

# AN ATTACK BY TORPEDO PLANES ON THE HIGH SEAS FLEET

**Considerations forwarded to the Admiralty by ADMIRAL Sir David BEATTY,  
Commander-in-Chief Grand Fleet on 11 September 1917 and their results.**

BY

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It has been argued that the attack on Pearl harbour by Japanese carrier-borne aircraft owed something in its conception to the British attack on Italian battleships in Taranto a year earlier. Whilst the latter would have been reassuring to the Japanese, the truth is that both attacks owed a great deal to the Grand Fleet's plans to attack the German High Sea Fleet in its harbours. At the time of the Armistice on 11 November 1918 these were within days of implementation and would have been revealed to the Japanese by the British Naval Air Mission under the Master of Sempill after the war.

ADMIRAL BEATTY stated, in his covering letter to the Admiralty, that the planned attack had many difficulties to overcome but he believed strongly that they were not insuperable. Subsequent events, in a different war 23 years later, were to prove how right he was.

## **The Object of the Attack**

U-boats needed to be prevented from sailing from their harbours into the open sea. Mines, blockships or constant patrols by cruisers could achieve this but they would only be effective if the enemy was unable to remove them. So long as the Germans had a force in the German Bight superior to any which the British could permanently maintain there, the obstacles could be removed and submarine movements could not be limited. It was, therefore, of critical importance to neutralize the High Seas Fleet in its harbours.

Tactical aircraft operating from aircraft carriers and armed with torpedoes were assessed by the Grand Fleet Staff to be the best solution. They had to be produced in large numbers and used in masses "with the full benefit of surprise".

## **The Attack in Detail**

The proposed attack was to be by as many machines as possible, and not less than 121, launched from 'specially fitted carrier ships' operating about an hours flying time from the target. The launch position was to be reached at or before nautical twilight and the strike aircraft were to be flown off from the ships in groups of 40 so as to reach the target area in strong forces in quick succession. Their objectives, in order of priority were to be:

- Battlecruisers and battleships, including old battleships.
- Dock gates and floating docks.

- Light cruisers.
- Torpedo craft, both surface and submarine.

After discharging their torpedoes, the attacking aircraft were to use front guns to defend succeeding flights against interception by enemy aircraft and to suppress anti-aircraft guns with strafing fire. When the strike force commander decided that the operation had been completed, the aircraft were to proceed to a rendezvous with the carriers off the Dutch coast. The waters off Vlieland, to the west of Terschelling were suggested as giving a lee from easterly or southerly winds whilst being at a distance from the launch position that the carriers could cover whilst the aircraft were airborne.

In addition to the torpedo aircraft, H12 flying boats were to take part in the attack using 230lb bombs against floating docks, engine houses, magazines and submarines in the basin where they presented a mass target moored abreast each other. The flying boats would aim to attack at the same time as the torpedo aircraft, helping to saturate the defences but to do so it was thought that they would require navigational assistance from small surface craft spaced out across the North sea showing lights upward. They would have insufficient fuel to return to their bases in the UK and so would need to alight next to destroyers off the Dutch coast and refuel from them. Those that could not make this rendezvous were to intern themselves in Holland.

### **The aircraft carrying ships**

With accurate foresight, the Grand Fleet planners believed that 'ordinary merchant ships' could be modified to operate torpedo aircraft by building flight decks onto them. If each such ship could carry 17 aircraft, eight carriers would be required to carry the 121 aircraft strike force plus 2 fighters in each carrier. ADMIRAL BEATTY wanted to carry out the attack as soon as the aircraft, the carriers and their crews were trained and ready in all respects.

Such an operation would, to a certain extent, be dependent upon weather and might be delayed by a succession of gales. It was, therefore, recommended that the basic forces be increased by at least 25%. This would have the effect of increasing the strength of the attack to mitigate the effects of the lessened chances of maintaining secrecy over a longer timescale. The 2 fighters in each carrier were intended to destroy any ZEPPELIN scouts that might attempt to locate the force.

Each carrier was to be capable of flying off at least 5 aircraft in very quick succession so that a complete force of at least 40 can get away in company from eight carriers. Subsequent flights should be flown off with the minimum delay in order that attacks could be made in quick succession. The ships taken up for conversion were to be the fastest available. In addition to their arrangements for operating aircraft, the ships were to be fitted with side blisters and paravanes for protection against submarine attack and mines. The Grand Fleet Staff suggested that armed merchant cruisers, withdrawn from the 10th Cruiser Squadron, which formed the Northern Patrol, would be suitable for the purpose.

