LEADER OF 3RD EMERGENCY FLOTILLA

HMS *QUILLIAM* (G09) – LEADER OF THE Q CLASS

DRAWING OF STARBOARD PROFILE, DECK PLANS AND HOLD PLAN

This A4 photocopy of the drawing and plans was kindly provided by Naval Historical Branch

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HMS *Quilliam* was named after the First Lieutenant of HMS *Victory* at the Battle of Trafalgar. Other Destroyer Leaders were named after admirals and captains, e.g. HMS *Duncan*, HMS *Hardy*, HMS *Jervis*, HMS *Laforey*, HMS *Pakenham*, HMS *Troubridge*, HMS *Kempenfelt*.

HMS *Quilliam* was ordered as part of the 3rd Emergency Flotilla, later named the Q Class. Built by Hawthorn Leslie, she was launched on 29 November 1941 and adopted by the Borough of Hampstead in north London. She was sold in 1945 and became HNLMS *Bankcert* in the Royal Netherlands Navy. She was scrapped in 1957.

As a Leader she displaced 1725 tons, twenty more tons than the rest of the class. A Destroyer Leader's dimensions were the same as the rest of the class, but she had a number of additional compartments, such as a Staff Office and perhaps more cabins. The complement of HMS *Quilliam* was as much as 225 compared to 175 in the rest of the Q Class.

Comparison with the W class and HMS *Wager*

With no plans of the W Class yet found, these plans are sufficiently similar to give a good idea of the internal arrangement of HMS *Wager*, ordered as part of the 9th Emergency Flotilla. A look around the museum ship HMS *Cavalier*, in Chatham Historic Dockyard, will give a better idea, except for the changes to her profile and layout made in the 1950s and 1960s.

There were some obvious differences in profile. As indicated in the note at the bottom of the drawing, HMS *Quilliam* had a square-cut transom, rather than the J class round stern; HMS *Wager* also had a square stern. HMS *Wager* had a tall lattice mast unlike the plain tripod mast in HMS *Quilliam* and she had a single Mk III/W director on the bridge. In HMS *Wager*, the 44-inch searchlight was mounted abaft the funnel and not between the torpedo tubes. HMS *Wager* had one twin 40mm Hazemeyer AA gun between the torpedo tubes and four twin 20mm Oerlikons (AA guns) on the bridge and abaft the funnel.

Less noticeable was that, from the S class onwards, the design was four feet longer overall, the bow being altered to reduce spray. Whereas HMS *Quilliam* was 358¾ ft oa, the overall length of HMS *Wager* was 362¾ feet; the draught of a Q class destroyer was 9½ ft compared to 10 feet in the W class.

Internally, the Qs were the last class of destroyer where all officers' accommodation was aft; from the R class onwards, the accommodation was separated, with some for'd and some aft – the aim was obvious: to avoid the possibility of many officers being killed at once. This is a significant difference and the drawings of HMS *Wager* would have thus been different for both the Upper Deck and Lower Deck.

Otherwise, the drawing may be taken broadly as showing the profile, deck and hold layout for HMS *Wager*.

I am very grateful to my former training officer when a Midshipman, the naval author and pusser Lt Cdr Ben Warlow RN, for this information and to Marine Engineering Officers Lt Cdr John Basterfield RN and Lt Cdr Ian Pile RN for their advice about the ship's machinery spaces.

Notes and comments on the profile drawing and plans

The drawing states, at the top left, ADMIRALTY D N G DEPT 18A/977 and is presumed to mean Admiralty Drawing Department. In the bottom right is stated *Traced from Admiralty Sketch Design* [signature and date unreadable].

The three line note, to the left of the drawing of the bridge, reads:

NB. This design, with the exception of armament, was generally similar to that of the "J" class, 1935 Programme. With modifications and a square-cut stern it was adopted in the 5th to 14th Emergency Flotillas.

