.8.8This is the first SAM World Championship competition rules-book created by harmonizing the rules of the USA and Europe. The goal was that no one would have to build new models for this event. There are minor differences in flight rules that everyone should be aware of.

May, 2023

Preamble

The competition flying of free flight and RC model aircraft of vintage design is intended to be casual, enjoyable and interesting for both competitor and spectator alike. It is neither desired to advance the state-of-the-art of aeromodeling, per se, other than to increase participation in the sport generally, nor to reprove that which is already recorded in aeromodeling history books.

The intent of these rules is to categorize the basic types of vintage models and establish an equitable and simple framework of regulations for competition purposes.

Therefore, model designs that revolutionized flight competition and necessitated the formation of two basic classifications, "Antique" and "Old Timer" are expected to compete in the Old Timer Events.

A.General Contest Requirements

In order to demonstrate fidelity to an original design, entrants may be required to provide SAM approved plans and/or photos of their models. The contest officials may measure and weigh models at any time in order to assure compliance with specifications.

Model construction must preserve the character of the original, i.e., built-up without substitution of sheet materials for framework All events except Electro Rubber and Classic Texaco permit scaling. Airfoil profiles must the original ones. Outlines, areas, moments, wheel diameter, and landing gear leg length must keep the same rate of scaling. In order to cope with rough take off areas, wheel diameter can be increased. Landing gear location may not be changed, as well as number of ribs that must be kept as in original drawings. Dual wheel landing gear may be substituted for original one¬wheel designs but not vice versa. If a retractable landing gear was present in original model, it should be really working. A landing gear painted or faux in retracted position will not be accepted. (Model should be able to ROG). It can be replaced with a fixed one wheel or two wheels cart, always in the same position as original. Minor modification to the thrust line, upright instead of inverted engines, strengthening of structures, and provision for control surfaces are acceptable. Unless otherwise stated, propellers must be two bladed, non¬folding, and non-metal. The model's design year and name or the designer's name must appear on its surface.

Use of modern materials such as carbon, glass or kevlar fibers, etc. in the construction of the structure of the models or as a reinforcement is banned. Only materials accepted are those related to the original model era. Only exceptions are covering materials and in the making of motor cowlings.

Use of any electronics in models besides those used for rudder, elevator, throttle control and an altimeter for ALOT class models are banned. (e.g. gyroscopy, telemetry, autopilot and variometer are banned). Any kind of back communication from models excepted those present as a default serial feature in almost any 2,4GHz radio systems are banned. Data feedback from models regarding on board batteries voltage level is allowed.

Any contestant found using electronic devices or back communication data not specifically allowed in previous paragraph will be disqualified.

All events permit the contestant a maximum of two entries, provided they represent different designs. However, only one model from each contestant may earn a prize or receive points if an overall championship is to be awarded. Points for an overall championship will be three for each first place finish, two for each second place, and one point for each third. All models entered should be reported in the final results regardless of flights or placements.

Prior to model flying the contest director will hold a pilot's briefing each morning in English and the local language or languages. He will name the events to be contested, the time periods each day during which official flights may be launched, and a tentative flyoff schedule in case of ties. He will define the take off and landing areas. He will explain the RC channel control procedure, the safety rules, and any additional considerations for retrieving flyaway models from adjacent fields. The CD may also answer questions during these briefings.

The contest field will be provided with a smooth take off area suitable for the ROG of larger models and

a generous landing area appropriate to the site. All model landings outside the designated area are to be scored zero. All engine or motor overruns are to be scored zero. Ground poles with mylar tape are acceptable but no thermal detecting devices of any type may be used in any model. Violation will result in disqualification of the contestant. To avoid flying over spectators, car parking, tents, and caravan areas, a safety line will be established. Officials will enforce this safety line by issuing a warning for the first infraction and scoring the flight zero for a second infraction.

