near-horizontal aerodynamic device normally mounted at the extreme front of a (race) car.
- Carburetor** - The component of a non-fuel injection induction system which achieves the mixing of fuel and air to create a combustible mixture.
- Car** - See GCR 2.10.
- Caster** - The angle which the swivel axis of a steered wheel makes with the vertical in the fore/aft direction.
- Catalytic Converter** - An emissions control device in the exhaust system which reduces emissions by catalysis.
- Catch Tank** - A container with the purpose of collecting liquid, generally lubricant, vented from an engine, transmission, transaxle, or differential and preventing the loss, from the car, of the liquid.
- cc** - Cubic centimeter (a unit of volume).
- Center-Lock** - A type of road wheel/hub which is retained by a single central fastener.

- Centerline** - A line coincident with the axis of rotational symmetry of a component.
- Centrifugal Clutch** - A clutch which automatically engages in response to an increase from low engine speed, and disengages upon return to low speed operation.
- Chain Drive** - A drive system in which the engine power is transmitted through a chain and sprockets.
- Chapman Strut** - An adaptation of the McPherson strut for a rear suspension (without steering swivel).
- Check Valve** - A valve designed to prevent the flow of a fluid in one direction, while allowing relatively unimpeded flow in the opposite direction.
- Choke** - A carbureted induction system mechanism which, when actuated, causes an enrichment of the fuel/air mixture to assist cold starting.
- Clinch Nut** - A threaded female fastener which has been distorted on one end to supply a gripping force when assembled to a stud or bolt thread.
- Clutch** - A device whose function is to permit the driver to engage/disengage a power coupling between the engine and the transmission or transaxle.
- CO** - Carbon monoxide.
- Cockpit** - The driver/passenger volume within a car in which driver control devices, gauges and seating are provided.
- Coil** - The transformer component of an ignition system which converts each low voltage pulse into a pulse of sufficiently high voltage to bridge the gap in a spark plug and initiate combustion in the engine.
- Coil-Over Shock** - A tubular shock absorber which contains top and bottom mounting locations for a coaxial coil spring, and is used with such a spring supporting the weight of the car.
- Cold Air Box** - An engine carburetor attachment of unspecified size and composition, whose purpose is to provide a source of ambient air alternate to that existing in the engine compartment.
- Component** - A constituent part of an assembly.

- Compression Ratio** - Reciprocating engines: the ratio of the sum of swept plus unswept volumes to the unswept volume. Rotary engines: the ratio of the largest to the smallest volume of the working chamber.
- Compression Ring** - A reciprocating engine component which is intended to seal the gap between the piston and cylinder wall against the pressure differential arising from compression, induction or combustion.
- Compressor (AC)** - The engine-driven pressurizing pump in an automotive air conditioning system.
- Concentric** - Two components or objects are concentric if they share a common centerline.
- Condenser (AC)** - The portion of an automotive air conditioning system in which the refrigerant in vapor phase is converted to liquid phase.
- Connecting Rod** - A component physically connecting a piston to a crankshaft in such a way as to convert the rotary motion of the crankshaft to a reciprocating motion of the piston.
- Constant-Velocity Joint** - A type of universal joint in which the angular velocities of input and output shafts are held approximately equal.
- Cool Suit** - A driver's safety suit which has provision to be cooled by a circulating liquid.
- Cooling System** - Those components directly associated with the cooling of an engine, including any hoses, fans, radiators, etc.
- Cowl Induction** - An arrangement in which the incoming air for an induction system is ducted from the cowl area below the windshield.
- Crank-Triggered Ignition** - An ignition system in which the triggering pulses are obtained from a pickup and wheel connected directly to the crankshaft, or to an intermediate pulley.
- Crankshaft** - The rotating engine component which, driven by piston/ connecting rod assemblies, transmits, for external coupling, the torque resulting from the combustion process.
- Crossflow Head** - A cylinder head in which the intake and exhaust ports for each cylinder are on opposite sides of the head.
- Crown** - The top face of a piston at which combustion takes place.



**Curvature** - The dimension defined by the maximum distance between a curving surface and the straight line between its ends.

**Cylinder Liner (Sleeve)** - An insert in an engine block which defines the path followed by a piston in its reciprocating motion.

**Decamber (Verb)** - To make the wheel camber more negative.

**Deck** - Generally the rearmost upper body panel of a car, but not present in all cars.

**Deck Height** - The distance between the top of the piston at its outer edge and the machined surface which forms the head/block interface of the block.

**Deck Lid** - The access door into the volume (often "trunk") beneath a deck.

**Differential** - A gear assembly, physically separate from the transmission, whose purpose is to reduce the rotational velocity transmitted from the engine/gearbox, while providing a division of driving force to two (2) wheels.

**Differential Housing** - The housing in which the differential (final drive) gears are mounted.

**Disc Brake** - A braking system which relies on the friction between a suitable material in the form of a "pad" and a rotating disc to supply the braking force at a wheel.

**Discriminator Valve** - A check valve designed to install on the vent line of a fuel cell, allowing vapors to vent while retaining liquid.

**Dish** - A concave piston crown.

**Displacement (Engine)** - Reciprocating engine: the swept volume of one (1) cylinder times the number of cylinders. Rotary engine: the difference between the largest and smallest volumes of the working chamber, times the number of lobes, times the number of rotors.

**Distributor Cap** - An ignition system distributor component which contains the high voltage distribution contacts and means for securing the high voltage wires.

**Dome** - A convex piston crown.

**Door Panel** - The inner shell of a door which normally supports the trim.

**Dowel** - A tubular or cylindrical pin, the sole purpose of which is to make positive location of two assembled components possible.

- Drive Belt** - A continuous flexible reinforced elastomer band which provides the driving force for engine accessories, when attached by pulley to a rotating part of the engine, such as the crankshaft.
- Drive Shaft** - The mechanical drive train coupling between transmission and differential, which may allow an angular displacement of the driving and driven axes by the use of universal, constant velocity, or flex joints.
- Drive Train** - Those components in a car which produce and convey the driving power to the ground, and the housings containing these parts.
- Dry Break Coupling** - An attachment to an on-board fuel cell/tank filler neck' hose which is designed to prevent the spillage of fuel during refueling operations.
- Dry Sump** - An engine lubrication system in which the residual lubricant is pumped to an external storage tank by a "scavenge pump," and an additional pump or pumps return a supply of pressurized lubricant to the engine from the storage tank.
- Dry Tire** - A race tire, often with grooveless tread, intended strictly for use in competition under dry conditions.
- Dryer (AC)** - A component of an automotive air conditioning system which is intended to remove water from the refrigerant.
- Duct/Ducting** - A tube or passage for conveying a material, usually air.
- Dust Shield** - A cover intended to protect disc brake components from mud, dirt, etc.
- Eccentric Shaft** - The analog of a crankshaft in a rotary engine, the shaft driven by the actions of the rotor.
- EGR Valve** - An engine pollution control device which channels a portion of the exhaust gases back into the combustion regions of the engine.
- End Plate** - An air control panel mounted at each end and perpendicular to a wing, intended to maximize the efficiency of the wing by preventing spillage of flowing air at the ends.
- Engine** - The primary power plant of a car, including all physically attached ancillary components necessary for power production.
- Engine Air Box** - An induction system attachment, generally part of the bodywork, which ducts air from an opening protruding into the airstream to the induction system

- Engine Case** - See rotor housing and/or block.
- Engine Compartment** - The loosely defined volume, nominally enclosed by panels on top and sides, which is the normal location of the engine in a car.
- Engine Mount** - A passive mechanical coupling used to support the weight of an engine at its attachment points to the structure of a car.
- Engine Steady Bar (Torque suppressor)** - A constraining beam or rod intended to resist the tendency of an engine to rotate on its mounts in reaction to torque forces.
- Epirocoidal Curve** - The contour of the interior surface of a rotary engine rotor housing, which, with the rotor, determines the volume of the working chambers at any point in the rotation of the rotor.
- Evaporator (AC)** - That portion of an automotive air conditioning system in which the transition from liquid phase to vapor phase occurs.
- Exhaust Pipe** - A duct of unspecified dimensions, whose function is to convey exhaust products toward the rear of a car and away from the driver.
- Exhaust Port** - The duct within a cylinder head or rotor housing through which the exhaust gases pass from the exhaust valve(s) to the outer flange of the head.
- Exhaust System** - A passive system, whose components serve to convey the exhaust of an engine past the driver and away from the car.
- Expansion Tank** - A container, often operating at system pressures, which is designed to contain engine coolant on expansion at operating temperatures.
- Extension** - An external modification resulting in more material on the outside of the component than originally existed.
- Fairing** - A covering intended to divert airflow in a specific region of a car, to reduce air drag.
- Fan** - A rotating bladed device intended to provide a cooling flow of air to a heat exchanger.
- Fan Belt** - A flexible drive belt which is used to drive a water radiator cooling fan, and, often simultaneously, furnish drive to one (1) or more other rotating attachments to the engine.
- Fender** - The body panel covering a road wheel assembly.

- Fender Flare** - An attachment to an existing fender which extends the fender outward so as to more completely cover the tire within.
- Fender Skirt** - A removable fender extension which partially closes the wheel opening, smoothing the air flow in this region.
- Filler Cap** - A closure which prevents the loss of fuel from the filler neck' hose when the car is in use, but which may be removed for refueling.
- Filler-Neck/Hose** - The attachment to a fuel cell/tank through which fuel is supplied from a source external to the car.
- Final Drive Housing** - See Rear Axle Housing.
- Final Drive Ratio** - The ratio of input to output shaft motions in a final drive or differential.
- Fire Extinguisher** - An on-board container of specified capacity charged with approved fire extinguishing material which provides the driver or others with the capability to control small fires. See GCR Section 12.
- Fire System** - An on-board fire extinguishing system designed to be activated in the event of fire, whose purpose is to extinguish or retard the fire, thus providing a measure of protection for driver and car. See GCR Section 12.
- Firewall** - A vertical (plus or minus ten (10) degrees) metal panel separating and protecting the driver/passenger compartment from the engine compartment, preventing the passage of flame and debris. Metal ducts may penetrate the firewall, but must begin and end outside of the driver/ passenger compartment. No intakes are allowed in the firewall.
- Firing Order** - The order in which the cylinders in a reciprocating engine produce power under normal conditions.
- Flare (Verb)** - 1. To extend by extrusion or attachment a fender so as to more completely cover the tire mounted within (Noun) - 2. Extruded end of a pipe or tube.
- Flat Bottom** - A race car construction in which the underside of the car is nominally flat and contains no "ground effects" shaping or ducting.
- Flex Joint** - A coupling designed to fulfill the function of a universal joint, but employing flexible materials to achieve changes in the drive axis.
- Float** - A carburetor component which, with an associated valve, controls the fuel level in

the reservoir supplying the carburetor jet(s).

**Float Chamber** - The carburetor component which contains the reservoir of fuel supplying the jet(s).

**Float Valve** - The shut off valve actuated by a carburetor float, which controls the maximum level of the fuel in the float chamber.

**Floor Pan** - The section(s) of a car normally used as a supporting platform for seats and to physically separate the interior (cockpit) area from the underside of the car.

**Fluid** - Any material which readily flows at the specified temperature, e.g., liquids and gases at room temperature.

**Flywheel** - An engine attachment whose normal functions are to provide a gear appropriate for starter engagement, to provide a friction drive surface and attachment points for a clutch pressure plate, and to smooth the flow of power.

**Frame** - The minimal configuration of a car necessary to contain all running gear and to provide support for the body. Not present on "frameless" or "unibody" cars.

**Fuel** - The chemical mixture which, when mixed with air, is burned in an engine to produce power.

**Fuel Cell** - A crash-resistant container for the on-board fuel supply of car. **Fuel Distribution Unit** - A fuel injection induction system component which accomplishes the distribution of fuel to the injection nozzles.

**Fuel Injection** - A system, including mechanical and/or electrical components, whose function is to provide fuel, via pressurized nozzles, to the engine in lieu of carburetion.

**Fuel Line** - A hose or tube which conveys fuel from one point to another.

**Fuel Metering Unit** - A component of a fuel injection system which, under external control, determines the quantity of fuel supplied to the engine at any given time.

**Fuel Pickup** - The attachment to a fuel tank or fuel cell at which point the supply line(s) leading to the fuel pump(s) are attached.

**Fuel Pump** - A pump, mechanical or electromechanical, whose function is to cause the transport of fuel from the fuel cell or tank to the induction system.

- Fuel Tank** - A conventional OEM container, not of the safety fuel cell type, for the on-board fuel supply of a car.
- Gas Cap** - See Filler Cap.
- Gasket** - A sealing component of unspecified composition which is intended to prevent the leakage of a fluid (air, water, oil, etc.) at the interface between two demountable assemblies.
- Gauges** - Mechanical or electronic readouts of automotive parameters.
- Gear** - A toothed drive train component used, in mesh with another gear, for the transmission of rotational force.
- Generator** - An engine-driven attachment which produces direct current to replenish an on-board storage battery.
- Girdle** - An engine component whose purpose is the structural reinforcement of the bottom end of an engine block by the replacement of the main bearing caps with a continuous block of material containing equivalent bearing mountings.
- Grille** - The decorative covering for the grille opening.
- Grille Opening** - The opening in the front of a car, through which cooling air is ducted to the radiator(s), and in some cases, to other accessories, or to the engine.
- Ground Effects** - A term for a car design in which airflow produces a significant pressure differential between the upper and lower portions of the body/chassis, creating downforce on the assembly.
- Gudgeon Pin** - English term for piston wrist pin.
- Gusset** - A brace generally formed by attaching, by welding, a plate at or near the junction of two structural beams or tubes, providing reinforcement particularly in the plane including the tubes and the plate.
- H.D.** - Heavy duty.
- H.T.** -High tension. English term for spark plug voltage in regard to ignition components.
- Hand Brake** - A braking system component causing a braking action on one (1) or more wheels, or on another part of the drive train, which may be actuated and locked in the

engaged position by the driver.

**Hardtop** - A removable rigid substitute for a convertible or roadster top.

**Hatchback** - A hinged body component containing the rear window which, in the open position, gives access to the interior of a car from the rear.

**Head Rest** - See Head Restraint.

**Head Restraint** - A cushioned, fixed restraining object intended to protect the driver under conditions which cause the driver's head to be thrust rearward.

**Header** - A multibranch exhaust system assembly, whose function is to convey the exhaust products from more than one cylinder to one or more exhaust pipes.

**Header Tank** - A component of an engine cooling system, generally at the top or above the radiator, which is often used as the filling point for the system.

**Headlight Cover** - A protective cover for headlight(s) which is part of the original configuration of the body design.

**Heat Riser Tube** - An attachment to an induction system which provides a source of warmed air, generally from the exhaust system, as an aid to cold running.

**Heat Sink** - A part of a system used to convey and dissipate heat from another part of the system.

**Helicoil** - A commercial repair for internal threads.

**Homologation** - A system whereby the manufacturer/competitor certifies that a Formula or Sports Racing car, as produced, complies with all of the applicable specifications.

**Hood** - The panel or assembly of panels which cover the engine compartment. **Horn** - The audible signaling device with which highway cars are equipped.

**Hot Terminal** - The terminal of a storage battery which is not connected to the frame or chassis of the car.

**Hub** - A component to which a road wheel is attached, which provides support for the wheel, and has the capability, via attached internal bearings to rotate on a fixed shaft.

**Hub Caps** - Decorative removable attachments to the central area of road wheels.

**Hub Carrier** - A suspension component which provides the means for mounting a rotating wheel hub, and for attachment of suspension components and stabilizers.

**Idler Shaft** - A shaft which rotates, or supports another component which rotates, without itself transmitting the rotational force.

**Ignition System** - A system which converts on-board storage battery supply voltage into a timed sequence of high voltage pulses suitable for igniting engine combustion mixtures in a controlled manner.

**Independent Suspension** - A suspension system in which either wheel on the referenced end of the car can undergo its normal vertical motions without directly influencing the motions of the other wheel.

**Induction System** - Those engine components directly associated with the creation and conveyance of the combustible mixture, and any functional associated attachments thereto.

**Injection Nozzle** - The fuel induction system component through which fuel is forced under pressure to form a combustible mixture with air.

**Inlet Port** - The cylinder head duct leading to intake valve(s).

**Insert (Strut)** - The replaceable portion of a suspension strut, basically a tubular shock absorber with the necessary fastening element(s) for the upper strut mounting point.

**Instrument** - An indicator or readout which, when active, contains information about some aspect of car operation for driver reference.

**Instrument Panel** - A panel, located within the cockpit of a car, and in a position convenient for driver visibility, which may provide a mounting area for various gauges and controls.

**Intake** - An opening through which fluid/air enters an enclosure.

**Intercooler** - A heat exchanger associated with a turbocharging or supercharging system, which is intended to reduce the temperature of the incoming air or air/fuel mixture, and is located in ducting between the turbo/super-charger and the engine.

**IR** - Individual runners. (No balance pipe, no plenum)



- Jack Points** - Locations on the underside of a car suitable for the application of a lifting jack.
- Jack Shaft** - A shaft which transfers a driving force from one element of an engine to another, such as the drive for an oil pump and/or distributor, taken from an overhead camshaft.
- Jet** - A carburetor aperture component which is used to meter air and/or fuel flowing into the mixing region of the carburetor by presenting restriction to the flow.
- Kill Switch** - See Master Switch.
- L.T.** - Low tension. English term for battery voltage in regard to ignition components.
- Limited Slip Differential** - A differential which is designed in such a way as to overcome the normal action of a differential to apply most of the available torque to the least loaded wheel, and instead to apply a significant portion of the torque to the most loaded wheel.
- Linkage** - A link or system of links (cables, rods, etc.) which convey a mechanical force from one location to another.
- Lip-Type Rear Spoiler** - A directly attached aerodynamic device which generates downforce from the action of air flowing over a single surface, creating a turbulent depression away from the direction of motion.
- Lobe Center** - The angular position of a camshaft, defined as that position in the rotation at which the lift of an associated tappet will be greatest.
- Locked Differential** - A variation of the limited slip differential in which no relative slippage of the two driven wheels is permitted under any conditions.
- Lubricant** - A substance which, when interposed between components moving with respect to each other, reduces friction and promotes durability.
- Luggage Compartment** - The region within the bodywork of a car which is designated as being intended for the carrying of luggage.
- Magneto** - An ignition system component which generates the electrical power for ignition of combustion with a system of magnets and coils in relative motion.
- Main Bearing Cap** - A reciprocating engine component which has provision for nominally

half of one main crankshaft bearing, and which, when attached to the engine block, may also provide lateral location for the crankshaft.

**Manifold** - A passive device for conveying gases into or out of an engine, generally to achieve the connection of differing numbers of ducts.

**Master Cylinder** - A hydraulic component of the braking system which produce positive pressure in the hydraulic lines on the application of mechanical force.

**Master Switch** - A safety switch which can be actuated by the driver or other to disable all operating electrical functions, without disconnecting the electrical supply to any fire system present.

**McPherson Strut** - (See strut type suspension) A front suspension type utilizing a strut with integral tubular shock absorber and coil spring, with the steering swivel axis that of the strut/shock. Upper location is by strut only.

**Metallic** - A material having iridescent or specular (mirror-like) reflective qualities (e.g. aluminum foil).

**Metering Rod** - A carburetor component which aids in the metering of fuel flow.

**Mirror (Rear View)** - A reflective device whose sole purpose is to enable the driver's field of vision to extend in a rearward direction.

**Modify** - To change a component by reworking, but not by replacing.

**Monocoque** - A frameless construction in which the main structure of a car is composed of a permanent assembly of panels to which the running gear, suspension and body are attached.

**Motor Mount** - See Engine Mount.

**Mudguard** - A partial fender, generally not contiguous with the car body.

**Muffler** - A component, whose function is to reduce the sound level from an exhaust system.

**Needles (Carb)** - Tapered carburetor fuel flow metering shafts, or tapered shafts used in float shutoff valves.

**Nitride (Verb)** - To heat process ferrous metal components so as to increase the surface hardness.

**O-Ring** - A seal or gasket, generally made from an elastomer or metal, in the shape of a torus with a circular cross section

**OEM** - Original Equipment Manufacturer.

**Offset Key** - A metal drive key for coupling a shaft and a pulley, wheel, or sprocket, in which opposite radial ends of the key are offset to achieve adjustment of the phase relationship of the driving and driven parts.

**OHC (Overhead Cam)** - A type of reciprocating engine in which the camshaft(s) are located in the cylinder head(s), and act on the valves, either directly or through a linkage.

**OHV (Overhead Valve)** - A type of reciprocating engine in which the camshaft(s) are located in the engine block, and act on the valves through linkage, generally including pushrods and rocker arms.

**Oil Filter** - An engine accessory intended to intercept all or a portion of the lubricant circulating from the oil pump, and to remove, by trapping, solid particles from the lubricant.

**Oil Galley** - A passage within an engine block which carries the flowing lubricant to various internal distribution points.

**Oil Line** - A hose or pipe, external to the engine, which conveys lubricating oil from one point to another.

**Oil Pan** - An oil sump fixed to the bottom of an engine.

**Oil Passage** - A duct within an engine component intended to convey lubricating oil.

**Oil Pump** - A mechanically-driven pump designed to draw lubricant from a reservoir, or sump, and supply it under pressure to the balance of the lubrication system.

**Oil Strainer** - A screen surrounding the oil pickup in an engine which is intended to keep relatively large solid particles from being drawn into the pump.

**Oil Sump** - The container in which the return lubricant from the engine is collected to form the supply from which the pump may draw. **Outline** - A line that marks the outer limits of an object or figure.

**Overhang** - The distance which the end of the bodywork extends away from the wheels at the referenced end of the car.

**Panhard Rod** - A rear axle lateral locating device, which has one end connected via a link to the axle housing, and the other end connected to the car structure or bodywork.

**Parkerizing** - A commercial process in which a metal part, usually a camshaft, is treated to increase resistance to break-in scuffing.

**Parking Brake** - See Hand Brake.

**Parking Light** - A non-racing lighting component, frequently combined with lighting components of other functions, intended to illuminate the extremities of a car while parked.

**Phase** - The angular relationship between two rotating components, or between one (1) rotating component and a periodic event.

**Pickup (Suspension)** - The location of attachment of a suspension component on the frame or structure of a car.

**Pilot Bearing** - A bearing, generally within one end of a shaft, which is intended to support another shaft under conditions of relative rotary motion.

**Piston** - A reciprocating engine component whose functions are to provide a partial vacuum with which to induce the flow of fuel/air into the combustion region, to convert the combustion pressures to reciprocating motion, and to expel exhaust gases.

**Piston Ring** - A reciprocating engine component which, when mounted on a piston, provides either sealing or oil control functions when the engine is in operation.

**Pitman Arm** - A steering system component which translates the rotation of the steering gears to a linear motion of steering links.

**Plenum** - An induction system chamber generally interposed between carburetor(s) or air intake(s) and ducts feeding ports.

**Points (Ignition)** - The switch portion of a distributor actuated by cam lobes, which interrupts the current flowing through the primary windings of an ignition coil, thus generating high voltage pulses which are conveyed to the spark plug.

**Polish (Verb)** - To reduce the roughness of a surface by mechanical, chemical, or electrochemical means.

**Port** - See Intake, Exhaust Ports.

**Power Brakes** - A braking system in which the driver-initiated mechanical force acting on a master cylinder is assisted by a servo mechanism, generally derived from manifold vacuum.

**Power Steering** - A steering system in which the driver-initiated force acting on the steering gears is assisted by a servo mechanism, usually involving an engine-driven hydraulic pump.

**Pressure Equalizing Device** - A braking system component intended to equalize or allow adjustment of the relative pressures in separate branches of the hydraulic system (e.g. front/rear).

**Pressure Plate** - The clutch assembly component which provides the force necessary to couple the engine to the next component in the drive train through friction surfaces.

**Pressure Regulator Spring** - A spring whose installed force determines the pressure at which a valve or valve system will open to allow the flow of fluid.

**Profile (Verb)** - To measure or to reshape the contour of a camshaft lobe, rocker arm or similar component.

**Propeller Shaft** - See Drive Shaft.

**Proportioning Valve** - A braking system component intended to allow adjustment of the hydraulic pressures available in separate branches of the system (e.g., front/rear).

**Pulley** - A rotational attachment for a drive belt.

**Pushrod** - A cylindrical or tubular reciprocating engine component which transmits a reciprocating motion arising from camshaft rotation to or toward the valves.

**Pushrod Tube** - An engine component which encloses a pushrod in the region between the engine block and the cylinder head.

**Qualifier** - (a) One who receives a time, or (b) One who is waived into a race by the Chief Steward and starts the race.

**Racers Tape** - Generally duct tape, an adhesive, fabric-backed tape.

**Rack and Pinion** - A type of steering system, or the gear components thereof, in which the rotary motions of a pinion gear attached to the steering shaft act on a rack, or linear gear.

**Radiator (Cooler)** - A heat exchanger intended to remove heat from engine or gear fluids.

**Radius (Verb)** - To contour an abrupt edge on a component by increasing the radius of the transition.

**Rain Tire** - A racing tire intended solely for competition in wet conditions.

**Ram Air** - A type of induction system in which the incoming air is obtained from an extension into the airstream outside the bodywork.

**Ratio (Gear)** - The number of rotations of the drive shaft which produces one (1) rotation of the driven shaft(s).

**Rebound** - A suspension term referring to motion in the upward direction.

**Reciprocating Engine** - An internal combustion engine in which the driven actions of one or more pistons are converted to the rotary motion of a crankshaft.

**Relief Valve** - A check valve intended to vent at a predetermined pressure differential.

**Repair (Verb)** - To remove the effect(s) of accidental damage to a component, returning it to original or legally modified dimensions and function.

**Replica** - A component identical to or very similar in appearance and function to the original which it replaces.

**Resistor Spark Plug** - An ignition system spark plug containing electrical resistance which is intended to reduce radio interference.

**Ride Height** - The distance from level ground to the specified portion of the car, with the tires, wheels, air pressure, etc., as normally raced.

**Rim Width** - The distance between the opposing lateral sides of a road wheel in the region where the bead of a tire seats. Measuring method per tire and rim association standard.

**Ring Gear** - The main driven gear in a final drive assembly, driven by a pinion gear. Also the starter engagement gear on a flywheel.

**Rocker Arm** - A valve train component which transfers the motions of the camshaft, often with a multiplication of travel, to a valve.

**Rocker Cover** - See Valve Cover.

**Rocker Panel** - The body panel closest to the ground extending along either outer side of a car between the wheels.

**Rod End** - A load-bearing threaded mechanical coupling with angular freedom of the relative axes and which allows rotation of the inner portion with respect to the outer.

**Roll Bar** - A safety device designed to protect the driver from injury in the event of a roll over accident. See GCR Section 18.

**Roll Cage** - An extension of a minimal roll bar, designed to protect the driver from injury from accidental forces in several directions. See GCR Section 18.

**Roller Cam Follower** - An engine component (tappet) which utilizes a rolling member to contact the camshaft.

**Rotary Engine** - A non-reciprocating engine of the NSU-Wankel type.

**Rotary Engine Rotor** - The main rotating component of a rotary engine, which essentially accomplishes the compression, power delivery and exhaust functions of a reciprocating engine in constrained rotation in a specially shaped housing.

**Rotary Piston** - See Rotary Engine Rotor.

**Rotor Housing** - The housing of a rotary engine in which the rotor rotates. Analogous to the engine block of a reciprocating engine.

**Rub Strip** - Expendable material added to bottom of a car to prevent contact with the road surface from damaging non-expendable portions of the car.

**Runner** - A duct of an induction system leading to the cylinder head.

**Running Light** - A signaling light of specified size and location, which can be activated by driver control, and is intended to improve the ability of other drivers to detect the signaling car.

**Scattershield** - A stationary safety device intended to protect the driver in the event of catastrophic clutch/flywheel failure.

**Scraper** - A passive internal attachment to an oil pan whose purpose is to control the return flow of lubricant by removing it from the rotating crankshaft.

**Seal** - A conformable sealing component generally used to inhibit the passage of fluids along the shafts of moving parts, such as valves, master cylinders, etc.

**Seat Belt** - A safety strap, generally containing the attachment/release mechanism for all other safety straps, intended to restrain the driver against forces tending to move the driver. See GCR Section 17.

**Section Width** - The lateral cross section of a tire, sidewall to sidewall.

**Servo Assist** - The application of mechanical assistance, through vacuum or hydraulic or other external action, to reduce the forces required from the driver.

**Shaved Tread** - A tire tread which has been abraded or cut to reduce the tread depth.

**Shift Fork** - A transmission or transaxle component which directly moves gears into engagement or disengagement in response to driver actions.

**Shock Absorber** - A device intended to dampen the actions of road springs.

**Shot Blasting** - See Shot Peening.

**Shot/Glass Peening** - A treatment, consisting of impelling small glass or metal balls into metal parts, intended to reduce stresses in components.

**Shoulder Harness** - A safety strap assembly intended to restrain the driver's upper body under conditions of rapid reduction of forward velocity. See GCR Section 17.

**Side Marker Light** - A small light fixture normally mounted on the side of a fender, which is intended to make the car more readily visible from the side under appropriate conditions.

**Signal Light** - A light fixture used to signal turns or, in some cases, stops.

**Slave Cylinder** - A hydraulic system component which achieves the conversion of hydraulic pressure to mechanical force, usually to accomplish a disengagement of the clutch.

**Space Frame** - An automotive frame constructed of multiple small tubes. See also Tube Frame.

**Spark Plug** - An engine component which, by means of high voltage supplied by an ignition system, initiates the combustion of the air/fuel mixture.

**Specification** - A detailed presentation of parameters which determine the performance or suitability of a system or assembly of systems to accomplish design goals.



**Spherical Bearing** - A load-bearing connector in which the central portion is convex and the outer portion is concave, allowing both angular displacements of the axes and relative rotation.

**Spider Gears** - Components of the torque division section of a conventional differential gear assembly.

**Spindle (Stub Axle)** - The shaft, and integral assembly supporting a wheel hub, and often, braking and/or steering components.

**Spoiler** - A panel attached to the body of a car at the front or rear, intended to alter the airflow around that end of the car when the car is in motion.

**Spring Cap** - See Valve Spring Retainer.

**Spring Shock** - A suspension assembly containing a coil spring surrounding a tubular shock absorber.

**Spring Washer** - A spacer designed to exert force against securing pressure, thus reducing the tendency of an attached threaded fastener to separate.

**Sprocket** - A gear made specifically for use with a drive chain.

**Stabilizer** - An attachment to the suspension system, not usually part of the suspension, which aids in maintaining the relative alignment of a wheel or wheels to the car.

**Starter (Self Starter)** - An electrical device which is used to initiate normal engine operation by converting electrical energy into mechanical rotation of the engine

**Starter Ring** - The gear on the outer periphery of a flywheel for application of drive from a starter.

**Stayrod** - A rigid reinforcement bar or rod interconnecting opposite sides of a car at structurally significant locations.

**Steering Arm** - The rigid link in a steering system which conveys the steering action from the steering gears and linkage to a wheel assembly.

**Steering Column** - The shaft forming the connection between the steering wheel and the steering gear, through which driver-initiated steering motions are transmitted.

**Steering Linkage** - The various components, exclusive of gears, steering column and

steering wheel, which transmit the driver's steering motions to the steered wheels.

**Steering Lock** - The degree of turning motion given to the steering wheel, and hence to the steered wheels. "Full lock" denotes the maximum available turning angle.

**Steering Lock Mechanism** - An anti-theft device used to lock the steering shaft or wheel when the ignition key is withdrawn.

**Streamlining** - Smoothing the airflow over a portion of the car.

**Stroke** - The length of travel of an engine piston from uppermost to lowermost positions.

**Strut (Stabilizer)** - A rigid beam used to assist in the location of suspension components.

**Strut Type Suspension** - Strut suspension consists of three pivoting attachment points including a single upper attachment point, the spindle being mounted on a telescoping post with no vertical movement at the top attachment point.

**Stub Axle** - See Spindle.

**Surround** - To enclose on all sides.

**Sunroof** - A movable panel in the roof of a car, which may normally be partially opened from within the car.

**Supercharger** - An induction system compressor component, mechanically driven from the engine, which provides forced flow of the fuel/air mixture into the engine by the generation of positive pressure.

**Suspension Bushing** - A hollow cylindrical mounting component which acts as a bearing, allowing constrained motion, between a suspension component and attachment point.

**Suspension Control Arm** - A beam or frame intended to limit the normal motion of the affected suspension part to predetermined paths.

**Swaged Fitting** - A tubing fitting which utilizes some form of extrusion of the tubing to form a seal against the leakage of pressurized fluid from within the tubing.

