

WRECK

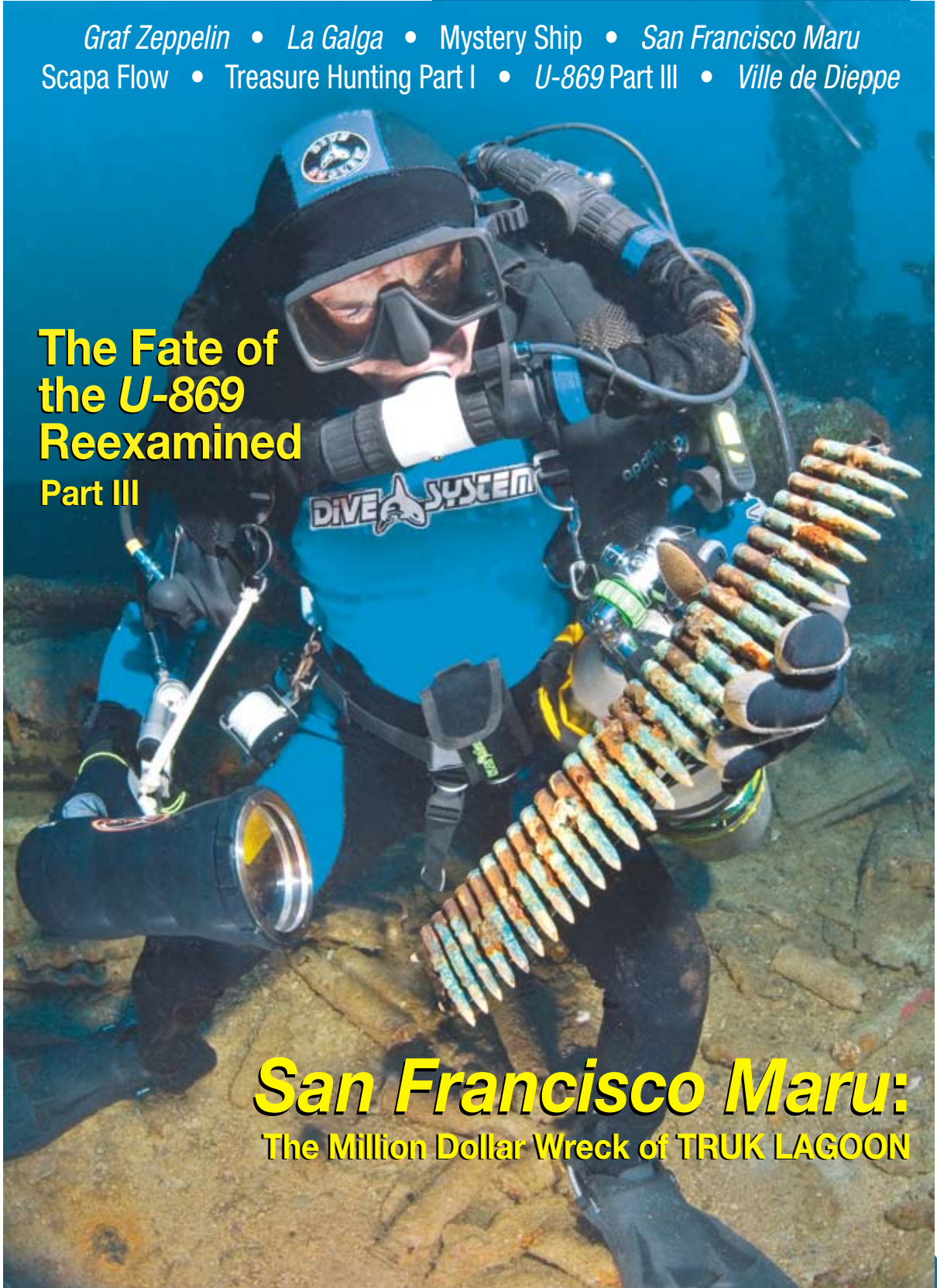
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The Fate of the U-869 Reexamined Part III



