Sport Class Air Racing Association
Official Rules of Competition
2023

[Revised January 2023]

2023 Summary of Changes

Section I.:	Mission and Purpose. Section renamed and defenition expanded.
Section I:	Scope. Minor grammatical corrections.
Section I.:	Organization. Newly elected officers listed.
Section I.:	Pilot Standards/Contest Committee. Newly appointed members listed.
Section I.:	Advisory Board. Minor corrections to e-mail addresses, one member removed.
Section I.:	Technical Committee. Assistant Chairman listed.
Section I.:	Ramp Boss. Assistant Chief listed.
Section II.D.:	Clarified the annual meeting location, and added provisions for alternate meeting location.
Section II.G.:	Capitalized Committee and Board
Section II.K.1:	Renamed Voting Membership as Full (Voting) Membership, and changed fee to current fee amount.
Section II.K.2:	Changed fee for Associate Membership to current fee amount.
Section II.K.3:	Removed Lifetime Emeritus Membership.
Section III.B.:	Clarified and expanded the discussion of sactioning agreements between Race Organizers and Sport Class Air Racing.
Section IV.A.:	Revised the scope of eligible aircraft to include Experimental Exhibition, clarified maximum engine displacement limitations, and removed a duplicative statement about speed and g testing requirements. Added eligibility for foreign resgistered aircraft.
Section V.A.:	Added eligibility for foreign resgistered aircraft. Added reference to other race organizers and locations
Section V.B.:	Added other races venues to the discussion of flight test completion requirements, and minor grammar corrections.
Section V.C.:	Added other races venues to the discussion of liability insurance requirements.

Section V.G.:	Clarified that race numbers must be easily readable to race officials.
Section V.H.:	Added minor clarifications to the Tech Inspection requirement description.
Section V.I.:	Deleted duplicative paragraph.
Section VI.:	Preamble. Minor grammar correction added.
Section VI.A.3.:	Referenced Section letter corrected.
Section VI.B.:	Section title updated.
Section VI.B.1.:	Foreign pilot certificate eligibility added.
Section VI.B.2.:	Foreign medical certificate eligibility added. NCAR issuance date requirement added.
Section VI.B.3.:	Minor grammar correction added.
Section VI.D.1-2.:	Clarified requirments to earn a recoemmendation for a check ride/evaluation flight for a racing license.
Section VI.D.3.k.:	Renumbered sub-section, minor grammar correction.
Section VI.D.4:	Renumbered sub-section.
Section VI.D.5:	Renumbered sub-section, added asterisks to sup-parts (d) and (e), and added asterisked note clarifying the evaluation items that may be accomplished separately, and prior to the evaluation flight.
Section VI.E.1.:	Added Airshow Certificate of Waiver to the discussion of Missing Man qualification.
Section VI.F.1.:	Clarified the Pilot Race Qualification Duration and currency requirements.
Section VI.F.2.:	Added reference to Race Organizer currency requirements.
Section VI.F.3.:	Clarified the Pilot Race currency extension methods.
Section VI.F.4.:	Added a requirement for Rookie racers to race NCAR in the year they qualify, or lose currency and be required to re-attend PRS.
Section VI.F.5-6.:	Sub-sections re-numbered.
Section VI.G.5.:	Added sub-section to clarify PRS Timing Period priority.

Section VII.A.1-3.: Clarified pilot breifing requirements.

Section VII.A.4.: Changed and clarified Sport Class Ceiling, Visibility, and Wind Limitations.

Section VII.B.2.: Clarified racecourse aircraft controlling authorities.

Section VII.D.2.: Changed consequence of a pylon cut during qualification from a time penalty to disqualification of the lap.

Section VII.D.10.: Clariefied verbiage about a subsequent qualifying attempt if a valis time/speed is not received.

Section VII.F.2-3.: Grammar corrections in the designation of Pace Pilot duties and responsibilities.

Section VII.F.4.: Clarified how start chute speeds will be determined and briefed.

Section VII.F.7.: Sub-section renumbered for correctness.

Section VII.F.8.: Clarified race start passing procedures and limitations.

Section VII.F.9.: Clarified procedures and limitations for moving to the pylon-to-pylon course line during a race start.

Section VII.F.10: Clarified the prohibition of and consequcnces of a right turn during a race start.

Section VII.F.11-14.: Subsections renumbered for correctness.

Section VII.G.: Section added to define alternate race start procedures to conduct a race start inside (north of) Peavine Peak at NCAR.

Section VII.H.: Section re-numbered.

Section VII.H.2.: Sub-section added to clarify Sport Class policy on placing racers that are unable to qualify into the initial race line-up.

Section VII.H.3-8.: Sub-sections re-numbered.

Section VII.H.4.: Clarified procedures and limitations for an aircraft to rejoin a race flight after taxi or takeoff of the flight.

Section VII.H.5.: Clarified the limitation that an aircraft that aborts a takeoff may not attempt another takeoff to rejoin the flight.

Section VII.H.7.: Corrected a subsection cross reference.

Section VII.I.:	Section re-numbered.
Section VII.I.1.:	Clarified the definition of the course line.
Section VII.I.4.:	Clarified verbiage of pylon judge assignment.
Section VII.I.7.:	Clarified defenition of and governing authority of forced pylon cuts.
Section VII.I.8.:	Clarified prohibition of, and consequences of, a right turn on the race course.
Section VII.I.9.:	Clarified minimum altitude on course.
Section VII.J.:	Section re-numbered.
Section VII.J.1.:	Clarified aircraft being overtaken verbiage.
Section VII.J.2.:	Clarified the responsibilities of a passing aircraft.
Section VII.J.5-6.:	Clarified the limitations of flight path management and inside passing.
Section VII.J.7.:	Added a sub-section cross-reference for passing during a race start.
Section VII.K.:	Section re-numbered.
Section VII.K.2.:	Added clarifying verbiage to Safety Chase briefing.
Section VII.K.6.:	Added clarifying verbiage to emergency aircraft orbit location.
Section VII.K.9.:	Added clarifying verbiage to positioning of Safety Chase aircraft.
Section VII.K.10.:	Added subsection to emphasize safety precautions for Safety Chase aircraft procedures.
Section VII.K.11-12:	Sub-sections re-numbered.
Section VII.L.:	Section re-numbered.
Section VII.L.3.:	Added verbiage emphasizing aircraft positioning at race finish line, and clarifying cool-down location.
Section VII.M.:	Section re-numbered.
Section VII.M.3.:	Added verbiage to describe the Race Control sequencing radio call procedures.
Section VII.M.5.:	Added the “cold” call during landing rollout.

Section VII.N.:	Section re-numbered.
Section VII.N.1.:	Clarified race flag usage and location for NCAR and other events.
Section VII.N.2.:	Clarified a black flag is for a specific aircraft.
Section VII.O.:	Section re-numbered.
Section VII.O.4.:	Added clarifying verbiage that includes Class Officials in the determination of reckless or dangerous flying situations.
Section VII.P-Q.:	Sections re-numbered.
Section VII.Q.2.:	Added verbiage allowing Race Organizers, Class Officers, and the Class Contest Committee to modify next-day race line-ups or formats following race cancellations.
Section VII.R-S.:	Sections re-numbered.
Section VII.T.:	New section added to describe pilot event withdrawal, and prohibiting event re-entry once a pilot withdraws.
Section VIII.A.2.:	Added verbiage clarifying that a make-up event briefing to a pilot is at the discretion of the event Opeerations Officer or the Air Boss.
Section VIII.C.4.:	Rendesvous replaced with Rejoin.
Section VIII.C.5.:	Rendesvous replaced with Rejoin.
Section VIII.C.6.:	Added Pace Pilot briefing item covering start chute speed, and start release speed and geographic position.
Section VIII.C.7-11.:	Subsections re-numbered.
Section IX.:	Added note to section preamble clarifying that listed documents are not required to be carried on the pilot’s person at all times, and that event Certificates of Waiver may waive FAR’s requirements for carriage of specific documents during an air race.
Section X.C.:	Verbiage added allowing Class Officers and Class Contest Committee the flexibility to change the pairing matrices, as needed, in the interest of safety or fairness.
Section X.G.:	Verbiage added allowing Class Officers and Class Contest Committee the flexibility to add firewalls between race heats, as needed, in the interest of safety or fairness.

I. SPORT CLASS AIR RACING ASSOCIATION - ORGANIZATION

Mission and Purpose

The mission and purpose of the Sport Class Air Racing Association is to foster a safe air racing environment for Sport Class Race Pilots and spectators, by establishing class Standard Operating Procedures, and Training and Evaluation Standards. Sport Class Air Racing highlights new and innovative work being done in the development of high performance experimental, kit-built, plans-built, or amateur built aircraft.

Scope

The Sport Class Air Racing Association has developed racing formats that demonstrates the capabilities of the popular and rapidly growing experimental, kit-built, plans-built, or amateur built genre of aircraft, and gives the designers and builders major Aviation Events/Air Races to showcase their designs.

Organization

The Sport Class Air Racing Association leadership structure is comprised of the following Elected Officers:

Officers

President	Bob Mills	(775) 544-3511 e-mail rvmills@sbcglobal.net
Vice President Operatons	Tom McNerney	(816) 309-6038 e-mail tom@n54sg.com
Vice President Strategy and Planning	Rick Vandam	(775) 742-5640 e-mail rvandam162@aol.com
Secretary	Paul Downing	(580) 651-7285 e-mail paul.downing@okstate.edu
Treasurer	Fred Roscher	(408) 313-8643 e-mail fred@51aero.com
	Lisa Hatamoto	(408) 497-6346 e-mail lisahatamoto@comcast.net

The above elected officers are supported by the following Departments, Boards and Committees.

The Flight Operations, Training and Safety Departments, and the Pilot Standards/Contest Committee, report to the VP Operations.

The Social Media/Marketing Department and the Class Advisory Board report to the VP Strategy and Planning.

Pilot Standards/Contest Committee

Chairman	Dave Morss	(650) 465-7727 e-mail morss@pacbell.net
Members	Bob Mills	(775) 544-3511 e-mail rvmills@sbcglobal.net
	Rick Vandam	(775) 742-5640 e-mail rvandam162@aol.com
	Colleen Sterling	(858) 682-3310 e-mail aveightrix@gmail.com
	Mark Frederick	(512) 289-0746 e-mail f1boss@gmail.com
	David Robinson	(660) 238-4359 e-mail david@flyeps.com
	Dave Sterling	(858) 675-2975 e-mail dmsterling@cox.net
	Kirk Murphy	(928) 710-3105 e-mail murphyk79@aol.com
	Chris Schaich	(480) 737-3894 e-mail cschaich@me.com

Advisory Board

Chairman	Rick Vandam	(775) 742-5640 e-mail rvandam162@aol.com
Member	Rob Monahan	(650) 588-5313 e-mail rmonaghan@westernallied.com
Member	Dave Morss	(650) 465-7727 e-mail morss@pacbell.net
Member	Vicky Benzing	(408) 306-9128 e-mail vickybenzing@gmail.com
Member	Kevin Eldredge	(805) 801-9183 e-mail relentless@me.com
Member	Andrew Findlay	(757) 617-7692 e-mail find3424@gmail.com
Member	Bill Beaton	(403) 829-9722 e-mail bdbeaton@shaw.net

Technical Committee

Chairman	Bob Fair	(541) 382-4937 e-mail fairrobert@msn.com
Assistant	Mark Frederick	Mark Frederick (512) 289-0746 e-mail f1boss@gmail.com

Ramp Boss

Chief	Armando Carrion	(315) 240-4898 e-mail acarrion@corvusaviationusa.com
Assistant Chief	Jimmy Cox	(512) 429-0230 e-mail jcox@extremecomposites.com

II. ADMINISTRATIVE RULES

A. The Sport Class Air Racing Association is based in the State of Nevada as a “Non-Profit” corporation.

B. The Sport Class Air Racing Association is registered with the Internal Revenue Service as a “not for profit” organization.

C. The Officers will serve a term commencing on October 1 and concluding on September 31.

D. Election of Officers will be held at the Association’s Annual Meeting, which will take place during the Annual Reno National Chanpionship Air Races (NCAR), or at an alternate event or meeting location, if so designated by the President, with a 30 day notice to the membership.

E. Department Heads, Committee Chairpersons, and Advisory Board Chairperson will be appointed by the Officers, and serve as necessary to assist the Officers in administration of the Class.

F. All Departmental positions, Committee members, and Advisory Board members will be appointed by the Department Heads and Committee/Board Chairpersons.

G. Any Departmental position changes or Committee/Board member changes throughout the year will be at the discretion of the appointing authority, subject to approval by the Officers.

H. The Sport Class Air Racing Association does not have separate Class Bylaws. Class governance is as outlined in these Class Rules.