### **Timescale**

Timing was seen as the most important single factor and the Admiralty was urged to identify suitable ships and arrange for their conversion as quickly as possible. The longer conversion took, the more likely it was felt that the enemy would learn what was intended and considerable pains were recommended to conceal the ships' true purpose. Their use with aircraft could hardly be disguised but their destination could be obscured by fittings such as fans, ventilation and awnings, which would suggest employment in the Persian Gulf or Egypt. No deceptive

measure was felt to be too trivial to adopt and detailed planning even suggested delaying and censoring mail to make it appear that it was having to be sent to and from the Middle East.

### **The SOPWITH T1**

The aircraft chosen for the attack was the SOPWITH T1 (FIG.1).



FIG.1 – SOPWITH T1

The name ‘Cuckoo’ was unofficial and reflected the intention to ‘put an egg into someone else’s nest’! For obvious security reasons, it was not used until after the Armistice and the aircraft were generally referred to as ‘T’ machines. 121 were to take part in the initial attack and it was felt that ‘many more’ should be constructed to cover the inevitable losses during operational training. A larger force would also be able to renew the attack as early as possible. Even if the initial attack should be completely successful, it was felt that there would still be much work for aircraft of this type in attacking enemy merchant shipping in the Elbe, at Emden and Bremerhaven.

“No limit should, therefore, be put upon construction, but a minimum of 60% spare should be immediately aimed at”.

### **The Weapon**

The weapon to be carried by the 'T' machines was a specially designed torpedo weighing 1,000lb. Like other torpedoes in Royal Navy service, it had a diameter of 18 inches and was the product of a specialist design team with a great deal of practical war experience. The warhead comprised 170lb of TORPEX detonated by a contact pistol on impacting the side of a ship target. In comparison with torpedoes in use with submarines and surface ships this was about half the size of warhead, hence the need for the 5 aircraft flights to attack each target scoring as many hits as possible. They would hit below the waterline of a battleship, below the armoured belt and cause considerable flooding and damage. Had the surprise attack succeeded, as it was to do at Taranto and Pearl Harbour, ships in harbour would be unlikely to be in an action state with watertight doors closed and little of their machinery would have been running, thus reducing the number of pumps available to counter flooding. For follow-up attacks, the 'T' machines were to be capable of carrying 500lb bombs instead of torpedoes.

### **Assembly and Departure of the Carrier Task Force**

As soon as the carrier task force had worked up to operational efficiency in Scapa Flow it was to proceed to its point of departure. The Wash was suggested for this purpose as it offered a large sheet of water, out of immediate touch with towns or shipping, where practice could be continued until the conditions for the attack were just right. The similarity with the Imperial Japanese Navy's use of Hittokapu Wan, Etoforu, prior to the attack on Pearl harbour in 1941, is obvious. The chosen launch position was off Ameland, close enough to the Wash for the carriers to make nearly the entire passage in darkness with a speed of only 12 knots. A force of cruisers and destroyers would provide close escort for the carriers and German light forces in Emden would be blocked by mines laid in the hours of darkness before the attack was launched. A group of light cruisers would prevent these mines being swept and intercept any German light forces that managed to put to sea. The cruisers themselves would carry aircraft to give warning of any enemy movements in the Ems River. The Grand Fleet would be at sea to provide distant heavy cover.

### **Intelligence**

The actual disposition of warships was, if at all possible, to be available to the officer who would lead the attack but air reconnaissance was not to be used to achieve this as it was feared that it would raise enemy suspicions of an impending attack. Follow up attacks were to be made as soon as possible after the first with the aim of destroying gates in the Kiel Canal to prevent ships from returning to the western harbours from Kiel.

### **Tactical Considerations**

It was stressed that attacks on individual ships were to be made as decisive as possible. One torpedo hit might be insufficient and each 5 aircraft unit, under its Flight Commander, was to be trained to act together, developing its whole attack against a single ship. The size of the attack force was intended to destroy a force of 24 capital ships and if intelligence were to show that this estimate was too low, the size of the attacking force would need to be increased. Detailed examinations of tidal conditions and the positioning of ships anti-aircraft guns were made. Thus, if guns were mounted aft, a low flying attack from seaward on a flood tide would provide advantages. A low tide would also help, enabling dock gates to be attacked and destroyed more effectively. The 'T' machines were each to be fitted with a single 'front gun' and 150 rounds of ammunition so that, once their torpedo

was dropped, they could escort subsequent attacking aircraft and/or strafe German repair parties as they attempted to prevent ships from sinking.