**Sway Bar** - See Anti Roll Bar.

**Synchronizer** - A transmission component which aids in matching speeds of two gears as they are engaged.

- System** - An assembly of components with an identifiable primary function.
- T Type Top** - A body design in which the roof contains, above the front seats, two (2) removable panels separated by a fixed section which joins to the balance of the roof.
- Taillight** - The running (parking) light assembly at the rear of a car, which may include lights with stop and/or turn signaling functions.
- Tap (Verb)** - To cut threads in a hole to retain a stud or bolt with threads of matching pitch and diameter.
- Tappet** - (Cam follower, valve lifter) An engine component which, in contact with the camshaft, follows its rotating profile, resulting in a programmed reciprocating motion suitable for actuating valves.
- Targa-Type Top** - An automotive roof design in which the area over the front seats is removable.
- T D C** - Top dead center, referring to the rotational position of the crankshaft when the number one piston is farthest from the crankshaft.
- Thermostat** - An engine cooling system regulator device which is intended to control the temperature of the coolant by modulating the flow through an aperture.
- Throttle Butterfly** - An induction system component which may effectively vary the area of the induction port when turned (in response to driver input) from parallel to the flow in the port ("full throttle"), to almost perpendicular to the flow ("closed throttle").
- T - Bearing** - A bearing which, in response to driver actuation, accomplishes the application of the force needed to release the friction clutch through the actuation of the pressure plate.
- Tie Rod** - The link connecting a portion of the steering system which is fixed to the chassis to a sprung wheel.
- Time (Verb)** - To adjust the phase relationship of ignition and crankshaft, or of camshaft(s) and crankshaft.
- Timing Belt** - A toothed belt used, with appropriate pulleys, to convey drive force in a synchronous manner from the crankshaft to one or more camshafts.

**Timing Gear** - The engine gear or sprocket attached to a camshaft and driven by the crankshaft via gear(s) or chain.

**Tire Tread** - The portion of a tire containing the material intended to be in road contact while a car is in straight-ahead motion.

**Toe (-In, -Out)** - The measure of the position of the wheels on either axle of a car with respect to each other, with reference to the fore/aft direction.

**Tonneau Cover** - A cover for the passenger portion of an open car.

**Top (Removable)** - A removable covering for an open car, normally supplied for protection against the elements.

**Torque Biasing Differential** - A form of limited slip differential.

**Torque Converter** - An engine-driven power transmission device which couples driving and driven shafts with a variable speed reduction.

**Torque Suppressor** - See Engine Steady Bar.

**Torsion Bar** - A bar or beam intended to act as a springing medium, in which the "springing" is derived from resistance to twisting along the main axis of the bar.

**Track** - The distance between the center of the rims of two wheels at one end of a car, with any angular adjustments at normal settings and steered wheels in the straight ahead position.

**Traction Bar** - A link to an axle housing or hub carrier which resists torque reaction from the wheel by acting in compression or tension.

**Trailing Arm** - A wheel control linkage locating the wheel in the fore/aft direction, which is attached to the car structure at the forward end of the arm, and to the wheel carrier at the rear of the arm.

**Transaxle** - A component containing the mechanisms necessary to achieve the combined functions of a transmission and a differential.

**Transistor Ignition** - A system of ignition in which electronic components are utilized.

**Translucent** - Permitting the passage of a reasonable amount of visible light. In the case of fluid containers, permitting the visual assessment of fluid levels by observing these

through the container.

**Transmission (Gearbox)** - An assembly of driver-selectable gears in an independent housing, located between the engine and driven wheels, whose function is to alter the rotational velocity reaching the wheels.

**Transparent** - Offering very little resistance to the passage of visible light, suitable for use in the line of sight.

**Transverse Engine** - An engine located in a car such that the crankshaft centerline is nominally perpendicular to the normal direction of car motion.

**Trim** - Coverings or attachments whose function is solely cosmetic.

**Trued Tread** - The tread of a tire which has been cut after mounting on a wheel so as to ensure that the surface of the tread is equidistant from the center of the wheel at all angles of rotation.

**Trumpet** - See Velocity Stack.

**Trunk Area** - The spare tire and/or luggage region inside the body of a car.

**Tub** - The central contiguous assembly of stressed panels which form the basic structure of a frameless car.

**Tube Frame Car** - A car intended solely for racing, whose main structure or frame is fabricated from an assembly of tubes welded into the desired configuration.

**Tuftriding** - A commercial surface hardening process for ferrous metals.

**Turbo Boost Control** - An adjustment which causes a change in the degree of turbo boost available.

**Turbocharger** - An induction system compressor component, driven by exhaust gases from the engine, which provides forced flow of the fuel/ air mixture into the engine by means of positive pressure.

**Undertray (Belly Pan)** - An attachment to the underside of a car intended to smooth airflow and/or to offer driver protection in this region of the car.

**Unibody** - A type of construction in which the main car structure is fabricated from an assembly of panels and reinforcements, permanently fastened together, generally by

welding, into a single unit.

**Universal Joint** - A mechanical drive train component which permits a change in direction of the axis of rotation conveying the force.

**Unswep Volume** - The enclosed volume existing in a cylinder/cylinder head with the piston at its closest approach to the cylinder head.

**Vacuum Advance Mechanism** - An ignition distributor mechanism which, under the influence of manifold vacuum, changes the ignition timing in a prescribed fashion.

**Valve** - A reciprocating engine component which may be opened or sealed in phase with crankshaft rotation, so as to control the induction of fuel/ air mixtures or the exhaust of products of the combustion process.

**Valve Cover** - A cylinder head attachment whose function is to contain lubricants and to protect the valve actuation mechanism from outside contaminants.

**Valve Guide** - A sleeve bearing whose function is to provide axial location of a valve, while allowing normal reciprocating motions.

**Valve Keeper** - The component, generally two-piece, which secures the valve spring retainer to the valve stem in a cylinder head.

**Valve Relief** - A cutout in a piston crown to allow close approach of a valve.

**Valve Seat** - The area in a cylinder head in which the head of a valve under spring pressure forms a gas seal.

**Valve Size** - The diameter of the head of a valve.

**Valve Spring Retainer (Collar)** - A valve train component which serves the dual purpose of containing the outer end of the valve spring(s), and, by means of valve keepers, connecting the valve stem to the spring.

**Valve Spring Shim** - A valve train component whose purpose is to allow the adjustment of the seated valve spring pressure by effectively changing its seated length.

**Valve Stem (Engine)** - The shaft portion of a reciprocating engine poppet valve.

**Valve Stem (Wheel)** - The attachment to a road wheel through which pressurizing air is

admitted/released.

**Vapor Lock** - A condition in the fuel delivery system caused by the existence of vapors, rather than liquid fuel, in the fuel pump, resulting in abnormal fuel delivery.

**Variable Ratio Drive** - A power transmission device in which at fixed input shaft rotational velocity the rotational velocity of the driven shaft is continuously variable over a prescribed range of ratios.

**Velocity Stack (Air Horn/Trumpet)** - An induction system attachment, generally in the form of a cylindrical flare, used to alter the dynamic coupling between carburetor and the mass of incoming air.

**Vent** - An aperture which allows pressure equalization between a semi-sealed volume and the outside of this volume by providing a flow path for gases.

**Ventilation** - Cooling a component by an intentional flow of air, or modifying a component so as to facilitate this process.

**Venturi** - A region of constriction in an air duct of a carburetor in which, through the actions of incoming air flow, a reduced pressure is created to induce the inflow of fuel through one or more jets.

**Vibration Dampener** - Generally a rubber-mounted rotating circular disc or pulley whose function is to reduce the amplitude of vibrations in the mechanism or part to which it is attached.

**Visible** - Capable of being seen, perceptible to the eye, apparent, evident.

**Voltage Regulator** - An electronic or electromechanical device intended to regulate the charging actions of an alternator or generator.

**Watts Linkage** - A rear axle lateral location system which employs a frame/ body-mounted central pivoting attachment (bell crank) for two (2) lateral links, whose opposite ends are attached to either end of the axle housing or vice versa.

**Wave Washer** - A thin, continuous spring washer.

**Wheel (Road)** - Flange and Rim.

**Wheel (Complete)** - Flange, rim and tire.

**Wheel (Steering)** - The cockpit-mounted control device, normally circular, which allows the driver to exert manual force with which to control the car's direction of motion.

**Wheel Cover** - A removable decorative covering for a road wheel.

**Wheel Cylinder** - A hydraulic component of the braking system, which produces mechanical force at the wheel brakes in response to positive hydraulic pressure.

**Wheel Fan** - An integral part of or attachment to a wheel assembly with blade-like elements, intended to improve brake cooling.

**Wheel Spacer** - A plate of unspecified thickness or material which is mounted between a road wheel and hub to increase the distance from the inside of the wheel to the hub, thereby increasing track.

**Wheel Trim Rings** - Decorative removable attachments to road wheels effectively covering the rim area of the wheels.

**Wheel Well** - The volume under a fender.

**Wheelbase** - The distance between the front and rear axle centerlines of a car, with the front wheels in the straight ahead position.

**Windage Tray** - An internal baffle attachment to an engine oil pan which is intended to help maintain a sufficient supply of lubricant at the location of the oil pickup under cornering, braking or acceleration.

**Windows:**

**A. Door or Side** - The opening where the window normally is raised or lowered in a door. Does not include a "vent" window whether fixed or movable.

**B. Quarter (1/4)** - On a 2-door or 4-door vehicle, the window to the rear of the rearmost door. Such windows are not generally raised or lowered, but they may be hinged and open to the rear. Quarter windows are not "rear" windows.

**C. Rear** - Rear windows are positioned at right angles to the longitudinal axis of the car.

**Windshield (Windscreen)** - An attachment to the bodywork of a car intended to divert the flow of air from forward motion without obstructing forward vision.

**Windshield Pillar** - A body component which extends nominally upward from the cowl



area, forming one supporting attachment for the windshield.

**Wing** - An aerodynamic attachment to the structure of a car specifically intended to generate downforce from the action of air flowing over the upper and lower surfaces, creating a pressure differential.

**Wiring Harness** - Bundles of electrical wires which provide the electrical links in a car.

**Wishbone Type Susp.** - A form of suspension in which the lower (and often upper) locating links are in the form of a wishbone or "A-frame", and provide the lateral and at least a portion of the fore/aft wheel location.

**Working Chamber** - The volume in a rotary engine which is defined by the case and the two adjacent rotor tip seals, and which will vary in capacity with position in rotation.

**Worm and Sector** - A steering gear type in which the steering forces from the driver are transmitted to the steering linkage via a worm gear and a sector gear in mesh.

**Wrist Pin** - The one-piece physical link between a connecting rod and a piston.

**Zerk Fitting (Grease gun fitting)** - A small check valve attachment to a bearing housing through which pressurized lubricant may be applied to the bearing.

**22.2 FACTS AND FORMULAS**

- (1) Facts and Formulas to be used at all Road Racing Events.
- (2) 1 inch = 2.54 cm = 25.4 mm
- (3) 1 cubic inch = 16.387 cubic cm
- (4) 1 millimeter = .03937 inch
- (5) 1 meter = 1.0936 yards
- (6) 1 kilometer = 1000 meters = .621 37 mile = 1093.6 yards
- (7) 1 mile = 1,760 yards = 1.60934 kilometers
- (8) Miles per hour = kilometers per hour x .62137
- (9) Kilometers per hour = miles per hour x 1.60934
- (10) 1 cubic centimeter = .061 cubic inch
- (11) 1 liter = 61 .03 cubic inches = 1000 cubic centimeters (cc)
- (12) 1 kilogram = 2.21 pounds
- (13) 1 pound = 453.6 grams
- (14) 1 hundred-weight (cwt.) = 112 pounds (British), 100 lbs (U.S.)
- (15) 1 U.S. gallon = 231.18 cu. in. = 3.785 liters
- (16) 6 U.S. gallons = 5 Imperial (British) gallons
- (17) 1 mile per hour = 1.467 feet per second
- (18) Cylinder volume (displacement) =

$3.1416 \times \text{bore} \times \text{bore} \times \text{stroke}$

- (19) Engine displacement = Cylinder volume times number of cylinders
- (20) Compression ratio =  $\frac{V_1 + V_2}{V_2}$
- (21) Where  $V_1$  is total volume of one cylinder
- (22)  $V_2$  is volume of space above piston at top of stroke
- (23) Piston speed (ft. per mm.) =  $2 \times \text{RPM} \times \text{stroke in feet}$
- (24) Brake Horsepower (BHP) =  $\frac{\text{RPM} \times \text{torque (in lbs ft.)}}{5280}$
- (25) Note: Formula is actually  $6.28 \times \text{RPM} \times \text{torque}$  by dividing 33,000  
6.28 into 33,000 we get 5250
- (26) Torque =  $\frac{\text{BMEP} \times \text{Swept volume (in cc)}}{2473}$
- (27) Frontal Area (for figuring air resistance) =  $\frac{T \times H}{144}$  (answer in square feet)
- (28) Where T is front tread in inches, H is overall height in inches.
- (29) MPH =  $\frac{\text{RPM} \times \text{wheel diameter (in inches)}}{\text{gear ratio} \times 336}$
- (30) Note: Wheel diameter is overall diameter of the inflated tire, not the nominal diameter of the wheel.

## FORMULA 1600

### TABLE OF CONTENTS

23.0	F1600 Technical Regulations	194
23.1	Definition	194
23.2	Chassis	194
23.3	AFRA F1600 Race Car Weights	196
23.4	Suspension	200
23.5	Bodywork / Coachwork	201
23.6	Engine	203
23.6.1	General	203
23.6.2	Block	205
23.6.3	Cylinder Head	205
23.6.4	Intake Manifold	205
23.6.5	Pistons	206
23.6.6	Valves	206
23.6.7	Camshaft	207
23.6.8	Valve Springs	207
23.6.9	Connecting Rods	207
23.6.10	Crankshaft	207
23.6.11	Flywheel	208
23.6.12	Clutch	208
23.6.13	Carburetor	208
23.6.14	Fuel Pump	209
23.6.15	Exhaust Manifold	209
23.6.16	Lubrication System	209
23.6.17	Cooling System	209
23.7	Electrical Equipment	210
23.7.1	Distributor	210
23.7.2	Generators / Alternators	210
23.7.3	Other Electrical Components	210
23.7.4	Ignition	210
23.8	Miscellaneous	210
23.9	Transmission	211
23.10	Formula Ford Engine Specifications	212
23.11	Engine Tightening Torque Specifications	214

**23.0 FORMULA FORD - 1600****TECHNICAL REGULATIONS:****23.1 DEFINITION:**

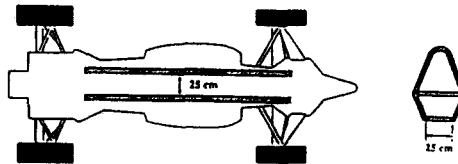
1. Formula Ford 1600: A single seat, open wheeled automobile designed solely for speed events on circuits or closed courses, using a standard Ford 1600 "Crossflow" pushrod, normally aspirated engine with 2 venturi carburetor.
2. Automobiles must comply with the general requirements for race cars (ASN CANADA-FIA PRA regulations), as well as these regulations.
3. Light alloy. Any alloy containing more than 10% aluminum, magnesium or titanium.

**23.2 CHASSIS:**

1. Main chassis structure. The fully sprung structure of the vehicle.
2. The chassis must be of tubular steel (space frame) construction. Monocoque chassis construction is prohibited.
3. Stress bearing panels are defined as sheet material affixed to the frame by welding or bonding or by bolts, screws, or rivets located closer than 15.24 cm (6 in.) center to center.
4. The undertray (floor), must be a stress bearing panel. Cars must have a complete metal floor of adequate strength rigidly supported within the driver compartment.
5. The curvature/periphery of the floor/undertray edges must not exceed 2.54 cm (1 in.)
6. The mountings for brake and clutch pedals and cylinders, and for the instrument panel and the bulkhead behind the driver may be stress bearing.

7. No other stress bearing panels, including body panels, are permitted.
8. The use of composite materials using carbon and/or Kevlar reinforcement is prohibited.
9. The use of titanium is prohibited.
10. Cars must have a protective bulkhead of non flammable material between the engine and the driver compartment capable of preventing the passage of fuel or flame in case of fire. Gaps must be filled with a fire proof material.
11. Magnesium is prohibited for bulkheads.

12. The lower main frame rails must be a minimum of 25 cm (9.85 in.) apart (inside dimension) from the front bulkhead to the rear roll bar (except pre 1990 US Swift).

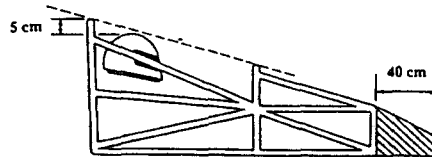


13. All cars must not have more or less than four road wheels and not be fitted with any wheel spacer exceeding 2.54 cm. (1 in.) in thickness or of less than hub diameter. Multiple or laminated spacers are prohibited.
14. Wheel diameter is 13 inches. Rim width shall not exceed 13.97 cm (5.5 inches). Material is free providing it is metal. Wheel covers, wheel tans, or any device to fair in the wheel is prohibited.
15. Steering is free.
16. Brakes. Free, except that calipers must be cast iron and rotors are restricted to ferrous material. Two piston aluminum calipers with a maximum piston

diameter of 2", may be substituted for cast iron calipers. Forward facing brake cooling ducts may be installed, but shall serve no other function or purpose.

17. Minimum length/height of the safety rollover-bar is 92 cm (36.24 in), measured in line with the driver's spine. There is no maximum height measurement.
18. No part of the safety roll over structure higher than the 90cm (35.46 in.) maximum bodywork/coachwork height may be shaped so as to have an aerodynamic influence.

19. The top of the driver's helmet must be below an imaginary line drawn between the top of the roll bar and the top of the front bulkhead.
20. Minimum clearance between top of drivers helmet and top of roll bar is 5 cm (1.97 in.).



21. Ballast. Non functional material added to increase vehicle weight. Any ballast must be permanently fixed to the chassis structure of the vehicle with provision for fixing seats should they be deemed necessary.
22. Vehicle weight. Minimum weight as qualified or raced, with driver and required safety equipment.

### 23.3 AFRA F1600 RACE CAR WEIGHTS

AFRA rules allow F1600 engines to be "overbored" up to a maximum of 0.030" above the ASN rules. Competitors who take advantage of this rule shall have the as raced minimum weight of their racecars increased at a rate of 10 lbs per 0.010" overbore.

The following chart shows the minimum weights as per suspension type, engine type, and bore size

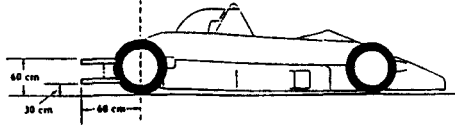
Suspension Type	Cortina Engine Bore size	Weight As Raced	Uprated Engine Bore size	Weight As Raced
Outboard	3.225"	1020 lbs	3.195 std.	1050 lbs
Inboard	3.225"	1095 lbs	3.195 std.	1125 lbs
Inboard/outboard	3.225"	1058 lbs	3.195 std.	1088 lbs
Outboard	3.225" +.010"	1030 lbs	3.195" + 0.010"	1060 lbs
Inboard	3.225" +.010"	1105 lbs	3.195" + 0.010"	1135 lbs
Inboard/Outboard	3.225" +.010"	1068 lbs	3.195" + 0.010"	1098 lbs
Outboard	3.225" +.020"	1040 lbs	3.195" + 0.020"	1070 lbs
Inboard	3.225" +.020"	1115 lbs	3.195" + 0.020"	1145 lbs
Inboard/Outboard	3.225" +.020"	1078 lbs	3.195" + 0.020"	1108 lbs
Outboard	3.225" +.030"	1050 lbs	3.195" + 0.030"	1080 lbs
Inboard	3.225" +.030"	1125 lbs	3.195" + 0.030"	1155 lbs
Inboard/Outboard	3.225" +.030"	1088 lbs	3.195" + 0.030"	1118 lbs

B. There will be no 1% tolerance to the weights as specified contrary to the ASN CANADA FIA PRA regulations 13.8.C

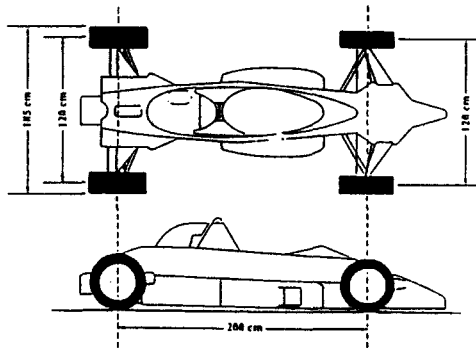
23. 1987 and 1988 Reynards must have the front bulkhead casting bearing the number L 155.



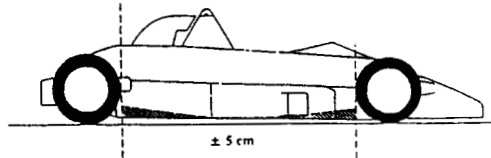
24. The height of the termination of the complete exhaust pipe must be between 30 cm (11.82 in.) and 60 cm (23.64 in.), measured from the ground.
25. Maximum exhaust length from rear wheel axis is 60 cm (23.64 in.).



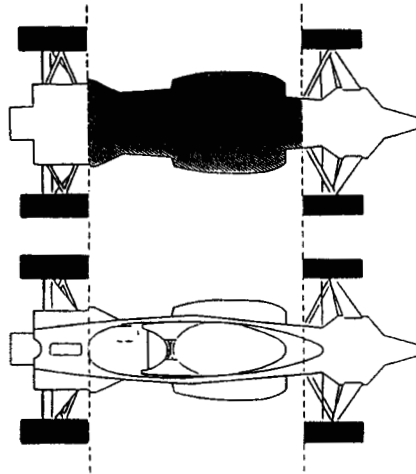
26. Minimum wheelbase is 200 cm (78.80 in.).
27. Minimum track is 120 cm (47.28 in.). Total overall maximum width is 185 cm (72.89 in.).
28. Total overall maximum width is 185 cm (72.89 in.).



29. The floor/undertray, including all sprung parts, of the car must lie on one plane within a tolerance of  $\pm 5$  mm (0.20 in.).



30. The area of this "flat bottom" is measured from rearward of the vertical plane tangent to the rear of the complete front wheels (including mounted spec tires) to the fore of the vertical plane tangent to the fore of the complete rear wheels (including mounted spec tires).



31. The tolerance of  $\pm 5$  mm (0.20 in.) has been introduced into the rules to cover any possible manufacturing problem and not to permit designs against the spirit of the "flat bottom".

32. The periphery of the surface formed by these parts may be curved upwards with a maximum radius of 5 cm (1.97 in.).
33. No part having an aerodynamic influence and no part of the bodywork may, under any circumstances, be located below the geometrical plane produced by the surface as defined above.
34. Any transverse, longitudinal or other flexible, retractable, pivoting or sliding device bridging the gap between the body and the road surface is forbidden.
35. Any nose box must be a crushable structure, securely attached to the front bulkhead, with a minimum cross section of 200 sq. cm (31 sq. in.), 40 cm (15.75 in.) forward of the clutch and brake pedals (not depressed) constructed of a minimum of 18 gauge 6061 T4 or equivalent aluminum. Radiators may be incorporated in this structure.

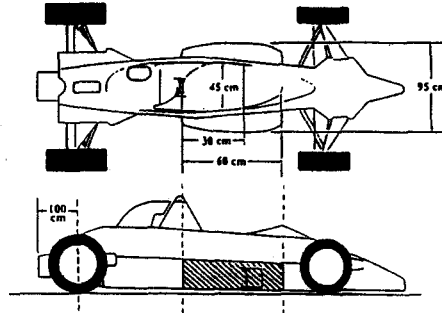
#### 23.4 SUSPENSION

1. All parts must be of steel or ferrous material, with the exception of hubs, hub adapters, hub-carriers, bearings and bushes, spring caps, abutment nuts, anti-roll bar links, shock absorber caps and nuts, bellcranks.
2. Springs. Steel only.
3. Titanium is prohibited. The use of composite material using carbon and/or Kevlar is prohibited.
4. It is not permitted to incorporate a spoiler in the construction of any suspension member.
5. It is not permitted to construct any suspension member in the form of an airfoil. The shape of suspension members must be symmetrical about its horizontal axis.
6. Shock absorbers are free. Aluminum casings are permitted.

**23.5 BODYWORK/COACHWORK**

1. Fixed external; side, front, rear and top surfaces of the vehicle licked by the air stream.
  2. All cars must be fitted with bodywork including a driver compartment isolated from the engine, wet batteries, gearbox, transmission shafts, brakes, 4 road wheels, fuel tanks, oil tanks, water lines, water radiator reservoir and catch tanks.
  3. A sealed battery can be located inside the driver compartment.
  4. Bodywork must not be used as a stress bearing panel.
  5. The body must be securely fastened to the frame.
  6. The use of composite materials using carbon and/or Kevlar is prohibited, except where permitted in 4.4.17.
  7. Maximum height of bodywork/coachwork, with driver aboard is 90 cm (35.46 in.), measured from the ground. Addition of material to the roll bar above the 90 cm (35.46 in.) maximum bodywork/coachwork height is prohibited. This does not included engine air box and on board TV cameras.
- |                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"><li>8. Maximum rear overhang of bodywork/coachwork is 100 cm (39.40 in.)measured from rear wheel axis.</li><li>9. Maximum width of bodywork/coachwork behind front wheels is 95 cm (37.43 in.).</li><li>9A. With standard sidepods, maximum width of bodywork/coachwork behind front wheels is 130 cm (51.18 in.).</li><li>10. Minimum lateral cockpit bodywork/coachwork opening is 45 cm (1 7.73 in.).</li></ol> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

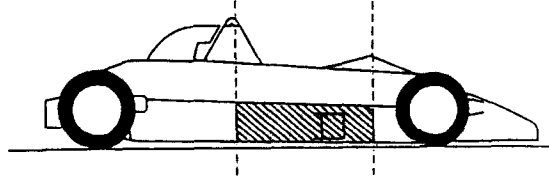
11. Minimum longitudinal/parallel cockpit bodywork/coachwork opening length is 30 cm (11.82 in.).
12. Minimum longitudinal/parallel cockpit bodywork/coachwork overall opening length is 60 cm (23.64 in.).



13. Wings and other airfoil devices which create aerodynamic downforce are prohibited.
14. There shall be no forward facing gaps or openings in the bodywork with the exception of those necessary for engine cooling, engine air inlet, shock or brake cooling.
15. No extension of the undertray or attached components at this plane for the purpose of downforce or ground effects are permitted.
16. Any part of the car which has an influence on the aerodynamic stability of the vehicle must be firmly attached with no provisions for adjustment to vary downforce, except that a single rear spoiler, which may be capable of adjustment, is permitted. Cockpit adjustment is not permitted. This spoiler shall be no wider than the surface to which it is attached, and there shall be no gap between the spoiler and the body surface to which it is attached.

17. The area between the upper and lower main frame tubes from the front roll bar bulkhead to the rear roll bar bulkhead may be protected by one of the following methods to prevent the intrusion of objects into the cockpit;
- A. Panel(s), minimum of either 1.5 mm (.060 in.) heat treated aluminum (6061 T6 or equivalent) or 18 gauge steel, attached outside of the main frame tubes.
  - B. Reinforced body, at minimum, consisting of a double layer, 141.75 grams (5 oz.) bidirectional, laminated Kevlar material incorporating into this area of the body only.

For either method, fasteners must be no closer than 15.24 cm (6 in.) center to center (no stress bearing panels). The material used for the chassis braces in this area must be at least equivalent to the roll bar brace material.



## 23.6 ENGINE:

### 23.6.1 General

- A. The engine shall be the standard Ford 1600 GT "Kent" pushrod Crossflow engine as installed in the following vehicles:

*Original version: Cortina 1600 GT (through 1970 model)*

*Up-rated version: Cortina 1600 GT (1971)*

- Note:**
- (1) Both the up-rated and original -engines are allowable.
  - (2) Specifications which appear in this rule book are for the up-rated engine.
  - (3) Some specifications may be different for the original engine.

- (4) For original Cortina 1600 GT engine specifications refer to SCCA Club Racing 1993 Formula Category specifications.

**The engine shall not be altered, modified or changed in any respect unless specifically authorized herein.**

- B. The gasket face of the cylinder head may be resurfaced provided the maximum compression ratio is not exceeded and the minimum depth of the combustion chamber is maintained.
- C. Valve guides are unrestricted provided the position of the valve is not changed. Standard valve replacement valves, with oversize stems, may be used as normal repair/maintenance procedures. Specifications under 23.6.6 "Valves" must be observed. It is permitted to recut or replace valve seats. Valve seat angles are unrestricted.
- D. Exhaust emission control, air pumps and associated lines and nozzles must be completely removed. When these air nozzles are removed from a cylinder head, the holes must be completely plugged.
- E. Balancing of all moving parts of the engine is permitted providing that such balancing does not remove more material than is necessary to achieve such balance. It is permitted to polish parts of the engine providing the contour of the part is not altered and can be recognized as the original part.
- F. Maximum compression ratio 9.3 to 1

**The following specifications are used in determining compression ratio:**

- 1.33cc top ring to top of piston.
- 0.30cc volume of valve protrusion.
- 4.75cc head gasket.

Compression ratio shall be checked using the official procedure of ASN CANADA FIA

Minimum unswept volume per cylinder: 48.2 cc

#### **23.6.2 BLOCK**

**Bore:** May be enlarged for clearance between cylinder and piston. Cylinder liners may be fitted. The top surface of the block may be milled or surface ground to obtain the maximum compression ratio specified above. Any steel center main bearing cap may be used. The oil pump mounting face on the block may be machined for the purpose of fitting an oil pump.

**Fiesta blocks are permitted.**

#### **23.6.3 CYLINDER HEAD:**

Ports may be reshaped by the removal of metal as long as the port diameter at the manifold face of the head does not exceed the following dimensions:

- A. Inlet: 1.50"  
Exhaust: 1.16"
- B. Reshaping is prohibited. The standard head gasket shall be used.

#### **23.6.4 INTAKE MANIFOLD:**

- A. The ports may be reshaped by the removal of metal as long as the following dimensions are maintained:
  - Maximum size at head face: 1.30"
  - Maximum size at carburetor flange: Maximum length 3.80"
  - Primary choke end radius: .709"
  - Secondary choke end radius: .787"
- B. The carburetor face of the inlet manifold may be machined to the horizontal to compensate for fore/aft tilt of the carburetor.



- C. The water passages in the inlet manifold may be plugged.

### 23.6.5 PISTONS:

- A. Only standard size pistons shall be used in the uprated engine.

Standard 0.015 inch oversize or 0.030 inch over size pistons may be used in the original engine.

Standard size AE pistons part number 18649, casting number 18634 maybe used. Alternate pistons include: Part number AE-M717D, casting number 711 M 6110 and part number 20552.

- B. The following piston dimensions must be observed

- Maximum diameter: 3.189"
- Depth of bowl (+/- .005"): 0.500"
- Centerline of wrist pin to crown (+/- .002"): 1.737"
- Overall height: 3.30"
- Minimum weight with rings and pin: 555 grams.

- C. Piston rings are unrestricted provided that one oil control and two compression rings are used and that modification is made to the piston for the installation of the rings.

### 23.6.6 VALVES:

- A. The following dimensions must be observed:

- Distance apart at centers: 1.540" (+/- .020"
- Maximum diameter:
  - Inlet: 1.560"
  - Exhaust: 1.340"
- Overall length:
  - Inlet: 4.367" (+/- .020"
  - Exhaust: 4.355" (+/- .020"

- B. Reshaping the valves is specifically prohibited.

**23.6.7 CAMSHAFT:**

- A. The camshaft profile shall not be altered. The following specifications are provided for checking purposes:
- Lift at top of pushrod:
    - Inlet: 0.231" (+/-).002" max
    - Exhaust: 0.232" (+/-).002" max
  - Lift at top of spring cap (zero tappet setting):
    - Inlet: 0.356" max
    - Exhaust: 0.358" max
- B. Recontouring of the valve stem contact pad of the rocker arm is permitted provided the maximum lift at the spring cap is not exceeded.
- C. Offset camshaft/sprocket dowels are permitted.
- D. Camshaft lobe centres and profiles shall be checked using the official procedure of ASN CANADA FIA.
- E. Part number M6250 A160 may be used.

**23.6.8 VALVE SPRINGS:**

Valve springs and valve spring shim are free except that no more than one spring may be used per valve and the standard spring cap and retained must be used. The standard cap diameter is 1.096 inches maximum. Springs shall be made of steel.

**23.6.9 CONNECTING RODS:**

Minimum weight including cap, bolts and small end bush, but not big end bearing shells: 640 grams.

**23.5.10 CRANKSHAFT:**

- A. The following specifications must be observed:
- Weight: 24 lbs. 8 oz. minimum (11.1132 kg.)
  - Stroke at piston: 3.056" +/- .004" (7.762 cm +/- .010 cm.)

- B. The crankshaft pulley is free.
- C. The crankshaft may be shotpeened.

**23.6.11 FLYWHEEL:**

- A. Weight of flywheel with ring gear, dowels and clutch pressure plate with attaching bolts: 24 lbs. (10.896 kg) minimum.
- B. The flywheel may be machined to achieve minimum allowed weight.
- C. Flywheel locating dowels are permitted.
- D. The standard Ford Pinto 1600 flywheel may be used provided that any machining to reduce weight to the above minimum weights only removes from the originally machined surfaces. All cast surfaces must remain in original condition.
- E. The flywheel mating face may be modified to accept a racing clutch outer ring.