B. Standard Contest Procedures

The contestant is responsible for adherence to all contest procedures. He must know and comply with all rules for models in those events in which he competes. He must sign a statement to this effect on his official application form. His crew will be limited to one helper who may have the use of binoculars. Only for OTVR class crew of two helpers is allowed.

All competitors must use 2.4 GHZ radio transmitter. The CD, in consultation with the competitor, will decide on the use of these frequencies if there are eventual matches.

Glider flight times start upon release from the towline and end when the model first touches the ground, or an object on the ground that stops its flight.

A contestant may launch an official flight in a scheduled event at any time during the daily contest flying period provided a) he has in his sole service another contestant and/or official as timekeeper, b) the timekeeper has a digital stopwatch and the contestant's flight card, and c) all previous flights on the card have been posted officially. The timing of a powered model's flight starts upon release from the hand and continues throughout its flight until it first touches the ground, an object on the ground that stops its flight. Timers will determine the end of engine or motor run by the transmitter throttle stick in the OFF position.

Fractions of seconds are omitted in recording all model flight times.

Officials are required to adhere to these procedures, rules, and requirements, as approved. In exceptional situations however, the CD may reduce motor run times, max flight times, and/or number of flights taken in an event in order to assure that reasonable opportunities to fly exist when inclement weather, winds exceeding nine meters/second (20 mph), fading daylight, limited visibility, and other special circumstances arise.

C. Special Contest Procedures

In order to enforce and assure compliance with rules the CD may, at any time and without notice, assign officials to monitor engine run times, model flight times, and adherence to model weights, motor specifications, and fuel allotments. The official will verify all recorded information with his signature on the contestant's official flight card.

At international competition protests must be written in English and accompanied by 50 EUR cash deposit. Deposit is to be returned if protest is accepted or retained by organizers if protest is rejected. The protest must specify the particular procedure or rule to be considered by the jury (SAM Euro

Committee). The jury and the Contest Director will hear arguments from plaintiff and defendant before reaching a decision.

D. Special Flyoff Procedures

Tied scores in an event will be resolved by a flyoff unless all contestants with the same final scores agree unanimously to another method such as tossing coins or drawing lots. The tentative times for possible flyoffs will be announced at each morning's pilot briefing. At the discretion of the CD, flyoffs may be scheduled in the afternoon following regular contest flying or in the next morning before the regular events begin.

The actual start of a flyoff must be announced to the contestants at least one-half hour prior to launch and again at one quarter hour prior to launch in order to discover any channel conflicts. Unresolved conflicts in one flyoff will require two or more heats with order determined by the tossing of coins or drawing of lots.

Each contestant will have two timekeepers assigned to him, one of which is designated the primary timekeeper who should speak the contestant's language and count down the engine or motor cutoff. The second timer will act as back up and confirmation for the first. Both will time the engine run and total flight time.

Contestants in the first heat will be allowed five minutes to ready and launch their models. Contestants in a second or third heat of the flyoff may launch as soon as the conflicted channel pin has been given to them for their use.

In order to break the initial tied scores in an event, the flights of models in flyoffs will be of unlimited duration. All other rules specific to the event will apply.

1st SAM World Championship Rules 2024

1. Class A OTMR – Old Timer Gas LER

Engine displacement is 0.84-3.28 cm^3 (0.051-0.20 $inch^3$)
Entries may be any gas-powered model airplane designed prior to 1951. Models must weigh a minimum of 10 ounces per square foot of planform wing area (30.5 gr. per sq.dm.) All engines produced prior to 1957 or 1960 if plain bearing, are accepted. Engines with Schnuerle porting, PDP porting or ABC or AAC piston/liners are prohibited. Engines with supercharging, turbocharging, tuned resonance pipes, or power pipes are prohibited. SAM approved repro engines are accepted as original engines.

Spark ignition engines using cam operated points, spark plugs, batteries, coils, and transistors are accepted. Conversion of glow engines in spark ignition is not allowed. Spark ignition engine run time is 35 seconds.

