



# 2023 Rule Book

## **BY-LAWS**

## **RULE 1**

**A.** All meetings will be conducted in accordance with the Roberts Rules of Law and Order. However, motions passed by the body, or previous practice, shall take precedence over Roberts Rules.

## **RULE 2**

A. Alteration, addition, or deletion from By-Laws or Articles of Incorporation shall be made effective only at the third General Membership Meeting following the General Membership Meeting at which such change is proposed and approved by the majority present. A vote of two-thirds of those present at the third General Membership Meeting following the General Membership Meeting at which such motion was made shall be necessary to effect an alteration, addition, or deletion from the By-Laws or the Articles of Incorporation.

## RULE 3 Alteration, addition, or deletion from Contest Rules can be done as follows:

- A. Contest rules, other than engine and chassis specifications, may be altered at any General Membership Meeting upon a majority vote or by the action of the Board of Directors.
- **B.** Engine and chassis specifications must be brought up at any Board Meeting or General Membership Meeting. The specifications must be published in the meeting notice prior to the next regularly scheduled General Membership Meeting that the motion is to be voted upon. Engine and chassis specifications for the year must be voted on or before January of the year to be run. A motion for engine and chassis specification changes can only be voted on one time per year.
- **C.** Cars present at 50% of the races the previous race season will be allowed to vote on engine and chassis specifications. Dues must be paid in full to vote.
- **D.** Any engine that did not run at least two races the previous year in BMARA can be changed effective the following season.
- **E.** A proposal for an engine size reduction will be considered on any engine having run at least two races the previous season. The engine reduction cannot take place until one complete racing season after the proposal is accepted. General Membership Meetings will be held at a location in Wisconsin determined by the Officers and Board of Directors, on the second Tuesday of each month EXCEPT May, June, July, and August.

## **RULE 4**

A. Twenty (20) members shall constitute a quorum for a General Membership Meeting.

## **RULE 5**

A. Board of Directors Meetings shall be held at the call of the President or any three members of the board.

A. Five official members of the Board of Directors shall constitute a quorum for a Board Meeting. Any member may attend any Board meeting but may not enter into the discussion without the approval of the Board.

## **RULE 7 Election and Appointment Procedure**

- A. Officers and directors shall be elected at the November General Membership Meeting and will take office before the opening of new business at the December General Membership Meeting. Only official ballots prepared by the Secretary shall be used for the election of officers and directors.
- **B.** Track officials shall apply in writing each spring for such positions as necessary for the proper running of race meets. The Board of Directors will pass on such applications and the acceptance of such applications will constitute a working contract for that season. Track officials shall be excused from annual dues for that year.
- C. The President may appoint other officials as deemed necessary.
- **D.** Official pay at the race meets will be as follows:

1.	Director of Competition	\$100.00
2.	Flagman	\$80.00
3.	Radio	\$50.00
4.	Tech	\$50.00
5.	Media	\$50.00
6.	Pit Steward	\$50.00
7.	Timer & Score	\$50.00
8.	Assistant Score	\$50.00

E. The Board of Directors election will have a primary vote to eliminate all but 2 times the number of openings (alternate included) and then a final election for the open positions. In the primary vote, each member would vote for 2 times the openings including the alternate and, for the final election, each member would vote for (1 time the openings) less the alternate. The alternate would be the runner-up.

## **RULE 8**

A. Special meetings may be called when it is deemed advisable by the call of the President or any three members of the Board of Directors.

## **RULE 9**

A. All officers, directors, & members shall be notified at least 24 hours in advance of future meetings.

A. Membership in the Association shall be open to all persons 16 years of age by the end of the calendar year and older. Any persons between the ages of 16 by the end of the calendar year and 18 must have a written and signed approval of his or her parents or legal guardian. Any owner, driver, mechanic, pit crew member or racing fan may become a member for the annual fee and is to be governed under the by-laws and other rules of the association.

## **RULE 11**

A. Any member, at any General Membership Meeting, may submit names of candidates for membership. They shall not be voted on and accepted until approved by the Board of Directors.

## **RULE 12**

A. Upon payment of dues, an accepted candidate becomes a member and a stockholder in the Association; and thereby accepts the responsibility of a member and stockholder and agrees to abide by and be governed by the association by-laws, rules, and general practices. All out-of-state drivers and car owners who are not members of any other recognized racing association shall be required to pay our initiation or car registration fees.

## **RULE 13**

A. The 2023 dues are \$200.00 for Owner/Driver with points in both (includes excess insurance), \$150.00 for Driver with Driver Points only, \$150.00 for Owner with Owner points only, \$125.00 for active voting members (includes excess insurance), and \$60.00 for associate voting members, \$30.00 associate non-voting member (excess insurance available for additional \$75.00 for members or \$105.00 for drivers). If not paid by the first race of the year, the dues will be \$10.00 extra for late payment. No Points until your membership is paid.

#### **RULE 14**

A. Membership cards will be issued only on completion of payment of dues for the calendar year from January 1st until December 31<sup>st</sup>.

## **RULE 15**

A. Annual dues of continuing members shall be paid no later than January 31st of each year.

#### **RULE 16**

A. Members in military service shall be carried as paid-up members.

A. The Sergeant at Arms may demand that members show their membership cards or other evidence of membership before admitting them to a meeting.

## **RULE 18**

A. Any members conducting themselves in an unruly manner or who is intoxicated may be expelled or barred from any association meeting or activity. Any officer or member of the association may be suspended or fined for "Just Cause". The President or the Board of Directors may determine "Just Cause". "Just Cause" can be reviewed by a majority vote at a General Membership Meeting at which the defendant has been notified to be present. If a fine is assessed, the defendant shall not participate in association activities until that fine is paid. If the defendant is suspended, that person shall surrender all association membership cards, stock certificates, or other association properties in their possession or care.

## **OFFICERS**

## **RULE 19**

A. The officers of the association are President, Vice President, Secretary, Treasurer, and Sergeant--at-Arms. Their terms of office shall be one year or until a successor is elected. In order to be eligible for the office of President of the Badger Midget Auto Racing Association, the candidate must have served as an officer or member of the Board of Directors.

## **RULE 20**

A. The principal duties of the President are to preside at all General Membership Meetings and all Board of Directors Meetings, to sign all deeds, instruments, contracts, and papers necessary or convenient to the transaction of corporation business, to arrange for and conduct race meets and to perform such other duties as are usual for a President or executive officer. The President, when their term of office expires, will be eligible to serve on the Board of Directors for the upcoming year.

## **RULE 21**

**A.** The principal duties of the Vice President are to discharge the duties of the President in the event of the absence or disability of the latter.

