



## 2012 RULES

**Sanctioned by**



# Table of Contents

<b>SECTION 5: SPEC RACER CHALLENGE RULES.....</b>	<b>3</b>	5.8.17: CAM COVER VENT.....	5
<b>SECTION 5.1: PURPOSE.....</b>	<b>3</b>	5.8.18: WATER PUMP TEMP GAUGE SENDER.....	5
<b>SECTION 5.2: CHAMPIONSHIP POINTS .....</b>	<b>3</b>	5.8.19: CLUTCH LINES.....	5
5.2.1: SERIES POINTS.....	3	5.8.20: SPARK PLUG SLEEVES.....	5
5.2.2: ELIGIBILITY TO EARN POINTS .....	3	5.8.21: SPARK PLUG LOOMS.....	5
5.2.3: AWARDDING OF POINTS.....	3	5.8.22: MASTER CYLINDER CAPS.....	5
5.2.4: TIES.....	3	5.8.23: MUFFLER KIT.....	5
5.2.5: TROPHIES.....	3	5.8.24: EXHAUST GASKET.....	5
<b>SECTION 5.3: RACE FORMAT AND OPERATION .....</b>	<b>3</b>	5.8.25: WIRING HARNESS PLUGS.....	5
5.3.1: RACE FORMATS.....	3	5.8.26: THERMOSTAT.....	5
5.3.2: RACE LENGTH.....	3	5.8.27: COOLANT RECOVER BOTTLE.....	5
5.3.3: PRE-RACE CEREMONIES.....	3	5.8.28: THERMAL WRAP OR COATING.....	5
5.3.4: POST-RACE CEREMONIES.....	3	5.8.29: ALTERNATOR PULLY.....	5
5.3.5: OFFICIAL EVENT SESSIONS.....	3	5.8.30: MOUNTS AND BRACKETS.....	5
5.3.6: EVENT TIRES.....	3	5.8.31: RADIATOR SCREEN MESH.....	5
<b>SECTION 5.4: RACE START PROCEDURES .....</b>	<b>3</b>	5.8.32: RADIATOR BAFFLE.....	5
5.4.1: PRE-GRID.....	3	5.8.33: SHIFTER.....	5
5.4.2: PRESENTATION LAP.....	3	5.8.34: HEAT SHIELD.....	5
5.4.3: PRE-START CEREMONIES.....	3	5.8.35: SURGE TANK.....	5
5.4.4: PACE LAP.....	3	<b>SECTION 5.9: SUSPENSION .....</b>	<b>5</b>
5.4.5: START PROCEDURE.....	3	5.9.1: ADJUSTMENTS.....	5
5.4.6: DELAYED START.....	3	5.9.2: LOWER CONTROL ARMS.....	5
5.4.7: FALSE START.....	3	5.9.3: FRONT SPRINGS.....	5
<b>SECTION 5.5: TECHNICAL SPECIFICATIONS.....</b>	<b>4</b>	5.9.4: REAR SPRINGS.....	5
5.5.1: PERMITTED CARS.....	4	5.9.5: ANTI-ROLL BAR.....	5
5.5.2: SAFETY REQUIREMENTS.....	4	5.9.6: ANTI-ROLL BAR DIAMETER.....	5
5.5.3: MAINTENANCE AND REPAIRS.....	4	5.9.7: GROUND CLEARANCE.....	5
5.5.4: UPDATES.....	4	5.9.8: SUSPENSION LINKAGE ADJUSTMENTS.....	5
5.5.5: VEHICLE LOGBOOKS.....	4	5.9.9: CAMBER.....	5
5.5.6: PFSRII AND SEALS.....	4	5.9.10: SHOCK ABSORBERS.....	5
5.5.7: WEIGHT.....	4	5.9.11: ROD ENDS.....	5
<b>SECTION 5.6: CHASSIS .....</b>	<b>4</b>	5.9.12: UPPER CONTROL ARM REINFORCEMENT STRAPS.....	5
5.6.1: CHASSIS RUB BLOCK.....	4	<b>SECTION 5.10: BRAKES .....</b>	<b>5</b>
