USF2000

NATIONAL CHAMPIONSHIP

POWERED BY Ford

PRESENTED BY SPEEDVISION

OFFICIAL

2000

COMPETITION RULES

FORMULA MOTORSPORTS, INC.

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usac SCCA PRO RACING

$5.00

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Formula Motorsports, Inc.
wishes to
express appreciation to:

for their continued participation in and support of the
US F2000 National Championship

INTRODUCTION

The US F2000 National Championship is sanctioned by SCCA Pro Racing, Ltd. All oval track races within the National Championship schedule carry the additional sanction of the United States Auto Club.

The rules and regulations set forth herein are intended to assist in the orderly conduct of US F2000 race events and to further participant and spectator safety. This is a guide and in no way a guarantee against injury or death to participants, spectators, or others. No expressed or implied warranties of safety or fitness for a particular purpose shall be intended or result from publication or compliance with these rules. All event participants compete at their own risk.

Formula Motorsports, Inc. is always ready and willing to serve you. Always feel free to ask for our help if you do not understand or have a problem with anything concerning professional racing.

Table of Contents

US F2000 NATIONAL CHAMPIONSHIP

F2000 CAR SPECIFICATIONS

The US F2000 National Championship conducts all race events in accordance with the 2000 SCCA Pro Racing Regulations as published by SCCA Pro Racing, Ltd., 9033 E. Easter Place, Englewood, Colorado, 80112.

600 VEHICLE ELIGIBILITY

A. The U.S. F2000 National Championship is a series of events for Formula Ford 2000 racing cars. It is intended to provide close competition at reasonable costs in purpose built racing cars.

B. The series is open only to Formula Ford 2000 registered cars as defined in these regulations.

601 DESIGN - CONSTRUCTION - MATERIAL APPROVAL - TESTING

All phases of design and construction for any cars competing under these rules are subject to the approval of the Technical Committee. The Technical Director may disallow approval for competition and/or exclude any car, design, construction or repairs to a damaged car which he deems dangerous or not meeting the specifications contained herein. All car manufacturers are urged to submit designs, plans and any other pertinent details of new car construction, prior to any contemplated competition, for approval. Wherever alternate equivalent in strength materials are indicated within these specifications, it shall be the responsibility of the car manufacturer (or in the case of car damage repair and/or car modifications, the designer/fabricator), to certify that any substitute materials are equal to or exceed the strength of the defined material specifications. Where required within these specification, it is the manufacturer's responsibility to conduct any and all tests in order to certify compliance.

602 INSPECTIONS - TECHNICAL, SAFETY AND POST RACE

A. All parts indicated on the inspection forms must be tested by the appropriate non-destructive testing techniques in accordance with the sanctioning bodies Non-Destructive Testing Manual. This inspection shall be performed by an approved inspection prior to the start of each year's racing season.

B. A copy of the inspection form, properly completed and executed, must be carried by the entrant or crew chief, and must be available for examination by the Stewards or Technical Committee.

C. Any car involved in an accident which removes a car from competition must be inspected and approved by the Technical Committee prior to continuing in competition.

D. The series sanctioning bodies may require additional inspections during the season.

E. All parts presented for inspection must be thoroughly cleaned and stripped. Decorative chrome plating cannot be used on any parts requiring magnetic inspection. It is recommended that all stressed parts be identified for inspection and Technical Committee purposes.

F. All parts having been heated and the shape physically changed must be inspected again prior to usage.

G. Before entering the course, all cars will be checked for eligibility and compliance with the safety and technical regulations for the Series.

H. This inspection does not guarantee the legality of the car. Cars considered to be of unsafe construction or not complying with regulations may be summarily rejected.

I. The entrant shall be responsible for performing the disassembly, reassembly and resulting expense for any inspection to confirm car eligibility ordered by the series' Technical Director.

J. The F2000 series Technical Director (in conjunction with the Chief Steward) is the supreme authority in enforcing technical regulations. Their decisions are non-protestable and they have the authority to amend and/or add to the rules, and to make adjustments to car specification on the spot if deemed necessary.

603 CAR SIZE

A. The overall length of the car will be limited to a maximum of four hundred twenty (420) centimeters. (SEE ILLUSTRATION NO. 33)

B. The overall maximum width of the car, as measured from the outer wheel rim, shall not exceed one hundred eighty-five (185) centimeters. (SEE ILLUSTRATION NO. 34)

C. The minimum wheel base of the car shall be two hundred (200) centimeters. (SEE ILLUSTRATION NO. 33)

D. The minimum tread of the car shall be one hundred twenty (120) centimeters. (This is the distance between the centerline of the front or rear wheels). (SEE ILLUSTRATION NO. 34)

E. The overall weight of the car, including lubricants and coolants that may be contained in the car during any phase of and following any competition, and including the driver, shall be a minimum of 1,190 pounds. Maximum weight of ballast can not exceed 50 lbs. If ballast is utilized to meet these requirements, it must be secured within the main body structure and be approved by the Technical Director. The Technical Committee may impound parts replaced or exchanged during any competition.

604 CAR CONSTRUCTION

I. CHASSIS

A. Main chassis structure. The fully sprung structure of the vehicle to which the suspension and/or spring loads are transmitted, extending longitudinally from the foremost front suspension mounting on the chassis to the rearmost rear suspension mounting.

B. The chassis must be tubular steel (space frame) construction. Monocoque chassis construction is prohibited.

C. Magnesium and/or Titanium in chassis construction is prohibited.

D. Stress bearing panels are defined as sheet material affixed to the frame by welding or bonding, or by bolts, screws, or rivets located closer than 15.24 cm (6 inches) center to center.

E. The use of composite materials such as carbon fiber or Kevlar is prohibited, except as specifically authorized within these rules.

F. All cars must incorporate an underpan which is stress bearing and extends from the front bulkhead to the rear roll hoop with a maximum deviation of 1 inch. Openings in the underpan are not permitted. This pan must also form the interior floor of the cockpit. Removable panels consisting of heel rests and equipment covers will be allowed but are subject to approval by the technical director.

G. Ground clearance/ride height - unrestricted.

H. The mountings for brake and clutch pedals and cylinders, and for the instrument panel and the bulkhead behind the driver, may be stress bearing.

I. No other stress bearing panels, including body panels, are permitted.

J. For all cars, surface contact blocks utilized on the bottom of the chassis must be installed with fasteners recessed above the bottom reference plane. Each block shall be of non-deformable materials. This material may not produce sparks and may not cause particles to be directed towards other cars during competition.

These bottoming blocks or rubstrips shall be mounted in only two (2) planes as follows:

1. Those mounted parallel to the longitudinal centerline of the chassis shall consist of no more than six (6) strips, whose dimensions shall not exceed 12 inches in length, 1 inch in width and 1/2 inch in height. These strips shall not be mounted closer than 6 inches to each other.

2. Those mounted 90^0 (laterally) to the centerline of the chassis shall consist of no more than three (3) strips. The dimensions of these lateral strips shall not exceed the chassis width at the point of attachment, nor exceed 2 inches in fore-aft length and 1/4 inch in height from the car's flat bottom. These lateral strips may fit in any proximity to the longitudinal strips.

3. The use of two bottoming blocks on the rear undertray is permitted for the sole purpose of preventing under-tray/diffuser wear against the ground. These bottoming blocks must be between 1.0 and 1.5 inches square and must be a maximum of .500 inches in thickness.

K. Cars must have a protective bulkhead of non-flammable material between the engine and the driver compartment capable of preventing the passage of fuel or flame in the case of a fire. Gaps must be sealed with a fireproof material.

L. The brake and clutch pedals, not depressed, must be located behind a line drawn through the front wheel axis.

M. There must be a crushable structure, securely attached to the front bulkhead, with a minimum cross section of 200 sq/cm, 40 cm forward of the clutch and brake pedals (not depressed), constructed of a minimum of 18 gauge 6061-T4 or equivalent aluminum. Radiators may be incorporated in this structure. (SEE ILLUSTRATION NO. 35)

N. The lower main frame rails must be a minimum of 25 cm apart (inside dimension) from the front bulkhead to the rear rollbar.

O. The area between the upper and lower main frame tubes from the front roll hoop bulkhead to the rear roll bar bulkhead must be protected by one of the following methods to prevent the intrusion of objects into the cockpit: (SEE ILLUSTRATION NO. 35)

1. Panel(s), minimum of either 1.5 mm (.060 in.) heat-treated aluminum (6061 T6 or equivalent) or 18 gauge steel, attached outside of the main frame tubes.

2. Reinforced body, at minimum, consisting of a double layer, 141.75 grams (5 oz.), bi-directional, laminated Kevlar material incorporated into this area of the body only. (REFERENCE ILLUSTRATION NO. 35)

II. BODYWORK/COACHWORK

A. Fixed external: “side, front, rear and top surfaces of the vehicle licked by the air stream” shall serve as the official definition of this term.

B. All cars must be fitted with bodywork including a driver compartment isolated from the engine, wet batteries, gearbox, transmission shafts, brakes, 4 road wheels, fuel tanks, oil tanks, water lines, water radiator reservoir and catch tanks.

C. A sealed battery can be located inside the driver compartment.

D. Bodywork must not be used as a stress bearing panel.

E. The body must be securely fastened to the frame. The material used for the chassis braces in this area must be at least equivalent to the roll bar brace material. For either method, fasteners must be no closer than 15.24 cm (6 in.) center to center (no stress bearing panels).

