



SUPERSONIC JETLINER—Should America build a supersonic jetliner capable of 2,000 miles per hour? That question is being discussed by industry and government officials and is the subject of congressional hearings. An artist's conception shows what such a plane might look like as passengers get ready to board her. (UPI Telephoto)

futuristic rocket ships more than airplanes. For one thing, they will be built out of stainless steel and/or titanium rather than aluminum. At (about 1,600 miles an hour) the temperature on the leading edge of the wing would be 300 degrees Fahrenheit; at Mach 3 (2,000 miles an hour) it would be more than 400 degrees. Present aluminum alloys won't take such heat and would develop metal fatigue quickly. The supersonic jet also may require entirely different controls and wing structure. Pushing a commercial jet through the skies at 50,000 foot altitudes and speeds of 2,000 miles an hour may involve problems for which modern aeronautical engineering presently has only theoretical solutions.

Q.—Would passenger accommodations be different?
A.—Possibly. For example, some engineers believe the super-jets won't have any windows. The possibility of a window blowing out at 50,000 feet is frightening. But to prevent claustrophobia in a windowless airliner it has been suggested that passengers could watch takeoffs and landings on a closed-circuit

television screen mounted in the cabin. Another casualty of the supersonic age might be the full course meals now served on transatlantic flights. It would be hard to serve 200 passengers on a two or three hour flight, and snacks may be the menu on the super-jets.

Q.—Will the super-jets need more take-off and landing room?

A.—Probably. A Boeing study shows that they may require 12,000-foot runways for take-offs—and that presents a real problem. There is only one airport in the United States with a runway that long—Shepard Air Force Base in Wichita Falls, Texas, used by both military and civil aircraft.

Q.—How about the noise problem?

A.—This will be a major headache. Present supersonic engines on military planes are even noisier than the subsonic jetliner power plants which already have stirred up resentment and protests. There is no technical breakthrough in sight on noise suppression. Furthermore, joint Boeing and National Aeronautics and Space Administration (NASA) tests show

that large supersonic aircraft cause ground level sonic booms along their flight paths. Some scientists warn that supersonic jetliners may be able to fly only over-water routes, and that the sonic boom phenomenon would ban such trips as New York to Los Angeles. It is somewhat difficult to map a transcontinental flight plan that would avoid completely passing over populated areas.

Q.—Could supersonic aircraft fit into today's air traffic control picture?

A.—A NASA report answers it this way: "Once a supersonic aircraft is airborne, it must fly along a precisely controlled flight path with little or no delay. It must rely heavily on automatic flight control and stabilization systems, and rapid automatic traffic control and weather forecasting over the entire route." In other words, the present air traffic control system couldn't handle supersonic traffic in any volume. It is hoped that by 1970 the system will be almost entirely automatic, but it is possible that we could have the airplane without the means to operate it.

Q.—Could the super-jets be used on short trips, say from New York to Chicago?

A.—Experts say there will be no supersonic trips under 2,000 miles which pretty well limits the prospect of such travel within the United States. Only about 25 per cent of today's long-range air trips are over land areas, with 75 per cent involving transoceanic flights. But interconti-

ental travel still would present a sizable market for such planes. Boeing estimates the potential sales at 30 planes per year.

Q.—If there are THAT many problems, what's the use of spending millions and even billions on the project?

A.—As President Stuart Tipton of the Air Transport association said: "Whoever does build a good supersonic trans-

port will be in a position to dominate the air routes of the world." Tipton points out that using largely American-built airliners, foreign carriers have cut the U.S. share of the transatlantic travel market from 70 per cent to less than 38 per cent. If a foreign country achieves supersonic travel before we do, its subsidized airlines could hurt us badly both in prestige and profits.

Problems in Operating High Speed Jet Airliner Discussed

By ROBERT J. SERLING
Washington — (UPI) — Should America build a supersonic jetliner capable of 2,000 miles an hour?

That question is being discussed by industry and government officials and is the subject of congressional hearings.

The following questions and answers describe the problems involved in designing and operating a transport that could go from New York to Paris in three hours.

Q.—Is there really a need for such an aircraft?

A.—From a purely competitive standpoint, yes. Britain is

reported well along on supersonic transport design. France and West Germany are said to be considering a joint supersonic project and Russia is known to be striving for what would be the ultimate in commercial air travel. The U.S. cannot afford to let one or more foreign countries beat it to supersonic jetliners. Whether there is any real public demand for airliners that fast is another matter. If enough people indicate they'd pay money for 2,000-mile-an-hour flights, the plane will be built.

Q.—How much has the U.S. done toward a "super-jet"?

