

## 4.20 AUSTRALIAN VINTAGE COMBAT (W.A. Local Rules only)

### **Purpose**

Vintage Combat is a nostalgia class largely based on combat flying at a time when equipment was relatively straightforward and model performance was within the capabilities of the average flyer. It does not aim to be historically accurate in every respect. Innovation and the needs brought about by modern times can be accommodated. However, it is essentially a contest of flying skill using equipment that performs no better than the models and engines actually used in that era.

### **The model**

4.20.1 A vintage combat model aircraft must conform to a design that was used in combat before 1971. That design must be authenticated by a published plan, kit plan or a plan approved by the MAAA Control Line Sub-committee from time to time. Approved models are listed in Appendix A.

4.20.2 A vintage combat model must match the plan view of the original design in overall shape (except as allowed in the rules) and not differ by +/- 6mm from major dimensions, such as wing span, wing chord and leading edge to elevator hinge line. The elevator must be dimensionally accurate within +/-2mm.

4.20.3 The name (and mark number, if appropriate) and the year of the original design must be clearly visible on the upper flying surface of the model.

4.20.4 The model must be constructed from materials and techniques in use at the time. However, modern adhesives are allowed. Polyester film and tissue, or any commercially available heat-shrink plastic film covering are acceptable substitutes for the covering products of that time.

4.20.5 Styrofoam or other expanded foam plastic may only be used if it was originally specified in the design (e.g. Styrobat). Alternatives such as wood are acceptable substitutes for foam.

4.20.6(modified) The fuel tank may be made from Tin, Balsa, fibreglass or other composite materials for suction feed. Tin tanks must be used for pressure.

4.20.7 The model must have surface colour or markings sufficient to distinguish it in flight from the opponent's model. Applying colour to approximately 25% the model's surface would meet this requirement.

4.20.8(modified) Engine tethers are recommended. If no engine tether is employed, the bearers must be dowelled and will be subjected to inspection.

4.20.9 Lead outs from the bellcrank should be a minimum diameter of 0.45mm.

4.20.10 The following alterations from the original design are permitted;

4.20.10.1 Wing thickness and airfoil section

4.20.10.2 Internal structure, including sheeted areas

4.20.10.3 While retaining the original plan form, the engine and elevator can be repositioned to give a different degree of asymmetry to the wing.

4.20.10.4 Altered or omitted vertical fins or fences

4.20.10.5 Alternative tail boom material, additional or repositioned tail booms

4.20.10.6 A balanced elevator in place of a conventional type and vice versa.

4.20.10.7 Engine cylinder orientation changed or recessed into the leading edge.

## **Engine**

4.20.11 Eligible glowplug or diesel engines with maximum swept volume of 2.5cc are;

4.20.11.1 Any engine made before 1971, or a replica/reproduction that is an accurate representation of the original engine from that era, giving no significant performance advantage over a good example of the original engine.

4.20.11.2 Any engine with a plain crankshaft bearing

4.20.11.3 Any other engine approved by the MAAA Control Line sub-committee from time to time. The following engines have been approved;

- Parra 2.5cc diesel - steel cylinder version
- PAW 15 – versions with one or two ball races
- Enya 15 SS – diesel or glowplug
- Marz 2.5 – diesel or glowplug

Models fitted with these engines are subject to a speed limit of 3 seconds per lap when flying level and towing a full length streamer. The Circle Marshal may require a speed check before combat commences, over five laps (minimum 15 seconds) with the handle held near the pilot's chest. Any competitor whose model is found to be exceeding the speed limit must subsequently demonstrate to the Centre Marshal that his model will consistently meet the speed limit before being allowed to re-fly the bout.

4.20.12 Only commercially available injection moulded thermoplastic propellers can be used.

## **Lines**

4.20.13 Two multi-strand control lines (steel or stainless steel) with minimum diameter of 0.34mm must be used. Free ends capable of entangling an opponent's lines, and line splices, are not permitted.

