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2nd Tactical Air Force

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# Tactics Employed by Fighter-Bombers Operating Against Special Targets

**Report, 2nd Tactical Air Force, 17 December 1944**

1. During the past six months fighter-bomber attacks have been carried out by 2nd Tactical Air Force (2 TAF) against a series of special targets in France, Belgium and Holland. These operations have involved a considerable amount of pre-flight planning, and the results obtained have varied considerably. A brief analysis of these operations outlined below has brought to light certain contributory factors to their success or failure.

2. The main targets for special attention have been:-

- (i) Enemy Military and SS Headquarters.
- (ii) Canal lock gates.

An idea of the pre-flight planning and tactics involved in these forms of attack may be gained from a closer study of the particular targets.

## **Enemy Military Headquarters**

3. HQ buildings during the period May – August 1944 were mainly situated in large houses or chateaux, which lay in their own grounds well apart from any other buildings, and invariably well defended by flak. These targets were firstly attacked by rocket projectile (RP), but as the primary aim was the complete demolition of the building in the shortest possible time, and although the attacks were well co-ordinated and pressed home, they did not result in the complete destruction of the building. It was later found that the shallow dive attack, carried out by aircraft using 1,000-lb MC [medium capacity]

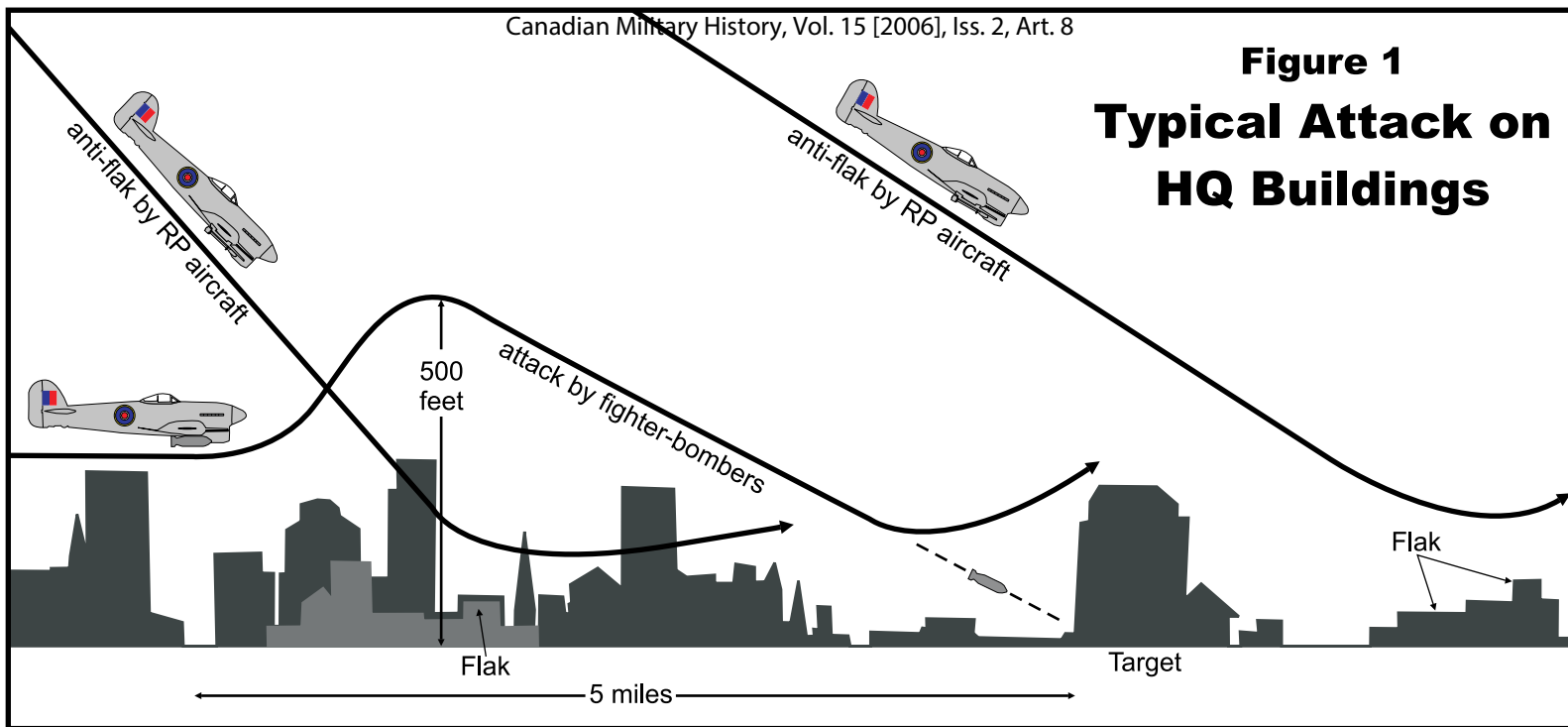
or 500-lb MC bombs was far more successful in these operations than the standard RP attack, on account of the poor “near miss” value of the latter. A section of four aircraft, carrying 1,000-lb M.C. bombs, fused 11 secs. delay, with another two sections of RP operating as anti-flak, would approach the target at about 8,000 feet. The anti-flak aircraft would then commence to dive when approximately 5 miles from the target, closely followed by the bomber force flying in echelon to starboard. The bombs were released at a height of about 500 feet, the method of aiming being to keep the sight on the target when releasing the bombs and not to pull through, as the normal tendency for bombs at that height and angle is to over-shoot.

