

***MODEL AERONAUTICAL ASSOCIATION
of AUSTRALIA Inc.***

C.L.A.S.

Control line Combat Rules

2008 Albury National Championships

This document has been compiled to outline the rules to be utilised in the control line combat events.

The rules have been compiled from
The MAAA C/L rules book,
CLAS Rules,
VMAA Rules.

The rules are consistent with the rules published by the organisations with one exception, that being;

Handle tethers shall be used in all combat events. Contestants not using a handle tether will be disqualified from the competition.

Note: Suitable cord will be available at the event to allow contestants to fit tethers before the event if required.

We wish all contestants good luck in there chosen event and hope they enjoy this years Nationals.

Regards
Peter Norrie
Combat Coordinator.

C/L VINTAGE COMBAT

1.1 The Model

(a) A Vintage combat model must be built in accordance with a design, which was in common use prior to and up to 31st December 1970 or was kitted prior to that date.

(b) Models must be an accurate plan view of the original.

(1) Models must not exceed original overall dimensions or be more than 6mm smaller on any dimension.

(2) Elevators must be dimensionally accurate within ± 2 mm.

(3) The CD may decide not to accept a model, which in their opinion has been altered in outline so as to change the appearance or performance of the model as originally designed.

Examples:

- Elevator shape, size or hinge moment being altered. (Violates rule 1.1 (b)(2) and/or 1.1(b)(1))
- External bellcranks, which are shown internal on the original plan and visa-versa.
- The onus of proof in any such case must always lie with the competitor.

(c) The model shall be covered in a material that was available at the time that the model was in use.

Examples:

- Tissue
- Glass cloth
- Nylon fabric
- Silk fabric
- Terylene netting
- Combination of any of the above

(d) The name (and mark no.) plus the year of the model must be clearly visible on the upper flying surfaces.

(e) The following alterations from the original plan are permitted:

(1) Sheeted areas may be added to or omitted. Examples:

• Leading Edge, Trailing Edge or Centre Sheeting as shown on the plan may be deleted.

(2) Changes to wing section, internal structure or degree of asymmetry of wing.

Examples:

• Whilst retaining the original wing planform the engine pod and elevator may be moved inboard or outboard to give a different degree of asymmetry to the wing.

• Internal structure may be lightened or strengthened limited by 1.1 (e)(6)

• Wing thickness may be increased or decreased.

(3) Additional booms or replacement of wire booms with wooden ones and vice versa and

spacing of booms (noting that the original elevator size and hinge moment must be maintained).

(4) Recessing the engine into the leading edge.

(5) A balanced elevator may be changed to a conventional elevator and vice versa.

The

elevator must retain the original outline.

(6) Model alterations must be carried out using constructional techniques and materials

that were used by aeromodellers at the time the model was in use except as noted below. Examples:

- The use of Carbon, Kevlar or Boron fibre is not permitted.
- Modern adhesives are permitted.
- Styrofoam or other expanded foam may be used only where shown on the original plan. (eg Styrobat, Aeromodeller January 1967) It is acceptable to substitute wood where foam is called out on the original plan, but not to use foam on models where this is not called out on the original plan.

(7) Fins and fences may be omitted or altered.

(8) Where the original model had an upright engine this may be converted to “sidewinder”.

(9) Heat shrink covering material may be used in lieu of the materials noted in 1.1(c).

1.2 Engine

(a) Eligible Engines

(1) Any plain bearing crankshaft diesel or glow engine of 2.5 cc maximum

d i s p l a c e m e n t may be used.

