US NAVY'S "STEALTH" DESTROYER PLAGUED WITH SETBACKS

DESIGN PROBLEMS SEND HER "HOME"

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270

USS Zumwalt (DDG-1000) Zumwalt-class destroyer, a sister ship of USS Michael Monsoor (DDG-1001

Some costly mistakes made in the design of the U.S. Navy's Michael Monsoor destroyer, part of the Zumwalt class, have forced the ship back to its home base at Bath Iron Works in Maine.

Its problems are fundamental ones that have proven both costly and frustrating for the U.S. Navy.

Although the destroyer was able to complete its acceptance trials in February 2018, damage occurred to its combined blades during this testing phase. Consequently, two of the MT30 marine gas turbine engines must be replaced.

It was during a borescope inspection, in which an optical device is inserted inside the engines, that these problems were revealed.

Christening of Michael Monsoor on 18 June 2016

Additionally, although the Monsoor was heralded as a new class of ship, *it became clear that its ammunition was too costly to fire*. The Zumwalt class of destroyers were designed to almost silently approach enemy shores and be able to *bombard targets as far as 83 miles away*. But its custom-made artillery proved to be prohibitively expensive. *Each round of ammo came in at a cost from $50,000 (U.S.) to $800,000 (U.S.).* Instead, **the Navy hoped the ship could use "the Excalibur precision-guided artillery round(s) originally designed for land forces."**

However, the price tag for that ammunition came in at approximately $250 million, so yet again the Navy rejected the idea. **It is currently reviewing the option of using the new Hyper Velocity Projectile (HVP), designed for the Army's 155-millimeter Howitzers, and the Navy's 127-millimeter deck guns.**

The Navy did know about these issues even though it accepted "partial delivery" of the ships in April 2018.

Rear Admiral William Galinis told USNI News, "Regrettably, coming off her acceptance trials we found a problem with one of the main turbine engines that drives one of the main generators; we're working very closely with Bath Iron Works, with Rolls-Royce, to get the engine changed before she leaves Bath later this fall and sails to San Diego to start her combat system activation availability next year.

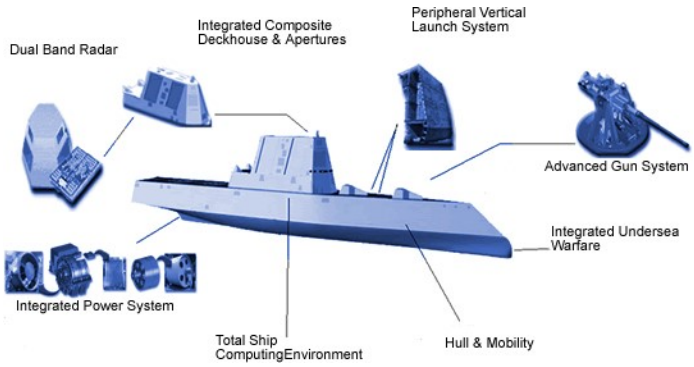
An F-35 Lightning II completes a flyover of USS Zumwalt (DDG 1000)

Later, Galinis added, "After the sea trial…we found it was best to change that turbine out before we transited the ship to San Diego."

Zumwalt-class destroyer

Originally, all with the stealth destroyer was not doom and gloom. A rigorous set of tests set out by the Navy's Board of Inspection & Survey (INSURV) was passed perfectly by Michael Monsoor. Its propulsion system, damage control mechanisms, navigation system, communications, and more were found to be first-rate.

But the changes do need to be made, and they do not come cheaply. Rolls-Royce engines cost a hefty *$20 million (U.S.) to replace*. Furthermore, these latest difficulties are not the first to hamper the stealth destroyer. *In the past, the ship had electrical system problems, back when it was first tested in December 2017.*



Features of the Zumwalt-class destroyer

The destroyer is named for Michael A. Monsoor, a U.S. Navy Seal who sacrificed his life in Iraq in 2006 by hurtling himself on an enemy grenade.

***Though the destroyer was originally hoped to be part of a 32-ship fleet, that number has fallen to three*. Costs for just three of the destroyers are coming in at $23 billion; by comparison, the USS Gerald Ford, considered a first-rate aircraft carrier, cost 50% less.**

The future role of the Zumwalt class destroyers remains a question mark. Initially, the Navy hoped the Michael Monsoor would aid Marines in amphibious landings. Now, the thinking is that it might better serve as an aid to sea-based missions. Whatever the Navy decides, it hopes the Michael Monsoor proves worthy of its enormous price tag.

