

“New Look I” 8 oz Wakefield by Jacques Morisset 1950

I built “New Look I” in 1990 following an encouraging foray into the 8 oz Wakefield class using Ron Warring’s “Voodoo” and “Zombie V”. Both were freewheelers, short coupled with a necessarily short hook to peg distance. The perceived wisdom during the period I was flying these re-creations was to use a powerful motor and punch them up as fast as possible using the good glide and anti-stall characteristics of the freewheeler to make the required duration. With “Voodoo” Warring claimed he had created a genuine five minute Wakefield which was incapable of further development. A common myth of his time was that he completed his final glide trimming using cigarette papers to adjust tailplane incidence. At the same time as Warring was pursuing his extremely individual design approach, French genius, Jacques Morisset was ploughing a very different furrow.



“New Look I” could hardly have been more different in design and layout. Following a line of development commenced in 1948 this version appeared in 1950 to compete in the 8oz Wakefield class. The model featured a single leg retracting undercarriage below a long diamond fuselage with a rear peg well aft, allowing for a very long motor too. It sported a tall pylon supporting a high aspect ratio poly-dihedral wing with ultra thin under-cambered

airfoil. In addition, he employed a generous nineteen inch diameter, twenty-four inch pitch, wide, single blade folding propeller and a twin finned, under-cambered tailplane with positive angle of attack. The CG was just forward of the wing trailing edge at 85%.

Just trying to understand these design concepts might cause an experienced Wakefield flyer some concerns. On paper the model looked awesome and in actualitaire the fuselage emulated the hull shape of a modern submarine. In practice it caused this comparatively inexperienced rubber flyer considerable grief for over two years before it was aerodynamically tamed and even after that, the model retained some suicidal and spiteful tendencies. This, then, is the story of my Jacques Morisset 1950 “New Look I” 8oz Wakefield from 1990 to the present time. Sixteen years, still crazy and still going strong!

As mentioned, I had been flying both of Warring’s famous designs from 1985 to 1990 when Mike Kemp introduced me to the “New Look I”. The plan was confusing, in that all the parts were superimposed upon each other on one sheet of paper only nine inches wide. I cast around for more references and found the 1950 Aeromodeler Annual, J. O’D. sent me a copy of some archived notes but French/English translations from M.R.A. Numbers 134, 135 and 222 were the pot of gold needed to enable this inexpert Wakefield flyer to attempt this project. The first obvious dilemma that leaped from the drawings was that of the pylon position. I opted for the one placing it more towards the rear, reckoning that this would aid CG trimming. The other construction issue was the potential weakness of the (very) thin (5.5% of chord) mildly under-cambered wing. I opted for a spruce spar and wire joiners as opposed to the less positive, locating stubs and holes method.



Not-with-standing, the wing was put together in one piece with the top mounted main-spar and its dihedral angles pre-constructed with very accurate scarf joints over an appropriate engineering drawing. Using two thicker centre ribs, 1/64" apart, each panel was built on to the whole spar, propping up the completed panels as work progressed. Joiner tubes made from RC snake outers were let in to the centre sections before the wing halves were separated with a

razor saw. Because the wing was so thin, I prepared the ribs with flat bottoms and only when the wing was complete was the under-camber introduced to each rib by means of a ply cutting guide slotted over spar, LE and TE using an angled scary sharp blade. It works a treat and is a good way of avoiding assembly damage to the very thin ribs and eliminating distortion of the section.



My fancy skid was discarded in due course as being useless for solid DT landings and the model now has a fairly substantial keel fitted to prevent continual damage to the bottom longeron. Fins are detachable, using pegs, hooks and bands. The DT arrangement has no stop line, relying on an angled face at the front of the stab unit and strategically placed hooks, pegs and a single band to provide leverage and location. Both methods described in my "Le Vibrant" story. Not seen in the photo is the rear facing snuffer tube, since superseded by a Tomy timer. The single U/C leg has the minutest of wheels and is retracted by a sheering elastic pull, acting on a neat over-centered pivot against a rear facing stop. Brilliant!