The scale is marked to show 10 feet (foot by foot), 20 feet, then 40, 60, 80, 100 and up to 180 feet.

The dimensions of HMS *Quilliam* (for HMS *Wager* in brackets where different) were as follows: 358¾ feet overall length (362¾ feet) x 35¾ feet beam (width, inside bulges) x 9½ feet mean draught at standard displacement (10 feet). It's about eight feet from the Upper Deck to the waterline and about 19 feet from the Forecastle Deck (fo'c's'le) to the waterline. The average deckhead is about eight feet from the deck on the Forecastle Deck, Upper Deck and Lower Deck; headroom is somewhat lower, of course, once all the cabling, pipes and light fittings are fitted!

The decks were named as follows, from top to bottom:

Bridge
Signal Deck (and No.2 Gun Platform – this is B turret, for'd of the Bridge)
Forecastle Deck – with scuttles (portholes); also known as the fo'c's'le

Upper Deck – with scuttles (portholes) in the hull for'd of the boats and the break in the fo'c's'le (below the Forecastle Deck)
Lower Deck – with scuttles
Hold – on and below the waterline, marked approximately by the 'boot topping'[1]. No scuttles.

The modern convention of numbering decks (with the upper deck as 1 deck, the next deck below as 2 deck and so on, the decks above as 01, 02 and so on) was not introduced until the 1950s; this helped to make the identification of compartments, spaces and doors much easier.

The Forecastle Deck shows, just for'd of A turret, the breakwater[2] and two steam capstans[3]; they can be seen on the Profile drawing too.

Each deck plan shows the centre line and, athwartships, the water-tight bulkheads are shown as WTB (UNDER) on the upper deck plan and as WTB on both the Lower Deck and Hold plans. Water-tight bulkheads surround the SWITCHBOARD ROOM, aft of the GEARING ROOM on the Lower Deck.

Some terminology is not that used by the Royal Navy, design and shipbuilding being the business of naval architects and other civilian staff. For example, the word 'crew' is used whereas on board the term is the 'ship's company'; a boat has a crew – not a ship! Ward room is invariably Wardroom as one word. Even in warships today, although lavatories and WCs are always called 'heads' in the Royal Navy, the compartments are labelled, for example, OFFICERS' W.C.

Where descriptions appear below thus, CINEMA STORE, it indicates the form to be found on the PROFILE drawing, DECK plans and HOLD plan.

Armament – the profile shows the four 4.7-inch gun turrets, A and B for'd and X and Y aft. X turret is shown facing forward, a common configuration identifiable in various photographs. Between A and B turret and between X and Y turret is a blast shield, fitted to safeguard men below. The guns' DIRECTOR CONTROL TOWER is a circular arrangement directly abaft the Bridge.

The mast on the after blast shield is for the fog light and would be removed in action and when not needed. The ensign staff aft is not shown, nor is the jack staff for'd.

There are two 4.7 MAGAZINE(S) and three 4.7 SHELL ROOM(S) in the Hold, for'd and aft, below ship's company accommodation.

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[1] Boot topping: a mixture of tallow, sulphur or lime, and rosin which was used to cover the bottom of the ship, partly as a deterrent against weed and barnacles and partly to give the bottom of the ship a smooth surface to reduce friction through the water when underway.
[2] Breakwater: a low bulkhead across the Forecastle Deck which prevents seas that break over the bows, or through the hawseholes (through which the anchor cable passes), from running aft along the deck.
[3] Capstan: a cylindrical barrel fitted on the Forecastle Deck and used for heavy lifting work, particularly when working anchors and cables.

On the Signal Deck, outside both the CHART ROOM and CO's SEA CABIN is a 0.5" M/G – quick-firing machine gun.

