THE BOEING SUPERSONIC TRANSPORT / may 1969

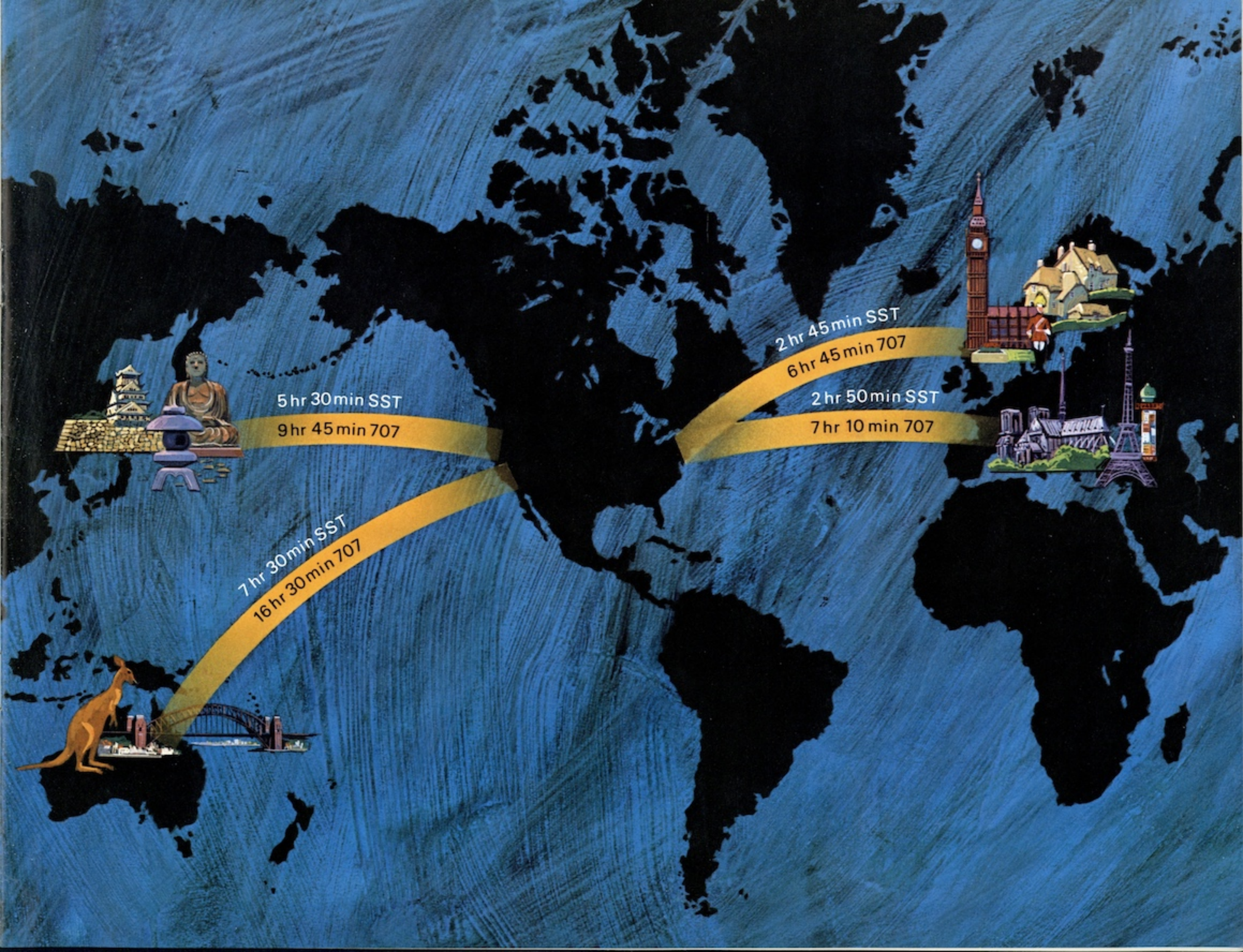
THE SUPERSONIC ERA IS NOW

On the last day of 1968 and on March 2, 1969, the Russian supersonic transport (TU-144) and the Anglo-French supersonic transport (Concorde) made their respective first flights. There can no longer be any doubt—air transportation's supersonic age has arrived!