Included in the complexity of this design were several features typical of French innovation in this class of airplane. According to Morisset, despite the very thin sections of wing and tailplane, the top mounted spars were raised to maximize the rigidity of the structure. Methinks there might also be turbulation. The pylon was introduced to meet cross section rules, reduce fuselage friction drag by 30% and lessen wing/fuselage interaction. The U/C was minimized to reduce weight and drag. Twin fins increased the

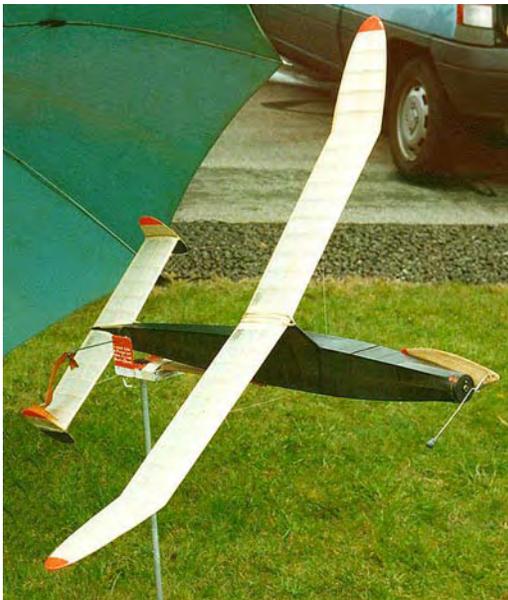


efficiency of the tailplane and originally only the right fin was removable because the other had to withstand the very high torque at take-off due to the designer using 120 grams of rubber. He maximized wing and stab areas by using caches to cover their center sections. On top of all this he introduced a lifting tailplane with positive incidence to prevent too much nose-up during the power run (In my case this proved a jeopardy too far, as described later).

As with all my models the fuselage is covered with silk, which in this instance, proved ideal for the pylon with no loss of rigidity due to incomplete covering of the section within the pylon and it molded to the curves perfectly as seen in the above photo.

Shortly before my model took to the air, Peter Michel had already completed his version and I witnessed it being trimmed at Chobham Common. Scary or Wot? After initial formalities, his first high powered flight went across the common at about forty mph and got no higher than fifteen feet. Scary because most of the gorse bushes at Chobham are about ten feet tall. It survived, but only just. An on-field conference concluded that four degrees of wing incidence and two degrees of positive incidence on a lifting tailplane made this design act more like a chuck glider than a conventional Wakefield. Decalage was obviously the issue, yet Morisset designed it that way so Peter started to play around with thrust line and CG. Eventually he managed to normalize the power run and his model became quite competitive. For me the story was more complex.

After I had sorted out thrust line and CG, “New Look I” behaved itself immaculately under power but had the most un-nerving and suicidal habit. Despite a superb looking glide, generated by Morisset’s inspired wing, any disruption to the glide pattern caused



by (say) turbulence or perhaps a bad prop fold, the model simply tucked its left wing down and dived into firm terra at frightening pace. And yet it was not predictable. One would get maybe three or four good flights, then bingo, vertication at speed. Damage was inevitable on anything other than the softest of long grass and if it happened over hard ground then “New Look I” always formed its own splinter group. I rebuilt that blasted fuselage three times in the first year. Because it was so capricious one could not really trim it out, so I just suffered the problem and prayed. If that was not enough, it had a second and every bit as annoying and frustrating characteristic; from time to time it would develop a hammer-head stall after about one minute of normal disciplined glide. On the

glide, completely out of the blue! Hammer-heads! It may well have been bunch induced but “New Look I” was clearly trying to operate in unstable portions of its flight envelope and these atypical behaviors were completely beyond my diagnostic skills and, for that matter, most of my “Crazy Rubberband” colleagues too.

Let’s just back up a tad here! The all up weight of the model was quite high when loaded with 110 grams of Tan I rubber. It was rigged to fly right/right with left rolling warps to prevent a right spiral dive under the influence of normal side thrust. Clearly whatever Morisset had achieved in 1950 to become the “Champion de France” was not working for me here in the UK in 1990-92. I all but gave up with “New Look I” as a result of these foibles until good friend and star modeler, Paul Dancer, had a Eureka moment.