The 21" QUADRUPLE TORPEDO TUBES – 2 x 4 tubes – are shown fore and aft of the 44" SEARCHLIGHT and on the upper deck, with a TORPEDO LOADING DAVIT to port and to starboard. The DUPLEX PISTOL ROOM directly abaft the funnel on the Upper Deck held the detonators[4] for the torpedoes. The TORPEDO MAG ROOM – the Torpedo Magazine Room - is in the Hold, just for'd of the after 4.7 MAGAZINE and, adjacent, is the TORPEDO GUNNER'S STORE.

Aft of the funnel, above the motor cutter, on the Profile drawing is a 2 PDR POM POM. In the Hold, to starboard of the COOL ROOM and aft of the for'd 4.7 MAGAZINE is the 2 PDR POM POM MAGAZINE.

Two D/C THROWER(s) are shown, one depth charge thrower each side of the after torpedo tubes. Two depth charge rails are shown right aft on the Profile drawing and the Upper Deck.

The A/S COMPT[5] is for'd in the Hold, aft of NO.2 NAVAL STORE. In the Anti-Submarine compartment was housed ASDIC[6] equipment.

Boats – the profile and the upper deck plan shows the ship's four boats:

- 2 x 25 FT MOTOR CUTTER – one port side and one starboard side
- 1 x 27 FT WHALER (pulls five oars) – starboard side, abaft mast
- 1 x 16 FT MOTOR DINGHY ON TROLLEY – midships, port side abaft funnel

see www.model-dockyard.com/acatalog/1_48_Scale.html for images of the boats and www.transylvanian.com/27-whaler-royal-navy-plans/index.html for plans of the whaler.

Accommodation – separate accommodation for the Commanding Officer, the officers, the Chief Petty Officers (CPOs), Engine Room Artificers (ERAs) and Petty Officer (POs) and the junior ratings (Leading Rating and below).

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[4] Duplex means double. The British magnetic pistol for the torpedo warhead was called a Duplex Coil Road (DCR). It was not particularly successfully and most were replaced by 1943 with the Compensated Coil Rod with amplifier (CCR), which was much better. Nevertheless, in the Far East, CCRs were found to be greatly affected by the heat. CCR became standard for 21-inch torpedoes by January 1945. However, the war in the Pacific was much more an air war than a submarine war and torpedoes were probably rarely fired in anger from HMS *Wager*.

[5] COMPT = compartment

[6] ASDIC – for an explanation of the meaning, see http://en.wikipedia.org/wiki/Sonar. The Pacific War was primarily an air war and not a submarine war, but there would have been concern to identify enemy submarines from those of the Allies.

- The CAPTAIN'S DAY CABIN (about 12ft x 12ft) and CO'S SLEEPING CABIN and BATHROOM are all aft of the WARD ROOM on the Lower Deck. The CO'S SEA CABIN is on the Signal Deck, to starboard of the CHART ROOM.
- Officers' cabins aft on the Upper Deck and Lower Deck – marked CABIN. Some cabins were for'd in HMS *Wager*. It was traditional for officers' accommodation to be aft but this is no longer necessarily the case. An average cabin was 6½ft x 10ft.
- The WARD ROOM is aft on the Lower Deck; this is the officers' mess. The OFFICERS' GALLEY is aft on the Upper Deck and the WARD ROOM PANTRY aft on the Lower Deck.
- Chief Petty Officers had the CPO'S MESS on the port side of the Forecastle Deck and the CPO'S MESS on the Lower Deck for'd, starboard side.
- Engine Room Artificers lived in the ERA'S MESS on the starboard side of the Forecastle Deck.
- Petty Officers lived in the PO'S MESS on the Forecastle Deck for'd of the CPO'S MESS and ERA'S MESS. The space is about 14ft x 31ft.
- Junior ratings lived in a number of messdecks, each with a majority of ratings from the same, or related, department. Only one mess is named on the plans – the STEWARDS MESS aft of the CAPTAIN'S DAY CABIN on the Lower Deck, where both Officers' Cooks and Officers' Stewards would live. The other five mess decks are marked as CREW SPACE in the for'd sections of both the Upper Deck (two messes divided by a water-tight bulkhead, albeit with two water-tight connecting doors, about 63ft max in length and varying in width from 29ft to 7½ft right for'd) and Lower Deck (three messes); here the seamen and stokers would have the largest spaces, with supply and other ratings either mixing in or having the for'd mess on the Lower Deck, aft of NO.1 PROVISION ROOM and NO.1 NAVAL STORE. Each man had a small kit locker and stowage for his hammock which he slung every night when sleeping on board.
- The CREW'S GALLEY is amidships on the Upper Deck, between the motor cutter and the whaler, just abaft the break in the fo'c's'le; the broadside, or canteen, messing system in small ships like destroyers meant that food for all ratings was prepared in the mess deck by the 'cook of the mess' (or by the 'messman' for senior ratings) and taken to the galley to be cooked, before being returned to the mess deck for serving.
- Washing and lavatory facilities are the URINAL, SEAMEN'S WCs, CPOs AND Pos WCs on the port side and the CPOS AND POS WASH PLACE and SEAMEN'S WASH PLACE on the starboard side of the Upper Deck aft of the CREW SPACE.
- There was no laundry, buckets being used for that purpose. There was a DRYING ROOM on the Forecastle Deck, just aft of the BOILER ROOM VENT.

