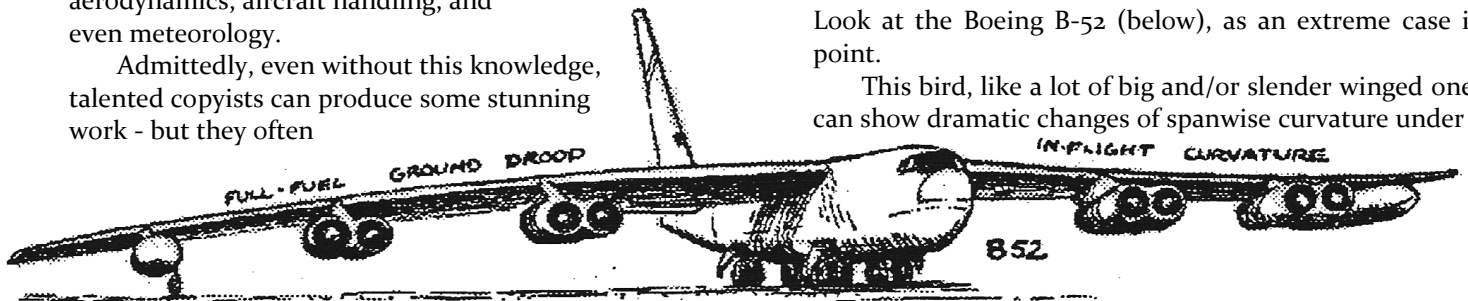


# Wing Tips

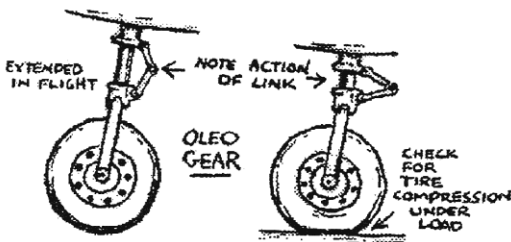
by Don Connolly

I had a stern and effective high school teacher who used to say 'don't just look at this equation, Connolly - see it'. By this of course, he meant *understand* it: its structure, its logic, its foundations. So it is with good aviation art. To really do justice to a subject we must learn to see beyond just the surface qualities of outline shape, texture, and colour; we must 'get inside' and study the underlying structure, the logic of its design, the materials from which it is made, and even its dynamic qualities. Good portrait/figure painters know this. They spend considerable time in the study of skeletal and muscular structure, the drapery of clothes, and even the personalities, backgrounds, and interests of their subjects. Similarly, aviation artists should try to acquire at least a basic knowledge of aircraft design and structure, of aerodynamics, aircraft handling, and even meteorology.

Admittedly, even without this knowledge, talented copyists can produce some stunning work - but they often



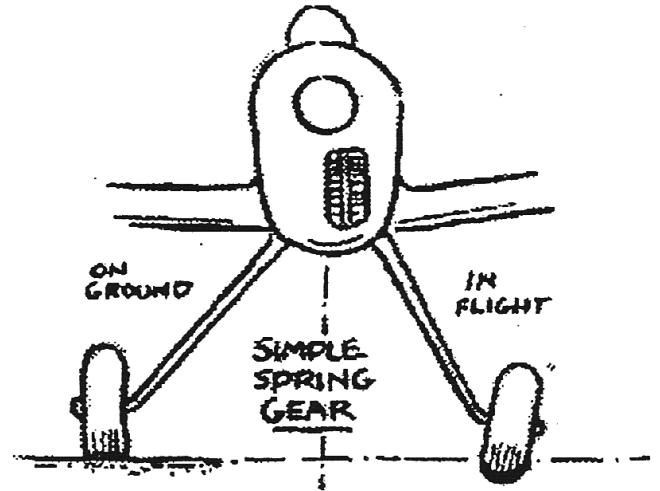
show their credentials when the time comes to produce truly original creative work. The aircraft attitudes look false; the showroom finishes are unreal; the flaps or flight controls have the wrong set; the pilots are out of scale, the scenario is more melodramatic than real, etc. The rendering may be superbly slick; but it is somehow false, like the work of a pandering society portraitist. They have looked, but they didn't really "see".



I'd like to focus on a few of the topics touched on above, to highlight common errors or oversights that can be avoided through more astute observation, and to provide a few fundamental insights into how and why things look and work as they do.

## Watch for Gravity!

Be careful! Those three view drawings you may be using for references don't bend, nor do plastic models - but real airplanes do, often considerably.



Look at the Boeing B-52 (below), as an extreme case in point.

This bird, like a lot of big and/or slender winged ones can show dramatic changes of spanwise curvature under

varying degrees of loading; and with the advent of more flexible composite structures, the feature is becoming commonplace. At an airshow, make it a habit to compare in-flight appearance with that of the same aircraft in the static park. Watch also for the effects of high G-load manoeuvres and heavy turbulence.

Here's another common trap for the unwary aviation artist: the humble undercarriage. Make sure you think of Mother Gravity when you portray the 'alighting gear'. (See above and left)

One final tip: don't use a straight edge on those tracer bullet trajectories, Eugene. Remember, the darned things have to fall; they don't zip along straight forever!

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