

Get Set for Jet-Age Holidays!

Here is a glimpse of the planes that will take you to Paris or Honolulu in about as little time as yesterday's trip to Grandma's.

by James C. G. Conniff

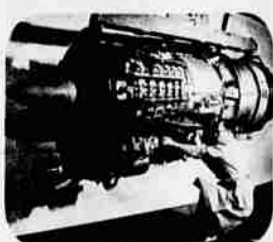
NOT IN SOME Buck Rogers future but in the next month or so, you will be able to fly by commercial jetliner from any point in the United States to the cities and spas of Western Europe or the Pacific in less time than it took Columbus to stow biscuits aboard the *Santa Maria*.

Today Paris is only a little more than five air hours from New York. Tomorrow it will be closer. By present commercial jet schedules you can be in Rome nonstop from Chicago in 6½ hours. Copenhagen is a trans-polar jet hop of not quite 10 hours from San Francisco. That's also jetliner time westward from the Golden Gate to Tokyo.

In four hours jet-age vacationers from the West Coast can be splashing in the surf at Waikiki. New Yorkers can be in Miami in about two hours, as

the turbojet aircraft engine. A turbojet combines an expensive "stovepipe" with turbine blades in its nose to pull in enormous gobs of air, a compressor midway to pack it down, and a chamber toward the rear where the wad of air is mixed with fuel and ignited. An explosion of hot gas shoots out the jet's tail with a tremendous kick. This continuing process thrusts the jetliner skyward.

But it's not a kick that you as a passenger are aware of. Nor is the jet engine, once started, a kind of fiery runaway. Like the engine in your car, its speed can be controlled at all times. It can be shut off and started up again even in mid-air. It can be throttled back and made to go faster. In fact, jet engines are smoother, simpler, and more dependable than their piston-driven counterparts. In addition,



Approaching debut of four competitive jetliners—(left to right) Boeing 707, Convair 880, Lockheed JetStar, and (top right) Douglas DC-8—is striking evidence

that commercial jet transportation is not futuristic dream but current reality. Pilots have found jets simpler to fly, and improved turbojet engines are sound.

can Chicagoans. For either, the sands of Rio are just under nine all-but-silent jet hours away.

Anyone so minded can fly around the world, with only five stops for fuel, in 40 hours, or a day and a half. That's barely seven hours more than Lindbergh's flight time for his trailblazing Atlantic hop of 1927. Circumnavigating the globe by sail, Magellan would, after 40 hours, still be in sight of Portugal's coast.

William M. Allen, president of the Boeing Airplane Company, said: "The coming of commercial jets will, in effect, make the world 40 percent smaller. And that's just the beginning."

What is a commercial jet or jetliner? It's a four-engine passenger plane designed to carry more people greater distances in less time at higher altitudes than ever before. No prop-driven ship flying today can approach the jetliners for sheer comfort. On both tourist runs and first-class flights, their service, accommodations, and décor are luxurious and comfortable.

Your jetliner is the peacetime outgrowth of military experience since World War II in perfecting



New jetliners are huge enough to include spacious club compartments, seating 12 guests in easy luxury.

these engines deliver far more power or "thrust."

In a four-engine jetliner the total thrust is 40-50,000 pounds of driving force. To take full advantage of it, all commercial jets follow the pattern of their immediate forebears, our jet fighters and bombers. They manage to look as if they were doing 500 mph when they're standing still on a runway.

A jetliner's outer skin is glass-smooth to cut air resistance to a whisper. Swept-back wings help, too. These long, thin lifting surfaces flare back at a 30 to 35 degree angle from the fuselage, so that the plane can enter the air at fantastic speeds with minimum turbulence and use all available power.

They do an amazing job. Inside each seemingly wafer-thin wing are packed leakproof fuel tanks, air-conditioning equipment, high-speed fuel jet-tioning apparatus, and a jungle of wiring. Outside, the trailing edge supports superb new turn-on-a-dime brake and maneuver controls. Sleek struts come down from the leading edge to carry the jet-engine pods well forward and below.

All told, with its three-ton pair of engines, each wing weighs 14 to 15 tons. Yet one of the many tests



Problems of passenger comfort and safety have been worked out. Brutal underwater tests proved durability of fuselage and its

airtight skin. Lengthy interiors were made less awesome by use of divided compartments and strategic use of color and décor.

it must pass without even showing signs of strain is being bent violently up and down from the horizontal in a nine-foot arc that no storm or flying conditions would ever subject it to.

This jet-engine-plus-wing team has more than it takes to lift a fully loaded 150-ton jetliner off the ground, under reasonably good flying conditions, in less than half a mile. A Boeing 707 made it in 2,100 feet. Pilots won't usually push their jets that hard, but they can if they have to. Normal jet take-off time will be 20 to 30 seconds, or about as long as it takes you to read this paragraph. Rate of climb: 3,000 feet per minute!

BRITAIN got a head-start on everybody with her DeHavilland Comet jetliners eight years ago, but when explosive decompression followed on the heels of metal fatigue and blasted several Comets off the world's airways, with heavy loss of life, the largely Crown-financed British jet effort had to go back to the research lab. Salvage of the wrecked Comets taught British jet scientists many valuable lessons, which the rest of the world

was quick to pick up and adapt to their own craft.

Meanwhile, Soviet Russia perfected her powerful TU-104 jetliner which has flown U. N. and diplomatic personnel to the United States. France is on the scene with a trim, fast intercontinental commercial jet, the twin-engine Caravelle. Doing a magnificent job of marking time with transitional ships like the Bristol Britannia turbo-prop Whispering Giant, England will soon be back in competition with true jets; noise tests were made on the completely rebuilt Comet 4 and Comet 2E at New York's Idlewild Airport this year.

But it is to the sleek product of American jetliner know-how that we can look for the master strides in the airborne revolution now upon us. Here is a quick close-up of our triple threat to the jet age, the Boeing 707, Douglas DC-8, and Convair 880.

All three are so huge you'd need a couple of football fields to park them wing-to-wing. The fastest is also the smallest among four-engine jets: Convair's 880 has a wing-span of "only" 120 feet. With the DC-8 we jump to a 139-foot, nine-inch wing. Boeing's 707 Intercontinental tops everything with a

far-reaching wing spread of 142 feet, five inches.

Lengths are proportionate. Convair's 120-foot, two-inch length zooms another city lot-front in the DC-8 to 150 feet, six inches. The 707 again leads with an over-all fuselage length of 152 feet, 11 inches. All have interiors three to six feet wider and higher than anything now flying.

Seen from inside, these longer, roomier cabins dwarf even the near-ballroom dimensions of today's prop-driven cargo aircraft. But makers of passenger jets have found, ironically, that this desirable feature has a poor psychological effect on customers.

"Frankly, it scares 'em," a Douglas engineer told me. "Makes you feel like a mouse in a silo."

A Convair official visiting the unadorned million-dollar mockup of the 880 in San Diego told friends, "I thought they were going to take me up in the Lincoln Tunnel."

But the only customers who see the jetliners raw, so to speak, are airline executives and purchasing agents. For the traveling public, the impression of too much space is overcome by bulkheading the (Continued on page 9)