As well as NO.1 PROVISION ROOM and NO.1 NAVAL STORE right for'd on the Lower Deck, NO.2 PROVISION ROOM and NO.2 NAVAL STORE were to be found in the Hold, for'd of the 4.7 MAGAZINE. NO.3 PROVISION ROOM was in what the US Navy calls "officers' territory" right aft on the Lower Deck. The POTATO STORE is on the

Upper Deck, starboard side, just for'd of the NAAFI CANTEEN. There is a small COOL ROOM in the Hold, on the port side, between the OIL FUEL tanks and the for'd 4.7 MAGAZINE. The ISSUE ROOM on the Upper Deck, for'd, was just above NO.1 PROVISION ROOM and it was from here that provisions (victuals) were issued to each mess for meals. Rum for the issue of the 'daily tot' to ratings was kept in the SPIRIT ROOM which was in the Hold, right aft of the 4.7 MAGAZINE. The CAPTAIN'S AND WARD ROOM STORE is also in the Hold, on the starboard side aft, just for's of the after 4.7 SHELL ROOM.

The NAAFI CANTEEN is on the port side of the Upper Deck, aft of the CREW SPACE and just for'd of the adjacent TRANSMITTING STATION is the CINEMA STORE. The CANTEEN STORE is on the Lower Deck, directly below the CINEMA STORE.

The SICK BAY is at the after end of the Forecastle Deck, port side.

Offices and other store rooms:

- The D/F OFFICE is in the superstructure inside the mast; this is the Radar Office or Direction Finding Office. The Radar aerial is shown on the Profile drawing for'd of the mast.
- The SHIP'S OFFICE is on the port side of the Upper Deck, aft of the after 21" QUADRUPLE TORPEDO TUBES.
- Next to the SHIP'S OFFICE is the Engineer's Office – ENG R'S OFFICE.
- Opposite the Engineer's Office – ENG R'S OFFICE – is the STAFF OFFICE but this is the space for Captain D's staff in a destroyer flotilla Leader; how was this space utilised in a non-Leader, a 'private ship' like HMS *Wager?*
- The OILSKIN STORE is on the port side of the Upper Deck, for'd of the ratings heads – WCs. Oilskins are coats and trousers waterproofed with oil, issued as required as 'loan clothing'.
- The LAMP AND PAINT ROOM is in its traditional place, right for'd of the Upper Deck. A dangerous place, where oil lamps, paints and other inflammable materials were kept.[7]
- The GUNNER'S STORE is on the port side of the Lower Deck abaft the GEARING ROOM. This was probably the small arms store as well as for other equipments for a landing party.
- The ENGINEER'S STORE is on the starboard side of the Lower Deck, the other side of the ship from the GUNNER'S STORE.
- The TORPEDO GUNNER'S STORE is to port of the TORPEDO MAG ROOM, port side aft in the Hold.