#### RULE 22 The principal duties of the Secretary include:

- **A.** To keep a record of proceedings of all General Membership and Board of Directors Meetings.
- B. To keep systematically and safely all books, records, and documents of the association.
- C. To keep an inventory of all association properties.
- **D.** To execute Association correspondence as required.

- **E.** To receive all monies paid to the association, keep complete and systematic records, and turn all monies over to the Treasurer.
- F. To keep the Sergeant-at-Arms informed of current and dropped members.
- **G.** To issue Car Numbers, TPs, and membership cards.
- H. To record point standings.
- I. To handle contest monies.
- J. To instruct the Treasurer on proper disbursement of association monies.
- K. To perform other necessary secretarial duties.
- L. The Secretary shall receive two dollars (\$2.00) for each member in good standing and five dollars (\$5.00) for each sanctioned race meet completed. The Secretary can get an advance payment of twenty dollars (\$20.00) for each month to be deducted from the above schedule at the end of the year.

**A.** The principal duties of the Treasurer are to receive monies from the Secretary and give them a receipt for it, to payout the monies upon receipt of the proper order, and to keep a complete and systematic record of all monies received and disbursed.

## **RULE 24**

A. The Treasurer shall receive five dollars (\$5.00) for each sanctioned race meet.

## **RULE 25**

**A.** The principal duties of the Sergeant-at-Arms are to ensure only members are admitted to the meetings, to assist the President in preserving order, and to conduct balloting.

## **RULE 26**

**A.** The principal duty of the directors is to attend the Board of Directors Meetings. The Board of Directors shall transact and authorize the transaction of such association business, as they consider necessary or expedient for the welfare of the association.

## **RULE 27**

- A. The Board of Directors shall consist of the President, Vice President, Secretary, Treasurer, Sergeantat-Arms, and seven (7) Directors. The flagman, scorer, timer, and director of competition may attend the Board meetings as ex-members.
- **B.** Directors' terms of office are three (3) years.
- **C.** Two Directors shall be elected at each annual election to fill the positions vacated by the two whose terms have expired. The election process shall fill other Board vacancies.
- D. Directors shall be excused from payment of annual dues if they have attended three-fourths of all Board of Directors meetings.

## **RULE 28 - GENERAL**

- A. Rules may be established for a special situation by a regular meeting of the Board of Directors, or by a majority of board members present at a race.
- B. The Director of Competition will be appointed by the President but must be approved by the Board of Directors. The Director of Competition will have full authority in establishing and enforcing competition rules, as well as conducting the race event. The Director of Competition shall not be an active car owner or driver.
- C. MANDATORY MEETING OF DRIVERS, CAR REPRESENTATIVES, AND OFFICIALS
  - Prior to each race, the Director of Competition shall conduct a meeting of the drivers and car representatives for the discussion and interpretation of the rules and any specific regulations applying to that race. All drivers are required to attend, and it is the driver's responsibility to do so. Any driver failing to attend may be penalized by the BMARA officials (including disqualification) and shall be charged with knowledge of the matters discussed at such meetings as if they had been present.
- **D.** Flag Signals: The starter shall use flag signals according to the following code:
  - 1. Green Flag: Start Course is clear
  - 2. Yellow Flag: Caution reduce speed immediately and maintain your position (See Rule 36)
  - 3. Red Flag: Stop Race is halted (See Rule 37)
  - 4. Black Flag: Pull off the racetrack with caution to the designated area. The car will not be scored if it does not stop on the next lap. Any car not maintaining a competitive speed, driving irregularly, suspected of leaking fluids, or suspected of being unsafe may be black-flagged from the track.
  - 5. Royal Blue with Yellow Diagonal Stripe: A lapping driver is attempting a pass; the lapped car is to hold a position in their line and let the faster car pass.
  - 6. White Flag: Indicates one lap remaining. In the event of a yellow or red flag, the lineup will revert to the previous completed green flag lap. The restart will be a green, white, checkered flag.
  - 7. Checkered Flag: Indicates Race Completion. A race is complete when the checkered flag is displayed regardless of distance.

## **RULE 29 – DRIVERS**

- A. All drivers must use their own legal name in all racing events.
- B. To drive a racecar in a BMARA race meet, a person must be at least 16 years of age within the calendar year. Drivers aged 15, 16, & 17 years of age must, after receiving approval from the BMARA Board of Directors to compete, have on file with BMARA a notarized waiver as required by insurance company requirements.
- **C.** The Flagman or Director of Competition shall have the right to prohibit the participation of any driver or car, which may be determined as unfit or unsafe.

- D. It is recommended that all drivers have an annual doctor's report stating that they are in good physical condition to be submitted prior to racing each year. Any permit or license requiring an annual physical will be acceptable. Physicals cannot be more than one year old from the day of the last race of the year.
- **E.** Any driver seriously injured at a race and/or taken to the hospital shall need a medical release before being allowed to compete in future events.
- F. Any driver injured in an accident or involved in a flip (upside down) must be evaluated by the onsite medical Personnel before competing in another event.
- **G.** All drivers without previous experience (3 races at any club) in a midget series must register at their first race with BMARA as a rookie candidate. Cars driven by rookie drivers must have bright yellow paint or tape on the rear of the roll cage and will start at the rear of any event run until the Director of Competition determines they are ready for competition. The tape or paint must be clearly visible from the rear of the car and must remain on the car for the duration of their rookie season.
- **H.** All drivers must wear the approved racing apparel at all times they are in their car on the race track and when starting cars in the pit area, when permitted.
  - 1. HELMETS: Full Face Helmets must be worn and will be subject to inspections. Helmets must meet the minimum requirements of Snell 2020 or SFI Foundation Specification 31.1 and be labeled as such.
  - 2. UNIFORMS: All drivers must wear a fire-resistant head sock/helmet skirt, underwear, socks, shoes, gloves, and a one-piece uniform fitted snugly around the neck, wrists, and ankles. These items must meet SFI Foundation Specifications 3.2A and 3.3 and be labeled as such.
  - 3. DENTURES: All drivers will remove dentures before starting an event.
  - 4. ARM RESTRAINTS: Arm restraints are mandatory. Restraints must meet SFI Foundation Specification 3.3 and be labeled as such.
  - 5. HEAD AND NECK RESTRAINT: The use of a head and neck restraint system certified as meeting SFI Foundation Specification 38.1 and labeled as such.

