

HMS Cowdray at Malta wearing the funnel bands of the 18th Flotilla (one white over one black). The vertical black stripe signifies the Divisional Commander, or 'half-leader', mark of the period.



'Hunt' class destroyers

FIRST OF TWO DETAILED ARTICLES BY PETER HODGES

SOME time before the outbreak of the second world war, it was already recognised that the Royal Navy was suffering from a marked shortage of small warships suitable for convoy escort work.

Accordingly, it was decided to:

- (1) Refit the older classes of destroyers as Escorts (their age making them unsuitable for further duties as Fleet Destroyers).
- (2) Continue the Escort Sloop programme by a follow-up class to the successful 'Egrets'.
- (3) Introduce a new type of vessel, whose eminently sea-worthy hull was to be based on the 'whale-catcher' design, and which could be quickly built in quantity by small commercial shipyards.
- (4) Lay down a new class of Fast Escorts.

The successors to the 'Egrets' became the famous 'Black Swans'; the 'whale-catchers' became the 'Flower' class corvettes; and the Fast Escorts—re-designed Escort Destroyers—became the 'Hunts'.

A grand total of 86 ships of the latter class were built, of which 19 were lost during the war. There were four distinct types, and all were launched between late 1939 and early 1943, by which time production had switched to the 'Castle' class corvettes and the 'River' class frigates.

Apart from the two ships which alone comprised the fourth group, the remainder had a scaled-down destroyer profile. All were armed with the faithful twin 4 inch HA as their main armament—supplemented by the usual mixture of 20 mm, 40 mm, and 2 pdr pom-poms. Their rôle was to be anti-aircraft/anti-submarine defence of merchant ships, rather than capital ship

screening (the province of the Fleet Destroyer) so high speed was not a prerequisite and their maximum was 25 knots.

Speed-wise they therefore bridged the gap between the true destroyers on the one hand, and the 18-20 knot sloops and frigates on the other, thereby tending to fall between two stools. Their greatest shortcoming was probably their restricted range. Displacing a little over 1,000 tons on a 260 ft waterline, their twin geared turbines developed a total of 19,000 SHP, while the 'River' class frigates with a displacement of 300 tons more, and a hull longer by 20 or so feet, needed only 6,500 SHP to be capable of 20 knots.

Altogether, this allowed the frigates to 'go on for ever', making them much more efficient in Atlantic Convoy work, where high speed took second place to endurance. The problem of displacement—range—speed is the *bête-noir* of the Naval Constructor and, like the farmer's weather, something is usually wrong.

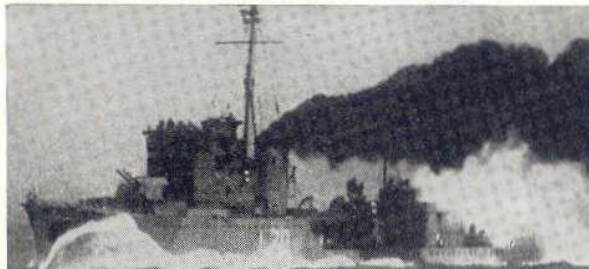
'Power-weight ratio' is an interesting subject and worth a quick examination. From the figures below, the reader can see clearly how costly is high speed in terms of horse power.

Type	Waterline length (ft)	Displacement (tons)	Nominal top speed (knots)	Total shaft horsepower (SHP) (two shafts)
'River' class Frigate (turbine)	283	1,370	20	6,500
'Hunt' class	264	1,050	25	19,000
Emergency class destroyer	339	1,700	36	40,000
Fast Minelayer	410	2,650	40	72,000

Notice that the Fast Minelayer, nominally double the displacement of the Frigate, needed eleven times the horsepower for only twice the smaller ship's speed.

Reverting to the 'Hunts' after that brief excursion into the field of design, on the merit side, their power did give them a useful 'sprint' capacity which enabled them to hare-off towards distant U-boats. They were generally used on short-range duties in Home and Mediterranean waters, and many were specially equipped to deal with E-boats, as will be seen in due course. When employed as escorts for the Arctic Convoys, the 'Hunts' usually had to depart at Iceland. Southern based units made excursions from Gibraltar to cover convoys proceeding along the north and north-west coasts of Africa, as well as northwards towards the Bay of Biscay. Other groups carried similar duties from Malta and the Levant.