F. The use of composite materials using carbon and/or aramids (i.e. Kevlar) reinforcement is prohibited, except as permitted herein.

G. Maximum height of bodywork/coachwork, is 94 cm (37 in.) including engine air box, measured from the bottom of the chassis as determined by the chief steward. Addition of material to the roll bar above the 94 cm (37 in.) maximum bodywork/coachwork height is prohibited. (SEE ILLUSTRATION NO. 33)

H. Maximum rear overhang of bodywork/coachwork, including airfoil, is 80 cm measured from rear wheel axis. (SEE ILLUSTRATION NO. 33)

I. Maximum front overhang of bodywork/coachwork, including airfoil, is 100 cm measured from front wheel axis. (SEE ILLUSTRATION NO. 33)

J. Maximum width of bodywork/coachwork behind front wheels is 95 cm. (SEE ILLUSTRATION NO. 34)

K. Minimum lateral cockpit bodywork/coachwork opening 45 cm. (SEE ILLUSTRATION NO. 34)

L. Minimum longitudinal/parallel cockpit bodywork/coachwork opening length is 30 cm. (SEE ILLUSTRATION NO. 34)

M. Minimum longitudinal/parallel cockpit bodywork/coachwork overall opening length is 60 cm. (SEE ILLUSTRATION NO. 34)

N. Skirts, bridging devices, or any form of aerodynamic devices between the chassis/coachwork and the ground are prohibited. Any specific part of the car influencing its aerodynamic performance must comply with rules relating to coachwork, be rigidly secured to the entirely sprung part of the vehicle, and remain immobile in relation to the vehicle.

III. AIRFOILS/AERODYNAMICS

A. Airfoil: “Any device or part of a vehicle (except normal and conventionally styled bodywork) which has a principal effect of creating aerodynamic downforce.” Within this definition should be included forward facing gaps or openings in the bodywork, but will not include spoilers in the form of raised surfaces continuous with the body surfaces and not wider than the body surfaces.

B. It is not permitted to mount airfoils on unsprung parts of the vehicle.

C. Spoiler: “Any device (splitter, trim fab, etc.) other than an airfoil, fixed as an extra to a vehicle to divert airflow to create an aerodynamic advantage” shall serve as the official definition of this term.

D. Aerodynamic devices must comply with the rules relating to bodywork/coachwork and must be firmly and rigidly secured to the entirely sprung part of the car. These aerodynamic devices must have no degree of freedom in relation to the entirely sprung part of the car, and must remain immobile in relation to the vehicle at all times.

E. A spoiler may not be incorporated in the construction of a suspension member.

F. The use of composite materials using carbon fiber reinforcement is prohibited.

G. The maximum height of any aerodynamic device must not exceed 90 centimeters, measured from the ground. The minimum height of the uppermost rear airfoil is 75 centimeters. The minimum dimension for the rear wing endplates are 11 inches wide (fore to aft) and 14 inches high (top to bottom). (SEE ILLUSTRATION NO. 33)

H. The maximum width of the rear airfoil must not exceed 95 centimeters, including end plates. The minimum (main element plus secondary element (s)) for the uppermost rear airfoil is 17 centimeters. The minimum width of the rear airfoil is 85 centimeters. (SEE ILLUSTRATION NO. 34)

I. The maximum width of the nose, including front airfoils, must not exceed 135 centimeters. The minimum width of the nose, including front airfoils, must not be less than 125 centimeters. The minimum projected cord length of the front airfoil is 20 centimeters. (SEE ILLUSTRATION NO. 34)

J. No ancillary aerodynamic devices or bodywork may be used from the trailing edge of the conventional front airfoil to the leading edge of the dash bulkhead. In no cases shall the trailing edge of the front airfoil extend further rearward than the leading edge of the front tire. Any fences or bodywork used in conjunction with the front airfoil must terminate at the leading edge of the main chord.

K. The leading edge of any rear wing element and/or rear wing end plate(s) must be rearward of a vertical plane tangent to the rear of the rear tire.

IV. FLAT BOTTOM RULE

A. The underpan, including all sprung parts of the car, must lie on one plane within a tolerance of 0.20 inches.

B. The area of this “flat bottom” is measured from rearward of the vertical plane tangent to the rear of the complete front wheels (including mounted spec tires) to the fore of the vertical plane tangent to the fore of the complete rear wheels (including mounted spec tires). (SEE ILLUSTRATION NO. 33)

C. The tolerance of 0.20 inches has been introduced into the rules to cover any possible manufacturing problem and not to permit designs against the spirit of the “flat bottom”.

D. No part having an aerodynamic influence and no part of the bodywork may, under any circumstances, be located below the plane produced by the surface of the underpan.

E. Any transverse, longitudinal, or other flexible, retractable, pivoting or sliding device bridging the gap between the body and the road surface is forbidden.

605 STEERING AND SUSPENSION

A. The steering and suspension must be engineered and assembled in accordance with sound engineering principles, and shall remain in proper working order during all competition.

B. All Heim-type spherical rod ends used on major suspension and steering components of cars must be retained either by the design of the mounting brackets or by a larger area captive washer, or by the inherent mechanical design of the unit (Circlip or Messerschmidt joints).

C. All suspension parts must be of steel or ferrous material, with the exception of hubs, hub-adapters, hub-carriers, bearings and bushes, spring caps, abutment nuts, anti-roll bar links, shock absorber caps, nuts, and bellcranks.

D. Springs: Steel only.

E. Titanium is prohibited. The use of composite material using carbon and/or Kevlar is prohibited.

F. It is not permitted to incorporate a spoiler in the construction of any suspension member.

G. It is not permitted to construct any suspension member in the form of an airfoil. The shape of suspension members must be symmetrical about its horizontal axis.

H. Suspension may not be offset. Track must be equally disposed to the longitudinal centerline of the chassis within a tolerance of +/-.250 inches. The tolerance has been introduced into the rules to cover any possible oval set-up (i.e. different camber settings) and not to permit designs to have “offset suspension.”

I. Shock absorbers are free. Aluminum housings are permitted. A maximum of one shock absorber per wheel is allowed. Electronic, hydraulic, or mechanical devices that allow the driver to adjust the ride height or corner weights are not allowed. A third spring, shock absorber or other device whose primary purpose is to control ride height, other than in roll or one wheel bump, will not be permitted.

J. Steering is unrestricted, except only the front wheels shall be affected.

K. Removable steering wheels, as approved by the Technical Committee, are mandatory.

L. The following guidelines and procedures are strongly recommended. However, manufacturers and fabricators should anticipate that these shall become mandatory in the future.

   1. All highly stressed steering and suspension parts must be made from SAE 4130 steel or an alloy specified by the manufacturer of the alloy as equivalent in physical properties. Front and rear uprights may be made of magnesium alloy or an aluminum alloy.

   2. The front suspension upper and lower wishbones must have a connecting link between the front and rear legs of the wishbone to assist in preventing protrusion into the chassis structure in the event of a side impact.

   3. All such parts must be heat treated (i.e. stress relieving, normalizing, annealing and hardening when applicable) after forming and/or welding as recommended by the stress level imposed.

   4. Parts may not be joined by bracing, soldering or by dissimilar metals.

5. All steering and suspension parts that are electroplated must be oven-baked at a temperature of 375 degrees Fahrenheit, plus or minus 25 degrees, for a period of not less than three (3) hours after plating.
6. Parts that have been stripped of plating must also be baked according to the specifications in 105 (E), unless parts are to be reprocessed within a three (3) hour period.
7. Shot peening is recommended for all highly stressed parts. Authorized facilities should be used.
8. The steering wheel hub must be padded with a resilient material of not less than three quarters (3/4) inch thickness.
9. The steering shaft must be constructed in a manner to restrict its rearward movement in the event of frontal impact.

606 BRAKES

A. Cars must be equipped with a dual braking system which will operate the brakes effectively on all four wheels.

B. If at any time during a competition it becomes evident that a car is without brakes, the necessary repairs must be completed before the car can continue in the competition.

C. Brake calipers are required to be made of ferrous material. Light alloy brake calipers are prohibited. Use of titanium is prohibited.

D. Carbon fiber brake rotors are prohibited. Brake rotors must be of ferrous material.

E. It is strongly recommended that all brake lines be of stainless steel and that flexible lines be high pressure Teflon lines.

607 WHEELS

A. All cars must not have more or less than four road wheels and must not be fitted with any wheel spacer exceeding 1 inch in thickness or of less than hub diameter. Multiple or laminated spaces are prohibited. Spacers and wheel offset shall be equal from side-to-side.

B. Wheel diameter is 13 inches with maximum front width of 6 inches and rear of 8 inches. Material is free providing it is metal.

C. Standard production steel passenger car wheels will not be permitted. Fabricated and/or split rim wheels must have the specific approval of the Technical Committee and the Director of Competition.

D. The wheel rim section may be required to withstand a minimum hydrostatic burst test of 250 p.s.i.

E. Wheel manufacturers may be required to submit a certified test report from an independent testing laboratory showing dynamic radial fatigue and dynamic cornering fatigue test. All tests must meet or exceed specifications.