## **RULE 30 - INSURANCE**

- A. No benefits shall be awarded to any person for injury, unemployment, or death except at regularly sanctioned association race meets nor shall they receive benefits if the injury occurs before permission is granted to warm up at said race meet or as per insurance coverage. All such benefits shall be limited to the existing contract or insurance coverage.
- **B.** In case a promoter carries the insurance coverage, the association may, by Board of Director action, underwrite the insurance coverage to our limits for our members where payment of claims is so delayed as to constitute a hardship. Such advances are to be promptly repaid to the association by the member on receipt of claim payments from the primary coverage.

## **RULE 31 - PILL DRAW - TIME TRIALS**

- A. A "Pill" will be drawn at a sign-in location before the start of the driver's meeting.
- **B.** The "Pill Draw" will close at the start of the driver's meeting and any additional cars will be put at the tail of the "Non-Qualifier" race or qualifying line.
- **C.** The "Pill" designates which "Hot Lap/Qualifying" session a car will take part in.
- D. If time limitations do not allow for time trials, all cars will be put in "Heat" races from the pill draw.

#### E. Group qualifying

- 1. Each "Qualifying" session must have a minimum of two fast laps. If the laps are not achieved, we will revert to the pill draw procedure. (*i.e.*, red/yellow flag conditions occurring)
- 2. Any cars that spin out and cannot restart or do not get two laps, their time will stand.
- 3. The race director has final discretion for allowing times.

#### F. Single Car Qualifying - 2 consecutive laps

- 1. Spin-Outs
  - a. Forfeit the lap that the spin-out occurs in.
  - b. If the driver spins out in both attempts, they must go to the end of the qualifying line for a final attempt to qualify with one lap only.
- 2. Cars not ready to take their turn for their time trial attempt will go to the end of the qualifying line and get one lap only.
- 3. No cars will be allowed to qualify after the start of the Trophy Dash.
- 4. If time limitations do not allow for time trials, all cars will be put in heat races by drawing for positions and the number of heats will be increased if necessary.
- 5. There will be no work done to the track surface during qualifying.
- 6. Timer failure is the only reason for the re-time trial.
- 7. A driver may change cars at any time but, if driving a car other than the car they qualified, they must start at the rear of the field regardless of the time trial position.
- 8. An exception to the above rule will be observed if a car engine blows during time trials. They may time another car that has not previously been timed and take their time trial position governed by (a) of the time trial rules above. If the car they switch to has already had its full-time trial laps, they must start at the rear of the field.
- 9. If a driver leaves their original car, they may not return to that car.
- 10. After a car has taken its prescribed time trial laps, it cannot qualify again.
- 11. Any racecar that has a decibel meter reading above the level required for local conditions will forfeit that time trial and may go to the end of the line to time trial for one (1) lap only to meet the noise level requirements and establish their time trial time for the race line up. Any racecar that exceeds the noise level requirement will not be allowed to race at that race meet. (Note this rule is duplicated in Rule 52-D Exhaust.)

## **RULE 32 - LINE-UPS**

#### A. Heat Race

- 1. 20 cars or less (2 Heats)
  - a. Qualifying times will split the field in half (Heat 1 & 2).
  - b. Heat #1: 6-10 cars 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 inverted.
  - c. Heat #2: 6-10 cars 1, 3, 5, 7, 9, 11, 13, 15, 17, 19 inverted.
- 2. 21 27 cars (Non-Qualifier & 2 Heats) Qualifying will line-up the "Non-Qualifier" & "Heats"
  - a. Non-Qualifier: 7-9 cars 17, 18, 19, 20, 21, 22, 23, 24 inverted
  - b. Heat #1: 7-9 cars 2, 4, 6, 8, 10, 12, 14, 16 inverted then all addons to follow.
  - c. Heat #2: 7-9 cars 1, 3, 5, 7, 9, 11, 13, 15 inverted then all addons to follow.
- 3. 28 cars + (Non-Qualifier & 3 Heats) Qualifying will line-up the "Non-Qualifier" & "Heats"
  - a. Non-Qualifier: 7-9 cars 25, 26, 27, 28, 29, 30, 31, 32 inverted
  - b. Heat #1: 7-9 cars 3, 6, 9, 12, 15, 18, 21, 24 inverted then all addons to follow.
  - c. Heat #2: 7-9 cars 2, 5, 8, 11, 14, 17, 20, 23 inverted then all addons to follow.
  - d. Heat #3: 7-9 cars 1, 4, 7, 10, 13, 16, 19, 22 inverted then all addons to follow.

#### B. B-Feature

- 1. One "B" Feature will be run.
- 2. All non-transfer "Heat" cars including the "Non-Qualifiers" will line up the "B".
- 3. The cars will line up from the "Heat" finishes and then the "Non-Qualifier" finishes. i.e., The first non-transfer from the last "Heat" is on the pole. The first non-transfer from the second to last "Heat" will be on the outside and so on.
  - a. The finishers from the "Non-Qualifier" race will line up directly behind the "Heat" non-transfer cars.
  - b. The top \_\_\_\_\_ cars (needed to make a 22-car field) will transfer to the "A" Feature.

#### C. A-Feature

- 1. The top \_\_\_\_\_ finishing cars from each "Heat" will transfer to the "A-Feature".
- 2. The fastest "Qualifying" car finishing in the transfer from the "Heats" will draw for the invert.
- 3. The invert draw will consist of pills 6-10.
- 4. Qualifying cars from the "B-Feature" will NOT get their time back for the "A-Feature."
- 5. All B-Feature cars transferring will line-up straight-up (behind the "A" qualified cars) from the finish of the B-Feature. The fastest Qualifying car finishing in the top 5 from the fast Heats will draw for an invert.

#### D. LINE-UPS WITHOUT TIME TRIALS

- 1. The "Heat" line-ups will be determined from the pill draw.
- 2. Drivers that score in positions 1-16 from "Heat" passing points will automatically be locked into the "A" Feature event. A tie will go to the lowest "Heat" race or the first one to the point total.
- 3. The "B" Feature Line-up will be determined from "Heat" passing points.

- 4. Drivers that score points in positions 17 to last will start straight up for the "B" Feature.
- 5. The "A" Feature Line-up will be determined from "Heat" passing points, the "B" Feature finish, and an invert draw.
- 6. The top point scorer from the "Heats" will draw for the invert.
- 7. After the invert is determined, all others will line up based on "Heat" passing points and the "B".
- 8. All "B" Feature cars will line up straight up from the finish of the "B" Feature, behind the top 16 cars from the "Heats".