4.20.14 Control line length must be 15.92 metres (+/- 0.04 metres). It is measured from the inboard face of the control handle grip to the axis of the propeller.

4.20.15 The control handle must be fitted with a safety strap and worn by the competitor around the wrist at all times while the model is flying. The strap must be of the lasso type, where the loop on the wrist tightens securely if the handle is released. This strap is subjected to the full pull test separately from the line pull test.

4.20.16 Before each bout the lines to be used must be checked for length and diameter. A pull test equal to 10 kgf shall be applied to the assembled handle, control lines and model before the bout begins.

## **Combat site**

4.20.17 The combat site comprises two concentric circles marked on the ground;

4.20.17.1 The flight circle with radius of 20 metres, laid out on grass; and

4.20.17.2 The centre (piloting) circle with radius of 2 metres, laid out on grass, or any other nonslip material with maximum radius of 4 metres.

### **Streamers**

4.20.18 The streamer must be of double weight crepe paper (80 gsm) or any replacement of equivalent strength, between 2.25 and 3 metres in length and 3 +/- 0.5 cm wide, fixed to a sisal ( or any replacement of equivalent strength) string of 3.25 metres length.

4.20.19 All streamers must be of the same length.

4.20.20 There shall be a clearly visible ink mark 2.5 metres from the junction of the string and the streamer.

4.20.21 The streamer shall be attached to the model in such a way that the ink mark is level with, or behind the rearmost portion of the model. The attachment part of the string must have a minimum length of 0.5 metres.

4.20.22 The attachment end of the streamer must 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 2cm wide is affixed across the connection area of the streamer.

4.20.23 The colour of the streamer must be different for the two competitors in the bout. Each pilot/pit crew shall be issued with a streamer by the Judge assigned to that competitor. A second streamer will be available from this Judge if needed.

### **Number of models**

4.20.24 A competitor will be allowed to use one model per bout.

4.20.25 A competitor will be allowed to use three models for the contest.

### **Competitor**

4.20.26 The competitor is the pilot. The competitor may employ a maximum of two mechanics in any one bout. However, 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 during that bout.

4.20.27 During combat bouts, the pilot and his mechanic(s) (and streamer holder if used), and Centre Marshal must each wear a safety helmet, with a fastened chinstrap, capable of withstanding the impact of a flying combat model.

### **Officials**

4.20.28 The Centre Marshal, who is the overall timekeeper, and will normally run the competition together with one Judge per competitor.

### **Competition procedure**

4.20.29 Competitors will normally compete with each other in a knockout competition of combat bouts.

4.20.30 The competitor with the highest score in points is the winner of the bout (unless he has been disqualified).

4.20.31 A competitor shall be eliminated from the competition when he has lost a bout, except as allowed under 10.6, or his model fails a second speed limit check per 16.4.

4.20.32 The competitors for each bout are chosen by random draw, except that the officials should as far as possible avoid re-matching competitors that have flown against each other in an earlier round.

4.20.33 In a round with an odd number of competitors the non flying competitor will fly twice in the following round, in the first bout and the last bout (if the number of competitors permits it and he is still in the contest).

4.20.34 The losers of each of the first round bouts will be allowed to compete in a further losers re-fly round.

4.20.35 The winners from the losers re-fly round will be drawn with the winners from the first round to provide a second round of bouts.

4.20.36 The rounds will continue until an overall winner is determined. Places for the other competitors are determined by the number of bouts each has won during the competition.

4.20.37 Competitors must enter the circle within 5 minutes of being called by the Centre Marshal.

4.20.38 If a competitor is unable to enter the circle for any reason to compete against his drawn opponent, his opponent will be awarded the win.

### **Starting method**

4.20.39 All signals must be acoustic and visual.

4.20.40 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 first choice of launching position.

4.20.41 A first signal from the Centre Marshal begins the 60 second starting period when the mechanic(s) or pilot may start, run and adjust their engine.

