

## Flight-deck-cleaning 'Zamboni' gives Navy aircraft carriers a cleaner wake (w/Video)

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The Navy's newest flight deck cleaning technology cuts grime with the power of a Zamboni and the environmental safety of clean running water.

The Mobile Cleaning Reclaim and Recovery System (MCRRS) vehicle uses hydrocyclone technology, which requires no soaps, uses only pressurized water, and reclaims and recycles the spent cleaning water. Everything from oil, fuel and loose bolts on deck can be vacuumed up into the MCRRS. Oil and other hazardous materials are separated out into waste concentrates so they can be properly disposed of, while the water can be recycled for cleaning. The MCRSS can be used while underway and in port.

"The Office of Naval Research (ONR) funded MCRRS as a Small Business Innovative Research (SBIR) initiative," said Steve McElvany, ONR's program manager overseeing its development. "The system was designed specifically to address the need for a flight deck cleaning vehicle that is also environmentally safe."

Testing of MCRRS aboard the USS Abraham Lincoln (CVN-72) and USS Bonhomme Richard (LHD-6) began in 2009 and delivered impressive results. "The equipment is sort of like a 'flight deck Zamboni' used for a hockey rink - you drive it around, it makes a little bit of noise, and you see a [clean](#) smooth line after you're done," said Tracy Harasti, an environmental protection specialist from the Naval Surface Warfare Center, Carderock, and contract manager for ONR.

Aviation Boatswains Mate Handling 3rd Class (ABH3) Ryan Dodge who tested the MCRRS aboard the Bonhomme Richard in San Diego, noted a number of the benefits from this ONR-funded technology.

"It uses higher water pressure than compared to the old scrubber we used to use, which gives it a deeper cleaning," he said. "This is better for us ... helps us maintain the flight deck better and makes it look nicer, too."

Debris, fuel, oil and hydraulic fluids are hazards to personnel and aircraft, and must be continually removed from a flight deck. The manual process — known as a "Scrub-Ex" and familiar to many Aviation Boatswains Mates — is time consuming, uses salt [water](#) and special detergents, which can corrode metal.

The MCRRS improves safety of flight for personnel by removing debris, which can damage a jet engine or cause harm to personnel. It also improves the coefficient of friction of the flight deck non-skid.

"It really does steam-clean the flight deck," added ABH3 Dodge.

Source: Office of Naval Research

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