F. All wheel balancing weights must be securely fastened.

G. Wheel Nuts - The use of a positive type wheel nut locking device, is required on all wheels during any event.

H. Loss of a wheel during any competition will reflect on the car's crew chief/team manager and may result in a penalty.

I. The inner diameter of the front and rear wheel assemblies must remain open. Devices for the purpose of aiding aerodynamics in the inner front and rear wheels are not permitted.

J. The use of wheel covers or inserts is prohibited.

608 OIL SUPPLY

A. The entire engine lubricating system must be of the dry sump type.

B. Oil may not be added to the engine supply during a race.

C. Loose containers of oil may not be carried in the car.

D. It is recommended that all oil lines should be stainless steel hoses with fuel and oil resistant innerliners and “B” nut connectors.

609 CATCH TANKS

A. Oil catch tanks must be fitted to the engine and transmission breathers venting to the atmosphere in such a way as to prevent oil from spilling on the track. Required minimum capacity is 1 liter.

B. Fuel tank vents-to-atmosphere must pass into the above catch tank, or must have its own reservoir.

C. A separate catch tank for the radiator coolant overflow is required to prevent the spilling of liquids. A closed recovery system is highly recommended.

D. Catch tanks shall be made of either a translucent material or include a transparent panel or gauge in order to facilitate checking its contents.

E. Catch tanks must be readily capable of being emptied.

610 FUEL SYSTEM

All cars are required to have an approved safety fuel cell. Safety fuel cells shall consist of a fuel bladder enclosed in a container as follows:

A. Fuel Bladder:

1. Materials

   Bladders shall be constructed of nylon or dacon woven fabric impregnated and coated with a fuel resistant elastomer.

2. Physical Properties — Mandatory Minimum Standards

   Tensile Strength — 450 lbs. — Spec. CCC-T-191-b Method 5102

   Tear Strength — 50 lbs. — Spec. CCC-T-191-b Method 5134

   Puncture test — 175 lbs. — Spec. Mil-T-6396 Article 4.5.17

   The above physical properties must be maintained throughout all areas of the finished bladder, including seams, joints and fittings.

3. Physical Properties — Recommended Standards

   It is recommended that all cars constructed after January 1, 1994, utilize fuel cells meeting the following specifications.

   Bladder material should possess the following minimum properties throughout its useful life:

   Constant rate tear - 100 ft/lbs.,: Crash Resistant Fuel System

Specifications No. 102, para. 4.3 1.4.3.1.

Puncture Test - 300 lbs.,: Spec. Mil-T-6396D, Para 4.6.17

Fitting pullout strength - not less than 80% of the insert wall tensile strength.

Seam strength - not less than 80% of the insert wall tensile strength.

4. Fittings

   All fittings shall be built into the bladder and bonded and cured as an integral part of the bladder during vulcanization.

5. Approval

   Only those bladders produced by manufacturers specifically approved shall be allowed.

   Safety fuel cells currently approved are as follows:

   Aero Tec — Fluorathane, ATL 100, ATL 421D, ATL 426C, ATL 444C, ATL 501A, ATL 510B, ATL 512D, ATL 514D, ATL 565

   Goodyear — BTC 60-3

   Donn Allen — Impregnated Ballistic Nylon

   FPT Industries — Hycalam FPT/PF/507

   Lifeline Industries — Hycalam FPT/PF/507

   Safety Fuel Cell

   Pyro-Guard — Safety Fuel Cell

   Firestone — Racesafe

   Fuel Safe — Impregnated Ballistic Nylon

   Autodelta — No foam required

   Simpson — Racesafe Type A-100, American Safety

   Systems, Racers Hardware

   Marston Excelsior LTD

   Premier Fuel Systems

   Woodville Rubber Company LTD

   Fuel Bladders, Inc.

   Phoenix Fuel Systems

   Fuel Safe, Inc. Cells

   Aero Tech Service — Bladders

B. Container:

   The fuel bladder shall be completely surrounded by a container (which may also be a part of the structure of bodywork of the car) to ensure rigid and secure mounting of the bladder and provide additional protection. A minimum of 20-gauge steel, 0.062” aluminum or an approved equivalent is required for all vehicles.

   Fuel cells shall not be installed any closer to the ground than six (6) inches unless enclosed within the required stress bearing underpan and side intrusion panels.

C. Foam:

   Foam internal baffling is required. This foam material shall fill all internal space within the fuel cell while not impeding the function of other fuel system components.

D. Tank Fillers, Caps and Vents:

Fillers and caps must not protrude beyond the bodywork. Caps must have an efficient locking action. Air vents must vent into an overflow catch tank, and must incorporate a positive check valve in the event of inversion or impact.

E. The maximum capacity of the total fuel system shall be 10.82 US gallons. The fuel supply must be contained in a single fuel cell located directly behind the driver.

611 ROLL BAR STRUCTURE

Roll bars are required in all cars. Specific installations are subject to approval by the Series Technical Director at each event. These specifications apply to all vehicles.

A. Basic Design Consideration:

1. The basic purpose of the roll bar is to protect the driver if the car turns over, runs into an obstacle such as a guardrail or catch fence, or is struck by another car. It must be designed to withstand compression forces from the weight of the car coming down on the roll-over structure and to take fore/aft and lateral loads resulting from the car skidding along the ground on its roll-over structure.

2. A system of head restraint to prevent whiplash and prevent the driver's head from striking the underside of the main hoop must be installed on all vehicles. The head restraint must be padded with a non-resilient material. The head restraint must be capable of withstanding a force of 200 lbs. in a rearward direction.

3. Forward braces and portions of the roll bar subject to contact by the driver must be padded with non-resilient material.

4. No portion of the safety roll bar shall have an aerodynamic effect by creating a vertical thrust.

5. Roll bar or chassis design must prevent intrusion into the driver compartment.

6. Minimum length/height of the safety roll-over bar is 92 centimeters measured in line with the driver's spine. There is no maximum height measurement.

7. The top of the driver's helmet must be below an imaginary line drawn between the top of the roll bar and the top of the bulkhead. (SEE ILLUSTRATION NO. 35)

8. Minimum clearance between top of driver's helmet and top of roll bar is 5 centimeters. (SEE ILLUSTRATION NO. 35)

B. Material:

1. Seamless, DCM mild steel tubing, or alloy steel tubing must be used for all roll cage structures

2. An inspection hole at least 3/16 inch in diameter must be drilled in a non-critical area of the roll cage hoop to facilitate verification of wall thickness.

C. General Conditions:

1. One continuous length of tubing must be used for the main hoop member with smooth continuous bends and no evidence of crimping or wall failure. The radius of bends in the roll cage hoop (measured at centerline of tubing) shall not be less than 3 times the diameter of the tubing.

2. All welding must be of the highest possible quality. Alloy steel must be normalized after welding.

D. Material Specifications:

Mild Steel	Alloy Steel	Forward & Rear Brace
1.375 x .095	1.375 x .080	1.000 x .080

E. Main Hoop:

Main hoop (behind the driver) must be in the full width of the cockpit.

F. Front Hoop:

The front hoop may be a low hoop (near the dashboard, but at least as high as the top of the steering wheel rim).

G. Bracing:

1. All required bracing must be of the same diameter and wall thickness as listed in 611 D. above.

2. All cars must have two (2) braces extending forward from the main hoop, attaching to the frame or front hoop. This bracing may be supplemented by rear bracing. Forward and rear bracing must be attached as near as possible to the top of the main hoop and at an included angle of at least 30 degrees. The driver's shoulders and torso must be protected by this bracing.

H. Front Hoop Bracing:

There must be two (2) braces extending forward from the front hoop to protect the driver's legs. They must be integrated into the frame or chassis to provide substantial support for the front hoop.

I. Exceptions:

Any roll cage design which does not comply with the specifications in 611D and 611G will only be considered if it is accompanied by engineering specifications signed by a registered engineer.

The specification must show the ability to withstand three (3) simultaneously applied loads:

1.5 G	Lateral
5.5 G	Fore and Aft
7.5 G	Vertical

612 DRIVER'S RESTRAINT SYSTEM

A. All drivers in the series must utilize a six (6) point restraint harness meeting the following specifications at all times during practice, qualifying and the race. The restraint system installation is subject to approval of the Series Technical Director.

B. The six-point system must consist of a three-inch (3") seat belt, three-inch (3") shoulder straps, and two each two-inch (2") anti-submarine straps.

C. The material of all straps shall be nylon or dacron polyester and in new or perfect condition. The buckles must be of metal-to-metal quick-release type except in the case of leg straps where they attach to the seat belt or shoulder harness straps.

D. The shoulder harness shall be the over-the-shoulder type. There must be a single release common to the seat belt and shoulder harness.

E. The shoulder harness shall be mounted behind the driver and the shoulder harness shall be attached so that the angle between a line drawn through the driver's spine and the shoulder harness is 90 degrees. Harness attachment points should not be more than 2 inches from this point.

F. Only separate shoulder straps are permitted. (Y-type shoulder straps are not allowed.) "H" type configuration is allowed.

G. The double leg straps may be attached to the frame, floor pan, or be attached to the seat belt so that the driver sits on them, passing them up between his legs and attaching either to the single release common to the seat belt and shoulder harness, or attaching to the shoulder harness straps. It is also permissible for the leg straps to be secured at a point common to the seat belt attachment to the structure, passing under the driver and up between his legs to the seat belt release or shoulder harness straps.

