



COOPER TIRES PROTOTYPE LITES CHAMPIONSHIP

Technical Regulations Lites 3 / L-3 2010

V1

January 1

PROTOTYPE Lites 3 Technical Regulations

Art. 11 – ELIGIBLE VEHICLES & GENERAL RULES:

11.1.1 – The only car eligible for the Prototype Lites 3 Championship in 2010 will be the Enterprises Sports Racer that will be homologated by the manufacturer, and there after will remain fixed except that with permission from IMSA modifications for safety may be made. This car must be installed with the Mazda MZR 2.3 Liter engine, as supplied and sealed by SCCA Enterprises.

11.1.2 - The car must be registered by the manufacturer no later than 15th January, 2007 and the homologation made no later than 15th February, 2007 and will remain in effect until December 2011; during the homologation a single update kit may be offered, but no sooner than December 2007

11.1.3 - These vehicles will comply with the Technical Regulations of this Championship and/or any amendments to the Technical Regulations issued by way of an official Championship Bulletin or as provided in any supplemental regulation to a specific event.

11.2 - Technical Specifications:

The following technical specifications shall apply to the Championship:

- IMSA Code Technical and Safety Regulations are authoritative
- These Technical Regulations

11.3 General Information

Anything not expressly permitted in these Regulations is prohibited. Modifications are only permitted if expressly allowed by these Technical Regulations and/or approved by IMSA. Modification is defined as “Any change in the design, material, shape, dimensions and/or surface finish of a component from that originally designed and manufactured.” (except for paint on exterior bodywork)

11.3.1 Limits of Adjustments

Except as may be stated in these regulations, the limit on any adjustment on the car shall be the range of adjustment permitted by the stock parts using the stock fixation points as supplied by the manufacturer. No additional adjustment points within the range may be created by altering parts from their manufactured configuration.

11.4 Homologation Form

11.4.1 - "L3" cars shall comply with the homologation form filled out by the manufacturer and agreed after the inspection carried out by IMSA.

11.4.2 - Modifications: the specifications listed in the Homologation Form and all the aerodynamic elements of the car can be changed only by the car manufacturer and with agreement by IMSA.

11.4.3 - Once the Homologation Form has been agreed by IMSA, the manufacturer shall give a copy of it to the owner of every car sold after filling the first page (chassis number, name and address of the owner)

11.4.4 - A car is not permitted to undergo scrutineering before taking part in an event if it has not been homologated by IMSA.

11.4.5 - The competitor should have their Homologation form for their car.

Definitions:

11.5 Prototype Lites 3 car:

One design, fixed specifications, open cockpit, single seat Sports Racer with Mazda MZR 2.3 Liter engine. Cars are packaged and sold by SCCA Enterprises, Inc. All replacement parts are supplied through SCCA Enterprises, Inc.

11.6 - Maintenance and Repairs

It is permitted to perform routine maintenance and repairs as long as existing parts are in no way modified and replacement parts are official SCCA Enterprises Sports Racer parts. Contact SCCA Enterprises' if any seal is broken, lost by accident or intent. Parts and materials with an Enterprises part number having the prefix “WM10” are considered to be unrestricted, providing their dimensions and materials are comparable. No other parts are to be considered “unrestricted” except where specified.

ART. 13 - BODYWORK:

Bodywork - Must be homologated by the manufacturer and cannot be changed from what is recorded on the homologation form.

NO MODIFICATIONS ALLOWED (except as specified)

If any seal, label, stamp is missing the parts must be returned to Enterprises for resealing.

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13.1 - Bodywork shall remain unmodified with the exception of holes for a slave or jumper battery plug and trackside beacon receiver, and/or toe hooks. All repair work must match original body dimensions and contours.

13.2 - Bodywork fasteners are free.

13.3 -The car may be painted any color(s), except primer.

13.4 - Radiator screens are allowed and recommended.

13.5 - All aerodynamic devices shall be used as delivered: i.e. wings, body winglets. No modification to mounting location or holes.

13.6 – Body Damage: Racers tape may be used to repair crash damage, or as a precautionary means of securing the body retaining latches. Crash-damage is defined as having occurred during the current event and the tape should be of an appropriate color if possible.

13.6.1 – Taping of Body joints are not permitted.

13.7 – Rear Wing:

Must be homologated by the manufacturer and cannot be changed from what is recorded on the homologation form.

