# **CLUB 40 PYLON RACE PROCEDURES** (Used by Victor Valley Flyers)

We use a two pole, 400' course that is centered on the start/finish line.

We use a software program that was designed for our warbird racing that automatically runs a matrix and will go as many rounds as you like. It also keeps track of frequencies so there are no conflicts. It allows entry of times and places for each round and keeps track of who is in what place through out the day.

The way we generally set up is a table under an EZ-up about thirty feet back from the pilot stations, centered on the start/finish line. The spotters sit in chairs in front of the table and hold the Pickles. (Hand held timer buttons) The software operator sits at the table with the laptop and controls the start of the 45 second audible countdown. Once he starts the countdown, the software takes care of the rest. It will sense the input from each of the spotter's buttons and keep track of laps and lap times. With the electronic timing system, all the spotters have to do is press a button each time their plane crosses the finish line. The computer records the time for each lap as well as the final time. It will also figure the finish places once the cuts have been inputted. However, even with the timing system, the flag man still needs to call the close finishes because sometimes, on a photo finish, the spotters will not be perfect on the buttons and the second place finisher could erroneously get a faster time. A lot of guys like to know how they are doing, so the computer recorded time also serves that purpose.

On our system, an LED Display Unit shows the 45 second countdown and then displays the lap number for each lane. This way the caller for each pilot can look at the Display and tell his pilot what lap he is on during the race. If you are running without a display, then the spotters will use lap cards to display what lap the plane in their lane is on. We run the race pretty much like our warbird races. We use a 90 second period to get your engine started and take off. (Sometimes we shorten that to 60 seconds if the pilots are all experienced. It doesn't sound like a lot but that extra 30 seconds per round can add up by the end of the day). After the 90 seconds we start an audible 45 second countdown. It announces the time in 5 second intervals until it gets to 10 seconds and then it counts every second. At zero, you must be to the left of the start line or you have jumped the start. We allow you to continue but you are a lap down and you must complete two laps before you get credit for the 1st lap.

We do allow someone who is about to jump the start to turn left and come around and restart but once you cross the start line you must continue on the course with the one lap penalty. As for cuts, some clubs require an additional lap to be flown at the end of the heat. We don't report cuts until the race is over so we use a point deduction for cuts. The Pylon Judges note cuts on a Form and they call them in at the end of each heat. We used to use walki-talki's but lately we have just used cell phones to call in the cuts. Works just as well and we don't have to worry about keeping the walkie-talkie's charged. The first Pylon Cut reduces your score to 1 point, regardless of where you finish. The second Pylon Cut earns you a zero for that heat.

We try to get in 5 rounds but 4 is usually enough. The more rounds you can run, the better chance everyone has to make up for a bad heat. We don't usually run a trophy race but I am not opposed to it.

As for airplane identification, “Wing Flags” are used to tell the planes apart. A “Wing Flag” is a stick-on, easily removable, colored band that is affixed to the Racer’s Wing. Two colors are used, Green and Orange. When the matrix is run, it will place the planes in “Lanes” - High Green, Low Green, High Orange and Low Orange.
Note: “Lane” refers to the airplane identification wing marking that is assigned.

**Here’s an example for the case where you have 12 participants on a race day.**

When you run the matrix, 3 pilots are assigned to High Green, 3 pilots are assigned to High Orange, 3 pilots are assigned to Low Green, and 3 pilots are assigned to Low Orange.
The "Wing Flags" are then affixed to the participating planes as follows:
Green "Flags" are affixed to the top and underside of the right wing of the planes assigned to High Green.
Green "Flags" are affixed to the top and underside of the left wing of the planes assigned to Low Green.
Orange "Flags" are affixed to the top and underside of the right wing of the planes assigned to High Orange.
Orange "Flags" are affixed to the top and underside of the left wing of the planes assigned to Low Orange.

Note that this results in four different “appearances” as the racers round a pylon. Since the racers are in “knife edge” as they round a Pylon, the racers with the “Wing Flag” on their right wing will be seen as “High Green” and “High Orange”. The racers with the “Wing Flag” on their left wing will be seen as “Low Green and “Low Orange”. This greatly facilitates airplane identification for the Race Officials.
Each pilot flies with the same wing marking all day, flying in each heat with pilots of planes with the other wing markings. Thus, pilots will fly against pretty much everyone (just not against the three other pilots that were assigned the same wing marking).


**Two Racers rounding a Pylon: "HIGH GREEN" AND "LOW PINK"**

A different spotter/timer is used for each Lane and he concerns himself only with the plane with the wing flag that corresponds with his Lane. The pylon judges mark cuts base on the wing flags as well.