4. During the period September – December 1944, a number of Gestapo and SD (Security Police) Headquarters were subjected to attack by fighter-bombers. The pre-flight planning for these targets was more involved, owing to the fact that they were situated mainly in densely populated areas, and which required pinpoint accuracy. This planning was very largely aided by the extremely accurate information available from ground sources in the occupied territory regarding:-

- (i) Hours of duty of enemy personnel.
- (ii) Location of vital documents.
- (iii) Construction of the building or buildings.
- (iv) Flak in the area.

5. A model of the target was then constructed, showing its position relative to prominent landmarks to facilitate the lead in, obstructions,

**Figure 1**  
**Typical Attack on**  
**HQ Buildings**



and flak pinpoints. It was then necessary to investigate the damage required, which was usually:-

- (i) The destruction of vital documents.
- (ii) The killing of the Headquarters personnel.

6. Earlier operations had proved that the bombing of this type of target did not necessarily result in its complete destruction. In point of fact, in two previous attacks ground sources reported that the enemy had recovered more than two-thirds of the documents scattered during the raid. In order to insure complete destruction by fire, it was found that a mixed load of 1,000 M.C. and 500 lb. M.75 (phosphorous-filled) bombs, fused 11 secs. was the most effective, as the 1000-lb bomb, hitting the building would break the walls and scatter the contents, and when immediately followed up by incendiary bombs would start a conflagration.

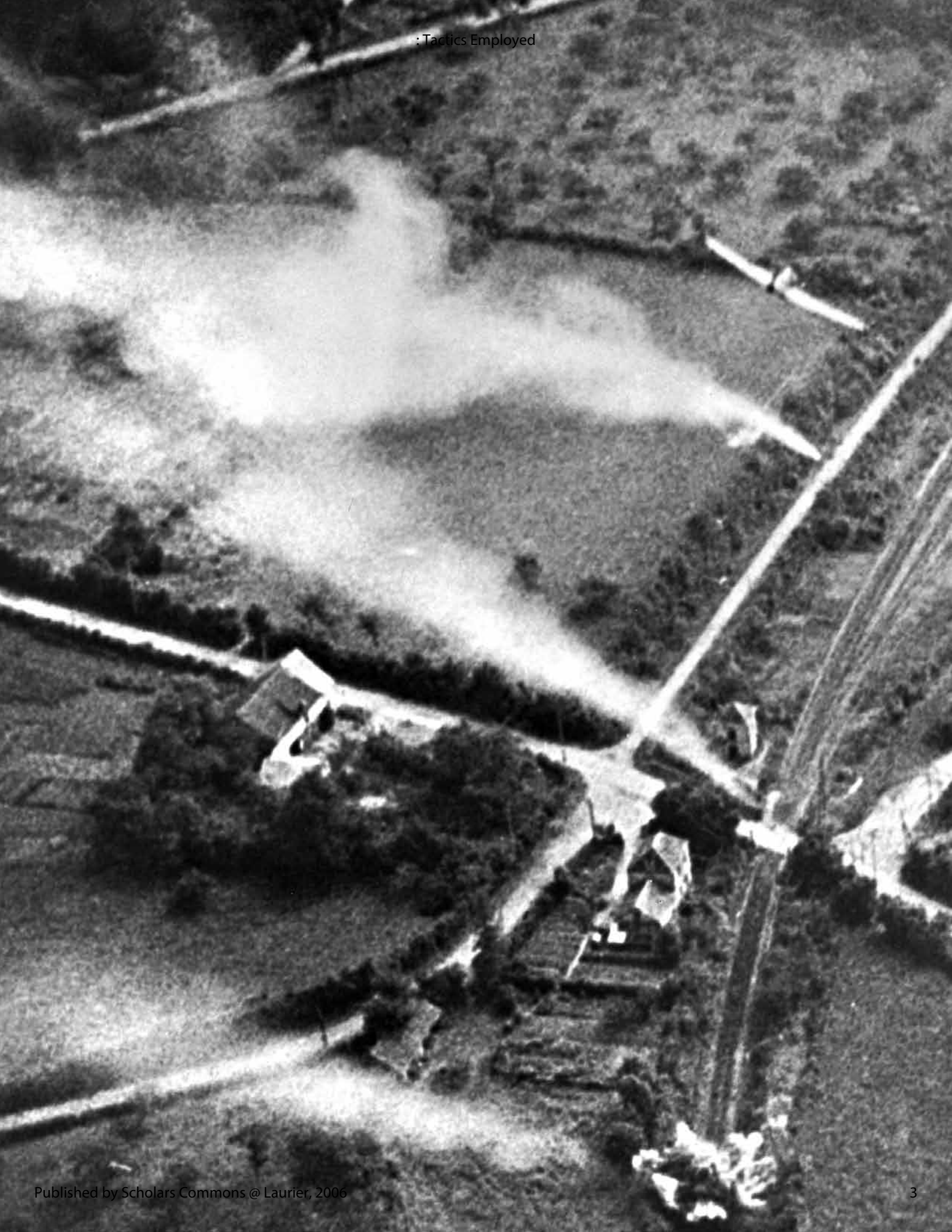
7. The attack was carried out in a similar manner to the earlier attacks, with RP aircraft acting as anti-flak. It is essential that the bomber force run into the target in a shallow dive, as opposed to 0-feet attack; otherwise the bomber section leaders do not see the target in time and may pass to either side of it, possibly seeing it too late for last minute correction. In addition, low-level bombing invariably results in the bomb striking the ground and ricocheting for a considerable distance past or to one side of the