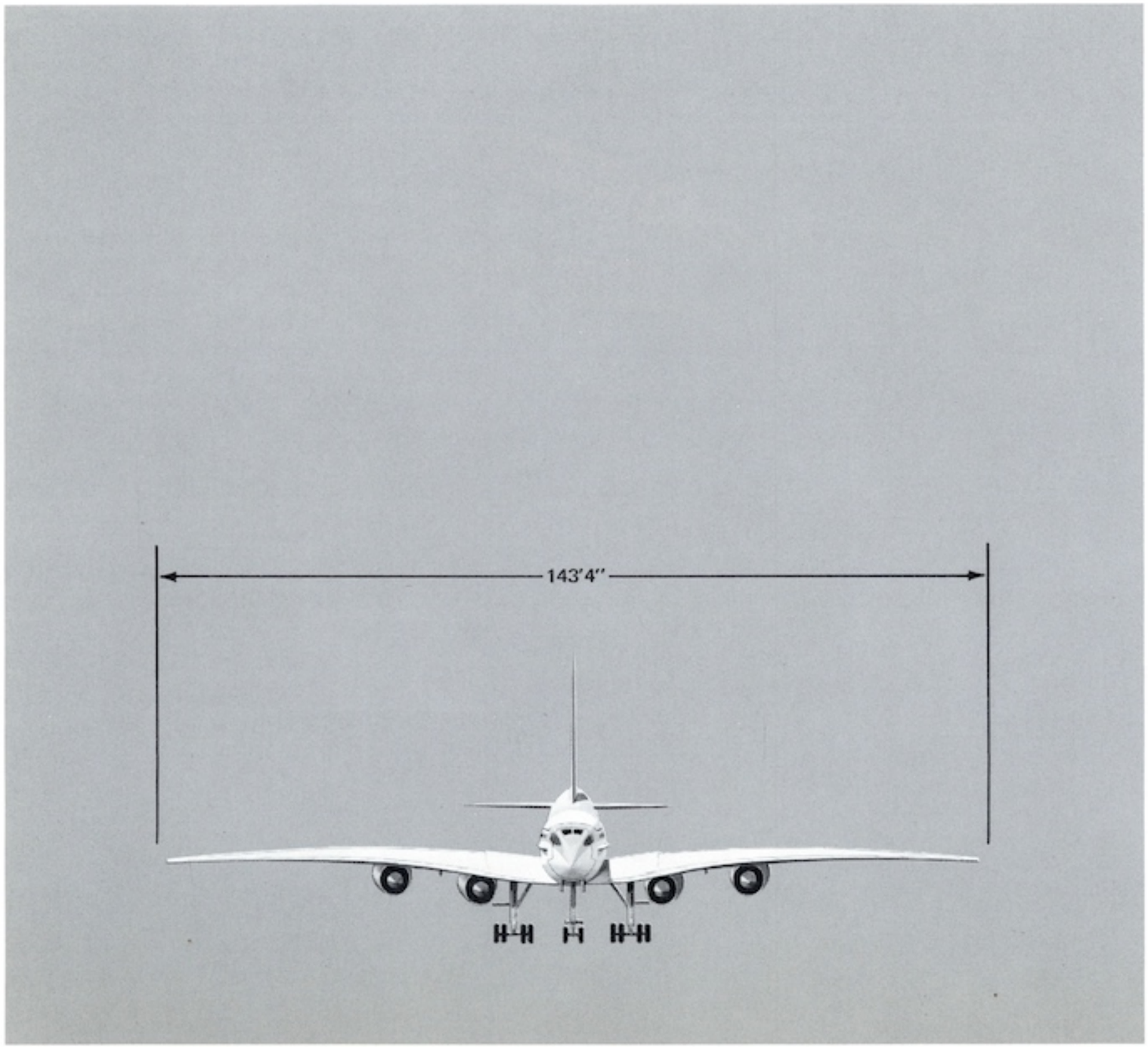
The Boeing SST is the culmination of commercial airplane studies dating back to 1958 and takes advantage of over 16 years of the research, development, and flight experience of all United States supersonic aircraft. We have reached the point in our technical studies where further progress requires proceeding to flight hardware development.

For several decades, the United States has been the leading manufacturer and supplier of commercial transport airplanes to the world's airlines. Now that position is threatened.

Maintaining our leadership requires continuing advances in aircraft efficiency, safety, and attractiveness to the traveling public. The Boeing supersonic transport will reduce trip time more than 60 percent compared with subsonic jets, will have improved safety, larger seats, and improved levels of passenger comfort. This new Boeing transport will ensure our leadership in the supersonic era.


5 hr 30 min SST
9 hr 45 min 707
2 hr 45 min SST
6 hr 45 min 707
2 hr 50 min SST
7 hr 10 min 707
7 hr 30 min SST
16 hr 30 min 707