Despite their basic destroyer outline, the 'Hunts' diverged from conventional arrangements in several ways. The fo'csle-bridge superstructure configuration was comparatively short in having no 'B' gundeck, which made the bridge look rather high, while the main deck was proportionally shorter, too. In the original design, one set of torpedo tubes was to be provided abaft the funnel, followed by the usual searchlight platform, but there was



HMS Garth making smoke at high speed in 1940. This is an early Type I 'Hunt', very much as first designed, with two yards on the foremast and no bridge Oerlikons (P. A. Vicary).

to be no second set of tubes, the after superstructure being 'closed-up' accordingly.

Another peculiarity of most of the class was that the bulk of their armament was concentrated aft. Nationally, the British were inclined to pour scorn on foreign warships whose main armament was similarly disposed predominantly towards the stern (secure in the possession of *Nelson* and *Rodney*!) so the arrival of the 'Hunts' on the Naval scene stilled some tongues and set others wagging.

Technically, the armament of the ships was better than that of the 'River' class frigates in both guns and fire control, making them especially useful in areas where air attacks were prevalent. On the whole they were popular vessels and regarded as 'nice little ships'.

Many which survived the war were sold abroad to the European navies and to far-off Ecuador and Nationalist China. *Oakley* had an interesting career. The original ship was turned over to the Polish Navy in 1941, but was lost in 1942. *Tickham*, building, was then renamed *Oakley* and survived the war to be sold to West Germany, together with *Albrighton* and *Eggesford*. Under their new flag, the ships were renamed, and *Oakley* then became *Gneisnau* which caused no end of a stir. *Cottesmore* also changed hands but in a different manner. Sold to Egypt in 1950, she was captured intact by the Israelis in 1955 (at the time of the Suez trouble) and renamed *Haiifa*.

One unit—*Brocklesby*—remained with the Royal Navy until just a few years ago, but then only as a Trials ship for newly developed sonar equipment. Post-war, all the 'Hunts', together with the remaining corvettes and sloops, were re-classified as frigates and their original pendant number—L—was changed to F flag superior.

Standard weapons

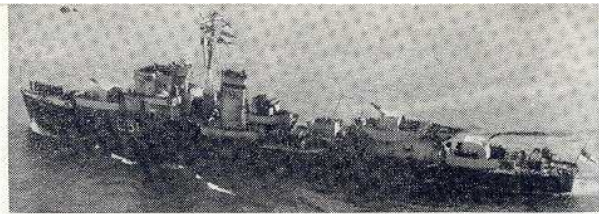
The Twin 4 inch HA mounting: In the 1930s, work commenced on several twin HA mountings which after development, evolved in three forms:

- (1) A totally enclosed power-operated twin 4.5 inch turret, fitted in modernised capital ships—like *Renown*—and New Construction aircraft carriers.
- (2) A similar mounting, but in an open shield, fitted in depot ships, the wartime *Ark Royal* and two 'Dido' class cruisers (for whom no 5.25 inch mountings were available at the time of their completion).
- (3) A hand-worked twin 4 inch in an open shield, fitted generally throughout the Fleet.

The 'Hunts' were among the many classes of warships equipped with the twin 4 inch, whose combined projectile and cartridge—known thus as 'fixed' ammunition—could be handled by one man. The gun was designed to be loaded by hand, had a vertically closing breechblock and no loading tray. By arranging the trunnions close to the breech, it was possible to mount the two guns at a height which enabled them to be loaded at low angles of elevation; at the same time, the absence of loading trays in the rear allowed the guns to elevate together in their common cradle to 80 degrees.

They were thus admirably suited for installation in a Dual Purpose rôle, although they were always principally AA weapons. Like so many other small mountings, the twin 4 inch was later adapted for Remote Power Control by the addition of electric elevation and training motors.