He collared me on a club night at RAF Henlow declaring a consultation with aerodynamicists at his place of work (The College of Aeronautics, also the place where, years earlier, I completed my apprenticeship. I kid you, not!), and had come up with a cunning plan. I was to move the CG forward 3/4" by building lighter tail feathers and adding some nose weight, rig the stab at zero incidence (as opposed to two degrees positive), remove all the wing warps

and adjust the side thrust and glide trim to fly the model right/left. This, he declared, would solve all the problems of instability on the glide. As the model was already damaged from a prior incident I stripped the covering and started over, following Paul's plan. To cut a long story even longer, "New Look I" was completely transformed.

From the very first trim flight with this new pattern, the prior vices were pretty much gone. What's more, its very satisfactory sinking speed had not degraded as might have been expected and under power it just loved the tad of up-thrust introduced to maximize the power pattern. I know! I know! Had Samuel Johnson been a really wise man he

would have declared "Up-thrust is the last resort of scoundrels", but he didn't, so it was left to William Beales (son of David) to coin this phrase when he heard of my sinful solution. That quotation is now etched on my winding jig in testimony to this inspiration.



So there you have it, "New Look I" was transformed and apart from an occasional stalled glide, almost certainly caused by a bunch, it has been on rails ever since. Not that it has avoided other regular difficulties, for example, spending four weeks in an eighty foot tree at Old Warden. This event was highlighted with aid from a kindly farmer who broke out his JCB and hoisted me and my retrieval poles high into the sky only for our combined efforts to fall agonizingly six feet short of success. Eventually it came out in a gale. Later that same year, it

spent a week in a wheat field at Barkston luckily being spotted by an alert combine-harvester driver seconds before entering a breakfast cereal production process. It shredded itself on barbed wire at Odiham and DT'd onto a block of concrete at the 2003 Nationals in self destructive mode. (It was nothing to do with me Guv!). Prior to that there was a hanger roof at Barkston, again at the Nationals, when it got hung up by the DT line, but also, some providence when it DT'd down through the densest of forest canopies at Woodbury, only to be spotted by the sheerest of good fortune whilst taking in a detour to navigate through the inhospitable greenery. No radio bugs in those days!

Again at Woodbury it went flat from a bad launch and smashed into a sapling on full chat dissecting the wing. Undaunted "New Look I" landed atop a massive hanger at MW only to be retrieved by the resident firemen with whom I pleaded to drop it over the side to DT down rather than risk them trying to carry it down through the tubular ladders that adorn the building. They reluctantly complied and it landed safely on the adjacent lawn.



So despite flying like a dream in all weathers it still has these suicidal tendencies and I have my suspicions that it is also malevolent. Witness the events that transpired on Sunday 10 August 2003 at Old Warden on the hottest day ever in the UK. "New Look I" conspired to create a near death experience for your scribe whilst attempting to retrieve a flyaway from remote farmland when I grounded my Classic Rover Vitesse on a farm track and suffered a severe dose of heatstroke. Now there's another story!

How then, have other UK flyers fared with this design? Well PDM's "New Look I" was competitive for a couple of years but I fear he got fed up with its tendency to self damage due to the fragile wing. Chris Blithe built one at the same time as we two, and because he came

from the indoor modeling school of weight-watchers he created a three ounce airframe loaded with five ounces of rubber. Just take a moment to think about that. It was no wonder that every time he flew the model it came back damaged. Finally, maestro modeler J. O'D. has been flying one for a few years recently and he has it trimmed as Morisset intended. It is a potent example but despite what is rumored to be a turbulated wing his model occasionally stalls in from prodigious heights which is probably due to his conventional right/right pattern. However it rarely lets him down in the rounds because of the heights attained and he often flies it in Open Vintage and Open Rubber. That is some testimony to the effectiveness of this design, a 1950, 8 oz Wakefield, competitive in modern Open Rubber.

Would I recommend it? Yes! But not for the faint hearted! In sixteen years this model has been responsible for more thrills and spills than any other that I have built and because it has such a fabulous wing it is capable of superb performances, despite being well over weight. When the time comes for it to be retired or it irrevocably self-destructs I would definitely build its successor. 'Nuff Said!

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