H. All straps must be free to run through intermediate loops or clamps/buckles.

I. The minimum acceptable bolts used in the mounting of all belts and harnesses is SAE Grade 5. Where possible, seat belt, should harness and anti-submarine strap(s) should be mounted to the roll structure or frame of the car. Where this is not possible, large diameter mounting washers or equivalent should be used to spread the load. Bolting through aluminum floor panels, etc., is not acceptable.

J. It is required that driver restraint systems be replaced every two (2) years.

K. Arm restraints are mandatory for use during all competition.

613 ELECTRICAL MASTER SWITCH

A. All cars in the Series must be fitted with a master circuit switch which must cut all electrical circuits (ignition, fuel pumps, alternator, lights, battery, etc., but not the fire extinguisher system). It must be clearly marked by a spark symbol on a blue triangle. It must be easily accessible from outside the car and be near the right main roll bar tube at approximately driver's shoulder height.

B. Cars must be equipped with an engine cut-off switch, easily accessible to the driver, when normally seated.

614 LIGHTS

All cars in the Series must be equipped with a red taillight of at least 15 watts. This light must be mounted as high as possible on the centerline of the car and be clearly visible from the rear. This taillight must be switched on when so ordered by the Chief Steward.

615 FIRE EXTINGUISHERS

All cars must have an on-board Halon 1301 or 1211 fire extinguishing system with the minimum capacity 5 pounds. The bottle must be mounted so that a substantial protective structure surrounds it and will retain the bottle in event of damage. The bottle must be mounted so that is can be removed easily for fully-charged verification by weighing. Nozzle outlets must be directed into the driver compartment but must not be pointed directly at the driver. Another nozzle outlet is required to be located near the carburetor. The extinguisher trigger(s) must be readily visible to a person engaged in rescue work and identified with a Red "E" marking. The trigger(s) must be accessible to both rescue personnel and the driver.

616 DRIVER'S EQUIPMENT

Each driver must wear the following equipment in all on-track sessions:

A. A safety helmet, which has the 1990 SA or later Snell Foundation decal of approval; the back of each driver's helmet must be labeled indicating name, date of birth, allergies and other pertinent medical history, i.e. tetanus immunization, diabetes, etc.

B. Accident damaged helmets should be sent by the driver or his representative to the Snell Memorial Foundation, P.O. Box 493, St. James, NY 11780. Details of the accident should be included.

C. A full face helmet must be worn by all drivers.

D. A fire resistant head sock (Balclava) must be worn by all drivers and driver's hair must be completely covered by fire resistant material.

E. One piece driving suit, made of fire resistant material accepted by the sanctioning bodies, or homologated by FISA, which effectively covers the body including the neck, ankles and wrists. Suits must be minimum two-layer.

F. Fire resistant underwear is required regardless of the number of layers in the driver's suit.

G. Socks made of fire resistant material and shoes and gloves made of leather or any approved fire-resistant material containing no holes.

H. Cars shall be equipped with, and driver shall utilize, seat belts, shoulder harnesses, and arm restraints meeting the standards of the sanctioning bodies.

I. It is recommended that any corrective eye glass material used be of safety glass type and meet U.S. Government standards.

J. All drivers are required to remove all dentures before starting an event.

617 MIRRORS

All cars must be equipped with two mirrors providing an unobstructed view to the rear. Each mirror must have a minimum surface of 45 square cm.

618 STARTER

All cars must be equipped with a proper self starter.

619 DRIVER'S SEAT

A. The driver's seat must be firmly mounted to the structure of the car.

B. For all oval venues, the driver's seat must conform with his/her anatomy and be constructed of a material that will allow support and energy attenuation both laterally and rearward. This material must fill as much of the cockpit under and to the side of the driver as possible. The seating system must be in place when the car is inspected.

The cockpit rim padding protecting the driver's head should be made of energy attenuating material and should not be further than one inch from the driver's normal seating position. There must be no projections that could provide a fulcrum between the driver's head and neck.

Energy attenuating materials must be used behind and along side the driver to absorb impact. At any point where the seat belts and shoulder straps pass through the seat or body structure of the car, the edges must be rolled or have grommets

to prevent chafing or cutting of the belt and strap material.

Recommendations:

1. Materials (system) used to construct seats should be high density beads and epoxy resin (vacuum cured). The traditional two-part foam method is not recommended.

2. The point at which the seat contacts the cockpit/chassis tubes should be lined with aluminum or Kevlar to provide additional intrusion protection.

620 BATTERIES

A. All batteries (on board power supply) shall be securely attached to the frame/ chassis structure in such a way as to insure that the battery will remain in place.

B. The hot (+) terminals must be adequately insulated on all cars.

C. Battery location is unrestricted within the bodywork.

621 THROTTLE SPRINGS

All cars must be equipped with two external throttle springs for positive throttle closing in addition to those provided by the carburetor manufacturer.

622 ENGINE

A. General

When referring to these Rules, the principle applied should always be that unless permission is specifically granted to make variations, modifications, or to carry out extra work, nothing can be done. Unless it states that you can do it, you cannot.

1. Engines must be mounted upright and mounted fore and aft in the chassis.

2. The only permitted engine is the Ford NE series, normally aspirated, 2 liter SOHC with 2 venturi carburetor with nominal bore, 90.84 mm, and stroke, 76.95 mm.

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

4. The addition of any material, be it metal, plastic or composite, etc., by any means, be it welding, bonding, encapsulation or encasement, to any component is prohibited unless specifically permitted within these rules.

5. Specific repairs of castings may be allowed with the written approval of the Series Technical Director.

6. Balancing of reciprocating and rotating parts is permitted only by removal of metal from locations so provided by the manufacturer.

7. Pump, fan and generator (alternator) drive pulleys and their retention bolts, washers and nuts are free.

8. Mechanical tachometer drivers may be fitted.

9. Generators or alternators are optional.

10. The use of thread locking compounds is permitted.

11. The use of Titanium is prohibited.

12. Gaskets are free except for cylinder head, inlet manifold to cylinder head and carburetor to inlet manifold gaskets which must be standard Ford manufactured for the engine.

13. Any process of cleaning, including glass beading, may be used on a component, except where specified within these rules, providing the surface finish, which must remain standard, is not affected.

14. Engine sealing: All engines must have provision for scrutineer's wire seals. Holes 1/16" pre-drilled in readily accessible locations on installed engines must be available if requested by the scrutineer. Failure to comply renders the engine ineligible. Two adjacent accessible bolts in the camshaft cover must be drilled. The Series Technical Director may utilize any method to seal engine components.

15. Only modifications or additions specifically covered by these regulations are permitted. Engine components not covered by these regulations must remain completely standard and unmodified. In cases of dispute on engines, reference will be made to Ford Motor Company manuals.

16. The use of non-standard replacement fasteners, nuts, bolts, screws, studs and washers which are not connected with or which do not support any moving parts of the engine or its compulsorily retained accessories is permitted.

17. The use of dowels to stabilize the oil pan to the engine block, the engine block to the cylinder head, and/or the cylinder head to the camshaft cover is permitted.

B. Induction

1. Forced induction is prohibited, including:

   a. Any device capable of augmenting pressure to increase the induction of air or fuel/air mixture into the combustion chamber (superchargers, turbochargers, etc.).

   b. Any means of artificially reducing induction air temperature (e.g. packing with solid CO2 etc.).

2. Ram effects entirely due to the forward motion of the vehicle or tuning or induction of exhaust pipe length are not included within this definition.

3. Any form of water injection is prohibited.

4. Nitrous Oxide injection is prohibited.

C. Carburetor

1. The air cleaner may be removed or replaced and a trumpet fitted.

2. It is permitted to open jets, open both throttles together, remove cold start devices and diffuser bar, fit internal and external anti-surge pipes.

3. It is permitted to remove seals on emission control carburetors.

4. Material may be added to block off float bowl vent, power valve passage and the anti-surge tubes. A "baffle" may be used inside the float bowl specifically to stop the fuel from sloshing out of the float bowl vent.

5. Flexible mounts for the carburetor are not permitted.

6. No other modifications are permitted, chokes must remain standard and no polishing or reprofiling is permitted.

7. Carburetor type: Weber 32/36 DGV and DGAV.

   Number on Engine: 1
   Number of Main Venturi: 2
   Maximum diameter of Main Venturi: 26.0 mm/27.0 mm
   Maximum diameter of carburetor outlet to inlet manifold: 32.0 mm/36.0 mm

D. Intake Manifold

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" (36.5 mm), maximum size at carburetor flange = 3.405" (86.5 mm) x 1.595" (40.5 mm). 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.

E. Exhaust

1. The exhaust system and manifold are unrestricted, within these regulations.
2. No engine crankcase vents may be attached to the system.
3. Exhaust systems must be designed to create a minimum fire hazard and a minimum hazard to other competitors.
4. Maximum exhaust length from rear wheel axis is 80 cm.
5. The height of the termination of the complete exhaust pipe is unrestricted, provided 622.E.3 is adhered to.

