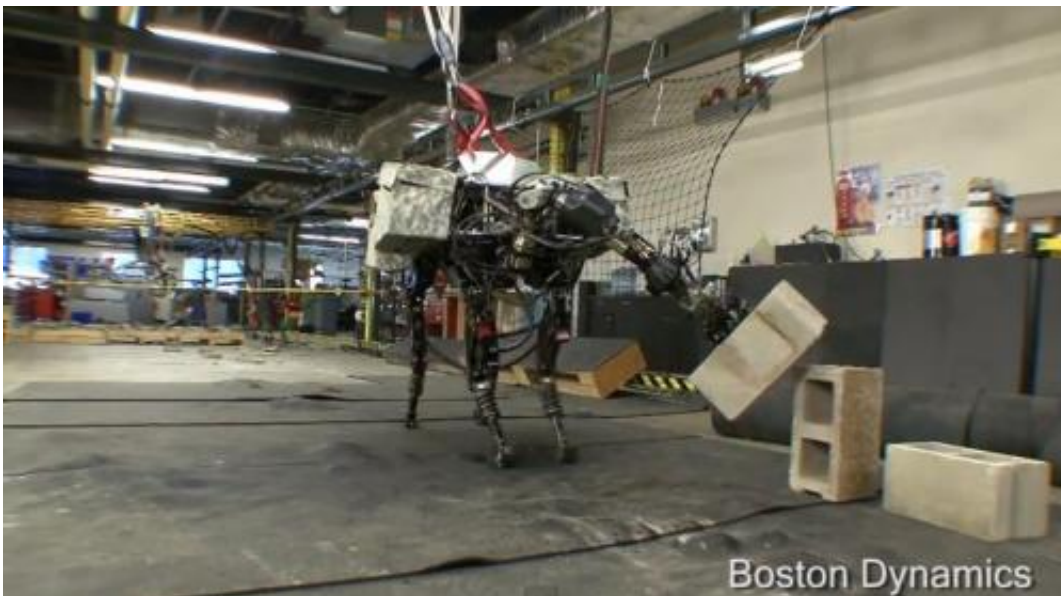


# Now Boston Dynamics' BigDog can lift and toss (w/ video)

March 3 2013, by Nancy Owano

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(Phys.org) —Boston Dynamics' DARPA-funded robotic dog has been upgraded with added functions for military support in hauling gear on rough terrain, Its new appendage is called various things—a "kind of head," a "face-arm," and a "canine elephant trunk." Whatever the terminology, BigDog has a new appendage to its torso that resembles a head. Boston Dynamic's goal of increasing versatility of roles took a page from movements by human athletes. They use the strength of their legs and torso to help power their arm actions. Likewise, Boston

Dynamics is giving BigDog an enhanced ability to rely on its entire body for throwing heavy objects around, with an appendage powerful enough to lift and throw the objects aside.

As a BigDog video shows, the entire body goes to work with fancy step-work to throw fifty-pound objects over its shoulder, grasping a block with "jaws" and flinging it out of the way. The idea is to make BigDog successfully cope with heavy objects that need to be hurled out of the way.

BigDog is the "alpha male" of the [Boston Dynamics](#) robots, a [rough-terrain](#) robot that walks, runs, climbs and carries heavy loads.

BigDog is the size of a large dog or small mule; about 3 feet long, 2.5 feet tall and weighs 240 lbs. The grasp-and-toss enhancement follows a number of feats accomplished by this robot. BigDog can run at four miles per hour, walk across the roughest terrain, make its way through mud and snow (its four legs are articulated like an animal's, with compliant elements to recycle energy from one step to the next). The robot carries 300-plus pound loads. According to Boston Dynamics, [BigDog](#) covered 12.8 miles without stopping or refueling, setting a world record for legged vehicles.

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