D-DAY MUSEUM

Normandie - France
World War II

As soon as he became German Chancellor in 1933, Hitler set about imposing a totalitarian dictatorship in Germany. He lost no time in remilitarizing the Rhineland and then proceeded to enter an alliance with Japan and Fascist Italy. By 1938, his ambition to invade the rest of Europe had become clear for all to see, with the annexation of Austria, followed by Czechoslovakia, Sudetenland, Bohemia and Moravia.

France and Great Britain declared war on Germany on September 3rd 1939, two days after Hitler’s troops had invaded Poland. However, the relentless advance of the German forces, which swept through the Netherlands, Belgium and Luxembourg in May 1940, proved to be unstoppable, and French and British troops were forced to flee to England via Dunkirk. Paris fell on June 14th 1940 and Reynaud’s government resigned, leaving Marshal Pétain to sign the armistice and impose the Vichy regime.

It was on June 18th that General de Gaulle, speaking from London, called on the French to resist. Light soon appeared at the end of the tunnel, however, for in the spring of 1942, Roosevelt, Churchill and Stalin started having regular meetings to plan a common strategy, while Allied forces won resounding victories in the Pacific, North Africa and, of course, at Stalingrad.

An Eastern front finally became established, and in January 1943, the decision was taken in Casablanca to open up a new front in Western Europe. Troops would be landed on Normandy’s beaches. Preparations for Operation Overlord were underway.

The Landings

On June 6th 1944, the Allies landed on five different beaches, along an 80-km stretch of the Normandy coastline. To the west of Arromanches were the two American beaches, Omaha and Utah (Colleville/Mer-Vierville - Ste Marie du Mont), while to the east were Juno, in the Canadian sector (Bernières-Courseulles), and Sword (Lion/Mer-Ouistreham), where the British landed, together with 177 French commandos under Captain Philippe Kieffer (No. 4 Commando). Arromanches, which was part of Gold Beach (Ver/Mer-Asnelles), was liberated on D-Day by troops from Asnelles, as its own beach had to remain intact in order for the Allies to install one of the two Mulberry Harbours there.

The Allies knew they would need a port in order to keep their forces adequately supplied, but after the fiasco of the Dieppe raid on August 19th 1942 (Operation Jubilee), it was obvious to one and all that German defences were too good for them to capture a working port. For this reason, the decision was taken to build two prefabricated harbours from sections towed across the Channel. Although work on Mulberry A at Omaha Beach was abandoned after it was destroyed by the violent storm of June 19th-21st, Mulberry B at Arromanches, nicknamed Port Winston, went on to play an undisputed role in the advance of Allied troops in Normandy.

Large model

The first convoys of harbour units left England in the evening of June 5th and construction work began on June 7th. An outer breakwater was formed from old merchant ships (the brown-painted ships at the top of the model). These were joined by 115 huge concrete boxes, known as Phoenix caissons, which you can see out in the harbour as well as in the model (grey sections). Located 2 km from the shore, they formed a protective sea wall extending from the Pointe de Tracy in the west to the village of Asnelles in the east. This 8-km line of caissons enclosed a area of 500 hectares - the equivalent of 1,000 football pitches.

Three landing wharves were then installed. The central one, extending some 750 m out into the bay, was used to unload supplies (medicines, clothing, food). The eastern wharf was designed to land troops and vehicles of all types, as it was the only one capable of handling heavy vehicles such as cranes, tanks and bulldozers. The western wharf was reserved for munitions. So-called floating causeways allowed equipment to be transferred from ship to shore. The British also installed three defence systems. 150 ack-ack guns and 40-mm Bofors guns were set up on the Phoenix caissons (see example on the eastern side of the museum). A hundred or so barrage balloons, inflated with hydrogen, were floated at different altitudes in the clouds and anchored to the ground by steel cables to prevent enemy planes from attacking. Lastly, artificial fog was created each night, to hide the lights of the harbour which remained in operation night and day.
First display case

Here, you can see a convoy of floating causeways being towed across the Channel by a tug, escorted by three battleships (a high-speed launch at the front of the convoy, followed by a torpedo boat, with an anti-submarine vessel bringing up the rear). This type of convoy travelled at just 6 km per hour and had to cover a distance of 175 km, as Arromanches was the farthest point from England between the Dover Straits and Cherbourg. These convoys suffered just one German attack, and while nearly half the causeways sank out at sea, this was entirely due to the same rough weather that had delayed the Landings for twenty-four hours.

