

**2008 Star Mazda Championship  
presented by Goodyear  
Standing Supplementary Regulations**

**I. THE STAR MAZDA CHAMPIONSHIP**

- A. Sanctioned by the International Motor Sports Association, 1394 Broadway Avenue, Braselton Georgia 30517 (IMSA). Driver and crew licenses are issued by IMSA. Interpretation and application of these rules will be administered in the sole discretion of IMSA, which discretion shall be final and not subject to review, except as may otherwise be provided in these rules.
  
- B. Governed by the IMSA CODE, these regulations, Championship Standing and Event Supplemental Regulations, and Series Bulletins. The Star Mazda Championship may add to, clarify, or change the Rules as needed, at anytime, through the Series Supplemental Regulations, bulletins, or general announcements at the events. Each competitor is responsible for having a current set of rules and to be familiar with these rules. Changes, clarifications, or additions to the rules made by general announcement at any point during an event are valid only through the conclusion of that event. Rules given by general announcement that are to become permanent will be published in an amendment to the Series Supplemental Regulations or in a bulletin by the next event.
  
- C. The Star Mazda Championship is an annual calendar of races, which determine a driver champion. To qualify for Championship points and yearend prizes, the drivers must enter the Championship and maintain paid-up accounts with Star Mazda Championship and Star Race Cars. Points will be awarded to drivers for each Series event, based on the finishing order for each Series entered driver finishing the race. The top 35 drivers shall be credited Series points in the order as follows:

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	13 <sup>th</sup>	14 <sup>th</sup>	15 <sup>th</sup>	16 <sup>th</sup>	17 <sup>th</sup>	18 <sup>th</sup>
44	40	37	34	32	30	29	28	27	26	25	24	23	22	21	20	19	18
19 <sup>th</sup>	20 <sup>th</sup>	21 <sup>st</sup>	22 <sup>nd</sup>	23 <sup>rd</sup>	24 <sup>th</sup>	25 <sup>th</sup>	26 <sup>th</sup>	27 <sup>th</sup>	28 <sup>th</sup>	29 <sup>th</sup>	30 <sup>th</sup>	31 <sup>st</sup>	32 <sup>nd</sup>	33 <sup>rd</sup>	34 <sup>th</sup>	35 <sup>th</sup>	
17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	

A bonus point will be awarded for the fastest qualifying Championship driver at each Championship race.

**D. Drivers**

D.1 Driver eligibility Per IMSA Code 3.1 – 3.3 as well as:

- i) Valid FIA drivers license
- ii) Have reached their 16<sup>th</sup> birthday

D.2 Championship drivers must register with the Championship using the Series forms. A fee of \$2,500 is due to enter the Championship, payable not later than the start of qualifying for the first race in which the driver wishes to be eligible for Championship points. Championship-entered drivers will then be awarded points based on their results in Championship races.

- E. Drivers who have had their 30th birthday, but have not yet had their 45<sup>th</sup> birthday, before March 15th 2008 may enter the Expert's competition. Drivers who have had their 45th birthday before March 15th 2008 may enter the Master's competition. Expert or Master drivers will be scored separately in addition to the normal Championship scoring. Standings will be published from race to race and year-end awards will go to the top five drivers in each championship. Points for the Expert and Master championships are awarded as follows:

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	13 <sup>th</sup>	14 <sup>th</sup>	15 <sup>th</sup>
20	16	14	12	11	10	9	8	7	6	5	4	3	2	1

- F. Based on year-end point totals, prizes for the 2008 Star Mazda Championship presented by Goodyear are:

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	13 <sup>th</sup>	14 <sup>th</sup>	15 <sup>th</sup>
\$100,000	\$70,000	\$50,000	\$40,000	\$35,000	\$30,000	\$27,000	\$25,000	\$22,5000	\$20,000	\$18,000	\$16,000	\$14,000	\$12,000	\$10,000

The 2008 champion will be awarded a fully funded ride in the 2009 Champ Car Atlantic Series powered by Mazda.

The top three drivers in both the Expert and the Master Series will be awarded \$10,000 for first place, \$5,000 for second place and \$2,500 for third place in addition to any monies earned in the Championship.

Plus any driver who has not previously started in three or more Star Mazda championship races (whether for points or not) shall be considered a "rookie." The highest placing rookie in the Championship will receive a bonus of \$10,000.

- G. 1.) Series races are open to any driver with the appropriate license for the event, driving a Star Race Cars Pro Formula Mazda car that complies with Series Rules, and is properly entered in the event. Each driver going on track for an event must pay an entry fee for that event. A driver may change cars during practice, but may only qualify one car for an event. After qualifying, with permission of the Race Director, a driver may substitute another car for the car qualified, without penalty, however the tire rules still apply.  
 2.) The Star Mazda Championship reserves the right to refuse, or rescind acceptance of, any entry at any time, for any reason, or for no reason. If an entry is refused or acceptance rescinded, no event fee will be retained by the Star Mazda Championship.

- H. If a competitors qualifying time exceeds 107% of the fastest qualifier; the competitor has not qualified for the race. The competitor may be permitted to

start the race as a provisional starter with the permission of the Series Race Director, if it is deemed to be safe to do so. Any such provisional starter shall be black flagged before the race leaders are close enough to be influenced in any way by the presence on the track of the provisional starter. However, if during the race any provisional starter is judged by the Race Director to be well inside the 107% criteria, the Race Director at his or her sole discretion may permit a provisional starter to continue the race.

