ROYAL NAVY COASTAL FORCES

Part 1 in a new series from **John Lambert**

PART ONE of a new series, to bring the model maker and warship buff authentic scale drawings and details of the small ships as used by the Royal Navy during World War 2.

All the drawings are re-drawn from official sources, and some additional armament details are included. Copies of the originals have been purchased from the Draught Room at the National Maritime Museum, at Greenwich, or Vosper Thornycroft and various other establishments where armament details have been obtained.

Owing to the time required to complete new drawings, the series will not be continuous, but additional subjects will be passed to the editor as they are completed. Later items will include detailed drawings and lines of the 72-foot-long Harbour Defence Motor Launch, which was built in considerable numbers both here and abroad, and the famous Fairmile 'D', a combined MTB/MGB, as well as other subjects of interest.

The story of Motor Torpedo Boats, as operated by the Royal Navy, dates back to World War 1, when it was suggested that it was possible to use small high-speed motor boats to pass over the huge defensive German minefields and attack enemy ships on their own doorstep, with torpedoes. This idea resulted in the construction of a number of 40-foot-long motor boats, armed with a single 18-inch torpedo, which was launched over the stern. The boat, powered by a single petrol engine, and capable of 30 knots, had a weight restriction of 4½ tons so as to utilise the 30-foot motor boat davits which were fitted to the light cruisers of the period.

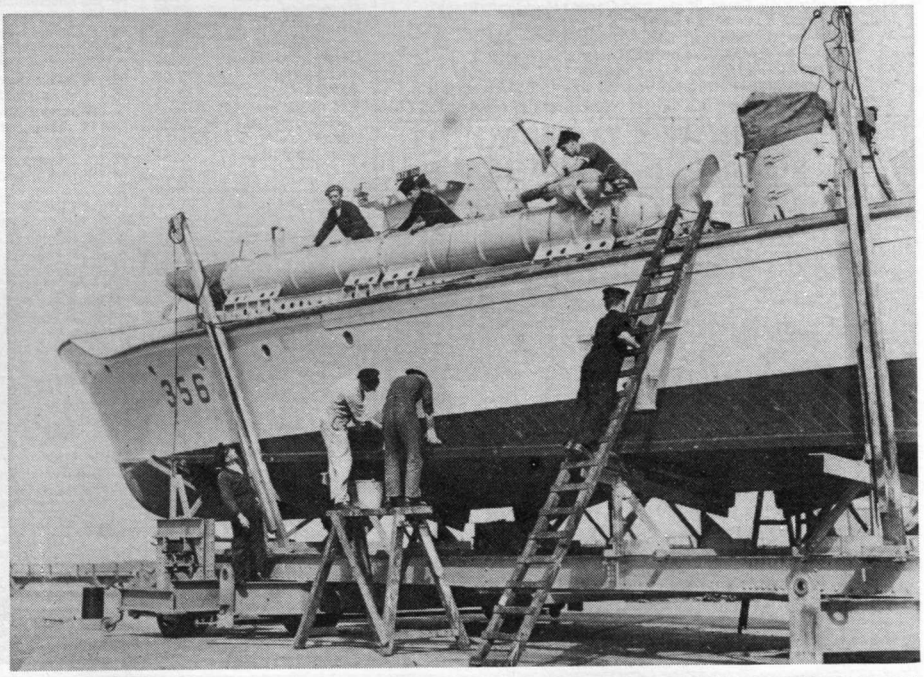
The company of J. I. Thornycroft constructed 12 of the new boats in their boatyard on Platt's Eyot, on the Thames, during 1915, in conditions of great secrecy. The first was launched on April 6 1916, being constructed of three skins of mahogany planking, on closely spaced ribs of American elm. The single 18-inch torpedo was fired by a lever in the small cockpit. The lever fired a cordite charge, and the torpedo was launched stern-first from the trough in which it lay, by a ram activated by the firing of the charge. The torpedo commenced its run on entry into the water, and the boat then simply turned sharply to port or starboard, allowing the torpedo a free run to its intended target.

