FLIGHT SIMULATOR AROUND-THE-WORLD RACE
2013 Special Rules FAQ

February 11, 2013

Summary of Legs Types: Time, Distances, Aircraft, and Restrictions

- Normal Leg: 2 hours, 750 nm. Normal race aircraft. The only restriction is the limited number of times a "Thoroughbred" may be used
- Wildcard Legs: Unlimited time with a total distance not to exceed 5,000nm. A maximum of three legs of which none may exceed 2,250nm. Minimum aircraft weight 30,000 pounds Gross. Types limited to "normal" race-eligible aircraft or sponsored jets.
- Special Continental Jet Legs: Sponsored jets for a distance of less than 1,000nm. The Departure and Destination airports must be on the same continental landmass. The time limit is 2½ hours.
- Special Aircraft Legs and Team Flights: 4 Special Flights to be completed by the baton carrier in a particular aircraft over a particular distance. Two are required, two are optional. These flights may also be Team Flights with a maximum 1½ hour bonus each to TOTAL maximum bonus of 3 hours (15 minutes per participating pilot—other than Baton Pilot). Types restricted. Time and distances vary.

Q. Why is the Duenna required?
A. We're requiring the Duenna for a number of reasons. The software has reached a level of maturity at which we are confident that instability on its part will not affect the race. We will be able to track the race's progress online if all participants use the Duenna. Finally, the Duenna allows us to keep closer tabs on race pilots, giving everyone involved in the race additional confidence that competitors aren't attempting to gain an unfair advantage.

Q. Which version of the Duenna is needed? I already have an older one?
A. You need version Rev. 131 or later. (Rev. 131 was available on January 30, 2010. If you already have a version installed, you merely need the update.) Earlier versions do not have the same flight tracking capability. If this is your first race, install Rev. 44 (Feb 2005) and then install version Rev. 131 to update everything. Go here: http://johannesmueller.com/fs/web/duenna/

Q. Why start at 1500 UTC?
A. The timing represents a compromise between opening the Race in local daylight and the need to accommodate the real life schedules of our pilots across many times zones.

3. Routing Requirements.

Q. What does airspace denied mean? What constitutes the airspace of a country? What about landing in the country?
A. Race aircraft may not cross the airspace of, nor land in, these nations for any reason. For RTWR purposes, the restricted airspace is defined by the boundaries of a nation's main landmass plus any explicitly designated offshore islands. Small islands and overseas territories and departments do not count for the airspace. Pilots should give these national boundaries a wide 10-20 mile margin because maps can be imprecise. In addition to the airspace, pilots may not land at airports in the nation *nor* in any of the nation's outlying islands. Any race aircraft which crosses the boundaries of, or lands in, those nations may not score a completed race leg or wildcard leg. Should both the baton carrier and the wingman violate the restrictions, the leg should be abandoned and restarted at the airport of the last successful baton landing.

For practical reasons, the rule is slightly different for airspace restrictions and landings. We cannot precisely monitor overflights of small outlying islands while we can surely identify landing at airports on those islands. The weaker "no military landings" restriction also applies to both the mainland as well as the offshore islands. (Our not enforcing the prohibition on overflying small islands is due to our inability to track such overflights with precision. The landings are recorded so that we can enforce a landing restriction.) For example, Myanmar's Coco Islands are far offshore and we cannot truly know whether an aircraft flies over the islands and we don't want to penalize teams who inadvertently fly over some small unknown island chain. However, both the pilot and the race marshals can know with certainty if the pilot lands at VYCI, a Myanmar airport.

Finally, we shall make every effort to ascertain whether a leg has violated prohibited airspace. The standard will be a direct great circle path between the departure and destination airports. If there is additional evidence that the flight made a wide berth of the restricted airspace, we shall take that into account. (The online tracking might help.) The bottom line is to leave a goodly margin of error when you are flying near a restricted airspace. Those Iranian interceptors may not be willing to give you the benefit of the doubt. And we hear the food is terrible.

Q. What does "airspace is open but no military aircraft may land" mean? What is a military aircraft? The WWII based fighter I fly is modeled on a US registered private aircraft.
A. Two questions—two answers. *[This military aircraft provision does not apply to 2013. The explanation remains here to keep a record for future races.]*

A military aircraft may fly over these nations, but that aircraft may not land (or takeoff to begin a baton leg) at any airport in those nations. If you are forced down for fuel, then you should transfer the baton, restart the leg, or abandon the baton. Please do exercise care with the "foreign military sensitive" countries.

A military aircraft is any aircraft designed and built primarily for military usage. This includes all fighters, bombers and military only trainers and cargo aircraft. Warplanes that are now in private service are considered military aircraft.

The DC-3/C-47 is a civilian aircraft for our purposes—but cannot use a military repaint in these nations. Also those many prop liners which began life as WWII transports but their primary role was as an airliner after the war. Along these lines, the Howard 500 is clearly a civilian aircraft. (The On Mark Marksman serves as a modified A-26 Invader and thus as a military aircraft.)

Q. There seem to be fewer "foreign military sensitive" nations this year.
A. Yes. Though some special negotiations and a sense of international goodwill, a number of sensitive nations have agreed to allow the RTWR to pass through their territory. This conditions holds for this year, but the future remains uncertain.

Q. The continental landmass is a tricky concept for some cases. Can you clarify Turkey and the Ukraine and Kaliningrad as being either European or Asian?
A. For most cases, Russia's western national border from the Arctic to the Black Sea will serve as the demarcation between Europe and Asia. For Turkey, the Bosphorus Strait is the dividing line. Istanbul (LTBA) is in Europe, Samandira AB (LTBX) is in Asia. The Ukraine, including the Crimean Peninsula, is on the European continental landmass. Similarly, Scandinavia is part of the European landmass. Kaliningrad, the Russian enclave between Poland and Lithuania, is treated as part of Asia. Obviously, these are detailed and somewhat arbitrary interpretations of the RTWR continental landmass requirements and

not proclamations of deep geographic principles. The French DOM (*départements d'outre-mer*) are not part of the European landmass...!

