

Title (en)
FUEL PUMP WITH MULTIPLE CAMS

Title (de)
KRAFTSTOFFPUMPE MIT MEHREREN NOCKEN

Title (fr)
POMPE A CARBURANT AVEC PLUSIEURS CAMES

Publication
EP 1685325 B1 20070321 (EN)

Application
EP 04768917 A 20041015

Priority

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Abstract (en)
[origin: WO2005038234A1] An engine fuel system having a multiple number of engine cylinders and at least three pump units, but which are less in total number than the number of engine cylinders, with each pump unit having a plunger (14a, 14b, 14c) and an associated drive arrangement including a cam (24a, 24b, 24c) mounted upon a pump drive shaft (26) that is common to the cams of each of the other pump units. First and second ones of the cams (24a, 24b) are shaped to be substantially identical and to include at least one rising flank to enable a plunger pumping stroke and at least one falling flank to enable a plunger return stroke. A third one of the cams (24c) is shaped in a dissimilar manner, but also to include at least one rising flank to enable a plunger pumping stroke and at least one falling flank to enable a plunger return stroke. The first, second and third cams (24a, 24b, 24c) are oriented relative to each other on the pump drive shaft (26) such that the pumping strokes of the plungers (14a, 14b, 14c) are substantially equally spaced in time and so that during a substantially complete revolution of the pump drive shaft (26) provide a total number of pumping strokes equal to the number of engine cylinders. This enables the pump drive shaft (26) to be driven at the same speed as the drive shaft of the engine, or at an integer multiple of the speed of the engine drive shaft.

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