CIAM F3 PYLON RACING Technical meeting minutes 2024

e-Meeting on Thursday 14th March 2024 (19:00 CET)

Minute notes

- The F3 pylon Subcommittee and voting members of the F3 Pylon technical meeting have evaluated the proposals and voted accordingly. This vote will be used as advice for the plenary meeting on 13th April 2024.
- All proposals were voted on and carried either by unanimous consensus or in two cases 13:1 in favour. Comments made by the SC members on the proposals may be used for future proposals.
- There were minor amendments to the proposals, these were inline with the Technical committee guidelines from CIAM, these changes are noted in the following document..

In all cases in the following presentation, additions are shown in **bold underlined** text, deletions are shown as ~~strike through~~ words or sentence, Technical committee meeting additions are shown in bold **green**.

Meeting attendees

#	Last Name	First Name	NAC	Function
1	Dallmann	Mick	Australia	Observer
2	Lentjes	Bram	Belgium	S/C Member
3	ANDRASSY	Roy	Canada	S/C Member
4	Bartovský	Tomáš	Czech Republic	Delegate
5	CINIBURK	Tomas	Czech Republic	S/C Member
6	Garth	Carsten	Germany	Observer
7	UHLIG	PETER	Germany	Delegate
8	Papadopoulos	Antonis	Greece	CIAM Bureau
9	LANZONI	LUIGI	Italy	Alt. Delegate
10	Keim	Peter	Netherlands	Delegate
11	VAN DEN BOSCH	Robbert	Netherlands	WC Coordinator
12	VAN EMPEL	Tjarko	Netherlands	S/C Member
13	ERIKSSON	Thomas	Sweden	S/C Member
14	JONES	Geb	United Kingdom	S/C Member
15	Lever	Barrie	United Kingdom	S/C Chairman
16	ALLEN	Jim	USA	S/C Member

14.4 Section 4 Volume F3 – Pylon

Carried 13:1 in favour with no ammendments

F3E F3 Pylon Subcommittee

5.3.2. Technical Specifications of Pylon Racing Aeroplanes

Rule Change proposal:

5.3.2.3. Each competitor may process and use a maximum of three models in a contest. The competitor may combine the parts of the model aircraft during the contest, provided the resulting model aircraft conforms to the rules and that the parts have been checked before the start of the contest. There is no limit to the number of used motors, **propellers,** batteries **and RC equipment.**

Reason: Propeller adjustment are an essential part of F3E racing, to adapt the plane to the environmental condition. Propellers can get damaged during landing and must be replaced for safety in that case.

Repair of failing RC equipment has so far been allowed during competitions, it is good to confirm this in the regulations

SC Chairman comment – Within CIAM everything and anything is permitted unless it is prohibited by rules in either the technical section or the general rules, therefore this rule proposal serves no purpose.

14.4 Section 4 Volume F3 – Pylon

Carried 13:1 in favour with no ammendments

F3E F3 Pylon Subcommittee

5.3.2. Technical Specifications of Pylon Racing Aeroplanes

Rule change proposal

5.3.2.5. Weight of model
Rule Change proposal:
5.3.2.5. Weight of model
Minimum weight ready to fly: 1,000 g
Maximum surface loading 65 g/dm2
In case of the use of stickers the maximum weight and **surface loading** of the models ~~including stickers will be increased by 6 grams~~. **will be calculated after**

subtracting the weight of the stickers. In case the sticker are applied asymmetric, the competitor may use counterweights to correct the model center of gravity

and these counterweights will also be subtracted from the total weight.
Reason: Organiser supplied ID stickers maybe required in some events, these have a discernible weight impact on the F3E model. This rule takes account of this and allows for transverse balance to be maintained.

14.4 Section 4 Volume F3 – Pylon

Unanimous with ammendment as shown by strike through, or new text in bold green.