Q. May we use airport scenery addons?
A. You may use only airports that are in the MSFS data base. Your observing this restriction is especially important when you are meeting the routing requirements because some addon packages include many extra airports. (This warning is especially relevant for Russia, China, Australia and New Zealand.) You should check with your teammates to be sure that your critical airports are in the MSFS data base. Typically, packages that realistically enhance existing airports are just fine.

Q. The runways at ENSB and YPCC and Z24D/VH84 are closed for 2013. Is this important?
A. Hmmm. Perhaps.

Q. I still have a few sceneries from previous RTWR races, ones that were released by the Executive Committed for that year's events. My I use those addons (with extra night lighting and parking slots) in this year's race.
A. No. Please take care to disable those no longer valid sceneries.

4. Sponsored Aircraft

Q. The use of jets in 2013 seems to be limited to a set of three-engined civilian aircraft. Is that right?
A. Yes. This is a special feature of the 2013 race which emphasizes the flying of three-engined "trijets".

Q. Which models/simulations of these sponsored commercial transport jets are legal for the 2013 RTWR?
A. Only those models in the Trijet Whitelist (Appendix B) are allowed. The Trijet White List acceptance is governed primarily by these maximum modeled speed parameters (in the aircraft.cfg):

     Mmo. "max_mach=0.91"
     Vne/Vmo. "max_indicated_airspeed=400.000"

Other considerations include the comparison of the simulated Mmo/Vne with the FAA Type Certification numbers, the actual performance of the aircraft, and the competitive balance in the full racing fleet.

If you would like to fly another high quality simulation of one of these aircraft, please let us know well before the event. (You should initially provide the modeled Mmo and Vne. For products of the main highly-respected commercial modelers, these numbers may be sufficient for acceptance. If asked, you will want to provide a great deal of information about the aircraft's performance.) Our expectation is that we shall limit our attention to the very popular and often-used simulations of these standard aircraft. Please do not nominate obscure models. Models that were originally designed as FS98/FS2002 or as "AI" aircraft are not suitable.

Any jets with a Mmo>0.91 or Vne/Vmo>400 will not be accepted. Further, some perfectly good and realistic simulations may not be accepted simply because their performance does not maintain the competitive balance in this year's race fleet.

The Duenna text file records the aircraft's Mmo and Vne. During the race, authentications that show higher values than those marked in the White List will cause the flight to be ruled invalid and require that it must be re-flown. Additionally, the team will incur a major (30) minute punitive penalty. Note that if your aircraft does not have an entry for Mmo and Vne, then it is illegal. Further, take special care that when you install your aircraft, or any paints or conversions, you check that the flight dynamics are not altered.

There exist some "repaints" of our aircraft that will actually change the flight parameters. These are illegal.

We realize that mistakes will happen during the long race. But for these relatively few but critical jet legs, pilots and teams are responsible for strictly following these unambiguous speed-limiting restrictions.

Q. I understand that the sponsored jets are civilian commercial transports and that their military equivalents are not allowed. What about a normal civilian sponsored transport jet painted with a military livery? Say a DC-10 portrayed in the colors of a USAF KC-10?
A. The spirit of the RTWR says "yes" but we shall have to say "no." We are worried that we will confuse the matter if we allow military paints. (It is easy to imagine someone who sees a military aircraft in the race might want to install a similar military aircraft—one which might not rely on the civilian flight model.) It will be safer if we keep things simple: civilian transport jets with civilian liveries in 2013.

5. Normal Legs.

Note the discussion about aircraft identification is placed in the Special Rules and in the General Rules. For the moment, take this dual message as a signal that you want to identify clearly your aircraft.

Q. Why do we have to announce the aircraft type and model and modeler? In years past this has been an unobserved formality.
A. This year we have two special restrictions on aircraft. First, the aircraft must be on the "White List" of eligible aircraft. You must fly an aircraft that is on this list—and announce that you are doing so. Second, we have restrictions on the usage of some very fast aircraft (the thoroughbreds). When you announce your aircraft type and model and modeler, you are also announcing the status of that aircraft as well. Finally, we have a very specific distinction involving different simulations of the DH.103 Hornet—which require knowing the type, model, and modeler. The title of the aircraft, as retrieved by the Duenna, does not identify the actual aircraft. Thus, you are required to announce the type, model, and modeler.

For example, "WombatOne has the baton flying the WBS P-51D," has a different meaning than "Moses03 is flying the A2A P-51H." The latter counts against the thoroughbred leg limit. Obviously, "flying the Mustang" will not do the job. Other examples include: "salt_air has the baton flying the FS2004 default DC-3," or "apollosmith is flying the dcc P-38M," or "buzzbee flying the FlightOne B727-200." Please make the announcement in good faith—typing the extra word or two is not much extra effort. A repeated failure to identify the aircraft will quickly lead to penalties.

Q. What if I forget. Can I add that information later? Is that a documentation penalty?
A. Good form suggests identifying type, model, and modeler on takeoff. If you forget, you may post that information at any time within an hour after you release the baton. (Your teammates may help out by posting the information while you are flying.) If you forget entirely, you are subject to a documentation penalty. If you need constant reminding to identify your aircraft, you may find yourself penalized for an inability to provide timely documentation—all this at the discretion of the Racing Committee. It is your responsibility as race pilot to inform the race monitors about your aircraft. (They do not have the time to conduct an investigation of every leg.)

Q. How good does the aircraft "declaration" need to be?
A. Good enough. From your declaration, an observer must be able to tell immediately that you are flying a legal aircraft. That said, the purpose here is not to create a "gotcha" opportunity. A good faith effort will in most cases suffice as long as you are willing to work with the race monitors to get it right. If you are unwilling to provide the information, then expect a penalty. The purpose is to make everything clear to all concerned.

6. Wildcards.

Q. The wildcards impose weight restrictions on the aircraft used. How does that work?
A. The aircraft must have a takeoff weight of 30,000 pounds. (You can check your takeoff weight in the aircraft/fuel menu in MSFS.) You may not overload the aircraft. If you have any questions, ask.