- I. 1. Drivers Meetings: Mandatory for drivers **and crew chiefs** and open to entrants. Drivers are responsible for checking the Series bulletins, posted in the paddock, daily. All first time drivers must meet with the Race Director before going on track for the first time. Penalty for being late or missing a drivers meeting: Meeting prior to the qualifying session – 5 minutes in the penalty box, after qualifying and before the race – one (1) grid position. Late is defined as missing role call.
  2. There will be a regular, mandatory meeting of all the Series crew chiefs or team managers before the first day of official practice. Every car participating in the event must be represented at this meeting. Check the bulletins on the back of the Series trailer for time and place. The penalty for being late or missing a crew chief meeting – a fine of \$250.00, payable prior to qualifying. Late is defined as missing roll call.
  3. Impound: After each qualifying session or race, all cars must proceed directly to impound. Driver and the Driver's racing equipment, shall remain with the impounded car until that driver and/or car are released from impound by a Star Mazda Championship Official. If a driver should be separated from his or her car for Series authorized or post- race activities, such as podium or press functions, that driver will proceed without delay from that authorized activity directly to impound. For those cars kept in impound for further inspection, only two crew members per car are authorized to be in the impound area.
  4. All race entries are required to submit a vehicle event declaration form to the Competition Director at least 1 hour prior to the first official practice. Any changes to the vehicle declaration form must be submitted 30 minutes prior to the beginning of any session that we be followed by an impound. Any vehicle in impound found to be inconsistent with its event declaration will be subject to penalty.
  5. Car Covers: May not be fitted while car is in post-qualifying or post-race impound, or on the hot pit lane.
- J. Open testing may be available before Championship events, through the track or Championship promoter, and is permitted. Private testing is prohibited at Championship tracks, seven days before each Championship race. Any car or

driver that participates in private testing in violation of this rule is ineligible for that event.

- K. The Championship awards permanent car numbers based on previous participation. Car numbers for any event can be confirmed in advance with the Championship timing and scoring at (818) 686 3356. Ask for Tony Rodrigues. Each car must be equipped with a functioning AMB Tran-X 260 transponder that is registered with the Championship.
- L. The Championship will award prizes, such as: free racing tires, free brake pads, etc. based on random drawings, usually held at the drivers' meetings. To be eligible for free prizes, the driver must be registered with the Championship, entered in that Championship race, and not have previously won that free item. Driver must be present during the drawing to win.
- M. Technical questions should be directed to the Championship Competition Director. Any issues should be raised as far in advance as possible. The Championship will take a dim view towards attempts to "ambush" another competitor at the last instant with something that could be easily resolved, with reasonable notice. Penalties may be assigned against a protesting party, if a protest is found to be in bad faith.
- N. The Championship will require certain decals on all cars and **transporters**, certain patches on all drivers' **and team** uniforms. The Championship may also require the removal of objectionable or conflicting advertising. Cars or drivers found not to be in compliance may be excluded from competition, or otherwise penalized.

O. OFFICIALS  
Per IMSA Code

P. PROTEST

Protests: Per IMSA CODE Article 9, except 9.1 1.2 Protests against a vehicle must be at least 90 minutes prior to the scheduled start of the qualifying or race. The Race Director may waive this time requirement for good cause.

Q. APPEAL

Per IMSA CODE, Article 10.

R. PACE CAR

Will pace the field only as many laps as necessary, usually 2 laps prior to the initial race start, unless briefed otherwise on the Driver's meeting.

## S. FLAGS

Per IMSA CODE, Article 6.3

## T. STARTS

### **T.1. Standing Start.**

T.1.a) A one-minute board will be displayed, along with the “drivers start your engines” command. All personnel must then completely clear the pre-grid. At the appropriate time the pace car will roll and the drivers will follow in single file, starting order.

### **T.2. Parade Laps.**

T.2.a) During the parade lap drivers will keep in starting order with no overtaking and the speed will be set by the pace car. Falling back to accelerate and undertake practice starts is prohibited.

T.2.b) If a car is unable to leave the pre-grid with the rest of the field it will be allowed to trail the field.

### **T.3. Grid.**

T.3.a) At the end of the parade lap, the pace car will enter the pits and the field will take their starting positions. The front wheels of each car must remain behind the grid line for that car.

T.3.b) All personnel are strictly prohibited from the grid. A 15-second board will be shown from the starters stand once all cars are in position (which indicates 15 seconds until the light sequence begins).

T.3.c) The red lights will illuminate in sequence until all are lighted.

T.3.d) The race starts once all red lights go out and the green lights are on, (not less than half a second, but no more than three seconds).

T.3.e) A false start shall be declared when a racecar moves forward from its prescribed position before the lights are green.

T.3.f) A penalty will be imposed for a false start judged by the Officials. Decisions by the Officials are not subject to protest or appeal.

### **T.4. Aborted Start.**

If the start is aborted the red lights will go out in reverse order.

Instructions will be given to teams via the radio. The standing start procedure may then be reinitiated or abandoned; if abandoned, the pace car will be dispatched for a rolling start. Restart procedures apply.

### **T.5. Restart**

T.5.a) All laps after an aborted start will be scored as race laps.

T.5.b) The competitors will receive a minimum of two indications of an imminent start or restart of green flag racing: (1) the lights go out on the pace car, and (2) yellow flags previously displayed are dropped. There may also be other indications, such as by starter holding up one finger as the field passes on the lap preceding the green flag, or by race officials advising drivers and crews monitoring the **IMSA/Series** radio frequency.

T.5.c) Until the lights on the pace car are extinguished, it is the pole sitter or race leader's responsibility to follow the pace car at a safe distance and a speed roughly approximating that of the pace car. Scrubbing tires and warming brakes are permitted, as long as they can be done safely and without threatening or provoking contact between cars in the field. When the lights on the pace car go out, there shall be no further tire scrubbing or weaving. Form the field. The field will be single file.