4.20.42 The engine must be started by flicking the propeller by hand.

4.20.43 The Centre Marshal counts down the last ten seconds of the starting period and signals the beginning of the bout. On or after this signal, the model may be launched.

4.20.44 The bout lasts for four minutes.

4.20.45 When the Centre Marshal is satisfied that each model has completed two level laps, anticlockwise, and the models are separated by approximately half a lap, and he does not require a speed limit check, he will give a signal that combat may commence.

4.20.46 Combat can only resume after a signal from the Centre Marshal following an interruption when one or both models have been grounded. That signal is given as soon as the Centre Marshal is satisfied that there is approximately half a lap separating the two models.

### **End of the contest**

4.20.47 The Centre Marshal will give an acoustic and visible signal to end the bout;

4.20.47.1 At the end of the four minute combat period, or

4.20.47.2 If one or both competitors are disqualified.

4.20.48 Although the combat period does not end, the Centre Marshal will signal both pilots to cease combat and fly their models level and anticlockwise when;

4.20.48.1 Both streamer strings have been cut, or

4.20.48.2 One pilot has only the string remaining and requests that combat ceases. Once made, that decision cannot be reversed.

### **Conduct**

4.20.49 The pilot must remain inside the centre of the flight circle while his model is flying, except for the short period following the release of his model by the mechanic.

4.20.50 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 Centre Marshal.

4.20.51 The pilot must not fly his model level (upright or inverted) at a height of less than two (2) metres for more than two consecutive laps during the bout unless instructed to by the Centre Marshal. The Centre Marshal will warn a pilot that he is approaching this limit.

4.20.52 The pilot must fly his model level and anticlockwise when only his model is in the air and there is no line tangle.

4.20.53 After a mid air collision the bout shall continue as if both models had landed.

4.20.54 If the pilot(s) accidentally leave the centre circle during a combat bout, the Centre Marshal must signal to stop combat although the bout timer will continue to run. He will then direct the pilot(s) back to the centre circle. The combat will be restarted as at the start of the bout. Any cuts taken during the period will not be counted, and attacking during the pause may lead to disqualification.

4.20.55 Mechanics may only enter the flight circle to retrieve a downed model when there is no line tangle or to help clear a line tangle when BOTH models are grounded.

4.20.56 Line tangles when just one model is airborne must be cleared by the pilot and Centre Marshal. The Centre Marshal will indicate to the mechanics when the line tangle is cleared and that they may enter the flight circle.

4.20.57 If during the servicing of a grounded model the mechanics break or the propeller cuts the streamer it must be replaced with a new full length streamer prior to launch.

4.20.58 The pilot must immediately land his model following an instruction from the Centre Marshal to have the streamer untangled or replaced if:

4.20.58.1 The model is launched with a streamer that has been broken or cut while on the ground; or

4.20.58.2 The streamer is not cleanly unfurled after launch; or

4.20.58.3 The string (with or without streamer) becomes detached from the model or engine while airborne, but not as a result of a midair collision.

### **Re-flights**

A re-flight will be allowed when:

4.20.59 A streamer breaks before combat has commenced due to a fault in materials or construction; or

4.20.60 In the event of a model fly-away (caused by the opponent's model severing its lines) the Centre Marshal asks the affected pilot whether or not he wants a re-flight. The affected pilot must respond immediately, without consulting with others about the status of the bout; or

4.20.61 As the 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; or

4.20.62 A bout has been cancelled owing to a failed speed limit check and the offender has satisfied the Centre Marshal that his model is unlikely to again exceed the speed limit; or

4.20.63 In the event both point scores in a bout are equal. If the subsequent re-fly also results in equal point scores, then the contestant with the first cut is awarded the bout. If no cuts were taken in the re-flight, further re-flights are flown (and the "first cut" rule applied if necessary) until a winner is determined.