5.6.2: SEAT MOUNTS.....	4	5.10.1: BRAKE DUCTS.....	5
5.6.3: STEERING SHAFT BRACKET.....	4	5.10.2: BRAKE PEDAL.....	5
5.6.4: PAINTING/PLATING.....	4	5.10.3: BRAKE LINES.....	6
5.6.5: FUEL CELL PLATE.....	4	5.10.4: BRAKE FLUID AND BRAKE PADS.....	6
<b>SECTION 5.7: BODYWORK.....</b>	<b>4</b>	5.10.5: ROTORS.....	6
5.7.1: BODY REPAIRS.....	4	5.10.6: CALIPERS.....	6
5.7.2: BODY SECTIONS.....	4	5.10.7: BRAKE BIAS ADJUSTOR.....	6
5.7.3: CRASH DAMAGE REPAIRS.....	4	5.10.8: FRONT BRAKE DUCTS.....	6
5.7.4: SPRING TYPE FASTNER.....	4	<b>SECTION 5.11: STEERING.....</b>	<b>6</b>
5.7.5: BODY PAINT.....	4	<b>SECTION 5.12: TIRES AND WHEELS.....</b>	<b>6</b>
5.7.6: FORWARD BRACES.....	4	5.12.1: WHEEL DIMENSIONS.....	6
5.7.7: BALAST PLATES.....	4	5.12.2: TIRES.....	6
5.7.8: RUB RAILS.....	4	5.12.3: WHEELS.....	6
5.7.9: NOSE PANS.....	4	5.12.4: WHEEL BEARINGS.....	6
5.7.10: FLOOR PANS.....	4	5.12.5: REGROOVED TIRES.....	6
5.7.11: OPTIONAL AIR SCOOP.....	4	<b>SECTION 5.13: FUEL SYSTEM.....</b>	<b>6</b>
5.7.12: ALTERNATE DASH PANEL.....	4	<b>SECTION 5.14: ELECTRICAL SYSTEM.....</b>	<b>6</b>
5.7.13: REQUIRED BODY MODIFICATION.....	4	5.14.1: WIRING HARNESS.....	6
5.7.14: LOUVERED SIDEPOD COVER.....	4	5.14.2: EEC MODULE.....	6
5.7.15: BODY OPENINGS.....	4	5.14.3: BATTERY.....	6
<b>SECTION 5.8: ENGINE AND DRIVETRAIN MODIFICATIONS.....</b>	<b>4</b>	5.14.4: BATTERY POST COVERS.....	6
5.8.1: ENGINE MODIFICATIONS.....	4	5.14.5: RAIN LIGHT.....	6
5.8.2: ENGINE SEAL LOCATIONS.....	5	5.14.6: TECHOMETERS.....	6
5.8.3: CAM TIMING.....	5	5.14.7: GAUGES.....	6
5.8.4: PORTS.....	5	5.14.8: DATA ACQUISITION SYSTEMS.....	6
5.8.5: ECC MODULE.....	5	<b>SECTION 5.15: ACCESSORY ITEMS .....</b>	<b>6</b>
5.8.6: SPARK PLUGS.....	5	5.15.1: MIRRORS.....	6
5.8.7: FLYWHEEL AND CLUTCH.....	5	5.15.2: SEATS.....	6
5.8.8: OIL FILTER.....	5	5.15.3: COOL SUITS.....	6
5.8.9: AIR FILTER.....	5	5.15.4: HEADREST PAD.....	6
5.8.10: PCV VALVE.....	5	5.15.5: TWO WAY RADIOS.....	6
5.8.11: TRANSMISSION.....	5	5.15.6: RACER'S TAPE.....	6
5.8.12: TRANSMISSION RATIOS.....	5	5.15.7: METAL FLOOR PAN.....	6
5.8.13: FINAL DRIVE.....	5	5.15.8: CENTER PEDAL DIVIDER.....	6
5.8.14: TRANSMISSION SPEED SENSOR.....	5	5.15.9: BUTLER HEAD RESTRAIUNT.....	6
5.8.15: THROTTLE RETURN SPRING.....	5	5.15.10: TALLMAN KIT.....	6
5.8.16: RADIATOR.....	5	5.15.11: NACA DUCT.....	6

