

INAUGURAL SCALE HELI COMP AT "3D DOWNUNDER" BENDIGO, 2003

Proudly sponsored by; *N. C. HELICOPTER SERVICES*

AIM; To encourage interest in the flying of scale helicopters and at the same time, improve pilot skills, by making pilots perform specific, prototypical defined manoeuvres.

SPIRIT OF THIS INAUGURAL SCALE COMP; Being one of the first scale comps, for a very long time, we shall be emphasizing having **FUN** in a relaxed atmosphere, rather than worrying about dotting eyes and crossing tees.

BASIC RULES;

1. The comp will be run as a "**STAND OFF SCALE**" competition, meaning that static judging will be from a distance of 3 meters. As we are trying to run this comp in a relaxed/fun manner, **NO DOCUMENTATION** (related to your model) will be required or looked at!
2. **Owner/builder** must be the **pilot!** You will not be permitted to have a "hot shot" pilot fly the model for you.
3. **Multiple entries** by any one pilot, of up to 3 models will be allowed.
4. **Static judging** of each model will be done by **3 judges from a distance of 3 m**, with the model on the ground. (No additional "dress up" helipads will be allowed)
5. **Three rounds** will be flown, with **the two best rounds** used to determine flying scores. Three judges will be used to judge the flying.
6. **Overall results** will be determined by **equal weighting** between static score and flying score.

STATIC JUDGING

The judges will be judging each model under six distinct headings and giving a score out of 10 for each. These categories are as follows.

7. **SCALE DETAIL** such as; *panel lines, rivets, lights, strobes, aerials, radar dome, winch, stretcher, instrument panel, pilot etc.*
8. **COMPLEXITY OF MODEL**; *working doors, retracts, flybarless head, multibladed head, coaxial rotors, twin rotors, glow plug/petrol/turbine.*
9. **EXHAUST DETAIL**; *positional accuracy of model exhaust versus full size, colour complexity/reality of dummy exhausts (if any).*
10. **PAINT QUALITY**; *glossiness, depth of colour, surface finish, line definitions. Appropriate attributes for military/camouflage paint schemes.*
11. **EXHAUST PLUME** (scored after observing a flight). *Lots of smoke from exhaust is not scale like!*
12. **SOUND REALISM** (scored after observing a flight). *How closely does the sound of the model mimics that of the full size equivalent?*

FLYING SCHEDULE; (Pilots will need to have a caller and the **start and finish of each manoeuvre will need to be announced.**)

13. **TAXIING IN GROUND EFFECT.** The model takes off from a nominated spot, hovers briefly before commencing slow forward flight, in ground effect. (Skids should not be higher than the length of a single rotor). After covering around 20m, the model comes to a brief hover, then lands. (a brief hover is a hover of about 2 to 3 second duration).
14. **VERTICAL CLIMB AND HOVER.** The model climbs vertically from the ground until the skids are at eye level to the pilot. It then hovers for a period of 10 seconds.
15. **OBSERVATION.** (continues from manoeuvre 2). Model hovers for about 5seconds, and then performs a 90-degree turn (yaw) in either direction. It then hovers briefly, before commencing a slow 180 turn in the opposite direction. After a brief hover, it turns back 90 degrees to take up its original heading. Model then hovers for another 5 seconds.
16. **STRAIGHT LEVEL FLIGHT.** The model performs a straight level flight of about 50m at a **realistic scale speed.** The flight must be performed at a minimum height of 2 m or higher.
17. **WING OVER.** The model flies straight and level for about 30 m then gracefully pulls its nose up. An aileron inspired turn is then performed, with the model changing direction by 180 degrees. The ensuing nose down attitude, will be the same as the earlier nose up attitude and

the model flies away, straight and level for a distance of 30 m. The height of entry and exit should be the same. This manoeuvre can be performed in either a left or right direction.

18. **PROCEDURE TURN.** The model flies straight and level for about 30m before performing a gentle 90-degree turn (left or right, but in any case, away from the pit area). As soon as the model has turned 90 degree from the original flight path, it then performs a 270-degree turn (3/4 of a circle) in the opposite direction. The radii of the 270-degree circle are the same as the radii of the original 90-degree turn.. The model then flies along the same line, but in the opposite direction, to that of the point of entry for an approx distance of 30m. The whole manoeuvre is performed at a **constant height**
19. **POWERED DESCENT & LANDING WITH FLAIR** The model flies straight and level at a height of around 50m when the manoeuvre is called. The model begins a powered straight-line descent at about a 45-degree angle, towards the helipad. On approach to the helipad, the model is flared. When over the helipad, the model is levelled, very briefly hovered (1-2 secs) and then gently lowered. Hovering/flying around, trying to hit the middle of the helipad, will result in a serious downgrade!