(2) The following ballrace crankshaft engines of pre 31st Dec 1970 construction (Any mark or model unless otherwise noted) may be used:

- A.M. 25
- A.M. 35
- C.S. Oliver Mk3 replica
- D.C. Rapier
- E.D. Racer
- Elfin 249
- Enya 15DorG
- ETA 15
- Frog 249
- Oliver Tiger Mks 2,3,

- OS15D or G
- PAW 249, 249 TBR CT 1&2
- PAW 19D, 19DCT
- MVVS 2.5/1958 TRS&D7 Rivers Silver Streak
- Russian Oliver Mk3 Replica
- Super Tiger G20/1 5D or G & G1 5
- Taipan 2.5cc
- Taifun Orkan
- Webra Mach 1 & 2

(3) Additional engines may be eligible. If requested by the CD, the competitor must provide documented proof of age, or in the case of a replica/reproduction engine documentary evidence that it is an accurate representation of the original engine.

(b) Fuel tanks must be constructed of metal.

(c) The propeller shall be any commercially available thermoplastic propeller.

1.3 Lines

(a) Control line length must be 15.92 meters (+/- 0.04 meters). It is measured from the inboard face of the control handle to the longitudinal centre line of the model.

(b) The longitudinal centre line shall be defined as the axis of the propeller.

(c) Two multi-strand control lines of a minimum diameter of 0.34 mm must be used. No free ends capable of entangling opponent's lines. No line splices are permitted. A safety strap connecting the competitor's wrist to the control handle must be provided by the competitor and worn at all times while his model aircraft is flying. This strap will be subject to the full pull test separately to the line pull test.

(d) Line changes during the combat period shall be permitted.

(e) Before each heat any sets of lines which may be used, must be checked for length and diameter. A pull test shall be applied to the assembled handle(s), control lines and model aircraft for all equipment to be used in that heat and again if the lines are changed during that heat. The pull test shall be equal to 10 kgf (22.5lbs.).

1.4 Combat Site

(a) A combat site must consist of two concentric circles, which shall be marked on the ground.

(1) The flight circle: radius 20 metres

(2) The centre (piloting) circle: radius 2 metres.

(3) The flight circle must be laid out on grass. The centre (piloting) circle may be laid out on grass or any other material having a maximum radius of 4 metres.

1.5 Streamers

(a) The streamer shall consist of double weight crepe paper (80 g/m²) or any replacement of equivalent strength, not less than 2,25 m or more than 3 m long and 3 +/-0,5 cm wide, fixed to a sisal string of 2,5 m minimum length. All streamers must be of the same length. There shall be a clearly visible ink mark 2,5 m from the junction of the string and streamer. The streamer shall be attached to the model aircraft in such a way that the ink mark is level with, or behind, the rearmost portion of the model aircraft (see sketch). The attachment part of the string shall have a minimum length of 0,75 metre.

(b) The attachment end of the streamer shall be reinforced on either side by tape approximately

2 cm wide affixed diagonally to the length of the streamer with one at right angles to the other and extending for a maximum of 5 cm. An additional fibre/fabric reinforced tape 2 cm wide is affixed across the streamer (see detail below).

(c) The streamer must be attached within 55mm of the longitudinal centre line of the model.

(d) The colour of the streamer must be different for the two competitors in the heat. Each pilot/mechanic(s) shall be issued with a streamer at the start of the heat by the judge assigned to that competitor. A second streamer will be available from this judge when needed.

1.6 Number of Models

(a) A contestant will be allowed to use one model per bout

(b) A contestant will be allowed to use three models for the contest.

1.7 Competitor

(a) Mechanics: The pilot may employ a maximum of two mechanics in any one heat. (In exceptional circumstances of wet or extremely windy weather, an additional helper may be used as a streamer holder and must perform no other function for the duration of that combat period).

(b) During active combat periods, the pilot and his mechanic(s) (including streamer holder if used) must wear protective headgear fitted with an effective retaining strap.

1.8 Officials

- (a) A Centre Marshal, who shall be the overall timekeeper, and one scorer per contestant, shall normally run a contest.
- (b) The Centre Marshall must wear protective headgear during the active combat period.
- (c) The Centre Marshall will be considered to be part of the course and any model or line contact with him will be treated as if it had contacted the ground. It is the fliers responsibility to avoid the Marshall, not the marshals to avoid the models or lines.