The engine run time for diesels produced prior to 1950 is 35 seconds. The engine run time for diesels produced after 1949 is 23 seconds.

Glow engine powered models must have a minimum of. 14.5 dm^2 (225 sq.in) wing area per 1.64 cm^3 (0.1 $inch^3$) of engine displacement (8.85 dm^2 /cm^3.) Glow engine run time is 23 seconds.

OTMR A models can be ROG or hand launched at pilot's discretion. Models score will be the sum of the three best flights of four 7 minutes max flights.

The contest director has the right to combine categories A and B in case of a small number of applicants. In this case, the maximum flight time is 8 minutes uniformly.

2. Class B OTMR - Old Timer Gas LER

Engine displacement is 0.84-4.92 cm^3 (0.051-0.300 $inch^3$)
Entries may be any gas-powered model airplane designed prior to 1951. Models must weigh a minimum of 10 ounces per square foot of planform wing area (30.5 gr. per sq.dm.). All engines produced prior to 1957 or 1960 if plain bearing, are accepted. Engines with Schnuerle porting, PDP porting or ABC or AAC piston/liners are prohibited. Engines with supercharging, turbocharging, tuned resonance pipes, or power pipes are prohibited. SAM approved repro engines are accepted as original engines.

Spark ignition engines using cam operated points, spark plugs, batteries, coils, and transistors are accepted. Conversion of glow engines in spark ignition is not allowed. Spark ignition engine run time is
35 seconds.

The engine run time for diesels produced prior to 1950 is 35 seconds. The engine run time for diesels produced after 1949 is 23 seconds.

Glow engine powered models must have a minimum of 14.6 dm^2 (225 $inch^2$) wing area per 1.64 cm^3 (0.1 $inch^3$) of engine displacement (8.85 dm^2/cm^3.) Glow engine run time is 23 seconds.

OTMR B models must be ROG. (Motors are 0.84-4.92 cm^3 (0.051-0.30 $inch^3$) can be ROG or hand launched at pilot's discretion.) Model's score will be the sum of the three best flights of four 8 minutes max flights.

The contest director has the right to combine categories A and B in case of a small number of applicants. In this case, the maximum flight time is 8 minutes uniformly.

3. Class C OTMR – Old Timer Gas LER

Engine displacement is 0.84-10.65 cm^3 (0.051-0.650 $inch^3$)
Entries may be any gas-powered model airplane designed prior to 1951. Models must weigh a minimum of 30.5 gram/dm^2 (10 oz/$foot^2$). All engines produced prior to 1957 or 1960 if plain bearing, are accepted. Engines with Schnuerle porting, PDP porting or ABC or AAC
piston/liners are prohibited. Engines with supercharging, turbocharging, tuned resonance pipes, or power pipes are prohibited. SAM approved repro engines are accepted as original engines.

Spark ignition engines using cam operated points, spark plugs, batteries, coils, and transistors are accepted. The displacement of engines produced prior to 1950 is 5.0 cm^3 to 20 cm^3 (0.301 to 1.20 $inch^3$). Displacement for spark ignition engines produced after 1949 is 5.0 to 10.65 cm^3 (0.301 to 0.650 $inch^3$). Conversion of glow engines in spark ignition is not allowed. Spark ignition engine run time is 35 seconds.

The displacement for diesel engines is 5.0 cm^3 to 10.65 cm^3 (0.051 $inch^3$ to 0.650 $inch^3$) The engine run time for diesels produced prior to 1950 is 35 seconds. The engine run time for diesels produced after 1949 is 23 seconds.

Glow engine powered models must have a minimum of 14.5 dm^2 (225 $inch^{2)}$ wing area per 1.64 cm^3 (0.1 $inch^3$) of engine displacement (8.85 dm^2/cm^3) The displacement for glow engines is 5.0 to 10.65 cm^3 (0.301 to 0.650 $inch^3$) Glow engine run time is 23 seconds.