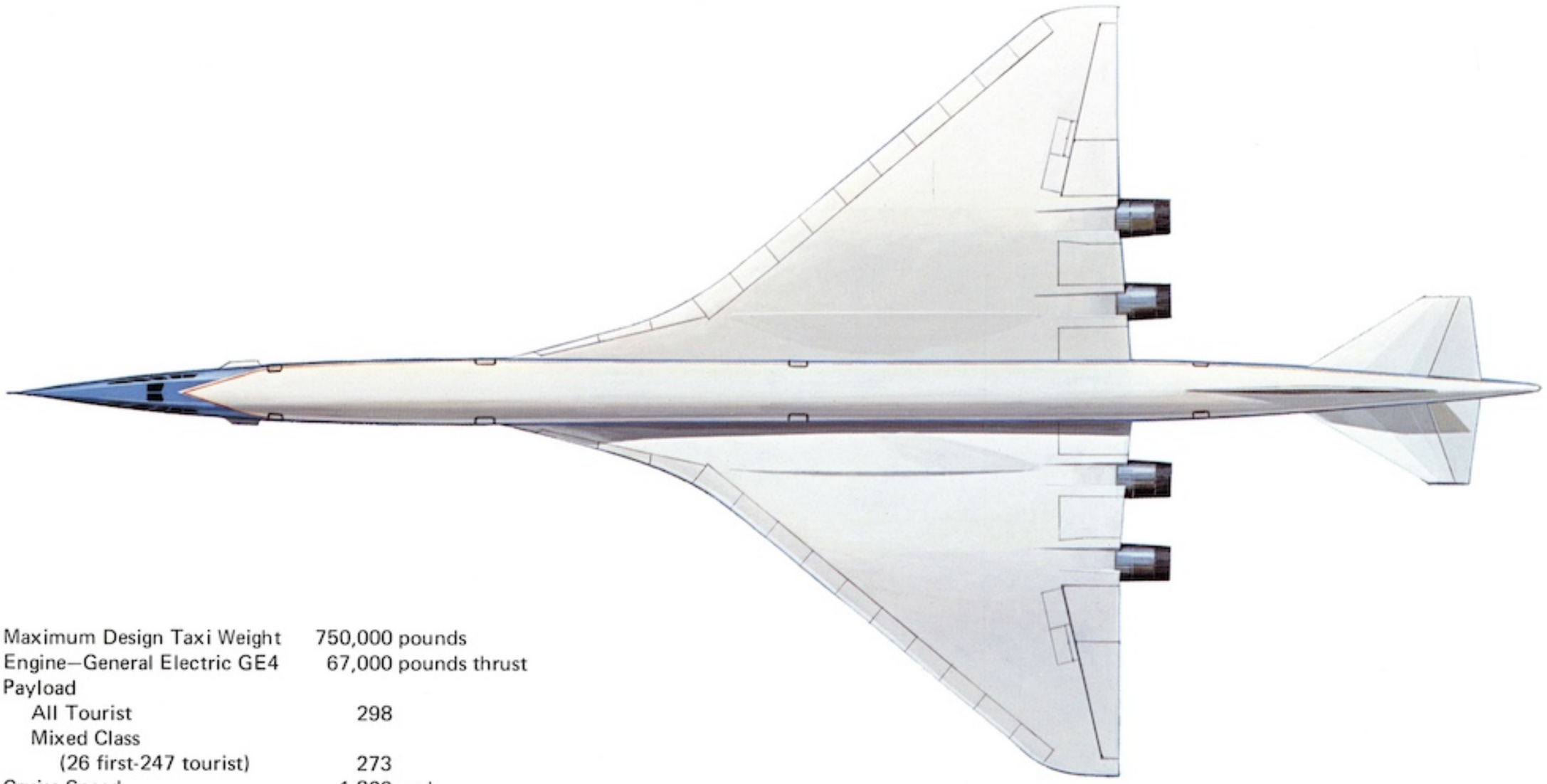
A LONG, CLEAN COMPETITOR



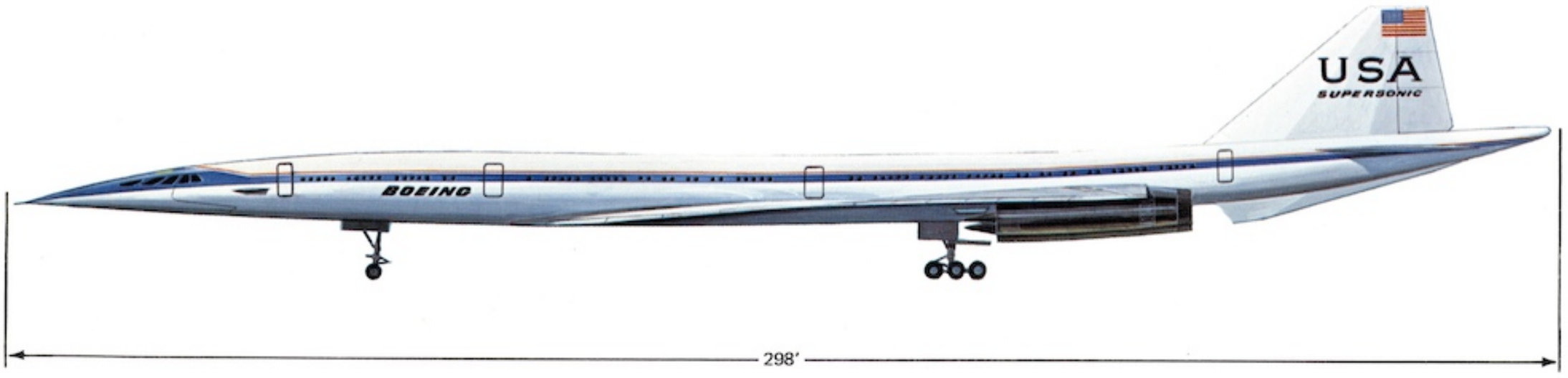
The 2707-300 is a long, sleek, aerodynamically clean airplane with a slender fuselage, swept delta wing, and conventional tail. Power is supplied by four General Electric GE4 turbojet engines mounted in individual pods at the trailing edge of the wing.

Flight control is provided by conventionally placed aerodynamic surfaces powered by multiple actuators which are driven by independent sources of hydraulic power. Separate electrical and mechanical control paths are provided between the pilot and control surface actuators. Either control path may be used to provide control.

The 2707-300 airplane is a balanced combination of performance, flying qualities, and operational characteristics. The original performance objectives—obtaining good low-speed characteristics while maintaining cruise performance goals—have been achieved. This combination of cruise efficiency and payload capacity provides the most economically efficient supersonic transport design being offered to the world's airlines.