F3E **F3 Pylon Subcommittee**

5.3.2.7. Augmented stability systems and similar.
Rule Change proposal:
The radio equipment shall be of the open loop type (i.e. no automated electronic feedback to the control surfaces either internally or from the model aircraft to the ground). Systems or components which can move control surfaces of the aircraft or which can move masses in the aircraft based on input other than pilot input from their transmitter are not allowed to be installed in the aircraft. Permitted:
1. Control rate devices that are manually switched by the pilot.
2. Any type of transmitter button or lever, switch, or dial control that is initiated or activated and terminated by the competitor.
3. Manually operated switches or programmable options to couple and mix control functions.
4. Devices for position tracking solely for the purpose of an automated tracking and scoring system for the competition event.
5. Sound or vibration alarms ~~or signals~~ generated by an external device, operated and held by the caller. The volume of the device sound should not exceed normal caller voice.
6. Sound or vibration alarms and signals generated by the transmitter, audible or feel able by the pilot, not controlling the model directly. The volume of the device sound should not exceed normal caller voice.
7. Motor RPM control at the start of the motor, programmed in ~~Tx~~ the transmitter or ESC.
Reason: These rule amendments clarify current practise.

14.4 Section 4 Volume F3 – Pylon

Unanimous

F3E **F3 Pylon Subcommittee**

5.3.5.1. General
Rule Change Proposal:

a) Limitation of energy will be by an electronic limiter that stops the **energy supply to** the motor: max 1000 Wattmin.

Reason: A wind milling motor is allowed under limiter activation according to EDIC regulations.

14.4 Section 4 Volume F3 – Pylon

Unanimous

F3E **F3 Pylon Subcommittee**

5.3.5.3. Use of limiters in competition

Rule Change proposal:

The organiser can use two systems of use of limiters. Only one of these two systems can be used in one contest. The organiser must decide which of these systems he will use and indicate this clearly in the invitation:

1: Every competitor uses his own limiter

2: The organiser provides for every competitor two (2) limiters, these will be drawn by competitors ~~either~~ every day ~~or before every round.~~

Reason: There is not enough time to change a limiter every round, they can be built into the model in a place not so easy to reach and reconnect.

14.4 Section 4 Volume F3 – Pylon

Unanimous

F3E **F3 Pylon Subcommittee**

5.3.11 Race from Start to Finish
Rule Change proposal:
j) An early start **up to 2 seconds** (the model passing the start line before the starting signal) or a start in a wrong direction will be penalized as an infringement. **At a start more than 2 seconds early, the team will be disqualified from that heat and rule g) is not valid.**
Reason: With current rules it is advantageous to start 9 seconds early and have the 10% infringement.

14.4 Section 4 Volume F3 – Pylon

Unanimous

F3T **F3 Pylon Subcommittee**

5.5.18 Race from Start to Finish

Rule Change proposal:

~~v) In case not all competitors use 2.4 GHz radio systems: For FM/AM radio systems each transmitting frequency appears in only one column. When making the draw, there must be appropriate FM/AM radio frequency separation. (20 kHz, see 1 A.5T.3)~~

Reason: This rule is redundant due to the exclusive use of spread spectrum RC systems

14.4 Section 4 Volume F3 – Pylon

Unanimous

F3T **F3 Pylon Subcommittee**

A.5R.15 Transmitter Impound Supervisor

Rule Change proposal:

~~A.5R.15 Transmitter Impound Supervisor (1) a) This person should be provided with a large rack or folding table, protected from the sun and rain, on which to collect and safeguard the contestants' transmitters. b) Transmitters should only be handed back to those pilots who are on their way to the Ready Area. When returned to the Impound after each heat, the transmitters should be checked to ensure that they are switched off. c) The Transmitter Impound supervisor shall operate a spectrum analyser or other adequate radio monitoring equipment for the purpose of detecting radio interference. d) He must be equipped with a walkie-talkie or headset to enable him to communicate with the Starter and the Pit Boss… e) In the case of detection of potential interference he shall immediately notify (by walkietalkie or head set) both the Pit Boss and the Starter.~~

~~f) The Transmitter Impound Supervisor may also be one of the people who helped with registration, inspection, or setting up the matrix.~~

Reason: This rule is redundant due to the exclusive use of spread spectrum RC systems

14.4 Section 4 Volume F3 – Pylon

Unanimous with additional ammendment in bold green. (this rule proposal straddles page 12 and 13)

F3T **F3 Pylon Subcommittee**

5.5 Class F3T – RC Semi-scale pylon racing with controlled technology aeroplanes.

Rule Change proposal:

