

Title (en)

APPARATUS FOR SUPPRESSING TORSIONAL VIBRATION OF A CRANK SHAFT OF A DIESEL ENGINE

Publication

**EP 0447697 A3 19920304 (EN)**

Application

**EP 90250320 A 19901220**

Priority

JP 7195490 A 19900323

Abstract (en)

[origin: EP0447697A2] A suppressing apparatus of torsional vibration of a crank shaft of a diesel engine can effect suppression of a resonant stress by only adjustment of a fuel injection system. The suppressing apparatus of torsional vibration of the crank shaft of the diesel engine adjusts a fuel injection timing and a fuel injection period (injection amount) for each cylinder in the vicinity of a resonant point of torsional vibration properly and varies a characteristic curve of pressure in the cylinder with respect to a crank angle to reduce the magnitude of harmonic components of resonance order of torque added to each cylinder, or adjusts phase differences of the harmonic components for each cylinder and suppresses the resonant stress so as to cancel external force for the vibration mode. <IMAGE>

IPC 1-7

**F02D 41/14**; **F02D 41/34**

IPC 8 full level

**F02D 41/40** (2006.01); **F02D 41/14** (2006.01); **F02D 41/38** (2006.01); **F02B 3/06** (2006.01)

CPC (source: EP KR)

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Citation (search report)

- [Y] EP 0107523 A2 19840502 - BENDIX CORP [US]
- [Y] US 4172434 A 19791030 - COLES DONALD K [US]
- [A] US 4572130 A 19860225 - TSUKAMOTO KEISUKE [JP], et al
- [A] EP 0254005 A1 19880127 - SULZER AG [CH]
- [A] US 4418669 A 19831206 - JOHNSON EDWIN A [US], et al
- [A] PATENT ABSTRACTS OF JAPAN vol. 9, no. 149 (M-390)(1872) 25 June 1985 & JP-A-60 026 142 ( TOYOTA JIDOSHA K.K. ) 9 February 1985

Cited by

KR100940528B1; CN114060195A; CN100460648C; EP1739296A1; US6082330A; EP1435446A3; CN100422531C; CN115031978A; US6065449A; CN104865075A; EP2960477A4; US2014216413A1; EP2716898A4; US9732693B2; US7212900B2; US11459917B2; WO9807971A3; WO2017117289A1; US11131254B2; US11326533B2; WO2005124132A1; WO2005124133A1

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