# SECTION 5: SPEC RACER CHALLENGE RULES

## SECTION 5.1: PURPOSE

The purpose of the USERA Spec Racer Challenge Rules is to define the technical requirements for Spec Racer Ford cars, as built by SCCA Enterprises, Inc., to compete in USERA sanctioned events. All modifications not specifically permitted in these Rules are expressly prohibited. Cars are packaged and sold by SCCA Enterprises. All replacement parts are supplied through SCCA Enterprises unless otherwise noted in these rules. All parts shall be official SCCA Spec Racer Ford, Motorcraft or Roush parts except where noted in these rules. Cars must be assembled per SCCA Enterprises' Assembly Manual and Roush Ford Spec Racer Installation Instructions (RFSRII). SCCA Enterprises may be reached at:

14550 E. Easter Ave., Suite 400, Englewood, CO 80112  
Phone: 303-693-2111 - Fax: 303-680-5633  
Email: [enterprises@scca.com](mailto:enterprises@scca.com) - [www.scca-enterprises.com](http://www.scca-enterprises.com)

## SECTION 5.2: CHAMPIONSHIP POINTS

### 5.2.1: SERIES POINTS

Driver Championships and Team Championship points will be awarded based on final official finishing positions at each event as follows:

1st	55 points	15th	26 points	29th	12 points
2nd	52 points	16th	25 points	30th	11 points
3rd	49 points	17th	24 points	31st	10 points
4th	46 points	18th	23 points	32nd	9 points
5th	43 points	19th	22 points	33rd	8 points
6th	40 points	20th	21 points	34th	7 points
7th	38 points	21st	20 points	35th	6 points
8th	36 points	22nd	19 points	36th	5 points
9th	34 points	23rd	18 points	37th	4 points
10th	32 points	24th	17 points	38th	3 points
11th	30 points	25th	16 points	39th	2 points
12th	29 points	26th	15 points	40th	1 point
13th	28 points	27th	14 points		
14th	27 points	28th	13 points		

Points are also awarded for: Pole Position: 2 points  
Leading Any Lap: 1 point  
Leading The Most Laps: 1 point

**5.2.2: ELIGIBILITY TO EARN POINTS** - All teams must register for the Championship to be eligible to earn Team Points. All drivers will earn Driver Points. Drivers must run half of the races in order to earn any year-end driver awards.

**5.2.3: AWARDING OF POINTS** - For multiple driver races, drivers sharing a car will earn the same points. Each car will earn Team Points individually. To earn points, a driver must be in the car for at least thirty (30) minutes prior to the completion of the checker flag lap. Time in the car on pre-start parade laps and post-checker flag cool down laps do not count. The driver's car does not have to be running at the conclusion of the race to be declared a finisher.

**5.2.4: TIES** - In the case of ties in the final driver or team point standings, such ties shall be resolved according to the driver's, or team's record of first-place finishes then, if necessary, second place finishes, and so on until the tie is broken.

**5.2.5: TROPHIES** - Trophies will be awarded to the top three overall finishers for each event. USERA may also award additional trophies as specified in the event supplemental rules.

## SECTION 5.3: RACE FORMAT AND OPERATION

**5.3.1: RACE FORMATS** - Typical race weekends will consist of two races. The grid for Race 1 will be established by the times set in an official qualifying session. If the event provides more than one qualifying session, the fastest time from the combined qualifying sessions will establish the starting grid for Race 1. The grid for Race 2 may either be set by a separate qualifying session or based upon the finishing order of Race 1. Any unresolved protests pending from Race 1 will not affect the grid for Race 2.

**5.3.2: RACE LENGTH** - Races will be from thirty (30) minutes to one (1) hour in duration unless as specified in the Event Schedule and/or Supplementary Regulations. Races may be shortened as necessary to accommodate any media, promoter scheduling or inclement weather issues. The race clock may be stopped and restarted at the discretion of the Director of Competition.

**5.3.3: PRE-RACE CEREMONIES** - Pre-race ceremonies, such as mandatory driver and crew chief meetings, media events, driver autograph sessions and/or post-qualifying media interviews will be defined in the event Supplemental Regulations. Teams failing to participate in pre-race ceremonies may be penalized.

**5.3.4: POST-RACE CEREMONIES** - At the conclusion of each qualifying session and race, the top three finishers, as well as any special award winners, shall attend winner's circle ceremonies as directed by USERA Officials. Following the post-race awards ceremony, the top three finishers may be required to attend a post-race press conference as directed by USERA Officials.

**5.3.5: OFFICIAL EVENT SESSIONS** - Cars are required to be in compliance with these specifications during all official event sessions. Only drivers entered for the event may drive the car, and drivers, including drivers on the same team, may not switch cars without the express written permission of the Director of Competition.