The 2 pdr gun: There were two marks of 2 pdr gun, both very similar in operation and both equally complex. The gun body was of square cross-section in which was contained the feed mechanism for the ammunition belts. Extending from the water-cooling jacket, the muzzle usually terminated in a cone-shaped



'X' mounting is trained forward in this photograph of Chiddingfold leaving Grand Harbour, while the bridge twin Oerlikons are trained aft. The boats have not been positioned amidships but the forward set of DC throwers have (A. & J. Pavia).

flash-guard. Ammunition was arranged 'concertina' fashion in trays set at the side of the gun body. The guns could be adapted for left- or right-hand fitting in multiple mountings, with the trays outboard, and then the barrels were staggered to give access for loading. Altogether, the pom-pom looked like a king-size machine gun.

The rate of fire varied with the mark of gun, and could be as much as 200 rpm but was more usually about 100 rpm. The spent cartridges were ejected forward beneath the barrel and spewed out in a stream of smoking brass cases.

Like the Gatling in the famous poem, pom-poms were prone to jam, and most Ordnance Artificers who maintained them armed themselves with a wooden mallet. A judicious wallop in the right place generally got the offending gun going again.

The rather archaic nomenclature—2 pdr—described the weight of the projectile and gave no indication of the calibre. This was in fact about 40 mm but the maximum range was significantly less than that of the longer-barrelled 40 mm Bofors.

The pom-pom mountings: There were several varieties of these, fitted in most classes including the 'between-wars' destroyers up to the 'E' class and both marks of gun were installed in similar mountings. They were 'singles' and, in general, were replaced by the four-barrelled Vickers until these, in turn, gave way to the more effective Oerlikon. Granted a reprieve in the war they reappeared in Auxiliaries of all types.

Between the wars, multiple pom-pom mountings were developed, the big eight-barrelled version for capital ships only, and the smaller four-barrelled for general fitting in most classes down to sloops.

Initially, both were purely handworked but were later given power control. The first power system was described as 'power-assisted-hand'. Here, the layer and trainer manned conventional handwheels which either drove the mounting by direct mechanical shafting, or, via change-clutches, opened control valves to hydraulic motors supplied by an electrically driven oil pump. As the mounting moved, the control valves were closed by a differential drive. So to keep it in motion, both layer and trainer had to keep their respective handwheels moving. The faster they did so, the faster the mounting moved, but the only effort required was that to move the control valves, the oil motors doing the work of actually training and elevating the mounting. The direct-drive arrangements were retained as an alternative in case of power failure. Similarly, in some equipments the firing gear was actuated by a handwheel drive but this, too, was ultimately replaced by an electric motor.

Hand-worked close range mountings: The single Oerlikon was the simplest of these. The 'aimer' was strapped to the gun against shoulder rests, 'walking' it around in training and pushing it up and down in elevation. Sometimes, the mounting was surrounded by tiered circular platforms upon which the gunner positioned himself to suit the elevation of the gun. A second member of the gun's crew changed magazines as necessary.

The single pom-pom in the bows of some of the 'Hunts' was the old pre-war weapon. Too heavy to be handled by one man,

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HMS Bleasdale in the 18th (Med) Flotilla. She will be featured as a Type III variant in Part 2 of this article. Previously she had had a 2 pdr bow chaser gun, whose splinter shield can be seen. The ship in the background is a surrendered Italian cruiser (A. & J. Pavia).

(Note that the A. & J. Pavia photographs shown can be purchased from A. & J. Pavia, 40 Ordnance Street, Valetta, Malta GC, price 3s 6d per print plus 1s postage on any order. Quote this issue and page numbers when ordering).

January, 1971



One of the lovely 'Hunt' Type IVs. This is *Brissenden*, well armed with three twin 4 inch quad pom-pom, four twin Oerlikons and a triple torpedo tube mounting. Her sole sister ship was the *Brecon*. The long fo'c'sle extending well aft and the 'knuckle' in the bow plates were quite distinctive features more akin to contemporary sloops and frigates rather than destroyers (A. & J. Pavia).



it had conventional geared drives. Although rather too cumbersome to cope with the high rates of modern aircraft at close range, it was quite effective against E-boats.

The 40 mm Bofors was already in service in the Army, and in fact, the earliest type in the Fleet was known as the Land Service Mounting. Again it was too heavy to be operated Oerlikon-wise by one man, and carried a layer and trainer, as well as an mounting loader.