F. Cylinder Head

1. It is permitted, as a means of repair, to replace damaged valve guides and valve seats by replacement valve guides and valve seat inserts all to standard dimensions.
2. Inlet and exhaust port diameter may not be exceeded.
3. It is permissible to reshape inlet and exhaust ports by removal of metal within limits.
4. Addition of material in any form is prohibited.
5. Maximum port dimension at manifold head face:
   a. Inlet diameter: 39.5 mm
   b. Exhaust diameter: 35.5 mm x 27 mm
   c. Dimensions may not be exceeded.
6. An external oil drain pipe from the cylinder head is permitted. The fitting of a union by drilling and tapping is permitted.
7. Permitted cylinder head casting numbers:

   82 HM 6090 GB
   70 HM 6090 NA
   74 HM 6090 GA

   Prohibited cylinder head casting numbers:

   85 HM 6090 BB
   82 HM 6090 CA

G. Camshaft

1. Camshafts, rockers, and rocker assemblies must not be modified. They must be as manufactured and ground by Ford Motor Company. It is expressly prohibited to modify, regrind, or machine from blanks a camshaft. Tuftriding or Parkerising is permitted. Offset keys are permitted.
2. Ford replacement camshaft, as manufactured by Crane Cams, is approved as an acceptable alternate.
3. Cam lobe centers between the intake lobe centerline and exhaust lobe centerline (measured in degree on the camshaft) shall be 123.5 degrees +/- 1 degree.
4. Heel-to-toe measurement of each lobe shall be 1.438" +/- .002".
5. Total Maximum lift measured at the valve using zero lash is .400" + .005", as measured at the valve spring retainer.
6. To determine valve timing, the following procedure will be used:
   a. Rotate cam in normal direction.
   b. Zero degree wheel on cam to first positive .001" movement of lobe.
   c. Continuing rotation valve timing events are as follows:

Valve Opening	Degree of Rotation (+/- 2^0)	Indicator Reading
	0^0	.001"
	41^0	.100"
	51^0	.200"
	63^0	.300"
Full Open Valve Closing	90^0	.400"
	121^0	.300"
	131^0	.200"
	141^0	.100"
	200^0	.001"

7. The Series Technical Director may utilize any alternate method to verify the legality of the camshaft.

H. Valves

1. Standard valve spring retainers must be used.
2. Only single valve springs are permitted.
3. Shims are permitted, otherwise valve springs are free.
4. Valves must remain standard, no reprofiling or polishing is permitted.
5. The original 45 degree seat angle must be retained.
6. Regrinding the seat face within service limits, as defined in these rules, is permitted.
7. Trimming of the valve stems to achieve maximum lift is permitted, as defined by these rules.
8. Maximum face diameter inlet: 42.20 mm.
9. Maximum face diameter exhaust: 36.20 mm.
10. Maximum valve stem diameter: 8.40 mm.

I. Distributor

1. Distributors are free providing they retain the original drive and location.

2. The distributor is defined as the component which triggers the LT current and distributes the HT ignition 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.

3. A capacity discharge amplifier may be added to this system.

J. Pistons

1. Pistons must be standard Ford production 2000 SOHC NE pistons, unmodified in any way except for balancing and as detailed.

2. All three piston rings must be fitted. The compression rings must be one piece, single homogeneous material type with conventional plain gaps, chromium plating of the top ring is optional, the oil control rings must be either single piece twin land type or apex three piece (two rails and an expander).

3. To achieve balance, material may be removed from the internal surfaces, at any location below the lowest point of the gudgeon pin.

4. All external surfaces, dimensions and profiles must remain standard with the exception of the top surface of the piston crown, which may be subjected to simple machining to achieve balance.

5. The following combinations are permitted:

   a. Piston P/N 80 HM 6102 LA with rings and pin. Standard Ford connecting rod with bolts, without bearing. Minimum permitted weight = 1332.5 grams.

   b. Piston P/N 85 HM 6102 DA with rings and pin. Standard Ford connecting rod with bolts, without bearing. Minimum permitted weight = 1255 grams.

6. Forged Ford replacement piston, as manufactured by J&E Pistons, is approved as an acceptable alternate.

K. Compression Ratio

1. The maximum compression ratio will be controlled as follows:

   a. Minimum combustion volume in cylinder head 50 cc.

   b. Standard Ford cylinder head gaskets part numbers: 70-HM6051-B1A; 70HM6051-B3B; 70HM6051-G1A; or other genuine and identifiable Ford gaskets. Minimum compressed thickness: 0.9 mm. Minimum diameter of cylinder aperture: 92.0 mm.

2. Pistons must not protrude above cylinder block surface at TDC.

3. Cylinder block face may only be machined flat.

L. Connecting Rods

1. Connecting rods must be standard Ford parts. Machining is permitted to remove metal from the balancing bosses to achieve balance only.

2. Forged Ford rod, Part # M-6200-C200 is approved as an acceptable alternate.

3. It is permitted to block off the oil hole.

4. It is permitted to radius the area around the big end retaining bolt heads and nuts.

5. Rod bolts are free.

6. Tuftriding, Parkerising, shot-peening, shot-blasting and polishing are permitted.

M. Crankshaft

1. A standard crankshaft must be used. Crankshaft minimum weight 27.5 lbs.

2. It is not permitted to alter the number of bearings or fit bearings of less than standard production width.

3. Standard oversize and undersize bearings are permitted.

4. Tuftrising, Parkerising, shot-peening, shot blasting and polishing are permitted.

5. Spot machining to achieve balance is permitted.

6. Knife edging is not permitted. The basic profile of the crankshaft should remain standard.

N. Cylinder Block

1. It is permitted, as a means of repair, to replace damaged cylinder bores with cast iron cylinder liners, all to standard dimensions.

2. Localized machining of the cylinder block is permitted to allow fitting of the dry sump system.

3. It is permitted to drill and tap oil filter boss for the oil pressure line.

4. The crankcase breather may be altered or removed, but all breathers must discharge into a catch tank directly or indirectly.

5. May be machined to maintain deck height.

6. Permitted block casting numbers:

   70 HM 6015 BA
   85 HM 6015 BA
   92 HM 6015 BA

O. Fuel Pump

1. Only standard mechanical fuel pump is permitted.

2. Fuel pipes and fittings are unrestricted.

P. Lubrication System

1. The lubrication system, external to the engine, is unrestricted.

2. Existing standard production oilways, lining, or oil grooves may be enlarged or reduced, but no additional ones are permitted, except as provided for in 622-F.6.

3. Standard friction surfaces must remain unchanged.

4. A dry sump system is unrestricted.

5. Oil coolers are unrestricted.

623 COOLING SYSTEM

A. A liquid cooling system is mandatory.

B. Radiators and water pumps are unrestricted.

C. The radiator, if housed in or incorporating a cool air scoop or deflector, must comply with bodywork regulations.

624 FLYWHEEL AND CLUTCH

A. The flywheel must be a standard Ford component. Replacement flywheel, part # M6375A200 sold through Ford SVO, is approved as an acceptable alternate.

B. The minimum weight is 14.4 lbs. with ring gear. Flywheel bolts and dowels not included!

C. To achieve minimum weight, material may be removed from the original machined surfaces.

D. Cast surfaces must remain in original condition.

E. Spot machining to achieve balance is permitted.

F. Flywheel bolts are free and locating dowels are permitted.

G. A 1600 GT starter ring gear may be fitted.

H. Only a single plate clutch is permitted. Diameter is free.

I. Carbon fiber and carbon/carbon clutches are not permitted.

625 TRANSMISSION

A. The gearbox must contain not more than four forward gears and include an operable reverse gear, capable of being engaged by the driver in a normal, seated position.

B. The use of automatic and/or sequential gearboxes is prohibited.

C. Electronically assisted gear change mechanisms and electronically controlled differentials are prohibited.

D. Gearboxes with shafts that are transverse to the longitudinal axis of the chassis are prohibited. The sole exception are the gearbox final drive (crownwheel) shaft axis and final drive shafts (halfshafts). All change gears must be located in the case aft of the final drive.

E. Ratios are free.

F. Rear wheel drive only is permitted.

G. The final drive ratio is free.

H. Torque biasing, limited slip, and locked differentials are prohibited.

I. The differential cannot be modified or influenced in any way to limit or change its normal operation.

J. An aluminum differential carrier is permitted.

K. The use of titanium is prohibited.

626 DATA GATHERING SYSTEMS

Chassis/engine data gathering systems are allowed. The data gathering system may only consist of the following: Engine r.p.m., throttle position, steering input, fore/aft and lateral g loads, front wheel speed, E.G.T., and suspension travel. The data gathering system must have a separate wiring harness with visible wire tracing ability. Down loading of gathered data on pit lane following the checkered flag is prohibited. The data gathering system may also monitor temperatures and/or pressures of drive train fluids.

627 CAR NUMBERS

A. All car numbers are assigned by the Series Registrar.

B. Numbers 1 through 9 will be assigned to the driver according to his finish in the National point standings the previous year. Number 1 is reserved for the National Champion and will not be reassigned. Numbers 2 through 9 may be reassigned if the driver has not requested assignment of the number by November 15th.

C. Previously assigned numbers will be protected until December 1st. All other numbers will be assigned in the order that requests are received.

D. After a number is assigned to a particular car and entrant, it will remain with the entrant until the end of the racing season.

E. Upon completion of a car's first Technical and Safety Inspection of the year, a Registered Car Decal will be affixed to the left-hand side of the coachwork, near the center of the car. Upon this decal shall be painted the car's official program number/serial number for that year.