target. RP and cannon have been found to be particularly effective in neutralising the flak in the target area, and also act as an excellent decoy for the bomber force, which invariably comes in almost unnoticed.

8. The attacks on the Quisling headquarters at Amsterdam on 26 November and the Quisling headquarters at Rotterdam on 29 November are interesting examples. On both occasions the attack was preceded by marker aircraft, who slightly preceded the main force and successfully marked the target with phosphorous headed RP. One squadron then went in at low level and the last squadron finally dive bombed the target. Although the attack was well co-ordinated and the target accurately dive bombed, both operations were unsuccessful for the following reasons:-

- (i) Owing to certain technical difficulties, 500-lb (M.76) bombs were not carried, so that although the building was well hit with 1,000-lb bombs, there were no incendiaries in the load to cause a conflagration.
- (ii) As pointed out above, the low level attack on 29 November was a failure owing to the fact that the leader was too low to see the target ahead and passed to one side of it.

**Right:** A still shot from gun camera footage captures a Typhoon rocket attack.





A Supermarine Spitfire of 2nd Tactical Air Force is bombed up with a 500-pounder in preparation for a dive-bombing attack in France.

### Lock Gates

9. Since the commencement of operations in Holland and western Germany, increasing emphasis has been laid on the disruption of barge traffic in the area vital for supply of enemy military stores in the forward areas. Thus the canal lock gates, which are spread at intervals and control large expanses of waterway, have received considerable attention from Typhoon fighter bombers. The more important sluice gates are well defended by flak, which is so positioned as to cover all possible approaches to

the target. It is essential, therefore, that the flak positions be accurately plotted on the pre-flight planning model in order that the anti-flak aircraft can position themselves correctly for a well coordinated strafe. It has been found that the best form of attacking this type of target is to operate two sections of four fighters bombers carrying 1,000-lb MCs fused 11 secs., supported where necessary by twice the number of RP aircraft acting as anti-flak. The approach to the target is made in "finger" formation at about 8,000 feet to 10,000 feet with the anti-flak aircraft flying slightly above and on either side of the bomber

A Typhoon of 440 Squadron RCAF is prepared for its next mission. In the foreground lie some 1000-pound bombs.