**23.6.12 CLUTCH:**

- A. The use of any single plate clutch is permitted provided that it must have an operable clutch system.
- B. Carbon fiber and carbon/carbon clutches are not permitted.

**23.6.13 CARBURETOR:**

- A. Weber carburetor, with the swaged fuel inlet fitting, must be replaced by drilling and tapping the carburetor body for a threaded fitting.
- B. Specifications: - Weber 32/36 DGV or Holley 5200
  - Venturi diameters: Primary: 26 mm
  - Secondary: 27 mm
- C. The fitting of any jets (including accelerator pump discharge nozzle) which may be filled without modification to the carburetor body.

- D. Modification or substitution of external throttle linkage.
- E. The fitting of internal and/or external anti surge pipes.
- F. The removal of the air cleaner.
- G. The fitting of a velocity stack (intake air horn).
- H. The removal of the choke butterflies and linkage.
- I. An alternate carburetor gasket is permitted provided it is the same thickness as the original gasket.
- J. Modification of the butterfly valve attachment screws is permitted provided that such modification in no way affects any surface of any other part of the carburetor.

**23.6.14 FUEL PUMP:**

Unrestricted.

**23.6.15 EXHAUST MANIFOLD:**

Unrestricted.

**23.6.16 LUBRICATION SYSTEM:**

- A. Oil pump and sump: Unrestricted.
- B. Dry sump system is permitted.

**23.6.17 COOLING SYSTEM:**

- A. Radiator, fan and water pump: Unrestricted.
- B. Pump/fan/generator drive bell: Unrestricted.

**23.7 ELECTRICAL EQUIPMENT:****23.7.1 DISTRIBUTOR:**

- A. Distributors are free providing they retain the original drive and location.
- B. The distributor is defined as the component that triggers the LT current and distributes the HT current.
- C. The ignition timing may only be varied by vacuum and/or mechanical means.
- D. It is prohibited to use any other method or component to trigger, distribute, or time the ignition.
- E. The vacuum advance mechanism may be removed and the distributor advance plate may be secured by soldering or welding or by suitable fasteners. The advance curve and advance springs are unrestricted.

**23.7.2 GENERATORS/ALTERNATORS:**

Not required.

**23.7.3 OTHER ELECTRICAL COMPONENTS:**

All other electrical components are unrestricted.

**23.7.4 IGNITION:**

Electronic ignition is prohibited.

**23.8 MISCELLANEOUS:**

- 1. The timing chain/sprocket cover may be altered or replaced.
- 2. The use of the following non standard replacement parts is permitted provided their use does not result in any unauthorized modification of any other component:

- A. Fasteners (nuts, bolts, screws, studs, etc.)
  - B. Gaskets, except head gasket, carburetor to inlet manifold gasket and inlet.
  - C. Washers.
  - D. Seals.
  - E. Connecting rod, crankshaft and camshaft bearings of the same size and type as original. Normal oversize/undersized bearings are permitted. This does not allow reducing the bearing surface area by reducing the width of standard bearings.
  - F. Spark plugs.
- 3. Mechanical tachometer drive is permitted.
  - 4. The crankcase breather may be altered or removed.
  - 5. The rocker cover may be altered to provide for crankcase ventilation and the filler cap may be altered or replaced.
  - 6. Valve or rocker covers may be substituted, provided that the replacement cover affords no additional function than that of the original stock cover.
  - 7. Water pump, fan and generator/alternator pulley(s) are unrestricted.
  - 8. The crankshaft and bearing caps may be treated with salt bath nitriding cover under AE specification AMS2755A (tufrining, etc.).

**23.9A TRANSMISSION:**

- 1. The gearbox must contain not more than four forward gears and include an operable reverse gear, capable of being engaged by the driver in a normal seated position.
- 2. Ratios are free.

3. Rearwheel drive only is permitted.
4. The final drive ratio is free.
5. Torque biasing, limited slip and locked differentials are prohibited.
6. The differential cannot be modified or influenced in any way to limit or change its normal operation.
7. An aluminum differential carrier is permitted.
8. The use of titanium is prohibited.

### 23.10 FORMULA FORD ENGINE SPECIFICATIONS:

The following technical information has been compiled for AFRA and represents the proper dimensions and clearances used to assemble a good working engine:

DESCRIPTION	STOCK	F1600	WEAR LIMIT
Crankshaft stroke	3.056" + 0.004"	Same	None
Main journal diam (std)	2.1253" to 2.1261"	2.1251" to 2.1255"	- 0.0003"
Rod journal diam (std)	1.9368" to 1.9376"	1.9366" to 1.9372"	- 0.0004"
Crankshaft end play	0.003" to 0.011"	0.006" to 0.009"	+ 0.003"
Block main bearing bores (std)	2.2710" to 2.27151"	2.2713" to 2.2717"	None
Block main bearing bores (0.015'-os)	2.2860" to 2.2865"	2.2863" to 2.2867"	None
Main bearing clearance	0.0008" to 0.0024"	0.0018" to 0.0024"	+ 0.0002"
Connecting rod centre distance	4.9265" to 4.9295"	equal +- 0.001"	None
Big end inside diameter	2.0825" to 2.0830"	2.0830" to 2.0832"	None
Rod bearing clearance	0.0004" to 0.0024"	0.0018" to 0.0024"	+ 0.0002"
Connecting rod end play	0.004" to 0.010"	0.007" to 0.009"	+ 0.003"
Block piston cyl. Bore diameter	3.1883" to 3.189"	3.1922" to 3.1932"	+ 0.0018"
Piston diameter	3.1868" to 3.1871"	Grade e + 0.0016"	None
Piston to cylinder			

*A.R.M.S. 1998 - Formula 1600*

wall clearance	0.0013" to 0.0019"	0.0035" to 0.0045"	+ 0.0015"
Deck height	0.035" to 0.037"	0.029"	None
Minimum unswept cyl. Volume	48.2 cc	Same	None
Wrist pin diameter	0.8119" to 0.8123"	Same	None
Piston clearance	0.0000" to 0.0002"	0.0005" to 0.0007"	+ 0.0003"
Rod clearance	0.0002" to 0.0003"	0.0005" to 0.0007"	+ 0.0003"
Piston ring thickness	Top: 1/16" Second: 5/64" Oil: 5/32"		
Ring to piston side clearance	0.0016" to 0.0036"	0.0016" to 0.0025"	+ 0.0015"
Ring end gap	0.009" to 0.014"	0.015" to 0.022"	+ 0.003"
Camshaft lobe base min. Diameter	Intake	1.080" + 0.0011,	None
Camshaft lobe base min. Diameter	Exhaust	1.080" 0.001"	None
Camshaft lobe lift max. Diameter	Intake	1.311" 0.001"	None
Camshaft lobe lift max. Diameter	Exhaust	1.312" 0.0011,	None
Maximum camshaft lift	Intake	0.231" 0.002"	None
Maximum camshaft lift	Exhaust	0.232" + 0.002"	None
Maximum valve lift	Intake	0.356"	None
Maximum valve lift	Exhaust	0.358"	None
Camshaft bearing bore diameter	1.5615" to 1.562"	Same	None
Camshaft journal diameter	1.5597" to 1.5605"	Same	- 0.0013"
Camshaft bearing clearance	0.001" to 0.0023"	Same	None
Camshaft/ thrust washer endplay	0.0025" to 0.0075"	0.0025"	None
Intake valve max. dia	1.560"	Same	None
Exhaust valve max. dia	1.340"	Same	None
Intake valve to stem clearance	0.0008" to 0.003"	0.0008" to 0.001"	+ 0.002"
Exhaust valve to stem clearance	0.0017" to 0.0039"	0.0012" to 0.0017"	+ 0.0022"
Valve spring load: closed	44 to 49 lb.	75 lb.	65 lb.



Valve spring load: open	128 to 134 lb.	160 lb.	135 lb.
Valve seat angle	45 degrees	Same	None
Intake port at head max. Diameter	1.420"	1.500"	None
Exhaust port at head max. Diameter	1.1001,	1.160"	None

### 23.11 ENGINE TIGHTENING TORQUE SPECIFICATIONS (FT/LB):

Head bolt long:	75
Head bolt short:	70
Main cap bolt:	70
Rod cap bolt std:	35
Rod cap bolt hd:	43
Rod cap bolt 12-pt:	55
Flywheel bolt:	55
Pressure plate bolt:	15
Rocker shaft bolt:	30
Camshaft bolt:	15
Thrust plate bolt:	3.5
Chain tensioner bolt:	7
Oil pump bolt:	15
Oil sump bolt:	8
Water pump bolt:	7
Front cover bolt:	7
Rear cover bolt:	15
Valve cover bolt:	5
Water neck bolt:	15
Fuel pump bolt:	15
Crankshaft pulley bolt:	30

**12.0 SOLO REGULATIONS**

**12.1 INTRODUCTION**

**12.2 ORGANIZATION**

**12.3 ELIGIBILITY**

**12.4 CLASSIFICATION**

**12.5 MODIFICATIONS**



**SOLO REGULATIONS**

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*Racing*

**WE WOULD LIKE TO EXTEND OUR THANKS AND  
APPRECIATION**

**TO ALL THE DEDICATED VOLUNTEERS**

*"Without you - Motorsport in Atlantic Canada would not exist!"*

Tim Hortons Racing Team

**Auto Slalom Regulations  
Table of Contents**

<b>12.1 INTRODUCTION:</b>	
12.1.1 General	3
12.1.2 Intent	3
12.1.3 Public Awareness	4
12.1.4 A.R.M.S. AutoSlalom Championship	4
12.1.5 Definitions	5
12.1.6 Insurance	7
<b>12.2 EVENT ORGANIZATION:</b>	
12.2.1 Event Status and Permits	8
12.2.2 Notices and Publicity	8
12.2.3 Event Officials	8
12.2.4 Course Safety	13
12.2.5 Course Design	13
12.2.6 Event Operation	14
12.2.7 Rules of the Course	15
12.2.8 Timing	17
12.2.9 Penalties	17
12.2.10 Scoring	18
12.2.11 Performance Assessment (PAX) Factor	19
12.2.12 Awards	20
<b>12.3 COMPETITOR ELIGIBILITY:</b>	
12.3.1 General Requirements	20
12.3.2 Personal Safety Equipment	21
12.3.3 Age	22
12.3.4 Novice Drivers	22
<b>12.4 VEHICLE ELIGIBILITY AND CLASSIFICATION:</b>	
12.4.1 General	22
12.4.2 Minimum Vehicle Standards	23
12.4.3 Vehicle Safety Inspection (Scrutineering)	24
12.4.4 Competition Categories	25
12.4.5 Classification Schedule	27

**12.5 VEHICLE MODIFICATIONS AND PREP. POINTS:**

12.5.1 General Principles	27
12.5.2 Tires and Wheels	29
12.5.3 Braking System	30
12.5.4 Suspension and Steering	31
12.5.5 Drivetrain	33
12.5.6 Engine	35
12.5.7 Bodywork	38
12.5.8 Interior	40

**12.6 SOLO I REGULATIONS:**

12.6.1 Course Design	43
12.6.2 Event Safety	44
12.6.3 Novice Driver	45
12.6.4 Competitor Eligibility & Safety	46
12.6.5 Vehicle Safety	48

**12.7 GUIDELINES FOR KARTS / CLUB SOLO II:**

12.7.1 Approved Procedure	49
12.7.2 Event Operation Procedure	49
12.7.3 Kart Eligibility	49
12.7.4 Safety	50
12.7.5 Formula 125 / Spec for Participation	51

Appendix 12A - Pax Factors (2001) 55

Appendix 12B - Vehicle Class Schedule (2001) 56

Appendix 12C - Championship Class Schedule (2001) 96

Appendix 12D - Solo 1 Car Classifications (2001)  
(Information Only) 98

## 12.0 AUTO SLALOM REGULATIONS:

### 12.1 INTRODUCTION:

#### 12.1.1 General:

1. These regulations were established by the Atlantic Region Motor Sport (A.R.M.S.) Solo Events Committee and apply to all AutoSlalom (Solo) events organized or sanctioned by A.R.M.S. or member Clubs. They are intended to assist in assuring safe and enjoyable events. By participating in these events, all participants are deemed to have agreed to be bound by these regulations.

2. The Solo Workshop Group and Solo Events Committee exists to serve the needs and interests of the sport in Atlantic Canada. Your input is needed and solicited. Any comments, suggestions, requests for rule changes, and the like should be directed to the Director of Solo Events in care of A.R.M.S.

3. The Solo Events Committee reserves the right to amend or update these regulations at any time. These regulations will generally be reviewed and updated on an annual basis. During the Competition Season the Solo Events Committee is also responsible for evaluating and finalizing each Regional Solo events results (i.e. creates "Official Final Results"). The Solo Events committee's final responsibilities each season, prior to the A.R.M.S. AGM, include verifying the "Official final Results" and overall & class award winners as prepared by the Director(s), and qualifying & evaluating "novice" and/or "improved" competitors for awards distribution at the A.R.M.S. Annual General Meeting.

#### 12.1.2 Intent:

1. AutoSlalom (Solo) events are intended to be enjoyable and fair contests where driving skill, not car preparation, is the primary difference between competitors. These regulations are intended to describe the minimum standards for the conduct of AutoSlalom events. The vehicle preparation rules contained in these

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regulations are intended to equalize vehicles having different performance capabilities, not to penalize those who wish to modify their vehicles.

- \* 2. All AutoSlalom events are organized and held under the General Competition Rules (GCR's) of Atlantic Region Motor Sports Inc. (A.R.M.S.). These AutoSlalom Regulations are intended to supplement the GCR's. In no way do these regulations supersede those regulations. Member Clubs of A.R.M.S. may add rules and substitute alternative vehicle classifications for the conduct of Club events. However, Club rules may not supersede or reduce the effect of any of these regulations. In cases of conflict between these regulations and Club regulations, these regulations shall take precedence.

#### 12.1.3 Public Awareness:

1. It is the responsibility of all Club members, whether they are organizers, competitors, spectators, etc. to ensure that all A.R.M.S. AutoSlalom events are carried out in a responsible manner with due care to the rights and wishes of property owners and the general public. The Clubs rely on the good will and understanding of local Police, Property Owners, Media, Neighbours, etc. to continue to be able to hold events in Public areas.
2. Therefore, all participants in any AutoSlalom (Solo) Event shall take reasonable care to protect the safety and comfort of the Public. Any excessive noise or reckless behaviour during an event shall be strictly discouraged. The judge of the acceptable level of noise and behaviour shall be the Chief Organizer, and his/her decision shall be final. He/she shall take into consideration the location of the event, the proximity of surrounding homes and businesses, and local standards and bylaws in making a judgment.

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**12.1.4 A.R.M.S. AutoSlalom Championship:**

1. The A.R.M.S. AutoSlalom Championship (A.R.M.S.-ASC) is composed of a series of events held across Atlantic Canada to determine the Regional AutoSlalom Champions.
2. The A.R.M.S.-ASC is sanctioned by the A.R.M.S. Solo Events Committee and is organized in conjunction with hosting Clubs in the Region.
3. The conduct of each A.R.M.S.-ASC event shall conform to these regulations.

**12.1.5 Definitions:**

1. The following definitions are adopted for these regulations:

**CLUB:** Any body recognized by A.R.M.S. as a Club.

**COMPETITOR:** A person whose entry is accepted for any event or who competes in any event, whether as an entrant or driver.

**COMPETITION:** A contest in which an automobile is used and which is of a competitive nature or is given a competitive nature by publication of results.

**COURSE:** The route to be followed by a competitor in a competition.

**DRIVER:** A person nominated as the driver of a vehicle in any competition.

**DNF:** "Did Not Finish" means that for some reason a run was not completed, or was disallowed.

**DNS:** "Did Not Start" means that for some reason a run was not started.

**ENTRANT:** A person or organization whose entry is accepted for any competition.

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**FIA:** "Federation Internationale de l'Automobile", which is the International Federation of National Automobile Clubs.

**FISA:** "Federation Internationale du Sport Automobile", the international automobile sport federation appointed by the FIA to deal with competition matters.

**FTD:** "Fastest Time of the Day"

**GATE:** The space between two pylons where the course requires the car to be driven between the pylons.

**GCR:** The "General Competition Rules" of A.R.M.S. which govern the general organization and operation of motorsport activities in Atlantic Canada.

**LICENSE:** A certificate of registration issued by A.R.M.S. to any person wishing to take part in competitions.

**NON-SPEED EVENT:** An event in which speed is not the total determining factor, although timing of the vehicles is usually considered, such as in a driving skill test, concours autoslalom, autocross, sprint, etc.

**OC:** "Off Course" means that the competitor did not correctly follow the course.

**ORGANIZER:** A person or persons approved by A.R.M.S. and authorized by Clubs, sponsors, or other groups to organize an event on their behalf.

**PYLON:** An object used to mark the correct course, usually a flexible plastic traffic cone coloured so that it is easily seen.

**SANCTIONED EVENT:** Any event or competition authorized and approved by A.R.M.S. and having the appropriate organizing permit.

**SOLO EVENT:** A solo event is defined as a competition in which competitors complete a course one-car-at-a-time. Scoring is based on each competitor's success in following the course and controlling the car, and

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the time taken to complete the course. Solo events generally fall into two categories, Solo I or Solo II.

**SOLO EVENTS COMMITTEE:** a committee comprised of a maximum of one representative of each A.R.M.S. affiliated Club and chaired by the Region Director(s) of Solo Workshop Group meeting at the A.R.M.S. Annual General Meeting. Each club selected member sits on the Committee until otherwise indicated by the club. The committee is chaired by the Region Director(s).

**SOLO WORKSHOP GROUP:** a group comprised of A.R.M.S. basic license holders who have an interest in autocross. A.R.M.S. basic license holders (i.e. ARMS Club Members) who have competed in at least one regional autocross in the most recent competition year are permitted to vote at the Solo Workshop during the A.R.M.S. Annual General Meeting.

**SOLO I (SPRINT):** A one-car-at-a-time event held on a closed course where speeds may approach the maximum potential of the car.

**SOLO II (AUTOSLALOM):** A one-car-at-a-time non-speed event held on a closed course where vehicle speeds and hazards to competitors, spectators, and property do not exceed those of normal street driving.

**SPEED EVENT:** An event in which vehicles run individually (even though two or more may be in motion simultaneously) and in which the relative performance of the competitors is assessed by timing them over a given distance.

**SUPPLEMENTARY REGULATIONS:** Regulations drawn up by the organizer of a competition or competitions and approved by A.R.M.S. with the object of laying down details of such competitions which are in addition to the GCR's and these Regulations.

#### **12.1.6 Insurance:**

1. Liability insurance coverage is mandatory for all Solo events. Insurance is obtained through A.R.M.S. The policy covers the club and property owners against claims for injury or property damage brought by the general public.

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2. All competitors, officials, and workers are covered against liability to third parties, but are individually responsible for deductible amounts. The policy does not cover participant injury or damages.

3. Any other person(s) permitted to enter areas normally closed to the public (such as the course, timing and scoring areas, competitor parking area, scrutineering area, etc.) must sign an Insurance Waiver.

4. A copy of the Insurance Certificate should be posted at all AutoSlalom Events.

## **12.2 EVENT ORGANIZATION:**

### **12.2.1 Event Status and Permits:**

1. All A.R.M.S. AutoSlalom Events and other Regional status events require a valid permit prior to the event being held. Organizers shall apply for permits no later than 60 days before the date of the event, and shall provide all information requested by the Solo Director.

2. The A.R.M.S. Solo Director shall issue an event permit only when all regulations have been complied with.

3. Club status events do not require an A.R.M.S. AutoSlalom permit.

### **12.2.2 Notices and Publicity:**

1. For all A.R.M.S. AutoSlalom Championship events, supplementary regulations which include all pertinent information about the event type, location, date, times, and any special instructions or restrictions shall be mailed to all A.R.M.S. member clubs no later than 30 days before the date of the event. The A.R.M.S. AutoSlalom permit number shall be quoted on the supplementary regulations. See Section 5.0

2. Organizers may publish information about an autoslalom event using posters or media advertisements provided the ads specify that the event is open only to members of A.R.M.S. clubs. Unless additional insurance coverage is obtained by the organizer to provide for spectator coverage, all

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public advertisements shall be in the form of a "notice", and not an "invitation" for the general public to attend.

### 12.2.3 Event Officials:

1. Each event requires a staff of officials who are responsible for carrying out all aspects of the operation of the event. An individual may carry out the duties of more than one position, and each official may have assistants to whom any of their duties may be delegated.

2. The **Organizer** is responsible for:

- i) The organization and general conduct of the event in accordance with the GCR's, these Regulations, and any Supplementary Regulations.
- ii) That all reasonable safety precautions have been taken with regard to spectator safety and that all spectator control measures are operational at all times. This includes course security which is defined as maintaining control over spectator access to the course.
- iii) The completion of all accident report forms.
- iv) The duties of the Organizer may include those of the Clerk of the Course.

3 The **Clerk of the Course** shall:

- i) Ascertain whether all officials are at their posts and shall report the absence of any of them to the organizer.
- ii) Ensure that all officials are provided with the information necessary to carry out their duties
- iii) Control competitors and their vehicles and take appropriate action with regard to any competitor or vehicle he may consider to be ineligible, undesirable, or dangerous.
- iv) Ensure the correct driver is in each vehicle and marshal the vehicles as necessary.

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- v) Send the vehicles to the starting line in the correct order and, if necessary, give the starting signal.
  - vi) Convey to the steward any proposal to modify the program or any report that deals with the misbehavior of or breach of any rule or regulation by a competitor.
  - vii) Receive grievances from competitors or drivers and shall transmit them to the steward.
  - vii) Collect reports of the timekeepers, scrutineers, and marshals, together with such other information necessary to enable the steward to complete his report.
4. The Registrar shall:
- i) Receive all entry forms and entry fees for the competition.
  - ii) Ensure that all forms are filled out completely by the entrant, that all entrants sign the insurance waiver, and inspect all required documentation (e.g. drivers license, etc.) for authenticity prior to accepting any entry. See also Competitor Eligibility: General Requirements.
  - iii) Complete and post a list of the official entries in the competition.
5. The Scrutineer shall:
- ii) Ascertain that all entered vehicles comply with all safety regulations. The Scrutineer may have assistants to help in these duties.
  - ii) Report to the Clerk of the Course any vehicles that he finds that do not conform with the requirements of the regulations.
  - iii) Re inspect any and all vehicles that may become unsafe at any time during the event and shall conduct technical inspections at the request of the Clerk of the Course.
  - iv) The Scrutineer shall not communicate any official information to any other person than the Clerk of the Course.

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6. **The Starter shall:**

- i) Be responsible for starting the vehicles off onto the course, only after checking that the course is clear of obstructions.
- ii) Provide flagging to drivers if necessary.
- iii) Be responsible for staging vehicles, checking for scrutineering inspection stickers, ensuring that seat belts are fastened and helmets are worn, and other aspects of the starting function. He/she may have assistants to help in these duties.

7. **The Timekeeper shall:**

- i) Be responsible for the accurate timing of vehicles. Assistants may be used to help in these duties.
- ii) Ensure that all timekeepers and equipment are in place and ready to start timing the competition when instructed to do so by the Clerk of the Course.
- iii) Furnish the Clerk of the Course and the Steward any times and result they may request.
- iv) Maintain records of official times and penalties for all competing vehicles.

8. **Course Marshals:**

- i) There must be sufficient course marshals to watch over the competition runs to ensure equality and safety to all competitors.
- ii) All portions of the course must be visible to at least one course marshal who can communicate through signals or by electronic means to the Clerk of the Course and/or the Starter.
- iii) Each course marshal shall be supplied with the required flag(s) by the Chief Organizer. These flag shall be used to communicate with the drivers while they are on the course and shall be deployed in order to ensure their maximum effectiveness.

- iv) Course marshals shall be granted the powers of Judges of Fact in accordance with the duties of that position outlined in the GCR's.
  - v) Course marshals shall be responsible for promptly replacing pylons which may be displaced by a competitor during a run and inform the timekeeper whether a penalty should be assessed.
  - vi) Course marshals shall be aware of the location and movement of spectators around the course, and prevent unauthorized persons from entering the course.
9. At least one Steward shall be available for each A.R.M.S. AutoSlalom Championship event of Regional status. The Steward shall have supreme authority for the enforcement of the regulations governing the event, and is responsible solely to A.R.M.S. The Steward shall act primarily in a judicial capacity, and therefore shall not have any responsibility for the organization or execution of the event. A Steward shall not be a competitor in an event he/she is stewarding. If possible, the Steward should be a member of a different Club than the organizing Club. In addition, the Steward shall:
- i) Settle any claim which might arise during a meeting, under reserve of right of appeal.
  - ii) Ensure that the event organization and course design complies with these regulations, and that all required safety equipment and personnel are present, and that all requirements for the protection of competitors, spectators, and property are complied with.
  - iii) Submit a written report to the A.R.M.S. Solo Director following the event outlining his/her evaluation of the organization and conduct of the event; details of all accidents which may have occurred; copies of all inquiries, replies, protests, and appeals that were received; details of actions taken with respect to each lodged grievance; copies of the supplementary regulations, official notices, and results of the event; and any other information which should be brought to the attention of A.R.M.S.

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**12.2.4 Course Safety:**

1. At least two fully charged and functional 5-pound 10BC dry-chemical fire extinguishers (or four 2.5-pound) shall be present at all Solo II events.
2. There must be adequate course marshals to oversee all competition runs and to ensure equality and safety to all competitors.
3. It is important that the spectator viewing areas and the spectator parking areas be kept at a safe distance from the course, especially the start/finish areas. Course security is a **must** at all times. Uninformed and misguided spectators are to be expected, and adequate crowd control provisions must be made to avoid their unwanted and dangerous wandering onto the course area. Unless protected by substantial barriers, spectator areas are to be roped off.
4. Full consideration must be given to safety in the pits, around the start/finish areas, and near the flag stations. Particular attention must be given to assuring that timekeepers and marshals are not placed in hazardous locations.
5. The organizer must elaborate a prearranged plan to cope with major emergencies, such as a car going into a crowd or a marshals station.

**12.2.5 Course Design:**

1. The course should be designed with an emphasis on driver skill and car control, and should contain a variety of curves and range of speeds. Maximum speeds should not be in excess of 80 kph for stock and superstock vehicles, and there should not be extended periods of high speeds.
2. The course shall be laid out on a clean hard surface (eg asphalt or concrete pavement) and shall include:
  - a) a staging area where competitors can line up in proper running order prior to their timed runs.



- b) well defined start and finish lines.
  - c) a course marked with pylons having a minimum gate width of 4.5 m. and a minimum of 8.0 m. from any obstacles.
  - d) a stop box.
  - e) an outline of each cone base made with an appropriate material to permit quick and accurate repositioning of cones when they are displaced. For example, in wet conditions a grease pencil should be used.
3. Stop boxes shall be used at all slaloms. The stop box is a safety item intended to ensure that all cars finish their run within the confines of the course, and that competition speeds are not carried into the parking or spectator areas.
- i) The stop box should be located a reasonable distance from the finish line so that competitors will be able to cross the finish line at speed and then come to a complete stop under full control and at less than full braking potential.
  - ii) The stop box shall be located so that the cars proceed in a reasonably straight line from the finish line into the box. No sharp turns should be located between the finish line and the stop box.
  - iii) The stop box shall be marked by pylons and have a minimum width of 10 ft. (3m), and shall be at least 20 ft. (6m) long. It shall have only one (1) opening, to be used for entry. Exit from the box will require the removal of a pylon opposite the entry, or require the competitor to back out.
4. A representative course diagram showing the pylon placement and lap sequence shall be posted at the registration area at each even

#### 12.2.6 Event Operation:

- 1. **Registration** shall be opened at least one hour before the published starting time for the Event. Registration shall remain open until the last car makes its first run on the course.
- 2. **Instructions to Competitors:** The organizer shall call all competitors to a driver's meeting prior to the start of the event. All competitors are

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required to attend this meeting. The Organizer shall cover the following topics:

- Introduce the event officials.
- Review the course diagram.
- Make sure all entrants have signed the waiver.
- Describe the primary and backup timing.
- Describe the penalties to be assessed.
- Walk the course
- Review supplementary regulations

3. **Scheduling:** Events should be scheduled during daylight hours whenever possible. Night time events are permitted if adequate lighting is available. Allow adequate time to complete the event without undue rushing. As a guide, allow for the following minimums:

Competitor arrival and preparation:	1 hour
Registration and Scrutineering:	1 hour
Timed Runs (varies):	3 hours
Course Cleanup:	1 hour

4. **Changes to a course** after an event has started require the approval of a majority (50% + 1) of the competitors AND permission of the event organizer AND permission of the event steward. Such changes may only be instituted after one complete run, except in the case of an obvious safety issue.

#### 12.2.7 Rules of the Course:

1. Competitors shall be required to act in a subdued manner at all times. No burnouts or excessive noise are allowed.
2. The organizer of an event may enter the event provided that, where conflict might arise, the organizer's duties are delegated to other non-competing officials.
3. Pre-runs are not allowed. A course may be pre-run by a non competitor only. This includes any/all passengers.

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**4. Runs:**

- i) No practice runs will be allowed.
- ii) No deliberate tire warming before a run. Competitors Vehicles will be stationary at least five (5) minutes before their run unless otherwise instructed by an official.
- iii) The starting order for an event shall be determined by assigning each competitor number then drawing at random one of those numbers and continuing in numerical sequence from the drawn number. Competitors shall make all of their runs in that order with the exception of approved reruns.
- iv) A run may be started only after the course has been cleared and the starter gives permission.
- v) A DNF will be assessed to any competitor who makes an early start.
- vi) A CHECKERED flag should be displayed at the finish line at the end of each Competitor's run.
- vii) If, during an event, a vehicle experiences mechanical problems resulting in withdrawal from the event, the driver may finish the remaining runs in another car legal in the same class. Such a mechanical problem shall not be grounds for a re-run. Any replacement vehicle must pass scrutineering inspection.

**5. Re-Runs:**

- i) Re-runs may be allowed. No re-run shall be made until the vehicle has rested for a period of at least 5 minutes.
- ii) A re-run will be granted only when the Steward, acting at the request of the Clerk of the Course, so authorizes.
- iii) All penalties shall be carried over to a re-run.
- iv) If a competitor is red flagged during a run, a re-run may be granted.

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- v) If a displaced course pylon is not replaced before a competitor returns to that portion of the course during a timed run, the competitor must stop at the displaced pylon in order for a re-run to be granted. If the competitor continues, the time for that run will be counted including the pylon penalty.
- vi) If both the Primary and Backup timers malfunction during a timed run, a re-run may be granted.

#### 12.2.8 Timing:

1. The timing of all Region Championship events shall be by electronic timer with digital readout. The start/stop function shall be operated by electronic or other "hands-off" means. Primary timers shall be capable of timing to at least 1/1000 second. Backup timers shall be capable of timing to at least 1/100 second.
2. Two independent timers shall be used. One timer shall be designated as the primary timer. The second timer shall be used as a backup for the primary timer. The same timers shall be used for primary and backup throughout the event.
3. Each timer shall be calibrated. This may be carried out by designating the primary timer as the standard, and operating both timers simultaneously for a period of at least 15 minutes. A conversion factor for the backup timer shall be calculated by taking the ratio of the primary to backup times for the calibration period. The conversion factor shall be applied to all times from the backup timer used for scoring.
4. In the event of a complete/permanent failure of the primary timer, the event shall be completed using the backup timer.
5. For Club status events, a primary timer capable of timing to at least 1/100 second with either manual or "hands-off" start/stop function may be used.
6. For Club events, a handheld timer with manual start/stop function may be used as a backup timer.

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**12.2.9 Penalties:**

1. A time penalty of two (2) seconds shall be assessed for each course pylon which is either tipped over or displaced outside its marked location.
2. Where a DNF penalty is assessed, no official time shall be recorded for the run. A DNF penalty shall be assessed:
  - a. to a competitor who goes off course during a timed run, except if the competitor re-enters the course at the same spot where he left it
  - b. to a competitor who fails to complete a run.
  - c. to a competitor who at the end of a run fails to proceed directly from the finish line into the stop box and come to a complete stop.
  - d. if a pylon in the stop box is tipped over or displaced outside its marked location while entering the box. No penalty for pylons moved while exiting the box after coming to a complete stop.
3. A DNS penalty shall be assessed to a competitor who fails to start a run at the appropriate time.

**12.2.10 Scoring:**

1. For scoring purposes, the A.R.M.S. AutoSlalom Champion Classification Schedule (1998), as presented in Appendix 12C, shall be used.
2. Time penalties shall be added to the recorded time for each run to arrive at the time used for scoring.
3. Elapsed times and penalties for each run by each competitor shall be posted continually throughout the event.
4. The "fastest run including penalties if any" for each competitor shall be used to determine finish placings in each class.
5. If identical fastest times are recorded for two or more competitors in the same class the next fastest times for these competitors will be used for tie breaking purposes only.