Max flight time scored is 9 minutes. Class C OTMR models must ROG. Model's score will be the sum of the three best flights of four flights.

4. NMR 2.5 – Nostalgia Gas LER

Entries may be any gas-powered model airplane designed prior to 1957. Models must weigh a minimum of 2835 grams (100 ounces) per $inch^3$ (16.39 cm^3) of engine displacement (173 gram/cm^3) Any spark ignition, cross scavenged glow or diesel engine up to 2.49 cm^3 (0.152 $inch^3$) displacement produced prior to 1961 is acceptable. Pressurized fuel systems are acceptable. Engines with Schnuerle porting, PDP porting or ABC or AAC piston/liners are prohibited. Tuned resonance pipes, or power pipes are prohibited. The engine run time for all NMR models is 18 seconds.

NMR 2,5 models can be ROG or hand launched at pilot's discretion. NMR 2,5 models Model's score will be the sum of the three best flights of four 6 minutes max flights.

5. NMR – Nostalgia Gas LER

Entries may be any gas-powered model airplane designed prior to 1957. Models must weigh a minimum of 2835 grams (100 ounces) per $inch^3$ (16.39 cm^3) of engine displacement (173 gram/cm^3). Any cross scavenged glow or diesel engine from 2.50 to 10.65 cm^3 (0.153 $inch^3$ to 0.650 $inch^3$) displacement or any spark ignition engine from 2.50 cm^3 to 20 cm^3 (0.153 $inch^3$ up to 1.20 $inch^3$) produced prior to 1961 is acceptable.
Pressurized fuel systems are acceptable. Engines with Schnuerle porting, PDP porting or ABC or AAC piston/liners are prohibited. Tuned resonance pipes, or power pipes are prohibited. The engine run time for all NMR models is 18 seconds.

NMR models must be ROG. Model's score will be the sum of the three best flights of four 6 minutes max flights.

6. Old Timer Endurance

Entries may be any gas-powered model airplane designed prior to 1951. Models must weigh a minimum of 30.5 gram/dm^2 (10 oz/foot^2) of plan wing area. Any engine, original or repro, may be used. Any spark, glow, or diesel engine up to 10.65 cm^3 (0.65 inch^3) displacement or any pre¬1950 spark ignition engine up 20 cm^3 (1.20 inch^3) is acceptable. Throttles are acceptable. RC engine cut¬off is required for safety. No conversions of glow engines to spark ignition are permitted. Conversion of glow engines to diesel engines is allowed.

The fuel allocation for Texaco models will be 1 cm^3 per 400 grams (14,1 ozs Advp) of model weight. Model weights are rounded to the nearest 400 gram multiple.

Weight (gram)	**Fuel (cm^3)**	**Weight (gram)**	**Fuel (cm^3)**
0¬600	*1*	*2601¬3000*	*7*
601¬1000	*2*	*3001¬3400*	*8*
1001¬1400	*3*	*3401¬3800*	*9*
1401¬1800	*4*	*3801¬4200*	*10*
1801¬2200	*5*	*4201¬4600*	*11*
2201¬2600	*6*	*4601¬5000*	*12*

Texaco fuel tanks must be no greater than the maximum capacity allowed according to the model weight chart above and must be in a position as to be easily verified. An official will weigh the model, measure and record the tank capacity on the flight card and sign his approval. The engine may be run before launching and the tank may be topped off with engine running.

Texaco models must ROG except models with engines up to and including displacement of 2.5 cm^3 that may be hand launched. The model's score will be the two best flight of three 20 minutes max flights.

7. 1/2A Texaco

Entries may be any gas-powered model airplane designed prior to 1951. Model must weigh a minimum of 24.4 gram/dm^2 (8 oz/foot^2) of planform wing area.

Engine must be a Cox reed valve engine of 0.80 cm^3 (0.049 inch^3) displacement with integral 5.1 cm^3 (0.31 inch^3) cc capacity fuel tank. Propeller may be any non¬folding prop of 203 mm (8 inches) diameter or less.

