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(54) **MODULAR AUTONOMOUS BOT
APPARATUS ASSEMBLY FOR
TRANSPORTING AN ITEM BEING SHIPPED**

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(57) **ABSTRACT**

A modular autonomous bot apparatus assembly is described for transporting an item being shipped. The assembly includes a modular mobility base having propulsion, steering, sensors for collision avoidance, and suspension actuators; a modular auxiliary power module with a power source and cargo door; a modular cargo storage system with folding structural walls and a latching system; and a modular mobile autonomy module that covers the cargo storage system and provides human interaction interfaces, external sensors, a wireless interface, and an autonomous controller with interfacing circuitry coupled to the human interaction interfaces and sensors on the mobile autonomy module. The assembly has a power and data transport bus that provides a communication and power conduit across the different modular components. A method for on-demand assembly of such a bot apparatus is further described with steps for authenticating the different modular components during assembly.