Q. The wildcard legs this year are restricted by an overall total limit of 5,000nm and a per leg limit of 2,250nm. How are these distances calculated?
A. Distance is officially measured by the MSFS flight planning facility in your simulator. In most cases, any good flight planner will give a good approximation of the distance in your legs. For the total, you merely add up the legs. If a leg is very close to 2,250nm or if the total is very close to 5,000nm, then you must use the official MSFS flight planning facility to do the calculations. (Getting a precise reading can be time consuming.)

Note that the MSFS flight planner will give different distances between airports – distances that vary by the placement of the aircraft at the airport and the current runway. When the differences matter, then follow this procedure. Using the MSFS Flight Planner, plot a flight plan that includes the relevant airports as intermediate points. Then display and/or print the Navlog – which will show the distance between the airports. For example, you want the distance between airports A and B. Generate an MSFS flightplan from X-A-B-Z, where X and Z are the departure and destination airports. The navigation log (Navlog) will give the intermediate waypoint distances, including that between airports A and B.

Q. Wildcard jet legs over 1,500nm require a DC-10, MD-11, or L-1011. Those legs cannot be flown in a B727, HS 121, or Tu-154. Why is that?
A. This feature gives some prominence to the classic "wide body" Trijets. The smaller aircraft will have their role on shorter flights here and in the special continental jet legs.

7. Special Continental Jet Legs.

Q. Why three-engined trijets?
A. This year's race is brought to you by the number "3". (This is just a special "flavor" for the 2013 event.) These trijets have played an important part in history and this year's race acknowledges their contribution.

Q. Does the "continental landmass" requirement mean that I have to fly all the special jet legs on a single continent?
A. No. Each instance of the legs needs to begin and end on the same continent. The first may begin and end in Europe, the second in Asia, and the third in Australia. However, if you wish, you may fly two or three on a single continent.

Q. Is there any strategic advantage of the continental jet legs?
A. They are fast, of course. But in addition to speed, these legs have a special strategic value of allowing longer legs than normal. This feature may be especially helpful in traversing sparsely populated regions where there are only unlighted airports or no airports at all.

Q. Can a special continental jet leg satisfy the "continental requirement" of 1,000nm?
A. No. The continental jet leg must be <u>less</u> than 1,000nm. The continental requirement is to land at airports <u>at least</u> 1,000nm apart. To be precise, these two requirements do not overlap. This distinction is meant to avoid having to worry about a jet leg of, say, 1,000.0nm being used for both requirements. (A

special jet leg of 999.9 is legal, a leg of 1,000.0 is not.) If the distances are close, then think about these distinctions carefully.

8. Formation Flights

Q. Another event? Lots of extra stuff to worry about?
A. These are "normal baton legs" flown more-or-less as any normal leg. The difference is that the lead pilot and the wingman coordinate their takeoffs and landings so that they are in close proximity. If the lead and wing are both ready to go, then the formation flight will take little longer than a normal leg. Not much extra here other than an increased attention to the lead-wingman relationship.

Q. If the lead pilot crashes, can the wingman take the baton and complete the leg? If the wingman crashes, can another pilot become wing?
A. If the lead pilot enacts the Wingman Transfer rule, the Formation Flight is automatically terminated and the leg becomes a normal leg. The normal rules and penalties apply. If the wingman crashes, then again the lead would terminate the Formation Flight and follow the normal leg rules.

Q. What if I do not crash but instead have a computer failure? How about a technical error? What if I forget to start the Duenna?
A. Sorry, a pilot error crash and a computer failure are equivalent here. Equally, a leg that is ruled invalid due to a consequential setup error will also forfeit the FF bonus. The same for a failure to use the Duenna...or a Duenna crash. Both pilots must satisfactorily complete and document their legs to earn a bonus. (If you cannot use the Duenna, do not take on the optional Formation Flight.)

Q. Is there a penalty for failure to complete a Formation Flight?
A. There is no explicit penalty. However, the team will forfeit one of its 6 chances at the Formation Flight bonus of 30 minutes.

Q. This could be awful. If the wingman crashes, then there is an opportunity cost of 30 minutes.
A. Yes, you are correct. The Formation Flight encompasses some risk and should be planned accordingly. However, your team does count only the top five of six attempts...so you can tolerate one bad outcome without it's being a disaster.

Q. Sometimes the weather will make things very difficult. Can the team cancel the Formation Flight and try another time?
A. Once declared, the Formation Flight is active and subject to failure. If things look dicey before the leg, you might choose to postpone the FF opportunity until a later time.

Q. In a Formation Flight, the lead pilot releases the baton only after both pilots have posted their landings. Do both pilots have to post their authentications before the baton is released?
A. No. The authentications and claim of bonus time may follow in the usual timely manner. You are right, however, that the baton may not be advanced until *both* the lead and the wingman have landed and posted that they are down safely. If the baton is passed prematurely, the Formation Flight fails. For this reason, a formation flight might take a few minutes longer than a normal baton leg.

Q. I ain't no math wiz. How do I figger out this high falootin' formula?
A. This is easy. FF Bonus = $30 - |D1 - D2|$ where D1 and D2 are the Duenna-indicated durations of the first and second pilots. You take the absolute value of the difference; you round fractional minutes up to whole minutes. Note that you earn a full maximum bonus when you and your wingman are within a minute of each other. (For example, say you stop 59 seconds before your wingman. Then FF Bonus = 30:00 – 0:59 = 29:01 which rounds up to 30:00.)

Q. Do we use the Duenna "Flight Time" or "Baton Time?"
A. Flight Time.

Q. What if I forget to use the Duenna's "Auto-arm" feature?
A. You will have to certify the takeoff and landing times, and thus the exact duration of the flight. This information lies in the Duenna's logfile. You should declare your mistake and show all the information in your thread. (You will want to show both your logfile and your partner's logfile. You may ask your teammates for help here.) As long as the Duenna record is complete, and there are no irregularities, all should be well. Repeated failure to use the "Auto-arm" feature will attract a skeptical eye and possible committee action, including voiding the bonus.