The small size of the craft imposed many restrictions. Weight was critical, and navigational aids simply comprised a chart table and a compass fitted in front of the helmsman. The open cockpit was just large enough for two officers, being situated between the single Thornycroft V-12 250 bhp engine, and the fuel tank. The poor mechanic had a wooden seat below deck level next to the bilge pump, where he spent his time tending the engine. Trials carried out on the Thames established that 33½ knots could be maintained with a full load of fuel (100 gallons) and the torpedo. The boats' defensive armament consisted of two .303-inch Lewis guns.

Navigation was difficult, particularly off the enemy coastline, which was low and flat. When the new craft, now to be called Coastal Motor Boats (CMBs) were dropped from their parent cruiser, they had to make their way by dead reckoning, by compass, engine revolutions, and soundings with a lead and line.

The first operations were carried out

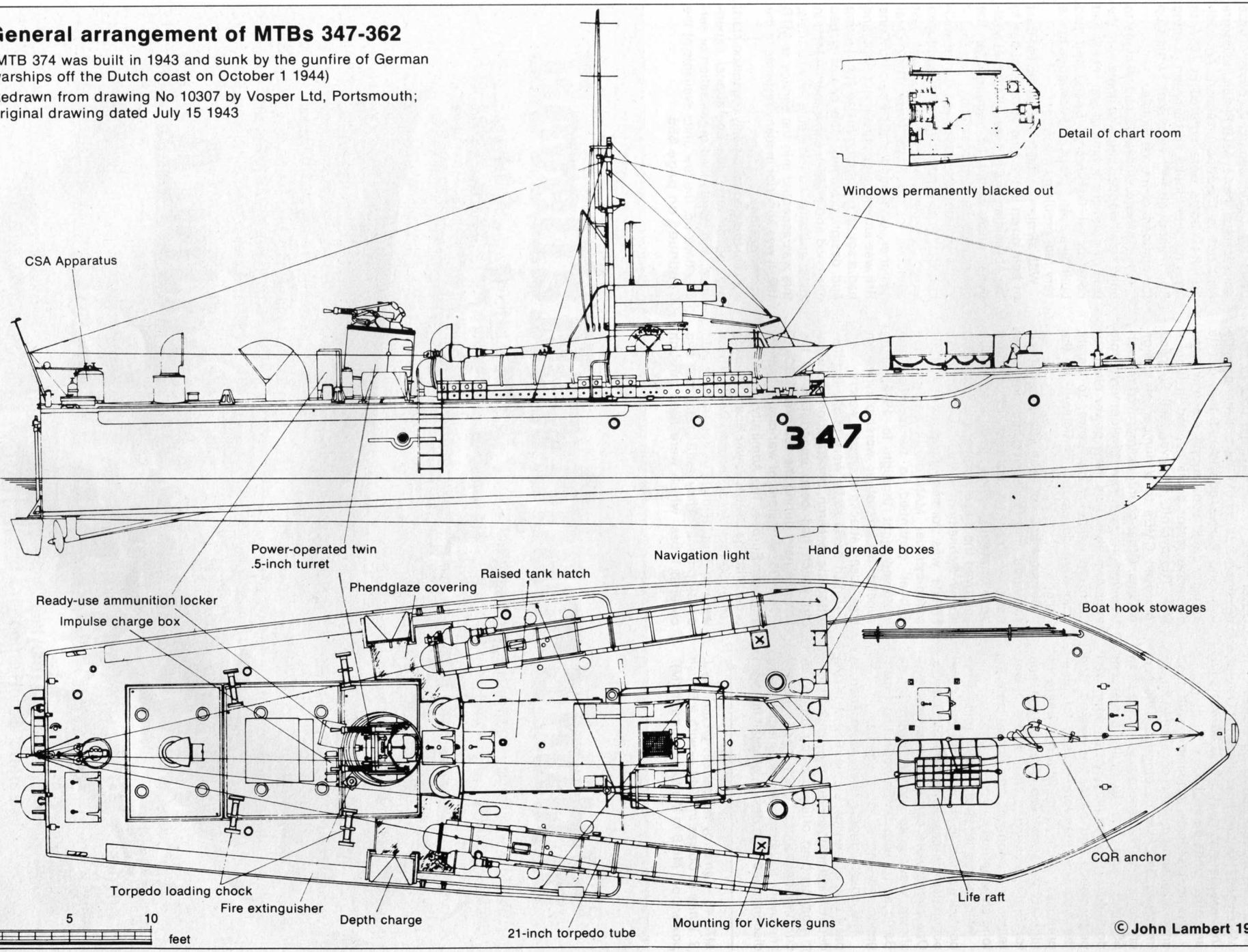
Top of page *MTB 378 was an American-built Vosper armed with two 20 mm Oerlikon guns.* **Below** *MTB 356 under overhaul and being scrubbed down. Note that her mast has been removed* (IWM).



