Title (en)

METHOD AND DEVICE FOR THE POSITIONALLY PRECISE MOUNTING OF A HINGED FLAP ON A PART

Title (de)

VERFAHREN UND VORRICHTUNG ZUR LAGEGENAUEN MONTAGE EINER KLAPPE AN EINEM BAUTEIL

Title (fr)

PROCEDE ET DISPOSITIF POUR MONTER DANS UNE POSITION PRECISE UN VOLET SUR UNE PIECE

Publication

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Application

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Abstract (en)

[origin: WO2004026537A2] The invention relates to a method for producing a connection area (4) on a production part (1), particularly on an autobody sheet, which should be precisely positioned with regard to a reference area (8) on the production part (1). To this end, a robot-guided processing tool (9) is used, which is connected in a fixed manner to a sensor system (13) and which forms a tool/sensor combination (16) therewith. Within the scope of a positioning phase (II), the tool/sensor combination (16) is, in a first step, moved from a proximity position (24), which is independent of the position of the production part (1) in the working area (23) of the robot (11), and into an anticipation position (18), in which the tool/sensor combination (16) is aligned in a positionally precise manner with regard to the reference area (8) of the production part (1). In order to approach the anticipation position (18), an iterative control process is run through over the course of which an (actual) measured value of the sensor system (13) is firstly generated that is compared to a (set) measured value generated within the scope of a setting-up phase. A displacement vector of the tool/sensor combination (16) is calculated based on the difference between the (actual) measured value and (set) measured value while using a Jacobian matrix that is calculated within the scope of the setting-up phase, and the tool/sensor combination (16) is displaced by this displacement vector. A metric calibration of the too/sensor combination (16) can be forgone in order to perform this positioning task.

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Citation (third parties)

Third party :

DE 19930087 A1 20010111 - TASSAKOS CHARALAMBOS [DE]

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