San Francisco Maru: The Million Dollar Wreck of TRUK LAGOON

Issue 19
A Quarterly Publication

The Fate Of The U-869 Reexamined, Part III

The Loss of the German Submarine

By John Chatterton, Richie Kohler, and John Yurga



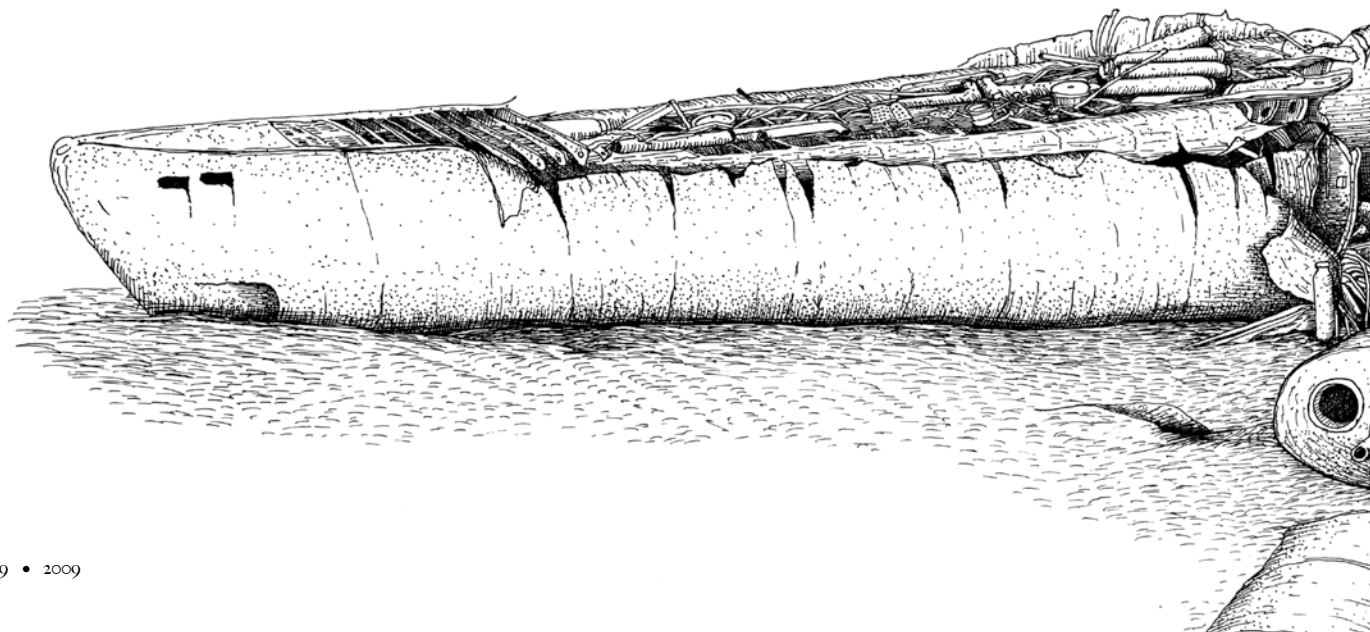
Above: U-869 Commissioning photo (National Archives)

In our previous articles, we described the discovery and the long road to the identification of *U-869* off the New Jersey coast. We also examined the revised histories issued by the US Coast Guard Historical Center and the US Naval Historical Center, both of which claimed the sinking was a result of a depth charge attack by two US Navy vessels in 1945. The conclusion we reached was that the attack by the destroyers was most likely on the already-wrecked *U-869*. If our conclusion is correct, then how did the *U-869* come to be on the bottom of the Atlantic?

Early Theories

The most effective and successful branch of the German Navy in World War II was the U-boat arm. Hitler feared he would lose in a direct confrontation with the Royal Navy, so the German surface fleet largely sat idle at anchor. Meanwhile, the U-boats and their all-volunteer crews were out at sea, hunting down enemy vessels. They sank the merchant vessels delivering the Allies' much-needed materials of war, and even were able to achieve some success against much larger enemy warships. Service on a U-boat carried a definite prestige, and it was difficult, dangerous work. Reinforced by propaganda in films and print, U-boat men gained an almost mythic status in Germany. They were Germany's superheroes.