[7] In large ships, with a Tannoy and many 'green' young and new ratings, might be heard the 'pipe' "Able Seaman Rembrandt, Paint Shop" requiring that sailor to report to the paint store forthwith; of course, no such sailor was on board. Likewise, a green sailor might be told to "Go to the Naval Store and ask for a Long Weight" only to find, having done so, that the Jack Dusty had asked him to wait … for a long time! In modern ships, it was "RO Tate Flight Deck", there being no Radio Operator Tate, of course. Such 'pipes' raised a smile on a tense day! Others, less polite and certainly not PC, cannot be repeated here.

Navigation, Wireless and Signals compartments:

- The WHEEL HOUSE is for'd of the Bridge and goes a deck down to the Signal Deck, abaft B Turret.
- The STEERING GEAR COMPT[5] is right aft on the Lower Deck and in the Hold.
- The CHART ROOM is on the Signal Deck, port side, a little for'd of the mast.
- The open Bridge had a glass windscreen and a 20" SL – searchlight - on each of the port and starboard Bridge wings.
- On each side of the Bridge, just aft of the DIRECTOR CONTROL TOWER, is a SL MANIPULATOR - a Searchlight Manipulator is used for manual control.
- The COMBINED SIGNAL AND PLOTTING OFFICE is abaft the CHART ROOM on the Signal Deck.
- The W/T & F C OFFICE is on the Upper Deck in between the WCs and WASH PLACES. This is the principal Wireless Telegraph and [is it F C?] Office (usually called the Wireless Office) where signals were received and sent. The 2nd W/T OFFICE is on the Lower Deck inboard of the GUNNER'S STORE aft.
- The TRANSMITTING STATION is for'd of the W/T & F C OFFICE on the Upper Deck. Here were the main MF and HF transmitters with aerial runs up to the superstructure. From these two offices the communications and, perhaps, the signals departments would be run; co-located would be the cryptographic office. It is likely that there was a small signal office near the bridge but it seems not to be marked on the drawing or plans.
- In between the TRANSMITTING STATION and the W/T & F C OFFICE on the Upper Deck is a store that seems to read DETONATOR STORE [verification needed].
- A WT COMPT[5] - water-tight compartment - is situated right forward in the Hold; this is, of course, below the waterline.

Machinery and Electrics compartments:

- The GYRO COMPASS ROOM and LOW POWER SUPPLY ROOM are co-located on the Lower Deck, both for'd of NO.1 BOILER ROOM.
- The SWITCHBOARD ROOM in the centre of the Lower Deck for'd of the WARD ROOM is secure with water-tight bulkheads – WTB – on three sides and appears to open out for'd into the GEARING ROOM.
- The GEARING ROOM is a large compartment aft of the ENGINE ROOM, two decks in height (about 20ft) from the Hold to the Lower Deck. This room contains the main reduction gearing linking the turbines to the two shafts.
- The ENGINE ROOM is the largest single compartment in the ship, aft of NO.2 BOILER ROOM, two decks in height from the Hold to the Lower Deck; it's about 37ft x 35ft x 20ft = approx 26,000 sq ft of space. The FEED TANK (for Main Feed Water) sits on top of the OVERFLOW TANK, situated for'd in the lower ENGINE ROOM in the Hold (see also the Profile drawing). The ENGINE ROOM

houses the main engines, generators, compressors, oil fuel pumps and feed pumps, forced draught blowers and other machinery.