1.9 Method of Starting

- (a) All signals shall be both acoustic and visual.
- (b) During the starting period the launching positions must be separated by at least a quarter of a lap. The first named competitor in the draw shall have the choice of streamer colour and the other the choice of starting position
- (c) The motor(s) must be started by flicking the propeller by hand.
- (d) A first signal, given by the Circle Marshal, shall signify the beginning of the 60 seconds period when the mechanic(s) or the pilot have the opportunity to start, run and adjust their motors.
- (e) A second signal, given by the Official Timer, shall signify the beginning of the combat period on or after which the model aircraft may be launched.
- (f) From the moment the Official Timer has given the signal to launch the combat heat lasts for four minutes.
- (g) When the Circle Marshal is satisfied that each model aircraft has completed two level laps, anticlockwise, separated by approximately half a lap, he will give a signal that combat may commence.
- (h) Combat may begin after a restart signal from the Circle Marshal following an interruption when one or both model aircraft have been grounded. This signal shall be given as soon as the Circle Marshal is satisfied that there is approximately half a lap separation between the two model aircraft.

1.10 Termination of the Contest

- (a) The Circle Marshal shall give an acoustic signal to terminate the combat heat four minutes after the signal to launch.
- (b) The same acoustic signal shall be given if the heat has to be terminated due to disqualification of one or both competitors or for any other reason.
- (c) The Circle Marshal shall signal both pilots to fly level and anti-clockwise and to cease combat when both streamer strings have been cut. If one pilot has only the string remaining he may request the circle marshal instruct both pilots to fly level and anti-clockwise and to cease combat. This decision may not be reversed, once made.

1.11 Scoring

- (a) Scoring shall commence from the signal to launch and continue for the four minute period.
- (b) 60 points shall be awarded for each distinct cut off the opponent's crepe paper streamer. There is a cut each time the model aircraft, propeller or lines fly through the opponent's streamer resulting in paper particle(s) becoming detached from the streamer.
- (c) A cut must contain at least one part of the paper streamer. A cut that contains string alone will not count.
- (d) One point shall be awarded for each whole second that a model aircraft is airborne during the four minute period.
- (e) Should the mechanic(s) damage the streamer, or the model aircraft cut its own streamer, whilst the model aircraft is on the ground the mechanic(s) must replace it with a new streamer. If they launch the model aircraft without so replacing it, the competitor shall be penalised by 60 points. Airtime will not be counted while the model aircraft is airborne with the damaged streamer.
- (f) In the event of a mid air collision, if the streamer falls to earth attached to any part of the model or engine it will not be counted as a cut, if however the streamer falls separate to any part of the model a cut will be scored.
- (g) Each warnable offence (see 1.14(b).) shall be penalised by the deduction of 30 points from the competitor's score.

1.12 Attempts

- (a) Only one attempt will normally be allowed to complete a combat heat except for when:
 - (1) A streamer breaks or fails to unfurl from the rolled state.
 - (2) In the event of a model aircraft fly-away, as a result of the lines having been severed by his opponent's model aircraft, lines or engine, in which the model aircraft and streamer may not be retrievable due to the distance flown, the circle marshal asks the affected pilot whether he wants a new attempt or not. The affected pilot must respond immediately, without consulting others about the status of the heat. If the pilot wants to continue the flight he must use a new full-length streamer. The pilots should be informed before the beginning of the competition where the fly-away area is defined. This area should be clearly defined by the organisers.
 - (3) In the event of a line tangle resulting in the control line(s) breaking and only one model aircraft being grounded, making it impossible to clear the line tangle.
 - (4) If, as a result of a line tangle, an opponent's model aircraft cuts its own streamer in flight or the streamer, unless only string remains, becomes wrapped around the model aircraft and/or the lines, the heat shall be re-flown.