T.5.d) Once the lights on the pace car are turned off, the race leader or pole sitter may smoothly adjust his or her speed, first, to ensure the pace car will not be passed before the pace car has safely cleared the racing surface of the track, and second, to allow to race leader or pole sitter to set a stable pace, at the discretion of the pole sitter or race leader, in anticipation of the restart of the race.

T.5.e) Once the race leader has established speed, he must hold that speed until he is the view of the starter. Once he is the view of the starter, he may accelerate at his discretion; however, once he accelerates, he must continue to accelerate until the green flag is displayed or the restart is aborted. No driver may pass another driver before the green flag is displayed, although alignment with other cars, right or left, is not considered.

Important: All of the above notwithstanding, each driver is always responsible for the safe conduct of his or her vehicle at all times. Any driver deemed to have intentionally caused or threatened contact with another vehicle or between other vehicles shall be penalized.

#### RACE STOPPAGE AND RESTARTS:

Will be conducted in accordance with IMSA CODE Article 6.1.8 and Article 6.18

If a race is stopped by either a Red or Black All, all pace laps leading to any restart will be scored as race laps.

#### T 2. Blocking

T.2.a) Per IMSA CODE Article 5.5

#### T 3. Avoidable Contact

T.3.a) Per IMSA CODE Article 5.6

T 4. Unjustifiable Risk

T.4.c) Per IMSA CODE Article 5.7

U. ENGINE COMPLIANCE

U.1 If an engine is determined to be a suspect by the Competition Director; the following procedure will be followed:

U.1.a) The car may be allowed to qualify and compete provided the competitor posts a bond of \$1,000 with the Race Director. This bond is to be retained by the Series until the compliance is determined.

U.1.b) Immediately after the race the engine must be removed from the car and delivered to the Series trailer for transport to the Series engine builder for inspection. Other arrangements may be made to transport the engine to the engine builder if approved by the Competition Director.

U.1.c) If the engine is found to be compliant it will be reassembled, resealed, and returned to the competitor at no cost. If the owner wishes to have any work performed after the inspection he/she must make arrangements with the official engine builder and stand cost of such work.

U.1.d) If the engine is found to be non-compliant the owner will stand all expenses, deducted from the posted bond. He/she may also be further penalized by the Race Director.

U.1.e) A competitor may substitute an alternate motor or alternate car prior to qualifying.

V. RADIO COMMUNICATIONS

V.1. While on track, all Drivers must have a person monitoring the Star Mazda official radio frequency (467.5875) and that person shall have the capacity to communicate information directly to the Driver.

V.2. All radio frequencies, whether used for mobile or fixed situations, shall be registered with the Series by each team, on forms provided by the Series. In addition, all transmitters used in the Series must be licensed with the Federal Communications Commission (FCC) and if used in Canada, licensed and coordinated by Industry Canada.

W. Decals and Patches: Required as per Series issued call-out sheet. Make certain **all requirements of the “2008 Star Mazda Logo Usage Standards” are met before the first official practice of each event.**

X. Series team transporters must display a Series logo prominently on each side. They must also display, on the side of the trailer utilizing any awning, the accurate dimensions of the awning shown in letters not less than 1 inch tall.

Y. Team Championship

Y.1.) Prizes based on total points at year end:

1st - \$10,000.00

2nd- \$7500.00

3rd- \$5000.00

Y.2.) Points will be scored (based on Expert/ Masters point values):

1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	13 <sup>th</sup>	14 <sup>th</sup>	15 <sup>th</sup>
20	16	14	12	11	10	9	8	7	6	5	4	3	2	1

for the top two finishing positions for each team's cars in each race. Any single car team entered in the team championship will receive a bonus of 5 points for each race, provided that the team's only car takes the green flag. A team must start at least one car in not less than eight Star Mazda Championship presented by Goodyear races to be eligible for year end awards or bonus for that year. Points and bonus will accrue from the date of paid entry by a team into the team championship until November 15th of the championship racing season.

Y.3.) Teams fielding more than two cars in the race will only be credited the finishing points of their top two cars. Other cars from that team will be dropped from the team scoring and other teams cars moved forward to fill the spaces of the dropped cars. (example: If a three car team finished 6th, 7th, and 8th. The 8th place car is dropped, and the 9th place car gets points for the 8<sup>th</sup> place in the team scoring.)

Y.4.) To be eligible for points and year end awards, teams must be entered in the team championship and its account must be paid current with the series and Star Race Cars. Series and Star Race Cars shall have the right to offset any money owed by the team against prizes for that team.

**Y.5) Note: Cars fielded by teams need not have drivers entered in Series Championship to count for team point standings.**

Z. Pit Lane Procedures

Z.1) Pit lane procedures are per IMSA CODE Article 6.6 unless otherwise stated

Z.2) No fueling can be done on pit lane

Z.3) Electrical tools are permitted per IMSA CODE Article 6.6.3.d

Z.4.1) No equipment, parts or tools may be placed in the pit lane prior to the car stopping for service.

Z.4.2) Only one crew member is allowed over the wall prior to the vehicle coming to a stop in order to direct the driver to the pit box.

Z.4.3) No more than 4 crew members are allowed over the wall per car stopped in the pit lane.

Z.5) Pit Entry/Exit & Speed Limit  
Per IMSA CODE Article 6.6  
Pit Lane Speed is 60KPH

Z.6) Pit lane assignments: Pit boxes will be assigned based on standings in the Team Championship. Participants not entered with a team in the team championship will be placed behind those entered in the Team Championship in order of date entry for that event was received. Assignments will be announced at the crew chiefs meeting prior to the event.