Power-operated close range mountings: As the speed of aircraft steadily increased, it created a two-fold problem for the gunners of the hand worked equipments. They found it more and more difficult to move the gun fast enough to track an aircraft; and when several 'planes were approaching, precious time could be lost if confusion existed between layer and trainer as to which was to be the primary target.

This led to the development of a lightweight power-operated mounting, controlled by an aimer, who sat in a 'sports car' style cab. He was provided with a 'scooter' unit which, when steered left or right caused the training oil motor to run and when twisted up or down, moved the gun in the appropriate direction in elevation. Aiming was by gyro-gunsight and firing by a trigger on the scooter unit. An off-mounting hydraulic pump unit delivered oil at the working pressure through a swivel joint which allowed 360 degree training, and the basic design was adopted to mount two Oerlikons, a single 2 pdr pom-pom, or a single 40 mm Bofors. So mounted, the single 2 pdr gained a new lease of life as a close-range AA weapon and it appeared as an alternative to the twin Oerlikon in some of the later Fleet destroyers as well as in several cruisers.

Fire control: A standard arrangement was common to all the 'Hunt' class. It consisted of a small open-topped Rangefinder Director on the centre-line in the rear of the bridge superstructure with a 'fish-bone' style radar aerial array carried over the director sights, and elevating with them. Details of this system have already been covered in the recent 'Fire Control' articles in this series.

The four groups

Type I: This group, comprising 20 ships, was ordered before World War 2 and all were launched between 1939 and mid-1940. The lead ship—*Atherstone*—had been designed to carry a torpedo mounting, but this was omitted in the remainder.

The short fo'c'sle deck carried a twin 4 inch HA mounting, with a substantial splinter shield around it for the benefit of the gun's crew. It served, in the words of the Naval Prayer, 'to preserve them from the dangers of the sea and from the violence of the enemy'.

The bridge superstructure was rather box-shaped, with high-sided single Oerlikon sponsons to port and starboard, themselves cross-connected by a gangway which formed the Flag Deck. The bridge Oerlikons were not included in the original design, but were added soon after the ships emerged.

The mast was a simple tripod structure, raked to conform to the slope of the funnel, with its foot on the fo'c'sle deck and its 'legs' at the after break. On the starboard side of the mast, a small radar office was erected on the fo'c'sle deck.

Immediately abaft the funnel came a ventilator trunking, topped by an emergency steering position, followed by a deck space made vacant by the absence of the torpedo tubes. Just abaft midships, the engine room ventilation trunks formed the base of the searchlight platform and here, the surface warning radar 'lantern' was later mounted. Another gap followed, and then came a smallish after superstructure carrying a quad pom-pom, superfiring over a twin 4 inch in 'Y' position on the quarter deck.

The pom-pom was sited well forward, so no blast shield was necessary above 'Y' gun. A shallow splinter shield on the deck edge gave protection to the 4 inch gun's crew. A single depth charge rail and a pair of throwers on the quarter deck made up the anti-submarine weapons in the first instance, but most ships had these doubled-up later in the War.

In addition to the standard weaponry, eight ships of the first group, employed on the East Coast Convoys, mounted an extra single 2 pdr pom-pom in the 'eyes' of the ship. It was used as a 'bow-chaser' against E-boats as previously described.

All ships had a 25 ft motor-boat and a 27 ft whaler carried in screw-jack type davits abreast the funnel, to starboard and port respectively.

The main roof aerial ran from a single yardarm on the foremast (shared by the signal halyards) to a short mast forward of the pom-pom, and at sea the White Ensign was flown from a short staff on the searchlight platform.

Later, several ships had a pole mainmast on the after superstructure, carrying the familiar HF/DF aerial and then the main roof was anchored on the searchlight (or radar 'lantern') platform and the Ensign flown from a gaff on the funnel.

Type II: Thirty-six ships made up this, the largest group, and since no torpedo tubes were to be fitted, better use was made of the available deck space. The bridge was altered and an embryo 'B' gun deck appeared, while twin Oerlikons began to be fitted on the bridge wings in place of the earlier singles. The twins can always be detected because their sponson sides were cut down to allow the guns to depress on the beam. There was a larger structure than before, close up to the funnel, on which the quad pom-pom was now mounted; and although the radar 'lantern' was much as before, the after superstructure was not only larger, but was also shifted forward slightly.

