

Title (en)
Method to calibrate an electronic dynamometric wrench.

Title (de)
Verfahren zum Kalibrieren eines elektronischen Drehmomentschlüssels.

Title (fr)
Procédé d'étalonnage pour clé dynamométrique.

Publication
EP 0293310 A1 19881130 (FR)

Application
EP 88420167 A 19880526

Priority
FR 8707833 A 19870527

Abstract (en)
[origin: US4864841A] An electronic torque wrench equipped with at least two strain gages placed on both sides of a crosswise plane on a part forming a sensor and each supplying an output voltage, C1 and C2 respectively, which, depending on torque C applied by the wrench to an actuation point A, reacts on an electronic circuit indicating this torque. The wrench comprises a first electronic circuit for determining and storing a constant factor k during a calibration measurement for which torque C is applied at actuation point A is made zero by a parasitic force F' applied in the opposite direction of actuation force F and at a point E of the wrench other than point B of application of the latter force F, the constant factor k being used during each use of the wrench by the electronic circuit to determine, with second circuit and by application of the formula $C=C_1+k(C_1-C_2)$, the value of torque C applied to actuation point A as a function of torques C1 and C2 actually measured respectively by the at least two strain gages.

Abstract (fr)
Cette clé, qui comporte deux jauges de contrainte de résistances ($R_{5/}$ et $R_{6/}$), est apte à calculer électroniquement le couple exercé, en utilisant la formule : $C = C_i + k (C_i - C_{2/})$. Pour fixer k, on règle un potentiomètre (25) de l'étage d'entrée formant calculateur analogique (à soustracteur 21 puis additionneur 27) pour que le couple affiché par la clé marque 0. On réalise cette opération en rendant le couple réel (C) nul par application d'une force parasite.

IPC 1-7
B25B 23/142

IPC 8 full level
B25B 23/142 (2006.01); **B25B 23/144** (2006.01)

CPC (source: EP US)
B25B 23/1425 (2013.01 - EP US)

Citation (search report)

- [AD] DE 3139374 A1 19830414 - STAIGER MOHILO & CO GMBH [DE]
- [AD] US 4006629 A 19770208 - BARRETT GARY L, et al
- [A] WO 8700109 A1 19870115 - GEORGES RENAULT INNOVATIONS [FR]
- [A] EP 0100023 A2 19840208 - JOMI TRUST REG [LI]
- [A] FR 2538741 A1 19840706 - FACOM [FR]
- [A] FR 2242202 A1 19750328 - TONICHI MFG CO LTD [JP]
- [AD] EP 0172119 A1 19860219 - STEPHANOISES FORGES [FR]
- [A] EP 0172120 A1 19860219 - STEPHANOISES FORGES [FR]
- [A] US 3970155 A 19760720 - OTTO WILLIAM M
- [A] US 3995477 A 19761207 - ALMOND BARRY
- [A] DE 3512969 A1 19861016 - STAIGER MOHILO & CO GMBH [DE]

Cited by
EP0633100A1; FR2707395A1; US5503028A

Designated contracting state (EPC)
AT BE CH DE ES FR GB GR IT LI LU NL SE

DOCDB simple family (publication)
EP 0293310 A1 19881130; EP 0293310 B1 19910508; AT E63251 T1 19910515; DE 3862682 D1 19910613; ES 2022688 B3 19911201; FR 2615948 A1 19881202; FR 2615948 B1 19891027; US 4864841 A 19890912

DOCDB simple family (application)
EP 88420167 A 19880526; AT 88420167 T 19880526; DE 3862682 T 19880526; ES 88420167 T 19880526; FR 8707833 A 19870527; US 19987788 A 19880527