General arrangement of MTBs 347-362

(MTB 374 was built in 1943 and sunk by the gunfire of German warships off the Dutch coast on October 1 1944)

Redrawn from drawing No 10307 by Vosper Ltd, Portsmouth; original drawing dated July 15 1943



against German shipping lying in the Schillig Roads during October 1916, but were not a success due to fog. However, in March 1917, during operations off Ostend, the new German destroyer G.88 was sunk and other units damaged.

Due to problems associated with their small size, and problems of seakeeping, an improved CMB was developed by the parent company. The length was increased to 55 feet, and the torpedo armament doubled. This resulted in an improved performance and better seakeeping, and the type was therefore utilised for other purposes, such as minelaying, where its high escape speed was an advantage, and for anti-submarine duties, where it was rather uneconomical, and not suitable for long slow patrols.

With peace in 1918, a few units were posted abroad to support our allies and occupation forces against the Bolsheviks. Operations were carried out against Bolshevik heavy units and destroyers in the Baltic ports, with CMBs collecting intelligence and landing secret agents.

The coastal motor boats were soon to pass out of service in the RN, with the depots closing down, and the resultant loss in commanding officers being trained in coastal operations and much needed improved technical developments being discontinued. The design of small fast warships was left to private industry, as with the financial restrictions imposed by the Government of the day, the cost of new developments would have been prohibitive, and it was considered that private industry could soon supply any new small defensive motor boats needed in time of war. Thornycroft, however, still supplied improved CMBs to a number of foreign nations. Other countries improved on wartime designs, with new developments from their own shipyards. New power plants of improved reliability and power to weight ratio were developed, particularly by the Italians.

Germany had not been idle either. Their shipyards had built warships for other nations to keep abreast of modern developments. They had also much improved the diesel engine, and from 1932 a new 'Schnelboot' (Motor Torpedo Boat) Flotilla was formed. Powered by three seven-cylinder MAN diesel engines, the 'S-boat' continued to be modified and improved right through to 1945, being superior to any other warship types for high-speed attacks in coastal waters.

British naval staffs were totally indifferent to the research, construction and training which had been undertaken by the German navy during the 1920s and '30s.

In 1935, with signs of war clouds gathering over Europe, the Admiralty placed an order with the British Power Boat Company for six 50-foot Motor Torpedo Boats. These were to form a nucleus for training and development. They still retained two covered tubes, which were fired through flaps in the flat transoms. They also had a small upperworks and bridge and were a basis for better sea-going boats. These units formed the 1st MTB Flotilla, and were sent out to the Mediterranean. An additional 12 boats were ordered in 1937, to form the 2nd Flotilla, to be based at Hong Kong, although half were sent to back up the numbers of the 1st Flotilla.

Other private shipyards had designs to build small wooden ships, to implement the lack of numbers in time of war. Many had constructed fast racing boats, and had built up a useful practical knowledge of the very real problems involved.

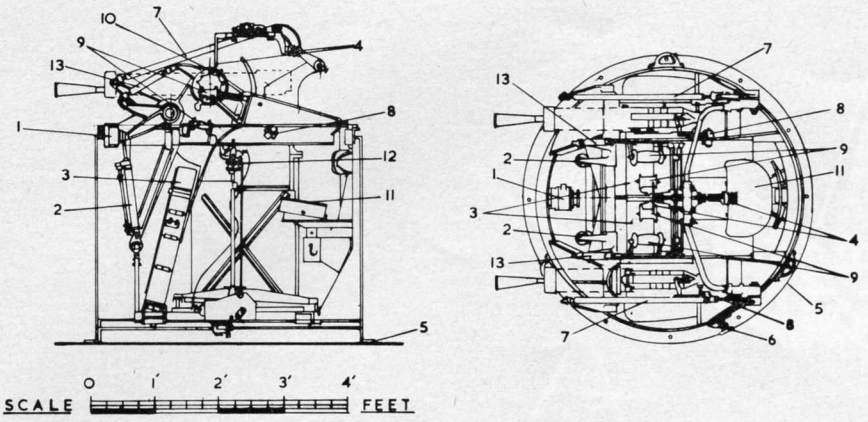
With all our coastal forces in the Far East or held down in the Mediterranean, due to the Abyssinian crisis, it was plain that additional units would be required for the defence of our own coastline.

