

AERONAUTICS

Jet Intruder Bomber

Has rotary bomb door which permits dropping of bombs at flying speeds greater than those of any other plane. Can be modified to speed key officers or diplomats in time of crisis.

See Front Cover

► WITH THE Martin B57B night intruder jet bomber about to join the U. S. Air Force in force, there are plans for modifying it to provide a tanker, freighter or a transport that can keep up in speed, maneuverability and altitude with the best jet fighters.

In the equivalent bomb space of the B57B would be squeezed eight seats so that VIPs and, more practically, generals and their staffs could get from here to there as needed by fast-moving war. In training, such a version of the American revision of Britain's famous Canberra bomber would allow the military passengers to crawl into dual-controlled co-pilot seat and practice their jet piloting.

In peaceful time of crisis such a ship might be used to get a key diplomat to a key meeting much faster than the present best of propeller transports. Continents and oceans could be spanned non-stop in times hours less than now.

Tanks of fuel put in the bomb or pas-

senger space would allow such a ship to refuel fighter jets in combat, something not possible now. Urgently needed material might be carried as freight if a situation demanded it.

Martin Aircraft engineers are showing a mock-up model of the suggested new versions of the B57B, one of the new key flying U. S. weapons.

In a demonstration to the Air Force personnel who will soon be using it, Martin's director of flight, O. E. (Pat) Tibbs put the latest kind of B57 through its paces. It takes off from and lands on any runway suitable for modern transports, it is as fast as the best of jet fighters and it can reach probably the 63,000 foot altitude set by its world-record progenitor the Canberra.

It is 64 feet in wingspan, 1½ feet longer than this wingspan and two Wright J65 engines total 14,000 pounds thrust. It has a rotary bomb door that allows dropping bombs at greater flying speeds than any other plane. It can fly circles over the average airport and do an Immelmann turn with great ease.

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HIGH VISIBILITY—This close-up of the new B-57B shows the clear visibility provided for the pilot and also the second crewman who is seated behind him and slightly higher. It also shows half of the wallop packed in napalm tanks and high velocity rockets.

average of once a year, a full-fledged hurricane is centered near Hatteras.

"If that happens in the evening hours or at night," Mr. Tannehill warned, "everyone should be immediately on the alert."

The chances are 18 to one, he has calculated, that the hurricane will turn to the eastward. A difference of only about ten degrees in heading, however, is involved for the forecaster trying to decide between Nantucket and the Connecticut Valley.

"This difference is much too precise for present knowledge," Mr. Tannehill said. "So the forecasters have to wait a little to be more certain."

Mr. Tannehill said that he hoped it would be "many years" before another hurricane Carol, but that "everybody, including the Weather Bureau, will have to keep it in mind when there is a hurricane at Cape Hatteras."

Many hurricanes have come inland south of Hatteras and have taken the overland route, but none of them has been very destructive in New England.

Science News Letter, October 16, 1954

METEOROLOGY

50-Year Hurricane Tally

► FIFTY-FIVE FULL-FLEDGED hurricanes have roared up the Atlantic from the Cape Hatteras area in the general direction of New England during the first 50 years of this century.

Eleven moved inland, near Chesapeake Bay or over New Jersey, before reaching the New England region.

Forty-four took the sea route, I. R. Tannehill of the U. S. Weather Bureau in Washington told Science Service. He has been making a study of old Weather Bureau records to throw light on the questions brought up by hurricanes Carol and Edna.

Of the 44 that took the sea route toward New England, 41 of them turned eastward. Only three turned toward the west and hit the New England region in full force.

Two of them were real killers—1938 and 1944—the other one, in 1934, weakened on the way.

Mr. Tannehill's study shows some rather alarming facts. Of the 44 that moved into or to the eastward of New England, the average forward speed was about 20 miles an hour. This means that about 15 hours after the center passes Cape Hatteras, strong gales are likely to start hitting New England.

Hurricanes have winds of gale strength

about 200 miles or so in front of the storm's calm eye. It is approximately 500 miles as the hurricane moves from Cape Hatteras to New England.

When a hurricane center is at Cape Hatteras, the weather forecaster has to decide whether the storm is going to go inland, with onshore gales and high tides, or out to sea east of Nantucket, with offshore winds on the land.

"A study of hurricane Carol and all preceding big New England storms—1944, 1938, 1867, 1821 and 1815—shows rather conclusively that those which are forced to the westward move much faster than the others, going forward at 40 to 50 miles an hour," Mr. Tannehill said.

"In this sense, Carol was not a freak."

Such fast forward motion means that when the storm's center is at Cape Hatteras, it can reach New England in 10 hours. The gales in advance of the center may start to blow on the coast within about six hours.

"The general circulation of the atmosphere is probably responsible for the exceptional speed of hurricanes that smash into New England," Mr. Tannehill said. "Much more research is needed, however, before we can be sure of this."

"These old records show that, on the

PHYSICS

Mixing Fresh Water With Sea Produces Electricity

► ELECTRICITY HAS been produced in small amounts by mixing fresh water and sea water. Demonstrated by R. E. Pattle at the British Department of Scientific and Industrial Research's Chemical Research Laboratory, it is declared the first mention of "an untapped source of power."