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6. Championship points will be awarded based on the finishing order of each class. Points are awarded for a full class consisting of three (3) or more entrants according to the following schedule:

First .....	20	Sixth .....	7
Second .....	17	Seventh .....	5
Third .....	14	Eighth .....	3
Fourth .....	11	Ninth .....	2
Fifth .....	9	10, 11, on	1

- a. For an entrant to be considered in a class, the entrant must be a valid full member of an A.R.M.S. affiliated club as of the close of registration for that event, and, therefore, be a basic license holder. Only competitors who fulfill this requirement are counted toward class size and points allotment for that event.
- b. Prospective competitors in an A.R.M.S. Regional Autoslalom who wish to retain any points they are awarded at that event towards their own standings in the A.R.M.S. Autoslalom Championship must be a valid A.R.M.S. Solo II License Holder as of the close of registration for that event. Such a license may be obtained from the Regional License Registrar by following A.R.M.S. rule 6.2.2 and 6.2.4. As to the expiry date of the Solo Competition License, Rule 6.4.1 will apply. The fee for the Solo Competition License will be \$5.00 for 1999 and thereafter Rule 6.7.1 will apply.
7. Where there are only two (2) entrants in a class, 17 points shall be awarded to first place, and second place shall be awarded 14 points.
8. Where there is only one (1) entrant in a class, 11 points will be awarded.

#### 12.2.11 Determining Solo Competitor of the Year:

The Competitor of the Year will be selected by the Solo Events Committee and will be based equally on contribution and participation.

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**12.2.12 Awards:**

1. Awards for the A.R.M.S. AutoSlalom Championship shall be presented for:
  - a. First, Second, and Third Overall,
  - b. First, Second, and Third in each class,
  - c. Highest overall finisher on BFG Tires
  - d. Best novice or most improved driver.
2. Additional awards may be presented if the number of entries warrant (e.g. fourth, fifth, etc.)
3. Trophies/Plaques be presented at each Regional for first place in each class.

**12.3 COMPETITOR ELIGIBILITY:****12.3.1 General Requirements:**

1. Competitors must have a valid full membership in an A.R.M.S.-affiliated Club.
2. Two or more competitors may multi-enter the same vehicle in an event provided that competitors can be spaced sufficiently in the running order so that the vehicle may be allowed to rest at least 10 minutes between consecutive runnings. The Chief Organizer may limit the number of entries if sufficient resting time can not be provided.
3. All competitors must present the following documents at registration:
  - a. a completed Entry Form for the event,
  - b. a completed "Vehicle Classification and Declaration of Modifications" form for the vehicle,
  - c. a valid Club Membership Card,
  - d. a valid Provincial Driver's License,

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- e. a valid Vehicle Registration Certificate for each vehicle (not required for vehicles such as race cars which are not driven or licensed on public roads). If the entrant is not the registered owner of the vehicle, written permission of the owner is required.
  - f. written permission of parent or guardian if the entrant is under the age of majority in the province where the event is being held.
  - g. Non-members must be issued a "one day" membership at additional cost, but will not be eligible for points toward the regional championship. An A.R.M.S. Solo II Competition License is required if the competitor wishes to retain any points they are awarded for that event.
4. All competitors and any crew/guests of competitors shall sign the insurance waiver form.
5. The Chief Organizer has the right to refuse any entry.
6. (a) For an entrant to be considered in a class, the entrant must be a valid full member of an A.R.M.S. affiliated club as of the close of registration for that event, and, therefore, be a basic license holder. **Only competitors who fulfill this requirement are counted toward class size and points allotment for that event.**
- (b) Prospective competitors in an A.R.M.S. Regional AutoSlalom who wish to retain any points they are awarded at that event towards their own standings in the A.R.M.S. AutoSlalom Championship must be a valid A.R.M.S. Solo II License holder as of the close of registration for that event. Such a license may be obtained from the Region License Registrar by following A.R.M.S. Rule 6.2.2 and 6.2.4. As to the expiry date of the Solo Competition License, Rule 6.4.1 will apply. The fee for the Solo Competition License will be \$5.00 for 1999 and thereafter Rule 6.7.1 will apply. If a competitor arrives at a Regional Solo Event and does not have a Solo Competition License, a 30 day Temporary Solo Competition License (subject to confirmation of full club membership by the Registrar) can be issued to a competitor by an attending Regional Solo Director or the Event/Series Steward upon presentation of a valid and current A.R.M.S. affiliated Club Membership card.

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If the Club Membership Form of a competitor who has received a Temporary Solo License is not received by the Regional Registrar within 30 days of the event, then the temporary license will become invalid and the results from the Solo event(s) which the competitor competed in under the temporary license will be changed to reflect that particular competitor as being "not eligible for A.R.M.S. AutoSlalom Championship Points". This will cause the class(es) in which that competitor competed in to be downsized and all competitors Regional Championship Points to be adjusted accordingly.

#### 12.3.2 Personal Safety Equipment:

1. All personal safety equipment is subject to inspection and approval by the Scrutineer.
2. **Helmets**
  - i) All competitors (and passengers, if any) shall wear an approved, snug fitting, and securely fastened helmet during any run.
  - ii) Helmets shall conform to the standards of the SNELL Memorial Foundation, and shall bear a SNELL certification sticker and serial number.
  - iii) Acceptable SNELL certification standards are "80", "M85", "SA85", "M90" and "SA90"  
SNELL SA90 certification is preferred.
  - iv) All helmets shall be free of gouges, cracks, and loose or damaged lining or straps.
3. Competitors (and passengers, if any) in open vehicles must wear adequate eye protection.
4. Competitors (and passengers, if any) in vehicles classified in Street Prepared or Modified categories shall use an approved 4-point, 5-point, or 6-point restraint harness.

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**12.3.3 Age:**

Competitors under the age of majority in the Province where the event is being held shall submit written and notarized permission from their parent or guardian to enter the event.

**12.3.4 Novice Drivers:**

A Novice driver is considered to be an entrant who has competed in less than three (3) Solo II events. Novice drivers shall be instructed on rules of the course and these regulations prior to his/her first run. The organizer may appoint an experienced entrant to act as coach for a novice driver. The coach may ride in the entrant's car as a passenger during the entrant's runs.

★

Add "non-competitor coach"

**12.4 VEHICLE ELIGIBILITY AND CLASSIFICATION:****12.4.1 General:**

1. There will be no limit placed on the number and type of vehicle eligible to enter an event, except that each vehicle must pass the scrutineering safety inspection, have all modifications declared, be properly classified, and must meet the minimum equipment and safety standards.
2. All entrants must complete and sign a "Vehicle Classification and Declaration of Modifications" form prior to registering for an event. All variations from standard equipment must be declared on the form.
3. It is the responsibility of the entrant/competitor to correctly classify his/her vehicle. Incorrectly classified vehicles may be re-classified by the Organizer. A competitor who knowingly classifies a vehicle incorrectly may be excluded from the event.
4. Vehicles not specifically listed in the classification schedule may be tentatively classified by the event organizer. Tentatively

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classified vehicles may be re-classified by the Solo Events Committee.

5. Anyone may submit a request to the Solo Events Committee to classify or re-classify a vehicle. All such requests should be made no later than two weeks prior to the start of the first championship status event of the year. The Solo Events Committee may classify or re-classify a vehicle during the year.

#### 12.4.2 Minimum Vehicle Standards:

1. All vehicles shall meet the following minimum standards.
  - i) Four (4) road wheels with a minimum wheel diameter of 10 inches.
  - ii) Tires with no visible cord or blemishes.
  - iii) Minimum of two (2) driven wheels.
  - iv) A fully functioning braking system which works simultaneously on all wheel. There shall be no fluid leaks, and the thickness of friction material shall be in excess of the minimum recommended by the manufacturer.
  - v) Structure and body work which surrounds the driver at least to waist level when seated in the normal driving position.
  - vi) Minimum wheel base of 72 inches (1829 mm).
  - vii) Minimum track front and/or rear of 42 inches (1067 mm).
  - viii) Engine intake(s) and exhaust(s) which are adequately muffled so that the vehicle produces sound levels during the event which are street legal. Vehicles which are judged to make excessive noise shall be suitably modified before continuing or shall be withdrawn from the event. The Organizer is the sole judge of what is an acceptable noise level.

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- ix) Adequate seating and seat restraints for the driver (and passenger, if any).
- x) Winter tires will be allowed at the discretion of the Organizer.

#### 12.4.3 Vehicle Safety Inspection (Scrutineering):

1. Prior to the start of the event, the Scrutineer shall inspect each vehicle entered for compliance with all safety related regulations. Entrants shall present their vehicle(s) to the Scrutineer in competition-ready condition. The safety inspection shall include, but not necessarily be limited to the following items:
  - i) Good general condition, with no loose bodywork and no oil or fluid leaks.
  - ii) Battery firmly tied down.
  - iii) Wheels free of bends, cracks, or chips.
  - iv) No broken or missing wheel studs, nuts, or bolts.
  - v) No visible cord, blemishes, or defects in tires.
  - vi) Brakes to have adequate fluid level, no visible leaks, and no visible defects in piping or tubing. Perform a six-second static brake test.
  - vii) Helmet: check for SNELL certification, cracks, chips, loose liner, or frayed straps.
  - vii) No loose items in interior.
2. The scrutineering inspection does not relieve the entrant from responsibility for conformance with all regulations.
3. A scrutineering inspection of any entered vehicle for conformance with vehicle classification and modification regulations may be ordered at any time by the Clerk of the Course or the Steward.

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4. During the event, or at the conclusion of the event, the Scrutineer with the cooperation of the competitors concerned may inspect a minimum of the top three vehicles in each class.
  - i) This inspection shall check for compliance with the following:
    - a) Entry form properly completed and legible.
    - b) Proper classification of the vehicle.
    - c) Compliance with all vehicle regulations.
    - d) Proper assessment of preparation points.
  - ii) The Scrutineer shall report the results of this inspection to (and only to) the Clerk of the Course.
  - iii) Any vehicle found to be improperly classified, incorrectly assessed, or otherwise in violation of the regulations will be reported to the Steward by the Clerk of the Course.

#### 12.4.4 Competition Categories:

1. General.
  - i) The preparation points for each and every modification to the vehicle shall be added together.
  - ii) The sum of all preparation points for the vehicle shall be used to determine the Vehicle Category according to the following schedule.
2. Stock (S) Category.

The vehicle is permitted a maximum of one (1) preparation point under the preparation point schedule detailed in Section 9.5.

3. Super Stock (SS) Category.

The vehicle is permitted a minimum of two (2) and a maximum of six preparation points under the preparation point schedule detailed in Section 9.5.

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**4. Street Prepared (SP) Category.**

- i) The vehicle is permitted a minimum of seven (7) and a maximum of fifteen (15) preparation points under the preparation point schedule detailed in Section 10.5.
- ii) The following equipment is mandatory for vehicles in Street Prepared category. Appropriate preparation points shall be assessed.
  - a) The vehicle is required to be fitted with an approved 3-point Y-Harness (or better) seat restraints for the driver (and passenger, if any).

**5. Modified (M) Category.**

- i) The vehicle is permitted sixteen (16) or more preparation points under the preparation point schedule detailed in Section 10.5.
- ii) The following equipment is mandatory for vehicles in Modified category. Appropriate preparation points shall be assessed.
  - a) The vehicle is required to be fitted with approved 4 point (or better) seat restraints for the driver (and passenger, if any).
  - ~~b) The vehicle is required to be fitted with approved roll-over protection. (see 12.5.8.4.1)~~

**12.4.5 Classification Schedule:**

- 1. The vehicle classification schedule for A.R.M.S. AutoSlalom Championship events is as listed in Appendix 10C.
- 2. The Classification Schedule shall be used to determine the class for each vehicle entered in the event. Vehicle Categories are determined based on the vehicle modifications and preparation points as determined in Section 10.5.
- 3. Vehicles not specifically listed in the classification schedule shall be tentatively classified by the event organizer. Tentatively classified vehicles

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may be reclassified by the A.R.M.S. Solo Events Committee, or the A.R.M.S. Solo Director, or the Chief Steward of the event.

## **12.5 VEHICLE MODIFICATIONS AND PREPARATION POINTS:**

### **12.5.1 General Principles:**

1. In general, any vehicle can be modified in any way for competition (within certain limits) as long as it is safe and that all modifications are declared, all preparation points are assessed, and the vehicle is classified correctly. ALL modifications are subject to the preparation point schedule.
2. A modification is defined as ANY change made to a vehicle, whether made by the owner, entrant, driver, or anyone else, the result of which means that the vehicle is in any way different from the original condition in which it left the manufacturer's factory floor.
3. This rule states specifically what modifications are allowed for competition. There are three types of modifications permitted. **Unrestricted modifications** may be made in any class or category and do not require assessment of preparation points. **Restricted modifications** may only be made in the categories noted and if the appropriate preparation points are assessed. **Safety Modifications** may be made in any class or category provided the appropriate preparation points are assessed as noted.

If any modification is not specifically allowed in these rules, or is prohibited by these rules, then a vehicle having such a modification is not eligible for competition.

4. Preparation points for each modification are listed below. Each modification can be made only if all of the preparation points listed for it are assessed. Similarly, preparation points can only be assessed if the applicable modification has, in the opinion of the Event Steward, been made. The Event Steward may consult with the Event Scrutineer in determining whether or not modifications have been made in the spirit of the rules.

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5. Preparation points are accumulative.
6. All modifications, regardless of preparation points or vehicle category, are subject to inspection and approval of the scrutineer for safety, and must meet all other regulations for the event.
7. These preparation rules apply to the vehicle only while entered in the event. They do not apply while the vehicle is being operated on public roads where Federal, Provincial, and Municipal Laws and Regulations take precedence.
8. It is the responsibility of the entrant to be aware of the vehicle classification rules and the preparation point structure, and to give true and complete information about the vehicle and any modifications (whether they have purposely been made by the entrant or not) at the time of registration.
9. The entrant is solely responsible for proof of conformance with all vehicle eligibility, modification, and classification rules.
10. Vehicle classification is subject to protest, and incomplete disclosure of modifications will result in disqualification if a protest is upheld.
11. The Organizer of the event may re-assess preparation points and re-classify any vehicle upon the recommendation of the Steward for the event.
12. Unrestricted Modifications: Driver Aids (i.e. Anti - Lock Braking Systems, Four Wheel Steering, Traction Controls, Active Suspensions) are allowed to be disabled by simple means (i.e. pulling the fuse). An entrant disabling such a device must specify in writing the nature of the device and indicate how it has been disabled on their event entry form. As a result, and if necessary, such a car may be reclassified temporarily by the event organizer and officially by the Solo Events Committee after the event has been held as per 12.4.1.4 and 12.4.1.5.

#### 12.5.2 Tires and Wheels:

1. Includes: any and all vehicle tires, and any and all vehicle road wheels.

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**2. Unrestricted Modifications:**

- i) Use of any make, model, and size of tire, provided all tires are in good condition, and there is no visible cord or blemishes, and both a Department of Transportation (D.O.T.) approval stamp and approval number moulded on the tire.
- ii) Use of any make and size of wheel and/or wheel mounting bolts or nuts. Snap on wheel covers, hub caps, trim rings, or any other wheel accessory which may be easily removed must be removed
- iii) The horizontal top portion of the tire as used in competition, when viewed from the top and perpendicular to the ground shall not extend beyond the (unmodified) standard equipment wheel well openings.
- iv) Use of any tire air pressure, and any type of gas to inflate the tires (e.g. nitrogen) provided it is non-combustible and non-corrosive.
- v) The use of winter tires will be allowed at the discretion of the Organizer. Studded tires are strictly forbidden except where the event is run on an ice or snow-packed surface.

**3. Restricted Modifications:**

- i) Use of any make, model, and size of tire not allowed in 12.5.2.2.1. (except recapped or retreaded tires) provided all tires are in good condition, and there is no visible cord or blemishes, and there is both a Department of Transportation (D.O.T.) approval stamp and approval number on the tire.  
Permitted in: SP, M      Preparation Points: 0
- ii) Use of racing tires or tires which do not have a D.O.T. approval number (except recapped or retreaded tires provided there is no visible cord, blemishes, or defects)  
Permitted in: M      Preparation Points: 1
- iii) Use of wheel spacers provided the mounting studs/bolts are lengthened to produce at least the same thread engagement as the original equipment.  
Permitted in: SS, SP, M      Preparation Points: 0

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- iv) Tire extending beyond the unmodified standard wheel well opening. If the horizontal top portion of the tire as mounted on the vehicle as used in competition, when viewed from the top and perpendicular to the ground, extends beyond the unmodified standard equipment wheel well openings, fender flares which cover the top portion of the tire must be installed. Fender panels may be modified or removed, provided this change does not result in any openings between the wheel wells and the passenger, engine, or luggage compartments.  
Permitted in: SP, M      Preparation Points: 2

### 12.5.3 Braking System:

1. Includes: all vehicle brake system materials and components (including the parking brake system), such as linings, shoes, pads, master and wheel cylinders, piping, hoses, calipers, disks, drums, backing plates, fluid, seals, springs, pedals, links, cables, handles, etc., and where applicable extends to the mounting surface and connectors at the vehicle body.
2. **Unrestricted Modifications:**
  - i) Use of alternate make and material of brake shoe, linings, pads, seals, dust boots, springs, fasteners and brake fluid.
  - ii) Normal maintenance machine work on brake system components, provided that the service limits specified by the manufacturer are not exceeded.
3. **Restricted Modifications:**
  - i) Fitting of dual master cylinders.  
Permitted in: SP, M      Preparation Points: 0
  - ii) The addition of a brake cooling system. Minor modifications to the interior fender panels and interior front body panels are permitted in order to facilitate the installation of the brake cooling system, provided such modifications serve no other function.  
Permitted in: SS, SP, M      Preparation Points: 0

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- iii) Modification or removal of the brak backing plates.  
Permitted in: SP, M      Preparation Points: 0
- iv) Any other brake system modification.  
Permitted in: SP, M      Preparation Points: 0

#### 12.5.4 Suspension and Steering:

1. Includes: any and all suspension component such as links, control arms, struts, shock absorbers, mounting plates, body mounting holes and fittings, compliance bushings, joints, shims, springs, torsion bars, traction bars, panhard rods, anti-sway bars, and any other vehicle part which serves the function of connecting and locating any road wheel in relation to the vehicle body, or assists in that function, and which is not specifically covered under another section of this rule, and any and all suspension alignment settings for front and rear wheels including toe in/out, camber, caster, thrust angle, etc.; and all suspension alignment adjustment mechanisms including suspension mounting point which can affect suspension alignment; and all steering system components and mounting hardware.
2. **Unrestricted Modifications:**
  - i) Adjustment of any suspension alignment setting using the method authorized by the Manufacturer and using only the stock unmodified adjusting mechanisms and their normal unmodified operating range of adjustment, and provided the resulting alignment settings are within the Manufacturer's specifications for non-competition uses.
  - i) Use of any alternate make of shock absorber, provided the number, type (i.e. lever, telescopic, etc.), system of attachment and vehicle attachment points are not altered. On strut-type suspensions, the strut may be modified only in order to facilitate the installation of a substitute shock absorber provided such modifications serve no other function and in no way alter any other suspension component or its location or alignment. Any shock absorber incorporating coil-over load-supporting devices may be used provided that type and style of device was fitted as original standard equipment by the vehicle's manufacturer.

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- iii) Nuts, screws, bolts, studs, washers, and other fasteners may be replaced by similar items of unrestricted origin provided they serve no other purpose to enhance performance.

**3. Restricted Modifications:**

- i) Adjustment of any suspension alignment setting outside the manufacturer's specifications for competition purposes using only the stock adjusting mechanisms and their normal unaltered operating range of adjustment.  
Permitted in: SS, SP, M      Preparation Points: 0
- ii) Modification of any suspension mounting point, or alignment adjusting device, or modification or substitution of any steering system component, to increase the stock range of alignment adjustment.  
Permitted in: SP, M      Preparation Points: 0
- iii) Modification or substitution of any part of the vehicle steering system (except steering wheel) in order to change the type or ratio of the stock steering system.  
Permitted in: SP, M      Preparation Points: 0
- iv) The addition, substitution, modification or removal of any part of a front suspension anti-sway bar system, including bushings.  
Permitted in: S, SS, SP, M      Preparation Points: 1
- v) *error* → The addition, substitution, modification or removal of any ~~and all other~~ <sup>part of a</sup> suspension components, ~~such as springs, torsion bars, compliance bushings, links, struts, etc.~~ <sup>rear suspension anti-sway bar</sup> ~~Permitted in: S, SS, SP, M~~ <sup>system, including bushings</sup> Preparation Points: 1
- vi) Modification, addition, or substitution of any and all other suspension components, such as springs, torsion bars, traction bars, compliance bushings, links, struts, etc.  
Permitted in: SS, SP, M      Preparation Points: 3
- vii) Lowering (by any means) of the vehicle ride height below the manufacturer's specifications for non-competition purposes.  
Permitted in: SS, SP, M      Preparation Points: 0

**12.5.5 Drivetrain:**

Includes: all housings, gears, shifter and shift linkages, drive shaft, axles, torque converters, differentials, transfer cases, joints, and any other components used for transferring engine power to the drive wheels and located between the transmission/torque converter input shaft and the drive wheel mounting flanges, and includes any components used to mount any drive train component to the body which are not suspension components.

**2. Unrestricted Modifications:**

- i) Use of alternate drive train parts which are normally expendable, such as seals, gaskets, lubricants, or bearings provided they are of the same type, number, and dimensions as standard.
- ii) Normal maintenance machine work, provided that the service limits specified by the manufacturer are not exceeded.
- iii) Nuts, screws, bolts, studs, washers, and other fasteners may be replaced by similar items of unrestricted origin provided they serve no other purpose to enhance performance.
- iv) Installation of catch tanks or oil coolers for the transmission or differential.

**3. Restricted Modifications:**

- i) Installation of any limited slip differential (except standard equipment).  
Permitted in: S, SS, SP, M Preparation Points: 1
- ii) Use of any locked differential.  
Permitted in: SP, M Preparation Points: 1
- iii) Change of differential gear ratio.  
Permitted in: SP, M Preparation Points: 0
- iv) Change of standard equipment transmission gear ratio(s).  
Permitted in: SP, M Preparation Points: 0

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- v) Any alteration of automatic transmission shift function or torque converter.  
Permitted in: SP, M      Preparation Points: 0
- vi) Any other modifications.  
Permitted in: M      Preparation Points: 0

#### 12.5.6 Engine:

1. Includes: engine block; all associated housings and internal components; clutch disk, pressure plate, and flywheel; all ignition components including electronic engine control components; all pumps, accessories, and their drive mechanisms all air intake, throttling, distribution, and supercharging components; all fuel supply, distribution, and control components; all exhaust system components; all engine cooling components; engine fuel, lubricants, coolants, and any components in the engine bay not included elsewhere.
2. **Unrestricted Modifications:**
  - i) Use of any alternate ignition system, ignition system part, or electrical part provided the alternate system or part performs within the manufacturer's stock specifications.
  - ii) Use of any alternate battery, provided the number and mounting location are unchanged.
  - iii) Use of any retail grade or make of automotive fuel provided it is obtained from a licensed retailer and delivered to the vehicle tank through a licensed retail pump.
  - iv) Use of any alternate clutch disk or pressure plate provided they are of the same type, style, and dimensions as standard.
  - v) Change of carburetor fuel metering rods and jets.
  - vi) Use of any alternate fuel pump, filter, or pressure regulator, providing the original number of each remains unchanged.

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- vii) Adjustment of the air/fuel mixture on fuel injected engines using the method authorized by the manufacturer for non competition purposes.
- viii) Removal of, or use of any alternate air cleaner element except that any intake noise must be effectively muffled.
- ix) Use of any alternate exhaust system or component, with the exception of the exhaust manifold and emission control components, and provided the exhaust noise is effectively muffled.
- x) Installation of vents, catch tanks, or oil coolers is permitted, and is highly recommended on all vehicles, especially those with open "breather" lines.
- xi) Normal maintenance machine work (including balancing), provided that the service limits specified by the manufacturer are not exceeded.
- xii) Cylinders over bored up to 1.016 mm (0.040 in.) over the nominal stock bore dimension, and the appropriate standard oversize pistons used. Non stock pistons of the same weight, dimensions, and configuration as the original pistons and which do not alter the stock compression ratio may be used.
- xiii) Use of any alternate type or amount of lubricant, hydraulic fluid, coolant, or other fluid
- xiv) Use of any alternate fasteners, seals, gaskets, hoses, tubing, clamps, or hangers provided they serve no performance enhancing purpose.

### 3. Restricted Modifications:

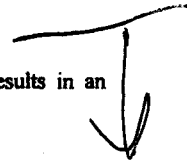
- i) Use of any type of non-retail fuel or fuel additive for the purposes of improving engine power output, including (but not limited to) any type or make of octane booster, av-gas, racing fuel, or any fuel not sold as a "motor fuel", etc.  
Permitted in: SP, M      Preparation Points: 0
- ii) Removal or modification of any emission control equipment.  
Permitted in: S,      Preparation Points: 1  
Permitted in: SS, SP, M      Preparation Points: 0

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- iii) Any change of or alteration to the engine electronic control module and/or engine management chip.  
Permitted in: SS, SP, M Preparation Points: 2
- iv) Addition of a tubular exhaust manifold, or modification of the stock exhaust manifold(s).  
Permitted in: SS, SP, M Preparation Points: 2
- v) Addition of a turbocharger, supercharger, or CO 2 injection system.  
Permitted in: SS, SP, M Preparation Points: 4 ea.
- vi) Modification or substitution of any stock turbocharger, supercharger, or boost control devices.  
Permitted in: SS, SP, M Preparation Points: 2
- vii) Modification of the carburetor/induction system which does not increase the number of venturies.  
Permitted in: SS, SP, M Preparation Points: 2
- viii) Modification of the carburetor/induction system which results in an increase in the number of venturies.  
Permitted in: SS, SP, M Preparation Points: 4
- ix) Modification of a fuel injection system air flow sensor, fuel metering unit, fuel distribution unit, or the injection nozzle(s).  
Permitted in: SS, SP, M Preparation Points: 2
- x) Modification of the air throttles or the inside dimensions of the air duct at the air throttle of a fuel injection system or carburetor.  
Permitted in: SS, SP, M Preparation Points: 2
- xi) Use of any alternate style, type, size of clutch disk and/or pressure plate.  
Permitted in: SS, SP, M Preparation Points: 0
- xii) Removal or modification of starter, generator, or alternator.  
Permitted in: SS, SP, M Preparation Points: 1 ea.

not referring  
to cylinders  
heads



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- xiii) Modification/lightening or installation of an alternate flywheel.  
Permitted in: SS, SP, M Preparation Points: 1
- xiv) Any and all other engine modification(s), provided that in reciprocating engines any increase in cylinder bore diameter can be achieved within the standard equipment block/barrels without the need to add material to the block/barrels, and the number of camshafts and valves is not changed; and in rotary engines any increase in the capacity of the working chambers can be achieved within the standard rotor housing without the need to add material to the housing, and the number of lobes and rotors is not changed.  
Permitted in: SP, M Preparation Points: 4
- xv) Engine swap which results in a change in the cubic displacement, number of cylinders/rotors, type of operation (piston/rotary), number of valves/ports per cylinder/rotor, or number of camshafts regardless of whether the resulting vehicle/engine combination was produced by the manufacturer.  
Permitted in: ~~M~~ <sup>SP/M</sup> Preparation Points: ~~12~~ <sup>2</sup>

Starting  
2

12.5.7 Bodywork:

- 1. Includes: all vehicle body structure including frame, sub-frame(s), body, fenders, doors, windows, bumpers, exterior lights, exterior trim, fuel tank, body or frame structural reinforcements, aerodynamic devices, and any other vehicle component licked by the airstream.
- 2. Unrestricted Modifications:
  - i) Substitution of fuel-filler cap.
  - ii) The folding, but not removal of the windshield and/or the convertible top is permitted, providing the mechanism is standard equipment.
  - iii) Use of any alternate body panel, providing it is the same size, shape, and at least the same weight as the original.
  - iv) Use of any spoiler/air dam, provided it is at least the same weight as the original spoiler/air dam or the panel(s) it replaces.

2 pts  
 + 1 per  
 cylinder  
 (1 rotor = 2 pistons)

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- v) Installation of tow-bar brackets and hooks, and the appropriate modifications to the bumper and/or frame in order to install them, provided such modifications do not reduce the weight of the vehicle.
- vi) Addition, removal, or substitution of exterior mirrors, antennae, or auxiliary lights.
- vii) Nuts, screws, studs, washers, and other fasteners may be replaced or substituted by similar items of unrestricted origin provided they serve no performance enhancing purpose.
- vii) Miscellaneous body parts such as tie-down hooks, dust covers, heat shields, belly pans, window trim, and body mouldings may be removed provided their removal has no performance enhancing effect and the vehicle weight is not reduced.

### 3. Restricted Modifications:

- i) Cutouts for oil coolers.  
Permitted in: SP, M      Preparation Points: 0
- ii) Relocation or replacement of the standard fuel tank.  
Permitted in: SP, M      Preparation Points: 0
- iii) Bracing or reinforcement of body structure including suspension mounting points by any means. Includes strut tower braces, subframe connectors, etc. (each), and roll bar components which serve the same purpose.  
Permitted in: SS, SP, M      Preparation Points: 1 ea.
- iv) Any alterations to the vehicle body for tire or wheel installation or clearance other than addition of fender flares as covered in Section 12.5.2.  
Permitted in: M      Preparation Points: 0
- v) Any aerodynamic devices located between vertical planes through the front and rear axles are prohibited except if fitted as standard equipment by the Manufacturer. Underbody surfaces between the axles may be modified to reduce air resistance, provided the modifications do not produce down force, except if fitted as standard equipment by the

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Manufacturer (e.g. Formula Atlantic).

Permitted in: M Preparation Points: 0

- vi) Aerodynamic devices such as spoilers, air dams, or aerofoils may be installed or modified in front of the front axle, and/or behind the rear axle provided the aerodynamic device does not extend beyond a vertical plane through the original bumper and fender outlines, and does not obstruct

the forward, rearward, or sideward view of the driver. Transparent materials are not permitted.

Permitted in: S, SS, SP, M Preparation Points: 0

- vii) Replacement of a body panel with a lightweight panel, or the removal of a body panel, sunroof, or convertible top.

Permitted in: S, SS, SP, M Preparation Points: 1 ea.

- viii) Removal of any or all exterior lights.

Permitted in: SS, SP, M Preparation Points: 2

#### 12.5.8 Interior:

1. Includes: all interior trim, seats, panels, dashboard, head liner, sun visors, under pad, floor coverings, sound or thermal insulation, instruments, interior lights, and any other components within the passenger compartment and any or all luggage or storage compartments. Any negative points assessed under this section can only be applied as noted.
2. **Unrestricted Modifications:**
  - i) The addition or use of alternate accessories, radio/stereos, gauges, indicators, lights, mirrors, sun visors, headrest, armrest, door handles, window cranks, seat covers, and other appearance, comfort, and convenience modifications which have no effect on performance and/or handling and which do not result in a reduction of vehicle weight.
  - ii) Modification or substitution of the steering wheel, shift lever/knob, and floor pedals.

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error (missed)



iii) Removal of the spare tire(s), tools, and/or jack.

- iv) Nuts, screws, studs, washers, and other fasteners may be replaced or substituted by similar items of unrestricted origin provided they serve no performance enhancing purpose.
- vi) Removal of rear parcel tray/privacy curtain (e.g. in hatch backs) provided it is intended to be easily removable by hand without the use of tools.

**3. Restricted Modifications:**

- i) Removal or replacement of any stock front bucket seat.  
Permitted in: S, SS, SP, M      Preparation Points: 1
- ii) Replacement of a front bench seat with a bucket seat or seats.  
Permitted in: SS, SP, M      Preparation Points: 2
- iii) Removal of any part of a rear seat (each).  
Permitted in: S, SS, SP, M      Preparation Points: 1 ea.
- iv) Removal of any or all of the interior floor carpeting or floor coverings, including floor sound insulation (but not including rubber or fabric floor mats), or interior door panels or door insulation, or interior ceiling head liner or roof sound insulation.  
Permitted in: SP, M      Preparation Points: 2

4. Safety Modifications. Negative points assessed for these modifications may only be applied to reduce preparation points assessed under subsections "10.5.7 Bodywork" and "10.5.8 Interior".

- i) Installation of approved roll-over protection as defined in Section 18.0 of the ARMS Race Regulations. Cutting or drilling of interior or body panels is permitted for installation of roll-over protection only to the minimum extent necessary for such installation. No interior or body panels may be removed or otherwise altered except if appropriate preparation points are assessed. (This modification is allowed and is strongly recommended for any open top vehicle and any vehicle in Street Prepared. **THIS MODIFICATION IS MANDATORY FOR ANY VEHICLE IN MODIFIED CATEGORY.**)

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Permitted in: S, SS  
Mandatory in: SP, M

Preparation Points: -2  
Preparation Points: -2

- ii) Installation of a securely attached and fully charged 2.5 pound (SBC) or larger fire extinguisher.  
Permitted in: S, SS, SP, M Preparation Points: -1
- iii) Installation and use of an approved alternate restraint harness having, for SP three or more mounting points to the vehicle body, and for M four or more mounting points to the body. Two mounting points shall be for the lap belt portion, the remaining mounting points shall be below and behind the drivers/passengers head. (ie shoulder belts).

