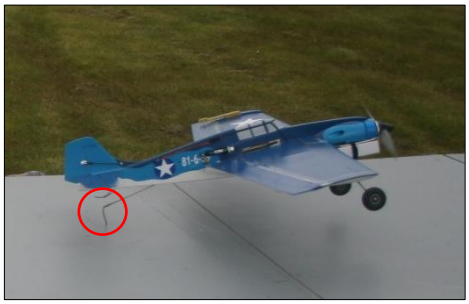
Basic Carrier Deck at the Cosmo Model Aero Club's Control Line Carrier & Scale Competition on Damyn's Hall Airfield in Essex on 24th April 2016

by Andy Housden

Damyn's Hall is the curtain raiser to Carrier and Scale's contest season, but its early position in the calendar means a bit of a weather gamble. It was therefore very gratifying to find that a dozen or so flyers had braved the rather depressing forecast to support the event. Although wind conditions were the such that the Scale contest wasn't run because of concerns about model damage, there was the occasional patch of sunshine so the Carrier flyers pressed on and eventually got in more flights per pilot than in any contest within memory! The wind was a nevertheless a rather cold gusty easterly (with some occasional rain), though this varied sometimes from a lot of it down to next-to-nothing, some pilots even experiencing both extremes during a single flight. Nevertheless, considering that the first contest of a season invariably displays a lot of pre-season cobweb-removal from both models and participants, the resulting scores were extremely good, particularly in view of the less-than-perfect weather, with the top three places achieving over 200 points.

First to fly was Feltham's Nigel Frith, who had introduced himself to Carrier just one year ago at this very event, and has come an embarrassingly (to the rest of us!) long way since then. Nigel had brought two models, both electric but with throttling courtesy of a neck-slung 2.4GHz R/C transmitter, as shown on the right, rather than the slightly more usual down-the-lines electronic link. Nigel chose to use his tried-and-tested Grumman Wildcat because of the wind conditions and just as he was getting into his slow run stride, the Wildcat's battery suddenly went flat during lap 4 of the slow run. The reason for this remained unclear….

Now worried about a possible general battery problem, Nigel became more concerned with the completion of his second flight than the performance therein, but he still found that the Wildcat would exceed the slow run 30 degree attitude limit very easily, resulting in two warnings quite quickly. A high landing approach looked like a spoiler, but the light model decelerated surprisingly quickly and although it merely plucked the USS Kittyhawk's No.2 wire, it fortunately hooked up properly on No.4.



Nigel's third flight was almost identical to his second, right down to a very similar score, the number of warnings and the plucking of No.2 wire followed by the actual trap of No.4 wire. The repeating hook/wire problem was of particular concern and an after-event inspection of the photo on the left shows the hook angle to be at least no less than 90 degrees, and probably more! Nigel: make that bend more acute!

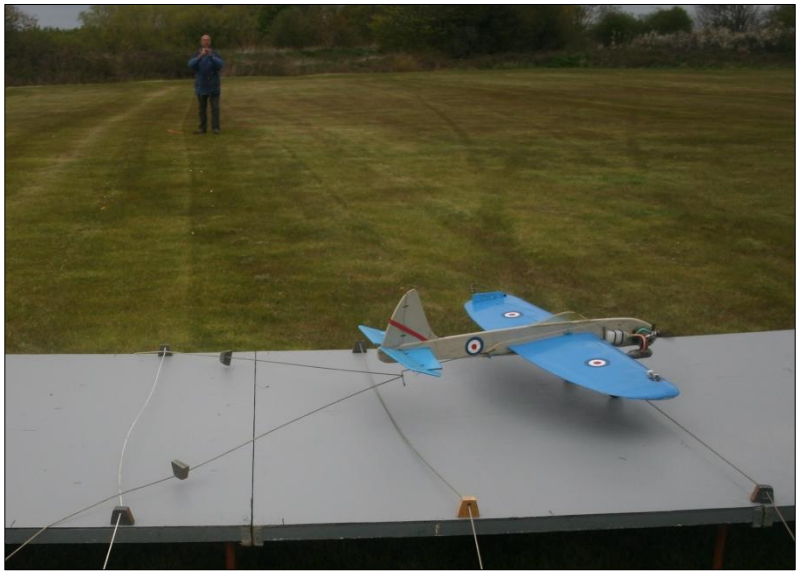
As had been forecast, the wind got less gusty towards the end of the contest, so Nigel chose his other model, a flown-but-contest-untried Mitsubishi A6M Zero, for his fourth flight. As can be seen from the photograph on the right, the near-transparent Zero owes a lot to modern combat model construction practice and is actually quite aerobatic! Much like the Wildcat, it left the deck very rapidly and had a similar top speed, but it may have been a lack of familiarity with the model that led Nigel to a momentary contact with the briny in lap 6 of the slow run. Nigel's second flight score of 194.2 therefore turned out to be his best, and this gave him fourth place.