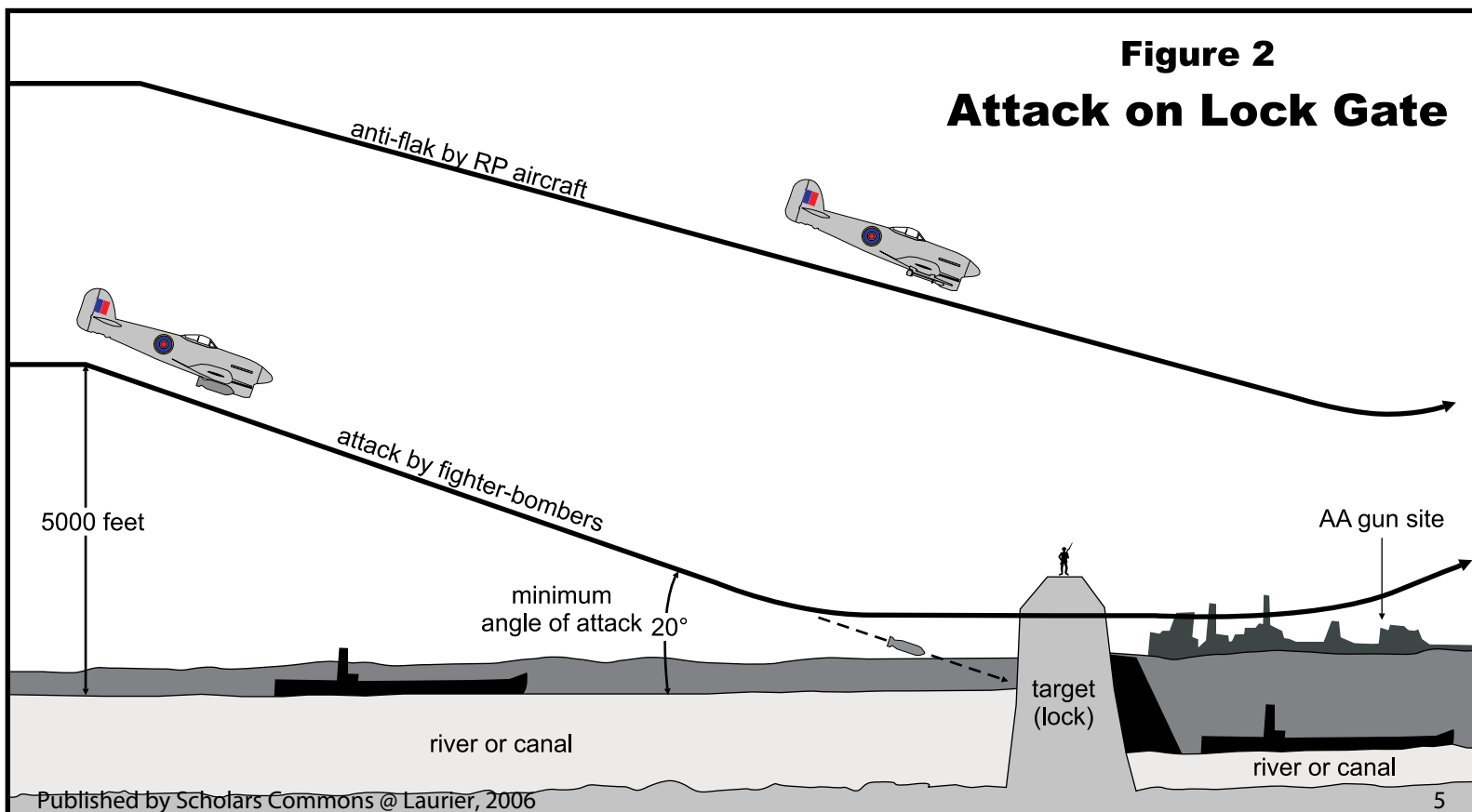






Rows of 3-inch rocket projectiles, used by the Hawker Typhoon, lay in readiness for the next mission.

## Figure 2 Attack on Lock Gate





The dangers of low-level attacks are evident in these two photos:

**Above:** A Spitfire from 411 Squadron RCAF displays damage received during an attack on a bridge in the Nijmegen area in September 1944.

Canadian Forces Joint Imagery Centre PMR 78-253

**Left:** A Typhoon returned from an attack on a bridge in the Rouen area with a fuselage full of flak damage.

Canadian Forces Joint Imagery Centre PL 30161



A Rocket-firing Typhoon of a British squadron sits ready for its next mission in Normandy while two other Typhoons taxi out to the runway for an operational sortie.

force. When about 5-7 miles from the target the anti-flak aircraft split into sections and dive down in loose echelon starboard on to their pre-determined flak positions, whilst the bomber force lose height down to ground level when approximately 5 miles from the target, and on the final approach i.e. about 2 miles, pull up to 500-feet to release their bombs, breaking away at low level until well clear of the target area. Two very effective attacks were carried out against the lock gates at Sneek and Gaarkeuken in Holland on 11 November 1944. Both operations resulted in the lock gates receiving direct hits which put them out of action for several days. The enemy, however, has endeavoured to overcome the effects of these attacks by rapidly erecting temporary locks a short distance up-stream, so that the waterway may be again immediately re-flooded and barge traffic continue. In view of this, particular attention must be paid to the area immediately after the attacks, and if photographic

reconnaissance reveals repair work in progress to the locks and/or erection of temporary ones, another attack must be made with the least possible delay. The 1,000 lb MC fused 11 secs., is quite sufficient to destroy or severely damage the lock walls, whilst near misses between the canal bank and the lock gates will invariably damage the operating mechanism.

10. It is imperative for this type of operation that the leader of the first section gauges accurately the moment to pull up before release in order that sufficient interval is allowed for sighting and releasing of the bombs, at the same time not exposing the sections to flak for too long a period.

11. In conclusion, it is hoped that an analysis of attacks on further special targets can be made in the near future, and these will be made available as soon as possible.