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Firefighting Module NASA and the U.S. Coast Guard are working jointly to develop a helicopter transportable firefighting module that can shave precious minutes in combating shipboard or harbor fires. The program was undertaken in 1975, after a series of disastrous fires on oil tankers indicated a need for a lightweight, self-contained system that could be moved quickly to the scene of a fire. A prototype module was delivered to the Coast Guard last year and service testing is under way.



The compact module weighs little more than a ton but it contains everything needed to fight a fire. The key component is a high output pump, which delivers up to 2,000 gallons of sea water a minute; the pump can be brought up to maximum output in only one minute after turning on the power source, a small Allison gas turbine engine. The module also contains hose, a foam nozzle and a spray nozzle, three sets of protective clothing for firefighters, and fuel for three hours operation. Designed to be assembled without special tools, the module can be set up for operation in less than 20 minutes.

Helicopter transportability saves time either by direct air delivery of the module to the fire locale or by delivery to the deck of a ship already en route to the scene. The airlift capability makes feasible broader use of the module beyond the Coast Guard application, for example, firefighting in forests or other land areas adjacent to water. Where road delivery is possible, the module can be mounted on a trailer or a light truck as in the Firefly system pictured at the top of the page. The unit is also adaptable to non-firefighting applications requiring a small, mobile, high performance pumping system—emergency water removal, for example.

Module development is being directed by NASA's Marshall Space Flight Center, which acquired extensive experience from space projects involving high-capacity rocket engine pumps, lightweight materials and compact packaging. Marshall's contractor for design and construction of the module is Northern Research and Engineering Corporation, Cambridge, Massachusetts. Northern Research is working with Aviation Power Supply, Inc., Burbank, California, to develop the Firefly system, shown undergoing test above. Firefly is a commercial version of the NASA/Coast Guard module which uses the same pump and other components.

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