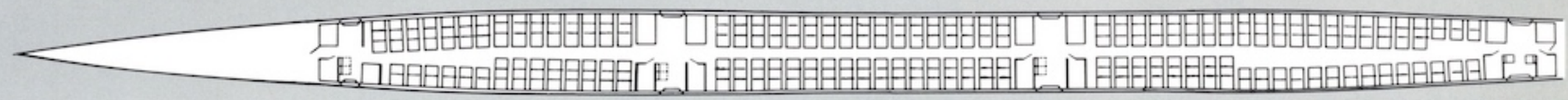


Maximum Design Taxi Weight	750,000 pounds
Engine—General Electric GE4	67,000 pounds thrust
Payload	
All Tourist	298
Mixed Class	
(26 first-247 tourist)	273
Cruise Speed	1,800 mph

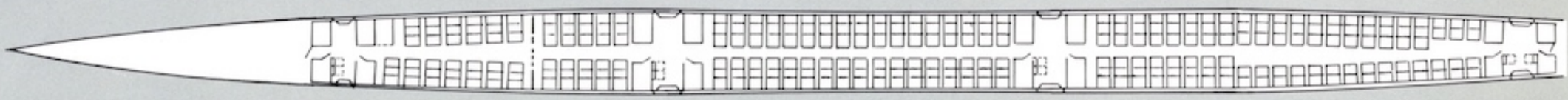


The 2707-300's interior has been designed to meet the requirements of the traveling public. It features spaciousness for improved comfort, unexcelled safety standards (including the capability for rapid evacuation), and maximum use of the airplane fuselage.

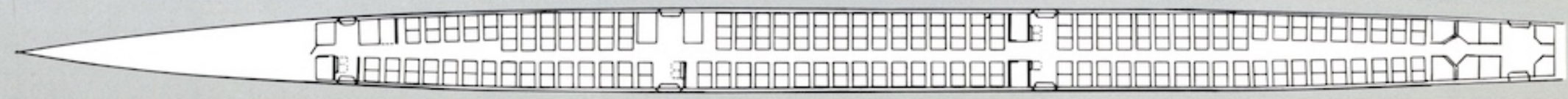
As indicated in the accompanying illustration, the six-abreast arrangement provides maximum flexibility by means of spacious cabin seating with wider seats than on today's airplanes, a modular design allowing rapid substitution of seats for galleys and lavatories, and the capability to quickly change the ratio of first class to tourist seating by substituting seats and relocating the class divider.