### **Duties of the Wing Commander**

The attack force commander would lead the first wave of 40 aircraft. Having seen how that went, he would give directions to the succeeding squadrons. He would not carry a torpedo but would have increased fuel and a consequently longer time on task. His aircraft would be distinguished by special marks or a unique colour scheme and a special code of signals was prepared to enable him to pass his instructions to the attacking aircraft as they arrived in the vicinity of the targets. He would also be in tactical command of the H12 flying boats while they were in the target area and they would need to understand his signals and act on them rather than any previous instructions which might no longer be valid.

### **Admiralty Reaction**

ADMIRAL BEATTY's detailed plan was forwarded to the Admiralty in early September 1917. The response came a fortnight later from the First Sea Lord who was, at the time, responsible for the operational control of all British and Empire fleets throughout the world. In outline it was positive and noted the steady increase in the number of aircraft, which could be taken to sea in the Grand Fleet, especially since the arrival of *Furious*. SQUADRON COMMANDER DUNNING had just carried out the world's first landing by an operational aircraft on an operational ship at sea in her and plans were being made to equip her with a landing deck aft in addition to the forward deck on which DUNNING had landed. Given this increase, the Admiralty felt able to offer the new carrier *Argus* for 'T' machine operations on her completion, expected to be in mid 1918. She was to be able to carry at least twice the number of aircraft requested for a single merchant ship conversion. Further, an order was placed for 100 'T' machines with delivery due to commence in April 1918, continuing at the rate of 10 per week after that. 200 of the new aircraft torpedoes were also ordered.

This was all positive but the Admiralty felt unable to offer BEATTY the number of converted carriers he wanted. In addition to *Argus*, other hulls were earmarked for construction as, or conversion to carriers but the attack could not be on the scale the Grand Fleet Staff wanted.

### **Offensive or Defensive – which is the best option?**

The core of the Admiralty's argument not to convert eight merchant ships into aircraft carriers was that hulls could not be spared from their existing duties. Those ships already converted into Armed Merchant Cruisers were needed for defensive patrol work and mercantile hulls were needed to carry vital war material to Britain. (The same mistaken argument was used to delay the construction of escort carriers in the first years of World War 2). ADMIRAL BEATTY countered this with an argument in favour of offensive action that is as valid today as it was then. In a letter dated 7 October 1917, he stated,

“...I have given much consideration to the question of air attacks from the sea, on a large scale, against enemy naval bases. Besides being one of the few ways in which offensive action against the German Fleet is possible, it is one of the few ways in which our command of the sea can be turned to active account against the enemy. It is fully realised that the requirements in aircraft carriers can only be met at the expense of other important services, but it is urged that the claims of the offensive should take precedence. Successful operations of the nature indicated would almost certainly curtail enemy activity against trade, and so reduce the

calls for protection. Every effort should be made to have the ships ready for service by April 1918. A sustained air offensive on the scale proposed would impose upon the enemy the necessity for active measures of defence. Attempts to attack the carriers and their covering forces might well lead to actions of increasing magnitude involving their heavy ships, thus affording opportunities that have, hitherto, been denied to us”.

In reply, the Admiralty stated that,

“...with reference to your remarks on the general question of an offensive by air from the sea, it is accepted by Their Lordships that, under existing circumstances, that the air presents the greatest facilities for conducting an offensive against the enemy’s vessels and bases, and the possibilities of developing such an offensive in the future are being fully considered. My Lords are fully alive to the importance of air attacks against the enemy’s North Sea bases and are determined that the possibilities of such attacks from seaward shall be given full consideration and be correlated to the general scheme of operations.”

### **The Flying Squadron**

The eight merchant conversions did not materialize but in 1918 the grand Fleet got a Flying Squadron under REAR ADMIRAL PHILLIMORE, the first Admiral Commanding Aircraft (ACA). By the autumn it comprised *Argus*, *Furious* and *Vindictive*. The former was the world’s first true carrier with a continuous flight deck from bow to stern, the latter was a cruiser built to a standard similar to *Furious* with decks fore and aft but with a bridge and funnel obstructing them amidships. They could, between them, have delivered an attack about half the size of that urged by ADMIRAL BEATTY. ‘T’ machines were formed into squadrons ashore intensively working up in the torpedo attack role. This was no easy task, as to be effective the torpedo had to be released at the right height with no yaw or drift. Aim had to be exact while aircraft flew in tight formation, watching their flight commander and the ‘strike co-ordinator’ for signals under intense small arms and anti-aircraft fire once the defence became alerted. All this would take skill and tactical awareness of a high order. Ships too would need to be proficient and the attack by 2F1 CAMELS from *Furious* on airship sheds at Tondern in 1918 showed that they had become so, even if the aircraft could not land back on board that particular ship.