The rear wing and its related mounting components are to be used and mounted as delivered. Any modifications are strictly prohibited. The wing element may only be adjusted within the parameter of the wing adjusters as provided from Enterprises. No additional holes may be added. Different wing endplates may be used as long as the fit within the dimensions of 10 3/4 inch wide and 11 inch tall. A gurney flap or wicker bill may be use and may be no taller than 1/2 inch.

13.8 - The stock headrest may be modified or replaced with any headrest meeting SCCA GCR section 9.4. The stock lateral bolsters may be modified or removed.

13.9 - SCCA Enterprises windscreen P/N: WM137000 is allowed.

13.10 - Chassis

NO MODIFICATIONS ALLOWED except as noted in these rules.

13.10.1 - All cars shall use the stock, as delivered by Enterprises, wood floor of 6mm, with an allowable deviation of 3 mm across the surface for wear.

13.10.2 - Seats are free. Panels inside the cockpit may be attached to the frame as long as the points of attachment are no closer than 6 inches apart. No welding or gluing of the seat to the structure of the car is allowed.

Definition of cockpit is: area between the front roll hoop and rear roll hoop.

13.10.3 - Painting or powder coating of the chassis is allowed.

13.10.4 - Enterprises foot drop box part # WM180020 may be installed.

ART. 14 – WEIGHT:

14.1 – Minimum Weight

1350 lbs. is the minimum weight of the car including the driver and his/her complete racing apparel at all times during the event, with no fuel on board.

14.2 – Ballast

Ballast must be placed between the front dash bulkhead and the front engine bulkhead. Ballast shall be fastened securely to the floor with minimum flat head 5/16 bolts, washers and nuts on both ends.

14.3 – The weight may be checked at any time during the event.

ART. 15 – ENGINE:

15.1 Engine - NO MODIFICATIONS ARE ALLOWED EXCEPT WHERE SPECIFICALLY AUTHORIZED WITHIN THESE RULES.

This includes all fuel injection and engine management components, including exhaust, cooling, electrical and lubrication systems. All systems are subject to test procedures and must conform to OEM specifications as stated and supplied by Enterprises. All fluids, except fuel, are unrestricted.

15.2 - SCCA Enterprises, Inc., seals on the engine and other components shall remain in place at all times. All engines shall be rebuilt, checked on an engine dynamometer, and sealed through SCCA Enterprises

15.3 - Engine maintenance, which is permitted, includes the replacement, but not modification of external engine and engine systems parts.

15.4 – Engines Seals - There are six (6) seals on the engine. Two (2) on the timing cover, two (2) on the top of the valve cover, and two (2) on the oil sump. They may not be removed or tampered with.

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15.5 - All rubber oil lines may be replaced with braided metal-covered (Aeroquip type) lines. Hose clamps may be installed on the rubber oil lines.

15.6 - Intake manifold: No modifications are allowed. Absolutely no porting or the addition of material is allowed. No coating is allowed on the exterior or interior of the manifold.

15.7 - Engine Control Unit (ECU): Manufactured by MBE and sealed by SCCA Enterprises. Tampering of the ECU, ECU program, seal, wiring or sensors is prohibited.

15.8 - The flywheel weight is a minimum of 2.6 lbs for the Enterprises supplied flywheel. No modifications to the flywheel with the exception of normal resurfacing for clutch wear are allowed.

15.9 - No modification to the crankshaft dampener is allowed.

The following parts must be used:

Clutch # WM701000C

Flywheel # WM701000B

Piston # WM701004A

Throw out bearing # WM701006A

Small O-ring # WM1010405

Large O-ring #WM1010406

Flex plate and Ring Gear # WM1101053.

Spark Plugs: Part # NGK PTR5F-11, NGK ITR5F-13, or Motorcraft # AGSF32FEC.

Fuel Injectors Part # WM591929

Throttle Body Part # WM591930

Fuel Filter Part # WM591924

Air Filter Part # WM301020

15.10 - Exhaust systems may be thermal coated or wrapped.

15.11 - A heat shield between the engine block and the exhaust system is recommended for the purpose of protecting hoses, shifter cable, and wiring from the heat of the exhaust.

15.12 - A SCCA Enterprises muffler kit part # WM301046 is required. The muffler may not extend beyond the back of the transmission. An additional muffler may be added to accompany the stock muffler as needed to meet sound requirements.