By contrast with Nigel Frith, Ian Gilbert's familiar i.c.-powered Westland Wyvern used a down-the-lines servo-controlled throttle operated by a handle-mounted variable resistor as

shown on the left. Normally problem-free, the winter layup had left Ian with a clogged spraybar. The necessary cleaning had left him with the loss of the normal mixture setting, and this was unfortunately to dog his flights throughout most of the day.

Ian's first flight was therefore quite rich, resulting in a very slow fast run and a poor throttle response during which he was unable to recover from a downwind dip in the flight path when the hook momentarily touched the deck, forcing him to call an attempt before he could signal for the slow run.

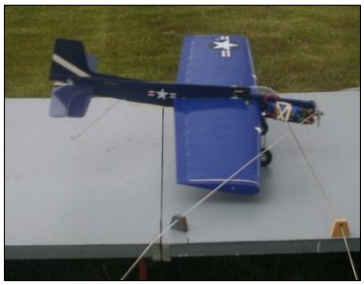
Ian's second flight had a measurably leaner setting, though it still sounded a little rich during the fast run and the engine turned out to be still suffering from poor throttle response. During lap 1 of the slow run, the hook again clipped the deck and unfortunately deck contact now meant disqualification of the flight.



Continuing with his engine tuning, Ian's third fast run was *still* rich, but the least rich so far, with the last couple of laps very nearly right. The slow run was finally shaping up nicely when the engine ran out of fuel on lap 3 - a combination of the smallest possible tank capacity for the lowest possible weight, plus a lot of messing around after start-up with the needle setting, and a still-averagely-rich fast run. Frustrating, eh?

It was 'here we go again' for Ian's fourth flight when his engine inexplicably richened up again, resulting in another very slow fast run. The throttle response also suffered again and on the very first slow run lap, the engine sagged over the deck, the model clipping it with the hook for the *third* time. DQ again, then…

Ian's fifth attempt was his last chance to achieve a complete flight - and to his relief, he did! With the Magnum 25 finally running well, he understandably flew a very safe slow run and *finally* got back to his usual form with - phew! - a typical Gilbert gentle floaty landing right onto No.1 wire (right) and a score of 173.0 for seventh place.



Roy Green always complains that he's getting too old for this lark and he always proves himself wrong! Like most flyers at Damyn's Hall, however, it took a few attempts to blow away the cobwebs and his first two flights suffered from the gusty wind, requiring him to play safe during the slow runs and avoid much in the way of the 30 degree attitude limit. His venerable electric-powered down-the-lines throttle control Grumman AF Guardian ended up very high on its first flight final approach, but the resultant dive for the deck, which *has* got him out of trouble in past contests, instead got the model's nose tucked under No.2 wire, leaving it unarrested, tail-up and in the lowest landing score category (upper left photo). During the second flight landing approach, the wind even condescended to drop and everything went really well right down to a trap on No.1 wire - but it was a little too close to the inboard deck edge and went over the side (lower left photo). Shame!

