

Title (en)

AUTOMOTIVE DRIVE TRAIN HAVING A FIVE-CYLINDER ENGINE

Title (de)

KRAFTFAHRZEUG-ANTRIEBSSTRANG MIT EINEM 5-ZYLINDER-MOTOR

Title (fr)

CHAÎNE CINÉMATIQUE D'AUTOMOBILE À MOTEUR À CINQ CYLINDRES

Publication

**EP 1948970 A1 20080730 (DE)**

Application

**EP 06805468 A 20061021**

Priority

- DE 2006001871 W 20061021
- DE 102005053593 A 20051110

Abstract (en)

[origin: WO2007054059A1] The invention relates to an automotive drive train having an internal combustion engine (266) that is configured as a five-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  $M_{\text{mot,max}} </SUB>$  (266), spring rate  $C_{<SUB>1</SUB>}$  (272), mass moment of inertia  $J_{<SUB>1</SUB>}$  (274), spring rate  $C_{<SUB>2</SUB>}$  (276), mass moment of inertia  $J_{<SUB>2</SUB>}$  (278) and spring rate  $C_{\text{GEW}} </SUB>$  of the transmission input shaft (280). The mass moment of inertia  $J_{<SUB>1</SUB>}$  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 2007054059A1

Cited by

CN108368911A

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 2007054059 A1 20070518**; CN 101305219 A 20081112; DE 112006002795 A5 20080904; EP 1948970 A1 20080730; JP 2009515118 A 20090409; KR 20080066025 A 20080715; US 2009283376 A1 20091119

DOCDB simple family (application)

**DE 2006001871 W 20061021**; CN 200680042225 A 20061021; DE 112006002795 T 20061021; EP 06805468 A 20061021; JP 2008539231 A 20061021; KR 20087011129 A 20080509; US 8479806 A 20061021