

Title (en)
A VALVE OPERATING MECHANISM FOR AN INTERNAL COMBUSTION ENGINE

Publication
EP 0474217 A3 19921125 (EN)

Application
EP 91114944 A 19910904

Priority
JP 23526890 A 19900904

Abstract (en)
[origin: EP0474217A2] The present invention relates to a self-operating mechanism for a 4-cycle internal combustion engine comprising more than two intake valves and a plurality of exhaust valves, specifically to a 5-valve engine. In order to provide sufficient space for the cooling jacket on the exhaust side of the cylinder head and/or increasing the valve lift of the exhaust valves without increasing the total height of the engine, the valve spring retainers of the exhaust valves together with the upper ends of the associated exhaust valve springs are accommodated inside the exhaust valve lifters, respectively, while the valve spring retainers of the intake valves are disposed adjacent to a lower end of the associated intake valve lifters. <IMAGE>

IPC 1-7
F01L 1/26; **F01L 3/10**; **F01L 1/14**

IPC 8 full level
F01L 1/02 (2006.01); **F01L 1/04** (2006.01); **F01L 1/14** (2006.01); **F01L 1/26** (2006.01); **F01L 3/10** (2006.01); **F02B 75/22** (2006.01); **F02F 1/42** (2006.01); **F02F 7/00** (2006.01); **F02B 1/04** (2006.01); **F02B 75/02** (2006.01); **F02F 1/24** (2006.01)

CPC (source: EP)
F01L 1/02 (2013.01); **F01L 1/022** (2013.01); **F01L 1/024** (2013.01); **F01L 1/026** (2013.01); **F01L 1/04** (2013.01); **F01L 1/143** (2013.01); **F01L 1/265** (2013.01); **F01L 3/10** (2013.01); **F02B 75/22** (2013.01); **F02F 1/4221** (2013.01); **F02F 7/0012** (2013.01); **F01L 2001/0537** (2013.01); **F02B 1/04** (2013.01); **F02B 2075/027** (2013.01); **F02B 2275/18** (2013.01); **F02F 2001/245** (2013.01); **F02F 2200/06** (2013.01)

Citation (search report)

- [Y] DE 3724495 A1 19890202 - AUDI AG [DE]
- [Y] US 4615309 A 19861007 - YOSHIKAWA MASAOKI [JP]
- [E] PATENT ABSTRACTS OF JAPAN vol. 015, no. 497 (M-1192)16 December 1991 & JP-A-03 217 606 (YAMAHA MOTOR CO LTD) 25 September 1991
- [A] PATENT ABSTRACTS OF JAPAN vol. 014, no. 355 (M-1004)31 July 1990 & JP-A-2 123 207 (YAMAHA MOTOR CO LTD) 10 May 1990
- [A] PATENT ABSTRACTS OF JAPAN vol. 011, no. 323 (M-634)21 October 1987 & JP-A-62 107 211 (YAMAHA MOTOR CO LTD) 18 May 1987

Cited by
US5685265A; EP0661418A1

Designated contracting state (EPC)
DE FR GB IT

DOCDB simple family (publication)
EP 0474217 A2 19920311; **EP 0474217 A3 19921125**; **EP 0474217 B1 19960724**; DE 69121030 D1 19960829; DE 69121030 T2 19961212; DE 69131403 D1 19990805; DE 69131403 T2 19991028; EP 0691457 A2 19960110; EP 0691457 A3 19960306; EP 0691457 B1 19990630; JP 2950953 B2 19990920; JP H04116209 A 19920416

DOCDB simple family (application)
EP 91114944 A 19910904; DE 69121030 T 19910904; DE 69131403 T 19910904; EP 95114828 A 19910904; JP 23526890 A 19900904