All Tourist



10/90 International Mix



SST Class

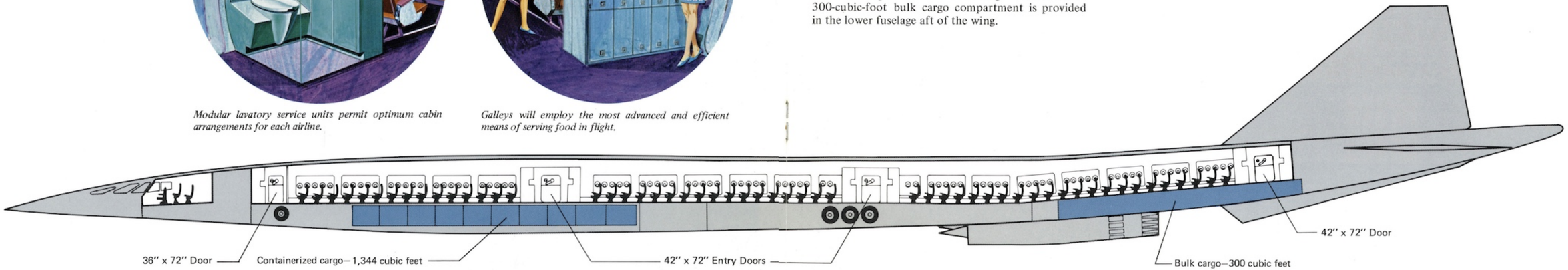
INTERIORS

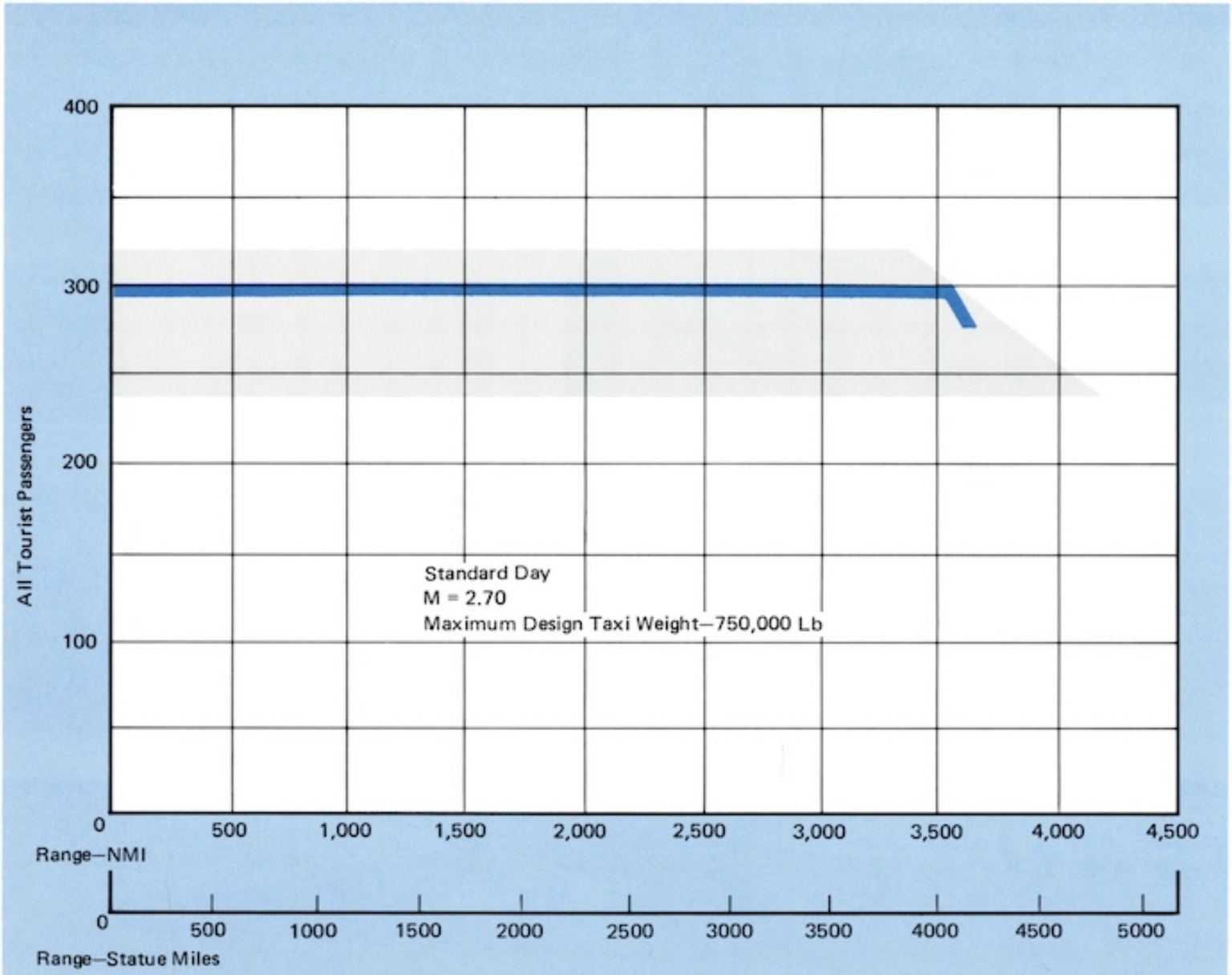
Modular lavatory service units permit optimum cabin arrangements for each airline.

Galleys will employ the most advanced and efficient means of serving food in flight.

Passengers will normally board and deplane through the middle two of four doors located on the left side of the 2707-300. For emergency access and egress, the other two doors may be used. To expedite servicing, four additional doors are provided on the right side opposite those on the left. Door-mounted escape slides are installed on all eight doors for emergency egress.

A 1,344-cubic-foot cargo compartment is located beneath the passenger cabin and forward of the wing. It will accept nine identical cargo containers. A 300-cubic-foot bulk cargo compartment is provided in the lower fuselage aft of the wing.





Payload-Range Capabilities (Production Airplanes)

Potential Production Technology GE4 700 Lb/Sec Engines With Suppression

Payload Range

The 2707-300 will offer the airlines a distinct competitive advantage over present subsonic jets. The airplane can carry substantial payloads over most of the world's scheduled airline routes.

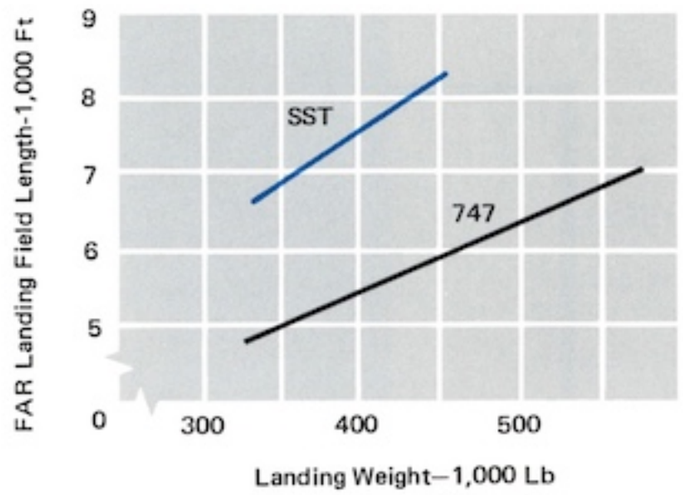
The productivity of the SST on long overwater routes is great. The total operating costs of the SST and the attractiveness of its speed and ride comfort to the passenger will combine to achieve reasonable airline profits at today's ticket prices.