### **What might have been?**

Their 1918 Christmas card shows the extent to which the ‘T’ machine pilots saw enemy battleships as targets and ‘victims’. The intensity of their training and commitment can be deduced. The Armistice on 11 November 1918 came before the long awaited attack could take place but the idea was born. Subsequently, it was revived by the Royal Navy for potential use on the Italian fleet during the Abyssinian Crisis of 1936 and, of course, for the famous attack on the same fleet in its main base at Taranto in November 1940. Then came Pearl harbour!

It was obvious to the Royal Navy that it had developed a war-winning weapon and a mock attack using ‘T’ machines was made on the Atlantic Fleet at its moorings in Portland Harbour during 1919. (FIGS 2 and 3) show the attack taking place and the subsequent analysis of torpedo tracks. Note the use of smoke bombs to cover the attacking aircraft and the early ‘air-to-air’ shots of aircraft in action.

This was the birth of strike operations of strike operations “from the sea” that are now taken for granted.

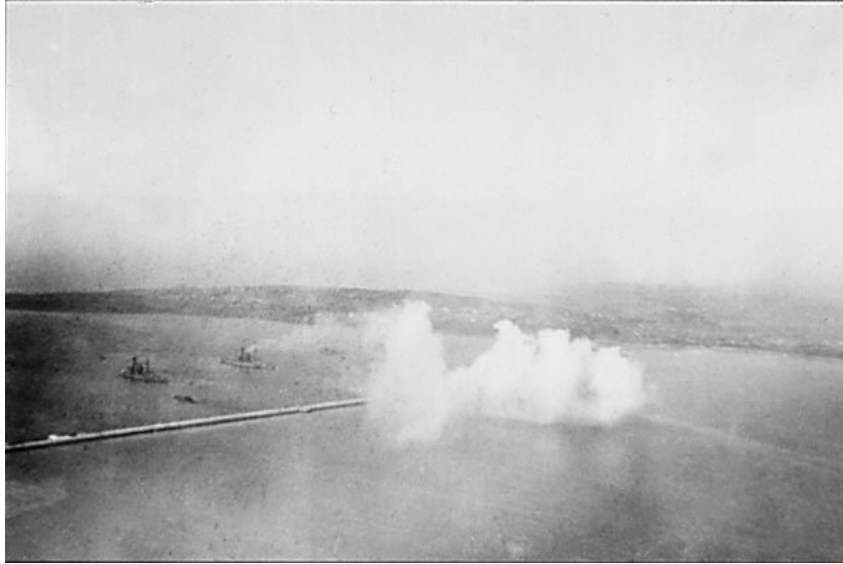


FIG.2 – ATTACK ON PORTLAND HARBOUR

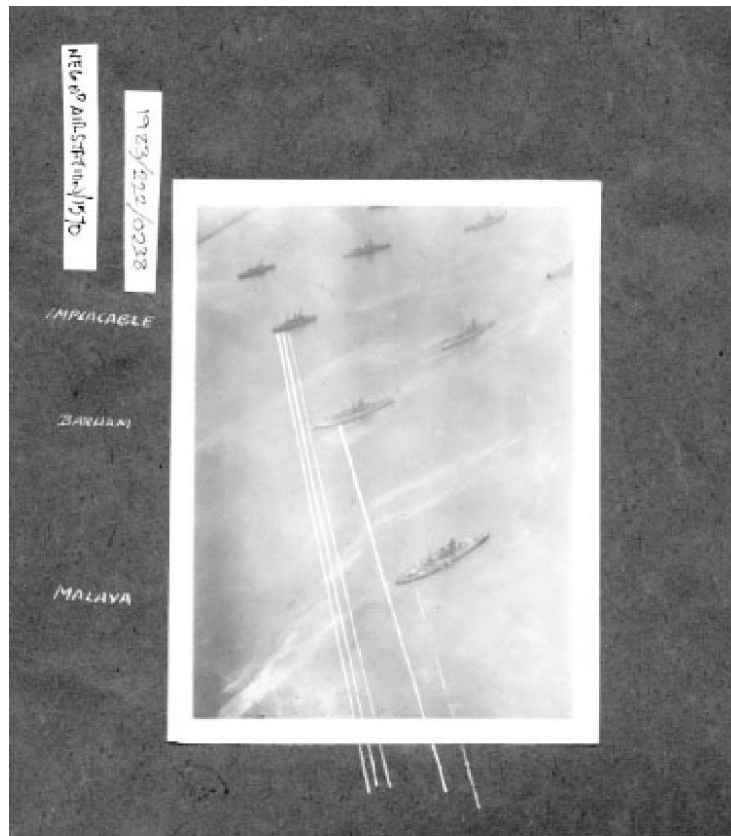


FIG.3 – ANALYSIS OF ATTACK