Z.7) If a session other than the race is stopped by either a Red or Black All, all cars must report to their assigned pit box and remain in place until the track goes green. Once the track goes green, proceed out of the pit lane in the order of pit assignments. No passing is allowed unless it is clearly evident that the car ahead elects to remain in their pit box. If a driver elects to remain in the pit box, that driver must then wait until all cars not relinquishing their position have cleared the pit lane.

## II. VEHICLES

Race cars must comply with the current Series and Race Bulletins, IMSA CODE, **Standing** Supplemental Regulations, plus:

### A. ELIGIBILITY

Only Pro Formula Mazda cars as manufactured by Star Race Cars are eligible for competition in this class.

### B. DESCRIPTION

Pro Formula Mazda cars are purpose-built, one-design, single-seat, open wheel racing cars conforming to restrictive regulations. Engine-Mazda 13b Renesis rotary.

### C. INTENT OF THE RULES

It is the explicit intention of these rules and associated regulations to prohibit innovation and alteration of the cars.

Anything not expressly permitted by these regulations and related supplements are prohibited.

Modifications, Substitutions and Omissions are only permitted as expressly allowed in these Regulations, related supplements, or by written consent of the Race Director.

Modifications are defined as “Any alteration to a part or component that changes its design, material, shape, finish of a working surface, function, and/or weight from that originally designed and manufactured”.

Substitutions are defined as “Any part or component that may be exchanged with an existing part of equal or different specifications that are directly interchangeable with out modification to adjoining components” this includes direct exchanges of commonly available parts and reproductions.

Omissions are defined as “The removal of any part or component from the vehicle for any reason”

### D. VEHICLE PREPARATION

#### D.1. Appearance

Painting, polishing, plating, anodizing, or other coatings and finishes are permitted; provided they are used for cosmetic purposes only and do not

significantly affect the performance potential of the vehicle. Any questions should be referred to the Race Director at the earliest opportunity.

## D.2. Driver Comfort and Safety

- a) Drivers gear including but not limited to, Helmet, Face mask, Suit, Gloves, Shoes, and Socks shall conform to IMSA CODE per Article 5.10
- b) HANS device is required.
- c) Minor changes in the cockpit configuration and controls in order to accommodate driver comfort and operation of the vehicle controls is permitted, provided safety is not compromised and there is no affect on the vehicle speed potential. Examples of authorized changes include: shift knobs, padding, foot pedals, seat, headrest, switches and steering wheel.
- d) Rear Tail Cone (crash attenuator) p/n 030-559 is required. Fitting this part to the vehicle requires the use of p/n 060-569, FTR rear bearing carrier, and two grooves machined into the rear wing mount plates, per drawing issued 31 May 05.
- e) Cockpit surround must be installed
- f) The following must be installed and operational per IMSA CODE
  - i) A six point Driver restraint system as fully defined by IMSA CODE (11.5.13.1)
  - ii) All cars must be equipped with one master electrical circuit breaker outside the car, on driver's right side of the roll hoop that control all electrical power (except electrically actuated fire systems). The circuit breaker must be clearly marked by a spark in a blue triangle. (11.5.13.2)
  - iii) Two external rear-view mirrors must be installed. Minimum dimension of each external mirror: 60 cm<sup>2</sup>. (11.5.13.5)
  - iv) Safety fuel cell of an approved type meeting FIA Spec FT-3 is required, (11.5.13.6)
  - v) A fire extinguisher of the following type and size is required for the respective categories and must be carried and in certified working order at all times. All cars must have an on-board fire extinguisher system with an approved extinguishing material that is in accordance with the FIA Sporting CODE, Appendix J, Article 258.14.1, or equivalent. Trigger must be marked with a red circle with the letter "E" and be operable by the Driver and also from outside the car. Outlets must be directed into the Driver, engine and fuel compartments. (11.5.13.11)

vi) An on-board starter and energy source must remain functional at all times, except when deactivated in an emergency by the master electrical circuit breaker (11.5.13.14)

### D.3. Adjustments

Only those areas identified in the rules and regulations as authorized for adjustment may be changed, and then only within the range of adjustment provided on the vehicle as delivered, or as specifically defined in these rules and regulations.

### D.4. Engine

D.4.a) The required engine shall be a Mazda 13B “Renesis” rotary, as delivered by Star Race Cars. Said engine shall be sealed by an engine test facility duly authorized by Star Race Cars and the Star Mazda Championship, to discourage tampering, and to ensure consistency of engine potential. Two-piece ceramic apex seals are permitted. Only Star Race Cars and the Star Mazda Championship may authorize the servicing of engines. No impregnating materials may be used in any part of the engine including but not limited to the throttle body, oil pump, upper and lower intake manifolds, VDI & SSV valve components and the APV valve barrels and gear drive. No porting, polishing, or any other surface treatment is permitted on any part of the engine including but not limited to the throttle body, oil pump, upper and lower intake manifolds, VDI & SSV valve components and the APV Valve barrels and gear drive. Heat shielding or high-temperature coatings are permitted on the surface of the exhaust system.

D.4.b) Engine ECU: Motec M-400, as customized for Star Race Cars with series- specific configuration and mapping is required.

D.4.c) Fuel pressure and ignition timing must be as required by series technical regulations.

i) Fuel Pressure is 56psi +/-2psi as measured at the dry break with the engine running.

ii) Ignition timing is not more than 20 Deg BTDC measured at or below 2000 RPM with 8 Deg total advance.