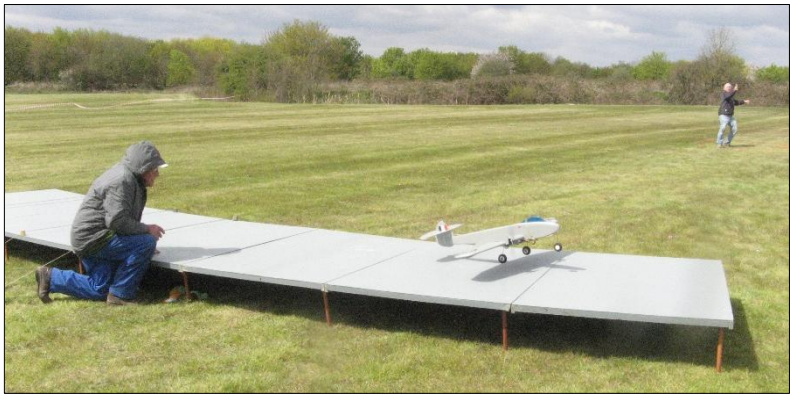
Roy flew immediately again and, this time, the wind speed remained low, so he was able to enjoy a much less hairy flight. Hooray! Without a full-score landing yet to his name, he decided to play safe and consequently took less risk than he might otherwise have done during the slow run. Although Roy's final approach was again rather high, he is the master of such situations and using his well-known *kamikaze* technique, the Guardian engaged No.4 wire. Roy was still very close to the inboard deck edge again, but this time his luck held and his Guardian got a full-score landing (right).

Roy's fourth flight turned out to be very similar to his third,

complete with an over-high approach which he again capably converted to a successful hookup with the now familiar last-second flight-path dog-leg, though he rang the changes by picking up the No.3 wire instead of the No.4! However, it was his third flight score of 192.8 that remained his highest and this got him fifth place.

Inevitably flying his beaten-up old OS 40-powered Short Seamew with an old-style squeeze-handle three-line throttle control, Andy Housden had a slightly rich exhaust crackle that probably lost a couple of seconds on the fast runs of all three of his flights. The poor Seamew has been crashed and repaired by Andy so often that it's almost a solid block of PVA & cyano. In fact, scientists have warned that repairs after further crashes may produce a material density so great that the model will collapse under its own gravitational attraction and form a black hole. Physicist Dr Mike Welch was called in as Circle Centre Marshal for Andy's third flight (right) after concerns that the excess mass of the Seamew may have been causing sufficient distortion of the local space-time continuum such that Andy was sneakily flying the model backwards whilst still appearing to execute forward flight - though the problem proved to be no more than a conventional, if somewhat severe, gravitational attraction between the Earth and the Seamew. Although a 30 degree maximum slow run attitude was maintained as much as possible during all flights, turbulence repeatedly upset the model (though the massively warped outer wing probably didn't help here) and some alarming manoeuvres were required for recovery. Furthermore, first and second flight landings both ended up with the Seamew on its nose; the first after the model caught but released No.3 wire and simply slithered to a halt beyond No.4, the second when it caught and held No.2 wire but still tipped over. Drat!

Making his third and last flight at the very end of the contest, Andy managed to keep the Seamew and the planet apart for long enough to line up for another perfect tail up/nose down unarrested landing, though this went dramatically wrong when the Seamew simply flopped onto the deck, picked up the No.1 wire and sat there waiting to go home like everyone else (left). What went wrong? Furthermore, how could the resultant score be 208.7 and give him second place? Answers on an unstamped postcard to someone else's address, please.



Peter Tribe's all-electric Gloster Meteor III (left) is a very capable model indeed, though it is at its best in either calm or non-gusty conditions. Gusts during his first flight repeatedly caused the model to 'weathercock' in pitch, so Peter found it difficult to maintain the slow run 30 degree maximum attitude. Despite this, he still managed to finish off with a very precise landing on No.1 wire to achieve the first over-200 points score of the contest and the season.

Peter's second flight was shaping up better than that of the first, but another wayward gust during the middle of his slow run knocked the model badly out of kilter and the recovery process lost him enough time to produce a lower score, despite a real greaser of a landing onto No.2 wire.

The wind was relatively kinder to Peter on his third and final flight, during which he achieved his fastest fast run and slowest slow run of the day, and though he still didn't exploit the full potential of this very competitive model by pushing it to the 30 degree attitude limit as much as he might have, his landing onto the

No.1 wire was faultless (right) and the resulting score was 205.2, enough for third place.