## **RULE 33 - START & FIRST LAP RESTARTS**

- A. A racecar called to the starting line for a race must start and join the field before the field has circled the track three (3) times. If the car does not join the field in the allowed time, it may be asked to pull into the pits at the discretion of the Director of Competition. It may be replaced at this time by an alternate at the discretion of the Flagman and/or Director of Competition. The cars will move forward in the original line-up with no crisscrossing. The alternate will start at the rear of the line. No alternates will be added to the line-up after the green flag drops.
- B. First Lap Spin
  - 1. Any restart prior to the first lap being scored will be with cars in the original two abreast lineups.
  - 2. Any car stopping or not completing the first lap shall be placed at the rear of the field.
  - 3. On further restarts, cars spinning or stopping will start at the rear of the field.
  - 4. No repairs will be made on restarts on the yellow flag.
- C. Any car spinning 360° and not stopping will be automatically disqualified.
- D. Cars pushing off for the race will not pass the pace vehicle or pole car for hot laps before the start.
- **E.** A car that is started is not allowed to stop prior to the green flag for any reason other than driver safety equipment with a track official and only one pit crew on the front straight to get starting position back.
- **F.** Any car that changes the right rear tire after the start of any event must go to the rear of the field on the restart.
- **G.** On two abreast starts there will be a line or cone in turn 4. The front two cars must be somewhat even at that line or cone for a legal start.
- **H.** In the event the sun makes it unsafe to start a race, a driver may stop on the front stretch before the green flag is displayed. The track will throw the "Red Flag" and all cars will park on the front stretch.
- I. Cars pulling off the racing surface, except for designated work area during A & B features, at any time after being pushed off, will be done for that event. Cars not on the racing surface when a race is stopped may not restart in that event.

## **RULE 34 - YELLOW CAUTION PERIOD**

A. The penalty for jumping starts and causing a yellow flag will be at the discretion of the Director of Competition. Penalties range from going to the rear of the field to being put into the pits.

- B. When the yellow flag or light is displayed, all cars shall slow down to a fast idle and form a single file line nose to tail and hold their positions. Officials will correct the line-up when they receive it from the scorers. Drivers who fail to get into proper single file order or do not go to their assigned position will be sent to the rear of the field or disqualified for that event.
- **C.** The failure of the flagman or scorer to notify a driver of a violation in no way relieves the driver from the responsibility of observing the "No Passing" regulation and the penalty attached to the illegal passing.
- D. In races, caution laps will NOT be counted toward the completion of the race. When, in the judgment of the flagman, the race can be resumed, the driver leading the race shall be given the green flag. There must be a minimum of two laps under the green flag before the conclusion of any race. No race may finish under the yellow flag unless the flagman deems it necessary, and in that case, their decision is final.
- **E.** In the event of a yellow flag, the cars will be restarted in the order of the last completed lap in which all cars crossed the start-finish line under the last completed green flag lap.
- **F.** Drivers that stop on the yellow and are able to restart, must remain race-ready (seated & buckled with a helmet on).
- G. Pit crews are not allowed on the racetrack during yellow flag laps.
- **H.** On restarts, lapped cars will maintain their relative position to the balance of the field as in the previous lap.
- I. On single-file restarts, the leader must maintain reasonable pace lap speed and fully accelerate at the restart cone. No on-and-off gas tactics, by the leader, will be tolerated and will result in a penalty. The leader and the entire field must pass between the cone and the outside wall. A restart cone will be placed close to the front stretch wall before the start/finish line to ensure that each car is nose to tail. No passing by any part of the following car ahead of any part of the leading car is permitted prior to passing the cone. The field needs to be nose-to-tail and not allow gaps between cars. Cars hitting the cone, going on the wrong side of the cone, jumping the start, or passing before the cone, will result in a 2-position penalty for every car passed or going to the rear of the field for multiple violations. If any car commits any violation; the penalty will be addressed at the next flag.
- J. No repairs will be made before restarts during yellow flag laps in Trophy Dash, Heats, & "C" Feature.
- **K.** Cars doing repairs in designated work area off track during a yellow flag can be restarted before the one lap to go signal is displayed by the flagman in the "B" and or "A" Feature.
- L. Each car is allowed only one restart per individual race and will restart at the rear of the field. ALL safety stops will not count as a stop.
- **M.** Cars responsible for causing a yellow flag will restart at the rear of the field. (This does not include debris on the track.)
- N. A car that takes another car out (deliberately) will start at the rear of the field on the restart.

## **RULE 35 - RED FLAG PERIOD**

- A. No person shall be allowed on the racing surface, without permission from a BMARA official, during a red flag period without the racing surface being declared open by the Director of Competition. Participants must remain in the pit area and off the racing surface until the white flag is displayed, and the track is declared open. For any participant who goes onto the racing surface before the racing surface is declared open, the penalty will be the loss of pit pass privileges for the remainder of the race meet.
- **B.** When a red flag comes out for a car on its side or a rollover, that car cannot restart in that event except for qualifying, at which time the car must be approved by BMARA officials and take one lap at the end of the line. The car can, however, restart in future events that day after technical approval by a BMARA official.
- C. Drivers of cars flipping (upside down) must report to the ambulance immediately.
- D. In the event, the race must be stopped by the flagman because of an accident or obstruction on the track or if the track surface becomes too dangerous for further competition, cars still on the track not making contact in the accident, shall be restarted in accordance with the previously scored green flag lap. Cars making contact, if able to restart, shall be restarted in the same lap but at the rear of the field.
- E. Upon an open red, cars not involved in the accident in the event of a race being stopped because of a red flag will be allowed servicing providing the car does not leave the track and will be limited to checking PSI, jacking weight, adding fuel, and driver tear-offs, all tires must stay on the racing surface and any other repairs must be done in the designated work area. Cars going to the work area will re-start at the rear of the field.
- **F.** If contact is made anywhere during a red flag lap and there is repairable damage to the cars, those cars must start at the rear of the field.
- G. If a car is unable to stop at a red flag incident, the brakes will be checked in accordance with Rule 56(B). If found not suitable but able to make repairs during the red flag period, the car will be restarted in accordance with the previously scored green flag lap.
- **H.** Cars unable to stop during a red flag incident due to non-mechanical failure will result in a two (2) position penalty.
- I. If an inadvertent red flag or red light is shown without a red flag incident, there will be no work allowed on the cars and all cars will restart in accordance with the previously scored green flag lap.
- J. A car that takes out another Car (deliberately) will start at the rear of the field on the restart.

## **RULE 36 - SAFETY**

A. No person shall be allowed to stay in or stand next to a disabled car on the racetrack during the event. The safety crew shall remove disabled cars as quickly as possible if they are a hazard or are obstructing the racetrack.

