OFFICIAL WORD

Boeing drops the swing wing

After months in the rumor mill, the likelihood has become official fact. The controversial variable-sweep wing is no longer a part of plans for the U.S. supersonic transport.

The Boeing Co., builder-to-be of the aircraft, had hung tenaciously onto the swing-wing idea, even when heavy structures necessitated by the wing pushed the plane more than 25 tons overweight, almost enough to wipe out its ability to carry passengers.

Then the strain began to show. Last February the Federal Aviation Administration announced that Boeing was being allowed to delay construction of the prototype aircraft for a year while it reevaluated its design, although the FAA's development director for the project, Maj. Gen. Jewell C. Maxwell, said that any changes would not include dropping the swing-wing. A few months later, rumors began appearing that Boeing was indeed looking at a fixed-wing design among others, and by September it had become the leading candidate (SN: 10/5, p. 340).

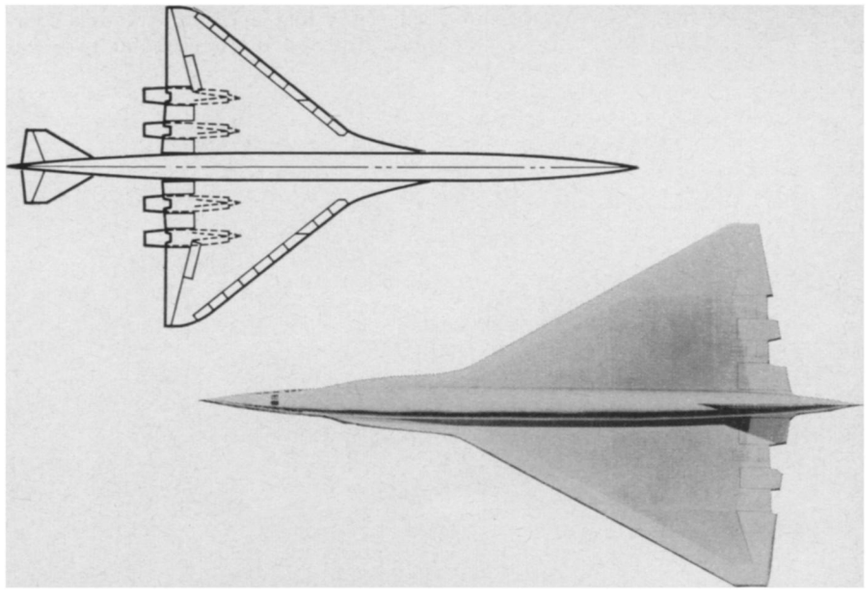
Last week it publicly became the only candidate. In Philadelphia, at the annual meeting of the American Institute of Aeronautics and Astronautics, Boeing engineer John M. Swihart revealed that "work on the variable geometry wing design for commercial application has been discontinued."

Within Boeing's private offices, however, the decision may well have been made weeks earlier, and with good reason. By Jan. 15, the company has to present its final design recommendation to the FAA, and it faces a severe penalty if it doesn't come up with a winner. Should the new design fail, Boeing will be out some $45 million, the cost of its year of grace.

Then, barring additional extensions, the competition could reopen.

In principle, the new design is more like the one with which Boeing's competitor, Lockheed, lost the supersonic competition 22 months ago than that with which Boeing won it. Both aircraft feature fixed delta wings that attempt to resolve the conflict between maximum wing area for lift at subsonic speeds and minimum area for streamlining at supersonic speeds.

In fact, Boeing's new version is like a compact sports model compared to the massive swing-wing design. The fuselage is 280 feet long, compared with the 318 feet to which its predecessor grew as engineers drew in more seats and bigger fuel tanks to try and keep the increasingly expensive bird profitable. The fixed-wing plane should carry 280 passengers, less than the 300 planned for the swing-wing, but more than equal to what its capacity was before the worries set in.



Boeing/Lockheed

Fixed wing shared by new Boeing (top) and old Lockheed supersonic designs.

Weight of the new plane, Swihart says (and Boeing profoundly prays), will be some 635,000 pounds, fueled and ready to go. This is 45,000 pounds heavier than Lockheed claimed for its proposal, but it is also 45,000 pounds lighter than the weight that the swing-wing prototype was struggling vainly to meet.

A major difference between Lockheed's old design and Boeing's new one is that the Boeing plane has a horizontal tail. Lockheed instead employed a huge wing that stretched back almost to the rear of the fuselage. One advantage of the tail (Boeing again hopes) is that it provides control leverage from the rear of the plane while eliminating a lot of drag-producing wing area. Boeing's wing is some 17 percent smaller in area than Lockheed's old design, and is even some 13 percent smaller than the lifting surface of the swing-wing design, which would have combined wing and horizontal tail during supersonic flight into a continuous 9,000-square-foot surface. The new wing is less streamlined than the earlier fixed wing, however, with a leading edge that angles back at only about 50 degrees, compared to Lockheed's 65.

The resemblance between the two fixed wings, however, at least in approach, has caused some observers to wonder anew about the basis for selecting the winner of the SST competition in the first place. "They didn't make a technical decision—they made a political decision," says a Lockheed official, who nonetheless claims that Lockheed would not now want to develop the first U.S. supersonic airliner anyway. "The investment costs are too great," he says. "It'll take years to start making a profit."

If all goes smoothly from here on, Boeing's SST will still not fly before 1972, and will not be delivered to the airlines until four years after that. Meanwhile, the slower but still supersonic Anglo-French Concorde is expected to make its first flight this year, as is the Russian SST, the Tupolev 144.

MONKEY TRIAL

Evolution reaches highest court

William Jennings Bryan, three-time Presidential candidate, was there to defend the Word of God.

Clarence Darrow, famed advocate of lost causes, was there to defend the right of teachers to pass along the insights revealed by science.

The nation's best journalists, led by H. L. Mencken, were there to telegraph the results to a waiting nation.

Bryan, who won, died of a stroke immediately after the trial. Darrow, who lost, became an even more respected lawyer. The reportage of Mencken is still studied in Journalism 101.

But the Monkey Trial petered out—John T. Scopes, convicted of teaching evolutionary theory to the innocent youth of Tennessee, was let off on a technicality by Tennessee's Supreme Court, and Darrow was unable to appeal to the Supreme Court of the United States for a constitutional ruling. That was what he really wanted.

Now, 43 years from the funeral-parlor chairs and the sweat-soaked galluses of Dayton, Tenn., the Supreme Court finally has the issue before it. From the verbal encounter it appeared very likely that the infidel Darrow might finally win