**THIS MODIFICATION IS MANDATORY FOR SP & M CATEGORIES.**

Permitted in: S, SS, SP  
Mandatory in: M

Preparation Points: 0  
Preparation Points: 0

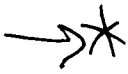
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**12.7 GUIDELINES FOR KART PARTICIPATION IN CLUB SOLO II:****12.7.1 Approved Procedure:**

- (a) A.R.M.S. Clubs conducting Solo II events which will have Karts competing must notify the Region Solo Director in writing at least 30 days prior to the event.
- (b) A post event report describing the Kart portion of the event must be submitted to the Region Solo Director. These event reports will be helpful to A.R.M.S. in effectively evaluating Kart participation in Solo II events.

**12.7.2 Event Operation Procedures:**

- (a) Karts will not be allowed to be driven under power through the paddock; they must be pushed either on the ground or on a portable stand.
- (b) A Kart grid area must be established that is either separated from the regular grid or grid Parts with similar sized vehicles such as formula cars. Traffic flow to and from the grid area must be controlled. 
- (c) If Karts are allowed which require a push start, such as shifter Karts, the Kart grid area must accommodate this need adequately.
- (d) All Karts will be run as a group and not intermixed on course with full-bodied cars.
- (e) Event procedures regarding Karts will be announced at the drivers' meeting and will also be in written form for posting.

**12.7.3 Kart Eligibility:**

- (a) Kart eligibility is limited to those Karts recognized and regulated by a National Kart Sanctioning Organization (ASN Canada FIA, WKA, IKF,

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ISA., NSA etc.) With a maximum of one 125cc engine. However, 125cc shifter Karts are the fastest Karts allowed.

- (b) It is the responsibility of the Kart entrant to provide the rules to which their Kart is eligible and prepared.
- (c) Specific designation of classes is at the discretion of the hosting region as long as the above eligibility requirements are met.

**12.7.4 Safety:**

- (a) Karts will be safety inspected as per applicable portions of Section 12.4.3 of the Solo II rules. Particular attention must be paid to brakes, throttle action, and steering components.
- (b) Drivers are required to wear the following safety gear while competing:
  - (1) Snell approved 1985 M or later full face helmet with either goggles or a full face visor integral with the helmet.
  - (2) Leather, heavy vinyl, or abrasion resistant nylon jackets and pants. Pants material may be substituted with heavy denim. One piece suits are highly recommended.
  - (3) shoes, socks and gloves.
  - (4) Collar type neck brace designed for motorsports use.
- (c) When normally positioned in the Kart for competition, the entirety of the driver shall be within the perimeter of the Kart and the driver must be able to reach and operate all the controls. Loose cushions or pads are not allowed that prevent the driver from being adequately supported by the sides of the seat.

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**12.7.5 Formula 125 Rules, Specifications for Participation in Solo II Competition:**

**(a) Frame / Dimensions:**

- (1) Chassis must be constructed of carbon steel ally using traditional tubular construction. Nerf bars are required. Suspensions are prohibited. Differential mechanisms that allow the rear wheels to rotate at different speeds are prohibited.
- (2) Maximum width shall be 55 inches. Maximum length shall be 8 inches.
- (3) All Parts shall have body work on the front (nose cone), steering column and sides. Body work may not extend past the rear nerf bar. No metal body parts are allowed. Belly pans are allowed providing they are fully confined within the frame rails. If a belly pan is used, it must be flat and parallel providing they are fully confined within the frame rails. If a belly pan is used, it must be flat and parallel to the ground from a line drawn across the rear edge of the front tires to the rear axle. No skirts or vertical aerodynamic sealing devices are allowed to extend below the main frame rails (this does not include the front fairing). No wings allowed.
- (4) Minimum weight is 385 lbs. as raced, including driver. Minimum weight for women is 350 lbs., as raced, including driver.
- (5) All non-structural weights added to meet minimum weight requirements must be bolted securely to the vehicle using a minimum of 5/16" bolts using either nylock nuts, or nuts which are secured by cotter pin/safety wire or double-nutted. Weights may not be mounted to nerf bars.

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**(b) Wheels and Tires:**

- (1) Wheels must be metallic
- (2) Tires: are limited to a maximum of 12.5 inches in diameter and a minimum of 9.0 inches in diameter. Width is limited to 5.5 inches for the front and 7.0 inches for the rear. Tire brand and compound maybe specified at later date.

**(c) Brakes:**

- (1) Must work in such a manner to brake both rear wheels equally and adequately. Must have front brakes operating on each front wheel.
- (2) Must have a dual braking system operating front and rear wheels

**(d) Engine:**

- (1) Engines shall be a mass produced, single-cylinder, motocross motorcycle derived of Japanese origin, up to 125cc displacement and a currently available production item. (Not: specifically allowed engines Yamaha, Honda etc.) May be named later for national level competition. Engines must use OEM components unless otherwise specified.
- (2) **Bore/Stroke:** Bore must not exceed 1mm (0.040") greater than the stock, factory dimension. Stroke must be within plus or minus 0.010" of the stock, factory dimension.
- (3) **Carburetion:** One carburetor, single venturi, floatbowl-type, 36mm in venturi size. Intake manifold and reed assembly unrestricted. Pumper type, carburetors and axle/electric fuel pumps are not allowed. Must use pulse driven fuel pump.
- (4) **Crankshaft/connecting Rod:** Must be OEM components with no alterations, i.e., no boring of holes, no machining of surfaces or

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counter balances. Connecting rod and/or piston pin may not be altered. Polishing and / or shot peening is allowed, however, no lightening of reciprocating components is allowed.

- (5) **Cylinder and Cylinder Head:** The cylinder and / or head, including ports, power valves, and castings, may be modified or machined subject to the requirements of V.D. 6. Water inlets and / or outlets may be modified for aftermarket fittings and / or hoses.
- (6) **External Modifications:** All exterior engine components must be recognizable as OEM parts. No aftermarket cylinders, heads, case halves, etc., are allowed. Kick starter assembly may be removed and plugged.
- (7) **Ignition:** Only OEM ignition components for specific engine(s) allowed, except spark plug, spark plug cap, and plug wire, which are unrestricted.
- (8) **Exhaust Systems:** Fixed pipes only. Must meet event specific noise limitations. (Note: a "spec" exhaust system may be specified at a later date for National level competition.)
- (9) **Piston Assembly:** Open, including piston, ring, wrist-pin and Circlips. Coatings allowed.
- (10) **Transmission:** OEM cases and transmission gear ratios must be stock for engine used. It is the responsibility of the participant to produce verifiable documentation. Shifter mechanisms must be manually operated, no air or electric assisted shifters allowed.
- (11) **Miscellaneous Specifications:** Chain guards required on all engines. Overflow bottles for carburetor and radiator are mandatory. Clutch must be original oil type. Dry clutches are prohibited.

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(e) **Fuel:**

- (1) Fuel must consist of gas and oil only. No oxygen and / or nitrogen bearing additives.

(f) **Car Numbers:**

- (1) Car numbers must be placed on each side and a rear plate. Numbers must be at least six inches tall with a minimum stroke width of three quarters of an inch.

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**APPENDIX 12A (INFORMATION ONLY)  
2001 PAX Factors**

<b>STOCK</b>	<b>SUPER STOCK</b>	<b>STREET PREPARED</b>
<b>SS - .830</b>		
<b>AS - .815</b>	<b>ASS - .852</b>	<b>A - .872</b>
<b>BS - .812</b>	<b>BSS - .847</b>	<b>B - .874</b>
<b>CS - .804</b>	<b>CSS - .844</b>	<b>C - .857</b>
<b>DS - .799</b>	<b>DSS - .819</b>	<b>D - .853</b>
<b>ES - .786</b>	<b>ESS - .822</b>	<b>E - .873</b>
<b>FS - .807</b>	<b>FSS - .817</b>	<b>F - .865</b>
<b>GS - .789</b>		
<b>HS - .781</b>		

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APPENDIX 12B A.R.M.S. VEHICLE CLASSIFICATION  
SCHEDULE - 2001

I. A - STOCK (AS)

AUDI	S4 (00 A4 CHASSIS), TT FWD & AWD (225HP - DUAL INTERCOOLER)
BMW	M3 & Z-3 (2.8)
CHEVROLET	CORVETTE (63 - 82)
DODGE	STEALTH TURBO
FERRARI	308 & 328
HONDA	S2000
JAGUAR	XKE - 6 & 12 CYL
LOTUS	ELAN (RWD) & ESPRIT
LOTUS	EUROPA (RENAULT ENGINE)
LOTUS	EUROPA (TWIN CAM)
MASERATI	BITURBO (BS)
MAZDA	RX - 7 TURBO (87 - 91)
MERCEDES BENZ	SLK
MITSUBISHI	3000 GT TURBO
MORGAN	PLUS 8
NISSAN	300 ZX TURBO (90 +)
PLYMOUTH	PROWLER
PORSCHE	968
PORSCHE	356, CARRERA 4 CAM
PORSCHE	911 CLUB SPORT
PORSCHE	911 NON TURBO, NOC
PORSCHE	914 - 6 (ALL)

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PORSCHE	928 NOC
PORSCHE	928 S4 & GT & GTS
PORSCHE	944 16V
PORSCHE	944 TURBO (86 - 89 +)
PORSCHE	944 TURBO S (88)
PORSCHE	BOXSTER
PORSCHE	CARRERA 2
PORSCHE	CARRERA 4
TOYOTA	MR - 2 SUPERCHARGED
TOYOTA	MR - 2 TURBO
TVR	V8

***B - STOCK (BS)***

BMW	<del>3 SERIES, 16V - 6 CYL</del>
BMW	323 IS
BMW	Z3 - 4 CYL
DODGE	IROC R/T
JENSEN	HEALEY
LOTUS	7 & 7A
LOTUS	ECLAT
LOTUS	ELAN + 2
LOTUS	ELITE 2 + 2
LOTUS	ELITE - 1216cc
MAZDA	MIATA (98 +)
MAZDA	MIATA MX5
PORSCHE	914 - 1.7L / 1.8L / 2.0

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2. **C - STOCK (CS)**

ALFA ROMEO	2000 GTV
ALFA ROMEO	2000 SPIDER
DATSUN/NISSAN	2000
DATSUN/NISSAN	240Z / 260Z / 280Z
DODGE	CHARGER TURBO
DODGE	GLH TURBO
MAZDA	RX-7 / NON TURBO
MAZDA	MIATA 1.6L
MORGAN	PLUS 4
PONTIAC	FIERO V6
PORSCHE	924 S / 944 ENGINE
PORSCHE	944 8V
SHELBY	CHARGER GLH-S (87)
SUNBEAM	TIGER (ALL)
TOYOTA	MR-2 / NON TURBO (85 - 93)
TRIUMPH	TR - 8 (ALL)
TVR	4 & 6 CYL (ALL)
TVR	VIXEN

3. **D - STOCK (DS)**

ALFA ROMEO	1750
ALFA ROMEO	1750 GTV
BERTONE	X 1/9

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BMW	318 I & 318 is (91)
BMW	318 ti (95 +)
CHRYSLER	NEON ACR / DOHC NON-ACR
CHRYSLER	NEON SC / SOHC
DATSUN / NISSAN	280 ZX (NON TURBO)
FIAT	X 1/9 EFI
FIAT	X 1/9 NON EFI
HONDA	CRX si (88 - 92)
NISSAN	200 SX / SE-R (95 +)
NISSAN	240 SX / 12V & 16V
NISSAN	300 ZX (PRE 90)
NISSAN	NX 2000
NISSAN	SENTRA SE-R
NISSAN	SENTRA SE 2.0
PORSCHE	924 TURBO / AUDI ENGINE

#### 4. E - STOCK (ES)

ACURA	INTEGRA, NOC (90 - 96)
ALFA ROMEO	2000, 4 - DOOR SEDAN
AUSTIN HEALEY	MINI (SEE MINI LISTING)
BMW	2002
BMW	2002ti / ti (ALL)
CHEVROLET	NOVA 16V, NUMMI

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CHEVROLET	SPECTRUM TURBO
CHEVROLET	SPRINT TURBO
CHRYSLER	NEON / SOHC - NON ACR
DATSUN / NISSAN	1500 & 1600 ROADSTER
DODGE	COLT TURBO 16V
DODGE	COLT, 1.8L / 16V (93 +)
DODGE	COLT, 16V / NON TURBO (PRE 93)
DODGE	COLT TURBO (PRE 89)
DODGE	GLH / NON TURBO
EAGLE	SUMMIT 1.8 16V (93 +)
EAGLE	SUMMIT TURBO 16V (89)
EAGLE	TALON / NON TURBO 16V
FIAT	124 COUPE & SPIDER
FIAT	850 SPIDER
FORD	ESCORT 16V (91 +)
FORD	ESCORT TURBO
FORD	ESCORT ZX-2 (98 +)
FORD	EXP TURBO
FORD	PROBE 4 CYL (93+)
GEO	PRIZM 16V
GEO	STORM GSI 16V
HONDA	CIVIC DEL SOL Si (93 +)
HONDA	CIVIC DEL SOL VTEC (95 +)
HONDA	CIVIC DX (88 +)
HONDA	CIVIC EX (88 +)

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HONDA	<del>CRX (ALL)</del> <i>see HS</i>
HONDA	CRX (NOC)
HONDA	CRX Si (85 - 87)
HONDA	PRELUDE S (92+) & NOC (79 - 91)
HYUNDAI	SCOUPE TURBO (93 +)
HYUNDAI	TIBURON
INFINITI	G20
ISUZU	I-MARK FWD RS 16V & TURBO
ISUZU	IMPULSE / NON TURBO (90 +)
ISUZU	STYLUS 16V
LANCIA	SCORPION
LOTUS	CORTINA
MAZDA	323 GT TURBO SEDAN
MAZDA	323 GTX 4WD TURBO
MAZDA	MX3 V6/MX6 NON TURBO 4CYL (93+)
MAZDA	PROTÉGÉ, 1.8 16V
MAZDA	R-100 (ALL)
MAZDA	RX 2 / RX 3
MERCURY	CAPRI II / GERMAN V6
MERCURY	CAPRI TURBO / FWD
MERCURY	TRACER 16V
MINI-COOPER	ALL
MITSUBISHI	CORDIA TURBO (ALL)
MITSUBISHI	ECLIPSE / NON TURBO 16V
MITSUBISHI	GALLANT 2.0L, 16V NON TURBO (89+)

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MITSUBISHI	GALANT, 2.4L, 16V
MITSUBISHI	MIRAGE 16V NON TURBO
MITSUBISHI	MIRAGE TURBO 16V (89)
MITSUBISHI	PREMIER TURBO
MITSUBISHI	TREDIA TURBO (ALL)
NISSAN	ALTIMA
NISSAN	PULSAR TURBO
NISSAN	200 SX SE-R (95+)
NISSAN	240 SX 12V & 16V
NISSAN	SENTRA SE 2.0
OPEL	1900 (ALL)
OPEL	GT
OPEL	MANTA
PININFARINA	2000
PLYMOUTH	COLT 16V 1.8L (93)
PLYMOUTH	LASER NON TURBO 16V
PONTIAC	FIERO 4 CYL
PORSCHE	912
PORSCHE	356 / EXCEPT CARRERA
PORSCHE	924 / AUDI ENGINE
RENAULT	ALLIANCE GTA
RENAULT	FUEGO TURBO
SAAB	SONETT (ALL)
SATURN	16V (SC2 - COUPE)
SHELBY	CHARGER / NON TURBO

Live well with  
**PHARMASAVE**

*A.R.M.S.-2001 AutoSlalom Regulations*

SUBARU	IMPREZA 2.2L
SUBARU	SEDAN TURBO / NOC
SUBARU	LEGACY 2.5 GT
SUZUKI	SWIFT GT / GTi
TOYOTA	CELICA FWD - GT / GTS (86+)
TOYOTA	CELICA GT (00)
TOYOTA	CELICA ST (94+)
TOYOTA	COROLLA 1.8
TOYOTA	COROLLA 16V / FWD & RWD
TOYOTA	COROLLA FX - 16
TRIUMPH	TR - 7 (ALL)
VOLKSWAGEN	GTI / 4CYL (A2 CHASSIS)
VOLKSWAGEN	JETTA / 4CYL GLI / GTX
VOLKSWAGEN	RABBIT GTI
VOLKSWAGEN	SCIROCCO (16V)
VOLVO	P - 1800

5. **F - STOCK (FS)**

AMC	AMX
AUDI	200 V8
BMW	540i
BMW	6 SERIES COUPE
BMW	8 SERIES COUPE / V12 (ALL)
BMW	M5 (88 - 93)
BUICK	REGAL GR. NATIONAL / TURBO V6

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A.R.M.S.-2001 AutoSlalom Regulations

CHEVROLET	CAMARO V8 / NOC
CHEVROLET	CORVETTE (53 - 57)
CHEVROLET	CORVETTE (58 - 62)
CHRYSLER	CONQUEST TURBO
DATSUN / NISSAN	280 ZX TURBO (79 - 83)
DODGE	STEALTH NON TURBO
FORD	MUSTANG SVO
FORD	MUSTANG V8
FORD	THUNDERBIRD V8
FORD	T - BIRD / V6 (SUPERCHARGED)
GMC	CYCLONE
GMC	TYPHOON
INFINITI	Q45
JAGUAR	SEDANS / 12CYL
JAGUAR	XJS (ALL) & XJ6 (98 +)
LEXUS	400 / GS 400 SC 300
LINCOLN	MARK VIII
MERCEDES BENZ	C36
MERCEDES BENZ	CLK
MERCEDES BENZ	V8 & V12
MERCURY	COUGAR V8 & S/CHARGED V6
MITSUBISHI	3000 GT NON TURBO
MITSUBISHI	STARION TURBO
NISSAN	300 ZX TURBO (PRE - 90)
NISSAN	300 ZX / NON TURBO (90 +)

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*A.R.M.S.-2001 AutoStalom Regulations*

PONTIAC	FIREBIRD V8 (NOC)
PONTIAC	TRANS AM TURBO V6
SHELBY	GT 350
SHELBY	GT 500
TOYOTA	SUPRA TURBO (86½ - 92)
TOYOTA	SUPRA / NON TURBO (93 +)
TRIUMPH	STAG

+V8 SEDANS / STATIONS WAGONS / PICK UPS / SEDAN DERIVED CONVERTIBLES NOC
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**6. G - STOCK (GS)**

ACURA	INTEGRA GS - R (92 +)
ACURA	INTEGRA TYPE - R (97 - 98)
ACURA	LEGEND
ACURA	VIGOR
ALFA ROMEO	MILANO
ALFA ROMEO	164 / NON - S (PRE - 94)
ALFA ROMEO	GTV V6 (ALL)
AUDI	200 TURBO QUATTRO
AUDI	5000 TURBO
AUDI	A4 - 4CYL TURBO & 6CYL (95 +)
AUDI	A6
AUDI	A8 (95 +)
AUDI	QUATTRO COUPE TURBO

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A.R.M.S.-2001 AutoSlalom Regulations

AUDI	S4 (92 - 94) (100 CS CHASSIS)
AUDI	TT FWD & AWD (180 HP S/INT-COOL)
BMW	3 SERIES - 6CYL NON - M
BMW	5 SERIES - 6CYL NOC
BUICK	REATA
CHEVROLET	CORVAIR (4 CARB)
CHEVROLET	CORVAIR TURBO
CHRYSLER	CIRRUS V6
CHRYSLER	LASER TURBO
CHRYSLER	SEBRING V6
DODGE	AVENGER ES V6
DODGE	DAYTONA INTERCOOLED
DODGE	DAYTONA TURBO NOC / V6
DODGE	LANCER TURBO
DODGE	SHADOW V6 & TURBO
DODGE	SPIRIT R/T
DODGE	SPIRIT V6 & TURBO 4CYL
DODGE	STRATUS V6
EAGLE	TALON TURBO (ALL)
FORD	CONTOUR SE V6 (95 +)
FORD	CONTOUR SVT
FORD	MUSTANG TURBO 4 CYL
FORD	MUSTANG V6
FORD	PROBE TURBO & V6
FORD	TAURUS SHO

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*A.R.M.S.-2001 AutoSlalom Regulations*

FORD	TEMPO V6
FORD	THUNDERBIRD TURBO COUPE
GENERAL MOTORS	A BODY V6 - CELEBRITY
GENERAL MOTORS	ACHIEVA
GENERAL MOTORS	F BODY V6 CAMARO, ETC (ALL)
GENERAL MOTORS	GM 10 V6 LUMINA, ETC (ALL)
GENERAL MOTORS	GRAND AM, ETC
GENERAL MOTORS	H BODY MONZA / STARFIRE V6
GENERAL MOTORS	J BODY SUNBIRD TURBO
GENERAL MOTORS	J BODY CAVALIER V6
GENERAL MOTORS	J BODY DOHC 4 CYL
GENERAL MOTORS	L BODY BERETTA & CORSICA DOHC QUAD 4 & V6
GENERAL MOTORS	N BODY ACHIEVA DOHC QUAD 4
GENERAL MOTORS	N BODY GRAND AM V6
GENERAL MOTORS	N BODY GRAND AM TURBO 4 CYL
GENERAL MOTORS	X BODY CITATION V6
HONDA	ACCORD LX V6
HONDA	PRELUDE (97 +)
HONDA	PRELUDE Si NOC (92 +)
HONDA	PRELUDE Si VTEC (93 +)
INFINITI	M30
ISUZU	IMPULSE TURBO / AWD
ISUZU	IMPULSE TURBO / RWD (PRE - 90)
LEXUS	ES 250 / 300
LEXUS	GS 300

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A.R.M.S.-2001 AutoSlalom Regulations



MAZDA	626 TURBO
MAZDA	626 V6 (93 +)
MAZDA	MX - 6 GT TURBO
MAZDA	MX - 6 V6 (93 +)
MERCEDES BENZ	280 16V
MERCEDES BENZ	190 / 2.6L (6CYL)
MERCURY	CAPRI (US) V6
MERCURY	CAPRI TURBO RWD (4CYL)
MERCURY	COUGAR V6 (99+)
MERCURY	MYSTIQUE SE (95 +)
MERCURY	MYSTIQUE V6
MERCURY	TOPAZ V6
MERKUR	XR4ti
MITSUBISHI	ECLIPSE TURBO
MITSUBISHI	ECLIPSE (00)
MITSUBISHI	GALANT V6
MITSUBISHI	GALANT VR4
NISSAN	200 SX SE V6
NISSAN	200 SX TURBO
NISSAN	MAXIMA SE (92 +)
PLYMOUTH	ACCLAIM V6 & TURBO
PLYMOUTH	LASER TURBO
PLYMOUTH	SUNDANCE TURBO & V6
PONTIAC	GRAND PRIX GTP (97 +)
PONTIAC	GRAND PRIX TURBO

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*A.R.M.S.-2001 AutoSlalom Regulations*

PONTIAC	McLAREN GRAND PRIX TURBO
PONTIAC	SUNFIRE, DOHC, 2.3L
SAAB	900 V6 (94)
SAAB	ALL TURBOS
SHELBY	DAYTONA TURBO
SUBARU	IMPREZA, 2.5L
SUBARU	SVX (ALL)
SUBARU	XT TURBO & 6 CYL
TOYOTA	CAMRY V6 (92 +)
TOYOTA	CELICA TURBO ALL - TRAC
TOYOTA	CELICA GTS (00)
TOYOTA	SUPRA (82 - 85)
TOYOTA	SUPRA, NON TURBO (86 ½ - 92)
VOLKSWAGEN	CORRADO G60
VOLKSWAGEN	CORRADO VR6
VOLKSWAGEN	GOLF GTI - VR6 (94 +)
VOLKSWAGEN	JETTA III GLX (94 +) & VR6
VOLKSWAGEN	NEW BEETLE 1.8 TURBO
VOLKSWAGEN	PASSAT 1.8 TURBO
VOLKSWAGEN	PASSAT VR6
VOLVO	TURBO

7. **H - STOCK (HS)**

ACURA	INTEGRA (86 - 89)
ALFA ROMEO	GT 1300 cc MODELS (ALL)

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A.R.M.S.-2001 AutoSlalom Regulations

ALFA ROMEO	GT 1600 & SEDANS (NOC)
AMC	GREMLIN 4 & 6 CYL
AMC	SPIRIT 4 & 6 CYL
AUDI	100 ALL - EXCEPT S4
AUDI	4000 - 5 CYL (ALL)
AUDI	5000 ALL - EXCEPT TURBO
AUDI	80 COUPE (ALL)
AUDI	90 COUPE (ALL)
AUDI	QUATTRO CPE - NON TURBO
AUSTIN HEALEY	1600
BMW	320
BMW	1800
BMW	1800ti / TISA
BMW	2000 CS COUPE
BMW	318 NOC
BMW	318 & 318si (92 +)
BMW	7 SERIES - 6 CYL
CHEVROLET	BERETTA, NOC
CHEVROLET	CAMARO INLINE 4 & 6 CYL
CHEVROLET	CHEVETTE
CHEVROLET	CORVAIR - 2 CARB
CHEVROLET	COSWORTH VEGA
CHEVROLET	NOVA, 8V NUMMI COROLLA
CHEVROLET	NOVA 16V NUMMI
CHEVROLET	NOVA RWD - 4 & 6 CYL

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CHEVROLET	SPECTRUM
CHEVROLET	SPRINT
CHEVROLET	VEGA
CHRYSLER	LASER, NON TURBO
CHRYSLER	SEBRING 4 CYL
DATSUN / NISSAN	1200 (ALL)
DATSUN / NISSAN	210 (ALL)
DATSUN / NISSAN	310 (ALL)
DATSUN / NISSAN	310 GX
DATSUN / NISSAN	510 (ALL)
DATSUN / NISSAN	610 (ALL)
DATSUN / NISSAN	710 (ALL)
DATSUN / NISSAN	810 (ALL)
DATSUN / NISSAN	B210 (ALL)
DATSUN / NISSAN	F - 10 (ALL)
DODGE	024, 1.7L
DODGE	AVENGER, 4 CYL
DODGE	CHALLENGER, 2.6L
DODGE	CHARGER, NON TURBO - FWD
DODGE	COLT - 1600 FWD
DODGE	COLT 1.4 & 1.6 L FWD
DODGE	COLT 1.8L 16V (93)
DODGE	COLT 16V - NON TURBO (PRE 93)
DODGE	COLT - RWD
DODGE	DAYTONA - NON TURBO 4 CYL

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*A.R.M.S.-2001 AutoSlalom Regulations*

DODGE	OMNI 1.7 & 2.2L
DODGE	RAMPAGE 2.2L
DODGE	SHADOW - NON TURBO 4 CYL
DODGE	SPIRIT - NON TURBO 4 CYL
EAGLE	SUMMIT NOC - NON TURBO
EAGLE	SUMMIT 1.8 - 16V (93+)
FIAT	124 SEDAN
FIAT	128 (ALL)
FIAT	131 SEDAN & BRAVA
FIAT	850 COUPE & SEDAN
FIAT	STRADA
FORD	FOCUS
FORD	CONTOUR 4 CYL
FORD	CORTINA (ALL)
FORD	ESCORT 1.9 EFI, HO (PRE 91)
FORD	ESCORT 1.9 & 1.6 NOC
FORD	EXP 1.9
FORD	EXP 1.6 NON TURBO
FORD	FESTIVA
FORD	FIESTA
FORD	MUSTANG II 4 CYL (74 - 78)
FORD	MUSTANG INLINE, 4 & 6 CYL
FORD	PINTO
FORD	PROBE 4 CYL - NON TURBO
FORD	TAURUS NOC

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*A.R.M.S.-2001 AutoSlalom Regulations*

FORD	TEMPO 4 CYL
FORD	THUNDERBIRD V6 (89 +)
GENERAL MOTORS	A BODY CELEBRITY 4 CYL
GENERAL MOTORS	F BODY CAMARO - ETC 4 CYL
GENERAL MOTORS	G BODY BUICK REGAL V6
GENERAL MOTORS	H BODY, 4 CYL
GENERAL MOTORS	J BODY SUNBIRD 4 CYL NOC
GENERAL MOTORS	N BODY GRAND AM, ACHIEVA, SKYLARK - 4 CYL NOC
GENERAL MOTORS	X BODY CITATION 4 CYL
GEO	PRISM 16V
GEO	METRO
GEO	SPECTRUM
GEO	STORM 12V
HONDA	600
HONDA	800
HONDA	ACCORD NOC
HONDA	CIVIC del sol DX
HONDA	CIVIC NOC
HONDA	CIVIC Si (88 - 95)
HONDA	CIVIC EX, LX (88+)
HYUNDAI	ACCENT (95 +)
HYUNDAI	NOC
HYUNDAI	SCOUBE, NON TURBO
ISUZU	I - MARK NOC, FWD & RWD
ISUZU	IMPULSE, NOC

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ISUZU	SEDANS, 6 CYL
ISUZU	STYLUS, 12V
JAGUAR	XK120
JAGUAR	XK140
JAGUAR	XK150
KIA	SEPHIA 1.8
LANCIA	BETA COUPE
LANCIA	HPE
LANCIA	ZAGATO
MAZDA	808
MAZDA	929
MAZDA	323, 1.6, V8
MAZDA	626 FWD, NON TURBO, 4 CYL
MAZDA	626 RWD
MAZDA	COSMO
MAZDA	GLC FWD
MAZDA	GLC RWD (ALL)
MAZDA	MX-3, 4 CYL
MAZDA	MX-6, NON TURBO, 4 CYL
MAZDA	PROTÉGÉ (NOC)
MAZDA	RX-4 (ALL)
MERCEDES BENZ	NOC
MERCURY	BOBCAT
MERCURY	CAPRI, FWD (NOC)
MERCURY	CAPRI, GERMAN 4 CYL

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A.R.M.S.-2001 AutoSlalom Regulations

MERCURY	CAPRI, US, INLINE 4 & 6 CYL
MERCURY	COUGAR 4 CYL (99+)
MERCURY	COUGAR V6
MERCURY	LN-7, 1.6 & 1.9L
MERCURY	LYNX
MERCURY	LYNX, 1.9L / INJECTED (ALL)
MERCURY	MYSTIQUE, 4 CYL
MERCURY	SABLE
MERCURY	SCORPIO
MERCURY	TOPAZ, 4 CYL
MERCURY	TRACER 1.9L
MERCURY	TRACER 1.6L, V8 (88 - 89)
MG	MGA
MG	MGB, MGB-GT (ALL)
MG	MGC
MG	MIDGET (ALL)
MG	T SERIES
MITSUBISHI	CORDIA, NON TURBO (ALL)
MITSUBISHI	ECLIPSE, NON TURBO 8V
MITSUBISHI	MIRAGE, NON TURBO NOC
MITSUBISHI	PRECIS
MITSUBISHI	PREMIER, NON TURBO
MITSUBISHI	STARION, NON TURBO
MITSUBISHI	TREDIA, NON TURBO (NOC)
NISSAN	200 SX (NOC)

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NISSAN	MAXIMA (NOC)
NISSAN	NX 1600
NISSAN	PULSAR 16V
NISSAN	PULSAR NON TURBO, 8V
NISSAN	SENTRA (PRE 91)
NISSAN	SENTRA 1.6L (91 +)
NISSAN	STANZA (ALL)
OPEL	1100
OPEL	ISUZU
PEUGOT	405 DL & S
PLYMOUTH	ACCLAIM, 4 CYL, NON TURBO
PLYMOUTH	ARROW, 1.6 & 2.0L
PLYMOUTH	CHAMP FWD, 1.4L & 1.6L
PLYMOUTH	COLT 1.5 (93 +)
PLYMOUTH	FIRE ARROW, 2.6L
PLYMOUTH	HORIZON, 1.7 & 2.2L
PLYMOUTH	LASER, NON TURBO 8V
PLYMOUTH	SAPPORO, 2.6L / SCAMP 2.2L
PLYMOUTH	SUNDANCE, 4 CYL, N/TURBO
PLYMOUTH	TC - 3, 1.7L
PLYMOUTH	TURISMO 2.2L
PONTIAC	FIREBIRD, INLINE 4 & 6 CYL
PONTIAC	LEMANS FWD
PONTIAC	SUNFIRE GT, 2.2L (95 +)
PONTIAC	T1000 (ALL)

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RENAULT	NOC
SAAB	NOC
SATURN	8V
SUBARU	IMPREZA, 1.8L
SUBARU	NOC
SUNBEAM	ALPINE (ALL)
SUZUKI	SWIFT GLX
TOYOTA	CAMRY 4 CYL
TOYOTA	CAMRY V6 (NOC)
TOYOTA	CELICA FWD (NOC)
TOYOTA	CELICA RWD (ALL)
TOYOTA	COROLLA 8V RWD
TOYOTA	COROLLA FX 8V
TOYOTA	COROLLA FX - 16
TOYOTA	COROLLA 1.8
TOYOTA	CRESSIDA
TOYOTA	PASEO (ALL)
TOYOTA	STARLET (ALL)
TOYOTA	SUPRA (PRE 82)
TOYOTA	TERCEL (ALL)
TRIUMPH	GT - 6 (ALL)
TRIUMPH	SPITFIRE (ALL)
TRIUMPH	TR - 2
TRIUMPH	TR - 250
TRIUMPH	TR - 3 (ALL)

