

## 9.1.9. SPORTS RACING CATEGORY

These specifications are part of the SCCA GCR and all automobiles shall conform with GCR Section 9.

### A. SCCA SPORTS RACING CATEGORY PREPARATION RULES

The SCCA Sports Racing Category shall be for automobiles which are designed and constructed for road racing competition, offering provisions for driver and a passenger, or driver alone (single-seater). They shall conform to the following requirements.

New chassis of non-metallic composite construction shall be proven to meet FIA specifications for non-metallic composite chassis prior to being submitted to the SCCA for homologation. Contact the SCCA national office for a list of the relevant FIA specifications/SCCA requirements.

Effective 1/1/97, those cars formerly known as Sports Renault and/or Spec Racers or any variants of this chassis/drive train/bodywork combination will not be allowed to compete in ASR in any SCCA sanctioned event.

Single-seat Formula car chassis (Ex.: FA, FC, FF, FV) fitted with enclosed bodies (as specified in these rules) may run in the Sports Racing Class (ASR, CSR, DSR) appropriate for their engine displacement and GCR Section 9. This means that all Formula Atlantic, Formula Continental, Formula Ford, and Formula Vees running in Sports Racing categories shall have bodywork which complies with Section A.1 or A.2, of the Sports Racing Specifications. The ex-Formula car chassis need not have any former engine(s) fitted. Converted cars will maintain their former SCCA registration vehicle numbers. Each converted car shall be Homologated and have a new Vehicle Logbook (with new pictures); however, the former Logbook will be securely attached to the new Logbook. This procedure will enable Race Officials and Scrutineers to identify a single-seat Sports Racer as formerly having been a bona fide Formula car. New Single seat Sports Racers may be of new construction. (Design plans/pictures shall be submitted to Club Racing Technical Services for homologation before competing.)

Where Weber or other approved carburetors are specified and used, they shall retain their standard configurations of fuel distribution. This is to prohibit annular discharge carburetors.

It is the intention of the Club Racing Board to never classify or replica or derivative of a mass produced road car body in the sports racing classes. These classes are intended for open and/or closed sports racer/sports prototype bodywork

Sports racing cars shall be classified according to engine displacement and divided into classes as follows:

- A Sports Racing (ASR) - Regional Status Only (Former Can-Am and F-5000 allowed if registered prior to 01/01/2003)
- C Sports Racing (CSR)
- D Sports Racing (DSR)
- Sports 2000 (S2)
- Spec Racer Ford (SRF)

## A.1. ASR CLASSIFICATION - (REGIONAL ONLY CLASS)

### a. Definition

A class for purpose built (i.e., road racing prototype, Can-Am, SR2, etc.), highly modified single or two-seat, closed-wheel, open or closed cockpit racing cars which meet the general regulations of Section 9 of the GCR for Sports Racing Category cars, yet are unique in concept and liberal in specifications so as to provide innovative design latitude. Homologation is required on all ASR cars, except

1. Former Formula A (F-5000) cars registered as ASR cars before January 1, 2003.
2. Cars conforming to the 1978-1984 Can-Am specifications, with aerodynamic skirts removed, registered as ASR cars before January 1, 2003.
3. ASR cars registered prior to January 1, 2003 which meet the provisions of 9.1.9.A.1.n. These cars may be updated to Section A.1.b-m specifications but they then shall meet all requirements of Section A.1.b without exception, including homologation.

Exceptions:

Exceptions to the ASR specifications must be requested with the homologation application and will be listed on the homologation certificate.

### b. Chassis/Frame

Chassis/frame construction is unrestricted within the following limitations:

1. Chassis of non-metallic composite construction shall be proven to meet FIA specifications for non-metallic composite chassis prior to being submitted to the SCCA for homologation. Single seat sports racers, up to 1300 lbs., shall meet the requirements listed in FIA article 258A or 275. All sports racers over 1300 lbs. shall meet the requirements of FIA article 258A only. There are no exceptions. Contact SCCA National Office for a list of the relevant FIA specifications/SCCA requirements.
2. Chassis of metallic tube and/or metallic monocoque construction shall be manufactured to be consistent with the safety requirements outlined within these rules and the GCR.

### c. Engines

Any engine(s) may be used within the following limitations:

1. Piston or rotary internal combustion, gasoline-fueled engines only. No turbines. Turbo and/or supercharging is permitted.

### d. Fuel System

Fuel system is unrestricted within the following limitations:

1. Fuel per GCR Section 9.3.25
2. Fuel Cell Vents: Fuel tank air vents shall be located at least 25cm (9.843 inches) to the rear of the cockpit.

### e. Electrical System

Electrical system is unrestricted within the following limitations:

1. Self Starter: Cars shall be equipped with on-board self-starter

and on-board power supply controlled by the driver while in a normal driving position.

2. Lights – Brake and Tail per GCR Section 9.3.31

**f. Transmission / Final Drive**

Transmission / final drive system is unrestricted within the following limitations:

1. Power shall not be applied to more than two (2) wheels.

**g. Bodywork and Airfoils**

Bodywork and airfoils are unrestricted within the following limitations:

1. Firewall and floor per GCR Section 9.3.23
2. Bodywork shall provide comfort and safety for driver and a passenger or for a driver only. All elements of the bodywork shall be completely and neatly designed and finished, with no temporary or makeshift elements.
  - a. The bodywork as viewed from the side and above shall cover all mechanical components except that the intake, exhaust, and radiators may be exposed. The bodywork shall extend over the full width of the tires for at least one third (1/3) of their circumference as viewed from the side. Ventilation slots are permitted. The tires shall not be seen as viewed from above, although the rear tires may be exposed as viewed from the rear. Cycle-type fenders (which only cover the tire and are not continuous with the rest of the body) are prohibited. Fenders shall be firmly attached to the bodywork with no gap between body and fender.
  - b. Width – The maximum width shall not exceed 221cm (87 inches) including all aerodynamic devices. However, no portion shall extend more than 10cm (3.9 inches) beyond a plane tangent to the outer face of the front and rear wheels with tires. The minimum body width between the front and rear wheels shall not extend inwards beyond a vertical plane connecting the centerlines of the front and rear tires.
  - c. Visibility – Bodywork shall provide visibility for the driver forward and to both sides adequate for racing conditions.
  - d. Windscreens are optional.
3. Cockpit Opening
  - a. Closed-cockpit cars – Two functional doors, one on each side, are required and shall be capable of being opened from inside and outside of the car. Doors shall be hinged on the leading or top edges only. The driver's seat shall be capable of being entered from either side without the removal or manipulation of any part or panel (except for doors, removable steering wheel and removable cockpit padding).
  - b. Open-cockpit cars – The driver's seat shall be capable of being entered without the removal or manipulation of any part or panel (except for a removable steering wheel and removable cockpit padding).

The cockpit opening of metallic chassis shall have the following minimal dimensions:

Length: 60cm (23.622 inches)

Width: 45cm (17.717 inches)

This width extends over a length of 30cm (11.811 inches) minimum. This minimal rectangular opening may exist anywhere forward of the bracing, and required padding will not be considered in these dimensions.

The cockpit opening of non-metallic chassis shall be designed to meet the FIA homologation requirements (article 258A or 275 for cars up to 1300 lbs; Article 258A, only, for cars above 1300 lbs.).

**4. Aerodynamic Devices**

- a. The mounting apparatus of any part having an aerodynamic influence (i.e. bodywork, floor, sidepods, wings, spoilers, etc.), shall be rigidly secured to the entirely sprung part of the car (chassis/monocoque), shall have no degree of freedom in relation to the entirely sprung part of the car (chassis/monocoque), and shall remain immobile in relation to the chassis/monocoque at all times. This allows for actively adjusted aerodynamic elements (e.g., wings, diffusers, etc.).
- b. No Aerodynamic skirts per GCR Section 9.3.4. Within the preceding restrictions, only wearable material (fiberglass, Kevlar, carbon fiber, high density polyethylene, polypropylene, Teflon, Lexan, or wood) may be attached to the side panels as a rubbing strip. Ceramics, brittle plastics (e.g., Plexiglas), and other materials which shatter or break-up causing hazardous track conditions are prohibited.
- c. Ground effects are permitted, but may not be attained by "sealing" or bridging the gap between the bodywork and the road surface. Any means adopted to circumvent this intention shall automatically be regarded as a breach of these regulations.
- d. Leading Edges of Airfoils: The leading edge of any airfoil fixed to the front of the car shall not be sharp. Minimum radius: 0.5cm (0.2 inches).

5. Exposed glass headlight lenses and bulbs on the front of the car are prohibited.

**h. Suspension**

Suspension is unrestricted within the following limitations:

1. All cars shall be equipped with a full suspension system (e.g., springs, torsion bars, etc.) front and rear. Rigid mounted suspensions are prohibited. Monoshock/monospring systems are permitted.

**i. Steering**

Unrestricted provided that it is of a safe/secure design and acts upon at least two wheels at one end of the vehicle.

**j. Wheels and Tires**

Wheels and tires are unrestricted within the following limitations:

1. Tires shall have a minimum speed rating of 120 mph or better. Tires shall be the same size and design (e.g., radial, bias-ply, etc.) for the right and left sides of the front axle(s), and same size and design (e.g., radial, bias-ply, etc.) for the right and left sides of the rear axle(s).
2. Wheels – Minimum diameter 10", minimum width 6". Wheels shall be identical for the right and left sides of the front axle(s), and identical for the right and left sides of the rear axle(s). Wheel material shall be metal. Cars shall be equipped with a minimum of four (4) wheels. Wire wheels are prohibited.

**k. Brakes**

Brakes are unrestricted within the following limitations:

1. Cars shall have a braking system that acts upon all wheels of the vehicle. Chain/belt driven cars may have a single brake caliper that acts upon the differential, thereby applying braking force to the two (2) drive wheels.
2. Cars shall be equipped with a dual braking system operated by a single control. In case of failure or leak at any point in the system, effective braking power shall be maintained on at least two wheels.

**l. Weight (without driver)**

1. The minimum weight of the vehicle as raced, without driver, shall be 750 lbs. Cars of composite (e.g., fiberglass, carbon fiber, Kevlar, etc.) chassis construction shall not exceed a maximum weight, as raced without driver, of 1500 lbs. Cars of conventional tubular space-frame or metallic monocoque chassis construction that are in excess of 1800 lbs, as raced without driver, require specific approval by the Club Racing Board and the Club Racing Technical Manager for homologation and competition eligibility.

**m. Safety Equipment**

Note: All ASR cars shall meet all applicable portions of GCR Section 9.

1. Mirrors per GCR Section 9.3.34. Additionally, there shall be at least two (2) mirrors, each with a minimum 100cm<sup>2</sup> (15.5 in<sup>2</sup>) of reflective surface.
2. Towing Eyes per GCR Section 9.3.46. Additionally, if the rollbar is faired-in, the fairing shall have rollbar access hole(s) to allow for quick retrieval.
3. Side Intrusion Protection  
For metallic chassis, the area between the upper and lower main frame tubes from the front roll hoop bulkhead to the rear roll hoop bulkhead shall be protected by one of the following methods to prevent the intrusion of objects into the cockpit.
  - a. Panel(s), minimum of either .060" heat-treated aluminum (6061-T6 or equivalent) or eighteen (18) gauge steel, attached outside of the main frame tubes.
  - b. Reinforced body – at minimum, consisting of a double

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layer, five (5) oz., bi-directional, laminated Kevlar material incorporated into the body which shall be securely fastened to the frame.

- c. For either method, the material used for the chassis braces in this area shall be at least equivalent to the roll hoop brace material.

Non-metallic chassis are covered under the FIA chassis homologation.

### 4. Crushable Structure

For metallic chassis, there shall be a crushable structure, securely attached to the front bulkhead, with a minimum cross section of 200 cm<sup>2</sup> (31 in<sup>2</sup>), 40cm (15.75") forward of the clutch and brake pedals (not depressed) constructed of a minimum of eighteen (18) gauge 6061-T4 or equivalent aluminum.

- a. Radiators may be incorporated in this structure.

Non-metallic chassis are covered under the FIA chassis homologation.

### 5. Driver's Feet Position

For metallic chassis, the frame shall incorporate forward-facing braces to protect the driver's legs and feet. The braces shall extend from the front roll hoop to the front bulkhead. (The front bulkhead is defined as the furthest forward transverse section of the main frame.) The soles of the driver's feet shall not extend beyond the front edge of the wheel rims (in normal position; i.e., pedals not depressed) and shall remain behind the front bulkhead. The lower main frame rails shall be a minimum of twenty-five (25) centimeters (9.84") apart (inside dimension) from the front bulkhead to the rear roll hoop.

Non-metallic chassis are covered under the FIA chassis homologation.

### n. ASR Cars Registered Prior to January 1, 2003

Turbocharging/supercharging is prohibited. Cars shall be classified according to engine displacement as follows:

Engine Type	Displ. (cc)	Induction	Weight (lbs)
Rotary Piston	2292 max.	Unrestricted	1326
Racing	1300-2000	Unrestricted	1200
Racing	2001-3000	Unrestricted	1250
Stock block & cyl. head	3001-4000	Fuel injection or one Holley 4150 1-11/16	1602
Stock block & cyl. head	4001-5000	Fuel injection or one Holley 4150 1-11/16	1811

### 1. Engine, Rotary Piston

- a. Changing the capacity of the working chamber(s) is prohibited.
- b. The eccentric shaft may be replaced with another of the same basic material, but no changes in eccentricity of journal dimensions are permitted.

- c. The rotor is unrestricted providing the number of lobes remains unchanged.
- d. Alternate rotor housing is allowed only when submitted by the manufacturer and recognized by the Club Racing Board. No changes are allowed in the epitrochoidal curve in alternate housing.
- e. Rotary engine cars shall be equipped with a suitable muffler.

## A.2. CSR AND DSR CLASSIFICATION

CSR engine and weight restrictions are given in A.2.a. DSR engine and weight restrictions are given in A.2.b. The remainder of A.2 applies to both CSR and DSR unless otherwise stated.

