

Spiderman, squid inspire innovative ways of stopping runaway drivers

Celluloid superhero Spiderman and the giant squid are inspiring scientists to think of innovative ways to stop erring drivers in their tracks.

Runaway drivers are a common problem for law enforcement. They just won't stop unless 'persuaded' by bullets, barriers, spikes, or snares, all of them a risky business indeed.

Shooting up a fugitive's car may be a possibility - but what if children or hostages are in it? Lay down barriers, and the driver might swerve into a school bus. Spike his tires, and he might fishtail into a van - if the spikes stop him at all.

Existing traps, made from elastic, may halt a Hyundai, but they're no match for a Hummer. In addition, officers put themselves at risk of being run down while setting up the traps.

But what if a policeman could lay down a road trap in seconds, then activate it from a nearby hiding place? What if - like sea monsters of ancient lore - the trap could reach up from below to ensnare anything from a MINI Cooper to a Ford Expedition? What if this trap were as small as a spare tire, as light as a tire jack, and cost under a grand?

Thanks to imaginative design and engineering funded by the Small Business Innovation Research (SBIR) Office of the US Department of Homeland Security's Science and Technology Directorate (S and amp;T), such a trap may be possible by 2010.

It's called the Safe Quick Undercarriage Immobilisation Device or SQUID. When closed, the current prototype resembles a cheese wheel full of holes. When deployed, it becomes a mass of tentacles entangling the axles. By stopping the axles instead of the wheels, SQUID may change how fleeing drivers are, quite literally, caught.

The 1.5-foot-wide disc was conceived and developed by Engineering Science Analysis Corporation (ESA) of Tempe, Arizona. S and amp;T's Borders and Maritime Security Division manages the project.

'SQUID was inspired by a sea creature and a superhero,' says ESA president Martín Martínez. Like its oceanic namesake, SQUID ensnares its prey with sticky tendrils. Like Spiderman's webbing, these tendrils stretch to absorb the kinetic energy of their fleeing target, said a SBIR release.

Huge amounts of such counterforce are necessary to stop a heavy, swift vehicle: Think Spiderman II, where Spidey stretched his webbing for blocks to halt a runaway passenger train.

The force nearly killed him. Martínez took a different approach that would have made Spidey proud: Don't fight the Force; just stop the axles from turning. Do that and you can stop (almost) anything with wheels.

Can it really work? Martínez and DHS think so. In testing, a SQUID prototype safely stopped a 35 mph pickup truck. Meanwhile, the spidery disc has lured the interest of state and local police as well as federal agencies such as Customs and Border Protection (CBP) and Immigration and Customs Enforcement (ICE).

In response to concerns about whether criminals will see the disc, SQUID may be reborn as a centipede - that happens to look like a speed bump.

(© IANS / India eNews)