

POWER/WORK/ENERGY

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With Phibian, Gibbs Technologies Unleashes a Land Shark

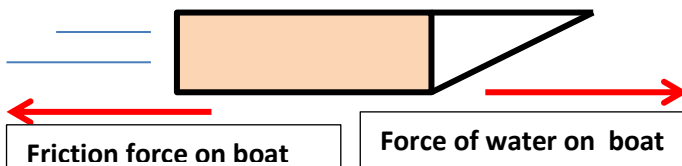


Mark Finkenstaedt/Gibbs AmphibiansThe Phibian, on the Potomac River Tuesday.

Producing a flying car is an enduring goal of aeronautical engineers, but until then, swimming cars ably provide the gee-whiz factor. The most recent proof came this week from [Gibbs Technologies](#), a company founded in 1996 by Alan Gibbs, an entrepreneur from New Zealand. On Tuesday, the company demonstrated its newest model on land and in the waters of the Potomac River, at the Columbia Island Marina in Arlington, Va. The Phibian, a sinister-looking mashup of patrol boat and patrol truck, performed with the Capitol and Washington Monument on the horizon, while members of the [American Society of Naval Engineers](#), in town for their annual meeting, looked on from the riverbank. The so-called **amphitruck** can transition from terra firma to aquatic mode in under 10 seconds, and **reach 30 miles per hour on water** and highway speeds on land, the company claims. It is **driven by a 500-horsepower twin-turbo diesel engine** with twin jets, and is built primarily of carbon fiber. The Phibian's smaller sibling, called the [Humdinga](#), uses a single V-8 and is not explicitly intended for patrol and rescue applications.

INTRODUCTION: Power = Work/time = $F \times t = F v$. $F v =$ instantaneous power. 550 ft lb/s = 1 HP

QUESTION: Find the two forces below from the information given in the article above?



HINT: 60 MPH = 88 ft/s **ANSWER:** 6,250 LB