## Heat Scoring Procedures:

The first place finisher in the heat will receive the same number of points as the number of planes in the maximum heat size in the class. Each subsequent place finisher will receive 1 less point. For example, with a four-plane maximum heat size within the class, the 1st place finisher receives 4 points, 2nd place will receive 3 points, 3rd place receives 2 points, etc. Any aircraft that was unable to take off or that was to the right of the start-finish line at the start the heat receives no (0) points. Any aircraft that did not finish the heat receives no (0) points. Any aircraft that was black flag disqualified receives no (0) points.

**Effect of Cuts on Points Awarded** - If an aircraft cuts one pylon, by not flying past it, that aircraft will only receive 1 point, regardless of finish position. Any aircraft cutting more than one pylon will receive no (0) points for that heat. Aircraft finishing without cuts behind aircraft receiving cuts, will be have their finish position advanced one place in their standing for each aircraft ahead of them that received cuts. The following four-plane heat example illustrates the point scoring system:
1st place finisher with 1 cut - 1 point
2nd place finisher with 2 cuts - 0 points
3rd place finisher with no cuts - 4 points
4th place finisher with no cuts - 3 points

**Race Scoring Procedures:**

Race scoring shall be the sums of all heat scores. There will be no rounds thrown out. Ties will be determined by the fastest legal time posted by the planes flown in that class.

# Club 40 Rules for the Airplanes- (Version 12-24-2009)
# www.Club40Racing.com

**Airframes**
The World Models Sky Raider Mach II ARF or ARC, per instructions
The World Models LA Racer 40 ARF per instructions.
The Sanaloma Laser, Inc, Club 40 Raider Kit, use WM hardware or allowed substitutes.
You may modify the cheek/nose area of the kit and older Sky Raiders to match the current WM product. Do not enclose.
Do not pinch narrower than the narrowest of current or previous airframes from WM

**Airframe Regulations**
Assemble according to the manual, with the materials provided, except for:
Recovering plane is allowed
No airframe modifications other than repairs or reinforcement.
Standard size servos or mini servos with 4 screws are required.
Dual aileron servos are allowed.
Minimum weight, without fuel, is 4 lb. and 8 oz., 4 lb. and 4 oz. for Sport class.
Control surfaces may be hinged with the supplied metal or CA hinges, other CA hinges, plastic hinges or hinge points (Robart or similar).
A minimum of 3 hinges per aileron, 4 per elevator and 3 per rudder are required.
Hinge lines may be sealed using tape, stick-on plastic covering, or iron-on plastic covering.
If wheels are substituted, must be as large in diameter and as wide as original
Must have canopy, original or very similar.
Do not remove any wood except to clear for Sport muffler or move throttle servo to the side.

**Propulsion System Regulations**
All engines must be stock, with stock carburetor, and muffler with original baffle, if any.
Shimming the engine mount to change the thrust line is acceptable.

**Advanced Class Engines**
Recommended: Thunder Tiger Pro .40 BB ABC w/Muffler
Acceptable Alternatives: SuperTigre GS-40, GMS .40 ABC BB, Evolution .40NT and OS .40 BB Sport Engines

**Sport/Novice Class Engines**
Thunder Tiger GP-42, OS .46 LA, OS .40 LA, OS .40 FP, Magnum .40 GP, TT .40 GP, Tower Hobbies 40.

**Prop / Spinner:**
1. Any spinner of not more than 2.5 inches in diameter is allowed.
2. Spinner weights that fit inside a spinner, Heavy hub and aluminum Safety Spinner nuts are allowed.
Any size of prop may be used.
Props shall be unmodified and commercially available. Balancing only will be allowed as defined in Section 7.5 of AMA Pylon Regulations or RCPRO Club 40 Rules.

**Fuel tank:**
Any brand of tank may be used.
Tanks may be raised or lowered to allow for consistent engine runs.
The tank may only be pressurized with muffler pressure.
Bubble less tanks that have an internal bladder may be used.
The stock tank may be converted to use a fuel bladder.

**Hardware:**
Control horns, push rods and linkages may be replaced with similar hardware.
Pushrods, if replaced, must exit the fuselage sides in the same position as original specification.
No EZ-type connectors on ailerons, elevator or rudder. They are only allowed on throttle. Also see section 8, especially a. and I, of AMA Pylon Regulations or RCPRO Club 40 Rules.
Battery packs may be four or five cell (or 2-3 cell LiPo) with a suggested minimum of 500 MaH.
Nylon wing bolts are allowed.
You may substitute machine screws, nuts and screws of same or larger diameter (#4 SAE is fine)

Race CD will have the final say on legality of "modified" aircraft.
Inspectors may use templates or a “standard” aircraft. See Technical Inspection Form
Any modification deemed to be an attempt to provide for speed enhancement, shall not be allowed.