Intention: This class is defined for semi scale pylon racing at a controlled level of technology in aircraft aerodynamic design, aircraft construction, propeller and power plant, with maximum safety. **Using where applicable, approved commercially available equipment.**

Rules strategy: The technical rules have the intention that speeds will not increase substantially over the years in order to maintain safety and controllability of model pylon racing aircraft. This is achieved by a limitation to approved models of a semi scale type, approved and unmodified engines plus exhaust systems. ~~**and approved , propeller dimensions and materials.**~~

Commercial availability: An approved power unit or component/part is considered commercially available if the conditions below are meet (components go to make up an assembly such as a power unit, parts are single items, for example a propeller is a part).

a. An identical power unit or component/part can be obtained within 45 days by any consumer at a price that is independent of who the consumer is. The source or supplier of power units or component/parts must be in the public domain i.e. has some some kind of visibility in printed media that is publicly sold, has a website presence or is on open social media sources, and can accept payments from and ship to International customers.

b. If a power unit or component/part was once legal it is always legal, with two exceptions.

1.) The first exception is if this power unit or component/part is specifically made illegal by another rule.

2.) Commercial availability compliance issues will be brought to the attention of the F3 Pylon Approvals Chairman, at which time the Chairman will setup an investigation as to the availability. This process will be completed within 30 days of being raised to the F3 Pylon Approvals Chairman.

Cont.

14.4 Section 4 Volume F3 – Pylon

F3T **F3 Pylon Subcommittee**

Cont.

<u>If commercial availability is not proven then the F3 Pylon sub committee will refer the case to the CIAM Bureau for judgement on legality of the power unit or component/part.</u>

The class is controlled by a special CIAM F3T Approvals Committee (F3T ApsCom) with a minimum of 5 experts from different countries, nominated by their NACs, which will advise on:

- Approval of F3T models
- Approval of F3T engines
- ~~Approval of F3T propellers~~

~~The names of the members of the F3T ApsCom will be published on the F3 Pylon Racing page of the CIAM web site.~~

The F3T ApsCom works under the responsibility of the CIAM F3 Pylon Racing Subcommittee.

Approved models, **<u>and</u>** ~~engines and propellers~~ **<u>power units</u>** will be published on the F3 Pylon Racing page of the CIAM web site.

The F3T rules and Annexes are similar to the F3D rules and Annexes (FAI Sporting Code section 4 – Aeromodelling Volume F3 Radio Controlled Pylon Racing) except for the technical specification of the models

Reason: In the F3T Pylon class there is a requirement for commercial availability of power units and components/parts. Currently there is no definition of what is commercially available, this rule defines commercial availability and sets out a procedure for compliance with the rule. In other rule changes the approval process for propellers is removed, therefore we remove mention of propeller approval. The names of the F3T approval committee for models and engines has never been published to prevent commercial lobbying by designers and manufacturers to obtain favourable decisions, therefore the removal of the 'The names of the members' requirement aligns with current practise.

14.4 Section 4 Volume F3 – Pylon

Unanimous with additional ammendment in bold green. (this rule proposal straddles page 14 and 15)

F3T **F3 Pylon Subcommittee**

5.5.6 Engine

Rule Change proposal:

The engine must be of the single cylinder reciprocating piston type, with a maximum total swept volume of 6.60 cm3 . Propellers must rotate at the speed of the crankshaft. The engine shall have only one front air intake and one side exhaust.

Only engines approved by the F3T ApsCom are allowed. See Annex 5X for engine approval procedures and criteria.

Engine air intake shall be circular with a maximum diameter of 9 mm.

No modifications to the following parts of the engine are allowed other than as specified in A.5X.3.

- crankshaft
- crankcase
- cylinder,
- piston, conrod, piston pin
- cylinder head,
- technology of the bearings. (Only standard size, single row, full steel ball bearings allowed for the crankshaft and only plain bearings allowed in the con rod).
- crankcase back plate. It is not allowed to have a system on board of the aircraft to supply power to the glow-plug of the engine. All electrical connections to the engine's glow plug from a power supply must be removed prior to takeoff.

cont.

14.4 Section 4 Volume F3 – Pylon

F3T **F3 Pylon Subcommittee**

Cont.

Changing combinations of cylinder jacking shims and head shims is permitted.