I. Any requests for changes to the rules must be submitted in writing to the Officers. Any changes will be discussed in an open forum, if possible, before consideration for implementation. In no case will a change to the rules be adopted with less than 30 days notice to the membership, unless a waiver to the 30 day rule is approved by the membership for a specific rule change.

J. Business that requires notification of the current membership will be transmitted via e-mail.

K. Membership: Sport Class Air Racing Association membership falls into three categories:

1. Full (Voting) Member. A Full (Voting) Member is a current race pilot or current race aircraft owner that is actively involved in Sport Class racing. The fee for Full (Voting) Membership is $200 per year, payable no later than the first day of PRS in that year. Each Voting Member is assigned a Race Number of their choice from the pool of available, unused, Race Numbers.

2. Associate Member. An Associate Member may be any person that wishes to support the Sport Class Air Racing Association, wishes to receive class updates and mailings, and wishes to participate in other than racing capacities during PRS and NCAR. Class Sponsors, Class Supporters, prospective race pilots (not yet flying a race aircraft), and prospective race aircraft owners are examples of members that fall into this category. The fee for an Associate Membership is $50 per year, payable no later than the first day of PRS in that year. Associate Members are not assigned Race Numbers.

III. OFFICIAL SPORT CLASS AIR RACING RULES

A. The Sport Class Air Racing Association Rules are the only official and approved Rules of Competition for the Sport Class Air Racing Association. The class will be referred to as Sport Class Air Racing. The Sport Class Aircraft Specifications are the official aircraft specifications for the class; the Sport Class Pilot Qualifications are the official pilot requirements for the class. These rules are the only official rules and will be the rules of competition for the Class.

B. A sanctioning agreement will be negotiated between the official Reno Air Race organizers, or the organizers of other race events Sport Class Air Racing may participate in, and the Sport Class Officers. The sanctioning agreement will include, but not be limited to, such details as race dates, entry fees, deadlines, race course, aircraft pit configuration, emergency service, required spectator location, air race organization, organizing committees, and prize money. Also included will be any specific requirements of the racers such as insurance requirements, airspace waivers, and any rules of competition. These Sport Class competition rules (this document) will be ~~included in~~ adjuct to, and referenced in, the competition rules published by the race promoter for each racing event.

C. The Sport Class Air Racing Rules will be available via the Sport Class Web site. It is each competitor's responsibility to download, read and understand all aspects of the rules prior to competition. If any of the rules are not clear, it is the competitor's responsibility to request clarification from the Sport Class Officers. The Officers will be responsible for, and will administer the Sport Class Rules.

D. These Sport Class Rules will be the only official rules documents for the Class.

E. A waiver of any portion of these Sport Class Rules may only be granted by the Class Officers, with concurrence of the Chairman of the Pilot Standards/Contest Committee.

IV. AIRCRAFT ELIGIBILITY

It is the intent of the Sport Class Air Racing Association to promote the manufacturers of experimental, kit-built, plans-built and amateur built aircraft.

A. Aircraft eligible for competition within the Sport Class shall be:

Any Experimental Amatuer-Built, Kit-Built, Plans-Built, or Experimental Exhibition aircraft that is certificated by the FAA and has completed a phase 1 flight test. Foreign registered aircraft are eligible, and must meet the FAA and RARA (or other race organizer) rules for aircraft documentation and Special Flight Authorization, as applicable. Aircraft are to be powered by an internal combustion engine or engines totaling no more than 1000 cubic inches (total displacement, all engines), and must capable of a 200 MPH minimum qualification lap speed. The specifications listed herein will be the only specifications of the Sport Class Air Racing Association.

For operations at the Reno NCAR, all primary race pilots must submit a statement, signed by the race pilot certifying that, at the anticipated density altitude of the race, the intended race aircraft has demonstrated a true airspeed of 105% of its projected qualifying speed, and a turn capability of 150% of the approved Sport Class race course maximum designed g-load, prior to being eligible to race at NCAR. During qualification, any aircraft that exceeds the speed in the submitted certification statement, will be required to demonstrate, and sign a certification statement that states at the anticipated density altitude of the race, a true airspeed of 105% of the new qualifying speed and a turn capability of 150% of the approved race course maximum designed g-load has been demonstrated. A new statement signed by the race pilot will be submitted to RARA prior to being permitted on the racecourse. Aircraft not in compliance are subject to disqualification.

Operations at other race venues may have similar requirements, which must be met by all class pilots.

B. Aircraft must be able to demonstrate adequate maneuverability and controllability at race speeds and altitudes. This will be evaluated during PRS, and during NCAR qualification and racing by the Sport Class Pilot Standards/Contest Committee.

V. REQUIRED AIRCRAFT DOCUMENTS, EQUIPMENT, MARKINGS AND INSPECTIONS

A. All aircraft must have current FAA issued Airworthiness Certificate, Aircraft Registration, Operating Limitations, and Weight and Balance documents. Foreign resgistered aircraft are eligible to participate, provided they provide the equivalent documentation, and comply with all Race Organizer rules pertaining to foreign registered aircraft, including any requirements for Special Flight Authorizations. For all aircraft, these documents must be available for inspection by the Sport Class Technical Committee, the Reno Air Race Association Contest Committee (PRS and NCAR), the Race Organizers or other Air Race events, or the FAA. These documents must be available for the above listed inspections (if requested), and for submission with an application to RARA/race organizer to participate in Pylon Racing Seminar, NCAR, or any racing event, by the respective document submission deadlines as stated in those applications. The respective Operating Limitations of any participating aircraft must not prohibit air racing.

B. All newly completed aircraft must have completed the phase 1 flight test requirements, and the owner must possess, and submit upon request, adequate proof that this has been accomplished, prior to flying in Sport Class Formation Warm-up, PRS, or any phase of NCAR, or any other air racing event. Any aircraft that has had a Major Modification requiring re-entry into flight test, must comply with the RARA/race organizer rules of competition for reporting the Major Modification. The flight test program for the modification must be completed, and the owner must possess, and submit upon request, adequate proof that this has been accomplished, prior to flying in Sport Class Formation Warm-up, PRS, or any phase of NCAR. The flight test requirements in both cases listed above must be completed no later than any deadlines listed in the RARA/race organizer rules of competition, or no later than 14 days prior to the event to be participated in, whichever is earlier.

C. All aircraft must have a minimum of $1,000,000 of liability insurance. The insurance policy rider must be valid for air racing and name the air race organizers as additional insured, per the requirements in the NCAR entry form, or the entry requirements for other race events, as applicable. Each participant must have proof of this insurance prior to flying on the race course.

D. All aircraft must be equipped with an operable VHF radio capable of two-way radio communication with race control. The radio will be tuned to race control during all practices, qualifications, and racing. A pilot must use a second radio if they desire to communicate with their respective ground crew during any practice, qualification, or race.

E. All aircraft must be equipped with an operable seat belt and shoulder harness.

F. All aircraft must be equipped with, and have readily available to the pilot, a cockpit-located fire extinguisher.

G. All aircraft must display the assigned racing number on each side of the fuselage or vertical stabilizer, and on the lower surface of the right wing and the upper surface of the left wing. The number must be as close to 30 in. tall as the surface areas permits, and be of high contrast so that it is easily readable by race officials.

H. All aircraft must pass an inspection by the Technical Committee prior to any on-course practice, qualification or racing operations during NCAR or any other race venue. Aircraft are also subject to inspection by the Technical Committee at any time during PRS, NCAR, or other race venues, at the discretion of the Technical Committee. The Technical Committee will ground an airplane that does not comply with class rules. Additionally, the Technical Committee may, at it's discretion, ground an aircraft until a safety of flight item is suitably repaired or otherwise addressed.

VI. SPORT CLASS AIR RACING ASSOCIATION PILOT QUALIFICATIONS

These Sport Class Air Racing Association Specifications are the only officially sanctioned and approved pilot qualification requirements. They comprise a specific part of the Official Sport Class Racing Competition Rules and apply to all Pilots and designated Alternate Pilots participating in Sport Class Air Racing Sanctioned Events. Failure to comply with these rules will result in disqualification of the pilot and/or aircraft from competition. Disqualification procedures will be implemented by the Officers of the Sport Class Air Racing Association upon recommendation of the Pilot Standards/Contest Committee.

A. Responsibilities:

1. The Pilot Standards/Contest Committee will be responsible for developing, documenting, and maintaining the standards and procedures used in determining and evaluating pylon race pilot competency.

2. The Pilot Standards/Contest Committee will be responsible for evaluating the experience of applicants for PRS, NCAR, or other race participation, and their their conformance with all requirements for participation.

3. The Pilot Standards/Contest Committee will be responsible for the evaluation and qualification of applicants in accordance with current Sport Class Racing Pilot Qualification Test Standards, outlined in part D of this section.

4. The Pilot Standards/Contest Committee will be responsible for issuance of credentials to applicants who meet the requirements for race participation as outlined in part B of this section.

5. The Pilot Standards/Contest Committee will review the credentials of PRS, NCAR or other race venue entrant pilots and designated alternate pilots to ascertain the currency of experience, requirements, and credentials.

6. The Pilot Standards/Contest Committee will be responsible for observing the performance of pilot participants in race events, for counseling pilots on performance that is questionable or fails to fully meet standards, and for withdrawing the credentials of those who exhibit unsatisfactory performance.

7. The Chairman of the Pilot Standards/Contest Committee will appoint Sport Class Instructor/Evaluator Pilots who will make recommendations for issuance of a **Sport Class Racing License.**

Sample Sport Class Racing License:

8. The Pilot Standards/Contest Committee will maintain all appropriate records necessary in observance of these responsibilities.

B. Pilot Certificate, Medical Certificate, and Pilot Experience Requirements:

Pilots and designated Alternate Pilots must provide the Officers and the Pilot Standards/Contest Committee evidence of meeting the following requirements before participating in any Sport Class Air Racing Association-sanctioned Formation Warm-up or PRS training event, or any NCAR (or other) Race or Qualification event.

1. A current fixed-wing pilot certificate. The pilot certificate must be a Private Pilot Certificate or higher, issued by the FAA under 14 CFR part 61, or an equivalent and appropriate foreign pilot certificate, for pilots that are flying a foreign registered aircraft. Any additional Race Organizer rules for foreign pilots must also be complied with.

2. A current and valid Second Class (or higher) Medical Certificate, issued by the FAA under CFR 14 part 67, or for foreign pilots operating with their foreign pilot certificates, a current and valid medical certificate of equivalent class, issued by the same country that issued that pilot's pilot certificate. Sport Class pilots must comply with the Race Organizers' rules of competition for class of medical certificate and issue date. For Operations at NCAR, the medical certificate must have been issued in the six months prior to NCAR.

3. A valid Pylon Racing License issued by the Sport Class Air Racing Association (required only for NCAR and other racing events).

4. Documented Formation Experience. Pilots must possess adequate formation skills prior to acceptance to participate in Sport Class Formation Warm-up and PRS. Pilots must be proficient and safe-for-solo in a 4-ship or larger formation, in all formations and maneuvers described in the Sport Class Formation Guidelines. Documented Formation Experience must include formation training/experience via any of the following sources:
   a. Military Formation Training and Experience (Training Command, UPT, Fleet or Force).
   b. FFI or FAST (Industry Formation Carded, or documented attendance at multiple FAST/FFI clinics, or other documented training with FFI/FAST carded pilots).
   c. Other documented sources of formation experience, such as documented training with Sport Class pilots.
   d. All prospective Sport Class pilots must have formation flying experience in their race aircraft type prior to attending Sport Class Warm-up and PRS.
   e. All race pilots must have flown in formation in their actual race aircraft prior to participating in an NCAR race heat.

5. All pilots must have a minimum of 500 hours of documented pilot-in-command flying time in fixed-wing aircraft.

6. All pilots must have documented 10 hours pilot-in-command flying time and 10 takeoffs and landings in the type of aircraft to be raced, prior to flying the race course. 3 hours PIC time and 3 full stop landings in the specific (actual) race aircraft must be documented prior to flying the race course.

7. All pilots must have a minimum of 3 takeoffs and landings in the type aircraft to be raced within the preceding 90 days.

8. At the discretion of the Class Officers and the Pilot Standards Committee Chairman, any pilot may be required to attend PRS in their specific race aircraft prior to participating in NCAR or any other race event. Previously or currently qualified race pilots that wish to race in an aircraft with significantly increased performance characteristics and/or significantly increased operational complexity relative to previously raced aircraft, will, at the discretion of the Class Officers and the Pilot Standards Committee Chairman, be required to attend PRS in their specific race aircraft prior to participating in NCAR or any other race event. A 50 mph increase in potential race speed, or moving from a normally aspirated aircraft to a turbocharged/supercharged aircraft are samples of the guidelines that will be followed in this situation.