Q. Can the pilots cheat to create a false impression of equal flight durations?
A. It is possible to compare the flight durations directly by examining the detailed Duenna flight logs. Those logs show the exact time that each flight took off and landed. Any instance of a team's artificially manipulating the results—such as delaying the Duenna "landing" report or "taxiing" to keep the Duenna alive—will forfeit the Formation Flight *and incur a severe deterrence penalty*. Such actions will be considered an intentional violation of the rules and a breach of the mutual trust that makes the race so enjoyable. (The lead pilot may legitimately delay his landing by circling over the destination airfield until his wing arrives. He may not land and keep the Duenna running until the wing has landed in order to claim a simultaneous arrival.)

9. Special Aircraft Legs and Team Flights.

Q. Do teams have to fly every one of these special aircraft legs?
A. No. You must fly one baton leg that satisfies each of the first *two* requirements, *Three Motors* and *Three Tails*. The remaining two special aircraft legs (*Three Wings* and *Three Jets*) are entirely optional. You may turn one or more of these four legs into a team flight, but you are not required to do so.

For example, your team might fly the *Three Motors* on the very first leg Saturday and the *Three Tails* on Sunday night. On each Team Flight the team gets six participating pilots and thus obtains the maximum total of 3 hours bonus (2 legs * 6 pilots * 15 minutes @pilot). You are finished with this feature and can focus on the rest of the race.

Alternatively, you might fly *Three Tails* on Saturday evening with 4 participating pilots and then *Three Motors* on Sunday night with 3 participating pilots. The team now has earned 1:45 bonus time (7*15 minutes). The team might then augment a wildcard on Monday by having 3 participating pilots fly a three-holer along with the baton to complete the *Three Jets* leg. You now have earned 2:30 bonus time. You may or may not then schedule a *Three Wings* flight on Tuesday morning to get the last two participating pilots and max out the 3:00 hours bonus time. It would be more efficient to earn the full bonus time in two or three legs, but your team has four opportunities available if needed. (You may eschew the extra chances if you judge the extra bonus time not worth the effort.)

Q. When and where may the team schedule the Team Flights? Why have restrictions?
A. The team must conduct one of the two required special aircraft legs (*Three Motors* and *Three Tails*) during the first 24 hours of the race and then the other after the first 24 hours have elapsed. Thus, the two required legs that afford a team flight opportunity are spread out over the race. Note that a team may choose to fly one of these, or any team flight, on the very first leg.

The remaining two optional special aircraft legs (*Three Wings* and *Three Jets*), and their accompanying team flights, may be flown at any time. Note, however, that you cannot fly the team flight events consecu-

tively. Again, the idea is that you will spread then over the course of the race. Further, the separation of the team flights permits more accurate race tracking. That said, it might be useful to schedule the events during the busy time when both European and North American pilots are available and eager to fly. It is probably a good idea to find congenial terrain and weather conditions. But there is no restriction here.

Details on the Specific Legs.

Q. The Three Motors and Three Wings team flights require the active disengagement of the autopilot. Why?
A. Note that you must fly without autopilot. (For historic verisimilitude.) This means not only that you may not install or use an autopilot on your aircraft, but also that you must tick the appropriate box in the Duenna that disables the autopilot. Hand-flying is the nature of this event. Note as well that you may use a GPS so that you can find your way. (The GPS was not, of course, available at that time period—for us it serves the place of a good map.)

Q. The Three Motors leg requires a default Ford Tri-Motor. If I am flying FSX, where do I get that?
A. FSX pilots may use Craig Richard's conversion of the default model and textures into the native FSX format: http://www.classicwings.net/freeplanes/Ford_Trimotor/Ford_Trimotor.zip. Some assembly is required, overlaying the default model and textures, but the final result is excellent. FSX pilots may also use David Grindele's FS9 portover. (FS2004 pilots use the default Ford Trimotor as it comes with the program.)

Participating pilots (but not baton pilots) may enjoy the CR-1 Software (payware) Ford Trimotor or one of the three (freeware) Ford Trimotor versions by Austin Davis. For those seeking variety, good options include Jens Kristensen's Fokker VIIb/3m that works in both FS9 and FSX. Junkers Ju-52/3m models include FS9 versions by Pierino Primavesi and Oliver Fischer. (These work ok in FSX.)

A reminder: for this leg, all aircraft must be flown without autopilot – be sure to make the Duenna disable the autopilot. (You may not use the autopilot, even if it is included on your aircraft.)

Q. The Three Tails leg requires the Manfred Jahn L-1049G. How precise do I have to be here?
A. The baton holder (and implicitly the wingman) must fly the specified aircraft (there are many repaints). It is designed for FS2004 but works perfectly well in FSX. You must use the L-1049G and not the L-1049H or a military equivalent.

You can get the great Manfred Jahn Team 1049 Constellation at CalClassic (with download links to FlightSim.com) here: http://www.calclassic.com/sconnie.htm. You will want the base model (click the picture) and the model update, the FDE update, the taxi update, and (when appropriate and optionally, the FSX supercharger update). Your team may have a fully assembled model available.

Note that before flying the Team 1049 planes, you should read the manual. Please pay special attention to the need to fly within the limits of the engines – it is easy to blow them if you practice normal "RTWR style" throttle/prop management techniques. In addition, you will want to be sure that you have fuel feeding into your four engines. (You will probably not need to switch tanks over this length of a flight, but you will need to understand which tanks feed into which engines.) If you are having trouble, please check with a teammate. These little doses of realism are a special feature of the *Three Tails* leg.

FSX pilots will likely want the FSX supercharger update. (On installation, use the fully installed "RTWR" package and then additionally install the fix by employing the simple copy and replace procedure outlined by the author. The manual install has a typo.) If having troubles with the engines at idle, try cracking the throttles to about 15%.