- **B.** There will be no tow cars allowed in the infield during racing events. No one will be allowed to load up until the end of the "A" feature, without BMARA prior approval.
- **C.** Fire Prevention: No smoking will be permitted within 25 feet of racecars. Anyone found violating this rule will be removed from the pit area. Entrants must have, in their possession, in the pit area a fully charged dry powder fire extinguisher of five (5) pound minimum capacity.
- **D.** No car will be in motion unless the designated driver is wearing a helmet, race uniform, arm restraints, race shoes, and gloves. Seat belts must be fastened.
- E. Cars leaking fuel, oil, or water on the track will be immediately black-flagged off the track.
- **F.** Violators will start last for the evening.
- **G.** See Rule 60 for ATV usage.

## **RULE 37 - PROTESTS**

- A. A protest, to be considered, must be accompanied by an "earnest fee" of \$100.00. The protest must be in writing and must be presented to the BMARA officials at the race event before the pay-off. It must state the race violation or judgment of the BMARA official being protested and it must contain what settlement is considered proper and the reasons for such settlement. The \$100.00 earnest fee shall be returned, if, in the opinion of the Board of Directors, the protest had merit. The \$100.00 earnest fee shall be forfeited and shall go into the General Fund if the protest is held invalid.
- B. Cars to be spot-checked will be selected at the discretion of the Director of Competition.
- C. On engine protests, a fee of \$200.00 must be presented to check an engine cubic inch. If the engine is found to be legal, \$160.00 goes to the car owner and \$40.00 goes to the treasury. A fee of \$500.00 must be presented to remove an inspection plug or an oil pan to check a crankshaft and connecting rods with \$400.00 to the car owner and \$100.00 to the treasury if found to be legal. In both cases, the protest fee will be returned if the engine is found to be illegal.
- D. The driver of any car found illegal shall get 40% of the money and points for the last spot in all events participated in. The owner's share of 60% of the last spot in ALL EVENTS goes into the General Fund. The remaining cars running would be moved up one position from the protested position. Owner and owner-driver combinations will lose all points and monies obtained for that program.
- E. The Board of Directors shall consider the protest before paying off the protested positions.
- **F.** When a protest is clearly not the fault of the driver or pit crew, the payoff may be made at the discretion of the officers present. The protest may be considered at the next Board of Directors meeting with any adjustment made to come out of the General Fund.
- **G.** If caught with an oversized engine, the car owner will FORFEIT ALL POINTS accumulated for that year and will be suspended for the remainder of the season.
- **H.** Any engine can be checked for size before a race with any tools necessary to complete the task upon the request of any three Board of Director members. i.e., the P&G tester, and/or bore & stroke gauge.

- I. Any engine found oversized must be checked the following year before the car can compete in the competition.
- J. All protests must be filed within 30 minutes from the finish of the last BMARA race of the day.
- K. Only car owners and drivers participating in the race program can protest at that racing program.

### **RULE 38 - PENALTY**

- **A.** A violation of any competition rules will result in the forfeit of all championship points for that race unless another penalty is provided for a particular violation.
- **B.** The Board of Directors will pass on the penalty for the violation of any association rule and the ruling on a violation by an official may be appealed.
- **C.** The penalty for rough driving could be a warning for the first offense and a \$200.00 fine or payoff for the last place in the event run, whichever is greater, for additional offenses.
- D. The car owner is responsible for all personnel on their pit crew.
- E. Anybody fighting at a race will be out for the rest of the night and a minimum of 2-race events (rainouts do not count as a meet). The car owner/driver combination will allow the car to run but the owner/driver cannot be in the pits. The aggressor is the person going to someone else's pit area or car and self-defense will be allowed.

#### **RULE 39 - SCORING AND FINISH**

- A. A race is complete after at least half of the laps in the "B" feature and/or the "A" feature are run. In the "A" Feature, if the leader receives the checkered flag the race is complete.
- **B.** If a race is stopped by a red flag or yellow flag and not restarted and is subsequently ruled complete, the finishing order will be determined by ranking all the cars in order by total laps completed and sequence of completion for the last officially completed green flag race lap. Cars involved in the red or yellow flag incident will be scored at the rear of the field in the last green flag lap that the car completed.
- **C.** When multiple cars drop out on the same yellow flag lap, they will be scored as they crossed the finish line on the previous green flag lap.
- D. In the case of a rainout, or a red flag whereby the "B" feature and/or "A" feature are not complete all money and points will be divided equally among cars qualified. This includes dropouts and cars transferring from completed events. If the "B" feature is not run, there would be no cars transferring for the feature money. When the "A" feature & "B" feature are not run, the money for the last 7 places in the original feature payoff schedule will be transferred to the "B" feature payoff to be divided equally. Points will be awarded for all events run.

## **RULE 40 - CAR SIZE LIMITS**

- A. The wheelbase must be at least 66 inches and not more than 76 inches.
- **B.** All cars must weigh a minimum of 1,100 pounds including the driver subject to the accuracy of the scales at the racetrack. Additional bolt-on weight must be mounted and bolted with a minimum of two <sup>3</sup>/<sub>8</sub> grade 8 bolts to the frame and/or chassis in a secure manner. Weight must be mounted in an area between bottom frame rails, front and rear axles, and no higher than the mid-rails at the cockpit. All weight must be mounted within the confines of the frame. NO BALLAST/WEIGHT IN NERFS, BUMPERS, FRONT AXLE.

## **RULE 41 - CAR CONSTRUCTION**

- A. All revolving parts inside the cockpit must be shielded by a suitable guard. All cars must be equipped with a drive shaft restraining hoop securely attached to the chassis. The minimum hoop material is 1 inch by .095 inches steel tubing.
- **B.** Right-side cockpit panels may be a maximum of 36 inches high as measured from the bottom frame tube at the motor plate and projected rearwards. The opening must be a minimum of 150 square inches and not distract the driver's vision as determined by the Director of Competition.
- **C.** Left side cockpit panels may be a maximum of 36 inches high as measured from the top of the bottom frame tube at the motor plate and projected rearward. The opening must be a minimum of 150 square inches and not distract the driver's vision as determined by the Director of Competition.
- D. Side panels cannot extend rearward past the rear diagonal roll cage tube/brace or an imaginary line between the back edge of the rear torsion tube and the back edge of the rear roll cage member. The rear roll cage member is defined as the top tube behind the driver where the a-frame connects. Regardless of the imaginary line, side panels may not extend horizontally beyond the most rearward cage uprights.
- **E.** Sail panels between the rear cage upright and brace are allowed. Sail panels may not extend forward past a cross-plane established by the most rearward part of the seat.
- F. No airfoil, wing, spoiler, or other air deflection devices will be permitted.
- G. A maximum one (1") inch turnout or wicker is allowed on all body and sail panel edges, except sun visor.
- H. All bolts and fasteners used other than body parts must be Grade 5 or better.
- I. Sharp chassis protrusions (grease fittings, cotter keys, etc.) must not be located where they may cause damage.
- J. Rearview mirrors will NOT be allowed.
- K. All cars must be painted after their third appearance or show a justifiable excuse. Buffed and polished metal shall be acceptable. All numbers must be of not more than 2 digits between 12" and 18" high and must be of a color contrasting the car.
- L. Numbers will be allotted by the BMARA Secretary for cars having competed in one-fourth of the previous season's race meets. Cars not previously in the association will have their choice of numbers not in use.