9. All pilots must be familiar with, and abide by, the rules and regulations governing Closed Course Pylon Air Racing as set forth in the Official Sport Class Racing Competition Rules and the race organizer's Official Rules of Competition.

10. All pilots are required to wear fire protective clothing and helmets when practicing, test flying, qualifying, or racing in race-controlled airspace.

C. Aircraft availability and utilization during PRS:

1. All pilots attending PRS must provide their own aircraft for training. Sport Class Air Racing does not provide loaner aircraft for PRS training. Due to the requirements to evaluate all Rookie Pilots and Prospective Racers in all required maneuvers, the sharing of one aircraft between more than one Rookie pilot during PRS is not authorized. A Rookie pilot or a Certified Racer may utilize the aircraft of a Certified Racer that is also attending PRS, as long as the Rookie pilot completes a minimum number of flights required to demonstrate proficiency, as determined by the Pilot Standards Committee.

D. Race Pilot Qualification Oral and Flight Evaluations:

For issuance of a Sport Class Air Racing-issued Racing License, an oral and flight evaluation of each prospective race pilot will be conducted during PRS. To be eligible for a flight evaluation (check ride), each prospective race pilot must be recommended for the evaluation by a Sport Class Flight Lead, Instructor Pilot or Check Pilot. To earn that recommendation, each prospective race pilot must satisfactorily demonstrate, to the recommending Sport Class Flight Lead, Instructor Pilot or Check Pilot, the following:

1. An in-depth understanding of the knowledge areas listed below.

2. Safe, consistent, and predictable flying, to Sport Class standards and SOP, while flying the maneuvers listed below, and in the Sport Class Formation Guidelines.

The recommending Sport Class Flight Lead, Instructor Pilot or Check Pilot will complete the Sport Class Evaluation Recommendation form for each prospective race pilot they recommend, and forward it to the Pilot Standards/Contest Committee for evaluation scheduling.

The oral and flight evaluation (check ride) will be conducted by a member of the Sport Class Pilot Standards/Contest Committee, or by a designated Sport Class Check Pilot. If a Check Pilot is the recommending pilot, they may not be the evaluating pilot for that prospective race pilot. The Evaluator will fly in the same flight as the prospective race pilot during the evaluation. Up to two prospective race pilots may be evaluated in a single flight.

Upon successful completion, all Recommendation forms and all Evaluation (Check Ride) forms will be forwarded to the Pilot Standards/Contest Committee Chairman for review and approval, and subsequent issuance of a Racing License.

3. Oral Evaluation Requirements and Knowledge Areas:

   (a) Provide evidence of minimum pilot flight time and requirements as outlined in part B above, excluding item 3.

   (b) Discuss aircraft speed and load factor (“g”) limitations, engine and propeller limitations, weight and balance limitations, and takeoff/landing limitations. Review and discuss the submitted flight test certification statement regarding speed and g flight test completion.

   (c) Discuss Density Altitude considerations.

   (d) Discuss wake turbulence considerations.

   (e) Demonstrate knowledge of Official Sport Class Air Racing Competition Rules and Regulations.

   (f) Race staging, start, and pylon procedures.

   (g) Passing procedures.

   (h) Method of communicating emergency-in-progress info to participants and required responses.

   (i) Method of declaring emergencies and actions for various types of emergencies.

(j) Method of communicating emergency termination of race to participants and required responses.

(k) Normal race completion and recovery procedures.

(l) Missing-Man Flyby procedures (selected pilots)

(m) Match Race Exhibition procedures (selected pilots)

(n) Air Race Demonstration procedures (selected pilots)

(o) Pre-Race briefing requirements and outline of contents.

(1) FAA regulations and waivers applicable to air racing.
(2) Air race radio control frequencies.
(3) Crowd and Race show line requirements.
(4) Race schedules and relation to staging.
(5) Aircraft ground safety precautions.
(6) Race pylon locations.
(7) Course and airfield obstructions.
(8) Emergency landing facilities.
(9) Coordination with fire/rescue personnel.

4. General Pre-flight Procedure Evaluation Items:

(a) Sufficient fuel and oil for proposed time of flight.

(b) Seat belts and harness restraints.

(c) Loose objects in aircraft.

(d) Canopy and access latches.

(e) Controls and aircraft structure.

5. Qualification Flight Evaluation (Check Ride) Maneuvers:

(a) Normal ground operating and taxi procedures.

(b) Normal takeoff procedures.

(c) Demonstrate formation join-up and formation flying.

(d) *** Demonstrate a 180 degree roll and recovery with minimum loss of altitude.

(e) *** Demonstrate a safe formation breakout.

(f) Demonstrate a race start.

(g) Demonstrate a minimum of three laps on a racecourse with other aircraft.

(h) Demonstrate proper passing procedures on a racecourse.

(i) Demonstrate simulated engine failure procedures and approach.

(j) Demonstrate a power-off low approach or landing.

(k) Demonstrate Normal landings.

(l) Match Race Exhibition procedures (selected pilots), including ground operating and takeoff procedures, match race holding and race start procedures, match race on-course procedures, match race reversal turns, match race recovery procedures, and match race emergency procedures, per Appendix 1 of these Rules.

*** Note: Items 3d and 3e may be demonstrated on a Formation Warm-up flight, or a PRS syllabus flight, prior to the Recommendation Flight or the Check Ride Flight. These maneuvers must be demonstrated to, and signed off by, a Sport Class Check Pilot, Instructor Pilot or Flight Lead.

E. Additional Qualifications:

The holder of a Sport Class Air Racing Pylon Race License, may also earn additional qualifications, which will be annotated on the Racing License, if the pilot has demonstrated the procedures to qualify for them. These qualifications are:

1. NCAR Missing-Man Flyby Qualified. This qualification allows the pilot to participate in Missing-Man Flyby operations in the Reno NCAR/Airshow Certificates of Waiver. It is not valid in any other Aviation Event Certificate of Waiver. To earn this qualification, the pilot must qualify for a Sport Class Air Racing Pylon Race Pilot License, and have demonstrated a Fingertip Four formation with a Missing-Man pull-up procedure.

2. Match Race Qualified. This qualification allows the pilot to participate in Sport Class Match Racing during NCAR. To earn this qualification, the pilot must qualify for a Sport Class Air Racing Pylon Race License, and the pilot must demonstrate the procedures outlined in Section VI.C.3.(l) above.

3. Air Race Demonstration Qualified. This qualification allows the pilot to participate in Air Race Demonstration performances at Aviation Events other than the Reno NCAR. It allows participation in these events in a Certificate of Waiver for an Aviation Event. It is not a FAST or FFI qualification, and only

allows the holder to participate in such procedures as are required to demonstrate an Air Race, including Takeoff Rejoin and Departure, Simulated Start Procedures, Simulated Air Racing and Passing, and a normal post-race recovery. It does not authorize the holder to do airshow flybys of any other type at an Aviation Event outside of the Reno NCAR Certificate of Waiver. To earn an Air Race Demonstration Qualification, the pilot must have at least 3 years of Reno NCAR racing experience and must be selected by the Class Officers and the Pilot Standards Committee. The pilot must demonstrate an in-depth knowledge of Air Racing procedures and must pass an oral evaluation with a Sport Class Check Pilot on FAA Aviation Event Policy, Airshow Operations, and Air Race Demonstration procedures.

F. Pilot Qualification Duration:

1. Sport Class Race Pilot Qualifications will remain valid provided the pilot meets requirements and remains active in recognized Sport Class Air Racing events. A Sport Class Racing License, issued per this section, will be issued for a one year period. Racing Licenses will be re-isssued annualy to all pilots that meet Race Class and Race organizer currency requirements.

2. Race Organizer currency requirements, as outlined in their rules of competition, must be met, in order to race in the event.

3. Currency may be maintained via racing at NCAR or another class-sanctioned race event, via attendance at and completion of PRS, or via currency extension lap completion at NCAR or another class-sanctioned race event. Currency maintenance via currency extension lap is subject to the approval of Class Officers and the Chairman of the Pilot Standards Committee, and is limited to a one year extension. After a one time extension via currency extension laps, a pilot must either race in a recognized Sport Class racing event, or attend PRS to remain current.

4. A Rookie racer must race at NCAR in the same year as they attend PRS, or their quaification expires, and they must attand PRS again to race in NCAR or another Sport Class sanctioned race.

5. Any previously qualified pilot that has not participated in a recognized event within the proceeding two calendar years will be reviewed by the Pilot Standards/Contest Committee, and may be required to attend Sport Class Formation Warm-up, PRS, or other training as assigned by the Committee, prior to participating in any Sport Class Racing sanctioned racing event. Race Organizer recency of experience rules for racing at NCAR or any racing event, as applicable, also apply to all pilots.

6. Pilots who have had racing infractions, or who have demonstrated flying that does not meet Sport Class Air Racing Standards, may be required to attend PRS and re-qualify at the discretion of the Pilot Standards/Contest Committee, or the Sport Class Air Racing Association Officers.

G. PRS Timing Periods and Race Entry Selection In Size-Limited Race Fields:

1. If NCAR (or other race) entries are limited in total number by the race organizer, the Sport Class will conduct a timing period for rookies and those with new aircraft entries during PRS. A stand-alone timing period, specifically for this purpose, will be scheduled during PRS. Procedures for each timing period will be briefed by the class during each PRS.

2. Rookies with aircraft that have never been raced at the venue, or Certified Racers with new or modified aircraft, may participate in the PRS timing period to post a new awarded speed.

3. Previously raced aircraft that have been modified with incremental changes, such as drag reduction, propeller changes, or chemical or forced air induction changes, must demonstrate the increased speed provided by these incremental changes during the PRS timing period to be awarded a faster speed for consideration in aircraft speed rankings.

4. The speed results of the time trials will be utilized as the awarded speed for each aircraft that participates. When race applicant numbers exceed available race slots, awarded speeds for prospective entry aircraft that participated in PRS Timing Periods, and historical speeds for previously raced entry aircraft, will be vetted by the class. The class will rank all entered aircraft by speed, and provide this vetted, speed-ordered list to the race organizer as a final entry list and waiting list for the race event.

5. The PRS Timing Periods are available to any pilot that wishes to post a new speed for consideration in NCAR or other race applications. However, due to PRS time constraints, priority will be given to aircraft in the <250 mph speed range.

VII. RACE QUALIFICATION AND RACECOURSE PROCEDURES

A. Pilot Briefing:

1. Pilots arriving at the race site for a race event must be briefed prior to practicing, qualifying or racing on the racecourse

2. Race pilots must attend the daily pilot briefing on any day that the pilot intends to fly or is scheduled to fly. Any attempt to fly without attending the daily flight briefing will result in disqualification from the applicable race.

3. If the use of an alternate pilot is anticipated, the alternate pilot must also attend the daily brief.

4. Weather Minimums. For the purpose of practice, qualification and racing, the minimum weather required for flight Sport Class flight operations shall be a ceiling of not less than 3000 feet AGL, visibility of not less than 6NM. Sport Class Wind Limitations are 25 knots maximum steady wind, with gusts not to exceed 30 knots, and a crosswing componenet not to exceed 25 knots. Pilots may use personal limitations less than these maximum values, at their discretion.

B. Practice Periods:

1. Practice periods will be scheduled in advance of the race event to allow each competitor adequate time to become familiar with the racecourse.

2. Race control and the designated Flight Leads or Pace Pilots will be the sole racecourse aircraft controlling authorities and their decisions on the control of aircraft will be final.

C. Qualifying Periods:

1. Qualification periods will be scheduled in advance and will allow every aircraft a fair chance to qualify.

2. All entries must qualify to establish their respective eligibility and starting positions for their respective race.

3. All qualification periods will be monitored and controlled by the Contest Committee, race timers, and pylon judges.

4. Race control will be the controlling authority for all qualification periods.

5. Race control will control all aircraft from takeoff until landing and will permit aircraft onto the racecourse on a first come first serve basis. During Sport Class Qualifying periods, each Flight Lead or Pace Pilot will manage his or her flight in conjunction with Race Control. The Flight Lead or Pace Pilot may

conduct the flight on a pre-briefed qualifying sequence, and may call qualifiers out of the queue and onto the course, or off the course and into the Queue or cool down.

6. A maximum of four (4) aircraft will be permitted on the racecourse during qualification.

7. Aircraft waiting for entry onto the racecourse will either wait on the ground or orbit the racecourse in the Queue, in a counterclockwise direction above 2000ft AGL.

D. Qualification of Aircraft:

1. In order to qualify for a race, all aircraft are required to fly one or two consecutive official qualification laps. These laps must be timed and recorded by the official race event Timer, in accordance with the rules and procedures set forth by the race organizer. The resultant derived speed for the fastest lap will determine qualification and race pairing order for subsequent race heats.