### a. CSR Engine and Weight Restrictions

Ford-Cosworth YAC engine in CSR see 9.1.9.D

Shelby CAN AM Racer in CSR see 9.1.9.E

SCCA Oldsmobile Sports Racer in CSR see 9.1.9.F

SCCA Sports Racer in CSR see 9.1.9.G

*Elan DP02 Sports Racer in CSR see 9.1.9.H*

For the above engines and cars, specifications that are more restrictive in those sections take precedence over the general specifications in section A.2.a.

Generally applicable information for CSR engines and automobile weights are given in the following paragraphs. The table that follows provides general specification of engine types, displacement limits, head designs, intake restrictions and automobile weights allowed in CSR. Specific engines approved for use in CSR (along with any applicable restrictions) are also given in the table. All specified minimum weights are with driver (GCR 9.3.48).

1. Unless otherwise specified, minimum weight is 1200 lbs.
2. Minimum weight for cars using four valve engines over 1300cc is 1300 lbs.
3. Minimum weight for cars using Rotary engines is 1300 lbs.
4. Cars using engines with fuel injection shall weigh 25 lbs more than the same engine using carburetion.
5. Cars are permitted to use the Pro FF2000 Spec Zetec motor at a minimum weight of 1300 lbs.
6. Cars prepared to DSR specifications may compete in CSR at their current DSR weight.
7. Fuel injection is allowed on all engines up to 1615cc, up to 4-valves per cylinder unless otherwise specified. Fuel injected engines shall use the same size venturis or restrictors as the specified carburetors.

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8. Where a carburetor or fuel injection restriction is specified, either a venturi or other restrictor is required through which all intake air for each cylinder or the entire fuel-air mixture, if prepared before this point, shall pass.

Where intake restrictors are specified, the restrictors shall be round orifices (unless otherwise specified) and located within four (4) inches of the throttle butterfly. Restrictors shall be a minimum of 0.060" thickness and of the specified diameter.

9. Intake manifolds: individual runner, no plenum or balance pipes permitted *unless using an SIR or otherwise noted on the engine spec line. Cars using an SIR may use any manifold type.*
10. Where carburetors only are specified, the following carburetors are approved: Weber, Solex, SK, Mikuni and Del Orto
11. All non-motorcycle engines over 1300cc shall be derived from cars listed as eligible for the SCCA Production or GT Category, unless specifically allowed.
12. Engines over 1300cc may be modified as provided for in the current GT 2, 3, and Lite rules, except that the bore, crankshaft stroke, and flywheel are unrestricted, providing the appropriate specified displacement limit is not exceeded. Any alternate pulleys (all) allowed. A crankshaft dampener is allowed.
13. SCCA Enterprises Sport Racer cars are eligible to compete in the C Sports Racer class and must be prepared to all of the SCCA Enterprises specifications. Other variations of this chassis and/or engine must receive separate homologation and/or approval in these rules in order to be approved for competition.
14. Subject to the restrictions in line Y below and the single inlet restrictor (SIR) table below, 4-cylinder, 4-cycle, production-based automotive engines are allowed. No additional individual engine homologations of 4-cylinder, 4-cycle engines over 1600cc will be made.

To establish the originality of the crankshaft, connecting rods, and pistons, each driver/entrant shall have a factory shop manual for the specific make, model, and year of the automobile for which the engine was produced. This manual shall be presented when so requested by any technical inspector. If the factory shop manual is no longer available from the vehicle manufacturer, an aftermarket shop manual will be accepted with proof of non-availability from the vehicle manufacturer. Parts listed by the manufacturer in factory service manuals or parts guides for a particular engine that supersede or replace original parts are permitted. The proof of legality shall rest upon the protestor and/or protestee.

Fuel injection allowed at 25 lb. penalty except as shown.

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Engine Type or Specific Engine		Max. Displ. (cc)	Head Type	Max. Valves / Cyl.	Induction	Weight (lbs) carb / F.I.	Notes
A	Turbocharged or Supercharged	765	Unrestricted	NA	36mm venturis or 33mm SIR	1200 / 1225	SIR shall be located upstream of the compressor inlet.
B	2 cycle	1300	Unrestricted	NA	Unrestricted	1200 / 1225	
C	4 cycle	1300	Unrestricted	4	Unrestricted	1200 / 1225	
D	4 cycle Motorcycle-based	1300	Unrestricted	4	Unrestricted	1100 / 1125	
E	4 cycle Motorcycle-based	1400	Unrestricted	4	Unrestricted	1150 / 1175	
F	4 cycle	1450	OHC Crossflow	2	Unrestricted	1200 / 1225	
G	4 cycle	1615	Unrestricted	2	37mm venturis	1200 / 1225	
H	4 cycle Motorcycle-based	1615	Unrestricted	4	42mm venturis	1200 / 1225	
I	Honda 1595 VTEC	1615	Crossflow	4	42mm venturis	1300 / 1325	
J	Lotus Ford DOHC 1600	1615	Crossflow	2	Unrestricted	1200 / 1225	Alternate aluminum block allowed.
K	Cosworth BD-series DOHC	1615	Crossflow	4	Unrestricted	1300 / 1325	Cast iron or alloy block allowed.
L	Ford - Cosworth YAC	2000	Crossflow	4	Weber 45 DCOE	1300 / NA	See section 9.1.9.D
M	Oldsmobile Quad 4	2275	Crossflow	4	F.I. w/60mm throttle body	NA / 1300	See section 9.1.9.F
N	Pro FF2000 Spec Zetec	2000	Crossflow	4	Per Pro Specs	NA / 1300 lbs	Must retain Pro FF2000 specifications. Competitor must have Pro rules available at any race.
O	Toyota 1588 DOHC	1615	Crossflow	2	Unrestricted	1200 / 1225	
P	Toyota 4AGE series DOHC	1615	Crossflow	4	42mm venturis	1300 / 1325	
Q	Toyota Sports Racer with OEM 4AGE-series	1615	Crossflow	4	See Notes	NA / 1325	Sports Toyota homologated with OEM transverse engine and OEM transaxle may use Pectel FI system as approved for Pro series; competitor must have Pro series rules
R	Volkswagen 1.6L	1615	Unrestricted	4	34mm venturis 2 Carburetors or Fuel Injection	1200 / 1225	a) VW 1.6L block with 1.8L 16-valve head or Eurospec Sports head; b) 1.8L block is allowed, but max. displacement is 1615cc; c) cam drive is unrestricted

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Engine Type or Specific Engine		Max. Displ. (cc)	Head Type	Max. Valves / Cyl.	Induction	Weight (lbs) carb / F.I.	Notes
S	Volkswagen 1.8L	1835	Unrestricted	2	Unrestricted	1200 / 1225	VW 8-valve head on 1.8L block bored to maximum 1835cc. Cam drive is unrestricted. Alt block and crankshaft permitted with max. displacement of 2135cc valve lift (measured at zero lash): .500" max.
T	Mazda 12A rotary	NA	Bridgeport	NA	One IDA 48mm w/ 36mm venturis or FI w/ 36mm restrictors per port	1300 / 1325	
U	Mazda 12A rotary	NA	Non-peripheral, non-bridge port	NA	Unrestricted	1300 / 1325	
V	Mazda 13B rotary	NA	Non-peripheral, non-bridge port	NA	One 2 bbl auto-type carb w/ 44mm choke(s) or one 2bbl F.I. w/ 44mm restrictors	1300 / 1325	Intake manifold shall have individual runners connecting one throttle plate/butterfly to one rotor, only.
W	Mazda Renesis (4 port)	NA	Non-peripheral, non-bridge port	4	F.I. w/ stock 70mm throttle body	NA / 1325	The stock upper intake manifold (plastic) shall be retained.
Y	4 Cyl. 4 Cycle	See SIR table	Unrestricted	4	See SIR table	1300 / 1325	Must use SIR as specified in Appendix B. Only stock crankshaft, connecting rods and pistons are allowed; balancing is allowed, but one rod/piston assembly must be untouched; no other modifications to these components is allowed.
Z	Mazda Renesis (6 port)	NA	NA	NA	F.I. only w/ 70mm throttle body	NA / 1325	Porting not permitted. Unmodified OEM lower intake manifold required, upper manifold unrestricted. Balance tube not permitted. Apex seals unrestricted.

**SIR Table for CSR (dimensions in mm)**

Max.Compression Ratio	Displacement (cc)			
	1800	2000	2200	2500
9.00	N/R	N/R	N/R	29.00
10.00	N/R	N/R	29.00	28.50
11.00	29.50	29.00	28.50	28.00
12.00	29.00	28.50	28.00	27.00
13.00	28.50	28.00	27.00	26.50

**b. DSR Engine and Weight Restrictions**

Type	Max. Displ. (cc)
2 cycle	900
4 cycle	1005
Rotary piston	450
4 cycle, 2 valves / cyl. max.	1025
Auto-based 4 cycle, 2 valves / cyl. max.	1305
Auto-based 4 cycle, 4 valves / cyl. max.	Any GTL engine prepared to GTL engine specifications, with individual runner restrictors or SIR, if required

Minimum weight of all chain and belt-drive cars is 900 lbs., with driver. All other cars are 1000 lbs., with driver.

No engines used in DSR shall have more than four cylinders.

**DSR Induction:**

Carburetion and fuel injection are unrestricted. Turbocharging and supercharging are restricted to engines less than 670cc with four valves or fewer per cylinder.

**Rotary Piston Engines:**

Cars with rotary piston engines by the NSU-Wankel patents shall be classified on the basis of a piston displacement equivalent of twice the volume determined by the difference between the maximum and minimum capacity of the working chamber.

**Other Designs:**

Turbine and steam-powered engines are prohibited.

**c. Safety Equipment:**

Shall comply with GCR Section 9. In addition:

1. Glass headlight lenses and bulbs on the front of the car are prohibited.
2. All cars shall provide protection for lower torso and legs of the driver by means of tubing and/or monocoque structure.

**d. Bodywork (See GCR Section 9.)**

Bodywork shall provide comfort and safety for driver and a passenger or for a driver only. All elements of the bodywork shall be completely and neatly designed and finished, with no temporary or makeshift elements.

1. The bodywork as viewed from the side and above shall cover all mechanical components except that the intake, exhaust, and radiators may be exposed. The bodywork shall extend over the full width of the tires for at least one-third (1/3) of their circumference as viewed from the side. Ventilation slots are permitted. The tires shall not be seen as viewed from *directly* above (*i.e., along a line perpendicular to the axle intersecting the center of the top of the tire*), although the rear tires may be exposed as viewed from the rear. Cycle-type fenders (which only cover the tire and are not continuous with the rest of the body) are prohibited. Fenders shall be firmly attached to the bodywork with no gap between body and fender. Aerodynamic skirts are prohibited. See next Section for definition.

2. It is the intent of these rules to minimize the use of “ground effects” to achieve aerodynamic downforce on the vehicle. Thus, for the full width of the body the floor pan will be a minimum of 45% of the wheelbase; the lower surface (surface licked by the air stream) shall not exceed 2.54 cm (1 inch) deviation in any longitudinal section through the plane forming the bottom of the tub or chassis floor. The 45% minimum (of the wheelbase) dimension is measured from the point that the surface meets the full width of the body (behind the front wheel or in front of the rear wheel). (This is not to be interpreted as requiring a floor pan beneath the motor, transaxle, transmission, or final drive housing.) No aerodynamic devices (e.g. “skirts,” body sides, etc.) may extend more than 1cm (0.394 inches) below this lower surface anywhere on the car to the rear of the front axle. Seat bucket or other protrusions shall not circumvent this rule. Aerodynamic devices shall be securely mounted on the entirely sprung part of the car and not be movable when the car is in motion. It is not permitted to duct air through any part of the bodywork for the purpose of providing aerodynamic downforce on the car. All ducted air *which exits through the top of the bodywork behind the rear of the front tires, excluding the cockpit opening, fender louvers, or slots, louvers, grills and similar devices for allowing heat to escape the engine bay*, shall pass through a heat exchanger.

Figure 1 – Location of the Controlled Area

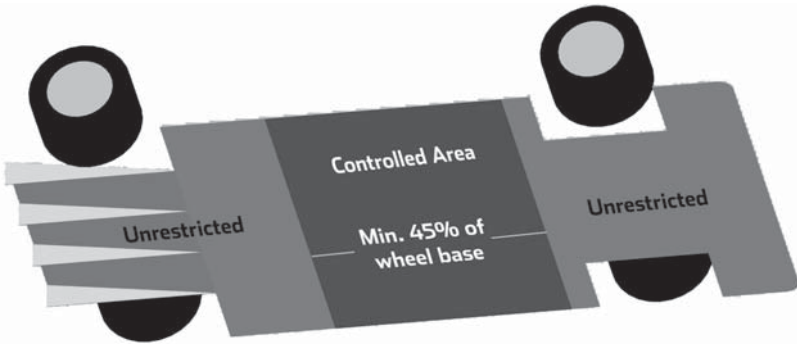
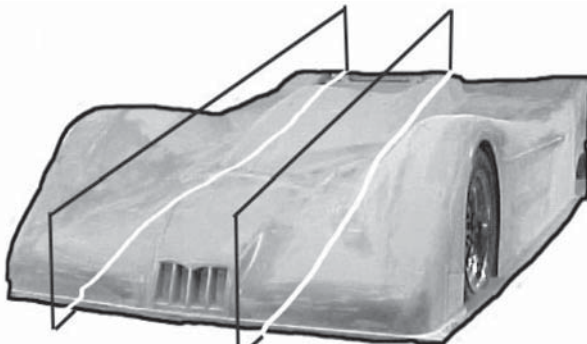
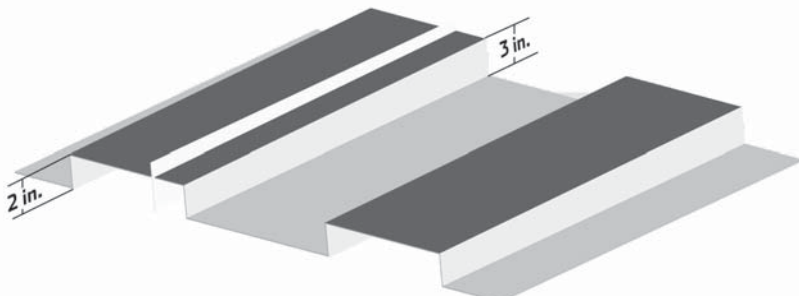


Figure 2 – Example Longitudinal Sections



**Figure 3 – Example Longitudinal Section Through Floor Pan in Controlled Area (Maximum Deviation 1 inch)**



3. Dimensions
  - a. Height: No part of the vehicle having special or significant aerodynamic function shall exceed a height of 115cm (45.25 in) above the ground with car in normal racing trim, driver aboard. Neither the safety roll bar nor the engine induction intake shall provide an aerodynamic downforce.
  - b. Width: The maximum width shall not exceed 221cm (87 inches) including all aerodynamic devices. However, no portion shall extend more than 10cm (3.9 inches) beyond a plane tangent to the outer face of the front and rear wheels with tires. The minimum body width between the front and rear wheels shall not extend inwards beyond a vertical plane connecting the centerlines of the front and rear tires.
  - c. Length: The maximum overall length shall be 485.3cm (191 inches).
  - d. Cockpit: The driver's seat shall be capable of being entered without the removal or manipulation of any part or panel except for a *removable steering wheel and/or cockpit padding* (except for those closed cockpit cars which are specifically allowed by the SCCA). The cockpit opening shall comply with the following minimum dimensions for both single and two seater sports racers: Cockpit length: 60cm (23.662 inches) Cockpit width: 45cm (17.717 inches) maintained over 30cm (11.811 inches) from the most rearward point of the seat backrest toward the front. Forward-facing roll bar and roll cage bracing and required padding are not considered part of the dimensions above. *The cockpit openings of a non-metallic chassis shall be designed to meet FIA F3 homologation requirements (Article 275).*
4. Visibility: Bodywork shall provide visibility for the driver forward and to both sides adequate for racing conditions. Rear view mirror(s) shall provide the driver with visibility to the rear of both sides of the car.
5. Windscreens are optional.
6. Bodywork shall provide comfort and safety for both driver and a passenger. There shall be seats of equal dimension and comfort for the driver and a passenger equally disposed on

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each side of the longitudinal axis of the car.

