

JET-STREAM EXPLORATION

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It is well known that any *unsteady* vertical motion affects high wing loading aircraft in a complicated way. Attempts to evaluate this reaction analytically for meteorological purposes are discouraging, as variations in altitude, attitude, air speed and accelerations have to be taken into account together with the other varying parameters of the particular aircraft. Even the evaluation of a few minutes' flight through cumulus clouds is a tremendous job.

The procedure best fit for the normal operations of the "Project Jet-stream" aircraft is a constant pressure altitude flight (by autopilot at constant throttle setting) with precision recordings of air-speed variations. There are always slight altitude variations connected with air oscillations of this type. The phase shift between altitude variation and air speed variation allows to distinguish between horizontal and vertical air motions. If the vertical motions were steady, sink and climb flights in still air would be sufficient for calibration. Such approximate methods have been used for meteorological work in England and calibration flights of this nature are made by the jet-stream aircraft to fix a sort of upper limit (corresponding to an infinite wave-length). But for finite wave lengths of the order of 10 miles or smaller, fast flying aircraft, such as the B-47, react in a different way and don't reach a steady state.

Flights through a well-defined mountain wave measured quantitatively by gliders give another approximation. Good coordination between glider and B-29 which, in 1954, flew 14 traverses through a moderate mountain wave with varying flight parameters made the first attempt a success. Of course, areas known to be most steady in wave development have to be selected. The results of last year show that, for the wave length encountered, vertical motions may be evaluated from the air speed record of the B-29 with about 150 ft. per minute accuracy. This is poor for glider standards, but not bad for modern high wing loading aircraft. Some shortcomings of the procedure will have to be corrected. We are hopeful that the new results will be applicable to the routine flights of the jet-stream aircraft which, due to their long range, have an uncomparably greater chance to encounter

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Spiraling

with E. J.

It is spring and the voice of the turtle is heard throughout the land. This is the season when pop bottles are hurled at the 'blind Toms' behind home plate, a few of the younger men are supposed to turn their fancy to thoughts of love, and all soaring men, both young and old, focus their undivided attention on the rules for the up-coming tournaments.

Now that we have definitely established that it is truly spring, leave us take up as the topic for today's lesson, contest rules; those who make 'em—those who fly by 'em, and those who cuss 'em. The latter group most generally includes everybody except the guy who wrote 'em.

Let me make it clear right there going away, that no matter how thin you slice this contest rule bologna—it's still the same. Although some of the rules critics, expert arbiters and authors would have you believe that their particular rule concoction is different—some, there are, who will say theirs taste like ham, or white meat of chicken, etc., etc. But take it from this old rule Epicurean—it's all the same thing.

Some years ago I was younger and batting around the contests doing my dangest to break into the top half dozen, and never quite making it. I concluded that it wasn't my ability as a pilot that was keeping me out of the elite group of top finishers, but the dadburned stinking rules. So—I went to work a writin' and a riggin' up me a set of rules myself. Something that would just exactly fit my individual situation and personality—and I did it.

Well sir—after I got my rules all wrote, I decided to sort of try 'em out, give 'em a test, a dry run that is. I fetched up a batch of facts and figures going back and taking the day's performances of the pilots who had competed in the Nationals for several years back. I figgered and I figgered, must a wore down three or four new wood case lead pencils and used up the back of all the envelopes I could find in my pockets—these being, for the most part, letters my wife had given me to mail. Believe me thee, I came up with a most revoltin' development.

No matter how I did it—it would forever and eternally come out with such guys as MacCready, Johnson, Parker, Coverdale, Compton, and a half-dozen or seven other blokes ahead of me. Fact is, I lost a little if anything. So right then and there I made me a vow. Never again would I fool around with rule making. When a fella can't win by lookin' at the opponent's hole card, it's time to start doing something else.

And—so it was that I launched myself on this writin' career, and I've been a laughin' and a scratchin' ever since.

The sharpest pilots always win, regardless of the Contest Rules.

EJ