15.13 - An optional air to oil cooler is allowed. The maximum core size is 13 inches wide by 6.5 inches high. No water to oil heat exchanger is allowed.

15.14 - An optional SCCA Enterprise alternator kit is allowed, Part # WM1100101

15.15 - Throttle cable is free, but throttle must remain cable operated.

15.16 - The spark plug wires may be fire sleeved and may be loomed, but must be spark plug wires as supplied by Enterprises.

15.17 - Engine compartment fluid hoses may be insulated using heat shield or wrap.

ART. 18 – ELECTRICAL EQUIPMENT:

18.1 - Electrical Equipment:

The following provisions must be complied with:

18.2 - Battery:

Battery must be located in the cockpit and must be strongly secured.

18.3 - Starting system:

18.3.1 - It must be possible for the driver to start the engine at any time when seated normally at the wheel, and without any external assistance.

18.4 - Lighting equipment:

18.4.1 - Lighting equipment must always be in working order.

18.4.2 - Cars must be fitted with

a/ At the rear:

1 - Two red lights, "Stop" lights fitted symmetrically about the longitudinal centerline of the car and separated by a minimum of the rear track measurement;

2 - One red "Rain" or "Fog" light (minimum 21 Watt) or any equivalent device approved by the FIA and located on centerline at the rear of the car.

18.5 - Telemetry & Data Recording:

18.5.1 - Apart from the following all else is forbidden:

Legible messages on a signaling pit board; the driver's body movements "Lap trigger" signals for the start or the end of a lap: a/ Lap marker transmitters (lap triggers) must be autonomous and not connected to any pit equipment (wires, cable, optical fibers, etc.) ; b/ The only function of these transmitters is to mark the laps. Two way verbal communications between

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the driver and his/her pit. The use of any other communication device is only permitted after the agreement and under the control of IMSA.

18.5.2 – Chassis Data Recording

Apart from the following all else is forbidden:

- a) Wheel speed sensor, front axle only x Two (2)
- b) Steering angle x One (1)
- c) Gear position sensor (on the gearshift only) x One (1)
- d) G-force sensor, up to three axis – One external to the data acquisition box, plus one internal to the box
- e) Brake pressure x Two (2) (One front One Rear)
- f) Lap trigger x One (1)
- g) An in-car-camera synchronized to the data (it should be noted this material may not be used for any public use without the express written permission of IMSA)
- h) RPM sensor x One (1)
- i) Throttle position x One (1)
- j) Water Temperature x One (1)
- k) Oil temperature x One (1)
- l) Oil pressure x One (1)
- m) Fuel Pressure x One (1)

18.5.3 – Allowable Engine Sensors

Apart from the following all else is forbidden:

- a) Manifold Pressure x One (1)
- b) Ambient Pressure x One (1)
- c) Air Temperature x One (1)
- d) Water Pressure x One (1)
- e) Fuel Temperature x One (1)
- f) Lambda (Fuel / Air Mixture) x One (1)

18.5.4 - IMSA has the right to read off stored data during the event.

ART. 19 - Transmission

19.1 - The 5 speed sequential transaxle supplied by SCCA Enterprises is the only permitted gearbox. The casting has to remain original. No internal or external modification (including lightening) other than normal racing repair.

19.2 - The servicing, replacement and modification of internal components is permitted by the competitor.

With the following exceptions:

- a. All components must be ferrous metal, except for bearing retainers and bearing cages.
- b. Components manufactured by alternate manufacturers are permitted. Replacement components must be direct replacements to the original components.

19.3 - The rear cover plate may be manufactured or remanufactured using aluminum.

19.4 - Only the following gear ratios are permitted:

- 1st gear combination 12:29, Ratio number 2.41
- 2nd gear combination 15:28, Ratio number 1.86
- 3rd gear combination 16:24, Ratio number 1.50
- 4th gear combination 18:22, Ratio number 1.22
- 5th gear combination 24:26, Ratio number 1.08

19.5 - Differential – Only final drive ratio allowed is 2.75. The differential must remain an open differential. No limited slip or locked mechanism is allowed. Differential must work as supplied from SCCA Enterprises (no tightening of the differential to limit slip). Must be able to use OEM components.