An extra twin 4 inch was mounted in 'X' position, and now that the space aft had been increased, there was more room for the A/S arrangements which flanked 'Y' gun. Even so, some ships in this group had the forward pair of throwers positioned in the waist abreast the surface warning radar.

Exceptionally, one or two doubled up their Oerlikon armament by mounting a second pair of singles on the main deck just abaft the break of the fo'c'sle.

Both whaler and motor-boat were usually, but not invariably, re-positioned further aft, clear of the effect of the pom-pom when it was firing on the beam, and like their sister-ships of the Type I group, those employed in 'E-boat Alley' on the East Coast had the 2 pdr 'bow chaser'.

Type III: There were 28 ships in this group, the bulk of which were launched in 1942. The last of the line—*Talybont*—did not enter the water until February 1943, which was, in fact, later than the two Type IV vessels.

The Type IIIs showed several marked differences from the earlier ships. The twin 4 inch in 'A' position remained, but the bridge superstructure was again changed. The tripod foremast rose parallel to a quite distinctively upright funnel, whose sloping top gave it a faintly foreign appearance. This upright aspect allowed extra space between the funnel and the pom-pom gun-deck which was taken up by a small guncrew shelter.

On the quarter deck, 'Y' mounting was suppressed and all the after superstructure units were moved back towards the stern to re-create space for a twin torpedo tube mounting amidships. (Actually, it was a quad with the outer tubes removed.)

This might seem a rather odd decision but its addition did give the ships a potential against major surface targets which they had previously lacked.

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The very presence of a torpedo-armed destroyer—even as diminutive as a 'Hunt'—was often quite sufficient to deter heavy enemy warships. In the Battle of the Barents Sea, the German heavy cruiser *Hipper* quickly withdrew when the four lightly armed 'O' class destroyers escorting Russian Convoy JW51B turned aggressively towards her. With exemplary valour, Captain R. StV. Sherbrook, RN—the Captain (D) in command of HMS *Onslow*—engaged the mighty *Hipper* with his tiny 4 inch HA guns and the German ship, fearful of a torpedo attack, disengaged. For this action, Captain Sherbrooke—who was badly wounded—was awarded the Victoria Cross.

Such then, was the potential of the destroyer *so long as she had not expended her torpedoes*, and this may be a clue to the reason for the appearance of the tubes in the Type III 'Hunts'.

Like the Type IIs, all ships had twin 4 inch mountings in 'A' and 'X' positions, and depth charge rails in association with four throwers on the quarter deck. Many had the radar 'lantern' amidships, and some a radar aerial on the foremast with a cable trunking parallel to the mast, supported by struts projecting forward from it.

There were two main variants in respect of close range armament. Some Type IIIs had conventional bridge wing sponsons carrying power-operated twin Oerlikons, with a third twin in the position vacated by the suppressed twin 4 inch on the quarter-

deck. Others had an extension built on to the projecting part of the lower bridge, where a single hand-worked 40 mm Bofors was mounted. A second Bofors was fitted in 'Y' position, and ships with this armament had no bridge sponsons. As before, two or three of the group had the 2 pdr pom-pom 'bowchaser'—and all, of course, had the quad pom-pom mounting.

The torpedo tubes and their standard torpedo davit again made it necessary to reposition the boats, their davits being shifted back to the original site at the break of the fo'c'sle.

Type IV: Only two ships comprised this group—both built by Thornycroft to their own design. They were elegant craft of unique appearance, and had a most unusual hull form which included a long fo'c'sle deck extending right aft to 'X' gun.

Three twin 4 inch mountings were carried, the faithful quad pom-pom again appearing abaft the funnel. Often referred to as the 'Arcticised Hunts', the two ships—*Brissenden* and *Brecon*—had extensive steam heating provided around upper deck positions and their special triple torpedo tube mounting amidships was operated from the deck beneath, allowing the crew to remain unexposed.

Next month I will be dealing with the modelling of typical ships from the first three groups, adapting the Airfix *Hotspur* kit, together with the usual odds and ends from the spare parts box.