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A.R.M.S.-2001 AutoSlalom Regulations

TRIUMPH	TR - 4 & TR - 4A (ALL)
TRIUMPH	TR - 6 (ALL)
VOLKSWAGEN	AIR COOLED (ALL)
VOLKSWAGEN	BEEBLE 2.0
VOLKSWAGEN	DASHER
VOLKSWAGEN	FOX
VOLKSWAGEN	GOLF (GL, LE, SPORT GTI) 4 CYL (A3 CHASSIS)
VOLKSWAGEN	JETTA III 4 CYL, 8V (93 +)
VOLKSWAGEN	JETTA NOC (NON GL/GTX)
VOLKSWAGEN	PASSAT 4 CYL
VOLKSWAGEN	QUANTUM
VOLKSWAGEN	RABBIT PICK UP
VOLKSWAGEN	RABBIT NOC (NON GTI)
VOLKSWAGEN	SCIROCCO NOC
VOLVO	NOC
YUGO	ALL + ALL RWD PICK UP TRUCKS NOC

**8. S - STOCK (SS)**

ACURA	NSX
BMW	M5
BMW	M ROADSTER / M COUPE
CHEVROLET	CAMARO SS (96 +)
CHEVROLET	CORVETTE (84+)
CHEVROLET	CORVETTE (97 +), & ZR - 1

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DETOMASO	MANGUSTA / PANTERA
LOTUS	ESPRIT TURBO
MAZDA	RX - 7 TURBO (93 +)
PONTIAC	FIREBIRD WS6 (96 +)
PORSCHE	BOXSTER S
PORSCHE	930
PORSCHE	911 NON TURBO (95 +)
PORSCHE	911 TURBO
SALEEN	MUSTANG, NON - SC
SHELBY	COBRA (ALL)
TOYOTA	SUPRA TURBO (93 ½ +)

**10 NON-STOCK CATEGORY VEHICLES**

"Stock" examples of the following makes/models are not eligible for Stock Category. They are classified in Super Stock Category

BMW	M3 LIGHTWEIGHT
CHEVROLET	CORVETTE CALLAWAY
DODGE	VIPER
FORD	MUSTANG COBRA R
OLDSMOBILE	442 HO W-41 (SPORT PACKAGE OPTION)
PONTIAC	FIREBIRD FIREHAWK

**11. A - SUPER STOCK (ASS) / 17. A - STREET PREPARED (ASP)**

BMW	M COUPE / ROADSTER
BMW	M3 LIGHTWEIGHT

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BMW	Z3 (6 CYL)
DODGE	VIPER
ELVA	COURIER
FERRARI	DINO 206 & 246 (ALL)
GRIFFITH	ALL
LOTUS	7 & 7A
LOTUS	ELAN (RWD)
LOTUS	ESPRIT 4 CYL (ALL)
LOTUS	ESPRIT (V8)
LOTUS	EUROPA (ALL)
MAZDA	RX - 7 TURBO (86 - 93+)
MORGAN	+4 (2138 cc ALL)
MORGAN	V8 (ALL)
PORSCHE	911 AWD TURBO
PORSCHE	911 CLUB SPORT (TO 3.2l)
PORSCHE	911 TURBO & 930 (TO 3.3L)
PORSCHE	911 TURBO & TURBO S (3.6L AIR COOLED)
PORSCHE	911 EXCEPT TURBO (3.6L AIR COOLED)
PORSCHE	911 EXCEPT TURBO (TO 3.2L)
PORSCHE	914 / 6 (ALL)
PORSCHE	924 TURBO
PORSCHE	944 (16V)
PORSCHE	944 TURBO
PORSCHE	968
PORSCHE	BOXSTER

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TVR	4 & 6 CYL (ALL)
TVR	V8 (ALL)
TOYOTA	MR - 2 SUPERCHARGED
TOYOTA	MR - 2 TURBO (91+)
TRIUMPH	TR - 8 (ALL)
<b>SPORTS CARS OVER 2 LITERS</b>	<b>NOT OTHERWISE CLASSIFIED</b>

**12. B - SUPER STOCK (BSS) / 18. B - STREET PREPARED (BSP)**

CHEVROLET	CORVETTE (53 - 82)
CHEVROLET	CORVETTE (84 - 97+)
CHEVROLET	CORVETTE (ZR - 1)
DATSUN / NISSAN	240Z / 260Z / 280Z
DATSUN / NISSAN	280ZX TURBO (79 - 83)
DATSUN / NISSAN	280ZX NON TURBO
DATSUN / NISSAN	300ZX TURBO (84 - 90+)
DATSUN / NISSAN	300ZX NON TURBO (84 - 89)
DELOREAN	ALL
DeTOMASO	MANGUSTA (ALL)
DeTOMASO	PANTERA (ALL)
DODGE	STEALTH TURBO
FERRARI	250 (EXCEPT 250LM)
FERRARI	275
FERRARI	308 COUPE & SPYDER
FERRARI	330
FERRARI	365 DAYTONA GTB & GTC

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A.R.M.S.-2001 AutoSlalom Regulations

JAGUAR	E - TYPE (ALL)
MITSUBISHI	3000 GT TURBO
PORSCHE	928
SALEEN	MUSTANG (NOC)
SHELBY	COBRA 289
SUNBEAM	TIGER 260 & 289
TOYOTA	SUPRA TURBO (93+)

**13. C - SUPER STOCK (CSS) / 19. C - STREET PREPARED (CSP)**

ACURA	INTEGRA TYPE R
ALFA ROMEO	1600 COUPES & SPYDERS (ALL)
ALFA ROMEO	1750 & 2000 COUPES & SPYDERS (ALL)
ALFA ROMEO	ALFETTA GT
AUDI	QUATTRO (NOC)
BMW	M3 (E30)
BMW	Z3 (4 CYL)
DATSUN / NISSAN	1500 / 1600 / 2000 ROADSTERS
FIAT	124 & 2000 SPYDERS NON TURBO (ALL)
FIAT	2000 SPYDER TURBO (ALL)
FIAT	ABARTH (ALL)
HONDA	CRX 1500 (84 - 87)
HONDA	CIVIC & CRX (88 - 91)
HONDA	CIVIC (96+)
HONDA	CIVIC 1500 (84 - 87)
HONDA	CIVIC Si (89 - 91)

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A.R.M.S.-2001 AutoSlalom Regulations

HONDA	CIVIC Si, EX, LX (92 - 95)
JENSEN	HEALEY
LANCIA	SCORPION (ALL)
LOTUS	CORTINA
LOTUS	ELITE (1216cc)
MAZDA	MX 5 MIATA
MAZDA	RX 2 & 616
MAZDA	RX 3 & RX 3 SP & 808 MIZER
MAZDA	RX 7 (78 - 85)
MAZDA	RX 7 NON TURBO (86 - 92)
MERCEDES BENZ	190
MORGAN	4+4
PININFARINA	2000
PONTIAC	FIERO V6
PORSCHE	356 & 1600
PORSCHE	914 - 1.7L & 1.8L & 2.0L
PORSCHE	924S & 944 (8V)
PORSCHE	CARRERA 4 CYL (ALL)
TOYOTA	MR 2 NON-SUPERCHARGED (85 - 90)
TOYOTA	MR 2 NON TURBO (91+)
TOYOTA	SUPRA (79 - 81)
<b>ALL SEDANS OVER 1.7L AND UNDER 3.0L</b>	<b>NOT OTHERWISE CLASSIFIED</b>
<b>ALL SPORTS CARS UNDER 2.0L</b>	<b>NOT OTHERWISE CLASSIFIED</b>

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**14. D - SUPER STOCK (DSS) / 20. D - STREET PREPARED (DSP)**

ACURA	INTEGRA (NOC)
ACURA	INTEGRA GS - R
ALFA ROMEO	GTV V6 (ALL)
ALFA ROMEO	MILANO
AUDI	4000 QUATTRO
AUDI	COUPE QUATTRO
BMW	2002 ti & tii (ALL)
BMW	3 SERIES (16V NOC)
BMW	325 (ALL)
BMW	BAVARIA
CHEV / PONT / BUICK / OLDS	J BODY V6 & 4 CYL TURBO
CHEV / PONT / BUICK / OLDS	L BODY V6 & QUAD 4
CHEV / PONT / BUICK / OLDS	N BODY V6 & 4CYL TURBO & QUAD4
CHEV / PONT / BUICK / OLDS	X BODY V6
CHRYSLER / DODGE / PLYMOUTH	ACCLAIM V6 & TURBO
CHRYSLER / DODGE / PLYMOUTH	CHARGER GLH - S
CHRYSLER / DODGE / PLYMOUTH	COLT TURBO (84)
CHRYSLER / DODGE / PLYMOUTH	COLT TURBO 16V (89)
CHRYSLER / DODGE / PLYMOUTH	CONQUEST & STARION, NON TURBO
CHRYSLER / DODGE / PLYMOUTH	DAYTONA TURBO
CHRYSLER / DODGE / PLYMOUTH	GLH - S & GLH TURBO
CHRYSLER / DODGE / PLYMOUTH	LASER TURBO
CHRYSLER / DODGE / PLYMOUTH	LASER 16V NON TURBO
CHRYSLER / DODGE / PLYMOUTH	NEON (ALL)

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CHRYSLER / DODGE / PLYMOUTH	SHADOW V6 & TURBO 4 CYL
CHRYSLER / DODGE / PLYMOUTH	SHELBY CHARGER TURBO
CHRYSLER / DODGE / PLYMOUTH	SPIRIT V6 & TURBO 4 CYL
CHRYSLER / DODGE / PLYMOUTH	SUNDANCE TURBO
DATSUN / NISSAN	200 SX (V6)
DATSUN / NISSAN	200 SX (SE - R)
DATSUN / NISSAN	200 SX TURBO
DATSUN / NISSAN	240 SX
DATSUN / NISSAN	MAXIMA
DATSUN / NISSAN	NX 2000
DATSUN / NISSAN	PULSAR 16V
DATSUN / NISSAN	PULSAR NX TURBO
DATSUN / NISSAN	SENTRA SE - R (91+)
EAGLE	SUMMIT TURBO 16V (89)
FIAT	X 1/9 1300 / 1500 / 1500 BERTONE
FORD / MERCURY	CAPRI (91 - 95)
FORD / MERCURY	CAPRI V6
FORD / MERCURY	ESCORT XZ - 2 & TRACER 16V
FORD / MERCURY	PROBE TURBO & 6 CYL
HONDA	PRELUDE (83 - NOC)
HONDA	PRELUDE 4WS
HYUNDAI	TIBURON
ISUZU	I - MARK RS 16V & TURBO
ISUZU	IMPULSE TURBO & 16V
MASERATI	BITURBO

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MAZDA	323 GT & GX 4X4
MAZDA	MX - 6 TURBO & 6 CYL
MERKUR	XR4Ti
MITSUBISHI	CORDIA TURBO (ALL)
MITSUBISHI	ECLIPSE (NON TURBO 16V
MITSUBISHI	MIRAGE TURBO 16V (89)
MITSUBISHI	TREDIA TURBO
PORSCHE	924 (AUDI ENGINE)
RENAULT	FUEGO TURBO
RENAULT	R5 TURBO
SAAB	900 & 900 TURBO
SAAB	99 & 99 EMS & 99 TURBO
SATURN	16V (ALL)
SUBARU	IMPREZA 2.5
TOYOTA	CAMRY V6
TOYOTA	SUPRA (82 - 85)
VOLKSWAGEN	CORRADO & CORRADO VR6
VOLKSWAGEN	GOLF 16V / JETTA 16 / SCIROCCO 16V
VOLKSWAGEN	GOLF VR6 / PASSAT VR6
VOLKSWAGEN	NEW BEETLE TURBO
VOLVO	240 SERIES TURBO (ALL)
<b>ALL V6 &amp; TURBO SEDANS UNDER 3.0L</b>	<b>NOT OTHERWISE CLASSIFIED</b>

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## 15. E - SUPER STOCK (ESS) / 21. E - STREET PREPARED (ESP)

AMC	AMX & JAVALIN (ALL)
AUDI	200 V8 / TT
AUDI	5000 TURBO
BMW	2500 & 2800 (ALL)
BMW	3.0 S & CS (ALL)
BMW	528 / 530 / 533 (ALL)
BMW	633i & 733i (ALL)
BMW	M3 (E36)
CHEV / PONT / BUICK / OLDS	CAMARO / FIREBIRD (67 - 93+)
CHEV / PONT / BUICK / OLDS	CHEVELLE (64 - 72)
CHEV / PONT / BUICK / OLDS	CORVAIR & YENKO STAGE 1,2,3 (ALL)
CHEV / PONT / BUICK / OLDS	LUMINA
CHEV / PONT / BUICK / OLDS	MONZA V8 & SKYHAWK 46
CHEV / PONT / BUICK / OLDS	REATA
CHEV / PONT / BUICK / OLDS	REGAL V6 & V8 RWD (80 - 88)
CHEV / PONT / BUICK / OLDS	STARFIRE V6 & SUNBIRD V6 (ALL)
CHEV / PONT / BUICK / OLDS	TRANS-AM TURBO (70 ½ - 92)
CHRY / DODGE / PLYMOUTH	BARRACUDA & CHALLENGER (70 - 74)
CHRY / DODGE / PLYMOUTH	BARRACUDA (PRE 70)
CHRY / DODGE / PLYMOUTH	CHALLENGER 6 CYL AND V8 (NOC)
CHRY / DODGE / PLYMOUTH	CONQUEST TURBO
CHRY / DODGE / PLYMOUTH	STEALTH NON TURBO
EAGLE	TALON 4WD
FERRARI	400 AMERICA (ALL)

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FERRARI	500 SUPERFAST (ALL)
FORD / MERCURY	CAPRI TURBO 4
FORD / MERCURY	COUGAR (65 - 74)
FORD / MERCURY	MUSTANG (64 - 73)
FORD / MERCURY	MUSTANG (94+ ALL)
FORD / MERCURY	MUSTANG II V6 & V8 (74 - 78)
FORD / MERCURY	MUSTANG V6 / V8 / SVO / COBRA R (79 -93)
FORD / MERCURY	TAURUS SHO
FORD / MERCURY	THUNDERBIRD (83 - 88)
FORD / MERCURY	T - BIRD TURBO COUPE
FORD / MERCURY	T - BIRD V6 (89) & V6 SUPERCHARGED
INFINITI	M30
INFINITI	Q445
JAGUAR	SEDANS 6 & 12 CYL (ALL)
JAGUAR	XJS (ALL)
JAGUAR	XK 120 / 140 / 150
LEXUS	250 & 400
MAZDA	929
MERCEDES BENZ	220 / 230 / 250 / 280 SEDANS (ALL)
MERCEDES BENZ	230SL / 250SL / 280SL (ALL)
MERCEDES BENZ	280 4.5 SEDAN & 300 6.3 SEDANS (ALL)
MERCEDES BENZ	350SL / 380SL / 450SL
MITSUBISHI	3000 GT NON TURBO
MITSUBISHI	ECLIPSE TURBO
MITSUBISHI	STARION TURBO

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NISSAN	300ZX NON TURBO (90+)
PEUGEOT	405 M116
SAAB	SPG 16V & TURBO
SALEEN	MUSTANG 302 & 351 NON SUPERCHARGED (84 - 93)
SHELBY	GT350 & GT500 (67+)
SHELBY	GT350 (65 - 66)
TOYOTA	SUPRA TURBO (87 - 92)
TOYOTA	SUPRA TURBO (PRE 87)
TOYOTA	SUPRA NON TURBO (87 - 92)
TOYOTA	SUPRA NON TURBO (93+)
VOLVO	700 & 800 SERIES (ALL)
ALL AMERICAN INLINE 6, V6, V8 SEDANS & PICKUPS	NOT OTHERWISE CLASSIFIED
OTHER SEDANS OVER 3.0 LITERS	NOT OTHERWISE CLASSIFIED

**16. F - SUPER STOCK (FSS) / 22. F - STREET PREPARED (FSP)**

ACURA	LEGEND
ALFA ROMEO	1300cc MODELS (ALL)
ALFA ROMEO	1750cc & 2000cc SEDANS
AUDI	100 LS (ALL)
AUDI	4000 - 5 CYL
AUDI	5000
AUDI	FOX, 4000 - 4 CYL
AUSTIN	AMERICA (ALL)

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AUSTIN	MINI (SEE MINI COOPER LISTING)
AUSTIN	HEALEY - 100-4 / 100-6 / 3000
AUSTIN	HEALEY - SPRITE (ALL)
BMW	1600
BMW	1800ti, TISA
BMW	2002 (NOC)
BMW	318i / 320i (NOC)
CHEV / PONT / BUICK / OLDS	BERETTA 4 CYL
CHEV / PONT / BUICK / OLDS	CAMARO 4 CYL (82+)
CHEV / PONT / BUICK / OLDS	CHEVETTE & T 1000
CHEV / PONT / BUICK / OLDS	CITATION & OMEGA
CHEV / PONT / BUICK / OLDS	FIERO 4 CYL (ALL)
CHEV / PONT / BUICK / OLDS	FIREBIRD 4 CYL (82+)
CHEV / PONT / BUICK / OLDS	MONZA / VEGA / OMEGA / ASTRE / STARFIRE / SKYHAWK (NOC) ALL RWD
CHEV / PONT / BUICK / OLDS	PHOENIX & SKYLARK
CHEV / PONT / BUICK / OLDS	SPRINT TURBO
CHEV / PONT / BUICK / OLDS	SUNBIRD 4 CYL
CHEV / PONT / BUICK / OLDS	VEGA & COSWORTH VEGA
CHRY / DODGE / PLYMOUTH	ACCLAIM 4 CYL NON TURBO
CHRY / DODGE / PLYMOUTH	ARROW 1600 / 2000 / 2600
CHRY / DODGE / PLYMOUTH	CHAMP NON TURBO (ALL)
CHRY / DODGE / PLYMOUTH	COLT FWD - NON TURBO
CHRY / DODGE / PLYMOUTH	COLT RWD 1600 & 2000
CHRY / DODGE / PLYMOUTH	COLT NON TURBO 8V
CHRY / DODGE / PLYMOUTH	DAYTONA NON TURBO

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CHRYSLER / DODGE / PLYMOUTH	HORIZON / TC3 / TURISMO 1.7 / 1.8 / 2.2L
CHRYSLER / DODGE / PLYMOUTH	LASER NON TURBO 8V
CHRYSLER / DODGE / PLYMOUTH	OMNI / 024 / CHARGER
CHRYSLER / DODGE / PLYMOUTH	RAMPAGE 2.2L
CHRYSLER / DODGE / PLYMOUTH	SAPPORO 1600 / 2000 / 2600
CHRYSLER / DODGE / PLYMOUTH	SHELBY 2.2L (78 - 84)
CHRYSLER / DODGE / PLYMOUTH	SPIRIT 4 CYL NON TURBO
NISSAN / DATSUN	1200
NISSAN / DATSUN	200 SX (NOC) (76 - 84+)
NISSAN / DATSUN	210 / 310
NISSAN / DATSUN	510 (68 - 73)
NISSAN / DATSUN	510 (78 - 81)
NISSAN / DATSUN	610 / 710 / B210 / F - 10
NISSAN / DATSUN	NX 1600
NISSAN / DATSUN	PULSAR & PULSAR NX N / TURBO (ALL)
NISSAN / DATSUN	SENTRA 1.6 (91+)
NISSAN / DATSUN	STANZA (ALL)
EAGLE	SUMMIT NON TURBO
FIAT	128
FIAT	850 COUPE & SPYDER
FIAT	850 SEDAN
FIAT	BRAVA & 131
FIAT	STRADA
FORD / MERCURY	CAPRI 4 VYL (71 - 74)
FORD / MERCURY	CAPRI II (76 - 77)

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FORD / MERCURY	CORTINA
FORD / MERCURY	EXP / LN7 / ESCORT / LYNX (NOC)
FORD / MERCURY	ESCORT / TRACER 1.9L
FORD / MERCURY	ESCORT GT
FORD / MERCURY	FESTIVA
FORD / MERCURY	FIESTA
FORD / MERCURY	MUSTANG / CAPRI 4 CYL NON TURBO
FORD / MERCURY	MUSTANG II 4 CYL (74 - 78)
FORD / MERCURY	PINTO / BOBCAT 1600 / 2000 / 2300
FORD / MERCURY	PINTO WAGON 2000 / 2300 / 2600
FORD / MERCURY	PROBE 4 CYL NON TURBO
GEO	METRO & SPECTRUM
GEO	PRISM
HONDA	ACCORD (76 - 82+)
HONDA	CRX 1300 / CIVIC 1300 (84 - 87)
HONDA	CIVIC (73 - 83)
HONDA	CIVIC (92 - 95) NOC
HONDA	PRELUDE (72 - 82)
HYUNDAI	ELANTRA
HYUNDAI	EXCEL
HYUNDAI	ALL (NOC)
ISUZU	IMPULSE NON TURBO (PRE - 90)
LANCIA	BETA / ZAGATO (75 - 83)
MG	1100 / 1300 SEDANS (ALL)
MG	A / B / B-GT / C / C-GT (ALL)

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MG	MIDGET 948 / 1098 / 1275 / 1500
MAZDA	323 NON TURBO
MAZDA	626 FWD / RWD (ALL)
MAZDA	COSMO
MAZDA	GLC FWD / RWD (ALL)
MAZDA	MX - 6, 4 CYL NON TURBO
MAZDA	PROTÉGÉ
MAZDA	R-100 (ALL)
MAZDA	RX - 4
MINI COOPER	850 / 970 / 997 / 998 / 1071 / 1275 (ALL)
MITSUBISHI	CORDIA ON TURBO (ALL)
MITSUBISHI	ECLIPSE NON TURBO 8V
MITSUBISHI	MIRAGE NON TURBO 8V (89)
MITSUBISHI	TREDIA NON TURBO (ALL)
OPEL	1900 & MANTA (ALL)
OPEL	GT 1100 (ALL)
OPEL	GT 1500 & 1900
OPEL	KADETT 1100 / 1500 / 1900 (ALL)
PEUGEOT	405 DL & S
PORSCHE	912 / 912E
RENAULT	15 / 16 / 17 / 17 GORDINI & 18i (ALL)
RENAULT	ALLIANCE / GTA / ENCORE
RENAULT	FUEGO NON TURBO
RENAULT	R5 (NOC) & LECAR
SAAB	9000

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SAAB	92 / 93 / 94 / 95 / 96
SATURN	ALL 8V
SUBARU	4WD TURBO (ALL)
SUNBEAM	ALPINE
SUZUKI	SWIFT GT & Gti
TOYOTA	CAMRY 4 CYL
TOYOTA	CELICA (70 - 82+)
TOYOTA	CELICA FWD 1.6L
TOYOTA	COROLLA 1200
TOYOTA	COROLLA 1600 & 1800 RWD (80 - 83)
TOYOTA	COROLLA 1600 & SR 5 (70 - 79)
TOYOTA	COROLLA GT-S (TWIN CAM)
TOYOTA	FX 16 / STARLET / TERCEL
TRIUMPH	GT - 6
TRIUMPH	HERALD (ALL)
TRIUMPH	SPITFIRE
TRIUMPH	TR - 2 / 3 / 4 / 4A / 6 / 7 / TR 250
VOLKSWAGEN	BETLE (RWD)
VOLKSWAGEN	DASHER & QUANTUM 4 CYL
VOLKSWAGEN	FOX GL
VOLKSWAGEN	GOLF / JETTA / CABRIO 8V (A3 CHASSIS) (94 - 98)
VOLKSWAGEN	GOLF / JETTA 8V (A2 CHASSIS) (85 - 93)
VOLKSWAGEN	KARMANN GHIA
VOLKSWAGEN	NEW BETLE NON TURBO
VOLKSWAGEN	PASSAT (ALL NOC)

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VOLKSWAGEN	RABBIT / JETTA 8V (A1 CHASSIS) (75 - 84)
VOLKSWAGEN	SCIROCCO 8V (ALL)
VOLVO	120 / 140 / 160 SERIES (ALL)
VOLVO	1800 / P1800 / ES1800 (ALL)
VOLVO	240 SERIES NON TURBO (ALL)
VOLVO	260 SERIES (ALL)
YUGO	ALL (FEB 2000)
ALL 4 CYL & ROTARY RWD	MINI PICKUPS
ALL SEDANS UNDER 1.7L	NOT OTHERWISE CLASSIFIED (NOC)

### 23. MODIFIED (M)

Modified classification covers EVERY car which has at least 16 Preparation Points.  
Separate classes were not available at time of printing.

Classes will be as per CNAC class structure

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**APPENDIX 12C****A.R.M.S. AutoSlalom Championship Classification Schedule -2001**

**The 2001 A.R.M.S. Autoslalom (Solo 2) Championship is determined based on the following vehicle classes (as described in Appendix 12B)**

**CLASSES****STOCK**

A	STOCK
B	STOCK
C	STOCK
D	STOCK
E	STOCK
F	STOCK
G	STOCK
H	STOCK
S	STOCK

**SUPER STOCK**

A	SUPER STOCK
B	SUPER STOCK
C	SUPER STOCK
D	SUPER STOCK

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B	SUPER STOCK
C	SUPER STOCK
D	SUPER STOCK
E	SUPER STOCK
F	SUPER STOCK

### **STREET PREPARED**

A	STREET PREPARED
B	STREET PREPARED
C	STREET PREPARED
D	STREET PREPARED
E	STREET PREPARED
F	STREET PREPARED

### **MODIFIED**

Modified classification covers EVERY car which has at least 16 Preparation Points. Separate classes were not available at time of printing.

Classes will be as per CNAC class structure

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APENDIX 12D (FOR INFORMATION ONLY)

ASCC SOLO 1 CAR CLASSIFICATIONS

CLASS	ENGINE DISPLACEMENT (cc) (*1)	PREP. POINTS (*2)
1 S	4001 +	0 - 4
1 M	4001 +	5 +
2 S	2001 - 4000	0 - 4
2 M	2001 - 4000	5 +
3 S	1601 - 2000	0 - 4
3 M	1601 - 2000	5 +
4 S	0001 - 1600	0 - 4
4 M	0001 - 1600	5 +
IT	N/A	N/A
GT	N/A	N/A
FF	N/A	N/A

(\*1) Forced induction doubles actual displacement

(\*2) Preparation Points are based on Solo II modifications

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A.R.M.S.-2001 AutoSlalom Regulations

2001 UPDATE

ATLANTIC REGION MOTOR SPORTS



# RALLY REGULATIONS

13.0 RALLY REGULATIONS

13.1 NAVEX SERIES

13.2 PERFORMANCE SERIES

13.3 FEES; PERMITS

BONDS

LEVIES



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# RALLY CHAMPIONSHIP REGULATIONS

## TABLE OF CONTENTS

SECTION		PAGE
<b>13.0</b>	<b>RALLY CHAMPIONSHIP REGULATIONS</b>	1
13.1	Navex Series Championship	1
13.1.1	Navex Championship Scoring	1
13.1.1 (a)	Events Scored	1
13.1.1.1	Individuals	1
13.1.1.2	Teams	2
<b>13.1.2</b>	<b>ELIGIBILITY OF CREW / VEHICLE AND EQUIPMENT</b>	3
13.1.2.1	License Requirement	3
13.1.2.2	Crew	3
13.1.2.3	Documentation	4
13.1.2.4	Vehicles	4
<b>13.1.3</b>	<b>EVENT FORMAT</b>	5
13.1.3.1	Choice of Route	5
13.1.3.2	Instructions	6
13.1.3.3	Odometer Calibration	6
13.1.3.4	Average Speed	7
<b>13.1.4</b>	<b>CONTROLS</b>	7
13.1.4.1	Definitions	7
13.1.4.2	Location of Controls	7
13.1.4.3	Identification	8
13.1.4.4	Opening/Closing	8
13.1.4.5	Information	8
13.1.4.6	Control Procedure	8
13.1.4.7	Wrong Direction	9
13.1.4.8	Time Out	9
<b>13.1.5</b>	<b>EVENT PENALTIES AND SCORING</b>	10
13.1.5.1	Control Penalties	10
13.1.5.2	Lost Time/Control Missed/Repeat Visits	10
	Wrong Sequence	10

13.1.5.3	Incorrect Located Controls	10
13.1.5.4	Ties	11
<b>13.1.6</b>	<b>ADMINISTRATION OF A RALLY</b>	<b>11</b>
13.1.6.1	Starting Order	11
13.1.6.2	Route	11
13.1.6.3	Controls	12
13.1.6.4	Registration	12
13.1.6.5	Scrutineering	12
13.1.6.6	Introduction of Officials	12
13.1.6.7	Official Notices	12
13.1.6.8	Timing and Control Records	13
<b>13.1.7</b>	<b>PERMITS &amp; PERFORMANCE BONDS</b>	<b>14</b>
<b>13.1.8</b>	<b>SUPPLEMENTARY REGULATIONS</b>	<b>15</b>
<b>13.1.9</b>	<b>RESULTS</b>	<b>16</b>
<b>13.1.10</b>	<b>STEWARDS</b>	<b>17</b>
<b>13.1.11</b>	<b>GRIEVANCE PROCEDURE &amp; PENALTIES</b>	<b>18</b>
<b>13.2</b>	<b>PERFORMANCE SERIES REGULATIONS</b>	<b>19</b>
13.2.1	Performance Rally Championship Scoring	19
13.2.2	Conduct of Event	20
13.2.3	National Performance Points	20
13.2.3.1	National Performance Rallies (Score 3 of 4)	20
<b>13.3</b>	<b>FEES: PERMIT/BOND/LEVIES</b>	<b>20</b>

**13.0 RALLY CHAMPIONSHIP REGULATIONS:**

Atlantic Region Motor Sports (A.R.M.S.) in affiliation with the Canadian Association of RallySport (C.A.R.S.) shall hold two (2) Rally Championships consisting of:

- (1) the A.R.M.S./C.A.R.S. Atlantic Region Navigational Rally Championship, hereafter referred to as the NAVEX series; and,
- (2) the A.R.M.S./C.A.R.S. Atlantic Region Performance Rally Championship.

All events approved at the Annual Atlantic Region Rally Workshop which have received a permit from the Director of Rallying, A.R.M.S./C.A.R.S. Atlantic Region (hereinafter referred to as the "Rally Director") will count toward A.R.M.S./C.A.R.S. Atlantic Region Rally Championships. Championship points will be awarded to competitors residing in the Atlantic Region, who are members of a C.A.R.S.-affiliated A.R.M.S. Club and who hold an appropriate competition license.

**13.1 NAVEX SERIES CHAMPIONSHIP REGULATIONS:**

**13.1.1 NAVEX CHAMPIONSHIP SCORING:**

13.1.1(a) In the event that less than three (3) events are held, ALL events will be scored.

**13.1.1.1 INDIVIDUALS:**

- (a) There will be separate championships for drivers and navigators. Competitors who compete in both categories will have their points combined and shown in the category in which they earned the most points. The maximum number of events which may be counted by an individual competitor will be the total number of championship events held, less one.

There must be a confirmed number of at least four (4) crews three (3) days before the date of the event for that event to run as a regional event

- (b) Except for special circumstances approved at the AGM Rally Workshop points will be awarded as follows:

First	20 pts	Fifth	8 pts	Ninth	2 pts
Second	15 pts	Sixth	6 pts	All other	
Third	12 pts	Seventh	4 pts	finishers	1 pt
Fourth	10 pts	Eighth	3 pts		

For the purpose of Championship Scoring, where only three (3) crews arrive to start the event, second, third and fourth place points shall be awarded. Where only two (2) crews arrive to start the event third and fourth place points shall be awarded, or with the consensus of both crews fourth place points may be taken by both crews. Where only one (1) crew arrives fourth place shall be awarded.

If the event is run with separate instructions for experienced and novice classes, points will only be awarded to finishers in the experienced class.

- (c) To be classified as a finisher, the crew shall pass the final control marker of the rally in the vehicle entered under its normal power and within their maximum lateness. They shall also satisfy any additional conditions of finishing published in the Supplementary Regulations.
- (d) Competitors who perform significant organizational service at a Championship event will be awarded organization credit points equivalent to their best series finish. Normally, up to two (2) positions will be allowed organizational credit per event. Positions qualifying for credit must be declared to the Rally Director by the event coordinator prior to the start of the event, and competitors may only claim organizational credit for one event.

#### 13.1.1.2 TEAMS:

- (a) A club may enter any number of three (3) car teams in an event. At least four (4) crew members must be current members of a C.A.R.S.-affiliated A.R.M.S. club. Teams shall be designated at registration.

- (b) Qualifying teams will compete for the BLM Team Challenge Shield.
- (c) Team standings will be determined by the sum of individual points earned by all crew members of the team. The club of the winning team at each rally shall be credited with a win toward the Shield Championship.

