

Title (en)
CALIBRATION METHOD OF A HYDRAULIC PUMP CONTROL SYSTEM

Title (de)
KALIBRIERVERFAHREN EINES HYDRAULISCHEN PUMPENSTEUERSYSTEMS

Title (fr)
MÉTHODE DE CALIBRAGE D'UN SYSTÈME DE CONTRÔLE DE POMPE HYDRAULIQUE

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Application
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Abstract (en)
The present invention relates to a method for calibrating a hydraulic pump control system (12) for a hydrostatic drive system, wherein said hydrostatic drive system comprises said hydraulic pump (12), the rotation of which is provided by a drive motor, and at least one hydraulic motor connected in a closed circuit to said hydraulic pump (12), wherein said hydraulic pump (12) has an adjusting unit (4) for adjusting the displacement of said hydraulic pump, wherein said displacement is adjustable by adjusting an angle of inclination (α_{pmp}) of an inclined element (2), wherein said adjusting unit (4) has an adjusting cylinder (6) with a first adjusting pressure chamber (8₁) in which, by means of a first valve (18₁) it is possible to set a first control pressure (p_{st1}) that depends on a first current intensity (I_{1}) of the first valve (18₁) and that is configured to affect the inclination (α_{pmp}) of said inclined element (2), wherein said control unit (4) is configured so that an increase in the delivery pressure of the hydraulic pump (2) tends to cause a reduction in the displacement of the hydraulic pump (12), said control system includes a function for calculating said first current intensity (I_{1}) and/or said first control pressure as a function of a rotational speed of said drive motor or a quantity dependent thereon and on the basis of said angle of inclination (α_{pmp}); said method being characterized by the fact that said function is calibrated and by the fact that said calibration includes said steps: a. Define at least a first state of said hydrostatic drive system at which said calibration is to be performed, wherein said first state comprises one or more operating conditions, wherein each operating condition comprises a discharge pressure value of said hydraulic pump (12); b. Measure the value of said first current intensity (I_{1}) and/or said first control pressure required to arrive at each operating condition; c. Compare the value of said first current intensity (I_{1}) and/or said first control pressure with a reference value of each operating condition; d. Correct said function according to the comparison made at said step c.

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Citation (applicant)
• DE 102018210694 A1 20200102 - BOSCH GMBH ROBERT [DE]
• DE 102020207284 A1 20211216 - BOSCH GMBH ROBERT [DE]

Citation (search report)
• [X] US 2020003303 A1 20200102 - WERNER FRANZ [DE], et al
• [A] US 2021025374 A1 20210128 - MUEHLBAUER FLORIAN [DE], et al
• [A] US 2020003206 A1 20200102 - MUELLER MATTHIAS [DE], et al

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