

AERONAUTICS

Smooth Flight Takes Thrill Out of Transatlantic Hop

Science Service Aviation Writer Finds Use of Clipper For Troop Ship Would Be Economical in Wartime

By LEONARD H. ENGEL

(Mr. Engel was one of 12 reporters on the Atlantic Clipper flight leaving America June 17)

SPANNING the Atlantic Ocean in eleven minutes less than 24 hours is a thrill. But it's mental rather than physical. You have to stop and think before you realize its significance.

Maybe the press preview flight is pioneering but if it is find me a new frontier, for this has been the smoothest flight any correspondent ever had.

Pan American Airways, operators of this huge, graceful flying boat, will put in their future file the suggestion of some of the women correspondents aboard; that the next edition of the clippers have a dance floor. That's how smooth the flight has been.

While 3,000 horsepower from the four giant engines hurled us through the night the soundproofing in the Atlantic Clipper's cabin was so good that to get "background" for a broadcast en route the radio men staged the show in the news room of the plane with a half dozen typewriters of correspondents clicking away. The drone of the engines was too faint to give good pickup.

Sea air's famous sleep-inducing qualities get you even at 8,000 feet above the sea, which was the altitude of the 41-ton Atlantic Clipper of Pan American Airways most of the way across. An air of distinct sleepiness, which we newspaper reporters aboard had to fight, pervaded the luxurious passenger quarters of the great flying boat.

Speeding along at 180 miles an hour, a 35-mile-an-hour tail wind gave the press preview flight a ground speed—or water speed one perhaps should say—of about 200 miles an hour.

Transport Record Set

THE Atlantic Clipper carried 30 people in all, the most ever to make a crossing in a plane at the same time. The record will be eclipsed next week, how-

ever, because heavy radio equipment now aboard for carrying broadcast descriptions of the flight for two nation-wide networks will not be aboard and there will be room for more people.

The present 30 include 12 members of the crew, two Pan American observers, four radio men and 12 newspaper correspondents. The previous record was 21, set on the Yankee Clipper, a sister ship, shortly before regular transatlantic airmail service.

Mechanics of the Flight

TWO hundred instruments, knobs, buttons, switches and gadgets; twelve crew members; 56 black steel cylinders; and other parts without number functioned perfectly on board the Atlantic Clipper so that it might alight with the lazy grace of a gull on the River Tagus at Lisbon, Portugal, at the end of a less-than-a-day journey from New York, 3,547 miles away.

Just about 3500 gallons of gasoline went out the red hot exhaust pipes of the Clipper's four giant engines, each rated at 1500 horsepower for takeoff and operated at about half that for regular flight. And, just to get technical for a second, that good red ethylated fuel gave up more than 110,000,000,000 foot-pounds of useful work, plus a lot of energy our engineers have not yet figured out how to capture.

The automatic pilot, the gyroscopic robot which steers a truer course than any human, was at the helm for about 60 per cent. of the trip, Capt. William B. Culbertson said. It is the device that is at the helm most of the time airliners are in the air.

Various young men in Baltimore and in Port Washington sat patiently at glass-topped tables with big maps of the Atlantic on them, and sheets of tracing paper pasted down over the track the big Boeing boat followed. Every half hour their pencils worked to mark down the ship's position, wind velocity and direction, the plane's speed and other data which enabled the flight watch to locate

the clipper within a half mile of its exact spot at any time.

On the flying boat itself there are a pair of magnetic compasses, a pair of gyroscopic compasses, a couple of special octants for shooting the sun or the stars in a hurry in standard aerial navigation procedure, a drift sight to show wind direction and various other instruments to enable such accurate position finding, as well as radio direction finders so accurate they could almost locate a needle in an ocean, if the needle had the proper radio equipment.

Every so often a flight engineer took a walk through the wings and looked at an engine like a doctor at a patient. But the four engines were healthy and very little tinkering was called for. Minor repairs could have been made in flight, for the engines are accessible through a catwalk in the wings. There is room enough in each of the nacelles for four men to work.

Could Be Troopships

WHILE coming over on this history-making flight to Europe which previews the start of regular transatlantic service on June 28, I've learned that in the same time and at the same cost in equipment, a fleet of overseas flying boats like the Atlantic Clipper could carry more than three hostile soldiers from Europe to the United States for every two soldiers carried by troopship, World War Style.

For \$17,000,000, which is the cost of the largest ship ever built in the United States, the S.S. *America* now under construction at Newport News, Va., 35 of these 41-ton clippers could be built.

Under wartime conditions each of these flying boats could make four roundtrips during the two weeks the S.S. *America* would need to make a single crossing of the Atlantic and return.

Stripped of their furnishings and generally cleared for mass ferry service, the Clippers would carry about 45 or 50 men each. Estimated conservatively, the total soldiers transported by the 35 planes in the two weeks of flying would be more than 6,000.

The S.S. *America*, whose normal passenger capacity will be 1,219, would be able to carry a little more than 4,000 soldiers in these same two weeks.

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Earthquakes that originate as deep in the earth as 400 miles have been recorded.