Mike Welch (left, in the yellow jacket) had re-fuselaged his thick section/full area Grumman Avenger wings with an i.c.-powered Wildcat body over the winter, fitting his usual down-the-lines electronic throttle control system and custom squeeze-handle. He had also taken a leaf out of Ian Gilbert's book by installing a smaller engine to reduce model weight still further. The down side of this is that fast run times can lengthen significantly, particularly if the engine is not running flat out. They did, and it wasn't… Mike's bad luck continued with a bout of particularly unpleasant wind conditions which blew the model into some very hairy attitudes and resulted in a crash in which the Wildcat dramatically resolved itself into a number of components. Very fortunately, these exactly corresponded with the model's transport components, which meant that he simply reassembled it and flew it again later. This second flight was much more successful, though Mike was still plagued by wind conditions which meant that the model could not be flown to best advantage. The Wildcat also wouldn't descend from normal approach height quickly enough during his landing, resulting in an overshoot, though he took this into account the next time round and got down accurately onto the No.2 wire for 154.5 points and ninth place.

Flying his J'En 37-engined Messerschmitt Bf 109T (left), a new model in 2015 but with his trademark trigger-grip-operated R/C car racing handle modified to accept C/L wires (right), Chris Howell still played it safely on his first 2016 contest flight, resulting in a relatively low flight score, exacerbated by a very unlucky landing where the model ran over all the wires, plucking most but failing to pick any up. Chris overshot three times with his final touchdown again plucking the No.4 wire but failing to hook up, the model running off the deck end. This was not the end of his hook-up problems…

The remainder of Chris's flights took place later in the day when the wind was less gusty, which was just as well since he was obviously prepared to take more slow run risks than anyone else and therefore got more attitude warnings than anyone else as well, despite improved conditions. Chris's second flight regained the 109T's proper form, with one of the best fast runs of the day and the slowest slow run of any achieved so far, only needing a full-score landing to win the contest - yet despite a very good approach he *again* ended up with nothing in the hook and the No.3 wire across the model's wing.

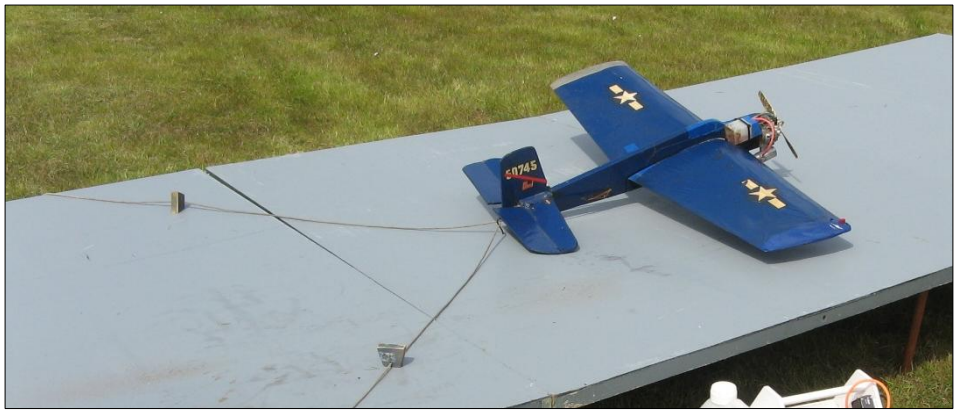
Chris's third flight was actually his best - and his unluckiest! With an even higher flight score than before, he carefully placed the Messerschmitt right on the stern of the USS Kittyhawk, only to see it run across all four wires without picking *any* of them up. Had he hooked up properly, his final score would have been 220.1, which would have guaranteed him first place - again! The problem was finally traced to the insufficiently-acute hook jaw angle (bottom right), much like that of Nigel Frith's Wildcat. Some quick work with a pair of pliers solved the problem, but sadly, Chris was unable to benefit from this improvement as his

fourth and last flight was disqualified during lap 4 of the slow run when the offending hook touched the briny during a momentary dip in the flight path, leaving him with a best score of 157.7 and eighth place. Frustrating, or what?

