

aerospace

SUPERSONIC TRANSPORT

Revised design is smaller

The Boeing Company's revised, and hopefully final, design for the U.S. supersonic transport, which does away with the controversial swing-wing (SN: 11/2, p. 440), is considerably smaller than its predecessor, but could grow back again thanks to an unusual engineering approach.

The new plane, now known as the 2707-300, is 280 feet long and has a wingspan of 141 feet 8 inches. This makes it 38 feet shorter and 32 feet 4 inches narrower than the swing-wing version, so it can carry only 234 passengers, compared to the earlier design's 292.

However, the fuselage has been designed to sit almost entirely above the wing, so that it could be produced in different versions ranging up to 299 seats.

The design was submitted to the Federal Aviation Administration on Jan. 15 for technical evaluation by the FAA, other Government agencies and the airlines, which should take from 30 to 90 days.

AUSTRALIAN SPACE PROGRAM

Whither tracking?

Australian space tracking officials are becoming increasingly concerned about future U.S. space probes, and are already searching for possible diversification projects.

At present, the country is almost entirely dependent on the U.S. for both funds and missions to maintain space tracking and communications facilities worth some \$90 million and employing about 1,000 people.

If the Nixon Administration or the new Congress continue to cut the U.S. space research budget (which includes sounding rocket as well as satellite launches), Australia will have considerable surplus capacity to offer Japanese, British, or other European organizations.

Britain is firmly committed to establishing a military communications satellite network launched by American rockets; France is already launching its own satellites and Japan is expected to orbit its first one this year.

XB-70

Two down, none to go

Only weeks after the decision to ground the X-15 rocketplane, the one giant XB-70 research aircraft remaining from the two that were built made its last flight.

Conceived in the mid-1950's, the B-70 was to have been a high-altitude, high-speed bomber. By the time the first two aircraft had been constructed, however, development costs had risen to more than \$1.5 billion, and the plan was dropped. The two existing planes were converted to research craft—thus the 'X' in front of their number—and turned to providing data on such problems as engine inlet design and structural stability. The XB-70 first flew on Sept. 21, 1964.

On June 8, 1966, the number-two aircraft was destroyed in a crash resulting from a mid-air contact during an improperly authorized publicity flight. The National Aeronautics and Space Administration took over operation of the remaining vehicle from the Air

Force on March 25, 1967, and kept up its research.

During its career, the XB-70 reached speeds of 2,000 miles per hour, three times the speed of sound, and a maximum altitude of 74,000 feet.

FLIGHT SAFETY

Larger data recorders

The flight data recorders carried on commercial airliners to aid investigators in case of a crash would provide almost four times as much information under a proposed Federal Aviation Administration rule.

Besides the presently recorded data—time, heading, altitude, vertical acceleration and airspeed—the new rule would add 14 other kinds of information concerning response to aerodynamic forces, position of flight control surfaces and engine performance.

Industry comments on the proposed rule are due by April 18. If approved, the larger recorders would be required on new aircraft in three years and existing ones in five.

AIRCRAFT DESIGN

European airbus shrinks

A huge fan jet engine, more than 10 feet long and 7 feet in diameter, and producing more than 47,000 pounds of thrust, has caused a major change in plans for the European airbus, according to Sir Harry Broadhurst, head of Hawker Siddeley Aviation in England.

Originally planned as a 300-passenger aircraft known as the A-300, the plane will be reduced to a 250-seater to be called the A-300B.

The reason is the Rolls Royce RB-211-28 engine, which was developed for the intercontinental version of the U.S.-built Lockheed airbus and thus will be available with no development costs. The European aircraft was to have used the even more powerful Rolls Royce RB-207, which would have permitted the extra payload, but that engine needs much more development.

The change is expected to trim the overall development cost of the airbus project by a third, bringing it down to about \$400 million.

NAVIGATION

Queen Elizabeth 2 to follow man-made star

The \$70 million Queen Elizabeth 2 will be the world's first passenger vessel capable of being navigated by space satellite.

The 65,000-ton ship will be equipped to receive special transmissions from the U.S. Navy Navigation Satellite System, formerly known as Transit, which will make it possible to determine position to within one-tenth of a mile. The system was opened to commercial shipping on July 29, 1967.

In the system, radar measurements from the ground are analyzed by computer to determine the satellite's position over the upcoming 12- to 16-hour period. This information is then fed to the satellite, where it is stored in a memory device and broadcast to properly equipped ships at two-minute intervals.