Seats shall be firmly attached in the car, but may provide adjustment for the size of the occupant. The body surrounding the driver and passenger compartment shall be symmetrical about the longitudinal axis of the car. The passenger's space and seat shall remain usable throughout the competition and shall not be encroached upon by an element of the car or equipment except as provided in these Rules.

Note: Paragraph 6 does not apply to single seat sports racers.

### e. Wheels and Tires

There shall be no restriction on the size of wheels except for a minimum diameter of ten (10) inches, provided they are identical for the right and left front axles, and identical for the right and left rear axles. Left and right front tires will be the same size; left and right rear tires will be the same size.

### f. Self Starter

Cars shall be equipped with an automatic self starter and on-board power supply operated by the driver.

### g. Brakes

These cars shall be equipped with a dual braking system operated by a single control. In case of leak or failure at any point in the system, effective braking power shall be maintained on at least two (2) wheels. A separate hand brake (emergency brake) is not required.

### h. Bulkheads and Tanks

Fuel tanks shall be isolated by means of bulkheads and vented so that in case of spillage, leakage, or failure of a tank, fuel and fumes will not pass into the driver or engine compartment or around any part of the exhaust system. No part of any oil or water tanks shall be exposed to any part of the driver or passenger compartment. Safety fuel cells (per GCR Section 9.3.26.) are required for all cars.

### i. Transmissions

*All gear changes shall be initiated by the driver. Mechanical gear shifters, direct-acting electric solenoid shifters, air-shifters and similar devices are permitted. Electronically controlled differentials and devices that allow pre-selected gear changes are prohibited.*

## B. SPORTS 2000 PREPARATION RULES

### B.1. Definition

Open cockpit two (2) seater rear engine sports racing car using a standard Ford 2000cc single overhead camshaft "NE" series engine with a two-venturi carburetor.

Sports 2000 is a Restricted class. Therefore any allowable modifications, changes, or additions are as stated herein. There are no exceptions. IF IN DOUBT, DON'T. Homologation is required for all cars registered after January 1, 1983.

### B.2. Safety Requirements

All safety equipment shall comply with Section 9. of the GCR.

**B.3. Chassis**

- a. Unrestricted except that the use of carbon fiber composite structural materials is prohibited. No engine oil or water tubes are permitted within the cockpit. The engine will be mounted upright and aligned fore and aft in the chassis.

New chassis of non-metallic composite construction shall be proven to meet FIA specifications for non-metallic composite chassis prior to being submitted to the SCCA for homologation. Contact the SCCA national office for a list of the relevant FIA specifications/SCCA requirements.

- b. Swift DB-2 and DB-5 vehicles shall have a properly installed crush box fixed to the foremost bulkhead to protect the driver's feet. The box shall meet the following requirements:
1. It shall enclose a volume of at least 864 cubic inches (.5 cubic feet).
  2. It shall extend at least 10 inches forward of the front bulkhead.
  3. It shall be constructed of aluminum at least .040 inches thick, carbon fiber or kevlar.
  4. The box may have access holes not exceeding 90 square inches in total.
- c. All cars must have a longitudinal barrier in the left leg area forward of the dash substantially strong enough to prevent the left foot from moving more than 3 inches to the left of the vehicle centerline in the event of a side impact.
- d. It is the intent of these rules to minimize the use of "ground effects" to achieve aerodynamic downforce on the vehicle. Thus, the chassis and body surfaces which comprise the underside of the car shall not deviate from a flat plane by more than 2.5cm (one (1) inch). This deviation may not be used to create an aerodynamic device. For this purpose the underside is defined as being within the rectangular area along the length between the front edge of the front wheels and the rear edge of the rear wheels and across the outside of the front and rear rims. No aerodynamic devices (e.g. "skirts," body sides, etc.) shall extend below this surface anywhere on the car to the rear of the front wheels.

**B.4. Bodywork Including Airfoils**

- a. The body shall provide a cockpit for two (2) seats and cover all mechanical components including wheels and suspension members except for the exhaust pipe, induction system, and camshaft cover which may protrude through the engine cover.
- b. Between the front and rear axle lines the body shall:
1. Maintain over a minimum of 70% of the length of the wheel-base and over a depth of 20cm (7.9 inches) a minimum body width exceeding the greatest overall width across the tires less 15cm (5.9 inches).
  2. Exceed in height the top of the tires over a width of 50cm (19.7 inches) excepting only cockpit and engine openings. There

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shall be no gap between the main body and the mudguards. The mudguards shall cover the full width of the tires around an arc of 120 degrees, which shall extend forward ahead of the axle centerline on the front and rear wheels and behind the rear wheels to at least 7.5cm (2.95 inches) above the axle centerline.

- c. Maximum vehicle length forward of the front axle centerline: thirty-three (33) inches. Maximum vehicle length rear of the axle centerline: thirty-seven (37) inches.
- d. The body above chassis level in the region of the cockpit shall not be reinforced in any way which would complicate or hinder the rescue of the driver. The cockpit opening seen in plan view shall be symmetrical about the longitudinal axis of the car and shall be large enough for a horizontal rectangle of 80cm (31.5 inches) by 40cm (15.75 inches) to be passed through with its minor axis aligned with the vehicle's longitudinal axis.
- e. Space for two (2) seats shall be provided, each of at least 40cm (15.75 inches) width, and shall be positioned symmetrically about the vehicle's longitudinal axis. There shall be at least 25cm (9.9 inches) wide foot space for both driver and passenger measured at the pedals. The passenger space should provide as much seat space, elbow room, foot, and leg room in terms of length, width, and height as that of the driver. Battery boxes and fire systems are permitted in the passenger seat area.
- f. Maximum height with driver on board, excluding safety roll-over bar and mirrors, shall not exceed at any time 90cm (35.4 inches) measured from the ground.
- g. Airfoils and/or spoilers mounted at the front of the vehicle are permitted. These airfoils and/or spoilers may only be adjusted in a horizontal plane.
- h. Adjustable airfoils and/or spoilers mounted at the rear of the vehicle shall be in the form of a flat plane and may only be adjusted within +/- 20 degrees of vertical.
- i. There shall be no gap between these surfaces, or other airfoil, and the main bodywork.
- j. All ducted air for heat exchangers (water/oil) shall pass through those heat exchangers.

### B.5. Engine

The only permitted engine is the Ford 2 liter single overhead camshaft "NE" series engine or the 1971-74 Pinto/Capri 2 liter single overhead camshaft engine with nominal bore 90.84mm and stroke 76.95mm (Note: All blocks shall contain casting number HM6015BA, HM6015AA, HM6015BB, HM6015AB, HM6015DA, or HM6015AD. Dashes in the casting number are not relevant.). Production tolerances are permitted providing the total swept volume does not exceed 2000cc.

- a. The rockers shall remain entirely unmodified. Alternate manufacturers may be used as long as the original materials and dimensions are the same. Camshafts must be from Ford Motor Company, or Crower part number E-57553 FF2000, or from the approved supplier. Camshaft geometry shall be stock. Offset keys are

- permitted. Tuftriding or Parkerizing is permitted. Maximum valve lift at determined points by camshaft rotation will be established. The use of a low rate substitute valve spring is permitted. Load characteristics of special checking spring: twelve (12) pounds at 1.417 inches, thirty (30) pounds at 1.000 inches. Maximum valve lift against cam angle with zero tappet clearance: 0.400 +/- 0.005 An adjustable camshaft sprocket which retains the same number of teeth and pitch as the stock sprocket may be used.
- b. A standard crankshaft shall be used. Spot machining to achieve balance is permitted. Tuftriding, Parkerizing, shot peening, shot blasting, and polishing are permitted. Minimum weight: twenty-seven point five (27.5) pounds.
  - c. The flywheel shall be a standard component or the approved alternate: Elite-001. The minimum weight is 14.4 pounds with ring gear. The flywheel may be machined to achieve minimum weight. Spot machining to achieve balance is permitted. Flywheel bolts are free and locating dowels are permitted. A 1600 GT starter ring may be fitted. The use of any single plate clutch is permitted provided no modification is made to the flywheel other than changing the points of attachment of the clutch to the flywheel. Carbon fiber clutches are not permitted.
  - d. Maximum compression ratio will be controlled as follows:
    1. Minimum Cylinder Head combustion chamber volume 49cc (not including head gasket). Polishing and/or tooling of the cylinder head to achieve only the required combustion chamber volume is permitted.
    2. Standard Ford gasket, *Fel-Pro #8361PT*, or Ferrea part number G50100 may be used. Gaskets will have a minimum thickness of .9mm, and a minimum diameter of cylinder aperture 92mm.
    3. Pistons shall not protrude above cylinder block surface at TDC.
  - e. It is permissible to reshape inlet and exhaust port by removal of metal within limits. Addition of material in any form is prohibited. Maximum diameter of inlet port at manifold head face 39.5mm. Maximum dimensions of exhaust port at manifold face 35.5mm x 27mm. The distance between the valve centers and the angles of the valves shall not be altered.
  - f. Pistons shall be standard Ford Mahle, AE Hepolite, or J&E. Pistons must be unmodified in any way except for balancing and as detailed herein.
 

The following combinations are permitted:

    1. Mahle piston P/N 80HM6102LA with rings, pin, connecting rod (with bolts), but without bearings: Minimum permitted weight = 1332.5 grams.
    2. Mahle piston P/N 85HM6102DA with rings, pin, connecting rod (with bolts), but without bearings: Minimum permitted weight = 1240 grams.  
NOTE: This piston may have either casting #90V108 or #90V118.
    3. AE Hepolite piston P/N 21426, casting P/N 21426 (AE Hepo-

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lite) with rings, pin, connecting rod (with bolts), but without bearings: Minimum permitted weight = 1240 grams.

4. J&E piston P/N M-6102-B200 with rings, pin, connecting rod (with bolts), but without bearings: Minimum permitted weight = 1240 grams.

NOTE: M-6102-B200 piston assembly is now made by JE and is visually different. I.D. Marks: M-6102-B200, Ford racing logo. All marks pin stamped on wrist pin bosses.

Piston rings are unrestricted provided that:

1. One oil control and two compression rings are used.
2. No modification is made to the piston for the installation of rings.

Localized machining of the gudgeon pin bosses to achieve balance and weight by simple machining; all external surfaces, dimensions, and profiles shall remain standard with the exception of the top surface of the piston crown which may have simple machining to achieve balance, and as required in Section 9.1.9.B.5.d.3.

- g. Valves may be of Ford manufacture or Ferrea part numbers VSOIN200 and VSOEX2000. Valves shall remain standard; no reprofiling or polishing is permitted.

The original forty-five (45) degree seat angle shall be maintained.

Maximum face diameter inlet 42.2mm.

Maximum face diameter exhaust 36.2mm.

Maximum valve stem diameter 8.4mm.

- h. Full connecting rods may be standard Ford, Cosworth, Oliver, or Crower. The approved Crower part numbers are SP93230B-4 or SP93230PF-4. Any rod bolts may be used. Floating piston pins may be used. Standard rod length must be 5.00 inches (+ .005" -.010"). Machining is permitted to remove metal from the balancing bosses to achieve balance only. Tuftriding, Parkerizing, shot peening, shot blasting, polishing, etc., are permitted.