1.13 Conduct

- (a) A pilot must remain inside the centre circle while his model is flying except at the moment of release of his model by the mechanic.
- (b) After a mid air collision the heat shall continue as if both models had landed.
- (c) If the pilot(s) accidentally leave the centre circle during a combat bout, the Centre Marshall must blow his whistle to stop combat although the bout timer will continue to run. He will then direct the flyer(s) back to the centre. The combat will be restarted as at the start of the bout. If the Centre Marshall declares that no-one flyer was responsible he need not penalise either. Any cuts taken during the period will not be counted, and attacking during the pause may lead to disqualification.
- (d) If the control lines are changed during the bout, repeat the pull-test per 1.3(e). Failure to do so will result in disqualification.

1.14 Offences

- (a) If during the servicing of a grounded model the mechanics break or cut the streamer it must be replaced with a new full length streamer prior to launch. If during servicing the streamer should become entangled and subsequently fail to unfurl the pilot must immediately land to have the streamer untangled or replaced. No additional penalties other than loss of airtime will be incurred per 1.11(e).
- (b) The following offences will be a warning and each and every occurrence will result in a 30 point deduction.
 - (1) If a pilot unintentionally leaves the centre circle while his model is airborne.
 - (2) During the bout the mechanics enter the flying circle at an oblique angle or cut across the flying circle to reach a downed model. One penalty only will be incurred for each offence even if more than one mechanic is involved.
 - (3) If the mechanic(s)/pilot do not immediately, or after a line disentanglement withdraw a grounded model to outside the 20 metre circle prior to servicing it.
 - (4) If prior to the launching signal, the model is launched.
 - (5) If the streamer becomes detached from the model during combat but not as a result of a mid air collision. (See also 1.11(f))
 - (6) If the pilot leaves the centre circle without informing his opponent and the Centre Marshall.

1.15 Cancellation of the Flight (Disqualification)

- (a) An entrant will be eliminated from the heat and his opponent declared the winner if:
- (1) He deliberately attacks the streamer of his opponent's model prior to the Circle Marshall's signal to commence.
 - (2) His model fails to become airborne within two minutes of the signal to launch.
 - (3) He attempts to fly a model, which at the time of launch, does not have a strong effective control mechanism, or does not have a secure engine attachment, or does not have a running engine.
 - (4) He interferes with his opponent, or forces his opponent to leave the centre circle.
 - (5) He deliberately flies in a dangerous manner.
 - (6) He attacks his opponent's streamer without his own, or the remaining parts, attached to his model.
 - (7) He is not present at his allotted flight time, unless he has the express permission of the Circle Marshall.
 - (8) He leaves the centre circle intentionally whilst his model is flying, or without informing his opponent of his intention to do so when his model is grounded.
 - (9) He flies in such a manner as to inhibit his opponent, or his opponents mechanics, from clearing any line entangle
 - (10) He flies other than in an anticlockwise direction when only his model is in the air and there is no line entangle.
 - (11) At the start of each bout and after a restart when one or both models have been grounded, both models MUST fly level and anticlockwise and combat MUST NOT commence until a signal is given by the Circle Marshall. Attacking the opponent's streamer before this signal will result in disqualification.
 - (12) For any other flagrant breach of the rules.
 - (13) He releases the handle, or removes the safety strap, for any reason, while the model is flying.
 - (14) He deliberately attacks or interferes with his opponent's continuously level flying model which clearly has no paper streamer left. He may, however, follow closely.
 - (15) The mechanics jump over the opponents model and lines kept within the pitting area.
 - (16) He fails to clear any line tangle prior to relaunching his model.
 - (17) He flies level (upright or inverted) at a height of less than 6 feet for more than two consecutive laps whilst the bout is under-way unless instructed to by the Circle Marshall. The Circle Marshall will warn a flier that he is approaching this limit.
 - (18) The Circle Marshall believes that he has behaved in an un-gentlemanly manner.

