

Title (en)

METHOD FOR CONTROLLING A ROBOT MANIPULATOR FOR SCREWING IN A SCREW

Title (de)

VERFAHREN ZUR STEUERUNG EINES ROBOTERMANIPULATORS ZUM EINDREHEN EINER SCHRAUBE

Title (fr)

PROCÉDÉ DE COMMANDE D'UN ROBOT MANIPULATEUR POUR LE VISSAGE D'UNE VIS

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Application

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Abstract (en)

[origin: WO2017186636A1] The invention relates to a method and a device for controlling a movable robot manipulator for screwing in a screw at least already plugged into a thread, wherein the screw has a screw head with a tool engagement interface, the robot manipulator has at its distal end a tool which is designed to engage in the tool engagement interface, the screw has a screw central axis, and the tool has a tool central axis about which the tool on the robot manipulator is rotatable. The proposed method comprises the following steps of: defining (101) a position of the tool engagement interface of the screw at least plugged into the thread, positioning (102) the tool over the tool engagement interface and orienting the tool central axis with a maximum deviation of 8° concentrically with the screw central axis, with force-regulated and/or impedance-regulated closed tilting movements of the tool central axis, moving (103) the tool along the tool central axis into the tool engagement interface until there is a connection between the tool and tool engagement interface, screwing in (104) the screw in a first direction of rotation of the tool until a defined limit value G1 of a torque/force acting on the tool has been reached or exceeded, once the limit value G1 has been reached or exceeded, turning back (105) the tool counter to the first direction of rotation through a defined angle in the range of [0.01° to 10°], and removing (106) the tool from the tool engagement interface along the tool central axis.

IPC 8 full level

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Citation (search report)

See references of WO 2017186636A1

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