The threat of the lurking U-boats was nearly as effective as the actual attacks themselves, instilling fear into ships' crews and affecting Allied war planning. The Allies were forced to dedicate a disproportionate amount of military resources to respond to the U-boat threat. Little wonder that a young naval recruit might dream of volunteering for the U-boat service. Ultimately, however, nearly three quarters of the submarines that put to sea would be lost, and the U-boat men would suffer the highest casualties of any arm of military service in the war.



The U-boat crewman faced death from any number of directions. An alert enemy, a careless crewmember, or even a faulty valve could mean sudden and complete disaster. U-boat crewmen were trained and drilled on how to keep their vessels working, and how to survive. It was not long before the U-boat men learned they also needed to fear their own torpedoes.



The Ministry of Defense

Shortly after the discovery of the *U-Who* was made public in 1991, we were contacted by a U-boat expert working at the Ministry of Defense in London, Robert Coppock. Mr. Coppock was a world renowned U-boat expert, who had been part of the team that took custody of the German U-boat archives in 1945. In addition to his knowledge of U-boat operations, Mr. Coppock was very interested in the mystery of the *U-Who*. He felt that perhaps the key to identifying the submarine was in determining how it actually ended up on the bottom.

Anti-Submarine Warfare forces (ASW) were responsible for the majority of U-boat sinkings. An attack by ASW could have involved a depth charge attack, ramming, or even artillery. We had already been through the ASW records and there were no accounts of a U-boat being sunk in that area. The severity of the damage on the wreck indicated to us that there would have been a large amount of oil and debris coming to the surface at the time of the sinking, making it difficult for ASW forces not to realize they had put a U-boat on the bottom.

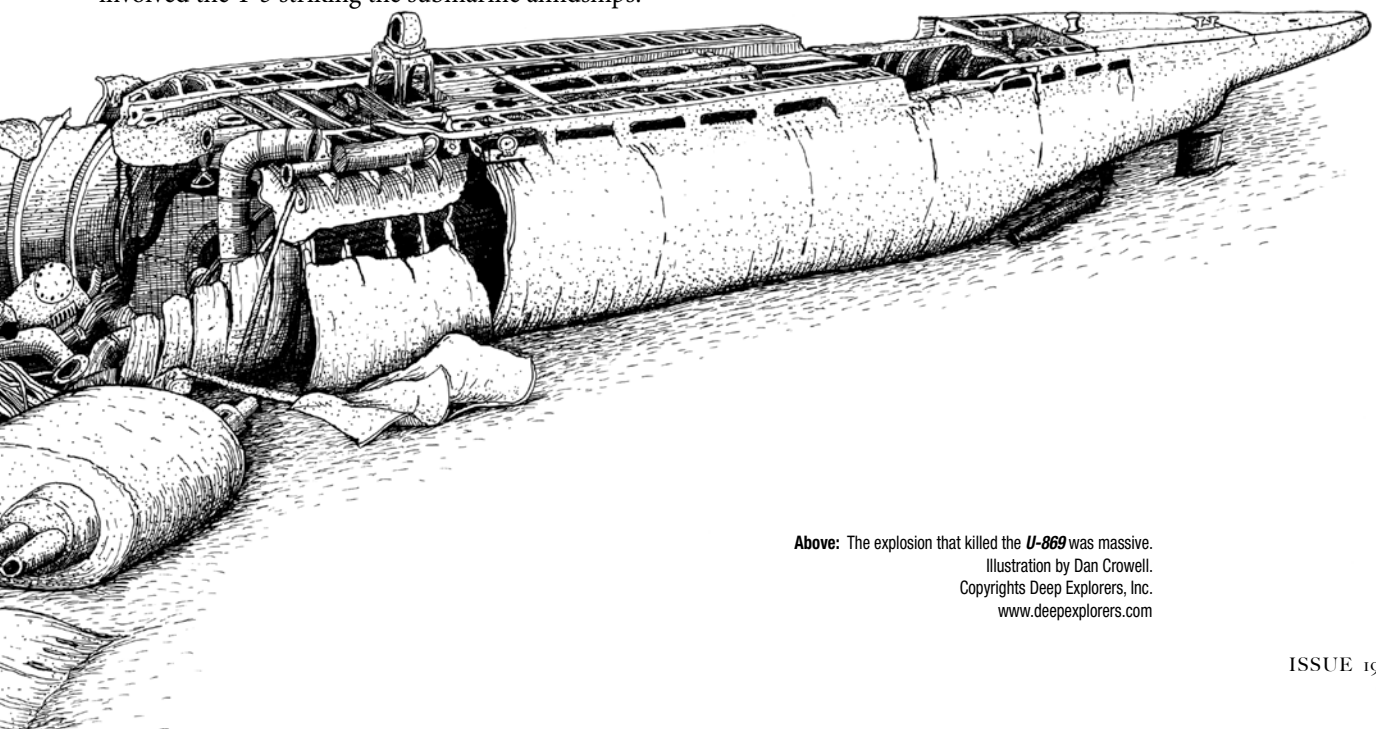
If the submarine experienced mechanical difficulties, we would not have found the wreck as we did, almost blown in two. We considered the possibility of an internal explosion, but as we looked at the area of greatest damage, the Control Room, there was nothing there that could have caused a massive explosion. In addition, there was no storage in this area; therefore, there was no room for the storage of incendiary materials or ordnance.