**5.3.6: EVENT TIRES** - Teams may practice on any number of tires. For qualifying and the remaining races, teams are permitted ONLY FIVE dry weather tires per event weekend. Teams shall declare, and Race Officials shall mark, their five official dry tires prior to qualifying. Teams may use those five (5) tires through the conclusion of the race weekend in any combination. Tires may be changed as needed during the race(s). Teams shall leave the tires used for qualifying, and/or the race(s), mounted on the car until the car has cleared the post-session technical inspections, or if the car is not required to go through a post-session technical inspection, released from pit lane by a USERA Official. Any team needing to start a race on a non-marked tire will forfeit their starting position and be placed at the back of the starting grid in an order determined by the Director of Competition. Any number of wet or intermediate tires may be used.

## SECTION 5.4: RACE START PROCEDURES

All Spec Racer Challenge races will start behind a pace car using a moving start procedures defined in these rules.

**5.4.1: PRE-GRID** - Pre-Grid open will generally be 30 minutes prior to the scheduled race start time. Any sign or flag display procedures will be defined in the event supplemental regulations. Pre-grid will close 15 minutes before the scheduled race start time. Cars failing to arrive at pre-grid before it closes shall be directed to pit lane and shall start the race from pit lane in the order that they arrive on pit lane. Once pre-grid has closed, positions for late, or no-show, cars shall remain open. No work may occur on any car once the pre-grid closes or while it is in the starting grid area.

**5.4.2: PRESENTATION LAP** - Presentation lap will begin approximately 10 minutes prior to the scheduled race start time. The Presentation Lap will be one lap of the racetrack at approximately 45 miles per hour. The cars shall maintain formation, following the pace car. No tire warming, overtaking, weaving, or practice-standing starts will be permitted. Cars will arrive at the starting grid and proceed at 5mph through the flag bearers. All engines are to be switched off as soon as cars arrive at their start boxes. Cars not able to leave pre-grid when it is time to start the presentation lap shall start the race from pit lane. No passengers are allowed in the racecar during the presentation lap.

**5.4.3: PRE-START CEREMONIES** - Each team may be required to have a flag bearer, for each car, carrying the state flag of the home state, province or country for each team or driver. Flag bearers must be at least 16-years of age and have signed the event waiver, or have a current USERA membership card. Flag bearers must wear a team shirt. When directed, bearers will proceed to the starting grid holding the state flags upright at their assigned start box. A warning will be issued, at which time all team personal except the flag bearers must leave the starting grid.

**5.4.4: PACE LAP** - The series announcer, or other VIP, will command drivers to start their engines. When all engines have been started, the grid officials will signal the drivers to begin the pace lap. During the formation lap the field will maintain the speed set by the pace car, or lead car if no pace car is available.

All flag bearers will leave the grid after the final car has left the grid. Tire warm up is permitted during the pace lap once the cars exit the front straight. Cars with mechanical problems, that cannot start the pace lap on-time, or are unable to maintain the speed of the pace lap, shall enter pit lane and start the race from pit lane. Once a car has dropped back from its original grid position, it may not regain that original position and must start from pit lane. If a car falls out of its original grid position, that position shall remain open.

The field shall maintain the speed of the pace car. The pace car will extinguish its lights indicating to the field that they are now under "Starter's Orders" and that a race is about to begin. The Pace car will exit the course, at which time the pole car shall maintain the pace speed established by the pace car until the starter displays the green flag indicating race has started.

**5.4.5: START PROCEDURE** - The start will be signaled by the Series Starter displaying the green flag as the field approaches the start line. The race is officially underway when the starter displays the green flag to the field. No car may advance their position until the green flag is displayed by the starter. Any car judged to have jumped the start will be subject to a stop and go penalty. Start judges may be used per the USERA Sporting Regulations.

**5.4.6: DELAYED START** - If it is determined by the Series Starter that the race field is not in order, the Series Starter may "wave off" the start by displaying NO FLAG and shaking his head "NO" to indicate no start to the field. In the event of a wave off, the pole car shall maintain the speed established by the pace. Any car deemed responsible for the waved off start may be assessed a penalty. At the discretion of the Director of Competition, the race length may be shortened to accommodate the delayed start.

**5.4.7: FALSE START** - A false start occurs when a driver under the Starter's Orders moves out of formation before the green flag is displayed. Should the Director of Competition or any start judge determine that a false start has

occurred, the driver will be black flagged to serve a stop and go penalty. The Director of Competition may levy additional penalties at his discretion.

## SECTION 5.5: TECHNICAL SPECIFICATIONS

**5.5.1: PERMITTED CARS** – Only official SCCA Enterprises Spec Racer Fords are permitted unless otherwise noted in the Supplemental Regulations. Replaced items may be purchased either from SCCA Enterprises or any other vendor selling 100% identical replacement parts.