1.16 Contest Procedure

- (a) Contestants will normally compete with each other in a knockout competition chosen by random draw. The losers of each of the first round flight will be allowed to compete in a further losers re-fly round.
- (b) The winners from this round will be drawn with the winners from the first round to provide a second round of contests.
- (c) The rounds will continue until eight contestants are left so that quarter, semi and final rounds provide an over all winner.
- (d) When there is a uneven number of competitors. The bye in the first round is moved to the losers round with an extra life. (Each competitor should have two bouts)
- (e) Competitors must enter the circle within 5 minutes of being called by the Centre Marshall.
- (f) If a competitor is unable to enter the circle for any reason to compete against their drawn competitor, their competitor will be awarded the win.

1.17 Approved Models

- (a) The following model designs have been verified as acceptable for vintage combat. No documentary evidence is required, although the CD may request the competitor provide copies of the plans, to verify the model has been constructed per the requirements of 1.1.
- (b) Additional models may be acceptable, provided documentary evidence is provided to the CD proving the model complies with 1.1(a). It would be prudent to verify model acceptability with the CD prior to commencing model construction.

Model Designer Model Designer

Anduril Mick Thompson Piranna Mk 2 Frank Smart
Apache Proton O.F.W.Fisher
Assagai Alan Thompson Razor Blade Pete Tribe
Banshee Mike Davis Razor Blade 64 Pete Tribe
Barbarian John Dixon Rhino Mk 5 John Dixon
Billy Bones Dave Packwood Rogue A.M. Staff
Boogy-man Terry Lee Satana
Bumble Bug Vernon Hunt Schuco-Hegi 160 (D)
Buzzard Neil Blackburn Scorcher (UK)
Chaos Peter Freebrey Sennapod
Clever George Copeman September Warrior B. Bumstead
Cobra 2 Don Halls (AUS) Shrike (UK)
Combat King Contest Kits Splinter Bill Netzeband(USA)
Cutlass A.M. Staff Squig J. Benoy
Dominator Mike Davis Streamer Eater A. Ytreoy
Dongus Johnson/Pinckert(US) Styrobat Peter Short
Dragoon Ho Fang Chuin (PRC) Super Chopper R. Gordon
Duellist A. Tristany (ESP) Super Twister John Chamberlain
Early Bird Richard Wilkins Sword J. Templeman

Falco Talon Dave Platt
Flingel Bunt Stoo Holland Terminator Stoo Holland
Gladiator G.F The Proposition
Ironmonger Richard Evans Titan Mk 1 John Shaw
Jaguar Mick Chesterton Titan Mk 5 John Shaw
Junior Monitor Henry Nicholls Toreador Henry Nicholls
Junior Satan Carl Goldberg (USA) Turncoat Moggs Morris
Kanible John Dixon Twister Mk 1 John Chamberlain
Kanible GT John Dixon Twister Mk 10 John Chamberlain
Karnivore Dave Gibbard Twister Mk 4 John Chamberlain
Ker-Mando K. Jaques Twister Mk 9 John Chamberlain
King Twister Mick Chesterton U.F.O. Dave Budd
Kombat Kapers R. Gibbard Unlimited R. Smith
Komm-Batt Warlock Steve French
Liquidator Frank Dowling Warlord Heanor MAC
Lynx O.F.W.Fisher Warlord Mick Chilton
Mini Voodoo Riley Wooton (USA) Warlord Vernon Hunt
Mister Pogle Terry Mortimer Warmonger Mk 1 John Dixon
Oliver Twist MK6 Martin Cowley Warmonger Mk 2 John Dixon
Oliver Twist MK7 Martin Cowley Warmonger Mk 3 John Dixon
Olympic Rocket C Bergmaschi (I) Warrior Frank Smart
Pallisandra Wildcat (USA)
Panic Peter Freebrey Yeti John Dixon
Peacemaker George Aldridge (USA) Zack-Zack Klaus Seegers (D)
Pedro J Whalley Zig-Zag Brian Mills
Piraja Zot Box M Red Pin
Piranna Mk 1 Frank Smart Zot Box N Red Pin

1/2 A Combat

4.1. General

FAI (F2D) combat rules apply unless specifically changed by these rules.

