

News Release

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Navy completes testing of cutting-edge mobile aircraft landing system

The Marine Corps Expeditionary Arresting Gear System (M31) will quickly and safely provide the Marine Corps with a state-of-the-art method of stopping all tailhook-equipped aircraft on short and austere runways. Totally self-contained, The M31 already has shown that a crew of 16 Marines, using tools stored with the system, can transport it and have it operational in under three hours.

“We took Marines working in this specialized duty field, brought them in on monthly installments to train on the new system and applied their suggestions as we continued to test,” revealed Ron Dorn, the M31 Expeditionary Arresting Gear System (EAGS) Systems Engineer.

“This system has so few modifications, once we return it to the manufacturer it should become the first production system the Marines will receive,” according to Harry Schieder, Recovery In-Service Engineering Branch Head. “Research and Development products rarely go directly into full-scale production. This system is the exception.”

How was this achieved? Four years ago, engineers at Naval Air Engineering Station Lakehurst and private industry formed a partnership to provide the Marine Corps with a new expeditionary arresting system to stop aircraft on short expeditionary airfields. The highly successful M31 system is the result.

This effort reflects favorably on the team that put each R & D phase together. The design work quickly progressed into computer modeling and finally simulation evaluation. Following actual manufacturing, the first system testing began without pilots or aircraft. Now, the last tests for compatibility with pilots and various aircraft are days from being completed.

The system, itself, uses a “water twister” energy absorber, state of the art 10” high nylon tapes, and a unique load distribution system. “All data to date show that the system will stop all Navy and Marine tailhook-equipped aircraft at speeds up to 200 mph” explained Dorn.

During tests the engineers at Lakehurst doubled the useful life of the 10” tape from initial experience and hardened one of the devises that helped hold the system in place during use. “We even conducted one test absorbing 100 million foot pounds of energy with no problem,” said Schieder. “This robust system will land carrier based aircraft faster and heavier than any aircraft of today.”

The system, designed to operate in temperatures from -25°F to 125°F in all conditions, at altitudes up to 5,000 ft., has also demonstrated bi-directional capability and the ability to be installed in varying spans to accommodate a variety of runway widths. In combat use, cargo aircraft such as the C-130, C-141, C-5, and C-16 aircraft, by H-53 helicopter can transport it or Marine ground vehicles can tow it wherever needed.

Once approved for production by the Naval Air Systems Command, Marines will receive the system to land Marine aircraft on “liberated” airfields, on fields the Navy Seabees construct, or even on remote roads.

Stateside, the system can be used on runways too short for some naval aircraft to land on and at airfields too expensive to extend.

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