

Title (en)  
Four-stroke internal combustion engine

Title (de)  
Viertaktbrennkraftmaschine

Title (fr)  
Moteur à combustion interne à quatre temps

Publication  
**EP 1267052 B1 20041229 (EN)**

Application  
**EP 02020879 A 20000113**

Priority  
• EP 00904332 A 20000113  
• US 11721599 P 19990125

Abstract (en)  
[origin: EP1486652A1] A four-stroke internal combustion engine (20) is provided. There is provided within an engine housing (28) an oil reservoir (126) and a valve chamber (156) which independently communicate with a crank chamber (124). A strategically placed divider (116) and passageway, located within the engine housing (28), appropriately direct lubricant within the engine housing (28) so that the internal cavity of the engine is lubricated during use in various operating attitudes, and so that the fluid flows to and is held in the proper chambers of the engine housing during storage. There is also provided a breather arrangement for an internal combustion engine (20) which includes a cam shaft (98) having a hollow passageway in communication with the crank chamber (124) and the air intake system of the engine. There is also provided an engine housing which can be utilized for engines having different horse power ratings. There is also provided a crankshaft bearing assembly (68, 70) which prevents damage to the bearing upon insertion of the crankshaft (80) into the crank chamber (124). <IMAGE>

IPC 1-7  
**F02B 63/02**; **F02B 75/16**

IPC 8 full level  
**F01M 1/04** (2006.01); **F01M 3/00** (2006.01); **F01M 9/10** (2006.01); **F01M 11/00** (2006.01); **F01M 11/06** (2006.01); **F01M 13/02** (2006.01); **F02B 63/02** (2006.01); **F02B 69/00** (2006.01); **F02B 75/16** (2006.01); **F02F 1/30** (2006.01); **F01M 1/06** (2006.01); **F01M 13/04** (2006.01); **F02B 1/04** (2006.01); **F02B 75/02** (2006.01)

CPC (source: EP)  
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Citation (examination)  
• US 5857439 A 19990112 - WILL LAWRENCE N [US], et al  
• US 5000126 A 19910319 - ISAKA YOSHIHARU [JP], et al

Cited by  
CN113250802A; FR3133653A1

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DE DK FR GB IT SE

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**EP 1486652 A1 20041215**; **EP 1486652 B1 20061018**; DK 1147298 T3 20050627; DK 1267056 T3 20050627; EP 1267052 A1 20021218; EP 1267052 B1 20041229; EP 1267053 A1 20021218; EP 1267054 A1 20021218; EP 1267054 B1 20041229; EP 1267055 A1 20021218; EP 1267056 A1 20021218; EP 1267056 B1 20050323

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**EP 04022245 A 20000113**; DK 00904332 T 20000113; DK 02021231 T 20000113; EP 02020879 A 20000113; EP 02020880 A 20000113; EP 02020881 A 20000113; EP 02021230 A 20000113; EP 02021231 A 20000113