A large contract was given to the well-known firm of Vospers. They had produced some first-class racing boats and fast launches for the Royal Navy. Their chief designer, Commander (E) Peter du Cane RN, was an engineer officer and pilot, and had a sound grounding in the engineering and design problems. The company had designed and built an experimental MTB in 1938, and after considerable service trials, this was accepted into the service as MTB 102. It was superior in many respects to the earlier designs.

From this poor and badly organised start, with no or very little operational experience, and no planned organisation or service back-up, the few units available at the

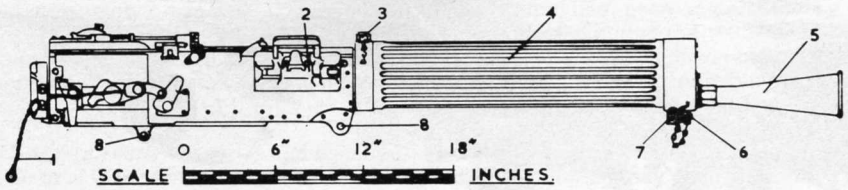
Continued on page 656

MTB 48 — an early Vosper design built by J. S. White at Cowes in 1940 — with a British power boat MGB in the foreground (IWM).



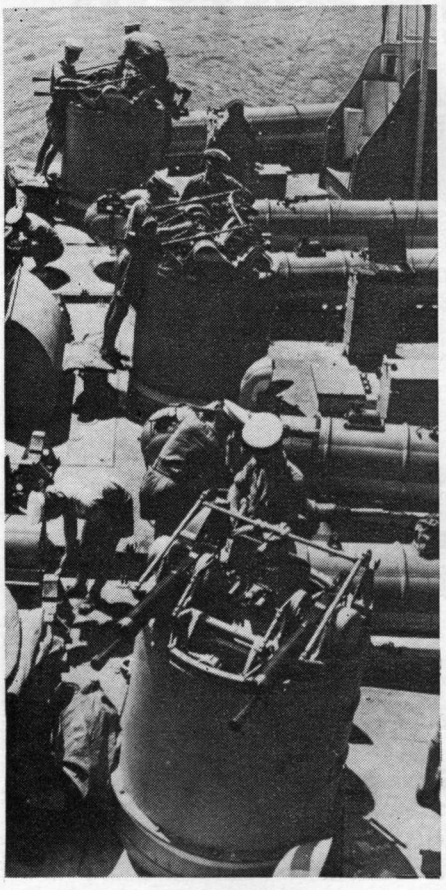
Detail of twin .5-inch Mark V powered mounting

1 Training motor
2 Elevating rams
3 Ammunition box
4 Sights
5 Base sight 53½ in diameter
6 Door clip
7 Sight operating rod
8 Firing piston
9 Guide rollers
10 Trunnion
11 Gunlayer's seat
12 Controls
13 Gun elevating rod



Detail of .5-inch Vickers machine-gun

1 Loading and cocking lanyard
2 Feed block
3 Filling plug
4 Water jacket
5 Flash eliminator
6 Steam escape plug
7 Drain plug
8 Position for securing bolts



Twin .5-inch machine-gun power turrets and depth charges on three Vosper MTBs in the Mediterranean. Furthest is American-built MTB 281 (IWM).

outbreak of the war were composed mainly of boats which had been ordered by foreign navies, and retained for our own use; a few, one-off, experimental designs; and a few new improved MTBs just starting to come off the production line of a few builders and subcontractors.

These small craft were commanded by RNVR officers and part-time sailors, and operational experience gradually built up as a result of lessons learned the hard way, bitter experience and mistakes.

There were very many problems with the new boats, but within two years or so the Royal Navy built up a first-class and very potent fighting force.