**5.5.2: SAFETY REQUIREMENTS** – Car will be delivered from the manufacturer with approved safety equipment. Replaced items shall be supplied through Enterprises, except safety harnesses and on-board fire systems may be replaced by any other that conforms to these rules.

**5.5.3: 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 Enterprises Spec Racer Ford parts. Parts with an SCCA 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 by these rules.

**5.5.4: UPDATES** – Provisions will be made for updates on all safety and mechanical improvements. Such updates will be effective when authorized by USERA as announced in technical bulletins.

**5.5.5: VEHICLE LOGBOOKS** –USERA will update the SCCA Enterprises Vehicle Logbooks per SCCA Enterprises guidelines.

**5.5.6: PFSRII AND SEALS** – Each entrant is required to have in his possession at every race, an SCCA Enterprises RFSRII book to aid the Technical Administrator in identifying parts and correct configurations for each car. Additionally, the Technical Administrator may check official seals. A competitor may be barred from competing at a specific event if a seal is missing, broken or damaged or appears to have been tampered with in any way. If a seal is missing, broken or damaged, the sealed part shall be removed and either replaced or sent to SCCA Enterprises for testing and resealing at the competitor's cost prior to the next event. Any counterfeit seals will result in penalties as defined in the USERA Sporting Regulations.

**5.5.7: WEIGHT** – The car shall weigh 1670 lbs. minimum, including the driver and all driver safety gear, but without any additional driver cool suit system/water tank.

## SECTION 5.6: CHASSIS

**5.6.1: CHASSIS RUB BLOCK** – You may 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.

**5.6.2: 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. The 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 (SCCA Enterprises P/N 1380927) is required. Alternate seat belt mounting points may be installed in accordance with SCCA Enterprises' drawing 1390022.

**5.6.3: STEERING SHAFT BRACKET** – You may 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.

**5.6.4: 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 non-critical 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.

**5.6.5: FUEL CELL PLATE** – A 16 gauge steel plate measuring 10" x 28" may be added under the fuel cell bladder above the vehicle floor.

## SECTION 5.7: BODYWORK

**5.7.1: BODY REPAIRS** – Cars shall be presented for competition neat, clean and undamaged. Bodywork repairs may be made to all body panels provided exterior body dimensions, shapes, thicknesses, and profiles remain unaltered. Any body repair modifications having as its purpose to alter the shape, profile or weight of the body is prohibited. The addition of material to increase body rigidity is prohibited. Cars shall comply with all series decal placement requirements at all times.

**5.7.2: BODY SECTIONS** – Sections shall meet the following weight requirements and dimensions:

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

### 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"  
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

**5.7.3: CRASH DAMAGE REPAIRS** – Crash damage repairs may be made at the race track provided the minimum and/or maximum weight of each body sections is not exceeded. Crash-damage is defined as damage to a body section that occurred during the current event.

**5.7.4: SPRING TYPE FASTNER** – A spring-type fastener may be used to replace the 1/4 turn fastener located to the rear of the front wheel.

**5.7.5: BODY PAINT** – The body work may be painted any single color, or combination of colors, except primer.

**5.7.6: FORWARD BRACES** –The forward braces shall be padded. You may use SCCA Enterprises P/N 1380782.

**5.7.7: BALLAST PLATES** – Ballast plates may be manufactured or purchased providing:

1. Ballast plates may be no more than 20 inches long, 10 inches wide or 1/2 inch thick.
2. Ballast plates shall be mounted in the same manner as the original SCCA Enterprises part.
3. Ballast plates shall be mounted only in approved locations.
4. Ballast plates shall be fastened securely with nuts on both ends.

**5.7.8: RUB RAILS** – SCCA Enterprises 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.

**5.7.9: NOSE PANS** – SCCA Enterprises 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.

**5.7.10: FLOOR PANS** – SCCA Enterprises 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.

**5.7.11: OPTIONAL AIR SCOOP** – SCCA Enterprises Air Scoop P/N F0190000 must be installed in conjunction with rear cutout per SCCA Enterprises installation instructions. 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.

**5.7.12: ALTERNATE DASH PANEL** – The alternate SCCA Enterprises dash panel P/N 180100 or 180101 may be used.

**5.7.13: REQUIRED BODY MODIFICATION** – A 22.5" diameter wheel arch shall 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".