- i. Maximum valve lift against cam angle with zero tappet clearance: (Lift measured in mm)

<u>Angle</u>	<u>Inlet</u>		<u>Exhaust</u>	
	<u>Opening</u>	<u>Closing</u>	<u>Opening</u>	<u>Closing</u>
0	10.442	10.442	10.442	10.442
5	10.36	10.36	10.36	10.36
10	10.11	10.11	10.11	10.11
15	9.69	9.69	9.69	9.69
20	9.11	9.11	9.11	9.11
25	8.37	8.37	8.37	8.37
30	7.45	7.45	7.45	7.45
35	6.38	6.38	6.38	6.38
40	5.17	5.17	5.17	5.17
45	3.86	3.86	3.86	3.86
50	2.59	2.58	2.58	2.59
55	1.5	1.47	1.47	1.5
60	0.86	0.81	0.81	0.86
65	0.65	0.56	0.56	0.65
70	0.54	0.43	0.43	0.54
75	0.46	0.33	0.33	0.8
80	0.37	0.19	0.19	0.37
85	0.26	0.08	0.08	0.26
90	0.2	0.01	0.01	0.2

- j. Engines will be mounted upright, and aligned fore and aft in the chassis.
- k. A single carburetor only will be used on a standard inlet manifold. The carburetor will be a Weber 32/36 DGV 26/27mm venturi, its origin being from a 1600 GT "Kent" or 2000 SOHC NE engine. The Holly 5200 32/36 carburetor also may be used; carburetor with the swaged fuel inlet fitting shall be replaced by drilling and tapping the carburetor body for a threaded fitting. The air cleaner may be removed and a trumpet fitted, and jets may be changed, both throttles may open together, cold start devices and diffused bar may be removed, internal and external antisurge pipes may be fitted, and seals on emission control carburetors may be removed. The bottom of the lower column portion of the auxiliary venturi may be machined for purposes of high speed enrichment. No other modifications are permitted. Chokes (venturi) shall remain standard and no polishing or profiling is permitted.
- l. The addition of material by any means to any component is prohibited.
- m. It is permitted, as a means of repair, to replace damaged valve seats and cylinder bores by replacement cast iron valve seat inserts and cast iron cylinder liners; valve guides may be replaced with cast iron or bronze, all to standard dimensions. Repairs to the cam towers to facilitate replacement of cam bearing and/or replacements of broken or cracked towers is permissible as long as the cam bearing center line is not changed and that one original cam tower is retained. Line boring of cam bearing caps is permitted.
- n. Balancing of reciprocating and rotating parts is permitted only by removal of metal from locations so provided by the manufacturer.
- o. Non-standard rocker covers are permitted providing they in no way improve the performance of the engine.

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- p. Standard valve spring retainers shall be used, and single valve springs only are permitted. Shims are permitted, and valve springs are otherwise free.
- q. Exhaust system and manifold are unrestricted, within SCCA safety regulations.
- r. Lubrication system is unrestricted; dry sump is permitted. Localized machining of the cylinder block is permitted to allow fitting of the oil pump.
- s. Oil coolers are unrestricted.
- t. Cooling system unrestricted. The radiator, if housed in or incorporating a cowl air-scoop deflector, shall comply with body regulations.
- u. Fuel Pump: Unrestricted.
- v. Distributors are unrestricted providing they retain the original drive and location. The distributor is defined as the component which triggers the L.T. current and distributes the H.T. current.

The Ignition Timing may only be varied by vacuum and/or mechanical means.

It is prohibited to use any other method or component to trigger, distribute, or time the ignition.

- w. Only the standard inlet manifold shall be used. The ports may be reshaped by the removal of metal as long as the following dimensions are maintained: maximum size at head face = 1.437" (36.5mm), maximum size at carburetor flange = 3.405" (86.5mm) x 1.595" (40.5mm). The carburetor seat face may be machined to horizontal in the fore to aft plane. The diameter of the ports may exceed the above listed dimensions if the casting bore is untouched and in its original state. The water passages in the inlet manifold may be plugged. Holes in the inlet manifold resulting from the removal of emission/vacuum lines shall be plugged.
- x. Gaskets and seals are unrestricted except for cylinder head gasket, that has the requirements listed in B.5.d.2. and the intake gasket. The intake gasket thickness must not exceed 1.1mm. Intake gasket is not to be construed as a spacer.
- y. Pump, fan, and generator drive pulleys are unrestricted.
- z. The crankcase breather may be altered or removed, but all breathers shall discharge into a catch tank.
- aa. Mechanical tachometer drives may be fitted.
- bb. Generators are optional.
- cc. Standard oversize and undersize bearings are permitted. This does not allow reducing the bearing surface area by reducing the width of standard bearings.
- dd. The use of non-standard replacement fasteners (nuts, bolts, screws,

- studs, and washers) which are not connected with or which do not support the intake manifold or any moving parts of the engine is permitted.
- ee. Only modifications or additions specifically covered by these regulations are permitted. All engine components not covered by these regulations shall remain completely standard and unmodified.
  - ff. The use of the Fast Forward aluminum cylinder head is permitted.

### **B.6 Suspension**

All parts shall be of steel or ferrous material, with the exception of hubs, hub adapters, bell cranks, pivot blocks, and bushes. Front and rear hub carrier material shall be steel or aluminum alloy. Titanium prohibited. Springs: steel only. (Rear hub carrier material on car manufactured before January 1, 1983 is unrestricted, but replacement parts shall be steel or aluminum alloy.)

### **B.7. Brakes**

Brake calipers and rotors must be ferrous. Brake system otherwise unrestricted.

### **B.8. Shock Absorbers**

Design: Unrestricted. Case material: steel or aluminum alloy.

### **B.9. Steering**

Unrestricted.

### **B.10. Wheels and Tires**

Thirteen (13) inch diameter wheels with maximum front rim width of six (6) inches and rear eight (8) inches are the only wheel sizes permitted. Material is unrestricted providing it is metal.

### **B.11. Transmission**

- a. The gearbox shall include an operable reverse gear, capable of being engaged by the driver while normally seated, and contain not more than four forward gears. The ratios are unrestricted.
- b. Rear wheel drive only is permitted.
- c. Final drive ratio is unrestricted.
- d. The differential cannot be modified in any way to limit its normal function. Torque biasing, limited slip, and lock differentials are prohibited. Excessive shimming of the differential is prohibited.
- e. The use of automatic and/or sequentially shifted gearbox is prohibited.
- f. Electronic assisted gear change mechanisms and electronically controlled differentials are prohibited.
- g. Gearboxes with shafts that are transverse to the longitudinal axis of the chassis are not allowed. The sole exception is the gearbox final drive (crownwheel) shaft axis and final drive shafts (half shafts). All change gears must be located in the case aft of the final drive.

### **B.12. Fuel Capacity**

41 lit. (10.8 gal) maximum.

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### B.13. Electrical

A self starter is mandatory, operated by the driver. Two stoplights and two taillights, each of at least fifteen (15) watts rating shall be operable.

### B.14. Weight

1310 lbs., minimum.

1335 lbs., minimum with aluminum cylinder head.

### B.15. Windscreens are optional

### B.16. Bulkheads and Cells

Fuel cells shall be isolated by means of bulkheads and so vented in case of spillage, leakage, or a failure of the cell that fuel and fumes will not pass into the driver or engine compartment or around any part of the exhaust system. No part of any oil or water tank shall be exposed to any part of the driver and passenger compartment. Safety fuel cells, as listed in Section 9.3.26., are required for cars registered after January 1, 1983. There shall be a liquid tight and fireproof bulkhead separating the fuel tank(s) from the cockpit.

## C. SCCA SPEC RACER FORD

### C.1. Definition

One design, fixed specifications, open cockpit, single seat sports racer with Roush/Ford 1.9 L engine. Cars are packaged and sold by SCCA Enterprises, Inc. All replacement parts are supplied through SCCA Enterprises, Inc., and shall be official SCCA Spec Racer Ford parts except where noted in C.3., also Motorcraft or Roush parts as noted. Cars must be assembled per SCCA Enterprises' Assembly Manual and Roush Ford Spec Racer Installation Instructions.

### C.2. Safety Requirements

Car will be delivered from the manufacturer with approved safety equipment. Replaced items shall be supplied through SCCA Enterprises, except safety harnesses and on-board fire systems may be replaced by any other that conforms to GCR Section 9.

### C.3. 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 Spec Racer Ford parts. If any official SCCA Enterprises' or Roush seal is broken, by accident or intent, the procedures outlined under C.20., shall be followed. Parts with an Enterprises part number having the prefix "R10" are considered to be unrestricted, providing their dimensions are comparable. No other parts are to be considered "unrestricted" except where specified.

### C.4. Chassis

NO MODIFICATIONS ALLOWED except as noted in these rules.

- a. Chassis rub block. It is authorized to install up to eight (8) pads of any material to the underside of the frame to eliminate damage due to bottoming out. The pads shall be no larger than 1-1/2" wide x 2" long x 1" thick. If steel plates are used, they can be no larger than 1-1/2" wide x 8" long x 1/8" thick and fastened in at least two (2) places. They shall serve no other purpose. Carriage bolts may be used to fasten rub rails to the chassis.

A steel plate of 1-1/2" wide x 1/8" thick x 14" long may be welded to the bottom of the frame below the rear shock mounting bracket.

- b. **Seat Mounts.** It is required that a metal strap be installed on the right side of the seat between the bolt heads and the fiberglass side panel; this strap shall be 1" wide x 14" long and 1/8" minimum thickness. A flat washer of at least one (1) inch diameter shall be used under any other seat attachment point. The aluminum side bracket, P/N 1380927, is required. Alternate seat belt mounting points may be installed in accordance with Enterprises' drawing 1390022.
- c. **Steering Shaft Bracket.** It is authorized to cleanly and smoothly cut off the unused portions of the steering shaft bracket and/or pad the remaining portion to prevent injury as long as this serves no other purpose.
- d. **Painting/Plating.** The chassis may be painted any color(s). Aluminum parts may be polished, anodized, coated or painted.

Surface finishes such as plating or coating may be applied for corrosion protection. Any piece that is a closed assembly (i.e., upper control arm) shall have a 1/8" DIA hole drilled in a noncritical location to allow flushing of any entrapped plating fluids.

Post plating bakeout of four (4) hours at a temperature of 375 degrees F is recommended to prevent hydrogen embrittlement. Any chassis part may be plated except for: Suspension springs, front and rear sway bars.

**C.5. Bodywork**

NO MODIFICATIONS ALLOWED (except as specified)

- a. Bodywork crash-damage may be repaired, but exterior dimensions, shapes, thicknesses, and profiles shall remain unaltered. The addition of material to increase rigidity and/or the weight is prohibited. Sections shall meet the following weight requirements:

	Minimum	Maximum
Front	35 lbs.	65 lbs.
Center	25 lbs.	N/A
Rear	30 lbs.	N/A

- b. At-track repair of crash-damage may be completed, but the minimum and/or maximum weight requirements may not be exceeded.
- c. A spring-type fastener may be used to replace the 1/4 turn fastener located to the rear of the front wheel.
- d. The car may be painted any color(s), except primer.
- e. It will be required that all cars display the following:
  1. The SCCA field logo on the front and both sides of the car.
  2. Four (4) inch high "SRF" class designation on both sides.
  3. Official tire manufacturer's decals per C.23.f.
  4. Official brake pad manufacturer's decal on both sides of the

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car if required by SCCA Enterprises.

- f. The forward braces shall be padded per GCR Section 9.4., using any padding that conforms to the GCR, or SCCA Enterprises P/N 1380786.
- g. Ballast plates may be manufactured or purchased providing:
  - 1. Ballast plates may be no more than 20 inches long, 10 inches wide or ½ inch thick.
  - 2. They shall be mounted in the same manner as the Enterprises' part.
  - 3. They shall be mounted only in approved locations.
  - 4. They shall be fastened securely with nuts on both ends.
- h. Rub Rails - P/N 1380557 LH; P/N 1380558 RH, may be fabricated from .060" thick aluminum. Dimensions shall be 2-1/2" high x 3" wide x 72" long. Additional fasteners may be used.
- i. Nose Pans - P/N 1380448 may be fabricated from .040" - .060" thick aluminum. Such nose pans must be dimensionally and functionally the same as to the original nose pan furnished by SCCA Enterprises and shall perform no other function.
- j. Floor Pans - P/N 1380434, may be fabricated from .060" thick aluminum. Such floor pans shall be dimensionally and functionally the same as to the original floor pans furnished by SCCA Enterprises and shall perform no other function.
- k. **Optional Bodywork Modification:**  
Viewing the tail section of the car from behind, draw a vertical line at the left and right ends of the outer vents from the bottom edge of the bodywork up to a point two (2) inches below the crease at the lower edge of the vented panel. Make a vertical cut at each line. The horizontal cut is to be one (1) inch below the crease at the base of the vented panel. Leave a one (1) inch radius at each corner. Air Scoop (P/N F0190000) must be installed in conjunction with rear cutout per SCCA Enterprises installation instructions.

An alternate dash panel has been approved for use in Spec Racer Fords. The dash will be furnished by SCCA Enterprises only. P/N 180100 or 180101

A 22.5" diameter wheel arch may be cut in each side of the tail section. Viewing the tail section from the side, draw a vertical line at the drive axle centerline. Locate the top of the wheel arch at a point measured from the bottom edge of the tail section 9.25" vertically along the centerline. The 22.5" diameter circle intersects the bottom edge of the tail section 11.1" either side of the centerline. The tail section may be reinforced in the forward and aft portions of the wheel arch. Dimension tolerance is +/- 0.75".

### C.6. Engine and Drivetrain

#### a. 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/Roush specifications. All fluids, except fuel, are unrestricted.

Ford recommends SAE 5W-30 or 10W-30 engine oils and Dexron II transmission fluid.

Roush and SCCA Enterprises, Inc., seals on the engine, gearbox, and other components shall remain in place at all times.

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

All hose and harness routing and attachment is per ROUSH/FORD SPEC RACER INSTALLATION INSTRUCTIONS (RFSRII).

All rubber oil lines may be replaced with braided metal-covered (Aeroquip type/size eight) lines that utilize Aeroquip type/size 8 AN fittings. Hose clamps may be installed on the rubber oil lines.

A one-fourth (1/4) inch pipe thread hole may be placed in the top of the thermostat housing for installation of an air relief valve to facilitate filling of the cooling system.

#### **b. Transmission**

THE TRANSMISSION IS A SEALED UNIT. NO MODIFICATIONS ARE ALLOWED.

Transaxle/drivetrain work which is permitted includes replacement, but not modification, of axles, CV joints, clutch disc, pressure plate, flywheel, throw-out or pilot bearing, or transaxle assembly.

Any tampering or counterfeiting of the seals will render the transmission illegal for competition. Neither SCCA Enterprises, Inc., nor Roush Industries will be under any obligation to return the transmission to legal condition. No machining allowed.