Participating pilots may fly any race-legal Constellation. The set includes other superb aircraft from Team 1049 and associated spinoffs (L-749, L-049). The formerly payware AlphaSim model is now freeware. Just Flight (Aeroplane Heaven) have a nice payware version. There are several other options. (Note that the Mike Stone model, and derivatives, are not race eligible.) For our purposes, the Lockheed L-1649 Starliner is eligible for participating pilots' usage.

Q. The Three Wings flight requires a specific aircraft. Why?
A. The CR-1 Software Fokker Dr.I triplane has an appropriate flight model and works in FS9 and FSX. (The much older simTECH version works in FS2004, but is not as highly recommended.) This aircraft is freeware. See: http://cr1-software.com/addons/fokker-dr1-promo/

Other versions of the Fokker Dr.I are less suitable for particular this leg's purposes – their speeds or availability are problematic.

Q. The Three Jets option does not represent an extra flight, right?
A. Right. You merely take one of your available jet flights – either a wildcard jet leg or special continental jet leg – and augment it with a team flight. The baton pilot does what he would normally do. The only difference is that the participating pilots fly alongside the baton while meeting all the appropriate jet leg requirements. (Note that if the team has already used up its jet legs, this option is no longer available.)

More General Matters concerning Team Flights.

Q. Lots of rules here. What is going on?
A. These are simple affairs in practice. A baton pilot takes a Ford Trimotor and flies 50nm. Other members of the team take aircraft in the same category (maybe a Fokker VIIb/3m or a Junkers Ju-52/3m) and fly alongside. Hence, a Team Flight.

Q. If I am flying the "Special Aircraft Legs and Team Flights" as a Special Aircraft Leg but not a Team Flight, am I limited by the time schedule for Team Flights?
A. No. If you are flying one of these flights as a baton holder but without participating pilots (or scoring your wingman as a participating pilot), you may fly that flight under the normal leg racing rules. If you score any participating pilot bonus, you must observe the Team Flight restrictions.

Q. Bonus time is earned by participating pilots. What about the baton holder? What about the wingman?
A. The baton holder earns no team flight bonus. The wingman may earn a bonus as long as he does not carry the baton during the event. The wingman is always a participating pilot as long as he does not have the baton. (Note that the wingman will want to satisfy the baton pilot's aircraft restrictions just in case he has to take the baton.)

Q. How many pilots should the team organize for each event?
A. Probably more than the minimum number necessary. Six extra pilots earn the event's maximum bonus. But the team may, and probably should, mobilize more pilots in case one or more encounter difficulties.

Q. How many bonus hours can we earn? Do we fly one or two or more team flights? This is confusing.
A. In each event, your team can earn a maximum of 1½ bonus hours. (That is earned by six participating pilots flying authenticated legs.) Your team may earn up to a total of 3 hours for the events that you organize. That is to say, even if you fly four fully subscribed events, your overall maximum remains 3 hours. (Note that in 2013 the magnitude of the bonus has been halved – to reduce the opportunity cost for short-handed teams who are unable to fill all slots.)

You can earn the maximum bonus hours with one event with six extra pilots and a second event with another six extra pilots. (Or any combination over all the team flights that produces twelve extra pilots). The aim is to allow teams to maximize their Team Flight bonus even if they are not able to maximize all team flights. The slack in the system is intentional. The goal of the Team Flight is to have some fun in a sociable setting.

Q. The timing rule says that participating pilots must land and post no more than 30 minutes after the lead pilot. What about authentication? That can sometimes take a long time?
A. As long as you land and make the appropriate arrival post, you are within the 30 minute window. But you must authenticate properly within an hour of your posting. Even if six pilots have already landed, you might want to land, post, and authenticate just in case one of those pilots has a bad Duenna. (Participating pilots may land at any time before the baton—though they may not take off before the lead pilot claims the baton.)

Note that the authentication for each participating pilot's flight need include only the Duenna's textfile. (The textfile is sufficient and takes less bandwidth than the map. Everyone is flying the same route.)

The time window for the Three Jet Team Flight is 60 minutes rather than 30 minutes. This change reflects the greater distances and variability inherent in a jet leg.

Q. The baton holder may release the baton to the next leg's pilot who may take off. My landing as a participating pilot and my authenticating that flight doesn't affect the progress of the baton does it?
A. Right. Your role as participating pilot does not affect the progress of the baton.

Q. What happens if lightning strikes and both lead and wingman crash?
A. No problem. The current baton holder may restart the leg or abort the leg as per the normal rules. If the leg is eventually completed (by someone with the baton – lead or wing) to the same destination in an eligible aircraft, then all the participating pilots' authenticated legs will count toward the bonus. This is true even if those legs were completed before the successful pilot took off. If one of the scoring pilots subsequently carries the baton (in relief of the initial baton pilot), his scoring leg is voided. The team may substitute another valid leg in its place. (Note that the baton carrier aircraft is sometimes more circumscribed than the participating pilots' aircraft.)

Q. So can any participating pilot who completed the flight "carry the baton" retroactively for the team flight if both the lead and wingman crash?
A. No. The participating pilot would have to abandon his successful bonus leg, and restart from the origin airport and complete the leg as baton pilot in an appropriate aircraft.

Q. Why the Team Flight summary? Who posts this and when?
A. The race needs real time scoring: the summary will allow everyone to know each team's standing. The baton pilot (or any substitute) posts the summary indicating the total bonus hours earned during this event—taking care to check the authentications. Then he should provide the total cumulative bonus hours earned in all the Team Flights that have been completed. Finally he should enter the bonus into the official Bonus Bank.

Q. How do we handle the Duenna's inquiry about Baton Holder or Wingman?
A. The Baton Holder (Lead Pilot) and Wingman check the box appropriately. The remaining "participating pilots" do use the Duenna tracking facility but do not check the "Baton holder" box. They should post their authentications on the forum.

10. Special Aircraft Requirements for the 2013 Race.

Q. Why an explicit White List?
A. In response to participants' requests, we are limiting choices so that pilots can concentrate on flying rather than on scouring the libraries seeking an edge from some marginal flight model. The White List includes the race aircraft that have been popular over the years. We add a few more.