**5.7.14: LOUVERED SIDEPOD COVER** – It is allowed to louver the right rear sidepod cover, or you may use the SCCA Enterprises P/N 480505 oil cooler exhaust panel.

**5.7.15: BODY OPENINGS** – Body opening modifications are absolutely forbidden with the exception that an opening may be added in the rear body work to permit refueling without removal of the rear body. This rear opening must not serve any other function than permitting access to refueling and must meet approval of the Technical Administrator.

## SECTION 5.8: ENGINE AND DRIVETRAIN MODIFICATIONS

**5.8.1: ENGINE MODIFICATIONS** – The engine must remain unmodified and

as delivered by SCCA Enterprises. All systems are subject to test procedures and must conform to OEM/Roush specifications. All fluids, except fuel, are unrestricted. 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 shall be per the 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.

**5.8.2: ENGINE SEAL LOCATIONS** – Two (2) each on cam cover. Two (2) on the oil pan. All seals shall remain in place at all times.

**5.8.3: CAM TIMING** – Marks shall line up.

**5.8.4: PORTS** – No porting, polishing, etc. is permitted.

**5.8.5: ECC MODULE** – EEC module SCCA Enterprises P/N F0992012 is a Roush Spec Racer Ford specific sealed part.

**5.8.6: SPARK PLUGS** – Only Motorcraft AGSF 24 C or AGSF 34 C.

**5.8.7: FLYWHEEL AND CLUTCH** – 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

**5.8.8: OIL FILTER** – ONLY Motorcraft FL-400 Series. Ford recommends SAE 5W-30 or 10W-30 engine oil.

**5.8.9: AIR FILTER** – ONLY Motorcraft #FA-1031.

**5.8.10: PCV VALVE** – Motorcraft #EV-147 or as supplied by SCCA Enterprises.

**5.8.11: TRANSMISSION** – The transmission is a sealed unit. No modifications are allowed. Allowed Transaxle/drivetrain work includes replacement, but not modification, of axles, CV joints, clutch disc, pressure plate, flywheel, throw-out or pilot bearing, or transaxle assembly. No machining is allowed. Ford recommends Dexron II transmission fluid.

**5.8.12: TRANSMISSION RATIOS**

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

**5.8.13: FINAL DRIVE** – Ratio: 3.62:1. No limited Slip allowed.

**5.8.14: TRANSMISSION SPEED SENSOR** – 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.

**5.8.15: THROTTLE RETURN SPRING** – A throttle return spring may be added at the foot pedal.

**5.8.16: RADIATOR** – SCCA Enterprises P/N 1380466 radiator may be replaced with Modine P/N 1R698 or equivalent OEM manufacturer provided the capacity, core thickness and other specifications of the replacement radiator matches the specifications of the original radiator exactly. The competitor is responsible for proving that any replacement unit matches the specifications of the original.

**5.8.17: CAM COVER VENT** – 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.

**5.8.18: WATER PUMP TEMP GAUGE SENDER** – An alternate (and recommended) location of the water temp gauge sender is as follows: In the "piccolo tube" (where SCCA Enterprises P/N 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 SCCA Enterprises P/N 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.

**5.8.19: CLUTCH LINES** – 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.

**5.8.20: SPARK PLUG SLEEVES** – Spark plug wires may be fire sleeved.

**5.8.21: SPARK PLUG LOOMS** – Spark Plug wire looms are allowed.

**5.8.22: MASTER CYLINDER CAPS** – Master cylinder caps are free.

**5.8.23: MUFFLER KIT** – SCCA Enterprises P/N F0390522 Muffler Kit may be installed per instructions that accompany the kit.

**5.8.24: EXHAUST GASKET** – Exhaust gasket (Ford part number FOFZ 9448 A) is allowed.

**5.8.25: WIRING HARNESS PLUGS** – It is permitted to remove wiring harness plugs that are not used in the Ford conversion.

**5.8.26: THERMOSTAT** – Alternate Standt P/N 3582/BT382180 thermostat is

allowed. Installation of this thermostat requires replacing the rubber sealing gasket and housing to head gasket, both available at Ford dealers or aftermarket suppliers.

**5.8.27: COOLANT RECOVER BOTTLE** – The SCCA Enterprises P/N 462800 aluminum coolant recovery bottle may be used.

**5.8.28: THERMAL WRAP OR COATING** – The exhaust system may be thermal-coated and/or wrapped. Engine compartment fluid hoses may be insulated using heat sleeve or wrap.