It seemed to us, even with our limited understanding of torpedoes, that a torpedo could have the explosive power to cause the damage we saw in the Control Room area. However, the torpedo was not a weapon used by ASW on this side of the Atlantic, and, again, we would expect a record of such an event. We even considered the incredibly unlikely event of the *U-Who* being torpedoed by a second U-boat.

It was Mr. Coppock who suggested to us that it could have been a “circular run torpedo.” He explained to us that a circular run torpedo was a torpedo that somehow lost its way, either due to mechanical failure or improper deployment, and then traveled in a circuitous route, eventually striking the submarine which had itself launched the weapon.

Mr. Coppock went on to further suggest that the Germans were aware of specific problems with their T-5 Acoustic Torpedoes. The German U-boat command had twice notified submarine commanders to dive deep after firing a T-5, to avoid the possibility of the torpedo coming back around and striking the submarine. Mr. Coppock cryptically implied that his office knew of five instances of circular run torpedoes striking the U-boat that had fired the weapon. In addition, he believed all five instances involved the T-5 striking the submarine amidships.

“The conclusion we reached was that the attack by the destroyers was most likely on the already-wrecked *U-869*.”



Above: The explosion that killed the *U-869* was massive. Illustration by Dan Crowell. Copyrights Deep Explorers, Inc. www.deepexplorers.com



Tactically speaking, the T-5 was designed to detect sound from a target ship and deliver the torpedo to that location. The acoustic attraction to the target replaced the difficulty of having to precisely plot the course of a speeding and possibly turning target. Often, U-boat commanders kept T-5 acoustic torpedoes in their aft torpedo tubes where they could be launched at an approaching ASW vessel as the submarine dived to escape and evade.

It would also be appropriate for a U-boat commander to fire a T-5 at a target that was speeding away from his boat, essentially showing them the target's stern, putting nothing but water between the torpedo and all that propeller noise. A torpedo that "lost" the intended target would search for it.

Coppock hypothesized that the *U-Who* could have fired a torpedo that lost the target as the lucky mariners continued to sail away from the submarine. This circle runner could have struck the U-boat, with the original target miles away, and no witnesses to the incident.

Mr. Coppock's hypothesis certainly seemed sound to us. A circular run torpedo could have virtually blown the sub in two, and it might also account for the lack of ASW documents relating to the sinking. However, we all agreed that although this was an interesting scenario, it did not help very much in identifying the submarine, and that was our foremost challenge.

