

Method and Associated Apparatus for Capturing, Servicing and De-Orbiting Earth Satellites Using Robotics

Case Number: GSC- 15002-4
Patent Number: 7,438,264
Patent Exp. Date: 5/6/2025

DESCRIPTION

This invention is a robotic vehicle for servicing satellites. The vehicle has an ejection module with a robot system for servicing the spacecraft e.g. satellite, where the system has a grapple arm. The robot system is autonomously controlled by commands that are subject to override by a remote operator in telecommunication with the vehicle. A de-orbit module has relative and absolute navigation sensors for determining absolute vehicle attitude and relative attitude between the vehicle and the other spacecraft. The ejection module has stowage area for tools, parts and instruments needed in servicing the spacecraft.

FEATURES AND BENEFITS

- The robotic vehicle allows the robot system to execute a sequence of instructions without intervention from a remote human-occupied location, and rendezvous with another satellite for servicing, and allows to direct the landing of the spent satellite in a safe location away from population centers, such as ocean, thus allowing to provide servicing of satellites and other spacecraft without human presence on or near the spacecraft.

APPLICATIONS

- Robotics
- Communications
- Weather
- Earth Remote Sensing
- Defense

FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-15002-4, please contact:

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