New improved designs were coming off the drawing board, with hulls capable of keeping to the sea, and fighting in worse sea conditions. Hulls were stronger, and better equipment, R/T and early radar sets, helped to locate enemy convoys. Defensive armament had improved, and the powerful 20 mm Oerlikon began to take the place of the lighter .5-inch machine-guns. Better and more reliable engines were made available from the USA and the fight was taken to the enemy whenever possible.

Early Vosper boats were powered by the excellent Italian Isotta Fraschini petrol engines, but by June 1940, when Italy entered the war on the side of Germany, the source collapsed. Plans had been put in hand to build the engine under licence, but this never materialised, and as a result the Navy was forced to utilise less efficient power units, not designed for marine use, but converted to fit, with the resulting loss in reliability and speed.

This problem was overcome with the supply of American-built Packard engines of 1,100 bhp, which began to arrive in useful numbers, under Lease Lend, by early 1941. Until engines became standard, boats of the same flotilla had differing performances, and the maintenance problems were immense.

Our main subject for this issue is the Vosper 72 foot 6 inch-long Motor Torpedo Boat, MTBs 347-362. This was a slightly updated design, being a re-order of a 1940 Admiralty contract. These joined coastal forces from 1941 and the type formed the bulk of the early Vosper units constructed during the war. In all a total of 129 units based on this design were built, 66 in British yards and 63 in the USA under licence.

They were constructed of double skin mahogany throughout. In earlier boats only two transom-slung rudders were fitted, but later units had a third rudder fitted aft, on the centre line, to improve the turning circle, and earlier boats were modified during refits or maintenance periods.

The drawing gives the layout of the last group, MTBs 347-362, 16 boats ordered in 1942, and built at Vosper's yard at Porchester. They displaced 44¾ tons, with a length overall of 72 feet 6 inches, a beam of 19 feet 3 inches, a draught of 2 feet 9 inches forward and 5 feet 6 inches aft.

They were powered by three Packard petrol engines of 1,400 hp, with an auxiliary Ford engine for generating electrical

Vosper 72 foot 6 inch Motor Torpedo Boat data

Dimensions: overall length 72 feet 6 inches, beam 19 feet 3 inches, draught 2 feet 9 inches (forward), 5 feet 6 inches aft
Displacement: 44.75 tons
Machinery: Three-shaft Packard petrol engines; bhp 4,050/3,600=39.14 knots
Armament: Two .5-inch machine-guns in power turret; four .303-inch (2 x 2) Vickers gas-operated guns; two 21-inch torpedo tubes; two depth charges. (Later the .5-inch mounting was replaced by a 20 mm Oerlikon mounting.)
Complement: 12
Fuel carried: 2,725 gallons

power. With the three Packards, driving three shafts, they had a maximum speed of 38.94 knots at 2,400 rpm, and 35.9 knots at 2,200 rpm (continuous). The fuel was stowed in three self-sealing tanks amidships. The centre tank held 1,025 gallons and the two wing tanks each contained 850 gallons (at 95 per cent full).

The original drawing that I used (No 10307) drawn by Vosper, is dated July 15 1943, and is the 'As fitted' general arrangement for the contract No C.P. 35093/42. Her main offensive armament was the two 21-inch torpedo tubes, whilst for defence she carried twin .5-inch Vickers machine-guns, mounted in a power-operated Mk V turret. The rate of fire of these belt-fed guns was approximately 700 rounds per minute each, with a muzzle velocity of 2,520 fps. Additional firepower was supplied by two twin Vickers .303-inch gas-operated machine-guns carried on pedestal mountings, inboard of the torpedo tubes. Boxes of hand grenades were carried to prevent boarding, as well as two depth charges, used on occasions for dropping in the path of enemy units.

The upper deck firepower was much improved by the deletion of the twin .5-inch power turret, and its replacement with a single 20 mm Oerlikon mounting. Later it was found that with a little substitution of weights, a similar gun mounting could be fitted on the fo'c's'le.

The crew consisted of two officers and 11 ratings, and frequently spare officers under training, or awaiting their own commands, came along for the ride.

These later units had improved radio equipment, an echo sounder, radar, and chemical smoke-making apparatus. The wheelhouse and upper bridge were armoured.

With the build-up and preparation for the Normandy landings, most of these craft were fitted to lay mines off the French, Belgian and Dutch coasts.