Any fuel without gasoline (petrol/benzene) is acceptable. Tanks may be topped off with engine running.

1/2A Texaco models may be hand launched or ROG at pilot's discretion. The model's score will be the sum of the three best flights of four 15 minutes max flights.

8. Old Timer 400 – 1/2A Electric Limited Motor Run

Entries may be any gas-powered model airplane designed prior to 1951. The minimum wing loading will be 24.4 gram/dm^2 (8 oz/foot^2). Regardless of size, the absolute minimum weight for all models will be 454 grams (16 ozs. Advp.)

Propulsion must be whatever 400 class permanent ferrite magnet 6v motor (27.6mm diameter, 38mm long with a 2.3 mm shaft without ball bearings) with direct drive to a non¬metal propeller. Folding propellers are acceptable.

The battery pack may be six NiMH cells or two Lithium chemistry cells of any capacity with manufacturer's label clearly visible. Any BEC¬ESC power control system is acceptable.

The model may be hand launched or ROG at pilot's discretion. The motor may be run only during the first 60 seconds of flight. The model's score will be the sum of the best three of four 10 minutes max flights.

9. ELOT – Electric Old Timer Limited Motor Run

Entries may be any gas-powered model airplane designed prior to 1951. Motor type, propeller, drive, and power control systems are unrestricted.
Battery may be a 7 cell NiMH or a 2 cell LiIon/LiPo pack of any capacity with producer's label clearly visible.

Model must weigh a minimum of 24.4 gram/dm^2 (8 oz/foot^2) of planform wing area. Motor may be run only during the first 35 seconds of the flight.

Model must be ROG. Model's score will be the sum of the three best flights of four 10 minutes max flights.

10. OTVR Old Timer Gliders

Entries may be any model airplane glider designed prior to 1951. Wingspan must not exceed 3.5 meters (138 inches).

The launching towline must not exceed 100 meters in length or 20 meters of elastic rubber and 80 meters of normal line. The extended towline must not exceed 170 meters.

Servo controlled towing hooks are not permissible
Model's score will be the sum of the three best flights of six 5 minutes max flights.

11. ALOT Altitude Limited Old Timer

Entries may be any gas-powered model airplane designed prior to 1951.

Motor type may be any spark, glow, or diesel up to 10.65 cm^3 (0.65 inch^3) engine or any type electric motor. Propeller, drive and power control are unrestricted. The battery pack type, cell number and capacity are also unrestricted.

Model must weight a minimum of 24.4 gram/dm^2 (8 oz/foot^2) of planform wing area.

Every model should be installed with such a multi-purpose altimeter (from now on called "Instrument") which must be suitable for stopping the engine/electric motor after 90 seconds or at 300m height, whichever of two comes first.

Engine/electric motor restart must not be possible.

Instrument should have an accuracy of less than 1meter in height and less than 1 sec. in time. Instrument must

work automatically after model's take off, no type of information is allowed from
model to pilot or helper. Presence of this type of communication will mean disqualification of contestant.

Instrument should be installed in a position inside the model in a manner that it can be easily controlled after landing by a contest officer.

Flight timing starts at release of the model, and finishes when it touches ground or a fixed object that stops its flight for the first time.

Model must be ROG.

Model's score will be the sum of best three of four 10minutes flights (Flight time includes 90sec. motor run). The motor running time is checked by the helper or the timekeeper.

12. Electro Rubber

Entries may be any rubber powered model designed prior to 1951. Model must be in it's original size (not scale down/up admitted). The minimum wing loading will be 20 gram/dm^2 (0.649 oz/$foot^2$) of planform wing area.

Propulsion must be: a) AEO C-20 KV1550 brushless motor with direct drive. Propeller is 8" maximum diameter. b) Graupner Speed 300 permanent ferrite magnet motor with max. 1:5 reduction gearbox using a 10" (254mm) maximum diameter propeller.