D.4.d) For oval tracks only- Any 12 volt vacuum pump may be used to maintain vacuum in the vacuum reservoir. Pump location in the left side pod is recommended. Installation must be approved by the tech officials.

D.4.e) Spark Plugs: Unrestricted

D.4.f) Only Series specified air filter is approved for use

i) K&N Filter P/N 050-539

D.4.g) Oil filter brand, size and type are unrestricted provided they can be installed as substitution for the original oil filter without modification.

D.4.h) In-line oil filters are permitted.

#### D.4.1 Fuel System

D.4.1.a) Fuel line routing and length are free provided that they are AN -6 line only.

D.4.1.b) Fuel pressure sensor measured by the ECU must be installed and operational

D.4.1.c) Sequence of major components is as follows and is not subject to any alteration.

- 1) Fuel Filter
- 2) Fuel Pump
- 3) Bulkhead fitting at top of fuel cell
- 4) Female dry brake coupling P/N 070-526
- 5) Male dry break coupling P/N 070-527
- 6) Secondary fuel rail
- 7) Primary fuel rail
- 8) Fuel Pressure Sensor
- 9) Fuel Pressure Regulator
- 10) Bulkhead fitting for fuel return at top of tank.

D.4.1.d) Competitors are free to direct the fuel returning from the pressure regulator to the fuel cell in any way they deem necessary, so long as the return remains entirely within the cell.

D.4.1.e) Two fuel pumps are permitted for use

- i) Low volume P/N 070-507 with filter P/N 070-522
- ii) High volume P/N 070-530 with filter P/N 070-522

D.4.1.f) A secondary inline fuel filter may be fitted to the system at any point, however may not be substituted for the filters in D.4.1.e

D.4.1.g) Fuel injectors must be of original type and specification for the Mazda RX-8 Renesis engine. Injectors must be installed in their specified locations as primary (Red) and secondary (Yellow). Fuel injectors may be cleaned and

flowed using conventional methods by any source. Disassembly, service, preparation or modification to the internal parts of the injectors is prohibited.

#### D.5. Drive Train

The prescribed gearbox is a Hewland FTR six-speed, sequential shift, non-limited slip differential, with 9/31 final drive and a choice of two sets of gears.

D.5.a) Set “A” shall consist of:

1st	2 <sup>nd</sup>	3rd	4th	5th	6 <sup>th</sup>
12/29	15/30	15/25	19/27	20/25	19/21

D.5.b) Set “B” shall consist of:

1st	2 <sup>nd</sup>	3rd	4th	5th	6 <sup>th</sup>
12/29	17/30	19/27	18/22	24/26	24/24

D.5.c) Mixing ratios between gear sets is NOT permitted. Additional ratios may be authorized for certain conditions by Supplemental Regulations.

D.5.d) Reverse shall be installed and functional.

D.5.e) REM and similar coatings on internal parts surfaces in the transmission is permitted. Blue printing and polishing components is permitted.

D.5.f) Oval track gear ratios are:

1st	2 <sup>nd</sup>	3rd	4th	5th	6 <sup>th</sup>
12/29	17/30	19/27	18/22	19/21	24/26

or as designated by the Series.

D.5.g) The use of Hewland FTR “L” lightweight parts is prohibited.

D.5.h) The use of low friction seals is prohibited. Only those seals provided by Star Race Cars or Hewland will be allowed.

D.5.i) The following are the only permissible updates allowable to the gearbox per Hewland updates. Additional updates may be allowed at a later time pending further review.

- i) FTR-015 Pinion Nut Revision
- ii) Cross Shaft
- iii) Oil holes in Diff
- iv) Oil Galleys Diff

D.5.j) Any attempt to add a friction surface within the differential is prohibited

#### D.6. Clutch, Brakes, and Hydraulics

D.6.a) Clutch cover and discs may only be replaced with Star Mazda Championship approved type, size, and brand.

D.6.a)1. Series-designated Quartermaster 5.5" two-plate metallic only.

D.6.b) Brake calipers and rotors may only be replaced with Star Mazda Championship approved type, size, and brand.

D.6.b.1) Calipers must be used in their intended locations

- i) LF P/N 040-501
- ii) RF P/N 040-502
- iii) LR P/N 040-506
- iv) RR P/N 040-507

D.6.b.2) Rear calipers must be installed in the forward location on the upright.

D.6.b.3) Approved rotors are as follows

- i) LH Either Alcon P/N 040-503 or PFC P/N 040-552 Performance Friction
- ii) RH Either Alcon P/N 040-504 or PFC P/N 040-553 Performance Friction
- iii) Rotors can be mixed front to rear

D.6.c) Brake pads may only be Series approved type, shape, brand, and material. Performance Friction PFC01 (P/N 040-555) or PFC05 (P/N 040-556) with Series markings. Pads can be mixed front to rear.

D.6.d) Brake and clutch master cylinder sizes are unrestricted, as long as brand and type remain as approved by Star Mazda Championship. Alternative brands and models of clutch and brake master cylinders may be approved by the Race Director, upon the request of the driver or entrant, and the favorable recommendation of the Competition Director. An appropriate notation shall be added to the vehicle logbook and this authorization will remain in effect until further notice.

D.6.e) Minimum brake rotor thickness is 0.53 inches for Alcon, 0.679 inches for Performance Friction. Modification of the brake rotor is prohibited.

D.6.f) Temperature bands P/N 040-557 may be used around the minor circumference of the rotor vanes to increase brake temperature.

D.6.g) Routing of hydraulic lines is unrestricted, provided safety is not compromised.

D.6.h) Quick disconnect fittings are permitted for the clutch and brake lines provided they are designed for and meet motorsport specifications.