External maintainence repairs to an engines crankcase and exhaust are permitted so long as these repairs do not alter the design or enhance the engines performance.

Reason: It is accepted that changes to the cylinder and head shim setups are part of the event but this was not specifically mentioned in the rules. Engines get damaged in crashes and through extended use, so external repairs are permitted so long as they offer no performance increase to the engine.

14.4 Section 4 Volume F3 – Pylon

Unanimous

F3T **F3 Pylon Subcommittee**

5.5.9 Propellers and spinners

Rule Change proposal:

5.5.9.1 ~~Propellers must be two-bladed with fixed blades.~~

~~The blades must be of equal length, area, and shape.~~

~~Composite resin continuous fibre construction propellers and metal propellers are not allowed.~~

~~Material:~~

~~Either wood or a chopped carbon fibre filled injection-moulded compound. The material of injection moulded propellers needs approval of the F3T ApsCom, Wood propellers may be modified from a commercial product or may be home made. A wood propeller shall be made from a single piece of wood and may be finished with a clear coating for the purposes of waterproofing or balancing only.~~

~~Dimensions:~~

~~Wooden propellers: no limits.~~

~~Injection moulded propellers: only commercially available stock carbon filled injection moulded propellers are permitted. The propeller shall have a minimum diameter of 7.4" (188 mm).~~

~~Only propellers approved by the F3T ApsCom may be used. A propeller once approved shall be eligible for competition so long as it remains commercially available.~~

Changes to the propeller blades are not permitted, except for:

a. One blade may be sanded on the top (front) side only for balancing.
b. One side of the hub may be sanded for balancing.
c. The shaft hole may be enlarged, but only as much as necessary to fit the engine crankshaft. The enlarged hole shall be concentric with the original hole.
d. Edges and tips may be sanded, but only as much as necessary to remove sharp moulding flash.

Reason: The APC propellers mentioned in the rule change are the defacto standard for the F3T class, however the old rule did allow wooden propellers and for other propellers to be approved.

The wood propellers might have created a combination of engine and prop that was disruptive to the stability of the class.

There is no need to approve propellers now, should the APC company cease production of these propellers (very unlikely) then the rule can be revised in another rule cycle.

14.4 Section 4 Volume F3 – Pylon

Unanimous

F3T **F3 Pylon Subcommittee**

Cont. ~~When the production of an approved propeller type is terminated, this will be marked on the web site by adding the date of production termination. Such propeller type can be used for two more years after this date. Only propellers that carry the manufacturer's type and dimension are permitted. The recommended rpm limit for this type as given by the manufacturer must not be exceeded during flights. See Annex 5X for propeller approval procedures and criteria. Note: The approval of a propeller refers only to the manufacturer and type.~~

The only permitted propellers are the following commercially available products.

APC 7.4x7.5C part no. LP07475C

APC 7.4x7.6C part no. LP07476C

APC 7.4x7.7C part no. LP07477C

Under no circumstances can ~~the F3T ApsCom~~ **CIAM** be held responsible for the safety of an individual propeller. In all cases, it is the competitor's responsibility to ensure that any propeller he uses is safe. Damaged propellers must not be used.

Changes to the propeller blades are not permitted, except for:

a. One blade may be sanded on the top (front) side only for balancing.

b. One side of the hub may be sanded for balancing.

c. The shaft hole may be enlarged, but only as much as necessary to fit the engine crankshaft. The enlarged hole shall be concentric with the original hole.

d. Edges and tips may be sanded, but only as much as necessary to remove sharp moulding flash.

Reason: The APC propellers mentioned in the rule change are the defacto standard for the F3T class, however the old rule did allow wooden propellers and for other propellers to be approved.

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Unanmous

F3T **F3 Pylon Subcommittee**

I) Entire Volume **F3 Pylon Subcommittee**

The F3 Pylon rules volume will be consolidated to remove 'copy and paste' common references in the rules for all four classes, to just call up the common rules at the start of the volume.

“The rules will remain the same and only the changes approved by the 2024 CIAM Plenary meeting will be applied. The new volume will be ready by January 1st, 2025. For this, we are asking the Plenary to authorize the F3 Pylon Racing S/C Chairman to work together with the CIAM Technical Secretary to carry out this task.”

End