

Remote Vehicle Inspection



OCRobotics has been working with the UK MoD to introduce a new breed of robot capable of reaching into awkward spaces. Where a rigid-link robot is restricted by the "elbows" in its arms, a snake-arm can follow its nose to reach through small gaps and around narrowly spaced obstacles.

In April 2003, OCRobotics signed a contract with the UK MoD to build a snake-arm robot to be used on a remote vehicle. The arm had to be 2.5m long and able to carry a payload of 25kg. It also had to be capable of towing a car.

Quick release

The arm itself is the cheapest part of the system, meaning that if it is damaged during operation it can be replaced at lower cost. OCRobotics has designed the system so that the arm can be detached remotely allowing the robot to discard its arm, for example if it gets trapped or wedged, and return to the operator so that a new arm can be attached. Arms can be quickly hot-swapped if a different tool or arm size is required.



Trials



OCRobotics successfully demonstrated the capability of the arm by reaching into a car through an open window. The arm was able to reach under the steering wheel into the driver's foot-well. OCRobotics also demonstrated the arm inspecting the back seat of the car as well as underneath the car and behind the wheels. Tip-mounted camera and lights provided the operator with remote views of the car.

The contract stated that the arm must be strong enough to tow a car. OCRobotics snake-arms are axially strong because of the high loading ability of the wires running along their length and the robot was demonstrated towing a car.

Please ContactUs@OCRobotics.com for more information on this project.