D.6.i) Anti knock back springs (P/N 040-551) must be installed inside the calipers, behind each piston.

#### D.7. Electrical and Instrumentation

D.7.a) Battery shall be securely mounted in standard, left side pod position. Size and type are unrestricted provided it is a 12 Volt rated gel cell. Car may have connections fitted for auxiliary battery. Auxiliary battery is permitted for starting the motor only, and may not be permanently attached to the vehicle.

D.7.b) Alternator shall be unmodified, in working order at all times, with belt tension according to factory tolerance. Any method for defeating the function of the alternator is prohibited.

D.7.c) Any modification to the main vehicle wiring harness, or the engine control unit (ECU) wiring harness, must be reviewed by the Series Competition Director and approved by the Race Director. Records of the details of such modification will be maintained in the vehicle logbook and Star Mazda Championship files. Routing of electric lines is unrestricted, provided safety is not compromised.

D.7.d) All ECUs in Series vehicles shall be operated with a single set of parameters, or map, common to every vehicle. This will be verified continually by Series officials at their discretion. Discrepancies will result in corrective action, up to and including disqualification from the series, based on the recommendation of the Series Competition Director and the approval of the Race Director.

D.7.e) ECUs are serviceable only through the Star Mazda Championship. The Star Mazda Championship will maintain records of the history of each ECU issued to Series vehicles.

D.7.f) Instrumentation of Series vehicles is generally free, with the following exceptions:

- 1) No telemetry
- 2) No strain gauges or load cells anywhere on the car
- 3) No laser or ultrasonic sensors on the car
- 4) No infrared sensors for tire or brake temps on the car

D.7.g) Brackets for data acquisition sensors may be purchased from Star Race Cars or custom fitted by the teams. However any bracket that requires the modification of a part in order for the sensor to operate must be approved by the Race Director.

D.7.h) Rain light must be functional at all times. Rain lights shall be illuminated when cars are on track during wet conditions, or whenever instructed by a series or IMSA official to turn them on.

D.7.i) A series compatible AMB TranX 260 transponder must be fitted in the provided location on the outside of the LH rear wing support plate.

D.7.j) An onboard camera system may be installed.

D.7.k) Updated Fuel Cut strategy wiring must be in place such that the fuel pump operation is controlled by the ECU.

D.7.l) 11 Position variable Traction Control is required for all vehicles

D.7.m) The following ECU sensors must be connected and functional such that they are recorded by the ECU:

- i) Throttle Position
- ii) Airbox Temperature
- iii) Airbox Barometric Pressure
- iv) Oil Temperature
- v) Oil Pressure
- vi) Water Temperature
- vii) Fuel Pressure

Any deliberate attempt to distort the readings of the above sensors is prohibited.

D.7.n) Lambda Sensor P/N 095-540 That is connected to and monitored by the ECU is optional.

## D.8. Bodywork and Crash Structure

D.8.a) Numbers: Use of Series issued numbers and number panels on nose and rear wing endplates is required, in the Series specified locations. Must be black with white background. The first car set of panels will be provided by the Series at no charge.

D.8.b) Heat shielding materials may only be applied to the following locations in the vehicle:

- 1) P/N 030-517, engine frame
- 2) P/N 050-537, heat shield
- 3) P/N 050-557, APV actuator

- 4) P/N 100-501, radiator
- 5) P/N 070-513 and 070-514, fuel lines
- 6) P/N 030-501, chassis
- 7) P/N 060-687, gear change cable
- 8) P/N 050-501, throttle cable
- 9) P/N 110-508, motor cover
- 10) P/N 110-527, RH lower side pod
- 11) P/N 110-529, RH upper side pod
- 12) P/N 020-512, RH lower A-arm
- 13) P/N 040-526, RR brake line
- 14) P/N 100-510, header tank
- 15) P/N 070-503, fuel cell cover

Installation of additional panels in order to apply heat shielding is prohibited.

D.8.c) Mirror size min 60 cm<sup>2</sup>, shape, and location are free.

D.8.d) Only factory original bodywork is permitted. Minor repairs are acceptable. Lightweight fiberglass bodywork is permitted.

D.8.e) Either the 2004 tub and chin splitter design or the updated 2007 tub and chin splitter design is permitted. No modification to body external dimensions or contour permitted. No openings may be added or reshaped except as provided herein. Intake ducts may be reduced or blocked in any manner along or rearward of the original plane of the radiator screen. Protective screens may be added or deleted inside the side pods, but may not extend outside beyond the original screen locations. It is permitted to trim away the horizontal surface of the rear diffuser, as needed, to prevent interference with the rear tire sidewalls.

D.8.f) Trimming some fiberglass away from the right side upper half of the side pod is permitted. Do not remove any material from the top surface of the pod or from the vertical face on the side pod shoulder. Any material may be removed below the shoulder in the area of negative wind pressure. The forward limit of any such trimming is a vertical line above the location of the third factory provided fastener, which joins the upper and lower side pod halves, when fasteners are counted from the front.

D.8.g) A cockpit windscreen may be added, provided it does not exceed 18 square inches of the total surface, does stand more than 3 inches proud of the cockpit opening, is constructed from flat stock with no compound curves, and does not constitute a potential hazard to the driver, emergency crews, or other competitors.

D.8.h) Any damage to the crash structure, i.e., carbon fiber tub, tail cone, or nose, rollover bar or mounts, shall be evaluated by the Series Technical Director and, as needed, by representatives of Elan Motorsports Technologies, to

determine suitable repairs. The competitor prior to these parts being returned into competition must provide proof of proper repairs to these areas of the vehicle to the Series Officials. The Star Mazda championship will maintain a history of such repairs. Series Officials may deem any severely damaged or unreparable tub, nose, tail cone, or roll bar structure illegal.