F. Each car must provide minimum size rectangular "blank space" areas in specific locations for the display of required numbers of specific minimum sizes. These required number areas must be a single background color, free of all decals, trim and other decorations.

Each number area must provide a minimum one (1) inch border of background color on all sides of the number and a minimum one (1) inch separation between numerals.

The minimum width of each numeral (other than the numeral 1) must be no less than half its height.

The minimum width of each required number area is the sum of the width of its numeral(s) plus three (3) inches.

1. The required Front Program Number must be composed of numerals of eight (8) inch minimum height in a background area ten (10) inches high minimum, and be centered astride the top centerline of the tub no more than twenty-four (24) inches below the bottom edge of the windscreen.

2. The required Left and Right Side Program Numbers must be composed of numerals of eight (8) inch minimum height in a background area of ten (10) inches high minimum and be located on the outer surface of the rear wing end plate. (SEE ILLUSTRATION NO. 38)

G. A back-up car must also display the single letter “T” of four (4) inch minimum height adjacent to and behind the Program Number in all required number locations (SEE ILLUSTRATION NO. 32). In such cases, the minimum “blank space” width is increased by four (4) inches. The “T” must be displayed throughout practice and/or qualifying for the event, and must be removed during competition in the race.

H. The required numbers must be composed of white numerals on a black background, black numerals on a white background, or high-contrast equivalents. The use of metallic, fluorescent, or other reflective colors will not be approved. The final decision on the adequacy of the numbers for unique identification will rest with the Director of Timing and Scoring after on-track observation of the car at speed, and this decision is not protestable.

628 SERIES IDENTIFICATION

A. Series and Series sponsor decals and patches must be prominently displayed on cars and on driver’s suits at all times as indicated in Illustration No. 37 and 38 and as specified by Series Officials. Decals, emblems, and patches of conflicting series and events must be removed. Advertising and symbols displayed on the car and driver’s suits must be in good taste and should not interfere with identification numbers or required markings. Failure to comply may result in fines, loss of prize money, points, or a combination of penalties.

B. The driver’s name must appear on each side of the car below the cockpit opening. (SEE ILLUSTRATION NO. 36)

C. Sanctioning Body Emblems - All participants members will be required to wear SCCA and USAC emblems attached in the area over the right front pocket on uniforms worn at all sanctioned events. (SEE ILLUSTRATION NO. 37)

629 TIRE RULE

A. A spec tire, the type, size and compound to be announced per circuit, will be the only tire permitted for use in competition unless otherwise specified by the Chief Steward.

B. One (1) set of these spec tires will be marked per race for use during qualifying and the race (cars must race on what they qualify on).

C. It is permissible to re-mark a spec tire for use at a subsequent event.

D. It is prohibited to utilize a “regrooved” dry/racing slick during competition.

E. Rain tires are prohibited for use during a “dry” qualifying session.

F. Cooling of tires is permitted in the pit lane provided all materials are quickly cleaned up/removed.

G. A tire damaged during qualifying trials can be replaced by an identical tire at the discretion of the Technical Director in conjunction with the Chief Steward.

H. The addition of any foreign substance (i.e. traction compound) to spec tires is strictly prohibited.

I. Any method of tire warming (heat blankets, heat guns, ovens, etc.) is prohibited from use on any event day.

630 FUEL RULE

A. Any grade of automotive or aviation gasoline not containing any alcohols, nitro compounds or other power boosting additives may be used. Gasoline may contain anti-oxidants, metal deactivators, corrosion inhibitors, lead alkyl compounds such as tetra-ethyl lead and other anti-detonate additives. Fuel will be checked dielectrically (with a tolerance of 1%) for nitrogen bearing additives. The injection of water or nitrogen bearing substances into the intake system is prohibited. Gasohol is prohibited. Nitrous Oxide is prohibited.

1. Fuel Definition

   100% petroleum derived, no analine or MMT permitted. Distillation range must meet ASTM 439 specifications.

2. Leaded Gasoline

   Lead Alkyl Compounds: 4.23 grams per gallon maximum.
   Specific Gravity: .680 to .750 at 60 degrees F.

3. Unleaded Gasoline

   Octane: (R+M/2) 103 maximum
   Specific Gravity: .700 to .750 at 60 degrees F.

B. A “Series” or “Individual Event” “Spec Fuel” may be required and therefore will become mandatory for use during the competition. Notification of such a requirement will be given to all competitors as early as possible prior to each event’s first timed session. The addition of any substance to the “spec” fuel is strictly prohibited.

C. All fuel is subject to testing at any time. Any car suspected to be in violation will be immediately impounded by the Technical Committee and held for inspection. If a violation is found, the car will be disqualified.

F2000 CHAMPIONSHIP DIVISION SUPPLEMENTAL RULES AND PROCEDURES

1601 RULES OF THE PITS

At every U.S. F2000 event there shall be a definite place assigned for the accommodation of each competing car's equipment, repairs, fueling and attendants. The car shall remain at this place whenever the car is not actually in competition, with the exception of its retirement from competition, at which time it will be moved to the paddock, if possible.

A. All personnel in the pit area must be adequately attired (closed-toe shoes, long pants and sleeved shirts) at all times during practice, qualifying and the race. Crew members working in the pit lane or in the designated signaling area must be uniformly attired (matching pants and matching shirts) at all times.

B. All personnel in the pit lane must at all times display their pit pass and/or verification of registration.

C. Push starts prior to the start and during the race are permitted if they do not create a hazard to either the car being pushed or to the personnel pushing the car.

   NOTE: This does not change the requirement that all cars must be equipped with an on-board starter and battery which must be in working order at all times.

D. Smoking is not allowed at any time in the pits.

E. Auxiliary power (battery assist) may be used at any time except during refueling.

F. The starter will not be used as a means of propulsion, either on the course or in the pits.

G. Service Stops

   1. When a car stops at its pit at any time during practice, qualifying , or race only the people listed here may be over the pit wall in the working pit area. Drivers involved in a driver's change, an identified service company representative examining a car's components, and no more than four (4) crew members. Before a car stops in its pit, a fifth crew member supervising the pit stop may be over the wall to signal the driver in. All other personnel and equipment must remain behind the pit wall until the car stops in its pit.

   2. The pit stop supervisor must always be in front of the vehicle observing the work being done. Only after the pit stop supervisor has verified that all work has been completed and that equipment has been secured, may he signal the driver out. Collisions in the pit lane will be severely dealt with by the Chief Steward.

   3. A maximum of two (2) uniformed crew persons per car will be permitted trackside (in a designated location) for the purpose of signaling during practice, qualifying and racing. Crew members may not go to the signaling area until after the green flag has been displayed. Personnel crossing the pit lane must be kept to a minimum. Spectating in the signaling area is prohibited.

   4. Each entrant must make his own arrangements for handling gasoline, water and oil in his pit. Spillage and/or careless handling of fuel, water or oil will not be tolerated and may result in a fine or other penalty being assessed. It is the responsibility of the crew to clean up any fuel, water or oil spills onto the pit space or pit lane as soon as possible.

5. Refueling

    a. Refueling during a race is prohibited unless specifically authorized by the Chief Steward.

    b. Fuel may be added during practice, but refueling is prohibited during a timed qualifying session.

    c. Addition of fuel (as above) can only be done in the pit lane and is prohibited on the starting grid or racing surface. No spillage will be tolerated.

    d. When refueling in the pit lane during practice, the engine must be shut off, at least two wheels must be in contact with the ground, and the driver must be out of the car. A crew member or marshall must be stationed at the car with a fire extinguisher having a minimum capacity of ten (10) lbs.

    e. Extreme care should be taken in the handling of fuels. Where local requirements are posted, they become a part of the rules. Any individual found violating these regulations will be subject to fine and may be removed from the pit area. The car entrant and/or chief mechanic will be responsible for the actions of his crew.

    f. Under no circumstances shall fuel be allowed in the pit area, except in approved and authorized refueling containers or tanks, during any portion of an event.

H. The entrant shall provide a fire extinguisher in his pit and paddock at all times. It must be in sufficient working order and of adequate capacity and type to combat a gasoline fire (minimum ten (10) lbs ABC-type extinguisher). The extinguisher is in addition to that which must be carried in the car and in addition to that supplied by the Organizer.

I. All air bottles/gas cylinders must have a protective structure around their gauges and valves when in the pit area.

J. Air lines or hoses will not be permitted outside of the car's assigned pit area.

K. Any driver, who leaves his assigned pit with air hoses, fuel hoses or air impact wrenches attached or hanging from his car, or has any tools left loose in or on his car, will be assessed a detention penalty.

L. Any driver, who allows either of the rear wheels of his car to pass over or under any air hose while entering or leaving his pit, will be assessed a detention penalty.

M. Any crew chief responsible for leaving tools or equipment which are run over by his, or another car, may be penalized or fined.

N. Booms (overhead equipment holders) are not permitted.

O. Additional pit equipment rules may be provided for in the supplementary regulations or by a bulletin. The Stewards are empowered to penalize any car, if in their opinion the pit equipment rules are violated. The decision to penalize is not protestable.

P. The driver only may repair the car on the course. He may walk to and from the pits to obtain parts and equipment, but must not receive any physical assistance.

