

lude to the Battle of Cape Matapan but escaped with the main fleet. On June 15, 1942, she was torpedoed by the British submarine *Umbra* after she had been immobilized by a fire in the engine room. *Trieste* also took part in the various actions in the Mediterranean, and was finally sunk by bombing in Maddalena on April 10, 1943.

Displacement: 10500 tonnes (standard), 13540 tonnes (full load) **Length:** 196.96 m (646 ft 2 in) **Beam:** 20.6 m (67 ft 6 in) **Draught:** 5.9 m (19 ft 4 in) **Machinery:** 4-shaft geared steam turbines, 150000 shp=35 knots **Protection:** 75 mm (3 in) belt, 50 mm (2 in) deck, 100 mm (3.9 in) turrets **Armament:** 8 203-mm (8-in)/50-cal (4x2); 16 100-mm (3.9-in)/47-cal AA (8x2); 8 13.2-mm (0.52-in) machine-guns; 8 53-cm (21-in) torpedo tubes (above water, beam, 4x2); 3 floatplanes, 1 catapult **Crew:** 801

Transall Franco-German aircraft See C-160

'Tribal' British destroyer class (1905-08)
See *Cossack*

'Tribal' British destroyer class (1935-36)
See *Alfridi*

'Tribal' British frigate class See *Ashanti*

Trident, Lockheed

US submarine-launched ballistic missile. In 1966-67 the United States Department of Defense carried out its STRAT-X study aimed at defining what new strategic missiles would be needed to succeed weapons such as Minuteman and Poseidon. Four avenues of development were recommended: a land-based ICBM, buried in hard-rock silos to make it less vulnerable; a mobile ICBM; a ballistic missile to be launched from fast surface ships; and ULMS (undersea long-range missile system). Only ULMS was pro-

ceeded with, and it has since been renamed Trident.

Lockheed Missiles and Space company, which also developed Polaris and Poseidon, was awarded a development contract for the new weapon in November 1972. What has become Trident is in fact a less advanced missile/submarine combination than had been envisaged in the STRAT-X study and was at one time known as Expo (extended-range Poseidon). The missile, which made its maiden flight in January 1977, is a three-stage weapon which relies heavily on the experience which LMSC built up with its predecessors. Trident is scheduled to become operational on a limited scale in October 1979, when the first of ten converted submarines which previously carried Poseidon puts to sea with the new missile. The definitive launch platform, the *Ohio* Class submarine, is unlikely to be operational before 1981. The new submarines, which carry 24 Tridents each, are considerably quieter than their predecessors and have a more efficient command-and-control system. At least 13 are expected to be built, and this total may be increased.

All three stages of the UGM-93A Trident I (C4) are powered by Thiokol/Hercules solid-propellant rocket motors. The missile employs inertial guidance, and is due to carry the Mk 4 re-entry system containing eight independently targeted RVs each with a thermonuclear warhead of 100 kilotons yield. The Mk 500 Evader manoeuvring re-entry vehicle has been carried by Trident during flight trials, but by the end of 1978 no decision to fit it to operational missiles had been taken.

Trident I may be followed in the mid-1980s by the proposed Trident II (D5), which would have a longer range, carry a greater payload and have an accuracy approaching that of Minuteman. Trident II would be virtually a submarine-launched ICBM, but the time slip-page, development problems and cost increase associated with Trident I must cast doubts on a follow-on weapon.

Length: 10.36 m (34 ft) **Diameter:** 1.88 m (6 ft 2 in) **Weight:** 31750 kg (70000 lb) **Range:** 7000 km (4375 miles) **Warhead:** Mk 4 MIRV, 8 100-kiloton thermonuclear warheads

Triplane, Sopwith

British fighter aircraft. The advantages of three wings instead of two on a fighting aircraft—narrower chord to improve pilot visibility, and shorter span which, allied to the reduced chord, made for better manoeuvrability—made the Sopwith triplane, successor to the Pup, an outstanding combat aircraft during its relatively brief career in 1917, and its success inspired a rush of German triplane fighters. The Sopwith Triplane's fuselage resembled that of the Pup, but was slightly shorter, and the tailplane, too, was similar. The wings were braced by a single continuous strut on each side. Armament, like that of the Pup, was a single synchronized Vickers machine-gun on top of the forward fuselage, though experimental variations included two Vickers guns, an additional Lewis in the port centre wing and a Vickers angled slightly upwards for attacking from below and behind. Powerplant was a 110-hp Clerget.

The prototype Triplane was completed in May 1916 and underwent operational trials in France the following month. Its success was followed by orders from both the RFC and RNAS, though in the event the RFC's urgent need for fighters in the second half of 1916 led, at the beginning of 1917, to their Triplanes being exchanged, while still under construction, for RNAS Spad VIIIs. Eventual production totalled 150, built by Clayton & Shuttleworth as well as Sopwith, the original RFC order for 266 reduced to 120.

The Triplane began to enter service with RNAS squadrons on the Western Front in early 1917, making its operational debut in April of that year. It had been up-engined with the 130-hp Clerget, and it quickly established a formidable reputation, the most remarkable achievement being that of B Flight, 10 Naval Squadron, commanded by Flight Sub-Lieutenant Raymond Collishaw. Between May and July of 1917 the Canadian pilots of 'Black Flight', with their Triplanes named *Black Death*, *Black Maria*, *Black Prince*, *Black Roger* and *Black Sheep*, destroyed a total of 87 enemy aircraft, and in June Collishaw alone shot down 16, including 13 of the latest German single-seat fighters, in a period of only 27 days. However, the Triplane began to be replaced by the Camel in July, and by the end of the year the type had been withdrawn from the Western Front, where it had equipped a total of six squadrons. One Triplane also served in Macedonia,