If the championship car owner wishes number 1, they may take the number for the current year. The regular number for that car will be held in reserve for that year should they want it back at the tenure of their championship.

## **RULE 42 - ROLL CAGE**

- A. A roll cage is mandatory and must be an integral component of the chassis. The roll cage must be adequately braced fore and aft to secure it in an upright position. The cage must extend over the top of the driver's helmet a recommended (4) four inches when sitting in an upright position.
- **B.** The roll cage must be constructed of 1-3/8" O.D. 4130 normalized tubing with a minimum of .095-inch wall thickness.
- **C.** Both sides, center and front members of the roll cages and roll bars must be protected by resilient material conforming to SFI Foundation Specification 45.1.
- D. It is required that all cars not running a full containment seat must have cage nets on both the left and right sides of the roll cage for all events. All roll cage nets must conform to SFI Foundation Certification 37.1 and are labeled as such.
  - 1. The life of roll cage nets shall not exceed two (2) years. Caution should be used when positioning roll cage nets to be certain that the driver's head cannot get under the net in case of an accident.
  - 2. The bottom of the roll cage net should be as close to the top of the shoulder as possible.
  - 3. The connection of the roll cage net to the chassis must be a rigid connection that does not allow the cage nets to slide up or down.

## **RULE 43 - FIREWALL**

A. An effective firewall of metal and at least 0.0625-inch-thick or other approved fire-retarding material must be installed between the engine compartment and the cockpit. It must be as leak-proof as practical. The motor plate may not be made from carbon fiber, honeycomb, or other composite materials.

## **RULE 44 - BUMPERS & NERF BARS**

- **A.** Cars must be equipped with a front and rear bumper left and right nerf bars securely fastened to the chassis\*. Bumpers and nerf bars must be secured by bolts, a minimum size of 10/32's.
- B. No titanium bumpers and/or nerf bars will be permitted.
- C. The front bumper must be of a single tube design. No pretzel-style bumpers are allowed.
- D. Bumpers and nerf bars must be constructed of magnetic and or stainless steel tubing with a minimum .875 inches O.D. and a maximum of one (1") inch O.D. Wall thickness must be a minimum of .065 inches and a maximum of .120 inches.

## **RULE 45 - STEERING – SUSPENSIONS**

- A. Removable steering wheels incorporating a quick-release mechanism conforming to SFI Foundation Specification 42.1 are mandatory. No plastic components may be used. Pin-type mechanisms are not allowed.
- **B.** A quick-release type steering wheel is mandatory, and no plastic components can be used.
- **C.** It is recommended that cars have an annual Magnaflux inspection of the cross shafts, the up and down shafts, steering gears, and front spindles. The above Magnaflux may be required following an accident if requested by the Safety Committee.
- **D.** Steering wheel hubs on all race cars must be padded with a minimum <sup>3</sup>/<sub>4</sub> inch resilient material.
- **E.** The use of carbon fiber, carbon/Kevlar, or other composite material as structural chassis components, suspension, or components in the driveline including the rear end, is not allowed.
- F. Titanium front axles, rear axles, steering arms, and torsion arms are not allowed,
- **G.** A tether is mandatory on the drag link.
- H. Any shock absorber is allowed. Shock absorbers may have two external adjustments and may be adjusted by manual methods only. Shock absorbers cannot operate or be adjusted electronically. Digital shock readout is allowable as long as it does not control any function of the shock absorber.

## **RULE 46 - BRAKES**

- A. Cars must be equipped with a suitable braking system.
- **B.** Carbon, carbon composite, or titanium brake discs are not allowed. The brake pad material is open.

## **RULE 47 - ENGINE SIZE LIMITS**

- A. All engines must be inline, normally aspirated, internal combustion, four-cycle, reciprocating piston type, incorporating a maximum of four (4) cylinders and a maximum of four (4) valves per cylinder. Engines must be a production engine from a passenger vehicle and reasonably available in the United States. No engines may be used from passenger vehicles that have not been sold by an officially authorized manufacturer dealership.
- B. All engines are allowed a maximum displacement of 148.820 CID.
- **C.** All engines must use an OEM block, OEM cylinder head, and OEM crankshaft combination from the same manufacturer.
- D. Lightening the engine block or cylinder head is limited to removing material for the purpose of fitting the engine into the chassis. Removal or addition of material to improve oiling or cooling will be permitted.
- **E.** Lightening of the crankshaft, beyond minimal material removal for balancing, is PROHIBITED. Offset grinding of the crankshaft journals is PROHIBITED. Gears may be removed.
- F. Titanium and aluminum connecting rods are PROHIBITED.

- **G.** Titanium valves and valve springs are PROHIBITED.
- **H.** Cylinder head ports MUST remain stock as cast. No alterations from original OEM specifications are allowed.
- I. Operational variable valve timing (VVT) is PROHIBITED.
- J. All other engines must be submitted in writing and pre-approved by BMARA on a TRIAL basis before being allowed in competition. All trials approved for temporary competition will be posted at the driver's meeting.