Q. The Series Chief Steward may order any car removed from the course which, in his judgment, constitutes a hazard to other competitors because of insufficient speed, fluid spillage, or any other reason.

R. Cars removed to the paddock area from the course or the pits shall be ineligible to return to the qualifying session or race in progress, except as noted in “U” below.

S. All major body components should be maintained in normal positions throughout the competition. In the event that loss of bodywork is a safety hazard, the car may be black-flagged. Cars competing in a race with bodywork missing may be penalized if the loss is a performance advantage.

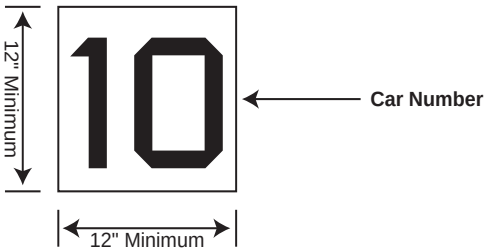
T. No tool which may cause sparks or a high temperature will be allowed in front of or inside the pits.

U. If an entrant desires to perform work on the car which would cause sparks or a high temperature, he may request specific permission from the Series Chief Steward to remove the car to the rear of the pits for that purpose only, and then must be accompanied at all times by a Technical observer.

V. Pit Assignment

Unless assigned by the series, all pit spaces are “claimed” on a first-come, first-served basis except as provided for in Series or individual event regulations. To stake a “claim”, display a board with your number on the pit lane side of the pit wall or pit rail to indicate your pit location. Display of a number board in this manner is a valid means of “staking claim” to that particular pit space, as well as a means of assisting the officials working the pit lane. Disputes will be settled by the Chief Steward.

PIT CLAIM NUMBER BOARD



W. Pit carts, trolleys, 3-wheelers, tubs, etc. must be clearly marked with race car number and series for easy identification.

X. Pets are prohibited in the pits, but are permitted in the paddock, unless prohibited by track regulations. Where permitted, they must be leashed to an adult with a three-meter maximum line or enclosed in a vehicle. Owners will be fully responsible for their pet’s actions and liability arising therefrom.

Y. Upon the signal of a series offical, cars in line in pit lane to enter the track must immediately proceed onto the track and accelerate to a safe speed. Any driver unable to obey the officials instructions must immediately take action to pull out of line or notify an official of his problem. At no time will delays or slow pit speed be tolerated which, in the opinion of pit lane officials are being done to gain clear track by creating a gap, thereby delaying the line of cars behind.

Z. Unless otherwise advised at the drivers meeting, all cars, pit cars, equipment, tools, spare components and all crewpersons must vacate the pit lane no later than five (5) minutes after the checkered flag is first displayed at Start/Finish line.

1602 TESTING

Effective February 1, 2000, testing by US F2000 National Championship entrants and drivers (and series entered cars) will be restricted on tracks where the series is scheduled to race as follows:

Oval Tracks - Testing on oval tracks shall be limited to series scheduled test days only.

Permanent Circuits - Testing on permanent circuits shall be limited to promoter's and/or series scheduled test days only.

Sanctioned SCCA Regional and National events are not prohibited, nor are driving schools that do not use F2000 equipment. Pre-event test days for SCCA Regional and National events are not prohibited if they are SCCA sanctioned test days.

For further clarification:

Competitors are free to test at any scheduled track from the date of the last 1999 race at that track until February 1, 2000. After that date, series competitors may only test at tracks where the series is not racing.

1603 MUFFLERS

All cars must, as a minimum, comply with the maximum sound level 107 dba.

1604 AMERICAN CONTINENTAL CHAMPIONSHIP (ACC)

The U.S. F2000 Championship is open to all F2000 chassis manufactured in 1990 or later as described herein above. Those chassis manufactured in 1999 or before may enter as ACC participants, with the following additional rules and regulations applying:

A. To be eligible to enter as an ACC participant, a chassis must be 1999 or older, however, 1999 and older chassis may choose to enter the National Championship instead.

B. Minor suspension updates and/or bodywork changes are allowed, subject to the prior approval of the Technical Director.

C. Major suspension revisions, chassis modifications or bodywork reconfigurations are not allowed. The intent of the ACC is affordable racing, and if an update is viewed by the Technical Director to be a significant departure from the original design, the chassis will be classified as an "A" car.

D. The ACC classification is applicable on all circuits except ovals. There is no distinction on ovals, with all chassis recognized as "A" cars.

E. On road courses comprising the American Continental Championship, ACC participants earn points and purses from the ACC schedule, and do not receive National points or purses. ACC participants may not compete in both Championships.

F. All other National Championship rules and regulations are in effect for the ACC.

APPENDIX A

2000 POINTS SCHEDULES

National and Oval Championship Points

Overall Position	Points Earned
1st	30
2nd	25
3rd	22
4th	19
5th	17
6th	15
7th	14
8th	13
9th	12
10th	11
11th	10
12th	9
13th	8
14th	7
15th	6
16th	5
17th	4
18th	3
19th	2
20th+	1
Fastest Qualifier	1
Most Laps Led	1

American Continental Championship

ACC Position	Points Earned
1st	22
2nd	18
3rd	15
4th	12
5th	10
6th	8
7th	6
8th	4
9th	2
10th+	1
Fastest Qualifier	1
Most Laps Led	1

All drivers who start the feature race will earn at least one point. To qualify as a race finisher and receive an official finishing position, a competitor must have completed no less than 50% of the total race laps.

The Championship will be awarded to the driver who accumulates the greatest number of points. In the event of a tie, the driver with the most firsts (then seconds, thirds, etc.) shall be champion.

A driver's best 12 results of the 14 races will be counted for the National Championship. For Oval and ACC Championships, all results will count.

Trophies will be awarded to the first three (3) finishers at each event, plus the top ACC finisher at road course events.

Chassis Manufacturer's, Engine Builder's, and Prep Shop Points will be awarded to each companies' highest finish:

1st	9
2nd	6
3rd	4
4th	3
5th	2
6th	1

APPENDIX B

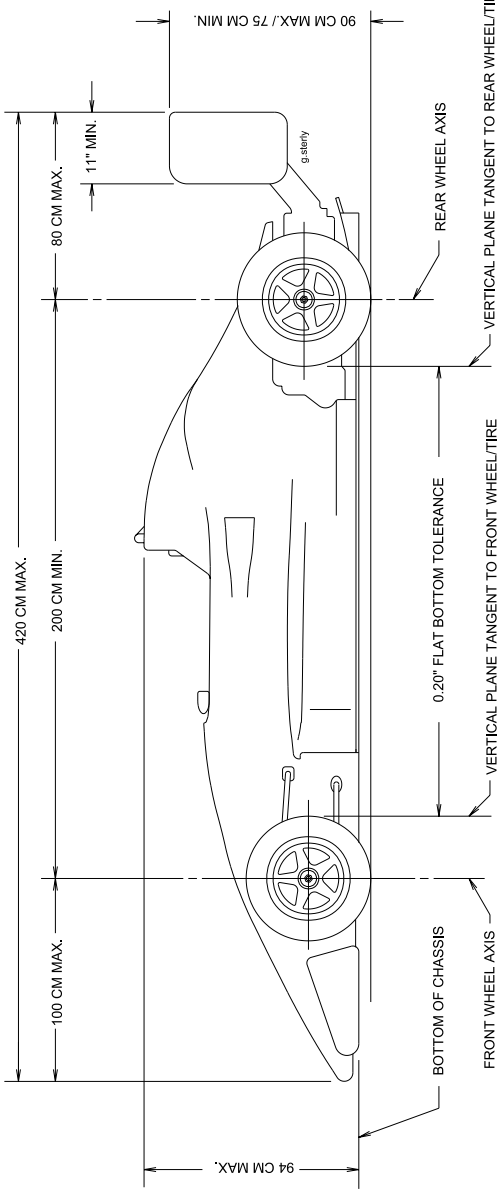
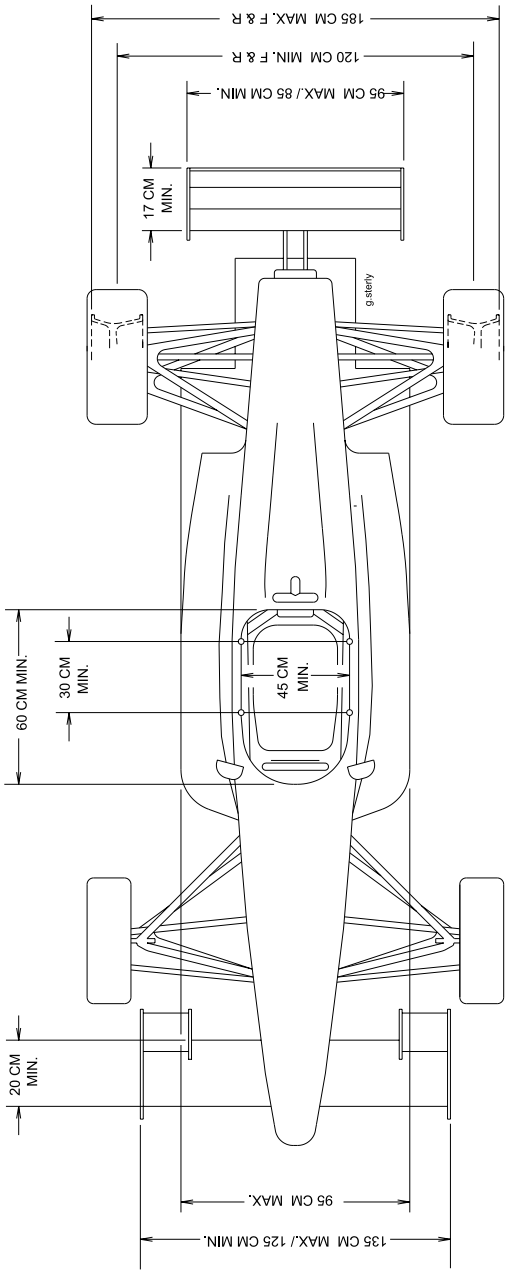