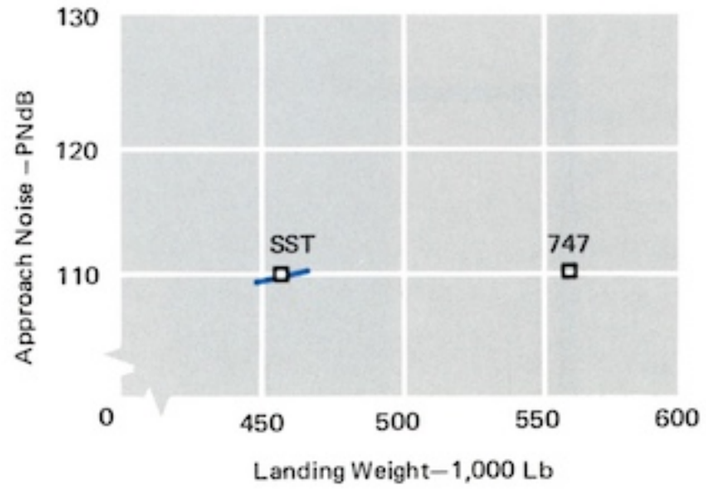
Performance

Full span leading and trailing edge flaps allow the 2707-300 to take off and land well within the runway distances provided by existing international airports. Special attention has been devoted to the landing gear design so that SST pavement loading capabilities will be equivalent to those of existing subsonic jets on today's airport runways.

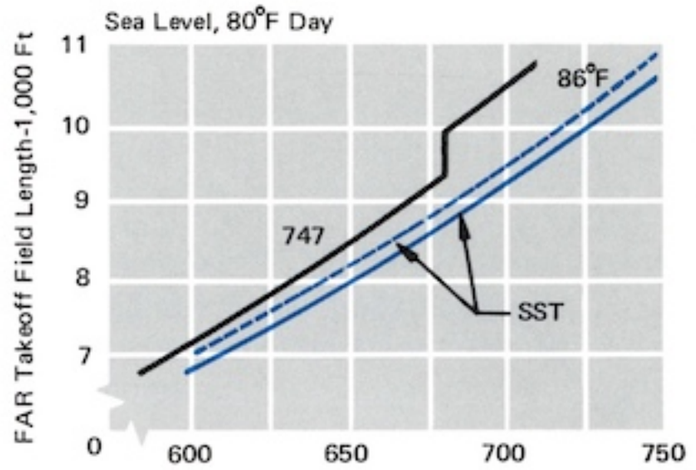
The noise levels achieved under the flight path in the airport community, both on takeoff and landing approach, will be below the levels observed with present intercontinental transports. These levels are also within the new lower noise standards proposed by the FAA. However, the airport noise levels require development of advanced sound suppressors. Boeing and General Electric are working on a major program of SST noise suppression for the production airplane. The program aims at containing the airport noise at the level of existing intercontinental subsonic jets.