***USS Zumwalt (DDG-1000) is a controversial ship, to say the least*. After much fanfare among the mainstream press, the truth about the ship's watered-down design, tiny fleet size, useless deck guns, and the implications of these factors, among others, became much more clear. As we reported two years ago, *in yet another cost-cutting move, the Navy decided to forego the ship's very stealth concept—which is the major reason the ships look the way they do, cost as much as they do*, and have certain design tradeoffs for doing so—and bolt on communications systems and some sensors in a very unstealthily manner. These corner-cutting measures even included the addition of a rickety-looking mast above the ship's deckhouse. Now we are getting our first glimpses of this disappointing configuration.**

ADDITIONAL VIDEOS FOR INFORMATION – COPY LINK AND PASTE INTO YOU BROWSER

The Navy's New Stealth Destroyer Has Watered Down Capabilities, Questionable Future

The Navy Is Changing Its Plans for its Dumbed-Down Zumwalts and Their Ammoless Guns

America's Newest Stealth Destroyer Has The Greatest Namesake To Live Up To

The Navy Won't Buy Ammo For Its Dumbed Down Stealth Destroyer's Big Guns

The Navy May Use One Hull Design To Replace Its Cruisers And Some Destroyers

The Zumwalt, which has been undergoing its combat systems outfitting for over a year and a half, emerged from its pier in San Diego Bay and took to open waters on *September 11th, 2018.* The vessel's otherworldly appearance drew a lot of attention. As a result, we have our first images of the nearly fully outfitted ship underway.

As you can see, there are EHF and UHF satellite communications systems (ball-like structures) tacked onto either side of the ship's deckhouse. Atop it, towards the forward edge of the deckhouse are two Tactical Common Data Link communications systems. Between them is the new mast, and no it isn't a temporary structure. To the rear of the ship, above the hangar, we see the cupolas for the 30mm Bushmaster cannons. *These were also downgraded from the far more capable 57mm guns as another late-in-the-game cost-saving move.*

Also worth noting, although it may not significantly impact the radar cross-section of the ship, is the bubble-like structure atop the deckhouse and forward of the ship's flush-mounted exhaust. This houses the X/Ka band satellite communications antenna system. Generally speaking, these modifications vibe with this graphic released by the Navy that shows the vessel's final, revised, and cheaper configuration that we originally posted in 2016.

The Zumwalt is slated to continue its combat system tests and other trials through 2021 when it will supposedly be ready for combat. Its sister ship, the USS Michael Mansoor (DDG-1001) has been undergoing initial sea trials out of Bath Iron Works in Maine, during which it had a major engine failure *that required the complete replacement of one of its Rolls Royce MT30 gas turbines. The repair cost is at least $20M.* The MT30 is based on the Trent 800 engine found on the Boeing 777. The Zumwalt class's highly powerful hybrid powerplant is one of its most advanced and exciting features.

USS Lyndon B. Johnson (DDG-1002), the third and last ship in the tiny fleet of ships, is under construction. It will feature a heavier and more radar-reflective deckhouse and hangar deck made out of steel instead of composite materials—another cost-cutting measure. The decision could impact seakeeping as well as the ship's radar signature.

The Navy is still working to define the role of these ships within their larger fleet. It has recently declared that it will be focused more on surface strike than anything else, but the big question is what will their longevity be within the surface combatant fleet overall?

With fat budgets under the Trump administration, there is money to attempt to push these ships into an operational state and possibly sustain them once there, but that could very well change. As they age and become more expensive to maintain, *and especially if budgets retract to their pre-Trump levels, it's questionable if all three would remain in operational service or if they would* be used operationally at all—possibly acting as a test force for future technologies instead. Because of these ships' unique hardware and software and tiny fleet size, it isn't hard to imagine one or two being cannibalized to keep at least one active in any capacity.

We'll just have to see how this all plays out. The entire program is a missed opportunity of sorts and another *damning example of the paradoxical 'Pentagon death spiral.*' However, the Zumwalt class's decline in capability and force size has been even more extreme than other programs that experienced a similar fate, such as the B-2 Spirit. The original DDG-1000 concept prioritized low-observability.

A fully realized DDG-1000 could have been an amazing fighting ship. The Navy will likely realize this once they see what even the dumbed-down Zumwalt class can do. But with the Navy betting big on the far less ambitious Flight III Arleigh Burke-class destroyer, there is very little chance that expanded production of the Zumwalt class will come to pass.

There may be some hope, at least when it comes to the DDG-1000 hull form, though. The Navy needs a new cruiser-sized vessel and they desperately want a hullform that is off-the-shelf. The only one available in the size they are looking for with immense power generation capabilities is the DDG-1000. If the ship's controversial tumblehome hull design doesn't prove too restrictive during actual operations—or if it can be redesigned with a flared bow—maybe the Zumwalt class will rise again in a vastly remodeled, and probably even less stealthy, cruiser form.

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RATIONAL DECISIONS?

I ask my computer the question "Are any of the three Zumwalt Destroyers active" The most recent reply I received was dated March 12, 2023, and it read:

The DDG-1000 Zumwalt is "active" though not deployed anywhere (it's by California), the DDG-1001 Michael Monsoor is also there while probably going through weapons integration/activation while the DDG-1002 Lyndon B. Johnson is still going through fitting out after they finished the construction and launching of it.

The Zumwalt, which has been undergoing its combat systems outfitting for over a year and a half, emerged from its pier in San Diego Bay and took to open waters on *September 11th, 2018* (*almost 6 years ago*)

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