### **Scoring**

4.20.64 Scoring commences from the start of the combat period.

4.20.65 Sixty (60) points are awarded for each distinct cut off the opponent's streamer. A cut must contain at least part of the paper streamer (not string alone). A cut occurs each time the model aircraft, propeller or lines fly through the opponent's streamer detaching one or more paper particles.

4.20.66 If a midair collision causes the streamer to separate while attached to any part of the model or engine, it will not be counted as a cut. However, if the streamer falls separate to any part of the model, a cut is scored.

4.20.67 One point is awarded for each whole second that the model aircraft is airborne during the combat period, except when the model aircraft is launched with a streamer that has been damaged before launch, by the mechanic(s) or cut by its own propeller while the model aircraft is not airborne.

4.20.68 Points are deducted for each instance of an action set out in sub-sections 16.1 and 16.2.

### **Penalties and disqualifications**

**A competitor will receive a penalty of thirty (30) points if:**

4.20.69 He unintentionally leaves the centre circle while his model is flying; or

4.20.69.1 During the bout his mechanics enter the flying circle at an oblique angle or cut across the flight circle to reach a downed model. One penalty only will be incurred for each offence even if more than one mechanic is involved; or

4.20.69.2 He/his mechanic(s) do not immediately, or after a line disentanglement withdraw a grounded model to outside the 20 metre flight circle prior to servicing it; or

4.20.69.3 The model is launched before the launch signal; or

4.20.69.4 The streamer becomes detached from the model during combat but not as a result of a mid air collision; or

4.20.69.5 When his model is grounded, he leaves the centre circle without informing his opponent and the Centre Marshal.

**4.20.70 A competitor will receive a penalty of sixty (60) points if:**

4.20.70.1 His mechanics launch the model without replacing a streamer that has been broken or cut during servicing.

4.20.70.2 His model exceeds a speed limit check. This penalty will apply to the competitor's score in the subsequent re-flight.

4.20.71 **A competitor will be disqualified from the bout if:**

4.20.71.1 He attacks the streamer of his opponent's model prior to the Centre Marshal's signal to commence combat; or

4.20.71.2 His model fails to become airborne within two minutes of the signal to launch; or

4.20.71.3 He attempts to fly a model, which at the time of launch, does not have a strong and effective control mechanism, or does not have a secure engine attachment, or does not have a running engine; or

4.20.71.4 He interferes with his opponent, or forces his opponent to leave the centre circle; or

4.20.71.5 He deliberately flies in a dangerous manner; or

4.20.71.6 He attacks his opponent's streamer while his own or the remaining parts have become detached from the model or engine while airborne, but not as a result of a midair collision; or

4.20.71.7 He is not present at his allotted flight time, unless he has the express permission of the Centre Marshal; or

4.20.71.8 He leaves the centre circle intentionally whilst his model is flying; or

4.20.71.9 He flies in such a manner as to inhibit his opponent, or the Centre Marshal, from clearing any line tangle; or

4.20.71.10 At the start of each bout and after a restart when one or both models have been grounded, he does not fly his model level and anticlockwise until a signal is given by the Centre Marshal; or

4.20.71.11 He releases the handle, or removes the safety strap, for any reason, while the model is flying; or

4.20.71.12 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: or

4.20.71.13 His mechanics jump over the opponents model and lines kept within the pitting area: or

4.20.71.14 He fails to clear any line tangle prior to re-launching his model; or

4.20.71.15 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 Centre Marshal. The Centre Marshal will warn a flier that he is approaching this limit; or

4.20.71.16 The Centre Marshal believes that he has behaved in an un-gentlemanly manner; or

4.20.71.17 For any other flagrant breach of the rules.

4.20.72 **A competitor will be eliminated from the competition** if a speed limit applies to his model (per 3.1.3) and the model fails a second speed limit check.