Second display case

This working model represents the eastern wharf, linked to the beach by a floating causeway. The movement of the waves in the display helps us to understand how the harbour was able to continue operating whatever the movement of the sea and whatever the state of the tide. The steel-built floating causeway rested either on metal pontoons (the grey-painted pontoons were built on stilts to prevent them from being damaged by the rocks at low tide) or on ones built from vibrated concrete (The beige pontoons in the model and also the row of ten units on the beach below, visible at low tide).

At the end of the causeway, you can see a landing wharf comprising two platforms positioned at right angles to form a T-shape. This arrangement allowed two ships to be unloaded at the same time, via the stem or the beam. In order to avoid any interruption in unloading due to the tides, the British engineers designed huge 30m-high pierheads, each weighing 40 tonnes and anchored to the sea bed. The landing wharves were designed to slide up and down these pierheads. If you observe the white graduations on the ones in the model, you will see how the wharves follow the tidal movements, moving up at high tide and moving down again at low tide. This meant that the wharves always remained at the same level as the ships, making it possible to keep supplies moving whatever the tide (at Arromanches, there is a difference of approximately 8 metres between high and low tide). Today, this system is widely used by marinas (floating landing stages) and oil-drilling platforms, but back in 1944 it was an ingenious innovation.

Third display case

Here, you can see a section of the middle wharf. This comprised seven platforms, making it possible to unload seven vessels simultaneously. Located 1,200m from the coast, it was linked to the shore by two floating causeways, each for one-way traffic only. You can see empty lorries driving along the western causeway, being loaded at the quay, then using the other causeway for the return journey. When the harbour was at the peak of its activity, lorries were being loaded at the rate of 745 per hour. Up to 18,000 tonnes of supplies could be unloaded in a single day.

You will have noticed that there are shorter, beige-coloured sections at the end of the grey platforms. These represent extensions built from vibrated concrete, and 200 m to the left of the museum, you can see the only surviving extension of this kind. They were used as resting quarters for the men working on the port, and if the tide is not too high, you will indeed see four small windows in the left side. Lastly, between the two floating causeways in the model, you will see two vehicles carrying equipment. These are the famous DUKWS amphibious vehicles which could drive across the beach at low tide and float at high tide. Several hundred lorries of this kind were used for harbour operations.

Final showcase

This final model represents a number of Phoenix caissons. A great many of them have been destroyed over the years and only twenty or so are left today. The caissons came in different sizes, with some measuring up to 70 m long. Each one bore a number and a two-letter code corresponding to its size (AX for the largest ones) and each was built for a specific location within the port. The only large caisson left is number 36, located in the middle of the showcase and directly facing us out to sea (the one standing apart from all the others). It is approximately 20m high and it is thought to be as heavy as the Eiffel Tower, i.e. 7,000 tonnes.
The caissons were towed from England and then sunk by turning bronze wheels to open their floodgates (the showcase contains the last surviving wheel). Once the gates were opened, seawater poured into the caisson, causing it to sink within 20-25 minutes. Prior to D-Day, they were sunk in the Thames to conceal them from the enemy.

The easternmost caisson, facing Asnelles, carries the last remaining flack turret (last gun at the side). Lastly, outside the museum, leaning against the wall, is a section of floating causeway. Today, most of the remains are made from concrete. The steel had been supplied by the United States and Canada, as part of the war effort, as this material was in short supply in France and indeed the rest of Europe. This rare commodity was therefore recovered and recycled from 1944 onwards, when the harbour was decommissioned.

**Conclusion**

D-Day saw the landing of British, American and Canadian troops, together with the Kieffer commando. In the days that followed, Allied divisions and brigades of other nationalities also arrived in Normandy, with soldiers from Holland, Poland, Czechoslovakia, Belgium and Luxembourg joining forces with General Leclerc’s 2nd Armoured Division to liberate France and the rest of Europe. Denmark, Norway and Greece also contributed to this war effort, and the displays in our galleries are therefore dedicated to all these Allied countries.