#### **C.7. Suspension**

NO MODIFICATIONS ALLOWED. Adjustments are permitted within the limits of the suspension components. (See specifications - Section J.) No modification to the components is allowed, with the exception that a Zirk fitting may be installed on the upper rocker arms to lubricate the pivots.

Left rear lower control arm must be per RFSRII, and may be used on right side.

#### **C.8. Brakes**

NO MODIFICATIONS ALLOWED. Required front air ducts shall be installed. An extension may be welded to the side of the throttle pedal to improve heel-and-toe braking. Original rubber brake lines may be replaced with braided metal-covered (Aeroquip-type/size 3) brake lines. Replacement lines shall attach to all braking components with no modifications. Brake pad "anti-rattle" clips may be removed.

#### **C.9. Shock Absorbers and Springs**

NO MODIFICATIONS ALLOWED. Bump stop shall remain on shock but may be slit vertically to ease removal for shock adjustment. The same brand of shock absorbers must be used in all shock absorber positions on the car.

All shock absorbers must be sealed by SCCA Enterprises. Prior to sealing,

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the shock absorbers will be rebuilt by SCCA Enterprises or its authorized rebuilder. Effective 1/1/2001.

### **C.10. Steering**

NO MODIFICATIONS ALLOWED. The steering rack may be shimmed with any combination of standard shims P/N 1380286 or P/N 1380287 to eliminate bump steer.

- a. Steering wheel is unrestricted. A removable steering wheel is allowed. The steering wheel center web, flange, and rim shall be of a one piece construction. "Butterfly" steering wheels are not allowed.
- b. Upper steering shaft may be modified to accept an alternate steering wheel and/or hub (if applicable).

### **C.11. Wheels (Only wheels supplied by SCCA Enterprises)**

NO MODIFICATIONS or MACHINING ALLOWED except to mount valve stems. Wheels may be painted any color(s). Plating is allowed. All wheel bearings shall be run with grease (not oil), no special coating of the bearings is allowed, and the bearing grease seal shall be intact (unmodified). Wheel spacers are not allowed.

### **C.12. Fuel System**

All changes from the Renault SR system are listed in the RFSR II and must be installed as directed therein, with no modifications.

- a. All rubber fuel lines may be replaced with braided metal-covered (Aeroquip type/size six) lines that utilize Aeroquip type/size 6 AN fittings.
- b. The fuel filter located in the fuel cell may be removed and replaced with an in-line filter, P/N FLIPR-ANG.
- c. A "tee" fitting may be installed in the Aeroquip line between the fuel cell and the fuel pump to facilitate draining of the fuel cell.

### **C.13. Electrical System**

NO MODIFICATIONS ALLOWED.

Wiring harnesses routing and attachments as per RFSR II.

The electrical system and ignition system is subject to testing procedures and must conform to OEM Roush specifications.

The EEC module is a sealed part and any tampering with the part or tampering and/or counterfeiting of the seals will render the part illegal for competition. Tampering and/or counterfeiting will also subject the driver to penalties under headings C.21.1., C.21.2., C.21.3., and C.21.4..

At any time during an SCCA sanctioned event it is possible that technical or scrutineering personnel will randomly remove and replace EEC modules or other components with other competitor's components or components which the technical or scrutineering personnel will provide.

### **C.14. Weight**

The car shall weigh 1670 lbs. minimum, including the driver.

### **C.15. Battery**

May be replaced with any battery of group No. U1. It shall remain in the

same location.

### **C.16. Vehicle Configuration**

All SCCA Spec Racer Ford cars shall comply to GCR Section 9., with the following exceptions: Section 9.3.1, "Accumulators."

### **C.17. Updates**

Provisions will be made for updates on all safety and mechanical improvements. Such updates will be effective when authorized by SCCA Enterprises, announced by the National Office, and published in FasTrack.

### **C.18. Vehicle Logbook**

The Vehicle Logbook for each SCCA Spec Racer Ford remains the property of SCCA and will contain not only the record of technical inspections, but also the major maintenance performed and all transfers of ownership. The Vehicle Logbook number will be the same as the factory chassis number that is stamped on the right rear body mount plate. When the vehicle is sold, traded, or scrapped, the logbook shall be sent to SCCA Enterprises, Inc., 14550 E Easter Ave. Suite 400, Centennial, Colorado 80112. The logbook will be reissued to the new owner. When the logbook has been filled, a new one shall be requested from SCCA Enterprises, Inc., in Centennial.

A FEE OF \$200 WILL BE CHARGED FOR LOST LOGBOOKS.

The logbook shall be presented at scrutineering for each event entered. All SCCA Spec Racer Fords are subject to normal safety inspection. Each entrant is required to have in his possession at every race, a RFSRIL book to aid scrutineers in identifying parts and correct configurations for each car. Additionally, scrutineers will check each official seal. A competitor may not be barred from competing at a specific event if a seal is broken, or damaged, but the part may be considered suspect and will be treated as such and will be noted in the logbook by the Scrutineer. If engine cam cover or oil pan seals are broken, damaged, or missing, the engine shall be removed and sent to SCCA Enterprises for testing and resealing at the competitor's cost prior to the next event.

### **C.19. Seals**

SCCA Enterprises' seals and Roush seals on engine are required for all races. Any competitor who runs an event without all proper engine seals in the required locations shall have his engine removed and shipped to SCCA Enterprises for testing and sealing after that event. The competitor will be responsible for all cost incurred by this procedure regardless of the findings, and subject to penalty by the SOM if engine is found to be not as specified.

SCCA Enterprises, Inc., and Roush seals are required on all SPEC RACER FORD engines.

Any counterfeit engine seal found by an authorized representative of SCCA, Inc., or SCCA Enterprises, Inc., shall immediately render that engine illegal for further use, without need of dyno testing or inspection. SCCA Enterprises, Inc., and Roush Industries will not be under any obligation to bring an illegally sealed engine back to legal condition. Penalties shall include all of the following: C.20.1., C.20.2., C.20.3., and C.20.4.

### **C.20. Penalties (Specific to SCCA Spec Racer Fords)**

If a competitor refuses to give his engine and/or transaxle units for testing per a request of the Chief Steward (GCR 5.12.2.C.), the following penalties will automatically be imposed:

### 9.1.9. Sports Racing Category Specifications

- a. Vehicle logbook will be impounded.
- b. Disqualification from the event.
- c. Suspension of SCCA competition privileges for thirty (30) days.
- d. The car and drivetrain are suspended from competition until the unit(s) specified by the Chief Steward are replaced.

In a case where a competitor does comply with the Chief Steward's request to have an engine and/or transaxle tested and the impounded unit(s) are found legal, the SCCA will stand all the costs incurred for the testing, including shipping. Should the impounded unit(s) be found illegal, the following penalties will be imposed:

1. Disqualification from the event.
2. A fine of \$250.00
3. Competition privileges will be suspended immediately, and the suspension will continue for a minimum of thirty (30) days after the date when all fines and costs are paid in full and the license is received by the Chairman SOM or the SCCA Topeka Office.
4. For a second illegal drivetrain offense, the competitor will be permanently disqualified from further SCCA Spec Racer Ford competition.

#### **C.21. SCCA Spec Racer Ford Drivetrain Protest**

- a. Protests shall be filed per the GCR.
- b. Protestor will specify the drivetrain item suspected (i.e., transmission or engine). The teardown bond to remove the motor and transmission is in three (3) parts:
  1. Remove and replace motor and transmission - \$400.00
  2. Ship motor to Enterprises and test - \$500.00
  3. Protest Fee: Regional - \$25.00, National - \$50.00 Item 1 will be done by the CSR or other shop that is equipped for this type of work and will be paid directly.
- c. SCCA Enterprises will inspect the motor, (item 2), and will notify the Chairman SOM as soon as possible as to the results.
- d. Enterprises shall retain the evidence, and the SCCA shall retain the fee, (item 3), until the period for appeal has passed.
- e. The Chairman SOM is required to inform SCCA Enterprises of the protest using the SR/SRF Protest Information Form.

If the protest proves to be valid and any appeal fails, the protest fee, (item 3), will be returned to the protestor. Also, the protestee will be required to reimburse the protestor the remaining fees (\$900). The protestee will not be allowed to compete again until all costs are paid. If found legal, protestor forfeits fee (items 1 and 2) above.

- f. If found illegal, competition privileges will be suspended immediately, and the suspension will continue for thirty (30) days after all costs are paid in full.
- g. For a second illegal drivetrain offense, the competitor will be permanently disqualified from competing in SCCA Spec Racer Ford competition.

#### **C.22. Accessory Items**

- a. Mirrors. The cars may be upgraded to the new mirrors, P/N 1390007, and may use mirror extension, P/N 1390023. The original mirrors furnished with the kits may be used.
- b. Seat modifications are permitted to allow padding for the comfort and safety of the driver. Foaming of the seat is permitted. Taller drivers are encouraged to use this option to gain greater roll bar clearance. Additionally, the seat may be cut or slit to allow the seat belt to cross the driver's body and remain in proper alignment per the GCR, Section 9.. Any cuts in the seat should be reinforced to prevent splintering. The seat may be widened, but installation and location shall remain the same (See j. below).
- c. Use of cool suits by drivers is authorized providing the water tank is securely mounted and approved through Tech. The car shall weigh 1670 lbs., with driver, but without the water tank.
- d. Headrest pad may be reduced in thickness for driver's comfort to a minimum of one (1) inch.
- e. Two-way radios may be installed in the car. All components shall be securely attached and approved by Tech inspection.
- f. 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. Tape cannot close body seams.
- g. Electronic memory tachometers from Auto Meter or Stack are allowed. NO MODIFICATION of the vehicle wiring harness is allowed. The power lead (+12V DC) shall be connected to the battery side of the ignition switch (not master switch).
- h. A throttle return spring may be added at the foot pedal.
- i. The addition of a metal floor pan in the area of the foot pedals/driver's feet, size shall be 27.87" x 21.56" x 1.25" made from sixteen (16) gauge metal.
- j. Aluminum Racing Products (ARP) seat may be installed. If installed the bracket kit furnished with the seat shall be utilized and unmodified. Butler seat P/N 180268 may be installed.
- k. Radiator - P/N 1380466, may be replaced with Modine P/N 1R698 or equivalent OEM manufacturer justified by one cross reference chart. The capacity, core thickness, etc., cannot be changed event if allowed under the above. The competitor is responsible for providing this documentation.

### 9.1.9. Sports Racing Category Specifications

- l. The center pedal divider may be removed in its entirety.
- m. All gauges may be replaced with those of alternate manufacture. Replacement gauges shall fit in the existing dash and attach to the spec harness. Additional gauges may be added and shall fit in the existing dash, with all wiring inside the body, easily traceable, and separate from the existing harness. Gage fittings may be added.
- n. Rod ends may be replaced with rod ends having specifications equal to or greater than the OEM supplied rod ends. Replacement rod ends shall be capable of being installed with no modifications to any original components.
- o. Original rubber clutch lines may be replaced with braided metal-covered (Aeroquip-type) size three (3) lines. Replacement lines shall be the same length as the originals as supplied by SCCA Enterprises.
- p. Master cylinder caps are free.
- q. The exhaust system may be thermal-coated and/or wrapped.
- r. Spark plug wires may be fire sleeved.
- s. Chassis/Engine data gathering systems may be installed. The data gathering system must have a separate wiring harness with visible wire tracing ability.
- t. It is forbidden to regroove tires.
- u. Anti-roll bars (swaybars) may be disconnected, but not removed.
- v. At the option of the owner a brake bias adjuster is permitted to be permanently installed and may be connected for all on-track activity. The control knob shall be installed in the cockpit in a position that is easily accessible to the driver. The Spec Racer Brake Bias Adjuster Kit, PN R0880914, will be available through SCCA Enterprises and shall be the only approved adjuster. The kit must be installed per the instructions that accompany the kit.
- w. At the option of the owner, PN F0390522 SCCA Enterprises Muffler Kit may be installed per instructions that accompany the kit.
- x. It is permitted to insulate engine compartment fluid hoses using heat sleeve or wrap.
- y. Spark Plug wire looms are allowed.
- z. Exhaust gasket, Ford part number FOFZ 9448 A is allowed.
- aa. It is permitted to remove the gear from the end of the transmission speed sensor/dipstick or replace that part with an appropriate metal plug.
- bb. It is permitted to remove wiring harness plugs which are not used in the Ford conversion.
- cc. Alternate thermostat allowed is Standt P/N 3582/BT382180. Installation of this thermostat requires replacing the rubber sealing gasket and housing to head gasket, both available at Ford dealers or aftermarket suppliers.

- dd. It is recommended to use a 5.5 to 6 foot length of hose to run between the cam cover and air box, routing the hose forward and up along the roll bar support from the cam cover, before looping the vent hose back down to the air box. This is to keep oil from running directly from the engine's cam cover vent to the air filter.
- ee. Alternate (recommended) location of the water temp gauge sender is as follows: In the "piccolo tube" where PN 1817 is previously installed, use a "tee" fitting with 3/8" NPT male threads on one end and 3/8" female threads on the other two ends. Install PN 1817 in one end of the tee and route the hoses to the expansion bottle as before. In the other port of the tee, install a 1/8" female to 3/8" NPT male adapter. Install the temp sender into the adapter.
- ff. Aluminum coolant recovery bottle, as supplied by SCCA Enterprises. P/N 462800
- gg. It is allowed to louver the right rear sidepod cover, or use oil cooler exhaust panel P/N 480505.
- hh. Butler Head Restraint, Enterprises Part # 180267, may be used.

