

DC-8 Has 50,000 Parts, And Builders' Affections

LONG BEACH, Calif. (UPI)—An airplane factory is row upon row of huge fuselage carcasses that resemble beached whales.

It is an assembly line that seems to be standing still, where the pace seems almost leisurely and yet exciting.

It is a place of incredible contrast where men work with bolts the size of fingernails and with wing sections half the width of a football field.

It is a place where contrast has a common denominator—meticulous, painstaking care on every one of the 50,000 parts, small and large, that go into mankind's most intricate form of transportation.

There are things you see which stagger the imagination. Like the cavern-like size of an uncompleted fuselage, denuded of seats and insulation... the surprising thickness of key structural parts, mute evidence that a new jetliner is built like a battleship... the size of the factory itself, Los Angeles Coliseum with a roof. (Yet, the factory almost seems too small, because a jetliner nearing completion stretches to one-third the width of the entire building.)

There also are things you sense as well as see—such as the pride and affection displayed by Douglas workers toward their sleek entry into jet competition. There are no morale signs posted around the plant. They are not necessary. A Douglas official said with quiet pride:

"When we held an open house to let employees and their families view the first completed DC-8, we hoped for 50,000. About 95,000 showed up. The ship's maiden flight was Memorial Day—and the entire factory gave up its holiday to see her take off."

When you talk with Douglas engineers, you get an idea of the mental and physical sweat that goes into a new airliner design.

Item—Unlike Boeing, which tested its 707 prototype for two years before going into actual production, the first DC-8 ever built was a regular production model tagged for delivery to United Airlines. This meant the plane had to be almost perfect before it even flew. To make sure it was perfect, Douglas spent \$40 million on advance research, testing and planning.

Item—Engineers studied 42 different window shapes to arrive at the one which guaranteed the most strength.

Item—To test various types of emergency exits, Douglas sent 3,000 people through sample doors in simulated evacuations. The 3,000 included persons of every age, weight and size to make sure the door finally selected would be fast enough for any passenger, giant or midget.

Item—Douglas has built thousands of commercial transports, but in designing the DC-8 it was unable to utilize a single part from previous airliners. This meant new tooling virtually from the smallest rivets to the giant wings.

Item—Every step of the way, the engineers battled an airliner's greatest enemy—weight. Sample problem: tests showed that the DC-8's ventilation system somehow created a draft on just one seat. Technicians changed the shape of a single air duct—and found they had added 70 pounds to the weight of the plane.

Item—Douglas decided to design its own seats for the DC-8. This meant hiring an anthropologist to study varying human shapes. The result: a seat that is equally comfortable for a 300-pound man and a 30-pound child.

Item—The DC-8 can carry 135 passengers, which means a waste disposal problem on long flights. Douglas needed a toilet that flushed into a big septic tank. Engineers spent two years testing various plumbing innovations, a project which one official commented "was a bigger headache than some of our aerodynamic problems."

Item—Airlines ordering the DC-8 like to specify different interiors

and color schemes, to set their planes apart from those of competitors. One of the plant's diplomatic problems: how to keep visiting officials of one airline from peeking at the interior design going into a rival's plane.

Item—Construction pace seems slow and is. It takes 25 weeks to build a DC-8, from the time the parts are first ordered to the final roll-out. The only evidence of a time schedule, however, are large signs posted at every assembly stage: "Ship 16 Delta will move 1-14-59 to wing assembly." The fuselage moves to wing assembly on that date or else.

Item—Attention to petty details department: the DC-8 plant

also is littered with signs that say "do not carry drinking cups beyond this point." An engineer explained that workmen may get careless and leave a cup inside a structural part that could get sealed up unnoticed. "We'd wind up having to tear the airplane apart to locate a mysterious noise."

Item—Rosie the Riveter is still on the job: 41 per cent of the workers building the DC-8 are women.

Slow but sure is the word for a modern airliner factory. At Douglas, they were just finishing ship number four while the first parts of ship number 50 were starting their long journey down the assembly line.



NO FOOLING—This is the hand dealt bridge players at London's exclusive St. James Club. But it was no April Fool's joke. Holder of the 13 spades, the Duke of Marlborough, won. Odds boddies, the chances are some 53 octillion to one.

FOOT NOTE

MELBOURNE, Australia (UPI)—A nylon stocking has been developed with a foot which dries as quickly as the leg. The foot is made of "Ban-lon." The stockings but are expected to be marketed in 15 denier soon. They will be available in the United States.

STEEL CAPACITY RISES
NEW YORK (UPI)—America's steel-making potential is now 61 per cent higher than it was at the end of World War II, according to the American Iron & Steel Institute. The institute said the nation's annual steel making capacity rose seven million tons in 1958 to a record 147,633,670 tons at year-end.

Matter of FACT



Although in 1541, Hernando de Soto was probably the first white man to see the southern part of the Mississippi River, it was not until 132 years later that Louis Jolliet and Father Jacques Marquette crossed northern Illinois and discovered the northern part. In 1682, all the river and its surrounding territory was claimed for France by LaSalle. In 1763, the French land east of the river was given Great Britain.

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Matter of FACT



The natural "shooting stars" that flash across the heaven on dark nights have long been objects of mystery. Modern astronomy has shown that these objects are small, solid bodies which, in passing through space, may also pass through the earth's atmosphere. Scientists call the objects meteors. Within the earth's atmosphere they can be seen because they leave a fiery train of light caused by friction of air on their surfaces.

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Matter of FACT



The colony of Maryland was originally planned by George Calvert, the first Lord Baltimore. In 1632, King Charles I commanded that a charter be drawn up for the proposed colony. Charles himself named it Terra Mariae, or Maryland, in honor of Henrietta Maria, his queen. The charter gave almost kingly power to the colony's proprietor. At the same time it provided that the colonists should have the rights of English subjects.

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CONSTRUCTION PAY UP

NEW YORK (UPI)—The average construction worker got a pay raise last year of 15 cents an hour, boosting his hourly earnings by year-end to \$3.34, according to Engineering News-Record. Geographically, wages rose most on the West Coast — 20 cents an hour. Among trades, electrical workers scored the biggest advance with their wages rising 18 cents an hour.

Matter of FACT



Known as the father of English tragedy, Christopher Marlowe was the most important Elizabethan playwright after Shakespeare. He was the son of a shoemaker, educated at King's School, Canterbury, and at Corpus Christi College, Cambridge. He was one of the group called the "university wits," young men who made their living by writing. It is believed that he acted as a secret political agent, which may have led to his murder at the age of 29.

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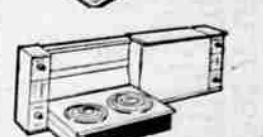
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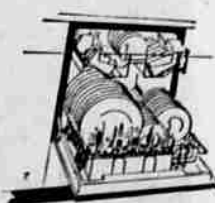
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