**5.8.29: ALTERNATOR PULLEY** – SCCA Enterprises P/N 902130 alternator pulley is required.

**5.8.30: MOUNTS AND BRACKETS** – All engine mounts, brackets, hoses, harnesses, and systems must be installed as per the RFSRII.

**5.8.31: RADIATOR SCREEN MESH** – 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.

**5.8.32: RADIATOR BAFFLE** – Radiator baffle of aluminum, P/N 1380891, to close the gap between the body and the radiator shall be installed.

**5.8.33: SHIFTER** – The shifter assembly and all linkages must be installed as per the SCCA Enterprises 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.

**5.8.34: HEAT SHIELD** –The heat shield (P/N 1610) must be the original, unmodified Roush part and be installed per the RFSRII.

**5.8.35: SURGE TANK** – Plastic surge tank shall be replaced with aluminum tank (SCCA Enterprises P/N 462800). Radiator cap (16 lbs., lever-operated relief) shall be added to aluminum surge tank. Aluminum catch can (SCCA Enterprises P/N 462801) is 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.

## SECTION 5.9: SUSPENSION

**5.9.1: ADJUSTMENTS** – Adjustments are permitted within the limits of the suspension components. A Zirk fitting may be installed on the upper rocker arms to lubricate the pivots.

**5.9.2: LOWER CONTROL ARMS** – Left rear lower control arm must be as specified by SCCA Enterprises and may be used on the right side.

**5.9.3: FRONT SPRINGS** – 262-279 lbs./in (SCCA Enterprises P/N 280387) or previous SCCA Enterprises supplied part (ex: R028037).

**5.9.4: REAR SPRINGS** – Rear Springs: 412-429 lbs./in Enterprises P/N 280390 or previous SCCA Enterprises supplied part (ex: R0280388 or R0280389).

**5.9.5: ANTI-ROLL BAR** – Anti-roll bars (swaybars) may be disconnected but not removed.

**5.9.6: ANTI-ROLL BAR DIAMETER** – .56 inches.

**5.9.7: GROUND CLEARANCE** – Minimum is 2.75 inches measured at the frame on the front and rear axle lines without driver.

**5.9.8: 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.

**5.9.9: CAMBER** – Negative camber shall not exceed 5 degrees front and rear.

**5.9.10: SHOCK ABSORBERS** – 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. 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. Standard Koni shock, P/N 82X-2255-SPA1 with standard oil or Penske P/N 280392. 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.

**5.9.11: ROD ENDS** – 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.

**5.9.12: UPPER CONTROL ARM REINFORCEMENT STRAPS** – Upper control arm reinforcement straps (SCCA Enterprises P/N R0208087) or updated replacement arms are required.

## SECTION 5.10: BRAKES

**5.10.1: BRAKE DUCTS** – Required front air ducts shall be installed.

**5.10.2: BRAKE PEDAL** – An extension may be welded to the side of the throttle pedal to improve heel-and-toe braking.

**5.10.3: BRAKE LINES** – 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.

**5.10.4: BRAKE FLUID AND BRAKE PADS** – Any brake fluid and brake pad material may be used. Brake pad backing plates must be steel. Brake pad “anti-rattle” clips may be removed.

**5.10.5: ROTORS** – Minimum Rotor Thickness 10.50 mm (0.4130 in.).

**5.10.6: CALIPERS** – Original caliper pistons may be replaced with vented caliper piston P/N 1196186. Rubber caliper bushings may be replaced with bronze bushings P/N 1196185.

**5.10.7: BRAKE BIAS ADJUSTOR** – 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 (SCCA Enterprises P/N 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.

**5.10.8: FRONT BRAKE DUCTS** –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.

## SECTION 5.11: STEERING

The steering rack may be shimmed with any combination of standard shims (SCCA Enterprises P/N 1380286 or P/N 1380287) to eliminate bump steer. The 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. The upper steering shaft may be modified to accept an alternate steering wheel and/or hub (if applicable).

## SECTION 5.12: TIRES AND WHEELS

**5.12.1: WHEEL DIMENSIONS** – Front: 5.5 x 13 inches; Rear: 7.0 x 13 inches.

**5.12.2: TIRES** – Any DOT approved racing tire with a minimum “U” rating is permitted. Racing, recapped or re-grooved tires are not permitted. The brand of tire and tire pressures are unrestricted. Tire size is unrestricted. The same size tire shall be used on each axle (front tires need not be the same size as rear tires). The only modifications allowed to tires are having treads “shaved” or “trued”. The use of tire warmers or cooling methods other than natural air convection or conduction is prohibited.