## **RULE 49 - FUEL SYSTEM**

- A. Electronically controlled or mechanical fuel injection systems are permitted.
- **B.** All fuel tanks, fuel cells, bladders, or plastic tanks, must be constructed and supported in a matter to avoid rupture or breakage. All cars must be equipped with a fuel cell and tail tank meeting the requirements of BMARA and SFI Foundation Specification 28.2.
- **C.** Fuel systems must be equipped with a shut-off device located within easy reach of the driver and the rescue crew. The ignition switch and fuel value must be clearly marked on/off.
- **D.** Cars utilizing an electric fuel pump must have a switch designed to shut the pump off in the event the engine ceases to run or the oil pressure of the engine is at or below three (3) pounds of pressure.
- E. All cars must use a midget-style tail tank with a minimum capacity of 18 US gallons.
- **F.** Fuel tanks may not be made from carbon fiber or carbon/Kevlar materials.
- G. Fuel
  - 1. Fuel is restricted to methanol only. The addition of any material(s) to the fuel is strictly prohibited.
  - 2. The addition of any material(s) to the intake air or the addition of any mechanical device(s) essential to the application of this material(s) is strictly prohibited.
  - 3. Any device, which artificially reduces the temperature of the fuel, is strictly prohibited.
  - 4. All fuel is subject to testing at any time. Any fuel that does not conform to the BMARA standards, as administered at the racetrack, will be considered illegal. The use of illegal fuel will result in disqualification from the event and/or the entire race program.
- H. A driver may not be seated in the racecar during fueling at any time, including the designated pit area.
  The penalty for violation will be to start at the rear of the field.

## **RULE 50 - IGNITION & ELECTRONICS**

- A. All cars must have an ignition switch or emergency shut off within easy reach of the driver and labeled "on/off".
- **B.** The use of electronic logic processors to record continuous data from the race car is limited to functions of approved ignition systems and wireless systems housed in a single unit, independent of any other device, and unable to transmit to or from any other device while on-track.

- **C.** Any form of electronic or processor controlled traction control is strictly PROHIBITED. If caught with any traction control device, the car owner will FORFEIT ALL POINTS accumulated for that year and will be suspended for one year from the date of infraction.
- D. Approved electronic ignition and fuel delivery systems; MSD 6214 Midget, Performance Electronics PE3-IG2, PE3-8400, Electromotive XDI, TECs, and TECs200, and the Microsquirt AMP'd & V-3.0. Approved electronic systems are limited to functions as supplied by the manufacturer. Electronic components may be inspected or confiscated at any time by BMARA.
- E. The following sensors are the only sensors permitted: crankshaft position, camshaft position, water temperature, oil pressure, tachometer, wide or narrow band air-fuel ratio meter, throttle position (TPS), fuel pressure, and manifold absolute pressure (MAP) sensors.
- F. New ignition systems must be submitted in writing by November 1<sup>st</sup> and pre-approved by the BMARA Board by December 31<sup>st</sup> for a TRIAL basis for the upcoming season. After the season, the results of the trial will then need to be approved by an eligible car owner vote. All trials approved for temporary competition will be posted at the driver's meeting.

## **RULE 51 – THROTTLE**

**A**. Throttle toe straps are mandatory, and the linkage must be so constructed that bringing back the throttle pedal with the toe strap will close the throttle valves. There will be a minimum of 3 throttle springs.

## **RULE 52 – EXHAUST**

- **A.** The exhaust system must be designed to create a minimum of fire hazards and a minimum hazard to other competitors.
- **B.** Exhaust pipes passing close to the driver must have raised metal guards. Exhaust must exit the engine compartment to the left or right and be no wider than the nerf bar.
- **C.** All cars are required to utilize an exhaust muffler that reduces noise to an acceptable level as prescribed by the Board of Directors and/or local conditions. Internal mufflers are allowed but must be placed at the end of the tailpipe and be visible for technical inspection. The exhaust sound will be measured with a decibel meter at random locations during the event.
- D. Any racecar that has a decibel meter reading above the level required for local conditions will forfeit that time trial and may go to the end of the line to time trial again for one (1) lap only to meet the noise level requirements and establish his time-trial time for the race line up. Any racecar that exceeds the noise level requirement will not be allowed to race at that race meet. (Note this rule is duplicated in Rule 31-F Time Trial.)

## **RULE 53 - CLUTCH**

A. The clutch must be rendered inoperative during the event, but can be left on the car at the discretion of the Director of Competition.

## **RULE 54 - SEATING SYSTEM**

- A. SEAT BELTS. The use of an approved seat belt with a latch/lever release is mandatory. Rotary mechanisms are not allowed. Both the fastening design and condition of the belts are subject to an inspection by the Safety Committee. All safety belts and shoulder harnesses must bear the date of manufacture and shall not be used for more than two (2) years from the date of manufacture. All seat belts must meet SFI Foundation Specification 16.1 and be labeled as such.
- **B.** Five or six-point (crotch) belts connected to the main belt quick-release mechanism and securely attached to the chassis are mandatory.
- C. All belts should be worn as tight as possible. Seat belts must come through the seat at the bottom on each side thereby wrapping and holding the pelvic area over the greatest possible area. Belts should come through the seat at the bottom on both sides so as to hold the pelvic area at a point below the anterior superior iliac spines. Under no condition may it be worn over the area of the intestines and abdomen. At any point where the belt passes through the side of the seat, the seat edges must be rolled or have grommets to prevent chafing or cutting of the belt material. All the belts connected to the main belt release system are mandatory. Both the fastening design and the condition of the belt are subject to the inspection of the Safety Committee.
- D. SEATS: Aluminum seats are mandatory and must be of high back style. The seat must be mounted to the chassis in a minimum of four (4) places with a minimum of 5/16" steel bolt with large O.D. washers (minimum 1 ½") on seat surface secured with nuts and/or threaded into frame. Each mounting hole in the seat must have a steel (minimum .060 thickness) or aluminum (minimum .125 thickness) washer with a minimum 2-inch O.D.

## **RULE 55 - WHEELS**

- A. The rim diameter must be 13 inches.
- **B.** Rim width is limited to 8 inches for both front wheels and left rear and a maximum of 10 inches on the right rear.

## **RULE 56 - TIRES**

- A. The brand of tire is Hoosier on all corners, but the compounds and sizes allowed are as follows.
- **B.** Any device(s) used for warming the tires prior to competition is prohibited.
- **C.** Any solvents or chemicals applied in any way to a tire that alter the chemical makeup of the compound or have the effect of altering tire durometer or construction is prohibited. BMARA reserves the right to check the durometer hardness of any competitor's tire at any time. Any tire or portion of a tire may also be confiscated at any time and subjected to testing to determine if the tire or rubber deviates in any way from an exemplary tire produced by Hoosier. Confiscated tire or rubber samples may be subjected to chemical analysis and/or additional durometer measurement by a third-party laboratory

selected by BMARA. Penalties from tire found to deviate from the original factory benchmark specifications are as follows.

- a. First Offense: Entrant/Driver 6-race Midget Series suspension, loss of points & forfeit purse for that event, \$2500.00 fine.
- b. Second Offense-Entrant/Driver 1-year Midget Series suspension, loss of points & forfeit purse for that event, \$10,000.00 fine.
- **D.** Tire Protest is a \$500.00 fee to be paid to competition director before event. If tire sample is found illegal, protest fee is returned. If tire sample is found legal, the protested entrant will receive points and pay for that night.