- NO.2 BOILER ROOM is aft and NO.1 BOILER ROOM for'd, with the funnel directly above, of course, both boiler rooms amidships, and divided by a water-tight bulkhead, both two decks in height from the Hold to the Lower Deck. Superheated steam from the boilers is used to spin powerful turbines for propulsion and turbo-generators for electricity. In NO.1 BOILER ROOM there is a FRESH WATER TANK to port and starboard and in NO.2 BOILER ROOM there is a RESERVE FEED WATER TANK also to port and starboard. Another fresh water tank – FRESH WATER or FW TANK (UNDER) – is under NO.2 NAVAL STORE in the Hold, for'd. BOILER ROOM VENT(s) are to be found leading up from both boiler rooms in the Hold through to Upper Deck.
- There is a GLAND ROOM either side of the TORPEDO MAG ROOM aft in the Hold. From these rooms the port and starboard shafts enter the sea.
- There are a number of OIL FUEL tanks in compartments in the Hold for'd and aft of the four large machinery spaces and one DIESEL OIL TANK for'd of NO.1 BOILER ROOM. The tanks, and any void spaces, have an X drawn through them to indicate that they are water-tight compartments, unmanned and inaccessible apart from bolted-down manhole coverplates.
- Inside each of the OIL FUEL tanks aft of the GEARING ROOM is a PLUMMER BLOCK COMPT[5]. Plummer Blocks are bearings that support the shafts and directly aft of each is the stern GLAND ROOM. The shaft tunnels are not shown on either the Profile drawing or the plan of the Hold but they would go from the GEARING ROOM through the PLUMMER BLOCK COMPT[5] and the GLAND ROOM and it is possible to work out where the shafts, and propellers, were in relation to the stern. It is odd that they were not drawn by the draughtsman on the plans.

Further reading:

The excellent book **The Royal Navy Officer's Pocket Book 1944** (Conway Maritime, 2007 - £6.99) shows how a captain and his officers went about running a destroyer and has some complementary drawings:

- Typical Gunnery Layout of a Modern Destroyer – a coloured cutaway drawing as an endpaper. The ship is not a W class but is very similar.
- Profile drawing of probably an Algerine class minesweeper – page 59.
- The Sick Bay of a River class frigate: plan – page 63.
- Diagram of the starboard side of the Bridge of the destroyer Flotilla Leader HMS *Duncan* (1932) – page 74.
- The Captain's cabin and an officer's double cabin in a River class frigate – page 87.
- Admiralty Chart: the Lizard to the Isle of Wight – page 112.
- Diagram of Captain's Sight and Open Face Indicator – page 120.

- Diagram of Oerlikon Gun – page 122.
- Plan of the Bridge of the destroyer Flotilla Leader HMS *Duncan* (1932) – endpaper.
- The Wardroom and some of the officers' cabins of a River class frigate – endpaper.

The facsimile **A Seaman's Pocket-Book June 1943** (Admiralty, BR827 – facsimile by Conway Maritime, 2006 - £6.99) contains much that will help the reader understand seamanship, sea terms and the duties of seamen in the Royal Navy. It is profusely illustrated and includes:

- Navigation lights – full colour endpaper.
- Naval alphabetical flags – full colour endpaper.
- Naval special flags – full colour plate.
- Numbered naval pendants and special pendants – full colour endpaper.
- Substitutes and their uses (flags) – full colour endpaper.
- Drawing of a ship's bulkhead and water-tight door – page 12.
- How a ship is conned, steered and driven – drawing – page 28.
- Ropes and knots – pages 42-61.
- Anchors and cables – pages 62-73.
- A cruiser's mainmast – diagram – page 56.
- Boatwork – pages 74-89. Drawing of a 27ft whaler and a 32ft cutter – page 77.
- Organisation of a ship – pages 90-91.
- Securing the clews of a hammock – diagram – page 96. Sailor's kit layout – page 99.
- Morse Code and phonetic alphabet – pages 101-102.
- Semaphore signs and significations – page 103.
- Typical compartment showing water-tight control markings – page 107.

Lt Cdr Lester May RN – 2 Feb 09