Circular Run Torpedoes

In 1998, the authors of this article wrote the following in a report filed with the US Naval Historical Center, the U-boat Archives in Cuxhaven, Germany and the US National Archives. In that report, we offered a hypothesis as to what may have caused the sinking of *U-869*:

Hypothesis #1 – The sinking of the *U-869* was the result of a circular run acoustic torpedo that the U-boat fired upon a target that most likely never realized that it was being attacked. The torpedo, unable to locate the intended target, eventually traveled back around striking the *U-869*.

The detonation most likely occurred on the port side of the Control Room. The submarine was probably submerged at the time. The T-5 Acoustic torpedo was most commonly used at single targets to which the submarine was either abeam or aft. With the target speeding away, it would be unlikely that anyone aboard would notice an explosion that occurred at some distance, possibly miles, astern and underwater. This explains why there are no ASW or ESF entries relative to this site and also explains the extensive damage we find on the wreck.

Trouble with the T-5 Acoustic torpedoes was not unknown to the BdU (September 24, 1943 BdU-KTB) and circular run torpedoes are suspected in the sinking of both *U-377* and *U-972* according to Jak P. Malmann Showell in [U-Boats Under the Swastika](#).

This is the way things stood until June 2006 when the US Coast Guard Historical Center (USCGHC) announced on its



Above: View along the upper starboard torpedo tube, looking forward.

Below: The view facing aft in the Diesel motor room; the two man diesels with the daily fuel tank that was once suspended on the ceiling now wedged between the motors. The escape trunk lies between the engines on the deck.

website that it had solved the mystery of the loss of *U-869*. The site claimed it had been sunk by the Destroyer Escort USS *Howard D. Crow*, which was manned by a US Coast Guard Crew, working in concert with the US Navy Destroyer Escort USS *Koiner*. Their reasoning for believing the convoy escort vessels were jointly responsible for sinking the U-boat was interesting, but they appeared to completely dismiss the possibility of a circular run torpedo solely because there were two different areas of damage.

As the US Coast Guard does not actually have any submarines, USCGHC historians might not have had any submarine experts available to them. However, the US Navy most certainly did. The Navy was very much aware of the dangers relating to circular run torpedoes in WWII, and there are well-documented cases of US submarines being sunk by their own torpedoes.

The problem was not with the submarines themselves, it was with the weapon. There were multiple issues inherent with the use of the torpedo technology of that era, and these problems were experienced by all the navies of WWII. For example, the British cruiser *Trinidad* fired a torpedo that circled back around and damaged the ship, killing 32 of her crew. A faulty gyro compass due to extremely cold weather was suspected.

The German High Command also knew they had a problem with circular run torpedoes. They issued the following warning to their commanders:

1/26/44 Page 57 IV 2-d.

Transmitted to all boats: "On crash-diving after firing an acoustic torpedo from the bow tube, the boat must submerge to a depth of 30 meters - not in 60 seconds, but as quickly as possible."

It is suspected that *U-47*, *U-305*, *U-377*, and *U-972* were most likely lost to circular run torpedoes.

However, without survivors or wreckage to examine, how do we know exactly what happened to boats that were lost to circular run torpedoes? The website *uboat.net* lists 52 German submarines that are missing in action <http://uboat.net/fates/missing.htm>. The truth is that some, none, or all of them could have fallen victim to circular run torpedoes.

U-869

Shipwrecks age, just like people. The wreck of *U-869* has changed dramatically since we first found it in September of 1991. However, when we first dived the wreck, we noted two areas of damage that were distinctly different.

There was an area in the forwardmost section of the Aft Torpedo Room where the pressure hull had been compromised, and the thick steel of the pressure hull had been pushed inward. This was severe damage, and typical of depth charge damage we had seen on other U-boat wrecks, like the *U-853*. To us, this indicated a powerful explosive force external of the pressure hull, pushing inward, like that of a depth charge.