### **Appendix A**

The following model designs have been verified as acceptable for vintage combat. No documentary evidence is required, although the contest director may request the competitor provide copies of the plans, to verify the model has been constructed per the requirements of section 2. Additional models may be acceptable, provided documentary evidence is provided to the contest director proving the model complies with section 2.1. It would be prudent to verify model acceptability with the contest director before commencing model construction.

Anduril 1 & 2 Mick Tiernan (UK) Frank Smart 1970  
Apache A.M. Annual 1970/71 p72  
Assagai Alan Thompson Frank Smart 1968  
Banshee Mike Davis (UK) Frank Smart 1968  
Barbarian John Dixon (UK) Frank Smart 1969  
Billy Bones Dave Packwood (UK) Frank Smart 1963  
Black Ghost M Grimmett (UK) M.A. 295 Nov 1958  
Boogy-man Terry Lee (UK) A.M. June 1964  
Bumblebug Vernon Hunt (UK) Frank Smart 1969  
Buzzard Neil Blackburn (UK) Frank Smart 1970  
Chaos Peter Freebrey (UK) A.M Jun 1963 p294  
Cleaver George Copeman (UK) A.M.799 Sep 1961 p466  
Cobra II Don Halls (Australia) A.M. May 1968  
Combat King Contest Kits  
Dominator Mike Davis (UK) A.M.893 Dec 1965 p581  
Dongus Johnson/Pinckert (USA) A.M.789 Feb 61 p74-75  
Duellist A Tristany (Spain) A.M.648 Mar 1957 p150  
Early Bird Richard Wilkins(UK) M.A.1022 Sep 1965 p232  
Falco A.M. Annual 1963/64 p106  
Firebird Dave Platt (UK) Keil Kraft Kit  
Flingel Bunt Stu Holland (UK) A.M Jan 1965 p20  
Freecloud Bob Morgan Frank Smart 1970  
Gladiator G.F. (UK) Frog Kit  
Gunslinger Mks 1,2 & 3 E Varley and Fred Pateman Frank Smart 1963  
Ironmonger Richard Evans (UK) A.M. Oct 71 p550 1970  
Jaguar Mk 1 Mick Chesterton (UK) Frank Smart 1969  
Junior Satan Carl Goldberg (USA) Goldberg Kit (A.M.) Nov 1964  
Junior Monitor(II) Henry J Nichols (UK) Mercury Kit  
Kanible John Dixon (UK) A.M.Annual1 968/69 p92  
Kanible GT John Dixon (UK) Frank Smart 1968  
Kanible GTO John Dixon Frank Smart 1969  
Karnivore Dave Gibbard Frank Smart 1961  
King Twister Mick Chesterton (UK) Frank Smart 1967  
Kombat Kapers R Gibbard (UK) A.M. Jan 1954  
Komm-Batt A.M.288 Aug 1958 p278  
Liquidator Frank Dowling (UK) A.M.998 May 1969 p230  
Mini – Voodoo Riley Wooton (USA) A.M. May 1963  
Mister Pogle Terry Mortimer (UK) Frank Smart 1965-1967  
Nemesis Howard Rush Frank Smart 1970 (USA)  
Oliver Twist Mk 6 Martyn Cowley (UK) Frank Smart 1969  
Oliver Twist Mk 7 Martyn Cowley (UK) Frank Smart 1970  
Olympic Rocket C.Bergamaschi (Italy) Kit (A.M.) Apr 62  
Orcrist Steve Jones (UK) AM Oct 71 p550 1969  
Pallisandra A.M. Annual 1960/61 p77  
Pallisandra C.L. Manual 1961 p131  
Panic Peter Freebrey (UK) American Modeller Jan-Feb 1965  
Peacemaker George Aldridge (USA) A.M. Feb 1959  
Piraja A.M. Annual 1965/66 p46  
Piranna Mk 1 Frank Smart (UK) Frank Smart 1968