D.8.i) Series will post a drawing of the floor under the tub of the Pro car, showing the locations of the required inspection holes. The holes in the wood are to be 1.25" diameter. The holes in the metal sheet are to be 1.00" diameter. Locations are on the same centers. The objective is to be able to verify that the materials were originally the correct thickness. These inspection holes are required. The outer profile of both the front and rear wood floors must remain intact regardless of thickness. If metal can be observed in any area other than the inspection holes the floor will be considered out of spec. The area behind the skid plates on the rear floor may be removed to form 'u' shaped slots surrounding the area of the skids.

D.8.j) Additional Holes.

1. Holes no larger than 3/16" may be drilled in the inner skin of the chassis cockpit to facilitate secure attachment of optional parts via rivet or threaded insert. Examples include radio boxes, data sensors and ballast. Holes to the outer skin may only be drilled in the areas contained by the side pods, nose or shock cover to facilitate secure attachment of optional parts via rivet or threaded insert. Exceptions are as follows:

- i) Two holes no larger than 3/16" may be drilled in the outer skin on each side of the tub to accommodate ride height gauges.
- ii) Holes may be drilled and filled in order to inject reinforcing material filler into the tub as a field repair to cracks in the crash structure until suitable permanent repairs can be made, provided safety is not compromised.

2. Holes may be drilled in the fiberglass bodywork to accommodate the following:

- i) Mounting of on board video camera
- ii) Mounting of Radio Antenna
- iii) Accommodation of body fasteners
- iv) Accommodation of data acquisition hardware
- v) Accommodation of jumper battery plug

**D.8.k) The matching surfaces at the front of the tub and the rear of the nose may not have a gap larger than 1mm between them.**

D.8.l) A 1" Radius semi circle may be cut in the lip of the tub behind the steering wheel to accommodate the installation of Dash displays.

D.8.m) Rear skids P/N 030-564 beneath the adapter housing may be omitted.

## D.9. Aerodynamics

### D.9.a) Front Wings –

i) Angle of attack for the front wing main plane is fixed. Front wing flaps may be adjusted within the range provided. Front wing end plates may not be modified. ½ inch by ½ inch aluminum angle feet the bottom of the plates are optional, provided they do not increase the side profile of the end plate.

ii) The following part numbers are permitted as an optional replacement for the original front wing assembly:

110-602	Front Wing Kit
110-603	Front Wing Main Plane
110-604	Front Flap LH
110-605	Front Flap RH
110-606	Front Wing (outer) End Plate LH
110-607	Front Wing (outer) End Plate RH
110-608	Front Flap (inner) Fence LH
110-609	Front Flap (inner) Fence RH
110-610	Front Flap Bracket LH
110-611	Front Flap Bracket RH
110-612	Front Flap Gurney
110-613	Front Wing Aero hardware kit

### D.9.b) Rear Wings – May be adjusted within the range provided include:

i) Angle of attack of the lower element. Note: Rear wing end plates must be adjusted to within +/- 5 degrees of vertical as measured at the trailing edge of the end plate.

ii) Angle of attack of the upper elements. No gurney flaps.

iii) The following part numbers are permitted as an optional replacement for the original rear wing assembly:

110-614	Rear Wing Aero Kit
110-615	Rear Lower Main Plane
110-616	Rear Wing Upper Front Element
110-617	Rear Wing Flap
110-618	Rear Wing End Plate LH
110-619	Rear Wing End Plate RH
110-620	Rear Wing Aero hardware kit

D.9.c) No wing covers permitted at any time.

D.9.d) The front wing end plate must be replaced if the lower edge is worn off up to any mount hole intended for the aluminum foot.

D.9.e) It is permitted to fill any gap between the straight and the tapered portion of the gurney with silicone or similar product.

D.9.f) Diffuser center brackets must be installed at all times and must be in as delivered condition prior to qualifying and race.

D.9.g) Holes may be cut in the diffuser for the sole purpose of accommodating pass through of ride height gauges.

#### D.10. Suspension

D.10.a) Parts must be original, unmodified, and as delivered.

D.10.b) Static adjustments only within the range of adjustment provided. (ride, height, caster, camber, toe in/out, bump steer) It is permitted to disconnect the sway bars (anti roll bars) and remove any parts necessary to safely accomplish this.

D.10.c) Manufacture and construction of spherical bearings and rod ends is unrestricted, provided suspension geometry is not altered beyond original adjustment range. A minimum thread engagement of 1.5 times the rod end shank diameter must be maintained inside suspension links at all times. Based on 1.5 times the rod end engagement with as delivered rod end the Maximum lengths allowable, measured with a trammel bar, centerline to centerline, are as follows:

Front Upper Forward Leg	Front Upper Rearward Leg	Front Lower Forward Leg	Front Lower Rearward Leg	Front Push Rod Short	Front Push Rod Long
19.200"	24.850"	23.675"	26.575	23.000	23.937
Rear Upper Forward Leg	Rear Upper Toe Link	Rear Lower Forward Leg	Rear Lower Rearward Leg	Rear Push Rod	
16.063"	15.825"	23.000"	22.460"	21.785"	

D.10.d) Springs must be Series issued and approved, Hyperco 4" free length by 36mm ID. Only 600, 700, 800, 900, or 1000 lbs/inch rates may be used. Any four springs may be used in any position on the car.