However, in the area around the Control Room, the damage was far more severe and markedly different. The damage was focused on the port side of the Control Room, where the pressure hull was completely blown away, virtually from bulkhead to bulkhead, and, from as far down as the sand, going up and across the top of the sub to the top of the starboard side. The Conning Tower was displaced and lying on the port side of the wreck, adjacent to the main body of wreckage. The remaining pressure hull on the starboard side of the Control Room was also fractured. In addition, there were large jagged cracks in the top of the pressure hull, running both forward into the Officers' quarters, and aft into the Diesel Motor Room.

All of the external hatches were blown open, or completely off their hinges. The only way we can suggest for this to happen is from a reverse differential pressure wave inside the U-boat, creating more pressure inside the submarine than outside. This not only indicates a powerful explosion, but also that the sub was filled with air at the time of the event. If the sub were not filled with compressible air, the pressure differential would be impossible. Thus, we concluded that the explosion that caused the damage to the Control Room occurred when the pressure hull was intact and full of air.

The damage at the Aft Torpedo Room, which we believe to be typical of depth charge damage, did not appear nearly powerful enough to blow open the Forward Torpedo Loading Hatch at the other end of the sub. We could find no similar accounts of this blown hatch phenomenon in any of our research. Logic dictates that the damage amidships had to have happened first, while the submarine was full of air, not water.

“A torpedo that “lost” the intended target would search for it.”

“The multiple fractures in the pressure hull, the steel pushed outward not inward, all gave the appearance of an exploded firecracker.”

The most interesting feature is that the pressure hull at the bulkheads is sprung outward and away from the bulkheads and the interior, not pushed inward. The gap between the pressure hull and the bulkhead on the port side forward was easily wide enough for a diver with double tanks to swim through. The multiple fractures in the pressure hull, the steel pushed outward not inward, all gave the appearance of an exploded firecracker. This particular characteristic of the wreck was most puzzling, as it appeared the explosion came from the inside.

Without exception, every explosive expert we have spoken with has indicated to us that if the pressure hull is blown out, then the cause has to be from an internal explosion. We originally had considered an internal explosion, but as we have stated there was nothing in the area of the Control Room to create such an explosion. In addition, the experts also agreed that an internal explosion would have caused the damage to be focused on the upper aspects of the hull, not the port side.

It certainly seemed to be a Catch-22. The steel told us it had to be an internal explosion, yet an internal explosion seemed to be impossible. We had been wrestling with this issue since 1991, assuming that the experts must be mistaken. Recently, we were working with a retired US Navy diver and explosives expert whose responsibilities once included the neutralization of old German ordnance. We were at the Museum of Science and Industry in Chicago, looking at the T-5 Torpedo display for the *U-505* exhibit when the pieces started to come together.

Hypothesis #1.1 –

The German T-5 acoustic torpedo had an extremely advanced design for 1945, and with 600 pounds of Hexanite explosive (the equivalent of 750 pounds of TNT), it was a formidable weapon. It possessed a “shape” to the warhead explosive, as well as sophisticated fusing. Taken in total, it was designed to cause the maximum damage to a target, by “cutting” into the hull. This was incredibly advanced technology for 1945.

We suspect that *U-869* was operating in waters approximately 60 miles off the coast of New Jersey on a date prior to February 11, 1945, when it fired a T-5 torpedo at an unknown target. The torpedo malfunctioned and circled around toward *U-869*, striking the submarine in the port side of the Control Room.

In a matter of milliseconds, the weapon did exactly what it was designed to do. The shape of the charge helped it cut into the pressure hull of the submarine, leading the explosive train inside the hull. This was aided by the placement of the fusing, which was at the aft end of the explosive warhead, as opposed to the front. This caused the explosive to burn towards the target, supplying even greater penetrating power. **Although the detonation of the torpedo began outside the pressure hull, it continued on into the middle of the Control Room.**

The torpedo triggered a huge concussive wave that blew all of the exterior hatches, and killed the crew instantly. This created the damage in the Control Room that appears to be from an internal explosion, because it actually was. A large amount of oil and floating debris escaped from the ruptured pressure hull, but dispersed in the Atlantic unnoticed at the time.