### **C.23. Mandatory Items**

- a. Radiator screen mesh with a one-fourth (1/4) inch minimum opening shall be fitted to serve the single function of protecting the radiator from rock and stone damage and shall be a minimum of one (1) inch from the radiator core.
- b. Radiator baffle of aluminum, P/N 1380891, to close the gap between the body and the radiator shall be installed.
- c. Front brake ducts are required. Four (4) inch diameter clothes dryer or similar ducting, extending from the openings in the side baffles to the brake area shall be used. The material shall be securely fastened to the upper or lower pan area with adequate ties or safety wire sufficient to secure it.
- d. Battery post covers are per GCR Section 9.
- e. Body opening modifications are absolutely forbidden.
- f. All cars shall display three (3) official Goodyear tire decals in the following locations: One (1) decal on the nose forward of the radiator outlets. One (1) large decal on each side of the vehicle on the vertical portion of the bodywork. All other tire decals shall be removed. All cars shall display three (3) official Ford decals in the following locations: One (1) large decal on each side of engine cover. One (1) small decal on nose section visible from directly in front of vehicle.
- g. Tallman Kit, #1380905, is required on all cars.
- h. All engine mounts, brackets, hoses, harnesses, and systems (see RFSRII) must be installed as per the RFSRII.
- i. The NACA duct must be installed in the location specified and perform no other function than it's designed purpose.
- j. The heat shield (P/N 1610) must be the original, unmodified Roush

### 9.1.9. Sports Racing Category Specifications

part and be installed per the RFSRII.

- k. The shifter assembly and all linkages must be installed as per the RFSRII. It is permissible to alter the length of the shift lever handle above it's upper pivot to tailor to driver preference. It is permissible to use the appropriate Torrington or Apex joint in place of the original Borgeson joint at the specified installation location in the shift linkage.
- l. Upper control arm reinforcement straps, PN R0208087, or updated replacement arms are required on all Spec Racers by 1/1/95.
- m. The secondary filament of the brake light assembly shall be connected to a switch enabling use as rain light by 1/1/95.
- n. Plastic surge tank shall be replaced with aluminum tank (Enterprises p/n 462800). Radiator cap (16 lbs., lever-operated relief) shall be added to aluminum surge tank. Aluminum catch can (Enterprises p/n 462801) required. A bleed tube from the thermostat housing to the surge tank shall be added. The water temperature sensor may be relocated to the surge tank." NOTE: These modifications are allowed, but not required, upon publication, but will be required 1/1/2002.
- o. Alternator pulley (Enterprises p/n 902130) required.

NO MODIFICATIONS to any component are allowed except as authorized above.

### **SPEC RACER FORD SPECIFICATIONS** **CHASSIS**

- A. Vehicle Weight: 1670 lbs., minimum with driver.
- B. Front Springs: 262-279 lbs./in Enterprises P/N 280387 or previous Enterprises supplied part (ex. RO28037).
- C. Rear Springs: 412-429 lbs./in Enterprises P/N 280390 or previous Enterprises supplied part (ex. RO280388 or RO280389).
- D. Anti-roll bar diameter: .56 inches.
- E. Wheels: Front: 5.5 x 13 inches; Rear: 7.0 x 13 inches.
- F. Tires: Dry: Goodyear Eagle "Spec Racer Ford"; size 22" x 7" x 13", Model D2525. Wet: Goodyear Eagle "Spec Racer Ford"; size 22" x 7" x 13", Model D2524.
- G. Brakes: Hawk Blue 9012 pads, Minimum Rotor Thickness 10.50 mm (0.4130 in.). Rubber caliper bushings may be replaced with bronze bushings P/N 1196185. Original caliper pistons may be replaced with vented caliper piston P/N 1196186
- H. Shock Absorbers: Standard Koni shock, P/N 82X-2255-SPA1 with standard oil or Penske P/N 280396. The bump rubber provided with the shock shall be used in unmodified, stock condition. No Koni or alternate bump stop is permitted to be used with the Penske shock. Shortening the Penske shock bump rubber is allowed. All shock absorbers must be sealed by SCCA Enterprises. Prior to sealing, the shock absorbers will be rebuilt by SCCA Enterprises or its authorized rebuilder.

- I. Ground Clearance: Minimum is 2.75 inches measured at the frame on the front and rear axle lines without driver.
- J. Suspension linkage adjustments: No more than 9/16 inches of the threads showing on any spherical rod ends. This is a mandatory requirement to ensure sufficient engagement of the threads in the adjustable linkages. It is not permissible to remove any jam nut on suspension links.
- K. Negative camber shall not exceed 5 degrees front and rear.

### ENGINES

- A. SCCA Enterprises, Inc., and Roush Industries seals shall be intact in all locations. Two (2) each on cam cover, two (2) on the oil pan.
- B. Cam timing: Marks shall line up.
- C. Ports: No porting, polishing, etc..
- D. EEC module is a Roush Spec Racer Ford specific part, sealed, P/N F0992012
- E. Flywheel: Ford part #FOCZ-6375-A min. weight: 16lbs, 2oz  
Clutch disc: Ford part #FICZ-7550-A  
Pressure plate: Ford part #FOCZ-7563-A min. weight: 8 lbs.  
Pulley: Ford part #FOCZ-6316-A
- F. Spark plugs: ONLY Motorcraft AGSF 24 C or AGSF 34 C
- G. Oil filter: ONLY Motorcraft FL-400 Series
- H. Air Filter: ONLY Motorcraft #FA-1031
- I. PCV Valve: ONLY Motorcraft #EV-147

### TRANSMISSION

- A. Seals: Seals intact, SCCA Enterprises and Roush.
- B. Gear Ratios:
 

1st	3.42 : 1
2nd	1.84 : 1
3rd	1.29 : 1
4th	.97 : 1
5th	.73 or .77: 1

Final Drive Ratio: 3.62 : 1 No limited Slip

### BODYWORK

#### NOSE-ON CAR

Length at center: 62" +/- 1/2"

Width at front axle centerline: 64-1/2" +/- 1/2"

#### NOSE-OFF CAR

Height at axle centerline: Minimum 21-1/4" (measured with rigid straightedge across tops of fenders)

#### CENTER-ON CAR

Height from side pod floor to top of leading edge behind center of front tire: 19" +/- 1/4"

## 9.1.9. Sports Racing Category Specifications

Cockpit opening length from firewall center behind seat to center top of opening lip: 37-3/4" +/- 1/4"

### TAIL-ON CAR

Width at rear axle center: 66" +/- 1/2"

Length at center: 43-1/4" +/- 1/4"

### TAIL-OFF CAR

Height to top of rear lip: 16 1/8" +/- 1/2"

Openings on rear panel:

Outer: 9-7/8" Maximum x 1" Maximum

Inner: 18-1/2" x 1" Maximum

## D. FORD-COSWORTH YAC SERIES 2 LITER CLASSED IN CSR

The Ford-Cosworth YAC series 2-liter, dual overhead camshaft, 16-valve engine with nominal bore 90.82mm and stroke of 77.05mm shall be allowed in CSR cars, subject to the restrictions in this section.

Production tolerances are permitted providing the total swept volume does not exceed 2000cc.

1. a. Only cylinder head part number YB 8069 may be used. Intake port runners may be bored out to a maximum of 1.000" diameter. Ports and combustion chambers may be ported. The maximum compression ratio allowed is 10.75:1.  
b. The cylinder head face may be machined in order to effect a repair or to achieve the required cylinder head compression ratio.
2. a. Cylinder bore is 3.5756" - 3.5752" (90.820 mm - 90.81 mm).  
b. The block may be machined to maintain deck height.  
c. Re-sleeving of the block to original size is allowed.
3. a. Only Cosworth camshafts Parts No. YB 1231 (intake) and YB 1232 (exhaust) may be used. No modifications are allowed except that an oil groove may be machined on the bearing journals. Woodruff keys may not be removed. Offset keys may be utilized to achieve the correct timing. It is expressly prohibited to modify or regrind these camshafts.  
b. Only Cosworth cam pulleys Part No. YB 0197 may be used.  
c. Valve lifts and timings:  
A = 38.0 +/- 0.1 mm (1.496" +/- .004")  
B = 47.5 +/- 0.2 mm (1.870" +/- .008")  
(Both intake and exhaust.)

## Cam Lift Tables: Intake and Exhaust

Angle from nose	Lift (inches)	Angle from nose	Lift (inches)
0	0.374	360	0.374
5	0.371	355	0.371
10	0.361	350	0.361
15	0.344	345	0.344
20	0.321	340	0.321
25	0.291	335	0.291
30	0.256	330	0.256
35	0.216	325	0.216
40	0.172	320	0.172
45	0.124	315	0.123
50	0.075	310	0.075
55	0.031	305	0.032
60	0.005	300	0.009
65	0	295	0.003

Tolerance +/- 0.004", +/- 1

## 4. Valve Gear

- a. Only Cosworth intake valve Part No. YB 0016 or stainless steel replacement valves with the same dimensions may be used.

The maximum head diameter is 1.386" (35.2 mm).

The minimum valve stem diameter is 7 mm.

The overall length is 4.161" +/- 0.008" (105.68 mm +/- 0.2 mm).

- b. Only Cosworth exhaust valve Part No YB 0600 or stainless steel replacement valves with the same dimensions may be used.

The maximum head diameter is 1.228" (31.2 mm).

The minimum valve stem diameter is 7 mm.

The overall length is 4.167" +/- .008" (105.85mm +/- 0.2mm).

- c. Only Cosworth valve springs Part No. YB 1396 (intake and exhaust) and Cosworth retainers Part No. CT4276 may be used.

The spring load at 1.169" (29.7 mm) is 59.7 +/-4.5 lbs (266 N +/- 20 N).

The spring load at 0.795" (20.2 mm) is 168.9 +/- 6.7 lbs (768 N +/- 30 N).

The free length is 1.43".

- d. Valve clearances are 0.00" for intake and exhaust.

- e. Only Cosworth hydraulic tappets Part No. FB0450 may be used. This part may not be modified in any way.

5. Only Cosworth crankshaft Part No. YB 0905 may be used.

### 9.1.9. Sports Racing Category Specifications

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- a. It is permissible to remove material from the crankshaft only for the purpose of balancing.
  - b. Crankshaft minimum weight is 31.958 lbs (14.5 kg).
  - c. Crankshaft maximum stroke is 3.0315" +/- 0.002" (77.00 mm +/- 0.05 mm).
  - d. Crankshaft main journal size is 2.2431" - 2.2425" (56.975 mm - 56.952 mm). Allowable undersizes are 0.25 mm (0.0098") and 0.50 mm (0.0197").
  - e. Rod journal size is 2.0470" - 2.0463" (51.003 mm -51.997 mm). Allowable undersizes are 0.25 mm (0.0098") and 0.50 mm (0.0197").
6. Piston pins and connecting rods must be of ferrous material (e. g., no titanium).
  7. Only Weber 45DCOE carburetors may be used.
    - a. Carburetor bodies and throttle plates shall be unmodified.
    - b. Jets are free.
    - c. Anti-surge pipes may be fitted.
  8. Distributors are unrestricted providing they retain the original drive and location. The distributor is defined as the component that triggers, times and distributes the L.T. and H.T. ignition currents. It is not permitted to fit/use components on the engine to trigger, time or distribute the ignition current.
  9. The addition of material, by any means, to any component is prohibited.
  10. Engines will be mounted upright and aligned fore and aft in the chassis.
  11. Balancing of reciprocating and rotating parts is permitted only by removal of metal from locations so provided by the manufacturer.
  12. A liquid cooling system is mandatory, but the water pump is unrestricted.
  13. The crankcase breather may be altered or removed, but all breathers must discharge into a catch tank of at least one quart capacity.

**E. SHELBY CAN-AM RACER CLASSED IN CSR****E.1. Definition**

One design, fixed specifications, open cockpit, single seat sports racer.

**E.2. Safety Requirements**

Per GCR and SRCS minimums

**E.3. Maintenance and Repairs**

It is permitted to perform routine maintenance and repairs.

**E.4. Chassis**

NO MODIFICATIONS ALLOWED except as noted herein.

Painting/Plating. The chassis may be painted any color(s). Aluminum parts may be polished or anodized. Surface finishes such as plating may be applied for corrosion protection. Any chassis piece that is a closed assembly shall have a 1/8" DIA hole drilled in a noncritical location to allow flushing of any entrapped plating fluids. Post plating bakeout of four (4) hours at a temperature of 375 degrees F., is recommended to prevent hydrogen embrittlement. A flat sheet metal panel may be stitch-welded to the frame beneath the seat and feet area. The maximum thickness allowed is eighteen (18) gauge (.049"). The width of the panel may not exceed the width of the frame. Each panel must have three (3) 1/4" inspection holes.

**E.5. Bodywork**

NO MODIFICATIONS ALLOWED

- a. Bodywork crash-damage may be repaired, but exterior dimensions, shapes, thicknesses, and profiles shall remain unaltered. The addition of material to increase rigidity and/or the weight is prohibited. Body sections (complete) shall meet the following weight requirements.

Section	Minimum	Maximum
Front	33 lbs.	50 lbs.
Center	55 lbs.	96 lbs.
Rear	45 lbs.	64 lbs.

- b. At-track repair of crash-damage that does not conform to the above specifications will be allowed if replacement parts are not immediately available. This waiver will be noted in the vehicle logbook and will be good for that ONE EVENT ONLY.
- c. The car may be painted any color(s).
- d. It will be required that all cars display the following:
1. The SCCA field logo on the front and each side of the car.
  2. Class designation, CSR, per GCR Section 9.3.28.
  3. Additional seven (7) inch high numbers are required on the outside of the wing end plates.
- e. The forward roll bar braces shall be padded per GCR Section 9.4.

## 9.1.9. Sports Racing Category Specifications

- f. The rear lower corners of the fiberglass tail section may be cut off on an angle. The maximum that may be removed is four (4) inches high by sixteen (16) inches forward, measured from the rear corner. A reinforcing lip shall be installed on the inside of the panel.

### E.6. Engine and Drivetrain

#### a. Engine

NO MODIFICATIONS ALLOWED except as noted herein.

This includes the fuel injection, induction, exhaust, cooling, electrical, and lubrication systems. All fluids are unrestricted. Engine maintenance which is permitted includes the replacement, but not modification, of external engine parts such as: spark plugs, oil filter, ignition parts, fuel pump, water pump, dry sump system, alternator/ water pump belt, hoses, valve cover, and oil pan gaskets. Exhaust system may be painted or plated. Oil filters may be replaced with an OEM equivalent. An alternate push-pull throttle cable, and necessary brackets are allowed.

#### b. Cooling

All coolers may be blocked off a maximum of fifty (50) percent to reach operating temperature.