**5.12.3: WHEELS** – Only wheels supplied by SCCA Enterprises are permitted. Wheels may be modified ONLY to mount valve stems. Wheels may be painted any color(s). Plating of the wheels is allowed. Wheel spacers are not allowed.

**5.12.4: WHEEL BEARINGS** – 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 and unmodified. No ceramic wheel bearings are permitted.

**5.12.5: REGROOVED TIRES** – It is forbidden to re-groove tires.

## SECTION 5.13: FUEL SYSTEM

All rubber fuel lines may be replaced with braided metal-covered (Aeroquip type/size six) lines that utilize Aeroquip type/size 6 AN fittings. The fuel filter located in the fuel cell may be removed and replaced with an in-line filter (SCCA Enterprises P/N FLIPR-ANG). 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.

## SECTION 5.14: ELECTRICAL SYSTEM

**5.14.1: WIRING HARNESS** – Wiring harnesses routing and attachments must meet SCCA Enterprises guidelines. The electrical system and ignition system is subject to testing procedures and must conform to OEM Roush specifications.

**5.14.2: EEC MODULE** – The EEC module is a sealed part. At any time during

any event it is possible that Technical Administrator may randomly remove and replace EEC modules or other components with other competitor’s components or components which the Technical Administrator will provide.

**5.14.3: BATTERY** – The battery may be replaced with any battery of group No. U1. Batteries shall remain in the original battery location.

**5.14.4: BATTERY POST COVERS** – Battery post covers are required.

**5.14.5: RAIN LIGHT** – A rain/brake light comprised of a single standard trailer oval lamp, 2.25” x 6.5”, with incandescent or LED illumination is required in the original roll hoop mounting location. No changes may be made to the original 3-pin connector on the wiring harness. The secondary filament of the brake light assembly shall be connected to a switch enabling its use as rain light. Rain lights must be on during all wet track sessions.

**5.14.6: TECHOMETERS** – 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 and not the master switch.

**5.14.7: GAUGES** – 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.

**5.14.8: DATA ACQUISITION SYSTEMS** –Chassis/Engine data acquisition systems may be installed. The data acquisition system must have a separate wiring harness with visible wire tracing ability.

## SECTION 5.15: ACCESSORY ITEMS

**5.15.1: MIRRORS** – The cars may be upgraded to the new mirrors (SCCA Enterprises P/N 1390007) and may use mirror extension, P/N 1390023. The original mirrors furnished with the kits may be used.

**5.15.2: SEATS** – Seat modifications, including cutting, re-shaping and padding, are permitted to enhance the comfort and safety of the driver. Moving the location of the seat is not permitted. Foaming of the seat is permitted. The seat may be cut or slit to allow the seat belt to cross the driver’s body and remain in proper alignment. Any cuts in the seat should be reinforced to prevent splintering. The seat may be widened, but installation and location shall remain the same. 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.

**5.15.3: COOL SUITS** – Use of cool suits by drivers is authorized providing the water tank is securely mounted and approved by the Technical Administrator.

**5.15.4: HEADREST PAD** – The headrest pad may be reduced in thickness for driver’s comfort to a minimum of one (1) inch.

**5.15.5: TWO WAY RADIOS** – Two-way radios may be installed in the car. All components shall be securely attached and approved by Technical Administrator.

**5.15.6: RACER’S TAPE** – Racers tape may be used to repair crash damage or as a precautionary means of securing the body retaining latches. Tape should be of an appropriate color. Tape cannot be used to close body seams.

**5.15.7: METAL FLOOR PAN** – The addition of a metal floor pan in the area of the foot pedals/driver’s feet is allowed. The size shall be 27.87” x 21.56” x 1.25” and it shall be made from sixteen (16) gauge metal.

**5.15.8: CENTER PEDAL DIVIDER** – The center pedal divider may be removed in its entirety.

**5.15.9: BUTLER HEAD RESTRAINT** – SCCA Enterprises P/N 180267 Butler Head Restraint may be used.

**5.15.10: TALLMAN KIT** – Tallman Kit (SCCA Enterprises P/N 1380905) is required on all cars.

**5.15.11: NACA DUCT** – The NACA duct must be installed in the location specified and perform no other function than it’s designed purpose.