Battery pack may be six NiMh cells or two Lithium chemistry cells of any capacity with manufacturer's label clearly visible. Only factory-made propellers are allowed, they can be of the folding type.

Any BEC-ESC power control system is acceptable.

Model can be ROG or hand launched at pilot's discretion.

Motor can be run only during the first 40 seconds of flight. The motor running time is checked by the helper or the timekeeper.

The model's score will be the sum of the best three of four 7 minutes maximum flights.

13. Electric Glider

Entries may be any model airplane glider designed prior to 1951. Wingspan must not exceed 3.5 meters (138 inches). Any motor, a folding or fix propeller, a regulator, batteries and an altimeter can be installed in or outside the model. Their type is freely selectable.

Make sure that the installation is the least likely to change the character of the model. The engine can be placed anywhere, and it is permissible for the spinner nose to be outside of the original fuselage length.

The altimeter must disconnect the engine at 100 meters. The engine running time is maximum 30 seconds, which counts for the maximum flight time, which is 5 minutes and 30 seconds.

The running time is checked by the helper or the timekeeper. The engine must be switched off when the time elapses (30 seconds) even if the model has not reached 100 meters.

The model can be hand launched.

Model's score will be the sum of the three best flights of four. Maximum flight time is 5 minutes and 30 seconds (motor run included).

14. Classic Texaco

The Classic Texaco event is designed to encourage the building and flying of the giant models entered in the historic endurance events sponsored by the Texas Oil Company in the mid-1930s.

a) Classic Texaco models shall be models designed prior to 1939 in their original size.

b) There is NO weight requirement, maximum or minimum.

c) Engines must be spark ignition, gasoline fuel only, produced prior to 1943 with RC cutoff for safety.

d) Fuel allocation shall be 4 cc per nearest pound of model weight with no limit.

e) The takeoff shall be ROG (rise off ground). Landing shall be in designated area.

f) The longest of three unlimited flights is scored.

Model mass Pound	Pound		Gramm		**Fuel cm^3**
	Min	Max	Min	Max	
1	0.51	1.5	231	680	**4**
2	1.51	2.5	685	1134	**8**
3	2.51	3.5	1139	1588	**12**
4	3.51	4.5	1592	2041	**16**
5	4.51	5.5	2046	2495	**20**
6	5.51	6.5	2499	2948	**24**
7	6.51	7.5	2953	3402	**28**
8	7.51	8.5	3407	3856	**32**
9	8.51	9.5	3860	4309	**36**
10	9.51	10.5	4314	4763	**40**
11	10.50	10.9	4764	4949	**44**
11<	10.91	22.0	4950	9999	**48**

The engine may be run before launching and the tank may be topped off with engine running. Classic Texaco models must ROG. The model's score is the longest of three unlimited flights.

EURO SAM Committee Rules
(Only for information)

1. SAM Europe committee's president is elected by a simple vote within the members of the SAM Europe Committee. Its mandate has a maximum duration of 8 years in total (2 mandates of 4 years each in total, not necessary in a continuative mode.
2. President shall choose his cooperators and Technical Committee among the SAM members
3. In case President shouldn't be able to attend to meetings, members of the SAM Committee will take his functions.
4. Vote of President will be decisive in case of a tie.
5. All decisions and changes of rules are to be made by a simple vote of all members of SAM Committee, and the secretary must make a written report with results of the votes. President cannot personally change results of voting.
6. Time for presentation of modifications must be respected and President must prescribe a fixed time for each intervention before each voting.
7. Only countries from European Continent may vote, and each country should have one vote. If there is more than one chapter in a country, only one of them may vote for that country.
8. Possible changes in rules will be discussed/modified every 4 years, exception given to those changes that are relevant to safety or to comply with requirements from European Union and they should apply immediately.
9. Translators can attend meetings but will have no vote.

The present draft of the regulation was prepared by Edward B. Hamler and László Török.