4.2. Combat Site

A combat site must consist of 2 concentric circles which shall be marked out on grass.

4.2.1. The flight circle: Radius 18 metres

4.2.2. The centre circle: Radius 3 metres

4.3. Characteristics of a 1/2 A Combat model

4.3.1. Maximum Engine capacity: 1.76 cc

4.3.2. Model design is unrestricted

4.3.3. Fuel system shall be suction feed or muffler pressure only. No crankcase bladders or pacifiers are permitted.

4.3.4. Fuel for Glow and Diesel engines is unrestricted

4.3.5. Any venturi diameter can be used

4.3.6. Mufflers are optional

4.4. Control Systems

4.4.1. Line Length: The length of the control lines must be $12.8 \pm 0.04\text{m}$ The length is measured from the face of the grip on the control handle to the centre line of the model.

4.4.2. Control lines: two multi-strand control line wires of a minimum diameter of 0.3mm must be used.

4.4.3. Line test: Before each bout a pull test of 20g shall be applied for 5 seconds to the model/line combination.

4.4.4. Handle tether: The FAI handle tether is not required for 1/2 A combat.

4.4.5. The FAI Engine tether is not required for 1/2A combat.

4.5. Number of Models

4.5.1. Only one combat model and set of lines is permitted per combat bout.

4.6. Conduct of Combat Bouts

4.6.1. Warm up period: A 60 second warm-up period shall be used.

4.6.2. Contest period: Immediately after the 60 second preparation , the signal to launch launch. models will be given. The combat bout lasts for 4 minutes from the signal to separated

4.6.3. The bout will be started after each model has completed 2 level laps and are by approximately half a lap.

4.7. Method of Scoring

4.7.1. 100 points awarded for each cut taken on the opponents streamer.

4.7.2. 1 point awarded for each second the model remains in the air.

4.7.3. Ground time will not be penalised.

4.8. Safety

4.8.1. Mechanics must wear a safety helmet fitted with a chin strap worn under the chin.

4.8.2. Pilots leaving the circle during the combat bout must also wear a safety helmet.

4.8.3. Releasing the control handle while the model is airborne will lead to disqualification.

Slow Combat

- 4.1. General

FAI (F2D) combat rules apply unless specifically changed by these rules.
- 4.2. Blank
- 4.3. Characteristics of a slow combat model
 - 4.3.1. Engine is limited to an unmodified 2.5cc plain bearing type.
 - 4.3.2. Model design, must have a fuselage to separate the main wing and tail plane.
 - 4.3.3. Fuel system shall be suction feed or muffler pressure only. No crankcase pressure, bladders or pacifiers are permitted.
 - 4.3.4. Fuel for Glow engines is FAI 10% nitro and Diesel engines is unrestricted
 - 4.3.5. The engine is to be unmodified except conversion from RC to CL where required. The diameter of the venturi hole is not to exceed that produced by the manufacture for that engine.
 - 4.3.6. Mufflers are optional.
 - 4.3.7. Model must rise off ground from a wheel attached to the model. Failure to do so will result in a penalty of 100 point each time the model does not rise off ground.
- 4.4. Control Systems
 - 4.4.2. Control lines: two multi-strand control line wires of a minimum diameter of 0.3mm must be used.
 - 4.4.3. Line test: Before each bout a pull test of 20g shall be applied for 5 seconds to the model/line combination.
 - 4.4.4. Handle tether: The FAI handle tether is required for slow combat.
 - 4.4.5. The FAI Engine tether is required for slow combat.
- 4.5. Number of Models
 - 4.5.1. Only one combat model and set of lines is permitted per combat bout.
 - 4.5.2. A maximum of 2 models is allowed per competition. Models may be repaired between bouts. Replacement wings and fuselage are not permitted.
- 4.6. Conduct of Combat Bouts
 - 4.6.1. Warm up period: A 60 second warm-up period shall be used.
 - 4.6.2. Contest period: Immediately after the 60 second preparation , the signal to launch models will be given. The combat bout lasts for 4 minutes from the signal to launch.
 - 4.6.3. The bout will be started after each model has completed 2 level laps and are separated by approximately half a lap.
- 4.7. Method of Scoring
 - 4.7.1. 100 points awarded for each cut taken on the opponents streamer.
 - 4.7.2. 1 point awarded for each second the model remains in the air.
 - 4.7.3. Ground time will not be penalised.
- 4.8. Safety
 - 4.8.1. Mechanics must wear a safety helmet fitted with a chin strap worn under the chin.
 - 4.8.2. Pilots leaving the circle during the combat bout must also wear a safety helmet.
 - 4.8.3. Releasing the control handle while the model is airborne will lead to disqualification.

