

## Oberon Armaments

### Torpedo Tubes

The forward torpedo tubes are constructed in two sections bolted together across the bulkhead at the fore end of the torpedo compartment. The 116-inch (290 cm) long inner section is constructed of 0.5-inch (1.3 cm) rolled steel fitted with welded flanges and support brackets. The outer section is constructed of a similar tube 175 inches (440 cm) long but with a reinforced 1.125-inch (2.86 cm) thick section behind the main bulkhead. The internal door hinges at one side with two locking mechanisms, a swing bolt opposite the hinge and a rotating locking ring attached to the tube which presses down on the ten projecting lugs around the door. The outer end of the tube is sealed with a domed bow cap. Bow shutters close across the bow caps to preserve the streamlined shape of the bow when the cap is closed.



The bow caps and shutters are mechanically linked to a hydraulically operated drive rod from within the torpedo compartment. The bow cap opens first behind the shutter, which then folds back against it forming a smooth exit tube. Interlocks prevent the doors at both ends being opened at the same time, but the inner door is also provided with a test cock to check whether the tube is full of water before opening and remains held nearly closed by the swing bolt after the locking ring is released. The tube internal diameter is 22.5 in, wider than the torpedo, which is designed as a loose fit inside the tube. Torpedoes could be fired either electrically or with compressed air.

The aft torpedo tubes passed through the ballast tank at the rear of the submarine. A 31-inch (79 cm) section projected into the boat through the bulkhead, forming overall a relatively short tube of 12 feet (3.7 m), but of 25-inch (640 mm) diameter.

With the retirement of the Mark 20S torpedo in the 1980s, the stern torpedo tubes were decommissioned and thereafter used for storing beer.<sup>4</sup>

### Electronic warfare & decoys

MEL Manta UAL or UA4 radar warning

**Armament** - 6 × 21 in (533.4 mm) bow tubes, 20 torpedoes 2 × 21 in (533.4 mm) short stern tubes, 2 torpedoes  
Forward torpedo payload could be replaced with 50 × mines

**Mk 48 Torpedo** -Instead of the British Tigerfish torpedoes, the Australians used American Mark 48 torpedoes. They had a slightly larger payload, carrying 22 torpedoes for the forward tubes, six of which were preloaded. Shortly after entering service, the aft torpedo tubes in all six submarines were sealed.

**Harpoon** - The Australian submarines were later updated to be equipped with the subsonic antiship Harpoon missile. In 1985, off the island of Kauai in Hawaii, HMAS *Ovens* became only the second conventional submarine in the world—and the first *Oberon*—to fire a subsurface-launched Harpoon missile,

successfully hitting the target over the horizon. Consequently, the designation for the Australian *Oberons* changed from SS to SSG.

### **The Mk 8 Torpedo**

Widely used on the Australian *Oberons*:

Early versions entered service: 1927

Weight: 3,452 lb (1,566 kg)

Length: 259 in (6.6 m)

Explosive charge: 750 lb (340 kg) TNT

Range and speed: 5,000 yd (4,600 m) at 40 kn (74 km/h)

Early Mark VIII\*\*

Range and speed: 5,000 yd (4,600 m) at 45.6 kn (84.5 km/h)

Explosive charge: 722 lb (327 kg) Torpex

Late Mark VIII\*\*

Range and speed: 7,000 yd (6,400 m) at 41 kn (76 km/h)

Explosive charge: 805 lb (365 kg) Torpex

The Mark VIII was designed around 1925 and was the first British burner-cycle design torpedo. It was used from 1927 on submarines of the O class onwards and motor torpedo boats. The principal World War II version was the improved Mark VIII\*\*, 3,732 being fired by September 1944 (56.4% of the total number). The torpedo is still in service with the Royal Navy albeit in a limited role, and with the Royal Norwegian Navy (Coastal Artillery: Kaholmen torpedo battery at Oscarsborg Fortress) until 1993.

**Notable Incidents-** The Mark VIII was used in two particularly notable incidents:

On 9 February 1945 the Royal Navy submarine HMS *Venturer* sank the German submarine U-864 with four Mark VIII\*\* torpedoes. This is the only intentional wartime sinking of one submarine by another while both were submerged. On 2 May 1982 the Royal Navy submarine HMS *Conqueror* sank the Argentine cruiser ARA *General Belgrano* with two Mark VIII\*\* torpedoes during the Falklands War.[2] This is the only sinking of a surface ship by a nuclear-powered submarine in wartime and the second (of three) sinkings of a surface ship by any submarine since the end of World War II). The other two sinkings were of the Indian frigate INS *Khukri* and the South Korean corvette ROKS *Cheonan*.