2. Pylon cuts during a qualification lap will result in a disqualification of that qualifying lap.

3. A contestant desiring to attempt to qualify will notify the Timers by radio prior to passing a designated pylon. The Timers will acknowledge the call. If the call is not acknowledged, race control may attempt to notify the Timers of the qualifying attempt. The qualifying lap will start only upon receiving a green flag from the starter prior to crossing the home pylon.

4. At the end of the first lap of a two-lap qualifying attempt the starter will give the racer a white flag to signify one lap remaining.

5. At the completion of the timed one-lap or two-lap qualification attempt, the starter will give a checkered flag to the racer to mark the end of the qualifying attempt. If there are other racers awaiting a qualifying attempt, the racer completing qualifying shall exit the course and return to the queue to await confirmation of a valid time. Actual qualifying speeds will not be transmitted to the racer but will be posted following the session.

6. If a valid qualifying time/speed is received after a one-lap or two-lap qualifying attempt, that time/speed becomes the racer's qualifying time/speed. Pilots may not reject a one-lap or two-lap time in order to make another qualifying attempt.

7. The only way to abort a qualifying attempt, once the Timers have been notified of the attempt, is to pull off the race course prior to passing Home Pylon during the first qualifying lap. Timers should be notified of the aborted attempt with a radio call. Once Home Pylon has been passed at the end of the first qualifying lap, if a time/speed is assigned, that becomes the racer's qualifying time/speed.

8. RARA allows up to two qualification attempts per aircraft. However, due to the number of Sport Class aircraft that are attempting to qualify, and to allow Sport Class racers adequate post-qualification practice on the course they will fly in NCAR, Sport Class Air Racing may limit the number of qualifying attempts per aircraft to one. At other racing venues, the qualification process will be tailored, as required, to meet the organizers' policies, and Sport Class racing requirements.

9. Under specified circumstances, a pilot that has received a valid qualifying time/speed may verbally request that the Sport Class Air Racing Officers or Pilot Standards/Contest Committee authorize the opportunity to make a second attempt on a subsequent flight. Such requests will be reviewed, and a decision rendered, within 24 hours of the request being submitted. Circumstances that may warrant consideration of an additional attempt, include, but are not limited to, a mechanical irregularity or system malfunction that substantially impacted the speed of the aircraft during the attempt, or the qualification attempt being interfered with by another aircraft or race control during the attempt. Small adjustments to aircraft to marginally increase qualifying speed are not eligible for consideration under this subsection.

10. If a valid qualifying time/speed is not received and the racer has landed, the racer may elect to try another attempt on a subsequent flight.

11. If a valid qualifying time/speed is not received, and the racer is still on the course, the racer may start a second attempt at that time. If the racer has already exited the course the racer may try another attempt after being sequenced back onto the course by race control or the Flight Lead/Pace Pilot.

12. Race control and the Flight Lead/Pace Pilot will be the sole authorities on control of the racecourse and be responsible for the sequencing all racers onto the racecourse.

E. Race Course:

1. A chart of the racecourse will be made available to all pilots.

2. All racecourse markings will be readily visible to the pilots.

3. The Gold/A Heat will race daily on the Outer Race Course. The Silver/B Heat and the Bronze/C Heat will race daily on the Sport Course. The Medallion/D Heat will race daily on the Sport Medallion Course, provided all aircraft in that heat qualified at 250 mph or slower. Should any Medallion racer qualify faster than 250 mph, the Medallion/D Heat will race on the Sport course. At the completion of qualifying, when the Medallion Heat's course has been selected, based on qualifying speed, that Heat will remain on the specified course for the duration of the NCAR, and will not cycle or change between the Medallion and Sport Courses on subsequent days.

4. The Sport Class Match Race Exhibition will be flown on the modified Formula One course, as outlined Appendix 1.

F. Race Starting Procedures:

1. Air starts will be used for all Sport Class Pylon Racing events. A designated pace plane will be utilized when available.

2. The Pace Pilot will be responsible for conducting the pre-race pilot briefing. When a pace plane is not available, the pole position pilot will assume the duties of the Pace Pilot.

3. The Pace Pilot will provide all guidance, and function as the flight lead during the formation join-up and will be responsible for proper line-up of aircraft coming down the chute.

4. The start will be from a descending flight path at the required pre-briefed drop-off airspeed. The drop-off airspeed will be determined by the qualifying speeds and applicable speed limitations of the aircraft in each heat, and agreed upon by all pilots and the Pace Pilot during the pre-flight briefing.

5. During the start, any attempt to slingshot the start will be grounds for disqualification. Either the Contest Committee or the Pace Pilot will determine if a slingshot was attempted. If a slingshot is determined, no protests will be entertained.

6. During the start, any attempt to dive from the release will be grounds for disqualification. This may be determined by the Pace Pilot, the Sport Class Contest Committee or by RARA's Contest Committee. The observation shall be reported to the Sport Class Pilot Standards/Contest Committee, for disciplinary action.

7. The Pace Pilot will signal the release and race start by broadcasting the statement "You have a race" over the race control frequency and simultaneously making an abrupt pull-up away from the race formation.

8. After release, all pilots must hold their start lanes until after passing NCAR Outer Pylon 4 (or the designated pylon at other race venues). Aircraft to the outside that gain a nose-to-tail lead on aircraft to the inside during the race start may not complete a pass and move to the inside (towards the pylon-to-pylon course line) prior to NCAR Outer Pylon 5 (or the designated pylon at other race venues), unless they are cleared to do so on the radio by the aircraft to the inside (the aircraft being passed).

9. Aircraft that fall behind other aircraft during the start may move to the left towards the course line, as long as they visually clear the area to their left, and there are no aircraft behind them and to their left. Aircraft that do this may not pass to the inside of aircraft ahead that are maintining their lane due to traffic to their left. Aircraft that move to the course line in this manner must maintain visual contact with, and remain behind, all aircraft that are ahead of them during the start.

10. Turning or rolling to the right during the start (or at any other time while on the race course), whether to avoid a pylon cut or to correct an aircraft flight path, is prohibited. The safer courses of action are to accept the pylon cut (whether forced or due to pilot flight path management error), or to clear the area above and exit the course. Any pilot that turns or rolls right during a race start or a race event will be subject to disqualification.

11. After release, pace follows the start to pylon 5 without entering the course. Pace will monitor the start, looking for conflicts and mitigating safety threats.

12. After monitoring the start, Pace will climb to cool down, and monitor the race as a safety observer and additional Sport Class race judge, remaining clear of the race course.

13. Pace will not enter the race course, nor will perform aerobatics while over the race course.

14. As outlined in Appendix 1, the Match Race Exhibition Start will be conducted from the Match Hold point, and will include the Pace aircraft as lead, with two contestants per race start. Remaining Match Race contestants will remain in Match Hold until directed by the Pace Pilot to join on the Pace Aircraft for their start.

G. Alternate Race Starting Procedures:

1. In the event that weather or visibility conditions prevent flight around Peavine to conduct a normal race start, alternative race start procedures will be followed.

Note 1: These procedures do not modify the 3000’/6NM ceiling and visibility minimums for the racecourse.

Note 2: These procedures apply only to Sport Silver, Bronze and Medallion heats and races. Sport Gold heats and races will not be conducted if flight around Peavine to a normal race start is not feasible, due to engine operating limitations and requirements of the high power engines in the Gold heat group.

2. The Pace Pilot will be clearly brief the alternate procedures during the pre-race pilot briefing. When a pace plane is not available, the pole position pilot will assume the duties of the Pace Pilot.

3. All normal race staging, engine start, taxi, takeoff and rejoin procedures will be followed.

4. The Pace Pilot will lead the flight, in modified echelon (as described below), inside Peavine, to an abbreviated chute start position.

a. From rejoin to race start release, the flight will remain in a modified echelon, with 1-2 wingspan lateral spacing, and will not be moved to line-abreast for the race start release.
b. Flight stability, position control (with respect to Peavine and the race course), and speed control are key factors in this modified start procedure.

5. Upon race start release, pilots will maintain their lane, just as in a normal race start.

6. The remainder of standard race procedures apply

H. Race Alignment:

1. After qualification, the racers will be aligned in descending order by speed. The aircraft will be divided into four heats consisting of up to 8 aircraft per heat. The fastest aircraft will be designated the Gold/A Heat and will fly on the Outer Race Course. The next group will be designated the Silver/B Heat, the third group will be designated the Bronze/C Heat, and the fourth group will be designated the Medallion/D Heat.

2. In the event that a racer or racers are unable to qualify during the allotted qualifying periods, the Class Officers and the Class Contest Committee may elect to place the aircraft at the back of the class field. In the interest of safety, the above placement may be at the back of the heat the racer would likely have qualified for, or at the back of the heat below that. Enacting this contingency is at the discretion of the Class Officers and Class Contest Committee, and not guaranteed to be enacted. The reason for non-qualification must be verifiable as caused by weather, timer or maintenance issues. Falsifying reasons for non-qualification is grounds for disquakification from racing, and rescinding of the racing license.

3. The racers will taxi, line-up on the runway, takeoff, and rejoin on the right wing of the Pace Plane in the briefed order for each respective heat. This will serve to position the fastest qualifier closest to the inside of the racecourse. This order may be modified on subsequent heats by assessed penalties, or by Did Not Finish (DNF), Did Not Start (DNS), or Disqualification (DQ) results.

4. If an aircraft is unable to taxi with the respective heat, they may be permitted to rejoin the heat, in pairing position, prior to runway lineup with the permission of the Pace aircraft, or by the flight lead in the absence of a pace plane. After Lineup on the runway, no attempt to rejoin or re-align the aircraft for takeoff will be permitted. If a plane is able to taxi after the flight taxis, but is not able to re-align prior to takeoff, it may takeoff aftter the flight, and rejoin the flight, if it can rejoin before the flight is released for the start. The Pace Pilot will determine whether to allow the aircraft to join in its pre-briefed start position, or to start on the outside of, or behind, the flight, based on the location of the flight when the late aircraft joins the flight.

5. After lineup for takeoff, if, for any reason, a plane is unable to takeoff in proper sequence, he will call “aborting” and clear to the cold side of the runway, exit at the nearest taxiway, and return to the ramp. No attempt to rejoin the flight is permitted for an aircraft that aborts a takeoff.

6. Each succeeding day’s alignment will be determined by the fastest speeds from the previous day’s events (after any penalties are assessed) and separated into respective A, B, C and D Heats in descending order.

7. The method outlined in VII.H.5 above will be used for all subsequent days’ race alignment.

8. The alignment of racers for the Match Race Exhibition will be in the form of a bracket. The bracket will be made up of selected and trained Match Race pilots. The bracket pairings (seedings) will be based on current year NCAR race qualification speeds.

I. Pylon Turns:

1. All aircraft will remain outside of a line drawn that visually connects the racecourse pylons (in pylon numerical sequence), at all times during a race.

2. A pylon cut will be called anytime an aircraft, or portion of an aircraft, passes inside or over a pylon.

3. During a Match Race Exhibition, a pylon cut will be called anytime an aircraft, or portion of an aircraft, passes on the wrong side of, or over, a pylon.

4. The appropriate and assigned pylon judges will determine a pylon cut. A cut called by the pylon judge is a judgment call, deemed official, and protests will not be entertained.

5. In the event of a pylon cut, a penalty of 2 seconds per lap for each lap of the race will be assessed. This will be added to the racer’s total race time to determine race speed.

6. In the event of a pylon cut during a Match Race Exhibition, the racer will be assessed a 2-second penalty for each pylon cut, which will be added to his total race time to determine finish position in that Match Race.

7. In the event of a forced cut, (aircraft being forced to the inside of a pylon or the race course by another aircraft), no penalty will be assessed to the aircraft cutting the pylon. A 10 second penalty will be given to the aircraft that caused the cut, and a forced cut may be grounds for disqualification. The determination of a forced cut will be at the sole discretion of the pylon judge. Time penalty assessment or disqualification decisions will be made by the Air Race Organization and/or the Sport Class Pilot Standards/Contest Committee. No protests will be entertained.

8. Turning or excessively rolling right at any time while on the race course, whether to avoid a pylon cut or to correct an aircraft flight path, is prohibited. The safer courses of action are to accept the pylon cut (whether forced or due to pilot flight path management error), or to clear the area above, and exit the course. Any pilot that turns or excessively rolls right during a race start or a race event will be subject to disqualification.

9. Minimum altitude on the course will be no lower than the height of a pylon (approximately 50 feet), or as defined by the Air Race Organization (ex. “the R in RENO” on the NCAR Home Pylon). Violations will result in disqualification from the heat. At the discretion of the Pilot Standards/Contest committee or the Race Contest Committee, such violations may result in disqualification of the pilot for multiple heats, or the entire event.