A.—At least three American manufacturers—Lockheed, Boeing and Convair—have done a considerable advance planning, both on supersonic technical problems and economics. Lockheed has a supersonic jetliner design on paper and claims "we know how fast it will go, how far and how high it will fly, and how many passengers it will carry." Boeing and Convair are at about the same stage, which means a prototype could be built and tested by 1965. But Douglas, another of the industry giants, is wary. Douglas points out that U.S. airlines can't afford supersonic jets at present because they still have financial and operational problems to solve with subsonic jetliners. Douglas believes the predictions that super-jets are "only five years away" are unrealistic and gives 1970 as a more logical target date.

Q.—Will they be expensive?

A.—The most expensive commercial planes in history. The research and development costs of just a prototype have been estimated at a minimum of \$75 million and a maximum of \$1 billion. President Charles Thomas of Trans World Airlines says the actual production model will carry a price tag of about \$18 million—three times more than the Boeing 707 and Douglas DC-8. The super-jets also will be bigger and heavier—350,000 to 800,000 pounds, compared to the DC-8's 276,000.

Q.—Who'll pay for the research?

A.—That is a question which is being thrashed out in Congress. Governments like Britain and Russia are subsidizing supersonic transport development, and virtually every aviation official in this country says we must do likewise. But there are two possibilities to ease the financing problem: (1) If Congress appropriates the necessary funds for pushing full development of the B70 supersonic bomber, it would solve many of the problems to be faced by the passenger planes; (2) A suggestion by President Robert Six of Continental Airlines that the Federal Government subsidize the research and design work, and be repaid through royalties on the sale of production models.

Q.—Would a supersonic jet be built like the current jets?

A.—They not only won't be built like them but they may not even look like them. Some of Boeing's and Lockheed's suggested drawings resemble

ASK FOR
Blue Ribbon
MALT EXTRACT
IT'S PURE

3 lbs.
the added touch of perfection
AT YOUR GROCER

NOW... One-Step Starching



JUST SPRAY AND IRON!

New Liquid Mist REDDI-STARCH is the wonderfully quick and convenient way to starch all clothes. Just spray and iron. You dampen and starch in one step... you can iron immediately.

This remarkable new spray starch eliminates mixing, dipping, wringing, drying and dampening. Heavy, medium or light starching is instantly yours. No mess, no waste.

Switch to one-step starching. Get new Liquid Mist REDDI-STARCH today!

FRESH PORK SPARE RIBS

SMALL, MEATY
TENDER SIDES

DELICIOUS FOR YOUR BAR-B-Q

55¢ lb.

MORRELL'S E-Z-CUT
FULLY COOKED

Hams 1/2 OR WHOLE 12 to 14 lbs.

69¢ lb.

FRESH SLICED SALMON

FANCY LARGE OCEAN CHINOOK

98¢ lb.

HAM LOAF

GROUND SMOKED HAM With Some BEEF & PORK

59¢ lb.

LEG O' LAMB

GENUINE SPRING LAMB LAMB PATTIES 23c lb.

69¢ lb.

Fresh Ground CHUCK LEAN—JUICY—TENDER

PURE PORK SAUSAGE OUR OWN DELICIOUS COUNTRY STYLE

75¢ lb. **49¢** lb.

FRESH GROUND STEER BEEF

39¢ lb. **10 LBS \$3.75**

BISQUICK LARGE 40-OZ. PKG. **39¢**

GOLD MEDAL OR DRIFTED SNOW FLOUR **10 LB. 98¢**

BETTY CROCKER PANCAKE MIX **4 LB. 49¢**

QUICK Jumbo Family Size Tin **79¢** COCOA MIX

HERSHEY'S Chocolate SYRUP **2 1-LB. TINS 39¢**

GERBER'S BABY FOODS

STRAINED **10 Tins 79¢** JUNIOR **8 Tins 79¢**

CARNATION LIGHT MEAT TUNA **3 JUMBO TINS \$1.00** SWIFT'S VIENNA SAUSAGES **6 TINS \$1.00**

MANDARIN ORANGES **4 11-oz. Tins \$1.00**

FROZEN BIRDS EYE FOODS

- Peas
- French Fries
- Peas and Carrots
- Leaf Spinach
- Chopped Spinach

6 Pkgs. \$1.00

Romaine AND RED LEAF Lettuce **3 BUNCHES 29¢**

RADISHES and GREEN ONIONS **3 Bunches 17¢**

BRIGHT, CRISP CELERY **2 LARGE BUNCHES 33¢**

FIRM GOLDEN BANANAS **2 lbs. 29¢**

—ED MILNES—

QUALITY MARKET

222 West Main
Next to Copco

FREE DELIVERY
PHONE 3-7444

We Are Closed
Sundays