

Ode To Balsa

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BALSA WOOD. I have had a long-time love affair with it. It brings back modeling memories dating to the time I started building stick and tissue models when I was a teenager. I love to work with balsa, to cut it and sand it and admire my workmanship. I find myself running my hand over it, touching it, caressing it. A finely sanded piece of balsa is sensuous, with its own particular feel and smell. I must confess that, like a philandering lover, I also love all kinds of wood. Oak, walnut, maple, cedar, teak, mahogany, pine, spruce and, yes, even obechi. But my true love is balsa.

No other wood has the incredible variety and versatility of balsa. From mushy soft to bone hard, from flexible enough to form tubes and rings to stiff and super strong, depending on the part and cut of the log: straight grain, cross grain or quarter grain. Each has its own characteristics of strength and flexibility.

We older guys have all heard the stories about how balsa became scarce during WWII because shipbuilders were using enormous quantities of it to insulate Liberty ships. But do you know that much of it was used to build full scale WWII fighters? What fighters you ask how about the famed DeHavilland Mosquito? The following quotation is from FLYING magazine:

"The Mosquito embodied some novel design features, not least its fuselage structure, which was formed from laminations of birch ply with an infilling of balsa wood, It was made in two halves, split vertically like a plastic model kit, which greatly speeded manufacturing time since all equipment, pipework, electrical wiring and control runs could be installed before the halves were joined. It also enabled the aircraft quickly to achieve mass production, since much subassembly work was farmed out to the furniture industry. The use of balsa wood (Mosquito production is said to have devoured an entire Ecuadorian forest) ensured that any crashed Mosquito was quickly scavenged by model airplane builders"

Balsa is still used in full scale aircraft and ships. The Boeing 747 uses floor panels made up of vertical grain balsa sandwiched between two sheets of aluminum. Tankers carrying compressed gas - usually methane - have their tanks lined with balsa, as much as 4000 cu. ft. per tank. So, we modelers are not the only ones competing for balsa, which comes mostly from Ecuador with small quantities coming from Costa Rica and New Guinea.

New methods of high-tech modeling construction use much less balsa than in the past, a regrettable trend from my point of view, but probably inevitable. My newest sailplane, the Shadow Plus, has very little balsa. Construction is fiberglass fuselage and obechi covered foam wings and tail. However, my nostalgia for balsa continues unabated.

When I was still a teenager I built a Comet Sailplane, a larger permutation of the famous Zipper, designed by Carl Goldberg. It was not a sailplane at all, but a seven-foot wingspan free flight

powered by an Ohlsson 60. The balsa wing was a work of art, with rib spacing of about 2" and four or five spars running through the middle of the die-cut ribs. I hated to cover up that magnificent structure.

The foam wings of today may be lighter, stronger and more efficient, but they don't convey that sense of awe, that your own hands have put together a true work of art. No other material could have been used in that wing; balsa made it possible.

Time and technology march on and man-made materials are developed which have specialized characteristics making them more suitable for specific applications. But there is yet a material to be developed that does so much so well, as balsa. I think -and fervently hope - that it will be with us for a long time to come.

An Ode to Balsa...

To use balsa or not to use balsa, that is the question:
Whether 'tis nobler in the mind to suffer
obsolete construction and outrageous performance,
Or to take arms against the onslaught of fiberglass and epoxy,
And by opposing end them.
To die at contests, to sleep late on Sundays;
No more: and by a sleep to say we end
The heart-ache, and the thousand natural shocks
That flesh and sailplanes are heir to, 'tis a consummation
Devoutly to be wish'd. To die, To sleep,
To sleep: per-chance to dream: ay, there's the rub:
For in that sleep of death what dreams may come,
That we are first in expert, the grand champion, yea, level V!
To forego our love, balsa, oh balsa.
To embrace foam and carbon fiber, Kevlar and Spectra;
To computer design our foils and bag our wings.
For who would bear the whips and scorns of time,
The oppressor's wrong the proud pilot's contumely,
The pangs of despised love, nature's law overtaking
The insolence of youth and talent, and the spurns
That patient merit of the unworthy takes,
When he himself might his quietus make
With an Olympic II: a Paragon?
Thus conscience does make cowards of us all,
And thus the native hue of resolution
Is sicklied o'er with the pale cast of thought,
And enterprises of great pitch and moment
With this regard their currents turn awry
And lose the name of action.

Apologies to William Shakespeare