4.6 OPEN COMBAT

[Australian Rules]

4.6.1. Open Combat to Australian rules is similar to FAI Combat [F2D] but allows larger models and modified contest procedures. F2D rules apply unless specifically changed by these rules.

4.6.1.1. Radius of flight circle 22 metres

Radius of centre circle..... 2 metres

4.6.2. Characteristics of a an Open Combat Model

- a) Maximum surface area: unlimited
- b) Maximum weight: 5 kg
- c) Maximum loading: 100 g/dm
- d) Total motor capacity: 6.5 cc
- e) Fuel: unrestricted.
- f) Venturi: unrestricted. Sub-piston induction permitted.
- g) Muffler(s) not required in non-noise sensitive areas.

Two pieces of stranded wire, each of a minimum diameter 0.40 mm, must be visibly and safely attached between the bell crank bolt and the engine [not the mounting bolts].

4.6.3. CONTROL SYSTEMS

1. Control lines shall be multi-strand of a minimum diameter of 0.4 mm. No free ends capable of entangling an opponent's lines shall be permitted.

2. Control line length: 18.3 metres +/- 40 mm.

3. Line connectors shall be of a closed overlapping loop style similar to an elongated key ring. However, key rings and all other types of connectors are not permitted.

4. Pull Test: The model control mechanism from the handle and including the model shall withstand a 32g pull test which load shall be held for five seconds prior to each heat.

4.6.4. JUDGES and TIMEKEEPERS The organiser shall appoint a panel of three judges.

Two timekeeper/scorers shall be allocated to each competitor.

4.6.5. Streamer size shall be 50 mm wide by 2.5 metres long, attached by a string leader 2 metres long, plus 0.250 metres for the purpose of tying to the model.

4.6.6. Pilots may leave the centre circle to start their motors without incurring loss of points or flight cancellation.

4.6.7. There is no time limit for becoming airborne.

4.6A F2D COMBAT – MODIFIED

- 4.6A. 1. F2D Combat - Modified to Australian rules is flown to current F2D rules except that:
- a) rule 4.4.6.d is deleted, and
 - b) the requirements of 4.4.5. relating to fuel specification shall not apply.
 - c) the requirements of 4.4.5. relating to the mandatory use of silencer(s) for glow engines shall not apply IN NON NOISE SENSITIVE AREAS.

FAI F2D COMBAT

F2D Combat – will be run in line with the current FAI rules valid on the day of the [event. ie.](#) **Fuel cut offs will not be required.**

JUNIOR COMBAT

4.12.1. Definition of a Combat Event. As per FAI F2D para. 4.4.1.

4.12.2. Definitions. As per FAI F2D, para 4.4.2.

4.12.3. Combat Site. As per FAI F2D, para 4.4.3.

4.12.4. Competitor.

The pilot, who shall be the entrant and known as the competitor, may employ a maximum of two mechanics, who may be Senior, in any one bout. In exceptional circumstances of wet or extremely windy weather, an additional helper may be used as a streamer holder and must perform no other function for the duration of that combat period. During active combat periods, the mechanic(s) must wear protective headgear fitted with an effective retaining strap worn under the chin.