J. Passing:

1. During a pass attempt, the overtaking pilot must keep the aircraft being overtaken in sight at all times during the pass. In the interest of safety, the requirement of the passing aircraft to maintain visual contact with the aircraft being passed shall be paramount. Any pass that causes the passed aircraft to alter its flight path may be deemed an illegal pass, and may result in disqualification, or other action, as deemed appropriate by the Sport Class Officers, the Sport Class Pilot Standards/Contest Committee, or the RARA/Race Organizer Contest Committee.

2. After passing an aircraft, the passing aircraft must achieve 100 feet of nose-to-tail clearance, with nose-to-tail distance increasing (opening), before making any attempt to move back to the left towards the pylon-to-pylon course line, in front of the aircraft being passed. The passing aircraft may also move left towards the course line if verbally cleared by the aircraft being passed. Failure to comply with these passing rules may be deemed unsafe flying, and may result in disqualification.

3. The aircraft radio may be used to inform the preceding aircraft of an intended pass, but radio chatter must be kept to a minimum.

4. During a pass attempt, the aircraft being overtaken must not in any way impede or interfere with a faster overtaking plane.

5. At no time will a preceding aircraft fly a wide course to allow another aircraft to pass on the inside of a turn or straightaway. The safer course of action is to fly a stable, low and tight course line, to allow the passing or lapping aircraft to maintain sight of the slower aircraft at all times during the pass.

6. Inside passes, to the left of the aircraft being passed, are prohibited, unless all of the following conditions are met:

    a. The aircraft being passed is flying a line so wide as to be considered off course or create an unsafe situation (show line busts, etc).

b. The passing aircraft can maintain visual contact with the aircraft being passed throughout the pass.
c. A radio call is made by the passing aircraft, and a clear call is made by the aircraft being passed.

7. During any heat or race start, all aircraft must ensure they remain in their start lane until passing Outer Pylon #4. Passing prior to this point requires a verbal clearance from the aircraft being passed. Trailing aircraft that fall behind aircraft ahead may move to the left prior to Outer Pylon #4 only if all aircraft ahead remain in sight at all times. See Section VII.F.9.

K. Emergencies:

1. During every race in which the Pace aircraft is a capable formation Safety Chase aircraft, Pace will remain airborne for the duration of the race. Pace will assume the Safety Chase role, if requested by a Mayday Aircraft.

2. During any race in which the Pace aircraft is not an appropriate formation Safety Chase aircraft, Pace will land after the race start, unless it is more prudent, due to runway availability, to remain airborne and above the race course cool-down pattern. In either case in this situation, during the race brief, Pace will designate a Primary and Secondary Safety Chase, from among the racers. These Safety Chase pilots will assume the Safety Chase role, as described in J. 7-9 below, if requested by a Mayday Aircraft.

3. Any aircraft experiencing a problem that makes them unable to continue the race will announce, over the radio, “MAYDAY” and the aircraft race number.

4. After calling “MAYDAY”, the aircraft will pull off the racecourse and climb to an initial altitude commensurate with a high or low key position for that aircraft’s performance envelope.

5. If an immediate landing is required, the aircraft will, if possible and prudent, announce its race number and the planned landing runway. This alerts and assists CFR in making a timely response.

6. If an immediate landing is not required, the aircraft will climb to an altitude of 2000 Feet AGL or above, notify Race Control, and orbit in a counter clockwise pattern over the racecourse (in “Cooldown”).

7. If the support or assistance of a Safety Chase is desired, the MayDay Aircraft should announce, “MAYDAY, Sport XX needs Safety Chase” (or “ needs assistance”).

8. If Safety Chase support is requested, and a Safety Chase has been designated among the racers, per J. 2 above, the Primary Safety Chase pilot will visually clear the area, and exit the course to provide support to the MAYDAY aircraft. If the MAYDAY aircraft is the Primary Safety Chase, then the Secondary Safety Chase aircraft will visually clear the area, exit the course, and provide the requested support.

9. If Safety Chase support is requested, Pace/Safety Chase will pull to a position to the lower left or right of the MAYDAY aircraft and await direction or request for support from the MAYDAY aircraft. If the MAYDAY aircraft is NORDO, Pace/Safety Chase will pass to Race Control, if possible, info about, possible intentions of, or hand signals received from, the MAYDAY aircraft.

10. Safety Chase must fly in a manner that does not impede or distract the emergency aircraft, and must avoid flying directly behind and/or below the emergency aircraft, to avoid possible debris or fluids from the emergency aircraft. Visually checking the status of emergency aircraft landing gear position, flight control integrity, or other items must be done with the utmost caution, to avoid flying too close to the emergency aircraft or flying in a possible debris path.

11. As the MAYDAY aircraft enters the pattern and lands, Pace/Safety Chase will follow, maintaining a position so as not to interfere with the MAYDAY aircraft or the race. Pace/Safety Chase will then climb to cool down, monitor the remainder of the race, then sequence for landing after the completion of the race.

12. In the event of an emergency, the race will continue unless, at the discretion of Race Control, a condition exists that would be hazardous to the other racers.

L. Race Finish:

1. When the first aircraft crosses the finish line at the completion of the required number of laps, the finish will be signaled with a Checkered Flag, and the Race Control radio call “Checkered Flag, Checkered Flag”. The race will end when all aircraft have passed home pylon at the end of the lap in which the Checkered Flag/call was waved/announced.

2. Each following aircraft will then complete the current lap, and after crossing the home pylon, pull up and off the racecourse into the cool down area for sequencing to land. Any aircraft that is lapped, and does not complete the required amount of laps will be given a speed based on total laps flown divided by total time to complete those laps.

3. Aircraft must pass the finish line at race course altitude, to allow timers/judges to view the aircraft’s race finish with eyes or video equipment. After crossing the finish line on the final lap each aircraft will climb to an altitude of 2000 feet AGL or above, in “Cooldown”.

4. The aircraft will fly a left-hand orbit, keeping the preceding aircraft in-sight.

5. After cooldown, aircraft will fly the Sport Class prescribed landing sequence procedures, and make the prescribed radio calls on Race Control frequency.

6. During Match Race Exhibition events, the race will end when both aircraft have crossed the finish line at the completion of the required number of laps.

7. Aircraft exiting the Match Race Exhibition course will either return to the Match Hold point, enter the cool down pattern, or land immediately, per Appendix 1, and as briefed and directed by the Pace Pilot and/or Race Control.

M. Landing:

1. Race Control is the controlling authority for landing.

2. Once sequenced for landing, the aircraft will enter a normal downwind, base, and final approach for landing.

3. Each aircraft will make a call with their race number and “downwind abeam” as they pass Race Control (RTS runway 8 or 26 during NCAR), or midfield downwind (other runways or events). Race Control may issue a sequence for landing at this point, which should be acknoledged, radio traffic permitting.

4. On the base leg of the approach, each aircraft will call race number, base, and gear checked. (I.E. “Race 5, Base, Gear”) Race control will acknowledge, and issue clearance to land. Race Control clearance to land is advisory only, and not required for landing.

5. All aircraft will land on the side of the runway opposite of the turnoff (hot side). Once the aircraft has slowed to a controllable speed it will move over to the turnoff side (cold side) of the runway, call “cold” (radio traffic permitting) and exit in sequence at the designated taxiway in use.

N. Race Flags:

1. The following flags will be utilized, when and where appropriate, during all practices, qualifications, and race events. The location of the flag will be at the base of the Start/Finish Pylon (NCAR), or at the designated location for other race venues.

2. Black Flag: Specific aircraft disqualified. Aircraft will exit the racecourse and will be sequenced to land as soon as possible.

3. Yellow Flag: Emergency in progress. Racers will continue but use extreme caution.

4. Red Flag: Race Cancellation. Racers will exit the racecourse and set up to be sequenced for landing.

5. Green Flag: Start of race. Continue to race.

6. White Flag: Start of final lap.

7. Checkered Flag: End of race. Following the call of “Checkered Flag, Checkered Flag”, all racers will exit the course at the Home Pylon the next time they pass the Home Pylon, and proceed to cool-down for landing sequence. Lapped racers will not complete the full number of race laps, and will exit as soon as they pass Home Pylon after the “Checkered Flag” call.

O. Penalties:

1. In addition to other offenses included herein, the following shall be deemed violations of the rules and will be grounds for fines, disqualification or other sanctions.

2. Any action or proceeding harmful to the integrity of Sport Class Air Racing or the Reno Air Race Association, or not in the best interests of air racing in general.

3. Any unsportsmanlike conduct formulated against participants, officials, or committee members.

4. Reckless flying, dangerous flying, or showboating, as determined by race or Class officials, will be grounds for disqualification. Race/Class officials include the Race organizers and their Contest Committee, Race Control, Sport Class Officers or the Sport Class Pilot Standards/Contest Committee.

5. Penalties may include fines, disqualification, revocation of racing credentials or other sanctions.

6. Any contestant determined to have intentionally violated class rules may be permanently excluded from Sport Class competitions at the discretion of the Sport Class Officers or the Pilots Standards/Contest Committee.

P. Protests:

1. Any protest must be filed by written notification to the RARA/Race Organizer Contest Committee via the RARA Official Scorer (or the entity identified by other race organizers in other venues), as per the sanctioning authority.

Q. Race Cancellation or Postponement:

1. In the event that the race is postponed, all racers will be notified as early as possible and given a reasonable time to prepare for a re-schedule.

2. If the race is canceled for a particular day, that day’s format will progress to the next day’s race, unless modified by the Race Organizer or the Race Class Officers and Contest Committee.

3. If the race is canceled after takeoff but prior to start, the race may be re-scheduled with the same format.

4. If the race is canceled after start, the race will be considered a complete race and race results will be determined by the order of the aircraft at the time that the race was cancelled. The racers speed over the course will then become the total time flown divided by the number of laps flown.

5. If the race is canceled after the start of the race, all racers will continue around the course until passing the Home Pylon, at which time they will pull off the course and proceed to cooldown for sequencing for landing.

R. Special Rules:

1. It shall be permitted for the air race organizers to formulate rules, which will apply to a specific event. These rules supplement, and apply to the Sport Class rules listed here.

2. In the event additional rules apply, a copy of these rules must be provided by the race organizers to each racer.

S. Prize Money:

1. All prize money must be put in escrow by the event organizer prior to the race event to ensure fair pay out to the racers.

2. The purse will be divided among the qualifiers and starters of the various heats at the conclusion of the event.

3. A copy of the prize money payout scale will be made available to the racers prior to the race event.

4. Prize money paid out to Match Race Exhibition participants, above and beyond that paid to them for normal NCAR (or other venue) race participation, is discretionary. Prize money for Match Racing, if any, will be in the amount negotiated by the class with the race organizer for additional funds beyond the normal class purse (if any), or will be in the amount determined by the class officers to be paid from the normal class purse funds, if deemed appropriate.

T. Pilot Withdrawal from NCAR or other Race Events

1. A pilot may withdraw at any point prior to or during NCAR or any air race event. Notification must be made to the Air Race Organizer and the Class.

2. A refund of all or any portion of the entry fee for a withdrawing pilot is at the discretion of the Air Race Organizer.

3. Once a pilot withdraws from an event, they may not be re-instated to that event, for the duration of the event.

VIII. PILOT BRIEFINGS

A. Event Briefings:

1. Upon arrival at a race, all racers will receive an indoctrination briefing from the Race organizer. This briefing will include at a minimum:

    a. FAA Waiver and Special Operating Rules.

    b. Local Operating Procedures.

    c. Racecourse layout and markings.

    d. Pit Procedures.

    e. Scheduled Practices, Qualifying, and Racing events.

    f. Race Officials and Organization.

    g. Other information helpful to the racers.

2. The Operations Officer or the Air Boss, if available, must personally brief any racer unable to attend this briefing or the racer will not be able to participate in any event. This briefing will be made available to a racer that missed the indoctrination brief, at the discretion of the Operations Officer or the Air Boss.

B. Daily Briefing:

1. Each pilot intending to fly that day must attend the daily brief.

2. Any pilot not attending the brief and caught attempting to fly will be disqualified.

3. The daily brief will include at a minimum:

    a. Daily Schedule.

    b. Daily Weather Forecast.

    c. Any Special Subjects.

    d. Questions.

C. Pace Pilot Briefing:

1. Engine Start Time.
2. Takeoff Time.
3. Takeoff Position.
4. Takeoff runway and rejoin turn.

5. Rejoin speed and altitude.
6. Chute speed, and Start Release speed and georgraphic position.
7. VHF radio frequency.
8. Number of laps in race.
9. Emergency procedures. Primary and Secondary Safety Chase assignments.
10. Other procedures as necessary.
11. Questions.

D. Post Race Debrief:

1. At the conclusion of a race, all pilots involved in the race will meet at a designated area, typically at the Pace aircraft, for a post-race debrief with the Pace Pilot.