ILLUSTRATION 33



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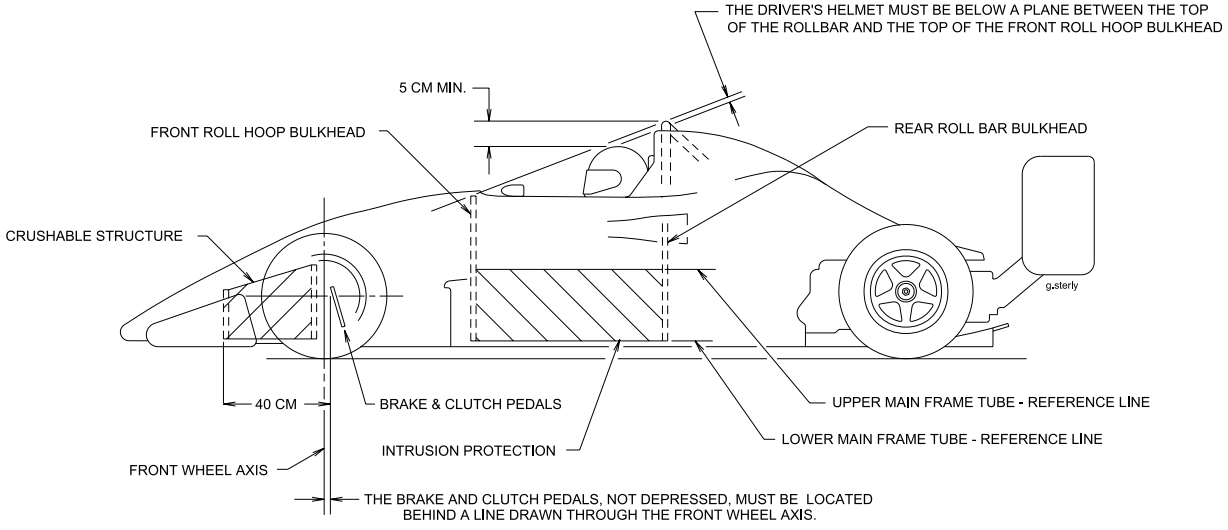
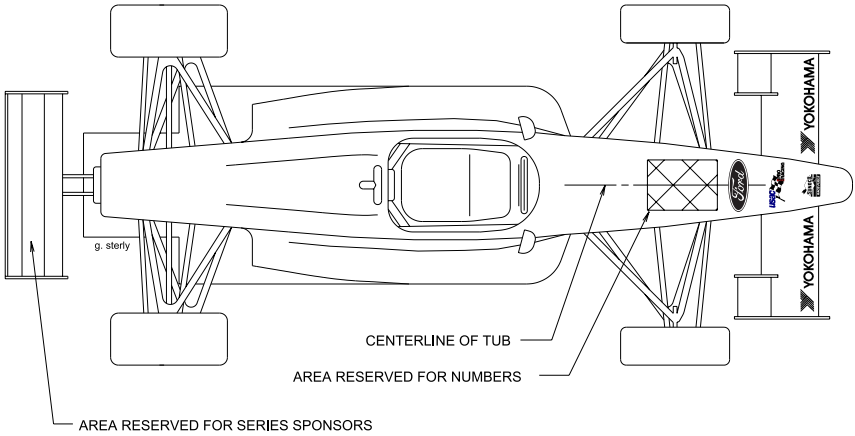


ILLUSTRATION 35

2000 DECAL REQUIREMENTS

Required Series Decals:

- Ford Oval (4) ..... 2 large on sides (on or near engine compartment), 1 medium on nose (as shown), 1 small on front of helmet
- Yokohama (4) ..... 2 on sides (on decal strip), 2 on front wings (as shown)
- USAC/SCCA (3) ..... 2 on sides (on decal strip), 1 on nose (as shown)
- Racing Electronics (2) ..... 2 on sides (on decal strip)
- Speedvision (2) ..... 2 on sides (as shown)
- Sunoco (3) ..... 2 on sides (on decal strip), 1 on nose (as shown)
- US F2000 Registered car decal (1) ..... 1 on side (as shown)



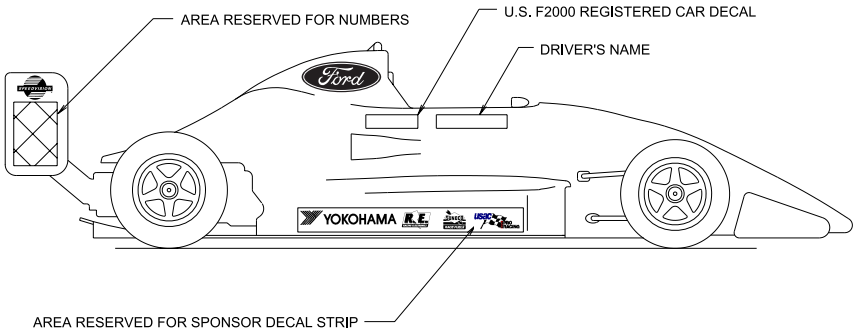
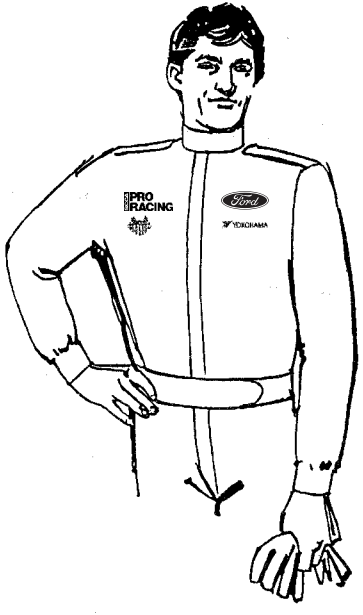


ILLUSTRATION 36

ILLUSTRATION 37

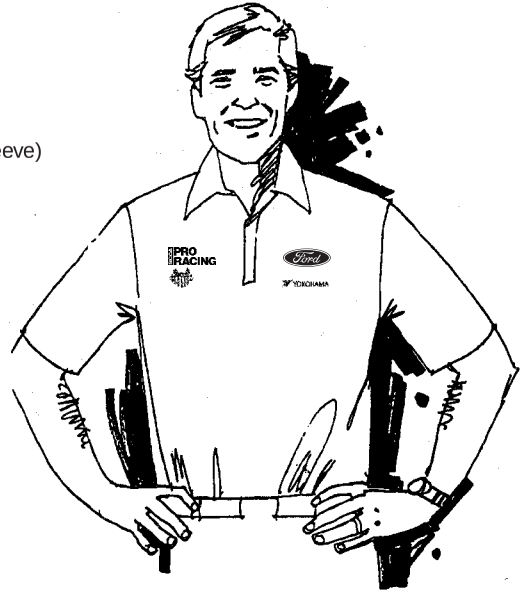
DRIVER



Required Patches:

- Ford (as shown)
- Yokohama (as shown)
- USAC (as shown)
- SCCA (as shown)
- Sunoco (sleeve)
- Racing Electronics (sleeve)

CREW



Appendix C - Tables

Table 1 - Weights of Liquids

1 U.S. Gallon (231 cu. in.) Gasoline - 6.0 lbs.
1 U.S. Gallon (231 cu. in.) Mineral Oil - 7.528 lbs.
1 U.S. Gallon (231 cu. in.) Methanol - 6.75 lbs.
1 U.S. Gallon (231 cu. in.) Water - 8.336 lbs.

Table 2 - Length Equivalents

Units	Feet	Miles	Centimeters	Kilometers
1 inch	0.0833		2.540	
1 foot		0.000189	30.480	
1 mile	5,280			1.60934
1 centimeter	0.0833			0.00001
1 kilometer	3,281	0.62137	100,000	

Table 3 - Volume Equivalents

Units	Cubic Inches	Cubic Feet	Cubic Yards	Cubic Centimeters
1 cubic inch	1			16.39
1 cubic foot	1,728	1	.03704	28,317
1 cubic yard	46,656	27	1	764,559
1 cubic centimeter	.06102			1
1 cubic meter	61.023	35.314	1.3079	

Table 4 - Capacity Equivalents

Units	Cubic Inches	Fluid ounces	Liquid quarts
1 cubic inch	1	.5541	.01732
1 fluid ounce	1.8047	1	.03125
1 gill	7.2188	4	.125
1 fluid pint	26.875	16	.5
1 fluid quart	57.75	32	1
1 gallon (U.S.)	231	128	4
1 gallon (Imperial)	277.41	153.718	4,804
1 liter	61.023	33.314	1.0567