### **13.1.2 ELIGIBILITY OF CREW, VEHICLES & EQUIPMENT:**

#### **13.1.2.1 LICENSING REQUIREMENTS:**

- (a) All competitors must be in possession of a valid A.R.M.S. competition license in order to compete.
- (b) Unless waived as a condition for the current competition year by those in attendance at the ARMS Annual Rally Workshop, competitors wishing to count points in the NAVEX Championship must hold a minimum of a C.A.R.S. "Basic" license.
- (c) Crew members not in possession of a C.A.R.S. "Basic" license, but who are currently members of a C.A.R.S.-affiliated A.R.M.S. club, may enter the event by purchasing a one-day license.
- (d) Crew members who do not hold a current membership in a C.A.R.S.-affiliated A.R.M.S. club may enter the event by purchasing a one-day club membership and license.
- (e) Competitors shall be allowed to count points retroactively for one event run prior to obtaining a National license.

#### **13.1.2.2 CREW:**

- (a) A rally crew shall consist of two persons. Any additional persons shall be considered as passengers and are allowed only with the permission of the event organizer.

- (b) No change of crew and/or vehicle will be permitted during a rally. Either person may assume the role of driver or navigator, however, each will be scored in the series championship in the category listed on the entry form.

#### **13.1.2.3 DOCUMENTATION:**

The following documents, valid on the date of the event, must be shown to Rally Officials at registration:

- (a) driver's license for any crew member listed as driver;
- (b) vehicle registration;
- (c) third-party liability insurance;
- (d) written permission for use of the vehicle in the rally if not owned by one of the crew named in the entry form;
- (e) written permission from a parent or guardian for participation in the rally for persons under the legal age of majority for the province(s) in which the event takes place.

#### **13.1.2.4 VEHICLE:**

- (a) All competing vehicles must be road worthy and shall be scrutineered to check the function and adequacy of:
  - all brakes;
  - horn;
  - wind-shield wipers;
  - all legally required exterior lights;
  - exhaust system; and,
  - tires.
- (b) It must be possible to turn off all lights on the front of the vehicle which could possibly blind the driver of an oncoming car from a single switch which must leave the low-beam lights illuminated.

- (c) If a vehicle has a back-up light operated by a manual switch, this same switch must operate a dash-mounted warning light.
- (d) Operational two-way electronic communications are not permitted in rally vehicles.
- (e) Articles which could be dangerous if left loose must be securely restrained. Additional fuel containers must be permanently installed and vented to the outside of the vehicle.
- (f) The following equipment is strongly recommended for all vehicles:
  - two (2) self-supporting warning triangles;
  - a first-aid kit including antiseptic, gauze pads and rolls, adhesive tape, arm sling, safety pins, scissors; and,
  - a fire extinguisher with a minimum rating of 4BC, securely mounted in a quick-release steel bracket.

### **13.1.3 EVENT FORMAT:**

#### **13.1.3.1 CHOICE OF ROUTE:**

- (a) Competitors with "unprepared" cars (i.e., cars without sump guards) should, by exercising due care, be able to finish all NAVEX events. To accomplish this, cautions (bad bumps, rough culverts, etc.) should be included in the instructions. Cautions must have a distance and description.
- (b) The route must be carefully chosen to ensure that competitors are not kept circulating in one area for long periods of time. Built-up areas and busy main roads should be avoided as much as possible. Rally activity which creates a nuisance or inconvenience to anyone not connected with the rally must be avoided.
- (c) Twisting country roads should be avoided for rally traffic that is traveling in both directions at the same time. If used, the instructions must indicate where two-way rally traffic begins and ends.



- (d) If private roads are used, permission for their use must be obtained in writing and a copy must be displayed on the Official Notice Board at the start of the rally.

#### 13.1.3.2 INSTRUCTIONS:

- (a) NAVEX events shall be designed to test the driver's and navigator's skill, with instructions so designed that unequipped cars (i.e., cars which have no special distance measuring or timing devices) shall be competitive.
- (b) All instructions which define the route and timing must be presented in writing, and must include all required maps. The instructions must provide a full explanation for each type of instruction used, in such a way that there is no reasonable doubt as to their meaning. Competitors must not be required to possess local knowledge, additional maps, or specialized knowledge of rally "conventions" in order to follow the route.
- (c) Written explanations must be provided for all special terms, diagrams, and abbreviations used in the instructions. The terms stop, yield and tee shall not be abbreviated. RRX is the only abbreviation that may be used for a rail-road crossing.
- (d) Where no specific instruction is given, a competitor shall continue on the road on which he/she is traveling, as long as that road is clearly and unambiguously identifiable.
- (e) There shall be no "automatic Tee", or the reverse thereof, instructions in a reverse section.
- (f) Route questions are not permitted.

#### 13.1.3.3 ODOMETER CALIBRATION:

A specific and readily identifiable object of a permanent nature must be described in the instructions as an odometer check. This check must be a minimum distance of fifteen (15) kilometers. The route prior to the odometer check must be defined in the instructions so as not to rely of accurate distances. No control may be located within the odometer

calibration distance of within 5 kilometers thereafter. Distances shall be statute to within plus or minus 2%.

#### **13.1.3.4 AVERAGE SPEED:**

The maximum average speed allowed at any point in a rally is 10% less than the legal maximum speed at that point and must be based on statute distance, plus/minus 2%.

#### **13.1.4 CONTROLS:**

##### **13.1.4.1 DEFINITIONS:**

- (a) An Elapsed Time Control is located at the end of an elapsed-time segment of the route. The marshal shall record the time of arrival, or any later time requested by the competitor.
- (b) An Average Speed Control is located at any point in an average speed section of the route. The marshal shall record the time of arrival when the vehicle passes the control marker board.
- (c) A Start Control is located at the start of each leg of the rally. The competitor's time past the control is a "Time-Out".
- (d) Route Controls and Off-Route Controls are not permitted.

##### **13.1.4.2 LOCATION OF CONTROLS:**

- (a) Controls must be situated at a point where several competitors can pull well off the road beyond the control.
- (b) Controls must not be located where they will cause a safety hazard, or create a nuisance or inconvenience to non-rally traffic.
- (c) All time controls are to be located at the "top" of the minute.

**13.1.4.3 IDENTIFICATION:**

- (a) All controls must be identified by a distinctive and highly visible marker board at least 60 cm square. A sample board must be shown to competitors at the start of the rally.
- (b) The control marker shall be on the right-hand side of the road, securely erected, close to the shoulder, close to the control and clearly visible to rally traffic from a distance of not less than 30 meters. The marker shall be the official control location.

**13.1.4.4 OPENING/CLOSING:**

Controls must "open" at least 15 minutes before the due time of the first car, and must not close sooner than 15 minutes after the maximum lateness time of the last car, to allow for dead-time and time-outs. A control may close at an earlier time if the marshal can confirm that all cars still competing have checked in.

**13.1.4.5 Information:**

At all manned controls, the official distance and due time of car "0" shall be displayed. In the case where a competitor checks into a control more than once, the competitor may, before leaving the control area, request the appropriate official distance and due time from the marshal.

**13.1.4.6 CONTROL PROCEDURE:**

- (a) Competitors arriving at a manned control must continue past the control and park in such a manner as not to impede the flow of traffic. One crew member must then proceed on foot to the control to check-in. Reversing in the control area prior to checking in, or without both crew members in the vehicle, is prohibited, as is changing direction of travel while in sight of a control.
- (b) Competitors who fail to follow the above procedures when checking into control are guilty of incorrect control procedure (IAP). On the first offense, a notation of IAP will be made beside the competitor's time, and the marshal shall warn the

competitor that he/she is guilty of an ICP infraction. Subsequent infractions will be similarly noted and a penalty equivalent to five (5) minutes lateness will be assessed for each infraction.

- (c) A competitor may slow down, but may not stop within sight of an average speed control, except in the interest of safety. If the competitor is observed stopped before passing an average speed control marker board, the marshal shall record the time at which he/she was first observed stopped as the Time-In.

#### **13.1.4.7 WRONG DIRECTION:**

- (a) Wrong direction occurs when a competitor checks into a control after his/her vehicle has passed the control marker in a direction other than that prescribed in the route instructions.
- (b) Wrong direction cannot apply to a competing vehicle which has passed the control marker as described in the above paragraph, but changes direction out of sight of the control prior to checking in the correct manner.
- (c) If a penalty is to be assessed for wrong direction, a notation must be made on the competitor's score card or sticker by the control marshal at the time of the infraction.

#### **13.1.4.8 TIME-OUT:**

- (a) Time-Out of any manned control will be the 00 second mark of the minute following the Time-In to the control, unless otherwise recorded on the competitor's route card or sticker by the control marshal. Time-Out for all other controls will be equivalent to the Time-In, unless otherwise described in the route instructions.
- (b) A minimum of two (2) minutes should separate cars at all Start Controls, and one (1) minute separation should be assigned by control marshals to vehicles arriving in the same minute at all other controls.

**13.1.5 EVENT PENALTIES AND SCORING:****13.1.5.1 CONTROL PENALTIES:**

Penalty points shall be determined according to the following scale:

- (a) Each minute early or late at controls **1 point**
- (b) Each minute late or requesting an early minute at an elapsed time control **1 point**
- (c) Improper control procedure (after first warning) **5 points**
- (d) Missing an average speed or elapsed time control **30 points**
- (e) Maximum accumulated time penalty at any control **30 points**

**13.1.5.2 LOST TIME / CONTROL MISSED / REPEAT VISIT / WRONG SEQUENCE:**

- (a) Timing shall be non-cumulative between controls, i.e., time lost or gained at one control cannot be "made up" at any later control.
- (b) A competitor missing one or more consecutive controls shall be scored at the next control reached based on his/her elapsed time from the previous control reached and the sum of the correct elapsed times from the previous control.
- (c) If a competitor checks into the same control more than once, the first Time-In and Time-Out which place the control in the proper sequence shall be used to calculate his/her score.
- (d) If a competitor checks into a control in the wrong sequence and does not subsequently check into it in the correct sequence, his/her score shall be calculated so as to give him the least penalty.

**13.1.5.3 INCORRECTLY LOCATED CONTROLS:**

- (a) If an Average Speed Control is not located at the distance indicated at the control or on the control sticker, competitors shall be scored according to its actual distance.

(b) If an Elapsed Time Control is not located within plus/minus 0.15 kilometer of the end of an elapsed time segment, it and the next control following, shall be scored as Route-In/Time-Out.

**13.1.5.4 TIES:**

In NAVEX events, ties will be broken for award purposes only by:

(a) Comparing the most "zeroed" controls, followed by the most 1 minute penalty controls, etc.; or

(b) Any other method that may be listed in the Supplementary Regulations.

Competitors having equal numbers of penalty points shall be considered tied. Subsequent positions shall be enumerated on the basis of the number of vehicles ahead.

**13.1.6 ADMINISTRATION OF A RALLY:**

**13.1.6.1 STARTING ORDER:**

The starting order should be determined by a draw of all pre registered entries. All other entries start in the order they are received. Novice entries should be started after the experienced class.

**13.1.6.2 ROUTE:**

(a) It is the responsibility of the organizer to ensure that the route instructions have been thoroughly checked by a competent "green crew". This check should be made from a final copy of the instructions and must verify the accuracy of instructions, locations of all controls, timing calculations, and conformance to posted speeds.

(b) A course-checking vehicle should cover the route not less than six (6) hours or more than 24 hours before the rally start. If a portion of the route is impassable, alternate instructions must be prepared and posted on the official notice board.

(c) If the route becomes blocked or impassable to competitors after the course-checking run, all controls between the impasse and the next recovery point shall be deleted and the next timed control shall be made Route-In/Time-Out.

#### **13.1.6.3 CONTROLS:**

(a) A course-opening vehicle should be used to ensure that controls are correctly located and that control timepieces are synchronized.

(b) A course-closing vehicle should be used to ensure that controls are correctly located, that they remain open as long as required, to check the control timepieces, and to collect the control log-sheets and bring them to the finish.

#### **13.1.6.4 REGISTRATION:**

A registration must be held at the start of the rally to check the eligibility of all competitors, to verify required documents, and to ensure that crew members have signed the waiver.

#### **13.1.6.5 SCRUTINEERING:**

A technical inspection should be held at the start of the rally during which a scrutineer checks all competing vehicles. The scrutineer should also verify that the license number on the vehicle is that stated on the entry form.

#### **13.1.6.6 INTRODUCTION OF OFFICIALS:**

An introduction of officials and crew-briefing should be held at least 30 minutes before the start of the rally. The organizer(s), the Steward, and any other persons authorized to sign official documents should be introduced. Any changes to the route book may be reviewed.

#### **13.1.6.7 OFFICIAL NOTICES:**

(a) An Official Notice Board must be displayed at the start and at the finish, and shall contain only the permit for the rally, official notices,

letters of notification to police, letters-of-permission to use private roads, and a timepiece set to "official rally time".

(b) All official notices must be signed by the organizer, the Steward, or a person designated at the Introduction of Officials.

(c) Any known route corrections must be posted on the Official Notice Board before the start of the rally.

(d) If a change to the route instructions becomes necessary after the rally has started, an official notice containing the changes to the route and/or timing must be posted at a control or on a clearly visible and securely placed control sign. If such a notice is posted at a control, the marshal should be instructed to point it out to each competitor who checks in and should obtain verifying signatures by car number.

(e) Any changes to the Supplementary Regulations must be posted on the Official Notice Board before the start, and must be signed by the organizer and/or Steward.

(f) Responses by the organizer to written questions from competitors must be posted on the Official Notice Board as soon as possible.

(g) A timing sheet, stating the official distance and correct elapsed time to all timed controls, should be posted on the Official Notice Board at the finish of the rally, before the time of arrival of the first car.

(h) Copies of grievances and replies from the organizer shall be posted.

(i) An official with authority to sign official notices must be present at the end of the rally before the due time of arrival of the first car.

#### **13.1.6.8 TIMING AND CONTROL RECORDS:**

Correct time for checking watches should be obtained from a reliable radio time signal. The following is the standard timing procedure to be used at all Regional NAVEX events:

(a) The "no-penalty" period shall be from 00 to 59 seconds of the correct minute.



- (b) The control shall be located at the 00 second mark of the minute.
- (c) At all average speed controls, the marshal should record on his/her record sheet the hour, minute and second at which the competitor's car passes the control marker. If the competitor was observed stopped before passing the control marker, except in the interest of safety, the marshal shall record the time at which he/she was first observed stopped. The time shall be recorded on the competitor's route card or sticker, and on the control log-sheet under "Time-In".
- (d) At all elapsed time controls, The marshal shall record the time of arrival, or a later time requested by the competitor, as the "Time-In" on the competitor's route card or sticker, and on the control log-sheet.
- (e) A competitor's Time-Out is defined as his/her Time-In plus one minute, unless a later Time-Out is recorded on his/her route card or sticker by the marshal.
- (f) Not used.
- (g) Unless otherwise stated on the official notice board, the Maximum Lateness shall be 30 minutes for the first two sections of the rally, and 45 minutes for all subsequent sections, with the exception of the final control which shall be 60 minutes. Maximum Earliness at all controls shall be 15 minutes.
- (h) A competitor's total lateness at a control shall be defined as the sum of his/her minutes late minus his/her minutes early at all timed controls since the beginning of the rally.

#### **13.1.7 PERMITS AND PERFORMANCE BONDS:**

A permit is required for all Regional NAVEX Championship events. Permit applications, accompanied by two copies of the Supplementary Regulations and the required performance bond and permit fee (see Section 9 for fee schedule), must be received by the Rally Director, not less than sixty (60) days prior to the event.

The penalty for late application for permit shall be an amount equal to the permit fee for each seven days delay. No permit shall be issued if

the permit application is received less than fifteen (15) days prior to the event.

The Rally Director may require that a performance bond be posted at the time of permit application (see Section 9 for maximum bond amounts). All, part, or none of the performance bond will be returned to the organizer at the discretion of the Rally Director who must be satisfied that the event was run in accordance with these regulations and that all permit fees, penalties, and levies owed to A.R.M.S./C.A.R.S. Atlantic Region have been paid.

### 13.1.3 SUPPLEMENTARY REGULATIONS:

Supplementary Regulations are required for all Regional NAVEX events. These shall be submitted for approval to the Rally Director at least 60 days prior to the event, and must be available to competitors at least 30 days prior to the event. Any alteration of these regulations requires the approval of the Rally Director and must be posted on the official notice board. While organizers are encouraged to mail the Supplementary Regulations to prospective competitors, it remains the responsibility of the competitor to obtain them.

As a minimum, the Supplementary Regulations must include:

- (a) A statement of jurisdiction, including the wording "The rally will be held under the General Competition Regulations of the Canadian Association of RallySport and the Rally Regulations of Atlantic Region Motor Sports Inc. These publications are available from \_\_\_\_\_ [Director of Rallying, A.R.M.S./C.A.R.S. Atlantic Region, address and telephone] and will be available for scrutiny at the start".
- (b) The name of the rally and its status, indicating any championships of which it is a part.
- (c) The names and addresses of the organizing club, the organizer, the registrar (to whom entries are sent), the steward, and any other rally officials.
- (d) The locations of the start and finish, with directions from the nearest major highway, and the locations of meal and rest stops.

- (e) A schedule of dates and times giving at least :
  - (i) opening and closing of registration and technical inspection,
  - (ii) introduction of officials,
  - (iii) departure time of first vehicle, and
  - (iv) approximate due time of arrival of the first vehicle at rest stops and at the finish.
  
- (f) A brief description of the rally. This should include a definition of the area encompassing the entire route by intervals of longitude and latitude, names of counties, or identification of topographic maps.
  
- (g) The closing date for entries.
- (h) The maximum number of entries to be accepted and how entries will be chosen if this number is exceeded.
  
- (i) The amount of entry fees (including A.R.M.S./C.A.R.S. levies), and a statement indicating if these fees include the cost of any food, fuel, accommodations, etc.
  
- (j) A list of all awards, detailing how these will be distributed.
  
- (k) A statement of conditions for eligibility of vehicle, crew, and equipment (whether or not additional odometers are permitted, etc.). Competitors should be reminded of membership and licensing requirements.
  
- (l) Any other regulations which the organizers, promoters, and/or the region wish to apply to the rally.

#### **13.1.9 RESULTS:**

The posting and handling of results shall follow the procedure outlined in the C.A.R.S. National Rally Regulations.

Results must be mailed to all competitors within 15 days of the event and contain the following information:

- (a) name of rally;
- (b) name of the organizing club;

- (c) date of the rally;
- (d) status of the rally;
- (e) permit number;
- (f) exact official distance of the rally;
- (h) finishing positions listed in order;
- (i) vehicle number;
- (j) name of car entrant and/or sponsor;
- (k) full names, addresses and competition license numbers of both crew members, and clubs;
- (l) official distance of all controls and elapsed time between controls where time was taken;
- (m) points lost at each control;
- (n) total points lost by crew;
- (o) complete list of prize winners;
- (p) date and place of awards presentation;
- (q) acknowledgment of sponsors, stewards, workers, etc.; and
- (r) a statement as to the status of results, i.e., final or provisional.

The Steward shall declare amendments as required to the results to reflect his/her decisions regarding the reclassification of competitors as a result of grievances. Once declared final, the results may not be modified, except for reclassification of competitors by the Steward, as noted previously.

#### **13.1.10 STEWARDS:**

Stewards receive assignments from and report to the Rally Director. Reasonable travel expenses, up to the limits established for Region executive travel, are the responsibility of the listing club. Organizers of Regional NAVEX events may nominate potential event stewards; however, final authority for assignment rests with the Rally Director. Although Stewards may be members of organizing clubs, the Rally Director may require that a Steward be assigned from other than the organizing club. All other matters pertaining to stewarding shall be as per the C.A.R.S. National Rally Rules and General Competition Regulations.

**13.1.11 GRIEVANCE PROCEDURE AND PENALTIES:**

All matters pertaining to grievance procedures and penalties shall be as per the C.A.R.S. National Rally Rules and General Competition Regulations.

## 13.2 PERFORMANCE SERIES CHAMPIONSHIP REGULATIONS:

### 13.2.1 PERFORMANCE - RALLY CHAMPIONSHIP SCORING:

(a) Regional Performance Rallies may be held concurrently with National rallies held within the Atlantic Region, or with National, Regional or Divisional rallies sanctioned by other regions/divisions of C.A.R.S. or S.C.C.A.. The Rally Director will have authority to declare what portion of each event will count toward Atlantic Performance Series championships.

(b) There will be separate championships for drivers and co-drivers. Competitors who compete in both categories will have their points combined and shown in the category in which they earned the most points.

(c) Except for special circumstances approved at the AGM Rally Workshop points will be awarded as follows:

First	20 points	Sixth	6 points
Second	15 points	Seventh	4 points
Third	12 points	Eighth	3 points
Fourth	10 points	Ninth	2 points
Fifth	8 points	All other finishers	1 point

(d) To be classified as a finisher, the crew shall pass the final control marker of the rally in the vehicle entered under its normal power and within their maximum lateness. They shall also satisfy any additional conditions of finishing published in the Supplementary Regulations.

(e) Competitors who perform significant organizational service at a Championship event will be awarded organization credit points equivalent to their best series finish. Normally, up to two (2) positions will be allowed organizational credit per event. Positions qualifying for credit must be declared to the Rally Director by the event coordinator prior to the start of the event.

and competitors may only claim organizational credit for one event.

### 13.2.2 CONDUCT OF EVENTS:

All stage rallies fall under the C.A.R.S. National Rally Rules and General Competition Regulations. All events, including those with Regional status only, must conform to National rules.

### 13.2.3 NATIONAL PERFORMANCE POINTS:

The Performance Rally Championship will be based on the National points scored in three (3) of four (4) of the following Performance Rallies and after joining an A.R.M.S. Member Club and taking up residence in the Region.

#### 13.2.3.1 PERFORMANCE RALLIES: (Score 3 of 4)

Rallye De Quebec  
 Rallye Baie Des Chaleurs  
 Rallye Auto Charlevoix  
 Maine Forest Rally

### 3.3 FEES: PERMIT / BOND / LEVIES:

The following is the current fees applicable to rally:

Event Permit:	\$ 15.00
Performance Bond:	\$ 35.00
Exp. Competitor Levy:	\$ 6.00 / each
Nov. Competitor Levy:	\$ 3.00 / each

- 13.3.4.5 A Stop Box may be used at the end of a run when vehicles must be safely slowed down. A time penalty of 10 seconds must be assessed if a vehicle does not stop within this box.
- 13.3.5.0 VEHICLE ELIGIBILITY:**
- 13.3.5.1 Vehicles must be based on a production body and chassis to compete.
- 13.3.5.2 Ownership must be produced at registration. It must be either in the name of the competitor or written authorization from the registered owner must be provided.
- 13.3.5.3 Insurance or license to operate on a public road is not required unless portions of the events route are held on public roads.
- 13.3.5.4 Mechanical condition and safety of the vehicle is the responsibility of the competitor
- 13.3.5.5 A minimum 4 point roll bar hoop shall be installed behind the driver. Minimum tubing size is defined in the current CARS National Rally Regulations. Mounting plates to structure shall not be less than 2mm thick for a weld in a roll bar and not less than 5mm thick for a bolt in a roll bar. Mounting bolts shall be minimum 3/8" in diameter and minimum SAE grade 5. It is recommended that the roll bar be compatible with the requirement to upgrade it to a CARS Performance Rally roll cage.
- 13.3.5.6 The use of a minimum three point safety harness is required.
- 13.3.5.7 Car classes shall be defined by each Region. Organizers reserve the right to reclassify a vehicle.
- 13.3.5.8 Organizers of an event reserve the right to exclude a vehicle from competition.
- 13.3.6.0 COMPETITIVE RUNS:**
- 13.3.6.1 Vehicles shall be run on the course one at a time.



- 13.3.6.2 Vehicles shall start each run from a standing start. A countdown shall be used when stop watch timing is used. Timing shall start when the starter gives the command "Go". If automatic timers are used a countdown is not necessary. Timing of the run shall end when the vehicle passes a pre-determined point.
- 13.3.6.3 A start penalty of 10 seconds shall be assessed if a competitor jumps the start.
- 13.3.6.4 Drivers and any passengers, as per 13.3.2.3, Must wear a safety helmet during competitive runs.

**13.4 FEES: PERMIT / BOND / LEVIES:**

The following is the current fees applicable to rally:

Event Permit:	\$ 15.00
Performance Bond:	\$ 20.00
Exp. Competitor Levy:	\$ 6.00 / each
Nov. Competitor Levy:	\$ 3.00 / each

- 14.0 PROTESTS**
- 15.0 PENALTIES**
- 16.0 APPEALS**
- 17.0 DUTIES & POWERS**
- 18.0 PROBATION LETTER  
AS A LICENSE**
- 19.0 DRIVER/OFFICIAL  
REVIEW**
- 20.0 DEFINITIONS**
- 21.0 CONDUCT**



# **PROTESTS & APPEALS**

**PROFESSIONAL  
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Dartmouth, N.S.**

**Tel: (902) 469-8230**

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**PROTESTS AND APPEALS  
TABLE OF CONTENTS**

<b>14.0</b>	<b>Protests: .....</b>	<b>1</b>
14.1	Who May Protest: .....	1
14.2	Lodging a Protest: .....	1
14.3	Protest Fee: .....	1
14.3.1	Establishment of Bond: .....	2
14.3.2	Conduct of Inspection: .....	2
14.3.3	Refusal To Allow Inspection: .....	3
14.3.4	Disposition of Bond: .....	3
14.3.5	Disbursement of Bond - Appeal Trust: .....	3
14.3.6	Preservation of Evidence: .....	3
14.3.7	Time Limits: .....	3
14.4	Hearing Protests: .....	4
14.5	Distribution of Awards: .....	4
14.6	Judgment: .....	5
14.7	Reasonableness: .....	5
14.7.1	Forfeiture of Protest Fee: .....	5
14.7.2	Vexatious or Bad Faith Protest: .....	5
<b>15.0</b>	<b>Penalties: .....</b>	<b>5</b>
15.1	Breach of The Rules: .....	6
15.2	Who May Be Penalized: .....	6
15.3	Hearing: .....	6
15.4	Imposition of Penalties: .....	7
15.4.1	Penalties: .....	7
15.4.2	Multiple Penalties: .....	7
15.5	Reprimand: .....	7
15.6	Fine: .....	7
15.7	Time, Lap or Position: .....	8
15.8	Disqualification: .....	8
15.9	Probation: .....	8
15.9.1	Term of Probation: .....	8
15.9.2	Review of Probation: .....	8
15.9.3	Notice of Probation: .....	8
15.9.4	Violation of Probation: .....	9
15.10	Suspension: .....	9
15.11	Loss of Accrued Points: .....	9

15.12	Exclusion: .....	9
15.13	Loss of Awards: .....	9
15.14.1	Automatic Penalties: .....	10
15.14.2	Multiple Penalties: .....	10
15.14.3	Falsification: .....	10
15.15	Amendment of Results: .....	11
15.16	Publication: .....	11
<b>16.0</b>	<b>Appeals: .....</b>	<b>11</b>
16.1	Right to Appeal: .....	11
16.2	Jurisdiction: .....	11
16.3	Jurisdiction of ASN Canada FIA: .....	12
16.3.1	Full National Events: .....	12
16.4	Jurisdiction of FIA: .....	12
16.4.1	Full International Events: .....	12
16.5	Taking an Appeal: .....	12
16.6	Stay of Decision: .....	13
16.7	Decision to Hear: .....	13
16.8	Convening the Court of Appeal: .....	14
16.8.1	Appointed Court of Appeal: .....	14
16.8.2	Hearing the Appeal: .....	14
16.8.3	Hearing the Appeal/Court: .....	14
16.9	Judgment of The Court of Appeal: .....	15
16.10	Publication and Effect of Decision: .....	15
16.11	Bad Faith Appeals: .....	15
<b>17.0</b>	<b>Duties and Powers: .....</b>	<b>16</b>
17.1	Maintenance of Order: .....	16
17.2	Power of The Chief Steward: .....	16
17.3	Request for Action: .....	17
<b>18.0</b>	<b>Probation Letter as License: .....</b>	<b>17</b>
<b>19.0</b>	<b>Driver or Official Review: .....</b>	<b>17</b>
<b>20.0</b>	<b>Definitions: .....</b>	<b>18</b>
20.1	Executive Steward: .....	18
20.2	Car ( Automobile): .....	18
20.3	Class: .....	18
20.4	Category: .....	18
20.5	Competition: .....	18
20.6	Event: .....	19

20.7	Speed Event: .....	19
20.8	Non Speed Event: .....	19
20.9	Sanction: .....	19
20.10	General Competition Rules (GCR): .....	19
20.11	Supplementary Regulations: .....	19
20.12	Driver: .....	21
20.13	Entrant: .....	21
20.14	Participant: .....	21
<b>21.0</b>	<b>Conduct: .....</b>	<b>21</b>
21.1	Conflict of Interest: .....	21
21.2	Standards of Behavior: .....	22
21.3	Loss of License: .....	22
21.4	Alcohol/Narcotics/Dangerous Drugs: .....	22
21.5	Medical Condition: .....	23
21.6	Plurality of Duties: .....	23
21.7	Separation of Duties: .....	23
21.8	Stewards of The Meeting (SOM): .....	23
21.9	Powers of The SOM: .....	23
21.10	Chairperson of The SOM: .....	24
21.11	Observer's Report: .....	24
21.12	Chief Steward/Series Chief Steward: .....	25
21.13	Execution of The Event: .....	25
21.14	Maintenance of Order: .....	26
21.15	Powers of The Chief Steward: .....	27
21.16	Request For Action: .....	28
21.17	Race Chairperson: .....	28
21.18	Chief Starter: .....	29
21.19	Chief Course Marshall: .....	29
21.20	Chief Timer & Scorer: .....	29
21.21	Chief Series Inspector (Scrutineer): .....	30
21.22	Chief Medical Officer: .....	30
21.23	Driver Observers: .....	30
21.24	Press Officer: .....	31
21.25	Chief Registrar: .....	31
21.26	Assistant Chief Steward - Safety: .....	31
21.27	Judges: .....	32
21.28	Compliance Checking Crew: .....	32

awards has been lodged, distribution shall be withheld until the protest has been settled. The Stewards of the Meeting, if notified of an intention to appeal their decision, shall order awards which may be affected by the outcome of the appeal to be withheld pending the decision of the Appeal Proceedings.

(2) Pending the decision of the Appeal Proceedings, the results of the competition shall be considered Provisional.

**14.6 JUDGMENT:**

All parties concerned shall be bound by the decision given, subject only to appeal as provided in Section 16, Appeals.

**14.7 REASONABLENESS:**

It is expected that protests shall be reasonable, logical and based on sound evidence, thus well-founded. A well-founded protest shall further be defined as one upon which reasonable men and women may differ. A protest may be well-founded even if not upheld.

**14.7.1 FORFEITURE OF PROTEST FEE:**

If a protest is judged to be not well-founded, the protest fee shall be forfeited.

**14.7.2 VEXATIOUS OR BAD FAITH PROTEST:**

A protestor who has acted in bad faith or in a vexatious manner may be penalized by the Stewards of the Meeting.

**15.0 PENALTIES:**

All participants shall be subject to control by the Atlantic Region Motor Sports Inc., the organizing A.R.M.S. Club, other organizers, and all appointed Officials of the event. This Section provides the penalties for violation of the GCR and the Supplementary Regulations.

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**15.1 BREACH OF THE RULES:**

In addition to any other offences or violations of specific rules, each of the following shall be deemed a breach of the GCR.

- (1) Bribery or attempt to bribe anyone connected with the event and the solicitation of, acceptance of, or offer to accept a bribe.
- (2) Any action having as its objective participation in a competition of a person or a car known to be ineligible or not properly entered or credentialed.
- (3) Any fraudulent proceeding or act prejudicial to the interests of the Atlantic Region Motor Sports Inc. or of motorsport in general.
- (4) Reckless or dangerous driving, either on course or in the pit or paddock area.
- (5) Failure to obey a direction or order of an Official.
- (6) Refusing to cooperate with, interfering with, or obstructing the actions of the Chief Steward, the Stewards of the Meeting, other courts or Appeal Proceedings in the performance of their duties.
- (7) Unsportsmanlike conduct.
- (8) Physical violence towards an Official, any other participant, or spectator at the event.
- (9) Failure or refusal to meet your financial obligations with A.R.M.S. or a member club.

**15.2 WHO MAY BE PENALIZED:**

Any organizer, entrant, driver, crew member, official, worker, guest of the those individuals, or member the Atlantic Region Motor Sport Inc. may be penalized.

**15.3 HEARING:**

No penalty shall be imposed by the Stewards of the Meeting except after a hearing that follows the procedures set out in Section 14.4.-Hearing Protests, whether the matter is brought to the attention of the Stewards of the Meeting by Protest or by a Chief Steward's Request for action. (See Section 17.3 - Request for Action)

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**15.4 IMPOSITION OF PENALTIES:****15.4.1 PENALTIES:**

The penalties in increasing order of severity are:

- (1) Fine - \$1.00 - \$99.00 (Section 15.6 & 17.1)
- (2) Reprimand (Section 15.5)
- (3) Fine - \$100.00 - \$249.00 (Section 15.6)
- (4) Fine - \$250.00 (Section 15.6)
- (5) Probation of competition privileges (Section 15.9)
- (6) Time, Lap, of Position (Section 15.7)
- (7) Disqualification from competition (Section 17.1.2 & 15.8)
- (8) Exclusion (Section 17.1.1)
- (9) Suspension of competition privileges (Section 15.10)
- (10) Loss of accrued points (Section 15.11)
- (11) Expulsion from the A.R.M.S. Inc. (Section 15.12)

**15.4.2 MULTIPLE PENALTIES:**

Multiple penalties may be imposed. Consecutive penalties may be imposed (i.e. two thirty (30) day suspensions, total sixty (60); two (2) months' suspension and six (6) months' probation). Both suspension and probation, each for the maximum allowable term, may be imposed for a single violation.