2. A member of the Pilot Standards/Contest Committee will also attend this debriefing. The Pace Pilot may waive this requirement if all committee members are flying, or are preparing to fly a race heat.

3. The purpose of this debriefing will be a formal get together to discuss details of the race. Comments concerning race conduct, race officials, other pilots, or other comments in general should be discussed at this time. Discussion of items of a sensitive nature should be conducted in a private location, such as a class briefing room.

IX. REQUIRED EVENT DOCUMENTS

Note: Not all of the documents listed below are required to be carried on the aircraft or the pilot's person during the race. The event waiver may also waive FARs that require the carriage of any of these documents during a practice, qualifying or race event. These documents are required to be made available to race or Class officials upon request.

A. Aircraft:

1. Current Airworthiness Certificate
2. Aircraft Registration
3. Operating Limitations
4. Aircraft Weight and Balance documents
5. Aircraft speed/g test certification documents (submitted to class and the race organizer, as required).

B. Pilot:

1. Current Fixed-wing Pilot Certificate
2. Current Medical Certificate that meets the race organizers' class and date requirements
3. Sport Class issued Racing License
4. Evidence of meeting the 500 Hours minimum pilot hour requirement, if requested

C Insurance:

1. Proof of insurance with $1,000,000 Liability
2. Additional rider permitting Air Racing
3. Additional rider naming covered Event Organizers or other entities, as required by race Organizers

X. SPORT CLASS RACING VENUE AND RACE HEAT PAIRING

A. Sport Class Air Racing intends to pair racers into groups (heats) based on performance during qualification speeds and subsequent races. 24 racers will constitute a full field and the racers will be divided into 4 heats, labeled A, B, C and D. Alternate procedures and a defined progression will accommodate additional racers to a maximum of 36.

B. The Heat Races will take place before Sunday's Championship Races, and will be conducted as follows: After all official qualification times are established, the racers will be aligned in decreasing order of 1-36 according to speed. The racers will be divided into four race heats consisting of from 6-8 aircraft per heat. The fastest speeds will be paired for the "A" Heat of each day, the second fastest paired for the "B" Heat, the third fastest paired for the "C" Heat, and the fourth fastest paired for the "D" Heat.

C. The number of available race aircraft will determine the number of aircraft per heat. The emphasis will be to insure that the maximum number of racers will be allowed to race. Therefore all qualifying aircraft will be divided into four heats based upon qualifying speed, the heats will be evenly divided with from 6-8 aircraft per heat. In the event that the heats are not evenly divided, the preference will be for the greater number to go to the faster heat. The following matrix applies to heat size based on 24-32 race eligible aircraft. This matrix may be altered by the Class Officers and the Class Contest Committee, if in the interest of safety or fairness, a different matrix is more appropriate:

Eligible Aircraft	Gold/A Heat	Silver/B Heat	Bronze/C Heat	Medallion/D Heat
24	6	6	6	6
25	7	6	6	6
26	7	7	6	6
27	7	7	7	6
28	7	7	7	7
29	8	7	7	7
30	8	8	7	7
31	8	8	8	7
32	8	8	8	8

D. In the event that there are 33 race eligible aircraft after qualifying ends, the following pairing rules will apply to ensure that every eligible racer gets to race. If there are 33 aircraft available for the first day of racing, the number 30 qualifier will act as the alternate aircraft. For the second day of racing, the number 31 qualifier will act as the alternate aircraft. For the third day of racing, the number 32 qualifier will act as the alternate aircraft. For the Championship Race, the number 33 qualifier will act as the alternate aircraft.

E. In the event that there are 34-36 race eligible aircraft the following pairing matrix will apply:

Race eligible aircraft 34			Heat 1A, 1B, 1C, 1D					
Heat 1A	1	2	3	4	5	6	7	8
Heat 1B	9	10	11	12	13	14	15	16
Heat 1C	17	18	19	20	21	22	23	24
Heat 1D	25	26	29	30	31	32	33	34

Race eligible aircraft 34			Heat 2A, 2B, 2C, 2D					
Heat 2A	1	2	3	4	5	6	7	8
Heat 2B	9	10	11	12	13	14	15	16
Heat 2C	17	18	19	20	21	22	23	24
Heat 2D	25	26	27	28	31	32	33	34

Race eligible aircraft 34			Heat 3A, 3B, 3C, 3D					
Heat 3A	1	2	3	4	5	6	7	8
Heat 3B	9	10	11	12	13	14	15	16
Heat 3C	17	18	19	20	21	22	23	24
Heat 3D	25	26	27	28	29	30	33	34

Race eligible aircraft 34			Gold, Silver, Bronze, Medallion					
Gold	1	2	3	4	5	6	7	8
Silver	9	10	11	12	13	14	15	16
Bronze	17	18	19	20	21	22	23	24
Medallion	25	26	27	28	29	30	31	32

matrix continued on next page

Race eligible aircraft 35			Heat 1A, 1B, 1C, 1D					
Heat 1A	1	2	3	4	5	6	7	8
Heat 1B	9	10	11	12	13	14	15	16
Heat 1C	17	18	19	20	21	22	23	27
Heat 1D	28	29	30	31	32	33	34	35

Race eligible aircraft 35			Heat 2A, 2B, 2C, 2D					
Heat 2A	1	2	3	4	5	6	7	8
Heat 2B	9	10	11	12	13	14	15	16
Heat 2C	17	18	19	20	21	22	23	24
Heat 2D	25	26	30	31	32	33	34	35

Race eligible aircraft 35			Heat 3A, 3B, 3C, 3D					
Heat 3A	1	2	3	4	5	6	7	8
Heat 3B	9	10	11	12	13	14	15	16
Heat 3C	17	18	19	20	21	22	23	24
Heat 3D	25	26	27	28	29	33	34	35

Race eligible aircraft 35			Gold, Silver, Bronze, Medallion					
Gold	1	2	3	4	5	6	7	8
Silver	9	10	11	12	13	14	15	16
Bronze	17	18	19	20	21	22	23	24
Medallion	25	26	27	28	29	30	31	32

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matrix continued on next page

Race eligible aircraft 36			Heat 1A, 1B, 1C, 1D					
Heat 1A	1	2	3	4	5	6	7	8
Heat 1B	9	10	11	12	13	14	15	16
Heat 1C	17	18	19	20	25	26	27	28
Heat 1D	29	30	31	32	33	34	35	36

Race eligible aircraft 36			Heat 2A, 2B, 2C, 2D					
Heat 2A	1	2	3	4	5	6	7	8
Heat 2B	9	10	11	12	13	14	15	16
Heat 2C	17	18	19	20	21	22	23	24
Heat 2D	29	30	31	32	33	34	35	36

Race eligible aircraft 36			Heat 3A, 3B, 3C, 3D					
Heat 3A	1	2	3	4	5	6	7	8
Heat 3B	9	10	11	12	13	14	15	16
Heat 3C	17	18	19	20	21	22	23	24
Heat 3D	25	26	27	28	33	34	35	36

Race eligible aircraft 36			Gold, Silver, Bronze, Medallion					
Gold	1	2	3	4	5	6	7	8
Silver	9	10	11	12	13	14	15	16
Bronze	17	18	19	20	21	22	23	24
Medallion	25	26	27	28	29	30	31	32

F. The race lineup/pairing for each subsequent day's racing will be determined after the day's racing has been completed. The heat/race pairing line-up will rearranged for the following day, based upon all racers' *most recent* speed. Following any DNF, DNS, or DQ result, those race pilots in any heat will be placed at the bottom of the same heat's pairing for the next day's heat/race, in that order (DNF, DNS, DQ). Such DNF/DNS/DQ pilots will not be moved to the next lower heat due to bumping, as described in subsection H below. If there is more than one DNF, the DNF pilots will be paired in the order of most laps completed before the pilot pulled off of the course. If the is more than one DNS, the DNS pilots will be paired in the order that they were to start. If there is more than one DQ, the DQ'd pilots will be paired in the order of most laps completed before the DQ event.

G. When pairings are generated for each subsequent day's racing, bumping between heats is allowed between any two adjacent race heats. Faster racers in a slower adjacent heat may bump up into the faster heat, if their speed results are faster than the bottom finishers in the faster heat. DNF, DNS and DQ racers are not subject to bumping, and will remain in their heats for subsequent racing. The Class Officers and Class Contest Committee may, in the interest of safety or fairness, place firewalls between specific heats, to prevent bumping between those heats.

XI. AIRCRAFT FUELS AND ADDITIVES

A. Sport aircraft will be allowed to use any fluid, liquid or gas, sprayed externally or internally to promote engine performance.

XII. RULES CLARIFICATIONS AND ADDENDUM'S

A. This section is included to highlight any Clarifications or Addendum's incorporated in the existing rules within the past year as a result of the previous year's critique. Its intent is to provide the user with a "quick reference" section to familiarize themselves with all recent modifications, including a short synopsis of the modification, as well as a reference to the specific section in which the modification has been incorporated. Subsequent years' will be posted in this section on an annual basis.

Appendix 1

Sport Class Air Racing Match Racing Exhibition Events

CONCEPT:

Sport Class Exhibition Match Racing is a one on one competition between two aircraft at a time, on a side-by-side slalom racecourse, utilizing existing pylons on the current Formula/Biplane course (see attachment 1). The competition will take place in a single-elimination bracket format, with 8 race aircraft. The bracket will be entitled the Sport Class Match Race Bracket. The Match Race will be run as an invitational event. 12 pilots will be selected by Sport Class Air Racing Association Officers and the Pilot Standards/Contest Committee, and trained during PRS. The 8 pilots and aircraft selected to fly in the Exhibition Match Races during NCAR will be from among the 12 trained and qualified Match Race pilots. Spare, or backup, pilots will also be selected from that trained and qualified group of pilots.

MATCH RACE PROGRESSION:

The Match Racing elimination bracket will be published at the end of normal NCAR qualifying. The pairings for the Match Racing will be determined by speed, as indicated in attachment 2. During each Match Race Exhibition event, a quarterfinal heat, semifinal heat and final race will be conducted, and a Match Race winner will be declared during, or immediately following the event. The quarterfinals will consist of four match races, reducing the field from 8 to 4. The semifinals will consist of 2 match races, reducing the field from 4 to 2, and the final will consist of one match race. Each race is final, and the winner will continue in the bracket, while the loser will land. Racers will not switch courses and fly each heat twice. At the beginning of each event, the racers in the quarterfinal bracket will flip a coin to determine who gets their choice of the track they will fly on during the event. Once a track is selected, each racer will remain on the original track, unless paired with a racer that also selected the same track. In this event, the Match pace pilot will direct the racers as to which track to fly. Each event will take 25-30 minutes from launch to recovery.

RACECOURSE DESIGN:

The Match Racing Slalom Course will utilize the existing pylons of the Reno Formula/Biplane course. The course will be flown as a slalom, and will include two and one half laps, or passes, up and down the course, as outlined in attachments 3 and 4.

MATCH RACE EXECUTION:

Each Match Race event will stage, start, check-in, and taxi as a flight of 11 (2 Pace aircraft plus 8 racers and 1 spare racer). If Pace aircraft assets are limited, a single

pace may be utilized. Spare aircraft procedures will be the same as in normal Sport Class races. Departure and rejoin of the 10 flying airplanes will be conducted in the same manner as a normal Sport Class race heat, from either runway 8 or runway 26. Once the rejoin is complete, the flight will proceed to the "Match Hold" point, approximately 4 miles NW of Home Pylon, at 6,500 feet MSL (see attachment 5). From Match Hold, Pace will lead two aircraft in a modified "Vic" formation from "Match Hold", to "Match Entry" (see attachment 5). Pace will lead the racers to the course via a west-to-east chute, similar to the T-6 Start Chute (see attachment 5). Pace will spread the racers so as to align them just south of their respective first pylons. Pace will release the two Match Race aircraft with a radio call and a pull up, approximately one half mile from the first pylons. Pace will execute a turn to the north, clearing the course, and will then return to the Match Hold point to pick up two more racers. After release, the two active race aircraft will execute two and one-half laps of the Match Race course, flying a slalom course above pylon height (50 feet). The race aircraft will fly west to east with a left reversal turn to the north, then will fly east to west, with a left reversal turn to the south, and then fly a straight dash to the finish on the south side of their respective pylons. The finish line will be abeam the Home Pylon. Timing will begin at the radio call or pull up for the start, and will end as each aircraft passes Home Pylon on the third pass. After passing Home Pylon, the race aircraft will pull up and off the course, and will either recover immediately, or return to Match Hold, as directed in the "Match Race Recovery" section of this Appendix.