Q. Aren't there some aircraft flown in previous years that are not on the list? Are these currently eligible aircraft sure to be eligible in the future?
A. This list applies only to the Special Rules of 2013 and is intended both to simplify pilots' aircraft searches and selections and to create some competitive balance among a larger number of interesting aircraft. About the future, we shall see what happens this year. (This is a "special" rule and not a "permanent" rule.)

Please note that this is an "Interim White List" for 2013. The White List concept will surely be subject for further review in the coming year. In one sense, 2013 is a pause in the hope of our developing a more systematic way to handle aircraft eligibility. There are several difficult issues to be resolved: we in the community all have work to do in the future.

Q. What about port-overs, from FS2004 to FSX? Are they eligible? Under what conditions?
A. Straightforward port-overs from FS2004 to FSX are governed by the same rulings that apply to the original model. For example: porting the FS2004 A2A P-51H is legal, it is implicitly on the "White List," and it is treated as a thoroughbred.

But note well. You may not make "corrections" to the FS9 flight dynamics (in the airfile or the aircraft.cfg) to fit FSX. When you fly a FS2004-native aircraft in FSX you must fly it with exactly the same flight dynamics parameters that were modeled into the original FS2004 simulation. If necessary, read this last sentence again.

Further, you may not fly "port-overs/corrections/updates" by Mark Rooks or Bob Chicilo or any other author who often alters the flight dynamics. (These "port-overs/corrections/updates" have their proper place in our hobby. But they are not suitable for RTWR use.) Any alterations to the flight dynamics parameters will make the aircraft illegal and invalidate any legs completed in the aircraft (and earn a serious penalty if the illegal usage seems intentional).

The only exception, and this is a minor exception, is that you may alter the starter torque (normalized_starter_torque=xx) slightly upward to allow you to start the FS9 engines in FSX and idle friction (idle_rpm_friction_scalar=xx) slightly downward to keep the engines running. But these changes should not affect the performance of the aircraft in any measurable way. (If it does, then the alteration is illegal.)

Q. There are several Hornets on the list. And in different places with different restrictions. What is going on?
A. We are happy to have two quality simulations of the DH.103 Hornet, the older AlphaSim payware Hornet for FS2004 and the newer Rob Richardson freeware Hornet for FSX.

The FS9 AlphaSim/Virtavia DH.103 Hornet is the now familiar aircraft, a favorite during many previous races. The older simulation includes several versions of the Hornet under the same flight dynamics. All visual cues aside, this is a single model for RTWR purposes. It falls under the thoroughbred category.

In 2010, Rob Richardson produced an excellent FSX-native DH.103 Hornet. For our race, it will require special attention—team members should be sure that their teammates are careful about this. First, the

original flight dynamics are not suitable for the RTWR. Happily, colleagues from SOH (Larry, Tom, and Dave—we use the "SOH Group" name designation) produced a flight model that is suitable. To be eligible, the Richardson DH.103 Hornet must use the SOH flight model. Call it the RR-SOH Hornet. http://www.sim-outhouse.com/sohforums/local_links.php?action=jump&catid=4&id=3564

Second, the specific aircraft model matters. There is a distinction between the (RAF) Hornet F.1 and the (FAA) Sea Hornet F.20 and NF.21, on the one hand, and the (RAF) Hornet F.3 on the other. The RAF Hornet F.3 does not have external tanks modeled. Although it is technically possible to do so, *when flying the Rob Richardson Hornet* F.3, *pilots may not use the external tank capacity*. (Note that the Duenna records the fuel on takeoff and landing. Usage of the external tanks for the Hornet F.3 will invalidate any completed leg.) In practical RTWR terms, this means that *pilots should probably choose the F.1 Hornet and not the F.3 Hornet*. (Please check to be sure about not only the type but also the model of Hornet that you are flying.)

We make this extra effort to allow teams to use this splendid freeware FSX-native aircraft that is rather good for RTWR flying. The DH.103 Hornet F.1 is very competitive in the "normal racers" category. It represents a much needed addition to the FSX racing stable.

We ask teams to take special care to comply with these restrictions. In particular, pilots flying a Hornet should take the time to announce that they are flying either the "Alpha Hornet" or the "RR-SOH Hornet F.1" or the "RR-SOH Sea Hornet F.20" or the "RR-SOH Hornet F.3." If there is any ambiguity, we will assume that the pilot is flying the "Alpha Hornet" and count the leg against the "thoroughbred" limit. (Neither the Executive Committee nor the community of fellow competitors have time to investigate every usage of the aircraft. It is the responsibility of the pilot, and team, to make the proper announcement while the pilot holds the baton.) If you have a teammate who is casual about these sorts of things, please work to be sure that he is in compliance with the rules.

Finally, and this is confusing, the Rob Richardson Hornet F.1 has a default paint that depicts the Prototype Sea Hornet F.20. This appropriately uses the F.1 flight dynamics—the prototype did not have the folding wings and de-rated engines of the active duty F.20. You may legally fly this "aircraft" as an F.1 aircraft because it represents nothing more than an alternative texture.

If all this extra effort is not worth your while, please do not fly the Rob Richardson FSX Hornet.

Q. The David Hanvey-Peter Forster Sea Fury (v2.3) is eligible. How do I use the version with external tanks?
A. Pease consult with your veteran teammates. You will need to make two edits to your aircraft.cfg file to enable the external tanks and point to the correct airfile. Normally such edits are prohibited—so please work with your knowledgeable teammates to understand what is legal and what is not.

Note that this aircraft will not port to FSX. (Its model was designed for FS2002. It is legal for race usage, but not a practicable choice for FSX pilots.)

Q. Why the limitation on the fast aircraft, the Thoroughbreds?
A. Again, we wish to constrain but not eliminate the role of these very fast aircraft in the race. (To paraphrase a long-honored member of the community, they have served very well over the years and have by now paid off any investments.) Teams will fly about 35 normal legs in the race, of which nearly a third may be in thoroughbreds. These 10 fast thoroughbred legs constitute valuable strategic resources, to be used to advantage. The remaining 25 or so legs will be flown in normal racing aircraft. (Note well: you have 10 legs total of thoroughbred aircraft—not 10 legs each.)

