

Title (en)

Device for controlling a valve timing for an internal combustion engine.

Title (de)

Ventilsteuerungsregelungsvorrichtung für Brennkraftmaschine.

Title (fr)

Dispositif de commande de calage de soupape pour moteur à combustion interne.

Publication

**EP 0640749 A1 19950301 (EN)**

Application

**EP 94113507 A 19940830**

Priority

JP 24060193 A 19930831

Abstract (en)

Device for controlling a valve timing for an internal combustion engine includes a cam selectively operating mechanism for selecting and operating one of low speed cams and high speed cams which have different advances or phase angles and are located on an intake cam 4 and an exhaust cam 5, respectively for a second cylinder and a third cylinder while the engine is in a cold and a range of low speeds, a rotation advance control mechanism for controlling a rotation advance of an exhaust cam on a cam shaft 7 in response to engine speeds variation, a cylinder control mechanism for interrupting an operation of first and fourth cylinders corresponding to partial engine loads, and a volume displacement pump for supplying oil in the form of steps to the rotation advance control mechanism and the cylinder control mechanism according to the engine speeds. <IMAGE>

IPC 1-7

**F01L 13/00**; **F01L 1/26**; **F01L 1/344**

IPC 8 full level

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CPC (source: EP)

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Citation (search report)

- [X] US 5103780 A 19920414 - ISHII AKIRA [JP]
- [A] US 5159905 A 19921103 - SUGIUCHI MASASHI [JP], et al
- [A] US 5031583 A 19910716 - KONNO TSUNEO [JP]
- [AP] EP 0583583 A2 19940223 - MITSUBISHI MOTORS CORP [JP]
- [A] US 5181485 A 19930126 - HIROSE ICHIRO [JP], et al
- [A] DE 3800347 C

Cited by

US9316127B2; EP1464813A1; CN102168615A; US6397800B2; EP0980965A3; EP1162350A3; DE112005001955B4; US2014283773A1; US6135077A; EP0818609A3; EP0915234A3; US9080472B2; US6332445B1; US6598569B2; WO2013083789A1; WO2008012549A1; WO2008098991A1; WO0142627A1

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