John Green's models illustrate how much variation there can be in the basic down-the-lines electronic throttle control. John's system uses the same Servo Tester design as does that of his colleague Ian Gilbert, but John prefers to separate the throttle and C/L handle and uses a plunger-operated variable resistor as shown on the left. Vive la difference!

Having achieved some very spectacular results during the last Old Warden of 2015 with this equipment, nothing went particularly well for John during his first contest flight of 2016, being plagued by wind gusts during his slow run, often resulting in the model being in all sorts of bother, with almost no periods of any length when he was able to fly at a consistent 30 degrees. To add insult to injury, he was unable to deploy his hook for landing and overshot three times until the engine ran out of fuel.

John's bad luck with the wind continued during his second flight, but he flew the model more safely and this perversely resulted in some flight score improvement - though if there was a category of 'Landing of the Contest', John would have won it with this flight! The wind turned very nasty during the last quarter-lap before his landing and the model ended up *way* too high over the ramp - absolutely no way to get down in time. Or so it seemed… Then the engine promptly ran out of fuel again (!), the model slowed down dramatically and John *just* managed to float it down onto the No.4 wire for a real knife-edge dead-stick landing (below)



John's third and fourth flights' landing approaches were both too high and late, with a resulting off-deck roll and ditch in each case. His fourth flight, *did* produce his best flight score by virtue of the slowest slow run of all of his flights which, whilst not at 30 degrees, was still the most consistently near this limit for the longest periods of time. Galling to him though it may be to mention this, had he achieved a full-score hookup on this last flight, he would have beaten Peter Tribe by 0.5 points into third place! As it was, John's second flight best score of 188.3 placed him sixth overall.

Bob Phillipps' West 36-powered Supermarine 508, throttled by a belt-mounted 2.4GHz R/C transmitter, may look somewhat battered, but *seasoned* would probably be a better description! His first flight (left) gave him the day's fastest fast run and second slowest slow run, and the landing (below) onto No.2 wire was typical Bob: a slow and accurate final approach terminating with a real slap in which most of the model's structure seems to smack the deck at the same time!

During his second flight, the 508 showed some temper, however… When Bob pushes his luck too much, the model has

been known to completely ignore all known laws of physics and execute 3-dimensional manoeuvres that are not only not in the book but are impossible to describe. They also usually result in a DQ! This time, however, the model merely shrugged off its fuel tank fastening after the first fast run lap, whirled the tank into the propeller, punctured it and thus ended Bob's flying for the day. Just as well, then, that he'd achieved 213.0 points on his other flight, as this turned out to be the score that got him first place!

Basic Carrier Deck competitor list for the Cosmo Model Aero Club's Control Line Carrier & Scale Competition on Damyn's Hall Airfield in Essex on 24th April 2016

Posn	Name	Club or location	Model	Engine	Score
1st	Bob Phillipps	Colchester MAC	Supermarine 508	West 36	213.0
2nd	Andy Housden	Three Kings Aeromodellers	Short Seamew	OS 40	208.7
3rd	Peter Tribe	Cosmo MAC	Gloster Meteor III	2x 375W/1550rpV; 2x 3S/1600mAh	205.2
4th	Nigel Frith	Feltham &DMAC	Grumman Wildcat	460W/1100rpV; 3S/2400mAh	194.2
5th	Roy Green	Cosmo MAC	Grumman AF Guardian	Axi 2820/8; 3S/2200mAh	192.8
6th	John Green	Ipswich	Grumman AF Guardian	MDS 28	188.3
7th	Ian Gilbert	Ipswich	Westland Wyvern	Magnum 25	173.0
8th	Chris Howell	Langley Model Squadron	Messerschmitt Bf 109T	J'EN 37	157.7
9th	Mike Welch	Marlborough MFC	Grumman F4F Wildcat	SC 25	154.5

Basic Carrier Deck detailed score sheet for the Cosmo Model Aero Club's Control Line Carrier & Scale Competition on Damyn's Hall Airfield in Essex on 24th April 2016

(A = attempt, D = ditched, DQ = disqualified)