Veteran racers will appreciate the push toward variety. With 10 thoroughbred legs, including wingmen, we have 20 slots for their usage. So they are not banned. But the active participant will surely want to develop alternative "rides" among the many competitive aircraft in what is now the top tier of "normal racing aircraft." The use of thoroughbreds may be further reduced in future years.

Q. Do all legs flown count for the thoroughbred frequency of use restriction?
A. Yes. For example, if you could use a thoroughbred for a Wild Card, that usage would count against the limit.

Q. The thoroughbred aircraft collection is leg-limited to 10 baton legs. How about an aborted flight, does that count? A wingman flight?
A. The key here is "baton leg" – which is defined by a takeoff, en route flight, and a successful landing while delivering the baton. The wingman flight does not matter here unless the wingman flight is substituted for the original lead pilot's flight and thus becomes an official "baton leg."

Q. What is an aircraft "type"? Are the Spitfire Ia and Spitfire XIV different "aircraft types"?
A. An aircraft "type" is determined by its characteristic airframe and propulsion system. A "model" or a "variant" is a variation of a "type", perhaps with an extended fuselage, different canopy, maybe refined wings, an improved powerplant, and so forth. (The propulsion "system" means one of the following: piston, turboprop, or jet. Changes within a category of piston engines, turboprop engines, or jet engines do not constitute a change in the "propulsion system".)

The Spitfire Ia and XIV are different "models" of the same aircraft "type". The root idea here is to cluster together aircraft whose main airframe remained similar over time even if the design and motor changed considerably. Further, one aircraft adapted for different roles counts as one "type." The Beechcraft/Raytheon King Air C90, B200, B300 and B350 are of the same type. Ditto for the Douglas A-26 and B-26K and Marksman; the Hawker Typhoon and Tempest; and the Focke-Wulf Fw-190A-2, Fw-190D-9 and Ta-152H. Of the same family but of a different "types" would be the Grumman F4F, F6F and F8F; or the de Havilland Mosquito and Hornet; or the Cessna 421 and 441 (different propulsion). As a rule of thumb, if it seems plausible that two aircraft are actually of the same type, then they are likely to be judged so. If you are in doubt, ask. At the end of the day, the Executive Committee will make the final judgment.

The word "type" is used variously in aviation. For our rules, we use "type" to mean a broad category that allows us to measure aircraft diversity.

A special exception that reflects the special speed restrictions: the thoroughbreds are of a different "type" than their cousins that would otherwise be of the same type. Think P-82B, P-51H and P-47M.

Q. The FSX Acceleration P-51 Racer is eligible this year. Are other "racers" also eligible?
A. The FSX P-51 Racer is a special exception that incorporates a unique form of variety into this year's race. The normal rules apply otherwise: no other special racers are allowed. (On race-eligible aircraft, racing "liveries" or "repaints" are fine as long as the flight dynamics are race-eligible.)

Q. Are all repaints of eligible normal aircraft automatically legal?
A. As far as we can tell, yes. Sometimes a repainter will provide a visual impression of a slightly different model. This is not a problem as long as the flight dynamics are correct. The aforementioned DH.103 Hornet has repaints of the prototypes, of which no 10 were in regular service. Flying those "paints" is fine because they merely decorate the legal model. Similarly, John Terrell has a nice "Gulfhawk" repaint of the Alpha Bleu Ciel Bearcat. It is fine, despite the fact that the "Gulfhawk" Bearcat was technically a different aircraft of which 10 were not in service. CR-1 use repaints to depict slightly different Do-335 mod-

els. They are legal. Our intent of allowing repaints is that you can enjoy your favorite visual representation while flying your perfectly legal race eligible aircraft. Please do not take advantage of this ruling by sneaking in a different flight model under the claim of flying a mere repaint.

The only exception is that for the sponsored civilian transport jets you are limited to civilian liveries. (No military liveries for the civilian jets. This is just a matter of race rules' practicalities.)

Q. The White List indicates that otherwise-eligible realistically modeled aircraft with a maximum speed of less than 350kts are legal. Is that at level flight?
A. Yes. The speed limit here is 350kts true airspeed (350 KTAS) measured while in level flight at critical altitude (under MSFS "Clear Weather" which approximates ISA). For turboprops, for which there is no critical altitude, the relevant altitude is that which maximizes true airspeed. This provision means to allow usage of a large number of slower aircraft (including four-engined transports) that have their place in the race but are not competitive as "racers".

11. New Pilots.

Q. If I'm a new pilot and take the baton, what happens if I crash or my computer dies?
A. You simply execute a "wingman transfer" to move the baton to your wingman. Normally, this move would cost the team 30 minutes. But, as a new pilot, you get a "mulligan" so that the transfer is free. (You can do this only once.) Simply declare "rookie mulligan" and all will be well.

Q. Who is a new pilot?
A. If this is your first year in the RTWR, you are a new pilot. If you have flown before but are returning after an absence (3 years), then you qualify as a "new" pilot.

Q. What is the intent here? Can this feature be used strategically by the teams?
A. The goal here is to give new pilots a little margin of error during their first year. The RTWR can be a demanding event. Any pilot, event grizzled old veterans, will be nervous on taking the baton. We hope to make the first year pilots' experience a little less worrisome. (Teams will likely pair a rookie pilot with a veteran wingman.)

We expect that teams will keep this goal in mind when they give new pilots an opportunity to fly for the first time. Attempts to take advantage of this provision would not be in the spirit of the race.

12. Weather.

Q. Do we have to use MSFS default weather? I love my Active Sky/REX weather program.
A. Yes. In 2013 we standardize on a single weather engine. We shall all use the default Jeppesen-supplied weather. Each of the different weather programs has many splendid features. But for racing purposes, it is important that all participants compete in identically sourced weather conditions. This is a matter of competitive balance. (You may use your Active Sky/REX cloud and sky textures.)