#### c. Transmission

NO MODIFICATIONS ARE ALLOWED

Maintenance involving machine work of any type is not allowed, with the exception that welding repairs to broken cases are approved as long as the welding serves no other purpose. Internal transaxle work is strictly prohibited. This includes, but is not limited to, the replacement, modification, assembly, or disassembly, of internal transmission parts such as bearings, synchronizers, shifter mechanisms, etc.

Transaxle/drivetrain work which is permitted includes replacement, but not modification, of axles, CV joints, clutch disc, pressure plate, flywheel, throwout or pilot bearing, gear sets, or transaxle assembly.

### E.7. Suspension

NO MODIFICATIONS ALLOWED except as noted herein.

- a. Adjustments are permitted within the limits of the suspension components. (See Specifications)
- b. Painting/Plating. Suspension parts may be painted any color(s). Aluminum parts may be polished or anodized. Surface finishes such as plating may be applied for corrosion protection. Any suspension piece that is a closed assembly shall have a 1/8" DIA hole drilled in a noncritical location to allow flushing of any entrapped plating fluids. Post plating bakeout of four (4) hours at a temperature of 375 degrees F is recommended to prevent hydrogen embrittlement.
- c. The uprights may be sleeved with a bushing in the ball post area for repair.
- d. Anti-roll bar (swaybar) may be disconnected, but not removed.
- e. Rod ends on lower rear control arms may be upgraded to a half (1/2) inch shanked rod end (P/N CS 1691). The rod end attaching

bolt hole diameter must remain 7/16".

**E.8. Brakes**

NO MODIFICATIONS ALLOWED except as noted herein.

**E.9. Springs**

NO MODIFICATIONS ALLOWED

Factory authorized parts only. (See specifications) Helper springs beneath the normal springs are allowed, but must compress completely when the car sits on its wheels without driver.

**E.10. Steering**

NO MODIFICATIONS ALLOWED

Steering arms may be reinforced and made out of steel or aluminum, providing the geometry remains the same as original.

**E.11. Wheels**

NO MODIFICATIONS ALLOWED

**E.12. Fuel System**

NO MODIFICATIONS ALLOWED except as noted herein.

A returnless fuel system may be used as an alternate. The following modifications must be made when using returnless system:

- a. Fuel return line must be removed.
- b. Fuel rail regulator must be removed and plugged.
- c. Vacuum line to fuel rail regulator must be removed, and plugged at source.
- d. Electrical connectors may be changed.

**E.13. Electrical System**

NO MODIFICATIONS ALLOWED

Battery shall remain in the same location. A battery of any size may be used.

**E.14. Weight**

The car shall weigh 1980 lbs., minimum, including the driver.

**E.15. Vehicle Configuration**

All Shelby CAN AM cars shall comply to GCR Section 9., with the following exceptions: 9.3.1., "Accumulators."

**E.16. Updates**

Provisions will be made for updates on all safety and mechanical improvements. Such updates will be effective when announced by the SCCA National Office and published in FasTrack.

**E.17. Vehicle Logbook**

Per Section 9.2 of the GCR (Can-Am Logbooks are no longer valid and shall be replaced with SCCA Club Racing Logbooks)

**E.18. Accessory Items**

- a. Use of cool suits by drivers is authorized providing the water tank

### 9.1.9. Sports Racing Category Specifications

is securely mounted and approved by Tech. The car shall meet minimum weight with driver, but without the water tank.

- b. Two-way radios and video cameras may be installed in the car. All components shall be securely attached and approved by Tech inspection.
- c. The seam between the splitter and the nose bodywork may be taped completely using duct tape. Duct 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.
- d. Recording tachometers are allowed.
- e. Anti-skid material may be added to pedal surfaces and floor of car.
- f. Alternate diameter steering wheel and/or quick disconnect steering wheel system is allowed as long as no other changes are made to facilitate installation.
- g. Chassis run blocks: Size = 5" x 1-1/2" x 1/4", material unrestricted, quantity eight (8) maximum.
- h. Mirrors and their attachment/mounting position are unrestricted.
- i. Seat modifications (for comfort and/or size) are allowed.
- j. Fasteners (including body) are unrestricted except for size.
- k. An oil pressure warning light may be installed.
- l. Additional oil filter(s) are allowed, any brand, any location, except that only a screen type filter may be installed in the suction lines.
- m. Additional body supports, such as a pad underneath the front corner on top of the crush box or a bracket on the side of the crush box is allowed.
- n. A stone shield behind the front wheels may be added, and must be mounted vertically against the bodywork, behind the wheel. A stone shield may be added behind the radiator tank and on the bottom of the radiator at the fiberglass duct. (May not serve any other purposes.)
- o. An extension on the floor pan of 6" x 40" as a stone guard/ belt protector may be added.
- p. The dead pedal and throttle pedal brackets may be modified for driver comfort.
- q. Additional gauges may be added.
- r. The use of data acquisition systems is permitted.
- s. A bleed fitting may be added to the thermostat housing.
- t. Additional belt guards may be added. Additional fences on the pulleys are allowed. The only machining allowed to the pulley is for

- mounting the fences. Alternate pulley diameters, bearings, or other modifications are not allowed.
- u. The plexiglass windscreen may be removed, but not modified.
  - v. A transmission filter may be added.
  - w. Liquid lines (oil, fuel, water) may be changed to metal braided lines.
  - x. Bosch fuel pump P/N GFP216 may be used in addition to or in place of the original fuel pump.

**Shelby CAN AM Specifications**  
**CHASSIS**

- A. Vehicle Weight: 1980 lbs., minimum with driver.
- B. Springs: I.D.: 2.55, Free Length: 8.00
 

<u>EIBACH P/N</u>	<u>WIRE DIA.</u>
800-250-0400	11.50mm
800-250-0450	12.00mm
800-250-0500	12.25mm
800-250-0550	12.75mm
800-250-0600	13.00mm
800-250-0650	13.25mm
800-250-0700	13.50mm
800-250-0800	14.00mm
800-250-0900	14.50mm
800-250-1000	15.00mm
- C. Anti-roll bar diameter: 1-1/4 x 0.065, 1-1/4 x 0.083, 1-1/4 x 0.095, 1-1/4 x 0.120
- D. Wheels: Front: 11 x 16, Rear: 12 x 16
- E. Tires: Shelby Can-Am cars may run any suitable tire that fits the specified wheels.
- F. Brakes:
  - 1. Brake Pads: Unrestricted
  - 2. Rotors: 12.18 x 1.25 vented
  - 3. Calipers: 1.75 x 4 piston (JFZ or Wilwood)
- G. Shock Absorbers: Unrestricted
- H. Suspension Linkage Adjustments: No more than 9/16 inches of the threads showing on any spherical rod ends and all suspension fasteners. This is a mandatory requirement to ensure sufficient engagement of the threads in the adjustable linkages.
- I. Master Cylinders: Brakes: 7/8" or 1"  
Clutch: 5/8"

**ENGINES**

- A. Cam Specs: Checking Lift - .006"  
Maximum Valve Lift - .500"  
Lobe centerline - 104°

### 9.1.9. Sports Racing Category Specifications

Duration - 284°  
Int open - 38° BTDC  
Int close - 66° ABDC  
Exhaust open - 66° BBDC  
Exhaust closed - 38° ATDC

- B. Cam Sprocket: Sprocket keyway and key in original configuration.
- C. Ports: Intake manifold and/or cylinder head - shall meet templates and volume.
- D. Flywheel: Minimum weight: 18 lbs, including ring gear, no machining.
- E. Pressure Plate: Minimum weight is 10 lbs., no machining. Manufactured by LUK.
- F. Clutch Disc: Minimum weight is 2.50 lbs. Manufactured by LUK.
- G. Spark Plugs: Unrestricted
- H. Fuel Pressure: (Idle)  
Return System: Minimum 42 PSI, Maximum 51 PSI  
(with vacuum disconnected)  
Returnless System: Minimum 45 PSI, Maximum 50 PSI

#### **TRANSMISSION**

- A. Gear Ratios: 2.38:1, 2.08:1, 1.57:1, 1.29:1, 1.22:1, 1.15:1, 1.00:1  
Final Drive Ratio: 3.22:1, 3.05:1  
Bevel Gear Ratio : 1.16:1

#### **F. OLDSMOBILE QUAD 4 CLASSED IN CSR**

The only permitted engine is the Oldsmobile 2.3 liter Quad 4. The modifications or additions covered by these specifications establish limitations on engine preparation. Engine components not covered or addressed in these specifications may be freely modified or replaced.

1. A cast iron Oldsmobile Quad 4 2.3 liter production cylinder block shall be used.
2. The maximum piston diameter is 3.631" (.010" over standard).
3. Camshafts and direct acting lifter assemblies shall not be modified. Re-drilling of the dowel hole in the camshaft sprockets to attain the required camshaft timing is allowed. It is also allowed to add an offset bushing to this re-drilled hole to attain desired camshaft timing. Camshafts shall be one of the following:
  - a. As manufactured and ground by Oldsmobile or by an after market cam manufacturer to Oldsmobile factory specifications for Vin.A (W41) or Mantapart #OP 1149.

Duration: 219 degrees @.050"  
Intake Center Line: 101° to 104° ATDC  
Exhaust Center Line: 112° to 115° BTDC

Max Intake Cam Lift:	.410"
Max Exhaust Cam Lift:	.410"
Intake and Exhaust Base Circle:	1.420"

- b. As manufactured and ground by Oldsmobile or by an after market cam manufacturer to Oldsmobile factory profile Vin. D or Mantapart #OP 1148.

Intake Center Line:	101° to 104° ATDC
Exhaust Center Line:	112° to 115° BTDC
Intake Cam Lift:	.375"
Exhaust Cam Lift:	.375"
Intake and Exhaust Base Circle:	1.420"

- A standard, unmodified Oldsmobile Quad 4 2.3 liter crankshaft shall be used. Only machining necessary for balancing is permitted. Tuffriding, Parkerizing, shot peening, shot blasting, and polishing are permitted. Minimum weight is 41.0 lbs. (18.57 kg). An unmodified LGO crankshaft damper, Oldsmobile P/N 22545438, shall be used. The damper retaining bolt may be modified or replaced for an oil pump drive.
- No carbon clutches are allowed. Clutches are otherwise unrestricted.
- The maximum allowed compression ratio is 10.0:1.
- Light machining of the head for purposes of clean up and casting flash removal is permitted. Reshaping of inlet or exhaust ports is prohibited. Addition of material in any form is prohibited. The maximum intake port volume is 128.0 cc. The maximum exhaust port volume is 83.5 cc. The distance between the valve centers and the angles of the valves shall not be altered.
- Piston, pin and retainer assemblies shall weigh a minimum of 500 grams each.
- Valves shall be of the following specifications:

Intake Valve Face Diameter:	36.37 - 36.63 mm
Exhaust Valve Face Diameter:	31.37 - 31.63 mm
Intake Valve Stem Diameter:	6.972 - 6.990 mm
Exhaust Valve Stem Diameter:	6.959 - 6.977 mm
Intake Valve Minimum Weight:	68 grams
Exhaust Valve Minimum Weight:	56 grams

- Connecting rod assemblies shall weigh a minimum of 680 grams each (including caps, nuts and bolts).
- The only allowable intake manifold is the Oldsmobile Rocket manifold, part number 22551677. No modifications are permitted internally or externally. All unused vacuum ports shall be plugged with pipe plugs and a suitable sealer.
- The throttle body may be bored to 60mm. The throttle body shall have vacuum ports plugged by removing pipes and installing pressed fit plugs with a suitable sealer. No un-metered air or fuel to the engine is allowed.

13. Balancing of reciprocating and rotating parts is permitted only by removal of metal.

## **G. SRSCCA PREPARATION RULES CLASSED IN CSR**

### **G.1. Definition**

*One design, fixed specifications, open cockpit, single seat Sports Racer with Mazda 2.3 engine. Cars are packaged and sold by SCCA Enterprises, Inc. All replacement parts are supplied through SCCA Enterprises, Inc., and shall be official SCCA Spec Sports Racer parts except where noted in G.4.*

### **G.2. Safety Requirements**

*Car will be delivered from the manufacturer with approved safety equipment. Replaced items shall be supplied through SCCA Enterprises, except safety harnesses may be replaced by any other that conforms to GCR Section 9.*

### **G.3. Vehicle Configuration**

*All SCCA Sports Racers shall comply to GCR section 9 with the following exceptions: Section 9.3.1., Accumulators.*

### **G.4. 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. If any official SCCA Enterprises' seal is broken, lost by accident or intent, the procedures outlined under G.18., shall be followed. Parts and materials with an SCCA 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.*

### **G.5. Chassis**

*NO MODIFICATIONS ALLOWED except as noted in these rules.*

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

- c. *Painting or powder coating of the chassis is allowed.*
- d. *SCCA Enterprises foot drop box part # WM180020 may be installed.*

### **G.6. Bodywork**

*NO MODIFICATIONS ALLOWED (except as specified). If any seal, label, stamp is missing the parts must be returned to SCCA Enterprises for resealing.*

- a. *Bodywork shall remain unmodified with the exception of holes for a slave or jumper battery plug, trackside beacon receiver, and tow hooks. All repair work must match original body dimensions and contours.*
- b. *Bodywork fasteners are free.*
- c. *The car may be painted any color(s), except primer.*
- d. *It is required that all cars display the official sponsors of SCCA Enterprises decals and locations as specified by SCCA Enterprises.*
- e. *Radiator screens are allowed and recommended.*
- f. *All aerodynamic devices shall be used as delivered: i.e. wings, body winglets. No modification to mounting location or holes.*
- g. *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 SCCA Enterprises. No additional holes may be added. Different wing endplates may be used as long as the fit within the dimensions of 10 ¾ in wide and 11 in tall. A gurney flap or wicker may be use and may be no taller than ½ in*
- h. *The stock headrest may be modified or replaced with any headrest meeting GCR section 9.4. The stock lateral bolsters may be modified or removed.*
- i. *SCCA Enterprises windscreen P/N: WM137000 is allowed.*