After the sinking, the wreck was located on February 11, 1945, by a sonar operator aboard USS *Howard D. Crow*, where the ship made three depth charge runs on the target. USS *Koiner* followed that with another three depth charge runs. The assault by these two vessels caused the classic depth charge damage we see in the area of the Aft Torpedo Room. It also caused a very small amount of oil to come to the surface, which was typical of a depth charge attack on a wreck.

The Commanding Officers of the two Destroyer Escorts performed their due diligence in investigating their sound target, and rightly determined that they were depth charging a wreck. The Commanders then agreed to return to the job they were doing extraordinarily well, protecting Convoy CU-58.

Conclusion

The current official history of the sinking of the German submarine *U-869* lists it as attacked and sunk by USS *Howard D. Crow* and USS *Koiner* on February 11th, 1945. For this account to be true, the Commanders of both *Howard D. Crow* and *Koiner* had to have been patently wrong in their assessments of the situation at the time of the depth charge runs. The “official” history offers no explanation for the lack of oil and debris at the time of the attack, and no consideration is given for the physical evidence provided by an examination of the wreck.

This is the second version of events surrounding the sinking of the *U-869* that has been proposed by military historians; the first was that it was sunk off Gibraltar and thousands of miles from where the wreck is located. It would seem they have again failed to meet the rigorous standards of proof which we should all expect from our military history.



Above: 034 A work bench with vise on the port side of the diesel motor room.

Below: Interior view of the conning tower with the main attack periscope on the left.



Above: Interior view of the conning tower.



Below: The two main air induction speed wheels on the ceiling of the diesel engine compartment.

As time goes by, and more information becomes available, the circular run torpedo hypothesis may be definitely proven, or dismissed. However, the circular run scenario that we have outlined accounts for all of the damage we find on the wreck. It coincides with the information given in each and every document relating to the *Howard D. Crow/Koiner* incident from 1945, and it explains the complete lack of physical evidence at the site on February 11th, including thousands of gallons of diesel fuel, debris, and human remains. In addition, it is entirely consistent with known problems inherent in the use of the torpedo in WWII. While we do not consider it sufficient at this time to definitively rewrite the history of the sinking, it appears to us to be the only hypothesis offered which takes *all* of the facts into account.

Sidebar – US subs and Circular Run Torpedoes

USS *Tang* (SS-306), 25 October 1944. The Mark 18 torpedo broached and curved to the left in a circular run. *Tang* fishtailed under emergency power to clear the turning circle of the torpedo, but it struck her abreast the aft torpedo room approximately 20 seconds after it was fired. The explosion was violent, and people as far forward as the control room received broken limbs. The ship went down by the stern with the after three compartments flooded. Nine survivors, including the commanding officer, were picked up the next morning by a Japanese destroyer escort.

USS *Tullibee* (SS-284), 25 March 1944. Two torpedoes fired during a surface approach. One of the torpedoes (either a Mark 14, 18 or 23 torpedo) ran a circular course and sank the submarine that had launched it. There was a single survivor, who also survived imprisonment by the Japanese.

USS *Tautog* (SS-199), 16 May 1942. One of two torpedoes fired was heard making a circular run and the sub had to emergency dive in order to evade it.

USS *Sargo* (SS-188), 25 September 1942. One of the five torpedoes fired ran a circular path, exploding off the sub's stern. The torpedo accidentally ran a circular course...the cause for the torpedo's malfunction was that the gyro had not been installed (a torpedo man discovered the gyro in its storage can after the fish had been fired), so the torpedo's path of travel was entirely random.

USS *Greenling* (SS-213), 18 October 1942. Two torpedoes fired during a surface approach circled back around, both passing close aboard.

USS *Seawolf* (SS-197), 3 November 1942. One torpedo was heard making a circular run and the sub had to emergency dive in order to evade it.

USS *Triton* (SS-201), 6 March 1943. One torpedo was heard making a circular run and the sub had to emergency dive in order to evade it.

USS *Trigger* (SS-237), 15 March 1943. Five torpedoes were fired, and one circled around and passed directly over the engine room. Shaken by the near miss, the sub's crew broke off the attack.