MATCH RACE WINNER DECLARATION AND ELIMINATION:

After each Match Race, the winner will be declared after considering any pylon cut time penalties and/or disqualifications. If there are no pylon cuts or disqualifications, the winner is the first aircraft to pass Home Pylon on the final pass. If a pylon cut is assessed, a time penalty of 2 seconds will be applied for each pylon cut, and the winner will be the aircraft with the fastest resulting time from start to finish, including penalties. The winner will move forward in the bracket, and the loser will be eliminated from Match Race competition. Winners of quarterfinal and semifinal matches return to Match Hold, and match losers land. After the Match Race Final, the racers and pace aircraft will recover, and the event will be complete.

MATCH RACE RECOVERY:

During the Quarterfinal and Semifinal Match Racing, after each pair completes its Match Race, the race aircraft will pull up and off the course after passing the Home Pylon the third time. The winner will return to Match Hold, and the losing aircraft will recover. Upon completion of the Final, both racers will recover as described above, followed by Pace, who will recover from a modified cool-down in trail of the Final Match Racers. If recovery is to runway 26 or 32, the aircraft will make a slight left climbing turn, followed by a right turn to the right downwind for runway 26 or 32. If recovery is to runway 14, 18 or 8, each aircraft will make a left turn to a left downwind for runway 14, 18 or 8. Each aircraft will call downwind, and base with gear, just as in normal Reno race operations. For an expedient landing to allow the next Match Race to start, Runway 14 or 26 will be the preferred landing runways, even if runway 8 was the departure runway, as long as wind conditions allow.

SAFETY AND MAYDAY CONSIDERATIONS:

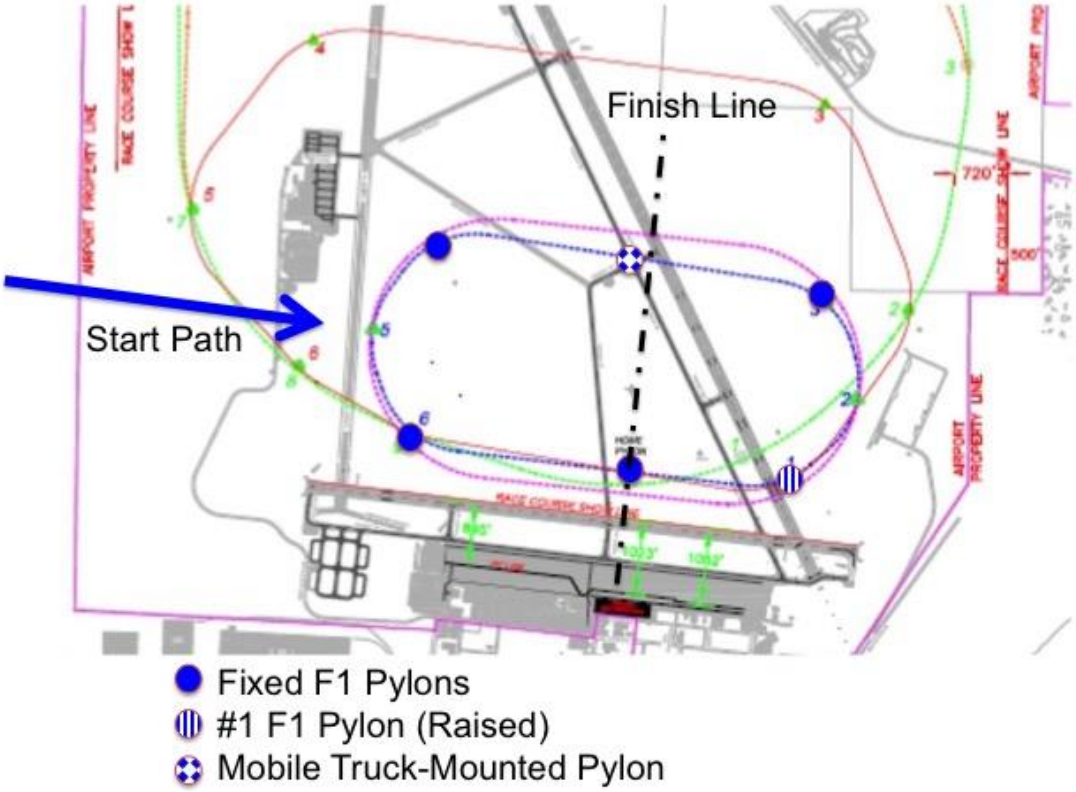
Pace will be responsible for the conduct of the flight at all times, supported by Race Control. In the event of a Mayday, the race will be immediately terminated, with the calls “MayDay” and “Knock it Off”. If this occurs, the aircraft in the Match Hold will remain there until the Emergency/Mayday is terminated. The other aircraft on the racecourse will terminate, clear the course, and climb to cool-down for holding and/or recovery. The Mayday aircraft will have priority, and will be supported by Pace, Race Control and Tower, as required.

ADDITIONAL MATCH RACE COURSE CONSIDERATIONS:

The Match Race aircraft will at all times be within the confines of the current racecourse limits, so no additional waiver airspace will be required. Attachments 6 and 7 are the official course diagrams for the Match Race Slalom Course.