4.12.5 Characteristics of Combat Model.

Maximum surface area: 150 dm²

Maximum weight: 5 kg²

Maximum loading: 100 g/dm³

Maximum swept volume of motor(s): 2.5 cm³, plain bearing;

Models shall have fuselages (no flying wings) and must have at least one wheel for take-off (ROG) and landing which must remain attached for the whole of the combat period.

Mufflers are compulsory on all engines except compression ignition engines.

Effective venturi diameter is unrestricted. A safety wire with a minimum diameter of 0.5 mm must be attached between the bellcrank bolt (axle) and the engine(s) so as to withstand a minimum pull of 100 Newtons.

The model shall not carry any artificial aid intended to assist the cutting of the streamers. The model shall be equipped with a device specially designed to retain the streamer which shall be fitted on the longitudinal centre line and sufficiently strong so that the streamer shall not become detached under normal flying conditions.

Standard fuel shall be supplied by the organisers to be used for practice (minimum 0.5 litres) and competition (sufficient to complete rounds) to the following formula: 10% nitromethane, 20% castor oil lubricant (first pressing), 70% methanol. A reasonable charge may be made for the fuel.

Note: Fuel for compression ignition engines is not restricted.

4.12.6. Controls - Technical Verification.

a) Line length: The length of the control lines must be 15.92 metres +/- 0.04 metres. It is measured from the inboard face of the grip of the control handle to the longitudinal centre line of the model.

b) Control System: two multi-strand control lines of a minimum diameter 0.30 mm (no minus tolerance) must be used. No free ends capable of entangling an opponent's lines and no line splices shall be permitted. A safety strap connecting the competitor's wrist to the control handle must be provided by the competitor.

c) Line Tests: Before each heat any sets of lines which may be used must be checked for length and diameter. A pull test shall be applied to the assembled handle(s), control lines and model(s) for all equipment to be used in that heat. The pull test shall be equal to 150 Newtons (15 kgf).

4.12.7 a) A junior competitor shall have a maximum of four models processed;

b) Each competitor shall be permitted one model, one handle, one pair of lines and one engine in each combat period.

4.12.8 Streamer. As per FAI F2D, para 4.4.8.

4.12.9. Method of Starting. As per FAI F2D, para 4.4.9 except:

d) A first signal, given by the Circle Marshal, shall signify the beginning of the 60 second period when the mechanic(s) or pilot has the opportunity to start, run and adjust their motor.

e) A second signal, given by the Circle Marshal, shall signify the beginning of the combat period on or after which the models may be launched by taking off from the ground (no hand launches).

4.12.10. Termination of Contest. As per FAI F2D, para 4.4.10.

4.12.11. Method of Scoring. As per FAI F2D, para 4.4.11.

4.12.12. Attempts. As per FAI F2D, para 4.4.12 except:

b) In the event of a model flyaway, as a result of the lines having been severed by his opponent's model, in which the airplane and streamer may not be retrievable due to the distance flown.

4.12.13 Conduct. As per FAI F2D para 4.4.13

4.12.14 Offences. As per FAI F2D, para 4.4.14. except sub para (e) is deleted.

4.12.15. Cancellation of Flight. As per FAI F2D, para 4.4.15 except sub paras (b) and (m) are deleted.

4.12.16. Classification. As per FAI F2D, para 4.4.16 except:

j) Previous opponents and competitors of the same State/Territory shall be drawn apart if possible with competitors of the same State/Territory to fly against each other only if there are no remaining opponents.

4.12.17 Reserved

4.12.18. Timekeepers.

One timekeeper/scorer, efficiently briefed about his/her task, shall be allotted to each competitor to count cuts taken and airtime gained during the four minute combat period.