AERONAUTICS

Bombsight Announced

Especially valuable for night operations and low-altitude bombing, the T-1 bombsight permits accurate hits while plane is maneuvered.

➤ FACTS ABOUT the T-1 bombsight designated by the British as the Mark XIV, until now one of the major military secrets of the war, have been released by the War Department and the British Air Ministry. This bombsight is a mechanical combination of a mathematician and a Kentucky long-rifle marksman, especially valuable for night operations and low-altitude bombing, since it permits accurate bombing while the plane is being maneuvered.

The bombsight consists of two units, the computer and the sighting head. The bombardier uses the sighting head, containing an optical telescopic mechanism, to find his target, and when the cross hairs in the sighting head line up with the target the bombs are released. All variables, wind velocity, wind direction, wind characteristics, and target height above ground, are instantaneously made by the computer and transmitted to the sighting head.

The T-1 bombsight, conceived by a group of English scientists before Pearl Harbor, is being manufactured in large quantities by AC Spark Plug division of General Motors, since manufacturing facilities were not sufficient for its production in England. It is being produced under joint supervision of British and American experts for use on the British Wellington bombers, as well as other British planes. The improvement and production of the T-1 in this country is a fine example of British and American scientific and industrial cooperation.

The American-built sight weighs 55 pounds and is made up of 4,212 pieces. A total of 1,589 drawings is required for its production. The bombsight's moving parts are operated by high air pressure and vacuum developed by special pumps connected to the plane's fuel system.

Like all other bombsights, the T-1 determines the correct point in space at which a specific type of bomb must be released to strike a selected target. As the plane nears the target, the bombardier sets the sight in operation. Then he feeds information into the mechanical mind of the bombsight.

The first information given the machine is height or altitude. The T-1 can be used accurately up to nearly four miles above sea level. Then comes air speed, followed by wind speed, wind direction, altitude of the plane. A gyroscope determines pitch and roll of the plane.

The bombardier directs the pilot of the bomber on how to steer the plane. Looking into the telescopic sighting head, with one eye the bombardier sees by means of the telescope the target on the ground, with the other eye he sees two lines of light forming the cross-hairs. When the cross-hairs appear to be on the target, the bombardier releases his bombs.

The T-1 bombsight permits the bombing plane to be flown in any manner—up, down, turn to the right or left, fast or slow. The T-1 has not been adopted to the exclusion of other sights, because it answers only one of many bombing problems, and like the other bombsights it has its own particular use and limitations.

Before being shipped to the Royal Air Forces, the T-1 bombsights are given exhaustive tests at the AC Spark Plug plant. One little error would nullify the bombardier's finest calibrations. One of these tests simulates actual altitude conditions from sea level to 23,000 feet above. The bombsight must withstand all temperatures between 60 degrees Fahrenheit below zero and 160 degrees Fahrenheit above.

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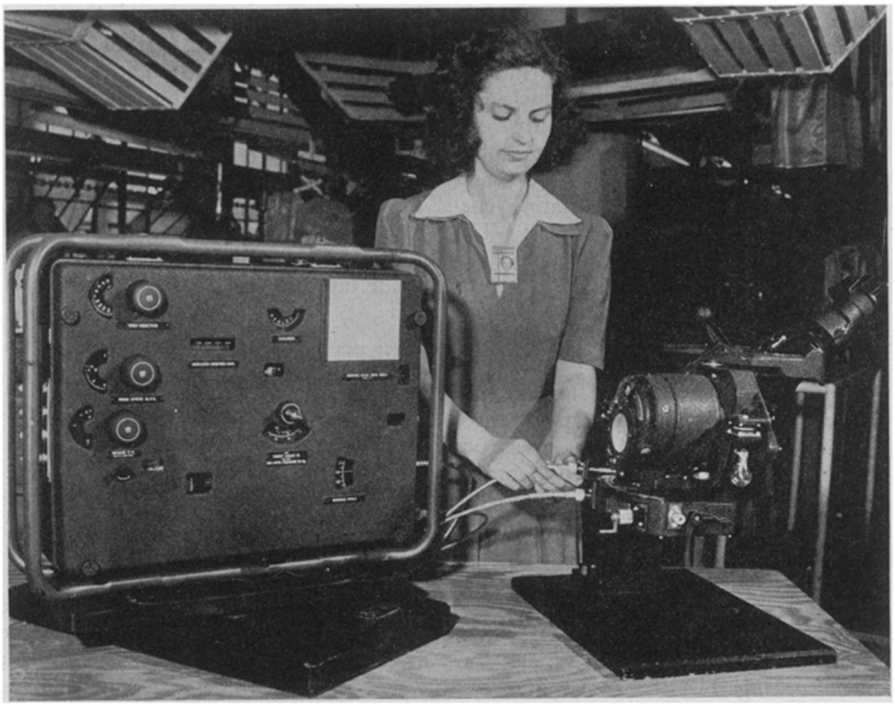

BRITISH BOMBSIGHT, made in America, consists of computer device (left) which automatically makes all calculations necessary for accurate, precision bombing, then transmits this information to the sighting head (right) through which the bombardier peers to see the target. Designated the Mark XIV, it is used on Royal Air Force planes.

MEDICINE

New Treatment Developed For "March Fractures"

➤ THE FAMOUS "What Do You Do In The Infantry" song might as a result of this war get a new middle line, "You break your metatarsal bones and get a special shoe," it appears from an announcement from the Office of the Surgeon General of the Army released by the War Department.