Piranna Mk 2 Frank Smart (UK) Frank Smart 1969  
Proton O.F.W.Fisher (UK) Performance Kits Apr 1959  
Pygar Mick Lewis Mick Lewis 1974  
Razor Blade Pete Tribe (UK) A.M.729 Mar 1959 p222  
Razor Blade `64 Pete Tribe (UK) A.M.729 Jul 1964 p332  
Rhino Mk 5 John Dixon (UK) Frank Smart Apr 1967  
Riot-Act 1& 2 Andrew Longhurst Frank Smart 1968  
Rogue A.M. Staff (UK) A.M. 716 Dec 1958 p643  
Ruteress Steffan Larson (Swe) A.M. 969 Dec 1968 p657  
Satana A.M. Annual 1969/70 p32  
Schuco-Hegi 160 (Germany) A.M. Annual 1959/60 p83  
Scorcher Frog Kit 1969  
Sennapod M.A.389 Mar 1964 p90  
September Warrior Bazz Bumstead (UK) M.A.385 Nov 1963 p334  
Shim-Shek 1 & 2 I. Turner (UK) Frank Smart 1963  
Shrike (UK) A.M.634 Sep 1956 p484  
Shuffler MK 2 Frank Smart  
Splinter Bill Netzeband (USA) American Modeller Apr 1967 p30  
Squig J Benoy (UK) A.M. Jul 1961  
Streamer Eater A. Ytreoy (Norway) A.M.883 Jun 1965 p280  
Stockport Warlord Graham Howard Frank Smart 1968  
Styrobat Peter Short (UK) A.M. Jan 1967  
Super Twister John Chamberlain (UK) 1967  
Sword J Templeman (UK) A.M.674 Oct1957p518  
Talon Dave Platt (UK) Keil Kraft Kit  
Taper- Wing Arthur Garnett (UK) Frank Smart  
Terminator Stu Holland (Eire) 1970  
Terminator Mick Davies Frank Smart 1970  
The Proposition A.M. Annual 1955/56 p88  
Titan Mk 1 John Shaw (UK) Frank Smart 1966  
Titan Mk 4 John Shaw (UK) Frank Smart  
Titan Mk 5 John Shaw (UK) Frank Smart 1969  
Toreador Henry J Nichols (UK) Mercury Kit  
Turncoat Moggs Morris (UK) A.M.926 Feb 1967 p74  
Twister Mk 1 John Chamberlain (UK) Frank Smart 1965  
Twister Mk 4 John Chamberlain (UK) Frank Smart 1966  
Twister Mk 9 John Chamberlain (UK) Frank Smart 1969  
Twister Mk 10 John Chamberlain (UK) Frank Smart 1970  
U.F.O. Dave Budd (UK) Frank Smart 1968  
Unlimited R. Smith (UK) A.M.369 Dec 1980 p656  
Warlock Richard Evans Frank Smart 1967  
Warlock Steve French Frank Smart 1969/70  
Warlord Mick Chilton (UK) Frank Smart 1968 - 1972  
Warlord Heanor MAC (UK) A.M. Annual 1968/69 p77  
Warlord John Dunker Frank Smart 1968  
Warmonger Mk 1 John Dixon (UK) Frank Smart 1965  
Warmonger Mk 2 John Dixon (UK) Model Avia (France) Feb 1968  
Warmonger Mk 3 John Dixon (UK) Frank Smart 1969  
Warrior Frank Smart (UK) Frank Smart 1970  
Wildcat (USA) Bradshaw M.P. Kit (AM) Mar 1963

The Yeti 1 & 2 John Dixon (UK) Frank Smart 1965  
Zack-Zack Klaus Seegers (Germany) C.L. Manual 1961 p131  
Zig-Zag Brian Mills (UK) 1965  
Zot-Box 'N' Cpl Red Phin (Australia) Frank Smart 1966  
Zot-Box 'M' Cpl Red Phin (Australia) Frank Smart 1967-1968