**15.5 REPRIMAND:**

A reprimand against an Atlantic Region Motor Sports Inc. Competitor shall be noted in his or her license file.

**15.6 FINE:**

A fine of up to \$250.00 may be imposed. Fines shall be in whole dollar amounts.

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**15.7 TIME, LAP OR POSITION:**

Penalties expressed as loss of time, loss of completed laps, or loss of finishing position may be imposed.

**15.8 DISQUALIFICATION:**

Disqualification from competition may be imposed on an entrant, driver or car.

**15.9 PROBATION:**

Probation may restrict the driver to competing in his or her classification, restrict the driver to certain types or level of events, require the driver to attend perform Event related activities, or require the driver to attend an A.R.M.S. Driver's School. The driver shall be required to notify the Chief Steward at any event he or she participates in, prior to his or her first on course session, that he or she is on probation. Failure to do so is a violation of probation.(Section 15.9.4 and 18.1).

**15.9.1 TERM OF PROBATION:**

Probation may be for up to six (6) months, except that up to ten (10) months may be imposed between September 1st and September 30<sup>th</sup>, and nine (9) months may be imposed on or after October 1st, or a specified number of events.

**15.9.2 REVIEW OF PROBATION:**

Probation may be reviewed before its expiration by the Executive Steward or a committee of Stewards appointed by the Executive Steward.

**15.9.3 NOTICE OF PROBATION:**

A written notice shall be sent to the A.R.M.S. Regional Discipline Director, event organizing Clubs and Chief Series Steward within seven (7) days after imposing probation, or after modification of the

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terms or termination of probation before its expiration. Probation shall be recorded in the Drivers' License file.

**15.9.4 VIOLATION OF PROBATION:**

Failure to comply with the terms of probation may be the basis for future penalties by a First Court appointed for the purpose of hearing the violation, by a Court of Driver Review (See 19.0, Driver Review), or by the Stewards of the Meeting at the event where the violation occurs.

**15.10 SUSPENSION:**

Suspension of A.R.M.S. competition privileges may be imposed for up to six (6) months, except that up to ten (10) months may be imposed between September 1st and September 30th, and nine (9) months on October 1st or later. When a penalty of suspension is imposed, the driver shall immediately surrender his or her Competition License to the Chairman of the Court. The suspension does not begin until the driver delivers his or her license(s) to the A.R.M.S. If they are not surrendered to the Chairman of the Court, they shall be mailed to the Atlantic Region Motor Sports Inc. office with consequent delay in the start of the suspension. A member whose Competition License has been suspended shall not compete in any event using any other grade or form of License.

**15.11 LOSS OF ACCRUED POINTS:**

Loss of accrued points may be imposed.

**15.12 EXPULSION:**

Expulsion from the Atlantic Region Motor Sports Inc. may be imposed as provided by the Atlantic Region Motor Sports Inc. By-Laws.

**15.13 LOSS OF AWARD:**

Any entrant or driver who is disqualified in any competition shall

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automatically forfeit all rights to awards in that competition.

#### 15.14 AUTOMATIC PENALTIES:

15.14.1 Assessed penalties will accumulate points resulting in automatic probation or suspension based on the following: At the end of the appeal period, assessed penalties will be assigned the following points:

<u>INFRACTION</u>	<u>POINTS</u>
(1) Reprimand (Section 15.5)	1 point
(2) Fine (Sect 15.6) \$ 1 - \$ 99	0 points
\$ 100 - \$249	1 point
\$ 250 - and up	2 points
(3) Time (Section 15.7) or loss of lap(s)	3 points
(4) Probation of A.R.M.S. Competition Privileges (Section 15.9)	3 points
(5) Disqualification from competition (Section 15.8)	4 points
(6) Exclusion from competition	4 points
(7) Suspension of A.R.M.S. Competition Privileges (Section 15.10)	6 points
(8) Loss of accrued points (Sect 15.11)	7 points

15.14.2 When multiple penalties result, from a single action, only the most severe penalty will accumulate points. Accumulation of eleven (11) points in a consecutive three (3) year period will result in "probation of A.R.M.S. Competition Privileges" for six (6) months or six (6) events (to be determined by the Executive Steward). Accumulation of fifteen (15) point in a consecutive three (3) year period will result in "Suspension of ARMS Competition Privileges" for six (6) months. The imposition of either of the two (2) penalties, probation or suspension, will not result in additional points.

15.14.3 Any competitor who falsifies a Statement of Facts Affidavit will be subject to an automatic penalty consisting of disqualification from the event and a sixty (60) day license suspension. The imposition of this

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penalty may be appealed.

**15.15 AMENDMENT OF RESULTS:**

When an entrant or driver is disqualified, the Stewards of the Meeting shall advance the subsequent competitors in the finishing order and advise the Chief of Timing and Scoring of any consequent amendment to the results.

**15.16 PUBLICATION:**

The Atlantic Region Motor Sports Inc., shall have the right to publicize a notice that any person, organization, or car has been penalized and the reasons for the action. Any person or organization referred to in the notice shall have no right of action against the Atlantic Region Motor Sports Inc., or against any person for publishing such notice or for its contents.

**16.0 APPEALS:**

**16.1 RIGHT TO APPEAL:**

Any person, entrant, or organization named as a party to a protest or Chief Steward's Request of Action shall have the right to appeal any decision or penalty imposed by the Stewards of the Meeting. In addition, the Chief Steward of the event shall have the right to appeal any decision or penalty imposed.

**16.2 JURISDICTION:**

The Atlantic Region Motor Sports Inc., may appoint a Court of Appeals to render a final decision in any appeal permitted to be taken under this section. It is the intent of these provisions to provide for resolution of differences before a Court composed of individuals with individual and collective expertise in competition matters.

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**16.3 JURISDICTION OF ASN CANADA FIA:**

The right to appeal to ASN Canada FIA, shall be recognized only if the dispute in question arises from a Nationally recognized Series and is listed on the ASN calendar.

**16.3.1 FULL NATIONAL EVENTS:**

ASN Canada FIA, will establish Courts of Appeal to settle disputes arising from National Events organized in the Atlantic Territory.

**16.4 JURISDICTION OF THE FIA:**

A right to appeal to the FIA shall be recognized only if the dispute in question arises from a competition listed on the FIA calendar, and if the appeal is brought before the ASN Canada FIA.

**16.4.1 FULL INTERNATIONAL EVENTS:**

ASN Canada FIA, will establish Courts of Appeals to settle disputes arising from Full International Events organized in the Atlantic Territory.

**16.5 TAKING AN APPEAL:**

The appeal permitted hereunder shall be taken by filing a written notice of appeal with the A.R.M.S. Inc. The notice of appeal shall specify the party or parties making the appeal, shall designate the decision or portion thereof appealed from, shall explain the reason or reasons why the appeal should be heard, and if applicable, which part(s) of the GCR's are considered to have been enforced in a manner that was not fair or equitable to the appellant, shall be postmarked and /or delivered to the Atlantic Region Motor Sports within ten (10) days after the announcement of the appealed decision. The notice of appeal must include the appeal fee of \$100.00 payable to the Atlantic Region Motor Sports Inc. A minimum of \$25.00 of the appeal fee will be retained by the A.R.M.S. Inc., on all appeals that are filed. An appeal properly taken here under may be withdrawn, without penalty, by written notice to the A.R.M.S.Inc.,

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prior to the acceptance of the appeal by the Court of Appeals. Under the GCR - Section 16.9, the Court of Appeals, in their judgment, may decide that the penalty or other decision of the Stewards of the Meeting or other court appealed from should be nullified, mitigated, affirmed, increased, or a different penalty imposed, but it shall not order a competition to be rerun.

Fines imposed by the Stewards of the Meeting and/or suspended licenses shall be received by the Atlantic Region Motor Sports Inc., before an appeal will be heard.

**16.6 STAY OF DECISION:**

An appeal filed on a penalty rendered by the Stewards of the Meeting or other court involving either suspension of competition privileges or expulsion from the A.R.M.S. will permit the appellant to enter and compete in events until the Court of Appeals ruling is rendered. The results and awards from these events shall be considered Provisional until the Courts of Appeals ruling overturns the suspension or expulsion, at which time the Provisional Results and awards will be considered final and official. If the Court of Appeals ruling upholds the suspension or expulsion, the awards won in events while awaiting the ruling of the Court of Appeals will be considered null and void. On a dual event weekend, (i.e. double Club or Regional , or any combination permitted), a driver whose competition privileges are suspended on the preceding day, may, by filing a Notice of Appeal together with the appeal fee with the Executive Steward, be allowed to compete in the following day's events, and subsequent events until the Court of Appeals renders its ruling. This appeal cannot be withdrawn.

**16.7 DECISION TO HEAR:**

The Court of Appeals will make the final decision whether or not the appeal is well-founded and should be heard, and whether the appeal fee should be returned or forfeited. The decision shall be final, binding, and not subject to appeal. In reaching this decision, they may review the A.R.M.S. Observer's Report, the Notice of Appeal, and any other material they deem pertinent. The Officials designated

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**Hwy 1, Dayton, Yarmouth, N.S.**

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herein shall use every effort to make their final decision within seven (7) days of the receipt of the Notice of Appeal.

**16.8 CONVENING THE COURT OF APPEALS:**

The Court of Appeals will determine if they hear the appeal or if it will be reheard by another Appeal Court, which they will appoint. No member of either Court shall have taken part as a competitor of Official in the event concerning which the Courts will render a Decision, of shall have been directly or indirectly interested or involved in the matters under consideration.

**16.8.1 APPOINTED COURT OF APPEALS:**

The appointed Court of Appeals shall be convened with due consideration given to the geographic convenience of the parties to the appeal and the members of the Court. The appointment of the Court and written notice to the appellant or appellants shall occur within seven (7) days of the decision to hear the appeal. The Chairman of the Court will notify the Executive Steward and/or the Stewards of the Meeting, of the appeal.

**16.8.2 HEARING THE APPEAL:**

The appointed Court of Appeals shall use their best efforts to convene and hear the appeal no earlier than two (2) weeks from notice to the parties and no later than four (4) weeks from said notice. At a hearing all parties concerned shall be entitled to call witnesses and present, within reason, other evidence of their choice. They may present their case personally, be represented by an advocate, or may submit the case to the Court on documents without personal appearance. The Appeals Court may hear such evidence in such manner as it deems appropriate, relevant, and necessary under the circumstances.

**16.8.3 HEARING THE APPEAL/COURT:**

The Court of Appeals will use their best efforts to hear an appeal within a reasonable length of time from notice to all parties. Method



of hearing the Appeal will be determined by the Court of Appeals.

**16.9 JUDGMENT OF THE COURT OF APPEALS:**

After considering all material they deem relevant, the Court of Appeals shall meet privately, reach its decision, and prepare a written opinion. It may decide that the penalty or other decision of the Steward of the Meeting or other Court appealed from should be nullified, mitigated, affirmed, increased, or a different penalty imposed, but shall not order a competition to be rerun. The court shall order the return or forfeiture of appeal fees or of Stay Bonds. The Court shall direct the deposition or protest fees and tear down bonds, if any, in those cases where the original Court's decision is nullified.

**16.10 PUBLICATION AND EFFECT OF DECISION:**

The A.R.M.S. Inc., will distribute all final Court of Appeal decisions, including the names of all parties concerned. Persons, entrants, or organizations referred to in each said decision shall have no right of action against A.R.M.S. or any person publishing such notice, and shall agree that said decision shall be final and binding. A.R.M.S. will use its best efforts to publish said final decisions as soon as possible after finalization. A copy of the final decision of the Court of Appeals shall be sent to all parties of the appeal as soon as possible after the decision becomes final. Any penalty imposed by the Court of Appeals shall be effective immediately as stated in its decision. Penalties involving time, disqualification, suspension, or loss of points shall be made effective from the date of the conclusion of the event involved.

**16.11 BAD FAITH APPEALS:**

If the Court determines that the appellant has acted in bad faith or in a vexatious manner, it may deem such conduct a breach of the GCR's and impose an additional penalty for said breach.

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## 17.0 DUTIES & POWERS

### 17.1 MAINTENANCE OF ORDER:

The Chief Steward shall:

- (1) Keep order in conjunction with the authorities who are policing the event and who are responsible for public safety.
- (2) Exclude from the event any entrant, driver, crew, official, worker or A.R.M.S. member who is guilty of misbehavior.
- (3) Exclude from participation a worker or official who is ineligible for the position to which he or she is assigned or who the Chief Steward determines is incapable of carrying out his or her duties.
- (4) Order removal from the premises any person who refuses to obey the order of any responsible official or of a public safety officer.
- (5) Prohibit from competing any driver or car considered dangerous.
- (6) Convey to the Stewards of the Meeting a report dealing with the misbehavior of any entrant or driver. This may be accompanied by a Request for Action. (Section 17.3).

### 17.2 POWERS OF THE CHIEF STEWARD:

The Chief Steward may:

- (1) Disqualify an ineligible driver or car.
- (2) Remove technical inspection stickers.
- (3) Disallow qualifying times.
- (4) Direct cars to be impounded at any time during the event.
- (5) At his or her discretion and without necessarily receiving a request to do so, order disassembly and inspection of any entered car to ascertain its conformance with the GCR's. If the car is found to be eligible for the competition in which it is entered, the Atlantic Region Motor Sports Inc., shall stand the expense of the disassembly, inspection, and reassembly. If it is not eligible, the entrant shall bear the expense, in addition to whatever penalties the Steward of the Meeting may direct

**NARDOCCHIO'S HYUNDAI**  
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after receiving the Chief Steward's Report.

- (6) Convey to the Steward of the Meeting a report of any breach of the GCR's or Supplementary Regulations. This report may be accompanied by a Request of Action. (Section 17.3).
- (7) Receive protests from entrants or drivers and immediately transmit them to the Stewards of the Meeting.
- (8) Impose a fine of up to \$100.00.
- (9) Prevent an ineligible car from competing.
- (10) Reprimand (Section 15.5).
- (11) Impose time, lap, or position penalty. (Section 15.7).

### 17.3 REQUEST FOR ACTION:

The Chief Steward may submit to the Steward of the Meeting a Request for Action describing a suspected breach of the GCR's or the Supplementary Regulations. The Steward of the Meeting shall act on this request in the same manner as they would act on a protest, and shall have the same authority to levy penalties as in a protest.

### 18.0 PROBATION LETTER AS A LICENSE:

- (1) When probation is given a penalty, the Chairman of the Stewards of the Meeting, shall issue a Probation Letter to the competitor. The Chairman of the Stewards of the Meeting shall confiscate the competition license and enclose the license and a copy of the Probation Letter with the Observer's Report.
- (2) The competitor shall use the Probation Letter as his or her license until the terms of the probation have been met completely.
- (3) Upon completion of the terms of probation, the competitor shall send the completed Probation Letter to the Atlantic Region Motor Sport Inc., office via personal delivery or registered mail for the return of his or her license.

### 19.0 DRIVER OR OFFICIAL REVIEW:

The Executive Steward is authorized to convene a court to

**O'REGAN'S HYUNDAI**  
219 North St., Bridgewater, N.S. A.R.M.S. - 1998 Protests & Appeals

review a driver's or officials conduct, car legality, competition record, and / or other matters. Such a court shall have the power to invoke penalties as specified in Section 15, and may also revoke licenses, or may return the driver to school. The driver or official shall have the right to appeal this decision as specified in Section 16.

## **20.0 DEFINITIONS:**

### **20.1 EXECUTIVE STEWARD:**

The individual appointed by the Board of Directors for the Atlantic Region Motor Sports Inc., to supervise and administer A.R.M.S. policies and standards for designated classes of events and to train and advise A.R.M.S. Stewards. The Executive Steward shall assign Stewards for all A.R.M.S. Regional Competition events.

### **20.2 CAR (AUTOMOBILE):**

A self-propelled land vehicle running on four wheels, not in a line, which shall be in contact with the ground. At least two (2) wheels shall affect the steering and at least two (2) wheels affecting the propulsion.

### **20.3 CLASS:**

A group of cars, classified according to the provisions of the General Competition Rules.

### **20.4 CATEGORY:**

A combination of similar classes of cars.

### **20.5 COMPETITION:**

A contest in which a car takes part and which is of a competitive nature or is given a competitive nature by publication of results. Practice and Qualifying for starting positions are included in the term "Competition". A competition may also be referred to as a "race", "rally", or "solo event".

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**20.6 EVENT:**

A entire program of competitions.

**20.7 SPEED EVENT:**

Competition in which more than one car is on the course at a time, vehicles are driven at maximum speeds, and a high level of driver and vehicle safety equipment is essential.

**20.8 NON-SPEED EVENT:**

An event in which the hazards do not exceed those encountered in legal travel on public roads, and which therefore do not require drivers to hold Competition Licenses.

**20.9 SANCTION:**

The Documentary Authority, granted by the Atlantic Region Motor Sports Inc., to organize and hold a competition.

**20.10 GENERAL COMPETITION RULES (G.C.R.):**

Regulations which define the ground rules for competition.

**20.11 SUPPLEMENTARY REGULATIONS:**

Regulations which are consistent with the G.C.R.'s and which define the additional ground rules of competition for a specific event.

The Supplementary Regulations shall establish for competitors and officials the specific conditions for an event. The A.R.M.S. Discipline Directors must approve all regulations different than those of the G.C.R.'s prior to a Sanction being issued. They shall contain the following information:

- (1) The names, location, dates, nature and classification of the event.

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- (2) The A.R.M.S. Permit Number issued in conjunction with the Sanctioning of the event.
- (3) The name(s) and address(s) of the organizer(s).
- (4) A complete description of the proposed event, including the length of individual competitions, and the classes of cars eligible.
- (5) Schedules and locations of activities, inspections, meetings and competitions.
- (6) The name and address of the Registrar or other person to whom the entry is to be sent, opening date and closing date for receipt of entries, when entries will be accepted, and amount of entry fee.
- (7) The names of the Chief Steward and assistant Stewards of the Event.
- (8) The name of the Chief of Scoring and Timing.
- (9) The manner of determining results and awarding trophies and prizes.
- (10) The name of the Chief Technical Inspector.
- (11) Hours during the event when official scales (if applicable) shall be available for competitors to check the weight of their cars.
- (12) All other information necessary for the proper conduct of the event, not already included in the G.C.R.'s.

#### **CHANGES TO THE SUPPLEMENTARY REGULATIONS:**

No changes shall be made to the Supplementary Regulations, except for the schedule, after the beginning of the period for receiving entries unless unanimous agreement is given by all affected competitors already entered, or the Stewards of the Meeting so decide



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for reasons of safety or forces beyond their control. All schedule changes shall be approved by the Steward of the Meeting.

**20.12 DRIVER:**

A person named as the driver of a car in any competition. Also, any person who drives a race car in any competition whether or not properly registered, entered, or named as the driver.

**20.13 ENTRANT:**

A person or organization whose entry is accepted for any competition. The signature on an entry form shall be that of an individual A.R.M.S. member.

**20.14 PARTICIPANT:**

Any person signing the "official waiver of liability" including all organizers, entrants, drivers, crew, officials, members, workers, and all guests of the above and any A.R.M.S. member in attendance is a participant.

**21.0 CONDUCT:**

**21.1 CONFLICT OF INTEREST:**

(A) The Chief Steward, Series Chief Steward, Assistant Chief Stewards, and The Stewards of the Meet shall have no financial, employment, business interest or significant personal relationship with the organizer or sponsor of an event. Membership or holding an office in another Canadian Territory shall not be deemed to be a conflict of interest in the absence of other evidence.

(B) It is recommended that a Steward not operate a session in which a family member, co-worker, or any person with whom there is significant business, financial, or personal relationship is an entrant or driver.

(C) A Steward of the Meet shall not be involved in a hearing

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involving a family member, co-worker, or any person with whom there is significant business, financial, or personal relationship.

**21.2 STANDARDS OF BEHAVIOR:**

Every Official shall conduct himself/herself according to the highest standard of behaviour. Failure to do so may result in loss of official appointment for the event, or other penalty as determined by the SOM.

**21.3 LOSS OF LICENSE:**

(A) Any license holder (whose actions are deemed by ARMS Competition Board to be contrary to the best interest of ARMS) may have his or her license revoked, either for a period specified by the Competition Board, or permanently. This action is appealable to the Board of Directors.

(B) Any license holder may be denied renewal of license for lack of participation, conduct in violation of the GCR, or acting contrary to the best interest of ARMS.

(C) Any license holder may have his or her license down graded at any time for lack of participation, conduct in violation of the GCR, or acting contrary to the best interest of ARMS, or inability to perform satisfactorily at the current license grade.

**21.4 ALCOHOL / NARCOTICS / DANGEROUS DRUGS:**

Consumption of alcoholic beverages by an official is expressly prohibited until all practice, qualifying, and racing activities are over for the day, and thereafter until the individual official's duties have been completed for the day. Any official who has consumed and alcoholic beverages on the day of the event contrary to the above shall not participate, and may be excluded by the Chief Steward or Chief of the offender's specialty, and may be penalized as provided in Section 15 (Penalties). Consumption of unauthorized controlled/dangerous substances is prohibited at any time.

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**21.5 MEDICAL CONDITION AFFECTING FITNESS OF OFFICIAL OR WORKER:**

Any known medical condition - including pregnancy - which could affect the ability to perform some or all of the assigned duties of the specialty shall require a request for reassignment based on the recommendations of the person's physician. Some medical conditions - including pregnancy - may require reassignment to non-hazardous areas only.

**21.6 PLURALITY OF DUTIES:**

The same person may hold more than one official position. The Chief Steward, Series Chief Steward, and Chairman SOM shall have no plurality of duties.

**21.7 SEPARATION OF DUTIES:**

An official shall not perform duties other than those clearly attached to his or her appointment (s).

**21.8 STEWARDS OF THE MEETING (SOM):**

The SOM shall be responsible only to ARMS, and they shall have the duty of enforcing compliance with the GCR and Supplementary Regulations. They shall act primarily in a judicial capacity, and therefore shall not incur any responsibility for the organization or execution of an event.

**21.9 POWERS OF THE SOM:**

- (1) Settle any dispute within the administrative functions, or protest arising from an event, subject to the rights of appeal provided by the GCR.
- (2) Hear and act on Requests for Action from the Chief Steward. (Section 17.3).
- (3) Impose any penalty permitted by the GCR and Supplementary

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Regulations. (See Section 15 - Penalties).

- (4) Appoint substitutes to replace any Steward or Official not able to perform their duties. This power shall be used by the remaining Steward or Stewards to ensure that there are always at least two (2) SOM.
- (5) Modify the Supplementary Regulations.
- (6) Alter the schedule.
- (7) Modify the position of the starting or finishing lines where necessary to ensure the safety of drivers and spectators.
- (8) Amend the results of a competition:
  - (a) Based on a correction or error by the Chief Timer and Scorer
  - (b) To take into account a time, distance, or lap penalty against a competitor
  - (c) To change the sequence of finishing position in case a competitor is disqualified.
- (9) Postpone a competition for reasons of safety or forces beyond their control.

**21.10 CHAIRPERSON OF THE SOM:**

One of the SOM shall be appointed Chairperson of the SOM for the event. He or she shall not be a member of the organizing Club at National Events, and should not be a for Driver's Schools/Regional events.

**21.11 OBSERVER'S REPORT:**

As soon as practical after the conclusion of an event (not later than 10 days), the Chairperson of the SOM shall forward to the ARMS Chief

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Executive Steward a report to include:

- (1) Details of all protest (s), including protest fee (s) and Actions taken
- (2) Penalties imposed - including reprimands and suspensions to be noted in the driver's file.
- (3) Notice (s) of intention to appeal and appeals, including appeal fee (s).
- (4) Fine (s) collected.
- (5) Full and complete details of any accidents.
- (6) Official results of all competitors
- (7) General comments and recommendations of the SOM on the organization and conduct of the event.

**21.12 CHIEF STEWARD / SERIES CHIEF STEWARD:**

The Chief Steward is the executive responsible for the general conduct of the event in accordance with the GCR and the Supplementary Regulations. He or she shall have interchangeable powers and the duties. "Series Chief Steward" shall be substituted for "Chief Steward" in these rules when a Series Chief Steward is carrying out a Chief Steward's duties.

**21.13 EXECUTION OF THE EVENT:**

The Chief Steward shall:

- (1) Execute the program of competitions and other activities safely by controlling drivers, their cars, the Officials, and workers from the commencement of activities until the time for protests from the last competition has expired.

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- (2) Ascertain whether Officials are at their posts and report the absence of any of them to the SOM.
- (3) Collect all reports and other information for the determination of results.
- (4) Prepare any information required to enable the Chairperson of the SOM to prepare the report.
- (5) Authorize the change of driver or car.
- (6) Convey to the SOM any proposal to modify the schedule of competitions.
- (7) Prevent an ineligible driver from competing.

#### 21.14 MAINTENANCE OF ORDER:

The Chief Steward shall:

- (1) Keep order in conjunction with the authorities who are policing the event and who are responsible for public safety.
- (2) Exclude from the event any entrant, driver, crew, official, worker, or ARMS member who is guilty of misbehaviour.
- (3) Exclude from participation a worker or official who is ineligible for the position to which he or she is assigned or who the Chief Steward determines is incapable of carrying out his or her duties.
- (4) Order removal from the premises any person who refuses to obey the order of any responsible Official or of a public safety officer.
- (5) Prohibit from competing any driver or car considered dangerous.
- (6) Convey to the SOM a report dealing with the misbehaviour of

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any entrant or driver. This may be accomplished by a Request for Action. (Section 17.3)

- (7) Receive protests from entrants, drivers or officials and immediately transmit them to the SOM.

#### 21.15 POWERS OF THE CHIEF STEWARD:

The Chief Steward may:

- (1) Disqualify an ineligible driver or car.
- (2) Remove technical inspection stickers
- (3) Disallow qualifying times.
- (4) Direct cars to be impounded at any time during the event.
- (5) At his or her discretion and without necessarily receiving a request to do so, order disassembly and inspection of any entered car to ascertain its conformance with the GCR's. If the car is found to be eligible for the competition in which it is entered, the race organizers shall be responsible for the expense of the disassembly, inspection, and reassembly. If it is not eligible, the entrant shall bear the expenses, in addition to whatever penalties the SOM may direct after receiving the Chief Steward's report.
- (6) Convey to the SOM a report of any breach of the GCR or Supplementary Regulations. This report may be accompanied by a Request for Action (Section 17.3)
- (7) Impose a fine of up to \$100.00
- (8) Prevent an ineligible car from competing.
- (9) Reprimand (Section 15.5)
- (10) Impose a time, lap, or position penalty. (Section 15.7)

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**NOTE: Penalties imposed by the Chief Steward shall not incur automatic penalty points.**

**21.16 REQUEST FOR ACTION:**

The Chief Steward may submit to the SOM a Request for Action describing a suspected breach of the GCR or the Supplementary Regulations. The SOM shall act on this request in the same manner as they would act on a protest, and shall have the same authority to levy penalties as in a protest.

**21.17 RACE CHAIRPERSON:**

The Race Chairperson shall be responsible for the organization of an event. Specifically, he or she shall:

- (1) Determine with the promoters, organizers, and the Chief Steward the schedule and all other activities to occur during the event, draft the Supplementary Regulations, and see that all Entry Forms are printed and mailed.
- (2) Arrange that insurance conforming to ARMS requirements is procured, and that a copy of the Insurance Certificate is presented to the Chairperson of the SOM and the Chief Steward prior to the commencement of the event.
- (3) See that qualified Officials and Workers are appointed and that they are on station.
- (4) Arrange for the use of the course and all necessary facilities.
- (5) Arrange for emergency vehicles and equipment.
- (6) Arrange for trophies and their proper distribution.
- (7) Arrange for receipt and acknowledgment of entries.
- (8) Arrange for proper registration of all entries.
- (9) Arrange for the distribution of Official Results to the SOM

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entrants, the organizers, and ARMS.

- (10) Obtain the necessary equipment to conduct all post-race and pre-race inspections as required at all ARMS race events.
- (11) Arrange, in conjunction with the Chief Race Medical Official, the required equipment and facilities.

**21.18 CHIEF STARTER:**

The Chief Starter shall operate directly under the supervision of the Chief Steward. The Chief Starter gives directions to competing drivers by flag, hand and body signals prescribed by the GCR's with respect to starting, suspending and ending a race.

**21.19 CHIEF COURSE MARSHALL:**

The Chief Course Marshall shall be responsible for final preparation and maintenance of the course and other related duties assigned to him or her by the Chief Steward.

**21.20 CHIEF TIMER AND SCORER:**

The Chief Time and Scorer shall be responsible for the accurate timing and scoring of the event in accordance with the GCR. Specifically, he or she shall:

- (1) Recruit, train assign and supervise qualified personnel to time and score the event.
- (2) Furnish the Chief Steward and the SOM any times and results that they may request.
- (3) Maintain records of official times and lap charts for all competing cars.
- (4) Compile and publish the Official Results of all competitors, submit copies of completed Official Results to the Race Chairman for distribution to the SOM, the organizers, and

ARMS, and submit complete Official Results within seven (7) days to the Divisional Pointskeeper.

- (5) At spectator events, work closely with the Press Officers, press, and other media, as well as with circuit, radio, and/or television announcers, providing qualifying information, results, and other data requested, as quickly as possible.

**21.21 CHIEF/SERIES CHIEF TECHNICAL AND SAFETY INSPECTOR (SCRUTINEER):**

The Chief Technical and Safety Inspector or Series Technical and Safety Inspector shall ascertain that the cars comply with the GCR, Specification Books, and Supplementary Regulations. Specifically, he or she shall:

- (1) Approve cars that comply with all safety regulations.
- (2) Conduct inspections of cars at the request of the Chief Steward.
- (3) Report to the Chief Steward any cars that he or shee finds do not conform with requirements of the GCR or the appropriate Specification Books.

**21.22 CHIEF MEDICAL OFFICIAL:**

The Chief Medical Official shall be responsible, in conjunction with the Race Chairman and Assistant Chief Steward-Safety or Emergency Services Chief, for staffing and equipping the medical organization.

**21.23 DRIVER OBSERVERS:**

The Observers shall occupy posts along the course assigned to them by the Chief Steward, or by the Chief Observer if one is nominated. As soon as a competition is started, each Observer shall be under the orders of the Chief Steward, to whom he or she shall report all incidents which occur on the section of the course for which he or she is responsible. At the conclusion of each competition, Observers



shall give the Chief Steward a written report of all incidents or accidents witnessed by them.

**21.24 PRESS OFFICER:**

The Press Officer advises the Officials on press information and acts as liaison with the promoter's press director, if any. Chief Officials and SOM shall cooperate with the Press Officer in carrying out his or her responsibility to apprise the press on matters of public interest.

**21.25 CHIEF REGISTRAR:**

The Chief Registrar shall be responsible for accepting, certifying, and processing all entries and credentials for drivers, crew, and Officials and the posting of all required signs/placards in the registration area.

**21.26 ASSISTANT CHIEF STEWARD-SAFETY:**

The Assistant Chief Steward-Safety is responsible to the Chief Steward, and shall be responsible:

- (1) To investigate accidents and forward the originals of all reports including original releases to the Executive Chief Steward and Director of Racing for ARMS.
- (2) To notify the Executive Chief Stewart and Director of Racing for ARMS the same day via telephone, of any accident which involves serious injury to a participant or any injury to a spectator.
- (3) To mail copies of the material sent to the Executive Chief Steward and Director of Racing for ARMS to the offices of Atlantic Region Motor Sports Inc.
- (4) During the event, to report to the Chief Steward any hazards which require further investigation or action.
- (5) To perform such duties as are delegated by the Chief Steward.
- (6) If no Emergency Services Chief is assigned, to supervise

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Emergency Services personnel and equipment in conjunction with the Race Chairman (pre-event) and the Chief Medical Officer (during the event).

**21.27 JUDGES:**

Judges are optional and may perform one or more of following duties:

- (1) Starting Judges shall point out to the Chief Steward any false starts immediately after they occur. Finishing Judges or Judge of Fact declare the order in which cars cross the finish line. Judges of the Fact shall decide whether a car has touched or passed a given line or shall rule on other facts of the same type provided in the Supplementary Regulations.
- (2) A protest shall not be made against the decision of a Judge.
- (3) An error by a Judge may be corrected by him or her with the approval of the SOM.

**21.28 COMPLIANCE CHECKING CREW:**

When assigned to an event by the Club Racing Department, all members of this crew will have the official status of an Assistant Chief Steward. Their sole responsibility is to advise the Chief Steward of cars not in compliance with the GCR and/or the Supplemental Regulations for the event. The Chief Steward may delegate all or any part of his powers under 17.2 to them.

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