#### **G.7. Engine and Drivetrain**

- a. *Engine*
  - 1. *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 SCCA Enterprises. All fluids, except fuel, are unrestricted.*
  - 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*
  - 3. *Engine maintenance, which is permitted, includes the replacement, but not modification of external engine and engine systems parts.*
  - 4. *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.*
  - 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.*

## 9.1.9. Sports Racing Category Specifications

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.*
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.*
8. *The flywheel weight is a minimum of 2.6 lbs for the SCCA Enterprises supplied flywheel. No modifications to the flywheel with the exception of normal resurfacing for clutch wear are allowed.*
9. *No modification to the crankshaft dampener is allowed.*

*The following parts must be used:*

10. *Clutch: SCCA Enterprises supplied clutch and flywheel contained in kit #WM701000A, Piston # WM701004A, Throw out bearing # WM701006A, Small O-ring # WM1010405, Large o-ring #WM1010406, Flexplate and Ring Gear # WM1101053.*
11. *Spark Plugs, Part # NGK PTR5F-11, NGK ITR5F-13, or Motorcraft # AGSF32FEC.*
12. *Fuel Injectors: Part # WM591929*
13. *Throttle Body: Part # WM591930*
14. *Fuel Filter: Part # WM591924*
15. *Air Filter: Part # WM301020*
16. *Exhaust systems may be thermal coated or wrapped.*
17. *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.*
18. *An 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.*
19. *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.*
20. *An optional SCCA Enterprises alternator kit is allowed, Part # WM1100101.*
21. *Fuel shall meet the requirements for IT cars per GCR section 9.3.25.*

### *b. Transmission*

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.*

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. Absolute minimum weights are listed below.
3. *The rear cover plate may manufactured or remanufactured using aluminum.*
4. *Only the following gear ratios are permitted:*
  - 1st gear combination 12:29 Ratio number 2.41*
  - 2nd gear combination 15:28 1.86*
  - 3rd gear combination 16:24 1.50*
  - 4th gear combination 18:22 1.22*
  - 5th gear combination 24:26 1.08*
5. *Differential – Only final drive ratio allowed is 2.75. The differential must remain an open differential. No limited slip mechanism is allowed. Differential must work as supplied (no tightening of the differential to limit slip) Must be able to use existing components.*
6. *Polishing, shot peening, REM<sup>®</sup> Isotropic treatment, heat and cold treatments are allowed. No coatings or plating is allowed.*
7. *Shift cable is free, but shifting must remain cable operated.*
8. *Throttle cable is free, but must remain cable operated.*
9. *The shift actuator assembly must operate as supplied by SCCA Enterprises. It can be polished, shot peened, or have REM treatment, heat and cold treatments.*

#### **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*

#### **G.8. Suspension**

- a. *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.*
- b. *Front Springs: 600 lbs. ± 25 lbs. Part # WM203008. Wire size shall measure .360" ± .005".*

*Rear Springs: 1000 lbs. ± 25 lbs. Part # WM203009. Wire size*

## 9.1.9. Sports Racing Category Specifications

*shall measure .410" ± .005".*

- c. *Competitors may use the entire travel of all suspension adjusted components as delivered. Alternate parts are not allowed.*
- d. *All suspension parts shall have the SCCA code embedded (a label/ or an SCCA Enterprises stamp) in the part. If they do not it is required to return part to SCCA Enterprises for proper labeling.*
- e. *Anti-roll bars (sway bars) may be disconnected, but not removed. Anti roll bar sizes:  
Front .875" OD ± .005"  
Top Tee .750" x .135" wall, ± .005"  
Top Tee Length: 7.5" maximum end to end  
Rear lower stalk .615" Dia. ± .005"  
Upper stalk .765" ± .005"  
Arm length 5.470" shoulder to shoulder*

### **G.9. Shocks**

- a. *NO MODIFICATIONS ALLOWED. 4 Bilstein Shocks, Part # WM203001 or 4 Penske shocks, Part # WM1180090. Same type on all 4 corners.*
- b. *Only shims provided on the shocks are legal (no bump rubbers, packers or modification to shims )*
- c. *Adjustments for the Bilstein will be at the perch and with pressure (if rebuilt). Adjustments for the Penske rebound or at the perch.*
- d. *Bilstein shocks may be used in the original configuration or may be rebuilt. Both shock types can only be rebuilt by SCCA SCCA Enterprises or its authorized rebuilder.*
- e. *All shock absorbers must be sealed by SCCA Enterprises or its authorized rebuilder.*

### **G.10. Steering**

*NO MODIFICATIONS ALLOWED, except as described within these rules*

- a. *An alternate steering wheel may be used. "Butterfly" style steering wheels are not allowed.*
- b. *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.*

### **G.11. Brakes**

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

- a. *Brake pads as labeled and supplied from SCCA Enterprises.*
- b. *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"*
- c. *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*

- d. *Calipers must be AP 4 piston. Part numbers are:  
LF # WM802004 RF #WM802003  
LR # WM802002 RR # WM802001*
- e. *Brake lines are free (no plastic allowed).*
- f. *An optional brake duct kit Part # WMxxxxxx is allowed.*

**G.12. Wheels (Only wheels supplied by SCCA Enterprises)**

*NO MODIFICATIONS or MACHINING ALLOWED Aluminum racing wheel supplied from SCCA Enterprises with SCCA logo. If logo is worn off, or wheels that have been painted or powder coated, wheels must be inspected by SCCA Enterprises or one of their designated Customer Service Representatives and logos replaced.*

*Front: 8 in X 13 in Part # WM 205001*

*Rear: 10 in X 13 in Part # WM205002*

- a. *All wheel bearings shall be run with grease (not oil), no special coatings are allowed, and the bearing grease seal shall be intact. No ceramic wheel bearings are permitted.*
- b. *Wheel spacers are not allowed.*

**G.13. Tires**

*Tires must run in sets of 4 as stated below:*

*Hoosier R45 or R45A (SCCA Labeled) Compound*

*Front: PN: 43270, 21.5 in X 8.0 in X13.0 in*

*Rear: PN: 43301, 22.0 in X10.0 in X 13.0 in*

*Hoosier Wet Compound*

*Front: PN: 44195, 21.5 in 7.5 in X 13.0 in*

*Rear: PN: 44217, 22.0 in 9.0 in X13.0 in*

- a. *A competitor shall start the race on the same set of tires (meaning the original four) as used in a qualifying session for the race. The only exception is rain tires. It is the responsibility of the competitor to ensure their tires are marked appropriately for qualifying and race sessions. It is recommended that regions offer these services at a central location such as pre-grid or TECH.*
- b. *A change of tires during or between a qualifying and race session shall automatically result in all previous times being disallowed.*
- c. *If a tire is damaged during a qualifying session the competitor may replace that tire with a used tire upon approval of the Chief Steward. Should a tire be replaced for any reason, the competitor shall forfeit his grid position and start at the back of the grid.*

**G.14. Electrical System**

*NO MODIFICATIONS ALLOWED, except as described within these rules.*

- a. *Wiring harnesses must remain as delivered.*
- b. *Battery may be replaced with a larger one as long it remains in the same location.*
- c. *Battery wiring is free. Car must shut off when master switch is turned off.*

- d. *Any instrumentation is allowed.*
- e. *Data acquisition is allowed, no telemetry is allowed.*
- f. *Any rain light and tail lights are allowed.*

**G.15. Weight**

*The car shall weigh 1365 lbs. minimum, including the driver.*

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

**G.16. Updates**

*Provisions will be made for updates on all safety and mechanical improvements. Such updates will be effective when authorized by SCCA Enterprises, announced by the National Office, and published in FasTrack.*

**G.17. Vehicle Logbook**

*The Vehicle Logbook for each SCCA Sports Racer remains the property of SCCA Enterprises and will contain not only the record of technical inspections, but also the major maintenance performed and all transfers of ownership. The Vehicle Logbook number will be the same as the factory chassis number that is stamped on the name plate mounted on the fuel cell behind the driver's shoulders. When the vehicle is sold, traded, or scrapped, the logbook shall be sent to SCCA Enterprises, Inc., 14550 E. Easter Ave Suite 400 Centennial, Co. 80112. The logbook will then be reissued to the new owner. When the logbook has been filled, a new one shall be requested from SCCA Enterprises, Inc.*

**A FEE OF \$200 WILL BE CHARGED FOR LOST LOGBOOKS.**

*The logbook shall be presented at scrutineering for each event entered. All SCCA Sports Racers are subject to normal safety inspection. Additionally, scrutineers will check each official seal. A competitor may not be barred from competing at a specific event if a seal is broken, damaged, lost or part not properly labeled but the part may be considered suspect and will be treated as such and will be required to be sent back to SCCA Enterprises for inspection. If engine cam cover or oil pan seals are broken, damaged, or missing, the engine shall be removed and sent to SCCA Enterprises for testing and resealing. The competitor will bear all expenses at the competitor's cost prior to the next event.*

**G.18. Seals**

*SCCA Enterprises engine seals are required for all races. Any competitor who runs an event without all proper engine seals in the required locations shall have his engine removed and shipped to SCCA Enterprises for testing and sealing after that event. The competitor will be responsible for all cost incurred by this procedure regardless of the findings, and subject to penalty by the SOM if engine is found to be not as specified.*

*SCCA Enterprises, Inc., seals are required on all Sports Racer Engines.*

*Any counterfeit engine seal found by an authorized representative of SCCA, Inc., or SCCA Enterprises, Inc., shall immediately render that engine illegal for further use, without need of dyno testing or inspection. SCCA Enterprises, Inc., will not be under any obligation to bring an illegally sealed engine back to legal condition. Penalties shall include all of the following: 19.1., 19.2., 19.3., and 19.4.*

**G.19. Penalties (Specific to SCCA SCCA Enterprises Spec Cars)**

*If a competitor refuses to give his engine and/or unlabeled parts for testing per a request of the Chief Steward (GCR 5.12.2.C.), the following penalties will automatically be imposed:*

- a. *Vehicle logbook will be impounded.*
- b. *Disqualification from the event.*
- c. *Suspension of SCCA competition privileges for thirty (30) days.*
- d. *The car and drive train are suspended from competition until the unit(s) specified by the Chief Steward are replaced.*

*In a case where a competitor does comply with the Chief Steward's request to have an engine and/or parts inspected and the impounded unit(s) are found legal, the SCCA, will stand all the costs incurred for the testing, including shipping. Should the impounded unit(s) be found illegal, the following penalties will be imposed:*

1. *Disqualification from the event.*
2. *A fine of \$250.00*
3. *\$500.00 testing fee plus freight charges paid to SCCA Enterprises*
4. *Competition privileges will be suspended immediately, and the suspension will continue for a minimum of thirty (30) days after the date when all fines and costs are paid in full and the license is received by the Chairman SOM or the SCCA Topeka Office.*
5. *For a second illegal drive train offense, the competitor will be permanently disqualified from further SCCA Sports Racer competition.*

**G.20. SCCA Sports Racer Drive Train Protest**

- a. *Protests shall be filed per the GCR.*
- b. *Protestor will specify the drive train item suspected (i.e., transmission or engine). The teardown bond to remove the motor and transmission is in three (3) parts:*
  1. *Remove and replace motor and transmission - \$400.00*
    - a. *Will be done by an SCCA representative or other shop that is equipped for this type of work and will be paid directly.*
  2. *Ship motor to SCCA Enterprises and test - \$500.00 plus freight and crating charges*
    - a. *SCCA SCCA Enterprises will inspect the motor, (item 2), and will notify the Chairman SOM as soon as possible as to the results.*
  3. *Protest Fee: Regional - \$25.00, National - \$50.00.*
- c. *SCCA Enterprises shall retain the evidence, and the SCCA shall retain the fee, (item 3), until the period for appeal has passed.*
- d. *The Chairman SOM is required to inform SCCA Enterprises of the protest using the SRSCCA Protest Information Form. A copy of the protest shall be sent to SCCA Enterprises.*

## 9.1.9. Sports Racing Category Specifications

*If the protest proves to be valid and any appeal fails, the protest fee, (item 3), will be returned to the protestor. Also, the protestee will be required to reimburse the protestor the remaining fees (\$900).*

*The protestee will not be allowed to compete again until all costs are paid. If found legal, the protester forfeits fee (items 1 and 2) above.*

- e. If found illegal, competition privileges will be suspended immediately, and the suspension will continue for thirty (30) days after all costs are paid in full.*
- f. For a second illegal drive train offense, the competitor will be permanently disqualified from competing in SRSCCA competition.*

### **G.21. Accessory Items**

- a. Mirrors are free.*
- b. Two-way radios may be installed in the car. All components shall be securely attached and approved by Tech inspection.*
- c. 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. Taping of body joints is not allowed*
- d. The spark plug wires may be fire sleeved and may be loomed, but must be original Mazda wire as supplied by SCCA Enterprises.*
- e. Engine compartment fluid hoses may be insulated using heat shield or wrap.*
- f. Front and rear tow hooks are required see GCR section 9.3.46.*

## **H. ELAN VAN DIEMEN DP02 SPORTS RACER CLASSED IN CSR**

### **H.1. Definition**

*A one design, fixed specification, open cockpit, single seat sports racer as supplied by Elan Motorsports Technologies (EMT).*

### **H.2. No Modifications**

*No modifications are allowed to any part of the car as delivered by EMT except as permitted in these specifications. Adjustments of suspension components and air foils within the delivered range of adjustment is allowed. Maintenance, repair and painting are allowed. Instrumentation is free. Bodywork may be modified within the CSR rules (9.1.9.A.2.d).*

### **H.3. Engines**

*The only engine allowed is the Ford 2.3 liter Duratec as supplied by Elan Power Products (EPP). No modifications are permitted. The engine must have the four (4) EPP numbered seals (cam cover, oil pan, front cover, crank angle sensor) present in their location and condition as installed by EPP. May use fuel per the IT specs of GCR section 9.3.25.*

### **H.4. Wheels and Tires**

*Thirteen (13) inch diameter wheels with a maximum rim width of 9 inches*

*front and twelve (12) inches rear are the only wheel sizes permitted. Material is unrestricted providing it is metal.*

**H.5. Minimum weight**

*Minimum weight is 1425 lbs. The CRB may adjust the minimum weight at any time.*