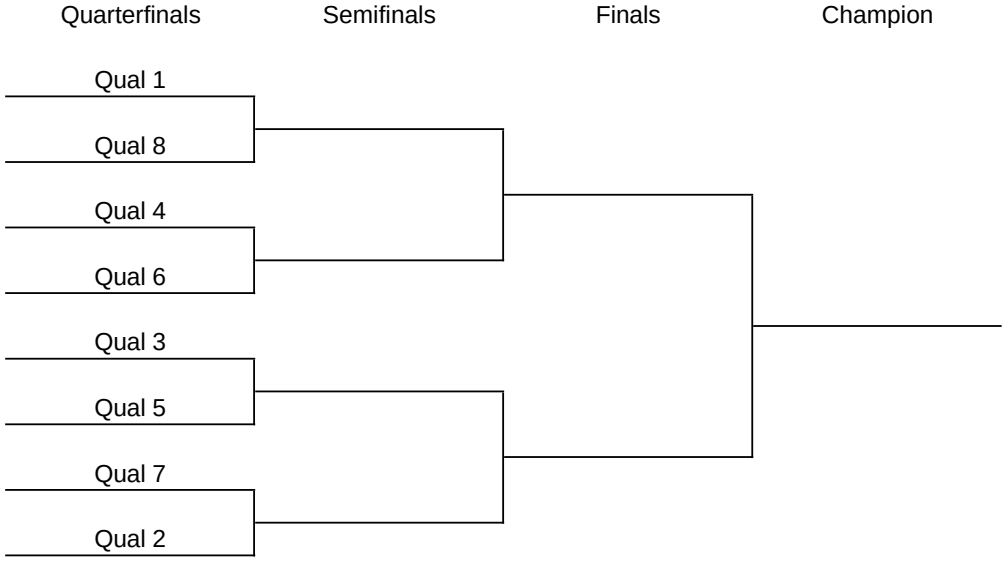
Match Race Pylon Layout

Attachment 1



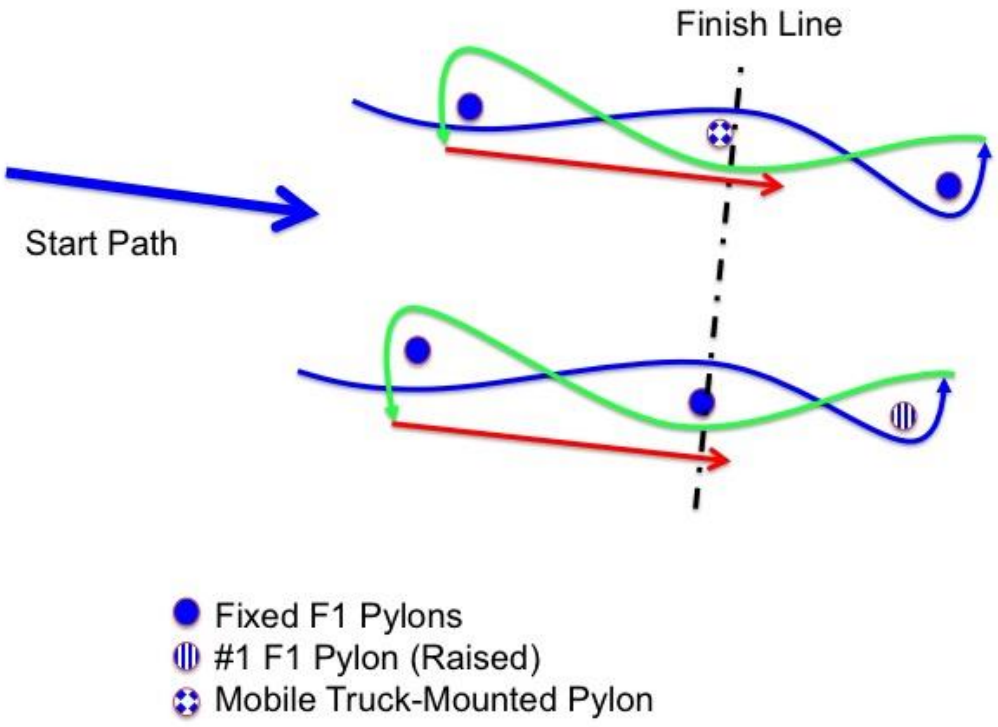
Match Race Bracket

Attachment 2



Match Race Course Layout

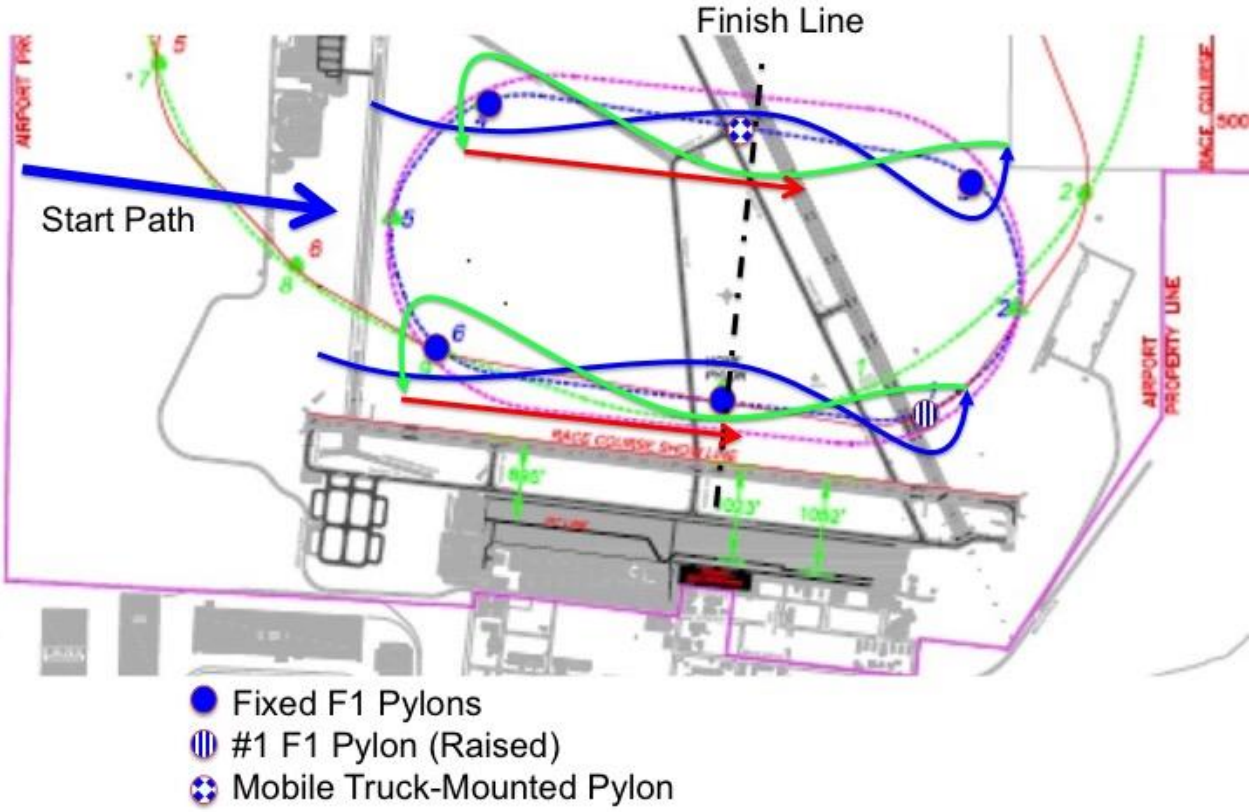
Attachment 3



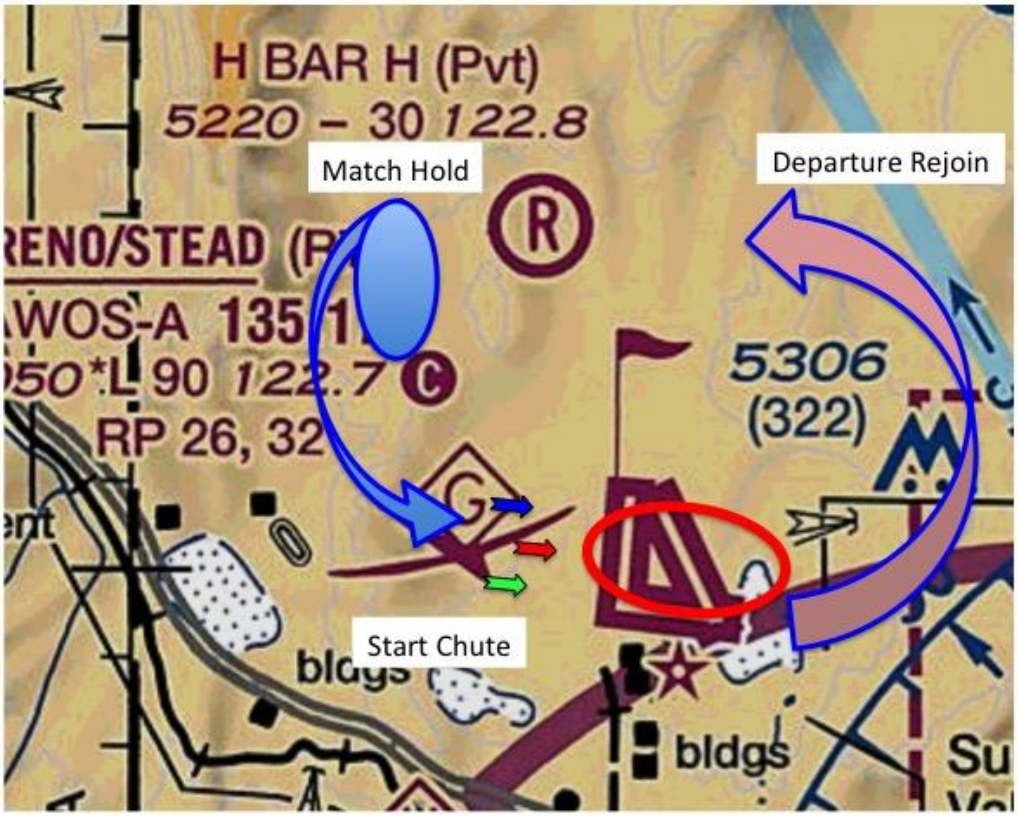
- Fixed F1 Pylons
- #1 F1 Pylon (Raised)
- Mobile Truck-Mounted Pylon

Match Race Course Layout

Attachment 4



Match Holding Pattern Attachment 5



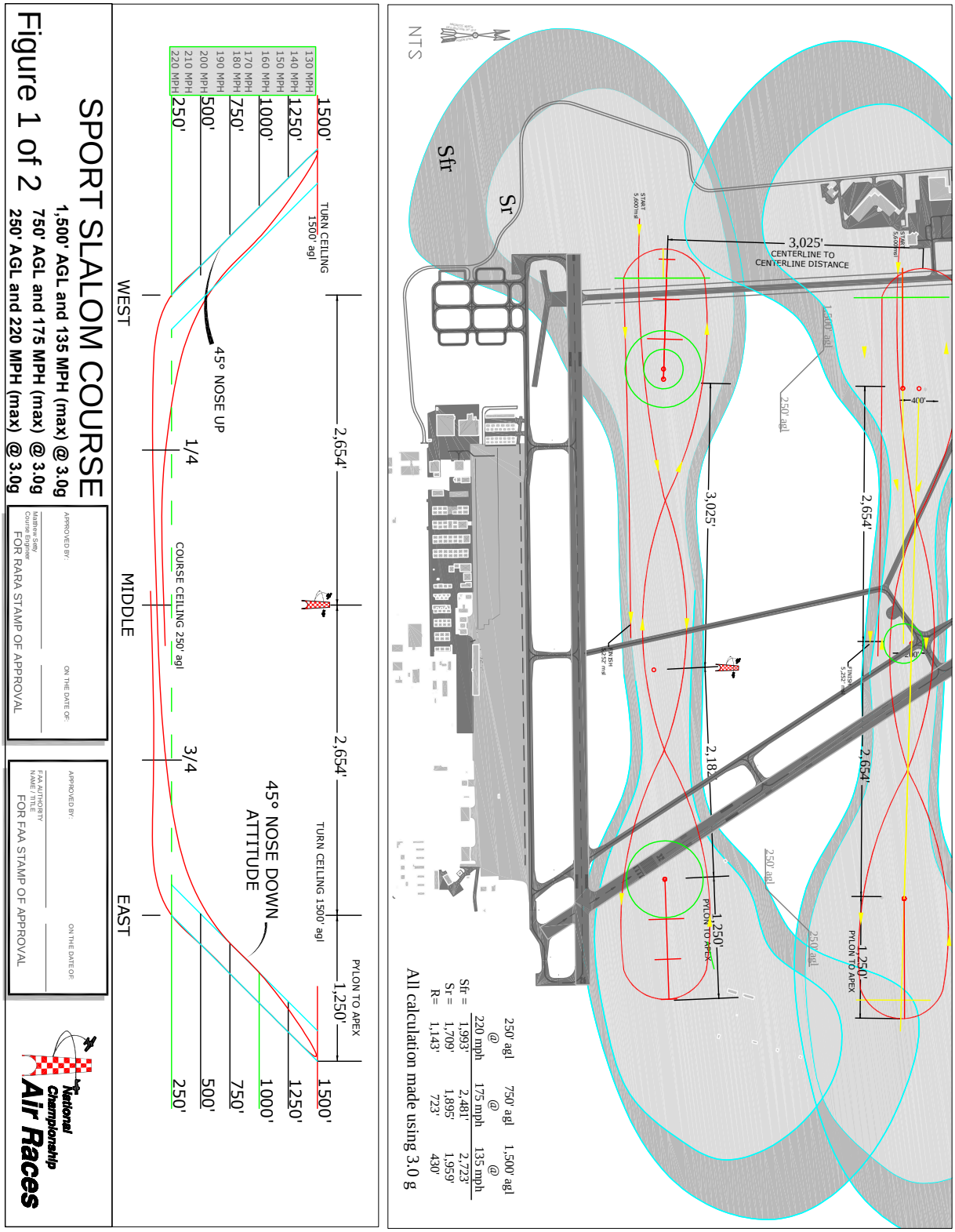
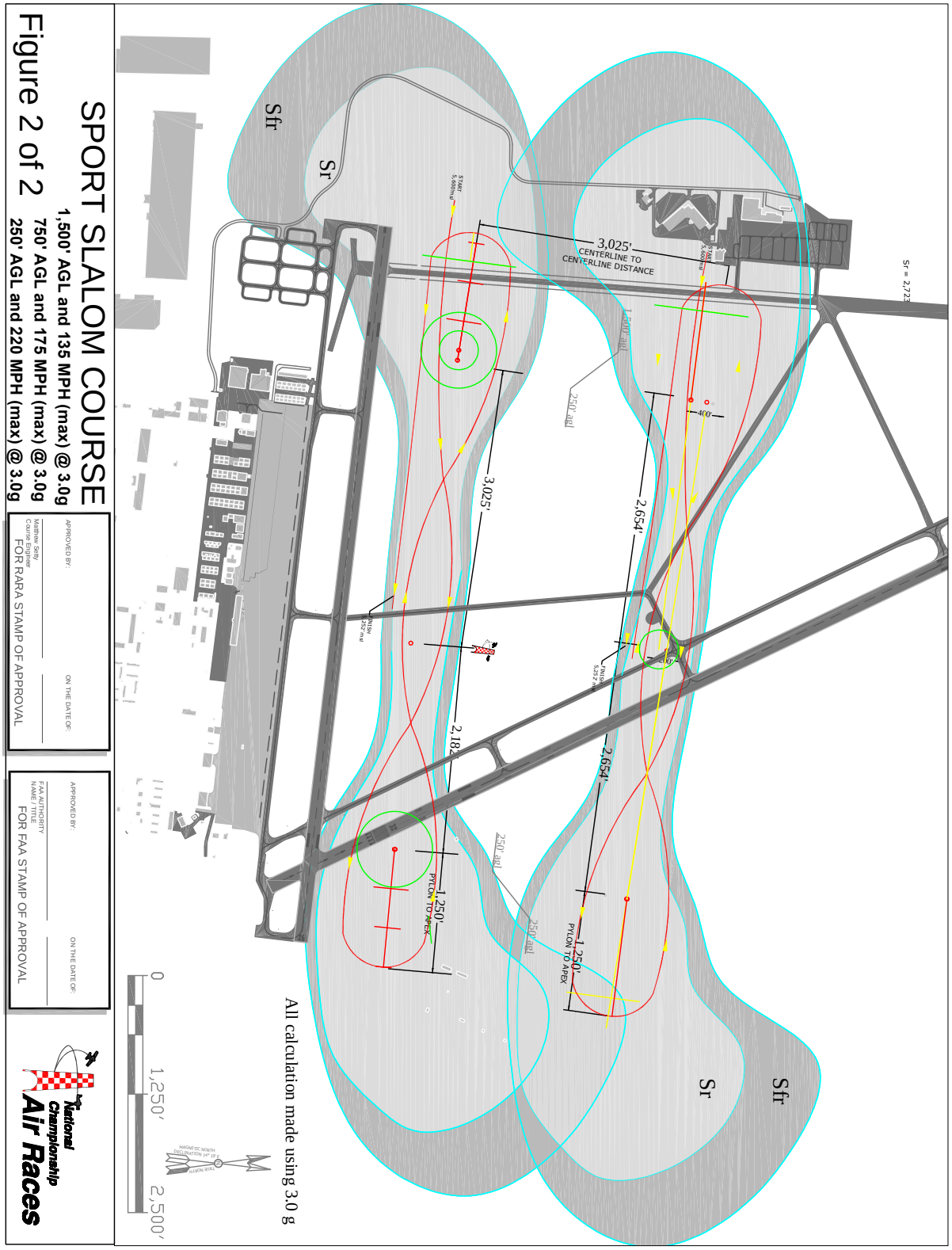

NTS
Sfr
Sr
3,025'
CENTERLINE TO
CENTERLINE DISTANCE
2,654'
2,654'
3,025'
2,182'
1,250'
PYLON TO APEX
1,250'
PYLON TO APEX
1,500' agl
250' agl
250' agl
250' agl
40°
All calculation made using 3.0 g
250' agl @ 220 mph
750' agl @ 175 mph
1,500' agl @ 135 mph
Sfr = 1,993' 2,481' 2,723'
Sr = 1,709' 1,895' 1,959'
R= 1,143' 723' 430'
SPORT SLALOM COURSE
1,500' AGL and 135 MPH (max) @ 3.0g
750' AGL and 175 MPH (max) @ 3.0g
250' AGL and 220 MPH (max) @ 3.0g
130 MPH
140 MPH
150 MPH
160 MPH
170 MPH
180 MPH
190 MPH
200 MPH
210 MPH
220 MPH
1500'
1250'
1000'
750'
500'
250'
TURN CEILING
1500' agl
2,654'
2,654'
PYLON TO APEX
1,250'
TURN CEILING 1500' agl
45° NOSE UP
45° NOSE DOWN
ATTITUDE
1500'
1250'
1000'
750'
500'
250'
1/4
3/4
COURSE CEILING 250' agl
WEST
MIDDLE
EAST
APPROVED BY:
Matthew Selby
Course Engineer
FOR RARA STAMP OF APPROVAL
ON THE DATE OF:
APPROVED BY:
FAA AUTHORITY
NAME / TITLE
FOR FAA STAMP OF APPROVAL
ON THE DATE OF:
National Championship
Air Races

Figure 1 of 2


SPORT SLALOM COURSE
1,500' AGL and 135 MPH (max) @ 3.0g
750' AGL and 175 MPH (max) @ 3.0g
250' AGL and 220 MPH (max) @ 3.0g
Figure 2 of 2
APPROVED BY:
ON THE DATE OF:
Matthew Sirby
Course Engineer
FOR RAPA STAMP OF APPROVAL
APPROVED BY:
ON THE DATE OF:
FAA AUTHORITY
NAME / TITLE
FOR FAA STAMP OF APPROVAL
National Championship Air Races
Sfr
Sr
Sfr
Sr
3,025'
CENTERLINE TO CENTERLINE DISTANCE
2,654'
3,025'
2,654'
2,182'
1,250'
PYLON TO APEX
1,250'
PYLON TO APEX
250' agl
250' agl
250' agl
400'
All calculation made using 3.0 g
0
1,250'
2,500'