Veterans will understand that the fact that everyone uses the same weather engine does not guarantee identical weather. However, it is import for the competition that pilots and teams give up the ability to choose their weather by choosing their weather engine.

Q. What happens if the MSFS weather engine breaks down?
A. Two things can happen. First, you may have a temporary glitch in your own internet connection. Sometimes this can trigger an error message that MSFS cannot generate the weather. You should simply

finish your leg while handling the annoying error messages. (You might want to cut the leg short or abort if you find the problem bothersome.)

Alternatively, the entire system may fail: Jeppesen has occasionally gone down. Check with your team-mates to see if they are all experiencing a failure. Look for an immediate reaction from the Executive Committee. In all likelihood, the entire race will be asked to switch to one of the default weather schemes: Fair Weather. (Not Clear Weather.) When Jeppesen comes back up, teams will quickly switch back to the standard race settings: Real-world weather (updated every 15 minutes).

13. Bonus Bank

Q. Who does the accounting work here? The pilot will be busy after landing and my forget to make all the entries.
A. The book keeping is the team's responsibility. Teams may assign duties among their members to make sure everything is in good order. For example, teams may want to appoint a "Bonus Banker" to take responsibility here. Or they may form a "Banking Committee." The intent is for everyone to keep current public records so that everyone else knows where we all stand. You can see why this is so important.

Q. What information do I have to enter into the Bonus Bank?
A. Provide the team name, the nature of the bonus/penalty, the minutes earned or penalized, and the details. For the Kickoff details, you enter the number of sorties completed. For a bonus airport, provide the ICAO of that airport. For a team flight, provide the name of the team flight ("Three Motors" or "Three Wings"), the location, and the number of successful participating pilots. For a Formation Flight, provide the destination airfield and the bonus score.

Q. What happens if we make an honest mistake in our accounting? After all, we are dumb pilots.
A. There is no penalty. If you make a good faith effort in posting, then you may make corrections without a problem. It is vital that you keep your accounts current – hence the one hour rule on posting time. (If you miss the timing once, you can appeal to the Committee and expect leniency. If you miss your posting time more often, you might expect to pay a price.) Normally, once a record has stood for 24 hours it will not be subject to revisions for any reason. (That is, we do not anticipate reexamining the books from previous days. We do not want to change the race standings upon discovering an ancient accounting error.)

Q. How do we make corrections if we enter the wrong numbers?
A. You go into your team page and hit the "X" marker. That action will cause the entry to turn "purple" to mark a change. While the original entry will remain visible, the bonus/penalty numbers will be eliminated from the accounting. You may then make the correct entry and all will be good.

This system allows everyone to see the error and correction. The transparency reduces the chances of really fouling things up.

Q. After we earn Bonus Hours, how do we apply those hours against a penalty?
A. You withdraw "hours" from the Bank, drawing down your account, and pay off your penalty. For example, a team completes a Team Flight for a bonus of 3 hours and immediately updates their Bonus Bank to show that they have gained 3 hours and that their net balance is now 3 hours. On a subsequent leg, they have to invoke the Wingman Transfer Rule at the cost of a 30 minute penalty. At their option, the team may post to their Bonus Bank account that they are withdrawing 30 minutes from their account to pay for the penalty, now leaving a balance of 2 hours 30 minutes. The accounting being posted, the team may take off on the next leg without physically waiting out the penalty period.

Q. How do we transfer our bonus hours to erase a penalty?

A. You make sure that the "bonus bank" check box is marked when you enter the penalty. This is the default. If you have a penalty and actually sit it out (not likely), then be sure to uncheck that box.

Q. Are we required to pay off penalties with the Bonus Bank? How about partial payments?
A. No requirement here. The team may choose to sit on the ground and serve the penalty without tapping their Bonus Bank account. Understand that the team may not make "partial payments." In using this rule, the team must pay the full amount of the penalty. The team may borrow against the future: the Bonus Bank allows a negative balance.

Q. Does this Bank work for all of the "time" penalties?
A. Yes. The same procedure applies to all instances of a penalty or a maintenance delay. The most common case would be the triple time penalty for exceeding the two hour time limit. Alternatively, the Executive Committee may have to impose a minor penalty for minor rules violations. In these cases, the team may use their Bonus Bank balance to pay off their debt and move along right away.

Q. The Bonus Bank is open to all. Why don't I just enter a bunch of withdrawals in the other teams' accounts? No one will ever know that I am responsible.
A. Are you angling for a career in finance? While nothing is proof against a determined effort, please note that we now have a password protection system to remind you of your better self. :-)

15. Communications.

Q. Why have a separate NOTAMS Forum and a NOTAMS section on the website?
A. The NOTAMS Forum is intended for a quick notification. The Duty Officer or Race Master or Appeals Board member can immediately post decisions and warnings and so forth. It may take a few hours for the quick notifications to get put into clear formal language and then posted on the NOTAMS page on the website. This system mixes the need for speedy notification with the need to get the language and format right in the more permanent record.

Q. The Duty Officer forum is the main way to contact the Duty Officer. That means that anything that I say will become visible to all. How can I complain about the other teams if they know what I am saying?
A. You obviously want to be thoughtful about how your words will be perceived. "Say, Team xx's leg seems a bit fast. I don't understand," is much better than, "That Team xx is full of cheaters. Look at what they're trying to get away with." We are all grownups here. Just be careful to reread what you write to be sure that everyone will understand the intent behind your words.

Q. I want to communicate privately with the Duty Officer. What can I do?
A. Most routine matters can be handled by the Duty Office in open public discourse. That is the right way to conduct professional discussions. If you have something that is very sensitive, then you want to ask the Duty Officer to escalate. He may ask that you establish an "off site" email contact, or he may choose to raise the issue with the Race Master who will contact you directly. (This may not happen right away. But if it is a truly sensitive matter, then we don't want to act hastily in any case.) As a last resort, you can contact the Executive Committee via rtwrace@gmail.com but you will understand that that email will not be under constant monitoring.