D.10.e) Shock Absorbers (Dampers): Ohlins ST-44 serviced, serial numbered, and sealed by Series only. The shock absorbers have the Series specified set of parameters or build that shall not be altered. Shock absorbers must be installed in the positions supplied. Front part number: 000-503 (VDD5C001 Stamped on

the shock body) Rear part number 020-504 (VDD6C001 Stamped on shock body) Adjustment is free, within the range provided. No sealastics or packers permitted. Shock absorbers may only be serviced through Star Mazda Championship. Service includes changing of internal fluids but not reservoir pressure.

D.10.f) 1. Only one suspension pick-up point has an optional location. The rear, lower wishbone, may be located in either of the forward, inboard mounting point provided on the transmission adaptor case.

D.10.f) 2. The spacer (P/N 000-549) that resides between the tub and the lower pin (P/N 000-529) must be in place at all times.

D.10.f) 3. Roll centers and suspension geometry are only adjustable via the rod ends attached to the wishbones. Any attempt to alter any pick up location using shims, spacers, washers or any other method is prohibited.

D.10.g) Pushrods: Front pushrods as originally supplied on the cars and must measure between 20 ¼ inches overall and 21 3/16 inches overall. Any length may be used, but both sides must be of the same length. Exception: Unequal length front pushrods may be used on oval tracks, provided the length of each pushrod is within the permitted range of dimensions.

D.10.h) Front sway bar/blade: Updated sway bar blade p/n 000-551 must be used at all times, with either the 19mm front sway bar or the 20.5mm sway bar, modified per Series bulletin issued 10 May 04. For oval track events, the Series shall require the 20.5mm front sway bar, unmodified.

D.10.k) The lower rear wishbone clevis on the LH rearward leg (P/N 030-505) may be modified for the sole purpose of facilitating removal of the gearbox side cover.

D.10.j) The use of one spring abutment bearing per spring is permitted. (P/N 000-562)

D.10.k) Uprights: Uprights must be unmodified. No blueprinting of the uprights is permitted. The use of shims, washers or spacers between the mating faces of the hub (P/N 000-521) and either Front tooth wheel (P/N 000-543) or the outer drive cup (P/N 060-531) in an effort to relieve pressure on the wheel bearing is prohibited. Rear uprights must use the 12 point Mil spec hub bolts (P/N 060-652) and 12 point Mil spec nuts (P/N 060-653) as delivered for safety.

D.10.l) Wheel bearings: The only authorized wheel bearings are as follows:  
i) SNR P/N 140-501  
ii) SKF P/N 140-517

Repacking of the bearing grease is permitted and grease brand and type are free. No other alterations can be made to the bearings.

#### D.11. Tires and Wheels

D.11.a) Wheels are:

Front: Series approved BBS 9" wide x 13" diameter

Rear: Series approved BBS 11" wide x 13" diameter

D.11.b) Series will mark one set of dry (slick) tires, before, during, or after official qualifying during impound. At least three of the same four marked tires, used in qualifying, must then be used to start the race. One tire may be substituted for the race, without penalty. No other additional tires may be used, except for rain tires, which may be used at any time. Substitution of more than one tire will result in loss of qualifying time, except that the rain tires and dry tires may be exchanged in complete sets, between qualifying and race, without penalty. There is no limit on the number of rain tires used.

D.11.c) Use of tire warmers or cooling methods other than ambient air is prohibited.

D.11.d) Tires may never be treated with a foreign substance.

D.11.e) A list of required tire specifications for each race will be published in advance by the Championship in the Supplemental Regulations or in bulletins posted on the competitor's page of the website ([www.starmazda.com](http://www.starmazda.com))

D.11.f) Tires: Only Goodyear

Front, Dry - #D4191

Rear, Dry - #D4192

Front, Wet - #D4193

Rear, Wet - #D4194

#### D.12. Hardware and Fluids

D.12.a) Commercially available (such as McMaster-Carr, Grainger, or Bild Industries catalogues) hardware and fasteners are free, except that threaded fasteners shall be ferrous material only, minimum grade 5. Metric or US sizes and threads are permitted. Aluminum fasteners are permitted on bodywork

only. A part may be considered a fastener only if it serves no other purpose than to cause a component to maintain a fixed position.

D.12.b) Hoses and clamps are free, provided safety is not compromised.

D.12.c) The following parts may be drilled / tapped for the sole purpose of installation of captive nuts.

- i) Front rocker P/N 000-514
- ii) Rear rocker P/N 020-518
- iii) Front shock clevis P/N 030-529
- iv) Rear shock clevis RH P/N 030-503
- v) Rear shock clevis LH P/N 030-502
- vi) Front tub clevis P/N 030-511
- vii) Rear wing camber plate LH P/N 110-504
- viii) Rear wing camber plate RH P/N 110-503

Additional parts may be added at the discretion of the Competition Director.

D.12.d) Fluids and lubricants, other than fuel, and shock/damper oil are unrestricted.

D.12.e) Fuel: Only series-designated VP brand, MS-98, may be used.

#### D.13. Weight and Dimensions

D.13.a) Minimum weight with driver – 1320 lbs.

D.13b) Ballasting is permitted. Ballast shall be securely mounted to the tub, such that it does not constitute a hazard.

D.13.c) Aluminum under trays may be replaced with steel replicas, or multiple under trays may be fitted, if needed for ballast.

#### D.14. Illegal Parts

Any non-compliant part(s) found in impound on any Star Mazda Championship race entry will be forfeited by the car owner without compensation and may be disposed of by Series officials. It is the intent of this rule to remove any such parts from circulation and to prevent them from being sold to unsuspecting used race car buyers.

#### D.15. Prohibited materials

D.15. a) Magnesium and/or titanium may not be used for any part of the vehicle, unless specifically listed in these regulations and called out by part number and description.