Three of this later group became war losses. On the night of September 30/October 1 1944, MTBs 351, 360, 349, 347, and 350 of the 11th flotilla attacked a German convoy off Ijmuiden. The attack was beaten off by the strong naval escort, and MTBs 360 and 347 were sunk by gunfire.

MTB 356 was sunk by gunfire from German ships off the Dutch coast on October 16 1943, whilst No 352 was lost in a collision in the North Sea on March 26 1944.

The drawing details the major MTB of the 1941-1943 period. There were some detail changes in the design over the period of re-ordering of contracts, as better equipment came into service. The units based on this general design were Numbers 73-98, 222-245, and 347-362. Those constructed to Vosper's design in American yards under licence were numbers 275-306, 363-378 and 396-411.

The drawing of MTB 347 and her sisters, with additional details of the power-operated twin .5-inch mounting, and the gun itself, are available on Sheet L/S/21 from the David MacGregor plans service.

Next month we shall examine in detail MTB 379, the prototype of a much-improved Vosper design of 1942, which came into service in 1944, and is the subject of the excellent Airfix kit. Detailed internal arrangements will also be included. □

Napoleonic Wargames Figures

Part 3 — The British

by **Terry Wise**

The infantry

THE MAIN obstacle in the way of an Airfix Napoleonic army for Britain is the Belgic shako. This was not introduced until 1811 and did not come into general service until late 1812: it is doubtful if it was used at all in the Peninsula — apart from newly arrived regiments. Light infantry and Rifles retained their stove-pipe shako until 1816: officers wore the bicorne until 1812.

The trousers and grey spats on the Airfix figures were also officially sanctioned for active service in 1811, so by stretching the point about issue of new shakos it is possible to have a plastic army for, say, 1811-14. It is also possible, though not really satisfactory, to trim the Waterloo shako into a stove-pipe one by removing the side hackle and cutting down the front, leaving a new hackle front and centre. The only alternative is metal figures, although there are a few units which can be made for pre-1811:

Fusiliers 1802-11 The bearskin was worn by sergeants of Fusilier regiments (5th, 7th and 23rd Foot) and probably some of the men until circa 1811. The remainder of the uniform was as other line regiments — blue-grey overalls or white breeches and black gaiters; red jacket with collar, cuffs and shoulder straps in the facing colour, and white loops. Equipment comprised a black pack; medium blue water bottle with brown strap; white haversack; and grey overcoat. Officers' jackets were scarlet with crimson sash. The 7th and 23rd had blue facings and gold officers' lace; the 5th gosling green and silver lace. The bearskin was black with red cloth cap showing at the rear. Hackle and cords were white for grenadiers, green for light companies, with white cords and white over red hackle for the other companies. Officers had gold and crimson cords, hackle as their men.

Fusiliers are made from British Grenadier figures, as it is unlikely there would be a combination of bearskin and overalls.

Brunswick Infantry 1810-14 From 1810-12 one battalion and three Jäger companies of Brunswickers fought in Portugal and Spain. The battalion companies wore all black with light blue facings and leg stripe; equipment as British except belts were black and pack fawn; shako with white skull and crossbones and black plume. The Jägers (Oels) wore a dark green coat with light blue facings and grey trousers (probably piped light blue); remainder as battalion companies. Use British Infantry figures with shako heads. For officers use RHA gunner with match (place flag stave in this hand) with a shako head. North shows the Oels' plume as little more than a pompom; a more elaborate plume can be made by inserting the top of a pin into the shako and glueing a little cotton wool to it.

1st (Duke of York's) Greek LI 1809-14 Raised in 1809 for local defence of the Ionian Islands, this regiment had a highly individual uniform — red 'bolero' with green cuffs, yellow piping and green braid, worn over a white shirt; red cap, green pompom; white *fustanella* (or skirt) and breeches; red stockings with green cross garters; fawn boots; black belts. Officers had gold garters; black boots; white and gold turban; yellow vertical lace on bolero; pink cuffs and waist sash; crimson sash over right shoulder; crimson scabbard. The regiment can be made from Highlanders, the only conversion being the bonnet into a cap by trimming, and reducing the ridge

British regiments in classic defensive position at Sorauren, 1813.