

Title (en)
AUTOMOTIVE DRIVE TRAIN HAVING A THREE-CYLINDER ENGINE

Title (de)
KRAFTFAHRZEUG-ANTRIEBSSTRANG MIT EINEM 3-ZYLINDER-MOTOR

Title (fr)
CHAÎNE CINÉMATIQUE D'AUTOMOBILE A MOTEUR A TROIS CYLINDRES

Publication
EP 1948971 A1 20080730 (DE)

Application
EP 06805469 A 20061021

Priority
• DE 2006001872 W 20061021
• DE 102005053606 A 20051110

Abstract (en)
[origin: WO2007054060A1] The invention relates to an automotive drive train having an internal combustion engine (266) that is configured as a three-cylinder engine and a hydrodynamic torque converter device. Said device has a torsional vibration damper consisting of two energy accumulating devices (272, 276) and a converter lockup clutch (268). The turbine wheel (274) is interposed between the two energy accumulating devices (272, 276). According to the invention, ranges of values or ratios for following parameters are claimed: maximum engine torque $M_{\text{mot,max}}(266)$, spring rate $C_1(272)$, mass moment of inertia $J_1(274)$, spring rate $C_2(276)$, mass moment of inertia $J_2(278)$ and spring rate C_{GEW} of the transmission input shaft (280). The mass moment of inertia J_1 should be high between the two energy accumulating devices (272, 276) and masses should be as little as possible between the torsional vibration damper and the transmission input shaft. Figure 5 shows a spring-mass equivalent circuit diagram with closed converter lockup clutch (268).

IPC 8 full level
F16H 45/02 (2006.01); **F16F 15/123** (2006.01)

CPC (source: EP KR US)
F16F 15/123 (2013.01 - KR); **F16F 15/12353** (2013.01 - EP US); **F16H 45/02** (2013.01 - EP KR US); **F16H 2045/007** (2013.01 - EP US); **F16H 2045/0226** (2013.01 - EP US); **F16H 2045/0231** (2013.01 - EP US); **F16H 2045/0247** (2013.01 - EP US); **F16H 2045/0284** (2013.01 - EP US)

Citation (search report)
See references of WO 2007054060A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
WO 2007054060 A1 20070518; CN 101305210 A 20081112; DE 112006002797 A5 20080904; DE 112006002797 B4 20181220; EP 1948971 A1 20080730; JP 2009515119 A 20090409; KR 20080065647 A 20080714; US 2009272108 A1 20091105

DOCDB simple family (application)
DE 2006001872 W 20061021; CN 200680042049 A 20061021; DE 112006002797 T 20061021; EP 06805469 A 20061021; JP 2008539232 A 20061021; KR 20087011134 A 20080509; US 8473406 A 20061021