Pos.	Name	Model	Engine	Fast time (secs)		Slow time (secs)	Warn-ings	Time points		Landing points	Deduct points	Scale points	Colour points	Final score
1st	Bob Phillipps	Supermarine 508	West 36	27.4		120.4	2	93.0		100	0	10	10	**213.0**
		Supermarine 508	West 36	D		-		-		-	-	-	-	A
2nd	Andy Housden	Short Seamew	OS 40	33.6		125.2	0	91.6		20	0	10	10	131.6
		Short Seamew	OS 40	34.8		117.3	1	82.5		60	0	10	10	162.5
		Short Seamew	OS 40	33.7		122.4	0	88.7		100	0	10	10	**208.7**
3rd	Peter Tribe	Gloster Meteor III	2x 375W/1550rpV; 2x 3S/1600mAh	34.5		116.1	1	81.6		100	0	10	10	201.6
		Gloster Meteor III	2x 375W/1550rpV; 2x 3S/1600mAh	34.3		113.6	0	79.3		100	0	10	10	199.3
		Gloster Meteor III	2x 375W/1550rpV; 2x 3S/1600mAh	32.0		117.2	0	85.2		100	0	10	10	**205.2**

Pos.	Name	Model	Engine	Fast time (secs)		Slow time (secs)	Warn-ings	Time points		Landing points	Deduct points	Scale points	Colour points	Final score
4th	Nigel Frith	Grumman Wildcat	460W/1100rpV; 3S/2400mAh	31.9		D	0	-		-	-	-	-	DQ
		Grumman Wildcat	460W/1100rpV; 3S/2400mAh	32.6		106.8	2	74.2		100	0	10	10	**194.2**
		Grumman Wildcat	460W/1100rpV; 3S/2400mAh	30.7		104.6	2	73.9		100	0	10	10	193.9
		Mitsubishi A6M Zero	Emax GT2840; 3S/1800mAh	32.8		D	0	-		-	-	-	-	DQ
5th	Roy Green	Grumman AF Guardian	Axi 2820/8; 3S/2200mAh	33.0		94.3	0	61.3		20	0	10	10	101.3
		Grumman AF Guardian	Axi 2820/8; 3S/2200mAh	32.5		97.7	0	65.2		0	0	10	10	85.2
		Grumman AF Guardian	Axi 2820/8; 3S/2200mAh	29.1		101.9	0	72.8		100	0	10	10	**192.8**
		Grumman AF Guardian	Axi 2820/8; 3S/2200mAh	34.1		100.2	0	66.1		100	0	10	10	186.1
6th	John Green	Grumman AF Guardian	MDS 28	34.2		100.8	1	66.6	D	-	15	-	-	DQ
		Grumman AF Guardian	MDS 28	35.8		104.1	0	68.3		100	0	10	10	**188.3**
		Grumman AF Guardian	MDS 28	33.6		103.9	0	70.3		0	0	10	10	90.3
		Grumman AF Guardian	MDS 28	32.0		117.7	0	85.7		0	0	10	10	105.7
7th	Ian Gilbert	Westland Wyvern	Magnum 25	41.2	D	-		-		-	-	-	-	A
		Westland Wyvern	Magnum 25	38.4		D	0	-		-	-	-	-	DQ
		Westland Wyvern	Magnum 25	36.9		D	0	-		-	-	-	-	DQ
		Westland Wyvern	Magnum 25	41.1		D	0	-		-	-	-	-	DQ
		Westland Wyvern	Magnum 25	37.9		90.9	0	53.0		100	0	10	10	**173.0**
8th	Chris Howell	Messerschmitt Bf 109T	J'EN 37	31.5		98.0	1	66.5		0	15	10	10	86.5
		Messerschmitt Bf 109T	J'EN 37	29.2		126.9	1	97.7		40	0	10	10	**157.7**
		Messerschmitt Bf 109T	J'EN 37	29.5		129.6	2	100.1		0	10	10	10	120.1
		Messerschmitt Bf 109T	J'EN 37	32.0		D	0	-		-	-	-	-	DQ
9th	Mike Welch	Grumman F4F Wildcat	SC 25	44.8		D	0	-		-	-	-	-	DQ
		Grumman F4F Wildcat	SC 25	43.9		83.4	0	39.5		100	5	10	10	**154.5**