USS *Harder* (SS-257), 20 November 1943. One of five torpedoes fired during a surface approach circled back around, forcing the sub to break off the attack and submerge in order to avoid being hit.

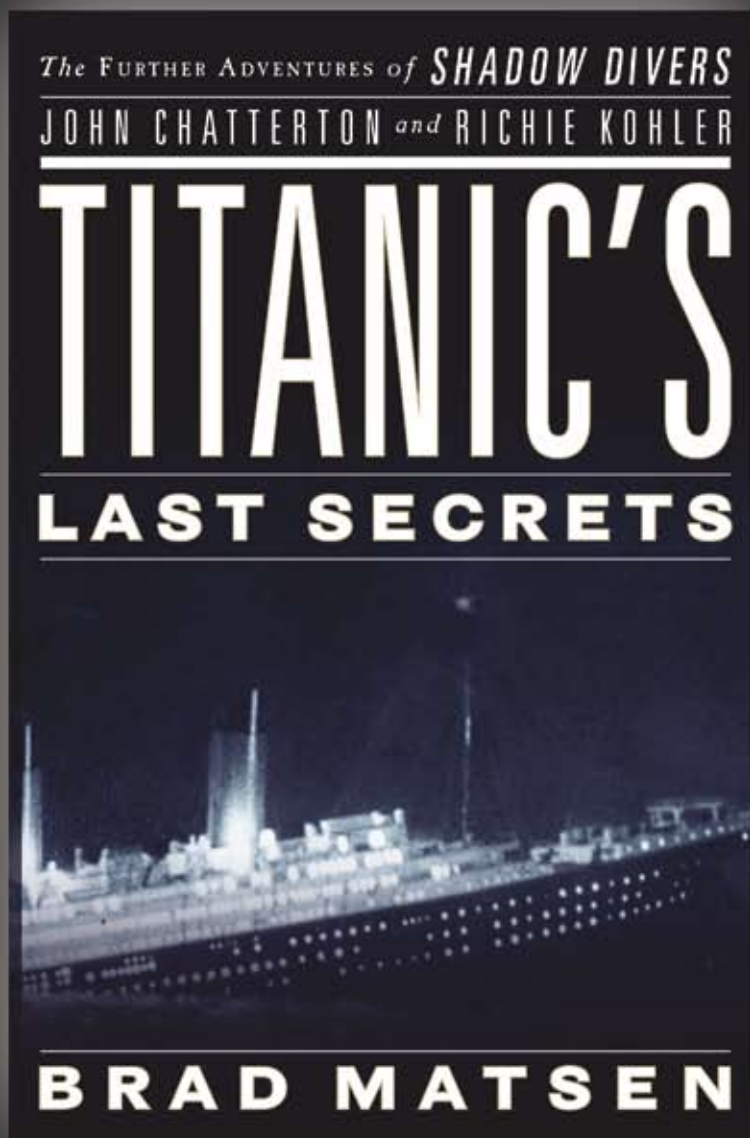
USS *Barb* (SS-220), 8 September 1944. One torpedo was heard making a circular run and the sub had to emergency dive in order to evade it.

USS *Blueback* (SS-326), October 1944. One of three torpedoes fired was heard making a circular run. The sub dived for the depths and the torpedo was heard passing over the after battery hatch (slightly aft of amidships).

USS *Tinosa* (SS-283), 10 June 1945. One of three torpedoes fired was heard making a circular run. The sub dived for the depths and the torpedo was heard passing overhead. The sub dove deeper as a second pass was anticipated, but the torpedo never came back.

About the Authors: John Yurga, John Chatterton and Richie Kohler have known each other and dived with one another for more than 15 years. They developed as divers on wrecks local to New York and New Jersey waters, like the *Andrea Doria*. As a team, they worked on identifying the mystery submarine they located 60 miles off the New Jersey coast in 230 feet of water, in 1991. It took them six years to positively identify the WWII submarine as *U-869*. Together they all contributed to the Nova documentary, *Hitler's Lost Sub*, and worked with author Robert Kurson on his bestselling book, *Shadow Divers*.

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