19.6 - Polishing, shot peening, REM© Isotropic treatment, heat and cold treatments are allowed. Coatings or plating not allowed.

19.7 - Shift cable is free, but shifting must remain cable operated.

19.8 - The shift actuator assembly must operate as supplied by enterprises. It can be polished, shot peened, or have REM treatment, heat and cold treatments.

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19.9 - MINIMUM WEIGHTS OF THE FOLLOWING PARTS

Differential Housing (both parts including bearings) 7.4 lbs
Ring Gear 3.6 lbs
Pinion Shaft 4.0 lbs
1st gear 2.7 lbs
2nd gear 1.2 lbs
3rd gear 1.1 lbs
4th gear 1.1 lbs
5th gear 1.0 lbs

ART. 20 – SUSPENSION

Suspension - Must be homologated by the manufacturer and cannot be changed from what is recorded on the homologation form.

20.1 - NO MODIFICATIONS ALLOWED. Adjustments are permitted within the limits of the suspension and steering components. All rod ends shall be engaged at least 1.5 times the diameter of the end.

20.2 - Competitors may use the entire travel of all suspension adjusted components as delivered. Alternate parts are not allowed.

20.3 - All suspension parts shall have the SCCA code embedded (a label/or an Enterprises stamp) in the part. If the part is not labeled, it must be returned to Enterprises for proper labeling.

20.4 - Rod ends may be replaced with rod ends having specifications equal to or greater than the OEM supplied rod ends. This includes dimensional material and strength specifications.

Replacement rod ends shall be capable of being installed with no modifications to any original components.

20.5 - Anti-roll bars (sway bars) may be disconnected, but not removed.

1. Anti roll bar sizes:

Front .875" OD \pm .005"

Top Tee .750" x .135" wall, \pm .005"

Top Tee Length: 7.5" maximum end to end

Rear lower stalk .615" Dia. \pm .005"

Upper stalk .765" \pm .005"

Arm length 5.470" shoulder to shoulder

20.5 – Dampers - Must be homologated by the manufacturer and cannot be changed from what is recorded on the homologation form.

20.5.1 -NO MODIFICATIONS ALLOWED. 4 Bilstein Shocks, Part # WM203001 or 4 Penske shocks, Part # WM1180090. Same manufacture on all 4 corners.

20.5.2 - Only shims provided on the shocks are legal (no bump rubbers, packers or modification to shims)

20.5.3 - Bilstein or Penske shocks may be used in the original configuration or may be rebuilt. Both shock types can only be rebuilt by SCCA Enterprises or its authorized rebuilder.

a) - All shock absorbers must be sealed by SCCA Enterprises or its authorized rebuilder.

20.5.4 – Springs – Are to be steel only.

Front Springs: 600 lbs. \pm 25 lbs. Part # WM203008. Wire size shall measure .360" \pm .005".

Rear Springs:1000 lbs. \pm 25 lbs. Part # WM203009. Wire size shall measure .410" \pm .005".

ART 21 - STEERING

21.1 - Steering:

NO MODIFICATIONS ALLOWED, except as described within these rules

21.2 Four wheel steering: not permitted

21.3 An alternate steering wheel may be used. "Butterfly" style steering wheels are not allowed.

21.4 Upper steering shaft may be modified to accept an alternate steering wheel and/or hub (if applicable). It may also be modified to accommodate a larger driver.

ART. 22 – BRAKE SYSTEM

22.1 - Brakes:

NO MODIFICATIONS ALLOWED, except as described within these rules. Only the AP 4 PISTON CALIPER BRAKE SYSTEM WITH VENTED ROTORS as supplied by SCCA Enterprises shall be used.

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22.1.1 Brake pads as supplied from SCCA Enterprises, Part # WM801001x and PFC 7834.01.16.54 pads.

22.1.2 Brake rotors are used as delivered; no drilling or lightening is allowed. Minimum Diameter is 10.450". Part # WM801002x Left, Part # WM801003x Right. Min width is .600", and PFC disc # 267.17.0041.51 / 52

22.1.3 Master cylinders must be the Girling type. Front master cylinder is .700" piston diameter, Part # WM802005 Rear master cylinder is .750" piston diameter, Part # WM802006

22.1.4 Calipers must be AP 4 piston. Part numbers are:
LF # WM802004 RF # WM802003
LR # WM802002 RR # WM802001

22.1.5 Brake lines are open (no plastic or rubber allowed).

22.2 An optional brake duct kit Part # (tba) will be allowed.

ART. 23 – WHEELS & BEARINGS

23.1 - Wheels

23.2 - Bearings

23.2.1 - All wheel bearings shall be run with grease (not oil), no special coatings are allowed, and the bearing grease seal shall be intact.

