Diving the SMS Karlsruhe Wreck

An Overview

Divers are privileged to see a part of the world that is inaccessible to most people. When the German warships of Scapa Flow sank, they only disappeared a mere 30 metres or so below the waves but that is a world away for most people.

But without this blanket these ships would be long gone: they are too valuable a resource just to have been left to rot, their value not only in their component raw materials but also in the symbolism and might they bequeath to their owners.

In order to understand the wreck as seen today, it is important to understand the motivations and methods of the men who came to take the metal. In the early days the whole ship was re-floated and towed away to be broken up in a dry dock. However, as the law of diminishing returns set in, so the salvage operation became cruder.

Karlsruhe, a Königsberg class light cruiser, was largely blasted by explosives in situ and then only the high-value components lifted. The hull of the Karlsruhe has been extensively blasted, so that much of the integrity is compromised and the overall structure gone, but now the components all lie exposed and easily seen.

The worst of the damage is in the engine room area where most of the high value non-ferrous metal would have been found. Other areas made from brass such as the bridge – made from non-magnetic metal so as not to interfere with the accuracy of the ship's compass – the torpedo tubes and the propellers have also been removed.

The common assumption that the wrecks become less interesting as they deteriorate is sharply dispelled on the Karlsruhe. The mechanical components that make up the ship are easy to see and, for those who recognise them, easily explored without the dangers of penetrating into the unknown enclosed spaces in a shipwreck.

Initially it is easy to see a jumble of confusion in the broken plates but, once the patterns are explained, so the wreck becomes alive again, revealing her secrets as they lie on the sea floor. Karlsruhe lies on her starboard side in 25 metres of water, the shallowest of the four cruisers. An average diver will spend between 40 minutes to an hour underwater exploring the wreck before reaching the limits of reserves of air and decompression.

Bow Section

The first parts of the Karlsruhe that can be found in a swim from the bow to the stern are machinery parts common to all ships, both merchant and warship.

Massive anchors lie out on the seabed around which the ships would have swung during the internment. From them, equally massive chains make their way across the sand, in through the hawse pipes and across the rubbing plates on the deck.

The chains drape over the two capstans (a capstan is fundamentally a rotating drum to grip the chain on rotation) that would have turned to haul the anchors aboard, before disappearing into the chain lockers for storage at sea. The engines that drove the capstans are accessible and visible and start to

hint at the scale of engineering to come.

Behind the capstans the first signs that this is a warship start to emerge. The two forward deck guns, 5.9 inch in calibre, have fallen on top of each other but still point forward, as if ready for war. The recoil mechanism is brass and has been polished over the years, rubbed to a shine by curious divers' gloves.

Armoured Control Tower

The ship would have had two main points for command. During routine passage the regular bridge would have been manned, just as with any other ship.

But, in times of conflict, there was an Armoured Control Tower just behind the two forward deck guns. The armour is as thick as the span of a man's hands, pure steel designed to keep the deadly effects of enemy fire at bay. Underneath the tower the access tunnel lies exposed and, by following this down through the ship, the lower control room can be found. Here, men would have found the last refuge of command, as safe as possible within the innermost confines of the belly of the ship.

The bridge itself was made of brass so as not to interfere with the magnetic accuracy of the compass. This valuable metal was raised but a few sharp edges, un-corroded plates and yellow scratches remain in testimony.

As the Karlsruhe sank, the forward mast fell on top of the third 5.9 inch gun, obscuring the barrel but leaving the breach exposed. The breach blocks were all left in Germany before the ships sailed across the North Sea, to internment, to ensure they were fully disarmed and incapable of aggression. The distinctive "C" shape of the breach is eye-catching in Scapa after a while and becomes a powerful sign post on all the war wrecks.

Boiler Rooms

The Karlsruhe had 10 coal-fired and two oil-fired boilers, housed midships in four boiler rooms, below the three smoke stacks.
The oil was stored in the hull spaces at the bottom of the ship and oily residues, soaked into the sand and silt, can still be seen where the ribs are exposed. Coal tumbled out as the ship sank, and again as she was blasted, littering the seabed in little black lumps.

The forward boiler room is very exposed and the boiler casing rotted away so that it is possible to swim through a boiler and past all the boiler tubes that would once have been heated by the furnace to turn the water to steam. Huge steam pipes run the length of the ship, a man's shoulder width in diameter, illustrating the forces and energy required to propel a ship of this size at up to 27 knots. This is a fast speed for a ship, even by today's standards, and a reminder of just how technologically advanced these warships were for their day.

Massive fans that were once used to maximise combustion in the boilers now block the way through to the next two boiler rooms. Below the fans are the steam pipes and a mess of control wires. Underneath these there are four boilers arranged side by side. The floor in this area would have been a layer of steel gratings, which fell away as the ship sank, and a maze of valves and piping is now exposed.

Above the boiler rooms, and at the base of the funnels, the ship's pinnaces (boats) would have been secured to the deck. Large davits which would have lowered them into the sea when the ship lay at anchor remain scattered about. In their midst, a solitary boiler from one of these pinnaces lies exposed, the wooden hull around it long-since rotted away.

Engine Room
The salvage effort was concentrated in the engine room area so that most of the ship's hull structure has been destroyed. Bits and pieces of boilers, gear boxes, turbines, valves and wires lie scattered about amongst the wreckage that remains. However, it is almost possible to reassemble the

components into something like their original shape in the mind's eye.

Stern

Towards the stern the ship once again starts to regain her beauty; there is something really striking, really beautiful in the stern sections of all the German warships.

There is one more gun in the seabed pointing aft – a second was recovered and sits on a mount outside the Scapa Flow Visitor Centre and Museum, Lyness, Hoy – before the deck runs past a final capstan to the kedge anchor, still housed at the stern. The deck is striped with the remains of the teak decking whilst four strange cutaway sections in the side remain unexplained.

On the keel side of the hull the single massive rudder remains, its flat blade seemingly propping up the hull. All the steering engine and connecting rods remain exposed to a good degree so the mechanics are evident. A solitary A-frame still supports half a bearing where the shafts would have run out to the propellers.

Overall Impressions

The Karlsruhe is often dismissed as the poor relative of her sister ships sunk in deeper water. The fact that she is shallower and more broken can make her feel less significant somehow, slightly too easy, too accessible. However the more she is explored, the more this sentiment is dispelled.
This wreck has many assets: the mechanics are easier to decipher, there is less pressure on time and exposure, whilst the vessel somehow feels more welcoming and less spiky. With care and thought, this is a dive that ranks amongst the best, on a ship that is as technically advanced as ever made.