

## Sand Flea robot is set to leap into reconnaissance (w/ video)

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(PhysOrg.com) -- Boston Dynamics' video gallery of troop-supporting robots that trek and haul loads has a new addition that is drawing a sea of impressed viewers. It's the Sand Flea Robot, an eleven-pound wonder that jumps 30 feet high, with a style that stands out in the world of jumping robots. The entertainment value in watching the video is due to the new features that Boston Dynamics injected into it, following the debut of its jumping-robot predecessor, Precision Urban Hopper.

The Precision Urban Hopper, which was developed as a project between [Boston Dynamics](#) and Sandia National Labs, was, like the Sand Flea, a four-wheeled device that could jump and hurl itself over fences. It could jump as high as 25 feet. The difference is that Sand Flea can do 30 feet and the newcomer jumps in a different fashion.

The Precision Hopper jumped while it moved, rolling forward. The Sand Flea moves in a more interesting way; it stops, goes back, and launches itself up into the air—a halt, aim, and prepare for liftoff procedure. A small platform on its underside serves to prop Sand Flea up onto its wheels and then go up.

“Astonishing jumping skills”; “one of the most incredible robotic feats I have ever seen”; the two remarks about the Sand Flea video were typical reactions of viewers, all of who have followed Massachusetts-based Boston Dynamics military [robot](#) introductions, from BigDog to PETMAN to the galloping Cheetah.

Numerous stats surrounding the Sand Flea include its ability to jump two stories high, up to 30 feet in the air, no difficulties in clearing obstacles, and able to make 25 jumps in a row before requiring a refill. Carbon dioxide-powered pistons help it launch.

According to Boston Dynamics’ notes on its video, “an onboard stabilization system keeps it oriented during flight to improve the view from the video uplink and to control landings.”

As the video indicates, the Sand Flea can easily drive around rocky, difficult terrain with its four wheels as an agile car but then prepare itself for takeoff if needed.

Its ultimate destination is Afghanistan, according to reports. Before that, the Sand Flea will undergo safety and reliability checks at the Army Test

and Evaluation Command (ATEC). The intended use of Sand Flea is as a ruggedized reconnaissance robot. Sand Flea will help soldiers run reconnaissance mission and other tasks. After passing evaluations in the U.S., the robots will be tested in Afghanistan, for tasks like hopping over walls and relaying video back while in the air.

The military uses more than 2,000 robots in Afghanistan, according to reports. The current development of Sand Flea is funded by the Rapid Equipping Force of the U.S. Army.

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