23.2.2 - No ceramic wheel bearings are permitted

23.3 - Wheel spacers are not allowed.

23.4 - Pressure control valves: not permitted

23.5 - Pneumatic jacks: not permitted

ART. 24 TIRES

24.1.1 The nominated tire supplier for this Championship is Xtreme TM.

24.1.2 Tire sizes:	Front	Rear
Slicks	180/550R13 8878	250/570R13 8879
Rain tires	180/550R13 8662	250/570R13 8663

ART. 25 – SAFETY AND EQUIPMENT

25.1 - Cockpit exit time:

The cockpit must be designed so as to allow the driver wearing his/her complete driving equipment, being seated in a normal position with the seat belts fastened and the steering wheel in place, to get out of an open car in 7 sec. maximum.

25.2 - Fire extinguisher:

The use of the following products is prohibited: BCF, NAF All cars must be equipped with an extinguishing system homologated by the FIA in accordance with article 253-7.2, with the exception of the means of triggering from the outside. The means of triggering from the outside must be combined with the circuit breaker switch and be operated by a single lever. It must be marked with a letter "E" in red inside a white circle at least 100 mm in diameter and with a red edge.

25.3 - Safety belts:

25.3.1 - Two shoulder straps, one abdominal strap and two straps between the legs are compulsory: a/ these straps must comply with FIA standard 8853-98.

25.3.2 - Safety belts with two buckles are prohibited.

25.3.3 - Safety belt mounting points must be capable of resisting a 25 g deceleration.

25.3.4 – Safety belts are only good 5 years after the manufactures date.

25.4 - Rear view mirrors:

25.4.1 - Two rear view mirrors (one each side) must provide an efficient vision to the rear.

25.4.2 - The scrutineers must be assured through a practical demonstration that the driver, seated normally, can clearly see the vehicles following him. To this end, the driver will be asked to identify letters or figures, 15 cm high and 10 cm wide, displayed at random on boards placed behind the car according to the following instructions:

Height: Between 40 cm and 100 cm from the ground.

Width: 2 m one side or the other of the centerline of the car.

Position: 10 m behind the centerline of the rear axle of the car.

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25.5 – Headrest and Head Protection:

25.5.1 - All homologated cars must be compatible with the Hans device

25.6 - Master switch:

25.6.1 - When seated normally behind the wheel with the safety belt fastened, the driver must be able to cut off all electrical circuits and turn the engine off by means of a spark proof switch.

25.6.2 - The switch of the circuit breaker must be located on the dashboard in a place which can be reached easily by the driver or from outside:

- It must be clearly marked by a symbol showing a red spark in a white edged blue triangle.

25.6.3 - There must be also an exterior switch, with a handle or a ring capable of being operated from a distance by a hook.

This switch must be positioned:

- a/ On the upper part of the bodywork ;
- b/ If possible next to the lower part of the main roll bar.

25.7 – Towing Eyes:

25.7.1 - Front and rear tow hooks are required.

a/ Be rigid, made from steel, with no chance of breaking.

b/ Be securely fitted to the chassis/structure by means of a metallic rigid piece (cable hoops are not permitted)

c/ Be within the perimeter of the bodywork as viewed from above;

d/ Be easily identified and painted in yellow, red or orange;

e/ Allow the towing of a car stuck in a gravel bed.

25.7.2 - Penalty during the race:

a/ Should a towing eye break during the race, the track marshals will pull the car into a safe position using any part of the chassis or the bodywork whatsoever

b/ Competitors will have no right to lodge protests in case the car has been damaged.

25.7.3 - The main rollover structure may be used for pulling or lifting the cars

a/ The Competitor acknowledges that IMSA will not be responsible in the event of damage to the vehicle

26.5 – Modifications:

26.5.1 - Any significant modification regarding any of the main chassis structures are forbidden.

26.5.2 - Provisions will be made for updates on all safety and mechanical improvements. Such updates will be effective when authorized by IMSA.