Tire Size	Compound
82.0/12.0-13	SP2, SP3, SP4
74, 76, 77, 78, 80 -13	D12 or D15
68.0/7.0-13	D12 or D15

## **RULE 57 - ATV / UTV MOTORIZED SUPPORT VEHICLES**

- A. ATV / UTV vehicles must conform to local track requirements.
- **B.** No passengers are allowed when pushing a race car with an ATV.
- **C.** Passengers are only allowed per number of seats in an ATV / UTV / Side by Side, NO one under the age of 14 is allowed to operate.

## **RULE 58 - POINT SYSTEM**

- A. Owners and drivers competing in 75% of BMARA sanctioned point races will share in the point fund. This rule may be waived for any driver injured at a BMARA race at the discretion of the Board of Directors.
- **B.** At co-sanctioned races, a car must be BMARA legal to get BMARA points.
- C. Your racecar must have the BMARA decal to be eligible for the year-end point fund money.
- D. POINTS SYSTEM (See Fig 2)
- E. No points for relief drivers or promoter choice.
- F. No points for participants running under a temporary permit or other working agreement club memberships.
- G. No points for races run after Labor Day weekend that are not signed before August 1st.
- **H.** The point fund will be divided into 40% to the drivers and 60% to the car owners.
- I. Before the "Pill Draw" for qualifying, an owner with two or more cars with the same number must designate the primary car to receive owner points.
- J. No points for car owners or drivers if their membership is not paid in full at the end of the payoff.
- K. Cars running in both the "B" feature and "A" feature will get points in the "A" feature only.

## **RULE 59 - TROPHY AWARDS**

- **A.** Season trophies for the top 6 drivers and owners when there are less than 50 different participants for the season.
- **B.** Season trophies for the top 10 drivers and owners when there are 50 or more different participants for a season.

## **RULE 60 - RADIO**

- A. The use of in-car radio transmitting devices is prohibited.
- B. The use of receive-only BMARA / USAC-approved two-channel radio is mandatory.

## **ADDENDUM FOR CHAIN DRIVE CARS**

- 1. All chain-driven cars must weigh a minimum of 950 lbs, including the driver, and run on ALCOHOL.
- All production motorcycle engines must use the original manufacturer's OEM 1003 c.c. engine crankcase, cylinder jugs and/or engine block, OEM cylinder head, and OEM crankshaft. Crankcase, cylinder jugs and/or engine blocks, cylinder heads, and crankshafts must be from the same manufacturer.
- Cylinder head ports must remain stock as cast. Porting of the cylinder head including intake matching is NOT permitted. Machining, grinding, sanding, or etching of any kind of the intake or exhaust ports is STRICTLY PROHIBITED. No altering of the shape and/or size of the intake or exhaust ports from original manufacturer specifications.
- 4. Lightening the engine block or cylinder head is limited to removing material for the express purpose of fitting the engine into the chassis. Removal or addition of material to improve oiling or cooling will be permitted but must be submitted for approval in writing before being allowed in competition.
- 5. Lightening of the crankshaft beyond minimal material removal for balancing is NOT permitted.
- 6. Welding on the cylinder head beneath the valve cover or inside the ports is NOT permitted.
- 7. No titanium connecting rods allowed.
- 8. The transmission must be in the stock configuration. The engine must be able to be turned over in and shifted through all gears. All production motorcycle engines must have a clutch in place and it must be operational. The clutch basket and clutch spring tension can be changed.
- 9. Variable valve timing is NOT permitted.
- 10. Ignition Systems must be one of the following ignition/ECU systems: Stock OEM (flashing allowed), Dynojet Power Commander, Odum Specialties IG, or Dyna 2000.
- 11. Cars utilizing a chain-driven rear axle must have the engine sit directly in front of the driver. The engine may be offset a maximum of six (6) inches as measured from the center of the engine to the center of the chassis.
- 12. Chains must be located within the frame rails. Chain guards must be designed in a manner to completely shield and protect the driver and fuel tank from the chain. The chain guard must be made out of stainless, mild steel, or aluminum.
- 13. Chain guards must extend from the firewall to the rear of the sprocket on top and from the top of the chain to the floor pan. The guard must also extend from the firewall to the back of the seat on the side of the driver. Chain guards must be designed so as to not allow chains to damage or puncture the fuel tank in the event they become loose from the sprocket or engine.
- 14. Main uprights forming the roll cage must be a minimum of 1 3/8 inches O.D. x .095 wall thickness 4130 normalized tubing.
- 15. A conventional tail tank, fuel cell, and fuel containment must be carried on the centerline of the chassis and be located behind the driver. All cars must be equipped with a fuel tank meeting SFI Specification 28.2.
- 16. If there is any question on a rule; the midget rule book will take precedence. i.e. Wheels, overall width, fuel.

Fig 1

START	1	2	3	4	5	6	7	8	9	10	11	12
FINISH												
1	100	105	110	115	120	125	130	135	140	145	150	155
2	91.5	93	98	103.3	108	113	118	123	128	133	138	143
3	83	84.5	86	91	96	101	106	111	116	121	126	131
4	74.5	76	77.5	79	84	89	94	99	104	109	114	119
5	66	67.5	69	70.5	72	77	82	87	92	97	102	107
6	57.5	59	60.5	62	63.5	65	70	75	80	85	90	95
7	49	50.5	52	53.5	55	56.5	58	63	68	73	78	83
8	40	42	43.5	45	46.5	48	49.5	51	56	61	66	71
9	32.5	33.5	35	36.5	38	39.5	41	42.5	44	49	54	59
10	23.5	25	26.5	28	29.5	31	32.5	34	35.5	37	42	47
11	15	16.5	18	19.5	21	22.5	24	25.5	27	28.5	30	35
12	6.5	8	9.5	11	12.5	14	15.5	17	18.5	20	21.5	23

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## Fig 2

POSITION	Qualifying	Passing Point	HEAT	<b>B-FEATURE</b>	A-FEATURE	POSITION
1	12	6	14		90	1
2	10	4	12		80	2
3	9	3	9		75	3
4	8	2	7		65	4
5	7	1	5		55	5
6	6				48	6
7	5			20	46	7
8	4			18	44	8
9	3			16	42	9
10	2			15	40	10
11				14	38	11
12				13	36	12
13				12	34	13
14				11	32	14
15				10	30	15
16				9	28	16
17				8	27	17
18				7	26	18
19				6	25	19
20				5	24	20
21				4	23	21
22					22	22