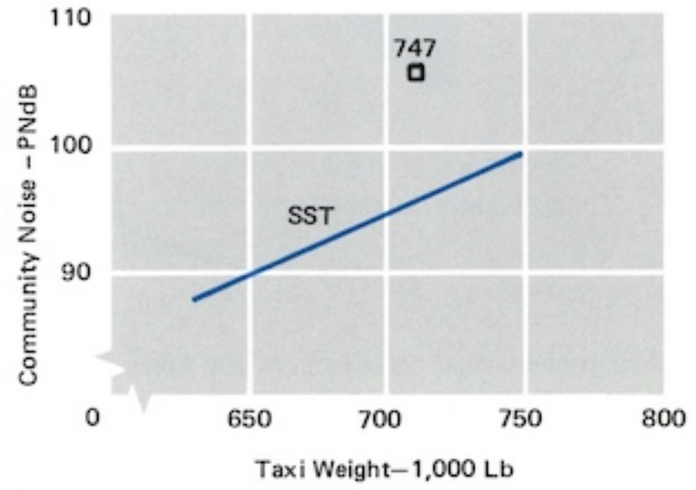
LANDING

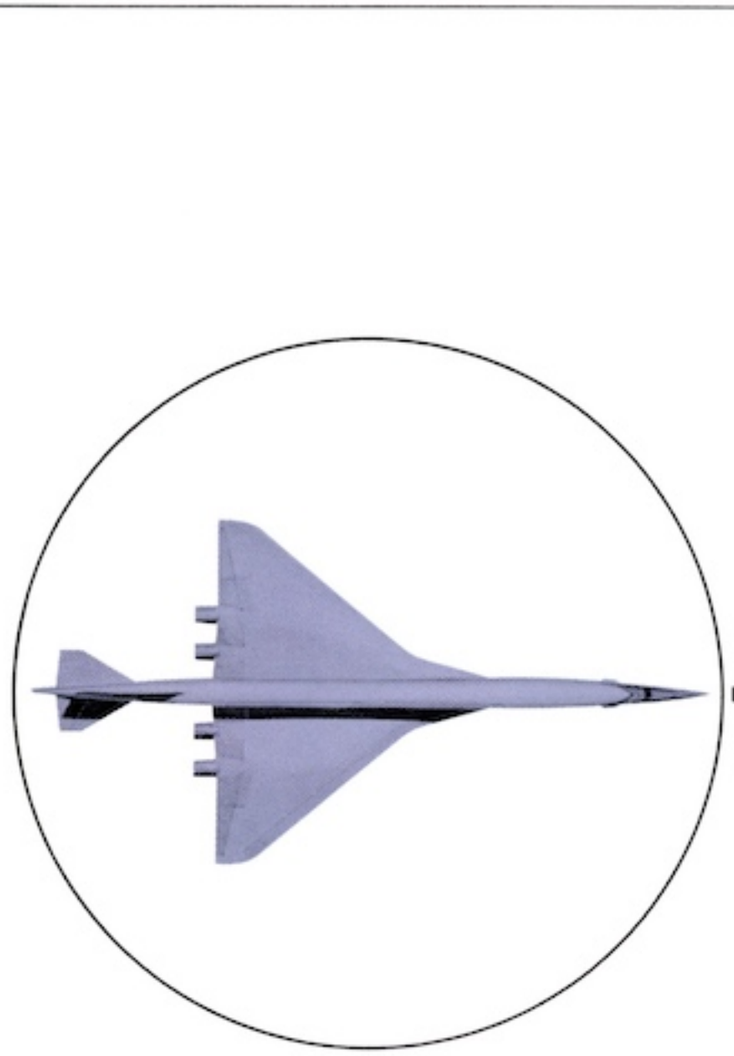


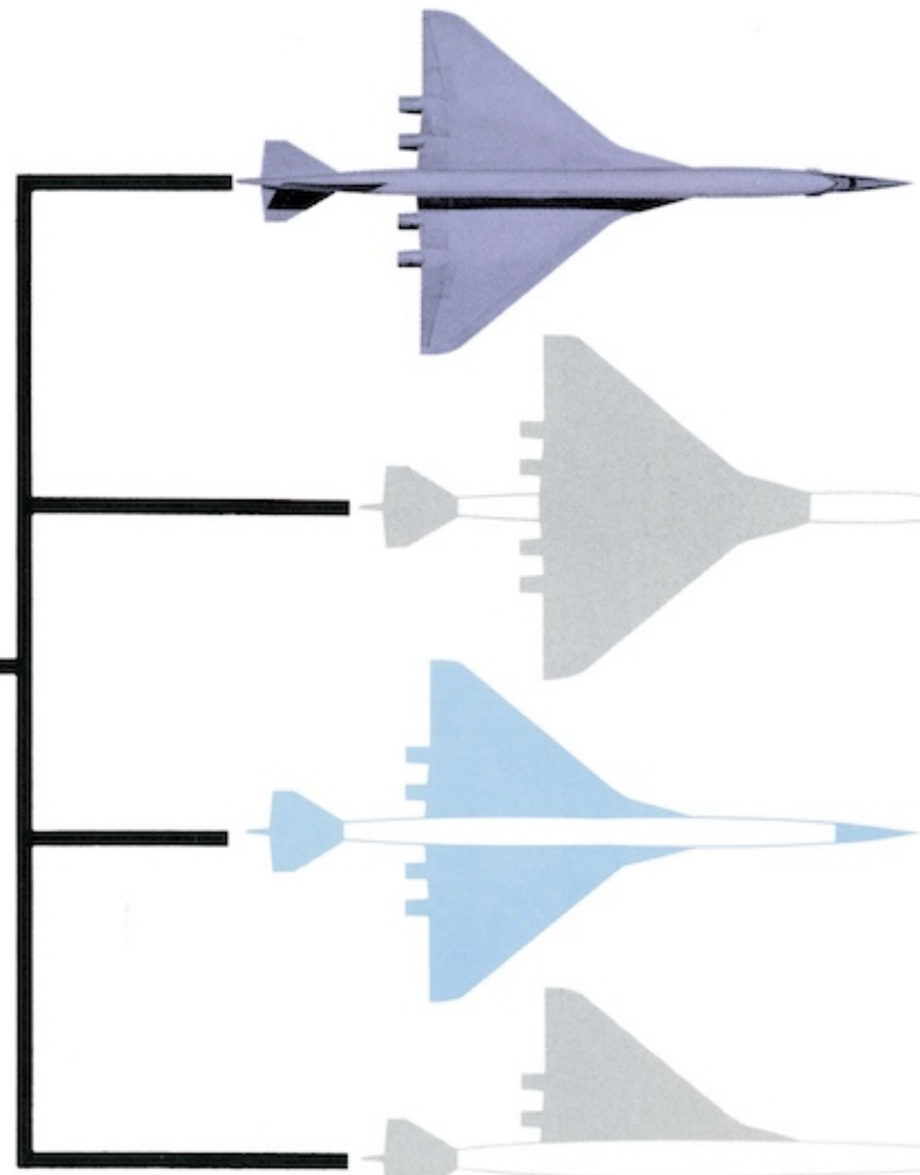


TAKEOFF









Same size as prototype

Prototype body lengthened

Prototype nose and tail; six-abreast center body section

Prototype nose and tail; seven-abreast center body section

The conventional tail design of the Boeing SST, placed aft and independent of trailing edge wing structure, permits evolution of the basic airframe into a family of airplanes. Variations in passenger-carrying capability can be achieved by increasing the fuselage width, or length, or a combination of both.

