

BOMB AIMERS AND BOMB SIGHTS

BECOMING A BOMB AIMER

After volunteering to join the RCAF, all future airmen were posted to a Manning Depot for four to eight weeks where they were issued with uniforms and experienced the basics of military life such as polishing boots and buttons, saluting, marching drills, physical training, cleaning, and performing guard duty. In some cases, remedial high school courses were offered to the youngest students.

After their experience at a Manning Depot, those selected to become Bomb Aimers were posted to a Bombing and Gunnery School for eight to twelve weeks. They also spent time at an Air Observer (Navigator) School where the focus was on map reading and navigation skills.

These schools required large areas to accommodate their bombing and gunnery ranges. Of the eleven Bombing and Gunnery Schools operated by the BCATP in Canada, 8 B&G in Lethbridge was the only one in Alberta.

The bomb aimer would then be posted overseas to an Operational Training Unit where he would become part of a 'crew' and train for about ten weeks in an operational bomber, generally a Wellington. If the crew were to fly four-engined bombers, a further five weeks of training would take place at a Heavy Conversion Unit.

Finally, about a year after enlisting, the bomb aimer would be posted to an operational squadron.

THE BOMB AIMER OVER THE TARGET

The large, plexiglass blister in the nose of a bomber provided the view of the ground below that the bomb aimer required. En-route to the target, one of the bomb aimer's duties was to release 'window' -strips of aluminum foil that interfered with the enemy's radar systems.

As the target was approached, the bomb aimer lay prone in the nose compartment, his chest resting on a cushion. Looking through the bomb sight, he guided the aircraft during its 'bomb-run' by calling out orders to the pilot such as, "Right, steady, left, left, steady . . . bombs gone!" The pilot then had to maintain his course for about twenty seconds to allow the 'photo-flash' and on-board camera to record where the bombs struck.

During the run over the target, the bomb aimer had the best view of the searchlights, the flak exploding around the aircraft, enemy fighters, and the other aircraft in the bomber stream, lit up by the burning city below.

The bomb aimer had the added responsibility of manning the front gun turret, directly above the bomb aimer's position. It was rarely used.



Prior to a flight at a Bombing and Gunnery School, a student bomb aimer inspects practice bombs attached below the wing of a Fairey Battle. When the bomb struck the ground, it emitted coloured smoke. As there was more than one bomb aimer in the aircraft, observers on the ground used the different colours of smoke to determine the accuracy and the identity of each bomb aimer.



A bomb aimer looks through his bomb sight in the nose of a Lancaster bomber. His right thumb is on the release button.



Looking into the bomb aimer compartment in the nose of a Lancaster. Note the 'computer' (at left), the bomb sight (centre) with the chest cushion below, the bomb aimer's panel (to the right of the cushion), and the mesh container for a portable oxygen bottle (at right).



The bomb aimer's control panel enabled him to release bombs from up to sixteen different locations in a Lancaster's bomb-bay.

CSBS Mk VII AND Mk IX BOMB SIGHT

Course Setting Bomb Sights (CSBS) were developed by the Royal Navy during the First World War in order to attack submarines and surface ships. The basic design was quickly adopted by the Royal Air Force. The Mk. VII and Mk. IX versions, used by Bomber Command during the first three years of the war, made adjustments for wind speed and direction and was capable of adapting to moving targets.

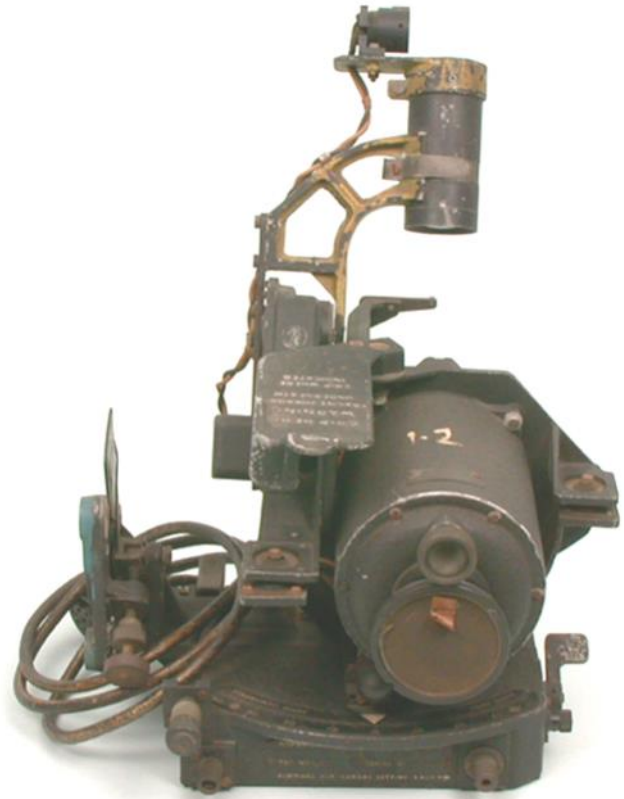
The Mk. VII Course Setting Bomb Sights were widely used by the BCATP at Bombing and Gunnery Schools throughout the war.



CSBS Mk. XIV BOMB SIGHT (Sighting Head and 'Computer')

Developed starting in 1939, the Mk. XIV began replacing the Mk. VII and Mk. IX bomb sights during 1942. The Mk. XIV was essentially an automated version of the Mk. VII, using a separate, mechanical 'computer'. The Mk. XIV required only ten seconds of straight flight before the drop, and automatically accounted for shallow climbs and dives. More importantly, the Mk. XIV sighting head was much smaller than the CABS Mk. VII, which allowed it to contain a gyro stabilization platform. This kept the sight pointed at the target even as the bomber manoeuvred, dramatically increasing its accuracy and ease of sighting.

A remarkable mechanical, analogue "computer" was devised in 1941 and, together with the associated Sighting Head, was utilized in Bomber Command aircraft during the final three years of the war. As the target was approached, the computer was able to update the Bomb Sight in real-time as conditions changed. Evasive action on the bombing run did not affect the sight's accuracy provided that at least ten seconds of the run were made in steady flight. The device could account for shallow climbs and dives as well, as it automatically received input such as airspeed, altitude, and bearing, correlated these and other factors, and then automatically calculated and conveyed adjustments to the sighting head.



SABS –STABILIZED AUTOMATIC BOMB SIGHT

Although the Mk. XIV Bomb Sight was adequate for use in most Bomber Command operations, the development of the large Tallboy and Grand Slam 'earthquake' bombs demanded more accuracy.

The more technically advanced 'Stabilized Automatic Bomb Sight' was used by Bomber Command's special operations squadrons, 9 and 617. The SABS was the most accurate bomb sight developed during the Second World War.