ALTERNATIVES

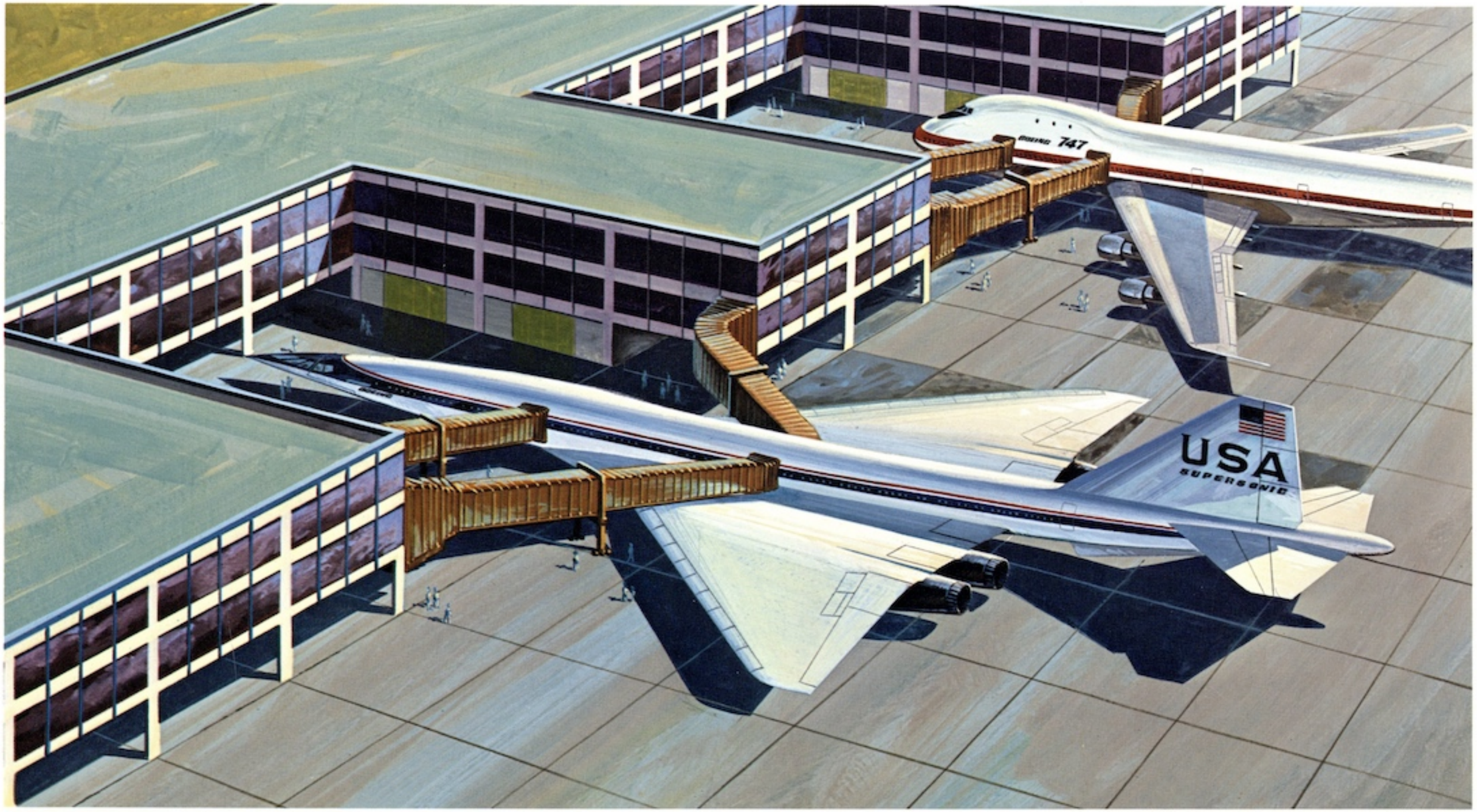
Boeing is studying several alternative body designs to better determine the ultimate configuration from an airline operational viewpoint.

Five Abreast

Airlines with long range routes may require a five-abreast configuration which provides all-tourist passengers with 63-inch triple seats, 42-inch double seats, a pitch of 34 inches, and a minimum aisle of 18 inches. In the mixed class arrangement, the first class section uses 54-inch double seats with a 40-inch pitch.

Seven Abreast

Large payload capability is possible with the double aisle, seven-abreast plan, which provides a spacious cabin similar to the new Boeing 747.


747
USA
SUPERSONIC

DESIGNED TO USE EXISTING FACILITIES

The SST's impact on major airports will be minimal. The passenger loading system has been designed to use the same or equivalent facilities and ground equipment as those now under construction for the large subsonic jets.

Because servicing and cargo loading doors are on the opposite side and under the passenger doors, servicing and cargo movement can be carried on concurrently—away from the passenger loading zones.

Relief of Airport Congestion

The SST will bring relief to airport congestion in several ways:

- More airports will be serviced on a point-to-point basis, thereby reducing the traffic congestion at major transportation hubs.
- Automatic flight management will allow closer and more accurate scheduling.
- The short flight times introduce new arrival and departure options for the SST which will reduce traffic peaking at certain times of the day.

The SST's high cruise altitude of over 60,000 feet will create a new plateau for traffic movement. This new flight regime not only reduces the congestion at the subsonic altitudes of 30,000 to 40,000 feet, but provides smoother air which will result in a more comfortable ride than at the subsonic jet altitude.

The 2707-300 satisfies the goals of increased aircraft efficiency, safety, and attractiveness to the traveling public. With this airplane, we are ready and able to advance this country's leadership in the supersonic era.