

SECTION F – MECHANICAL ENGINEERING; LIGHTING; HEATING; WEAPONS; BLASTING

F01 MACHINES OR ENGINES IN GENERAL (combustion engines F02; machines for liquids F03, F04); ENGINE PLANTS IN GENERAL; STEAM ENGINES

F01M LUBRICATING OF MACHINES OR ENGINES IN GENERAL (lubricating in general F16N); LUBRICATING INTERNAL-COMBUSTION ENGINES; CRANKCASE VENTILATING [2]

- (1) Attention is drawn to the Notes preceding class F01, especially as regards Note (3).
 (2) Attention is drawn to the following places, which cover lubrication of specific machines or engines: [8]
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|------|-------|---|
| F01B | 31/10 | Steam engines |
| F01C | 21/04 | Rotary-piston or oscillating-piston machines or engines |
| F01D | 25/18 | Non-positive-displacement machines |
| F02C | 7/06 | Gas-turbine plants |
| F02F | 1/20 | Cylinders of combustion engines |
| F04B | 39/02 | Pumps for elastic fluids |
| F04C | 29/02 | Rotary-piston or oscillating-piston pumps for liquids |
| F04D | 29/04 | Non-positive-displacement pumps |

PRESSURE LUBRICATION	1/00	LUBRICANT CONDITIONING	5/00
SPECIAL LUBRICATION	3/00, 7/00, 9/00	DETAILS, ACCESSORIES	11/00
		CRANKCASE VENTILATION	13/00

1/00 Pressure lubrication

- 1/02 . using lubricating pumps (pumps in general F04; lubricating pumps per se F16N)
- 1/04 . using pressure in working cylinder or crankcase to operate lubricant-feeding devices
- 1/06 . Lubricating systems characterised by the provision therein of crankshafts or connecting-rods with lubricant passageways, e.g. bores (crankshafts, connecting-rods, per se F16C)
- 1/08 . Lubricating systems characterised by the provision therein of lubricant-jetting means
- 1/10 . Lubricating systems characterised by the provision therein of lubricant venting or purifying means, e.g. of filters (mounting of, connecting of, or constructional details of lubricant purifying means F01M 11/03)
- 1/12 . Closed-circuit lubricating systems not provided for in groups F01M 1/02 F01M 1/10
- 1/14 . Timed lubrication (F01M 1/08 takes precedence)
- 1/16 . Controlling lubricant pressure or quantity (rendering machines or engines inoperative or idling on lubricant-pressure failure F01M 1/22)
- 1/18 . Indicating or safety devices (concerning lubricant level F01M 11/06, F01M 11/12)
- 1/20 . . . concerning lubricant pressure (measuring fluid pressure in general G01L)
- 1/22 . . . rendering machines or engines inoperative or idling on pressure failure
- 1/24 acting on engine fuel system
- 1/26 acting on engine ignition system
- 1/28 acting on engine combustion-air supply

- 3/00 Lubrication specially adapted for engines with crankcase compression of fuel-air mixture, or for other engines in which lubricant is contained in fuel, combustion air, or fuel-air mixture (separating lubricant from air or fuel-air mixture before entry into cylinder F01M 11/08)
- 3/02 . with variable proportion of lubricant to fuel, lubricant to air, or lubricant to fuel-air mixture
- 3/04 . for upper cylinder lubrication only
- 5/00 Heating, cooling, or controlling temperature of lubricant (arrangement of lubricant coolers in engine cooling system F01P 11/08); Lubrication means facilitating engine starting
- 5/02 . Conditioning lubricant for aiding engine starting, e.g. heating
- 5/04 . . Diluting, e.g. with fuel
- 7/00 Lubrication means specially adapted for machine or engine running-in
- 9/00 Lubrication means having pertinent characteristics not provided for in, or of interest apart from, groups F01M 1/00 F01M 7/00
- 9/02 . having means for introducing additives to lubricant
- 9/04 . Use of fuel as lubricant
- 9/06 . Dip or splash lubrication
- 9/08 . Drip lubrication
- 9/10 . Lubrication of valve gear or auxiliaries
- 9/12 . Non-pressurised lubrication, or non-closed-circuit lubrication, not otherwise provided for

F01M

11/00 **Component parts, details, or accessories, not provided for in, or of interest apart from, groups F01M 1/00 F01M 9/00**

- 11/02 . Arrangements of lubricant conduits
- 11/03 . Mounting or connecting of lubricant purifying means relative to the machine or engine; Details of lubricant purifying means (filters B01D) [3]
- 11/04 . Filling or draining lubricant of or from machines or engines
- 11/06 . Means for keeping lubricant level constant or for accommodating movement or position of machines or engines

- 11/08 . Separating lubricant from air or fuel-air mixture before entry into cylinder (separating in general B01D)
- 11/10 . Indicating devices; Other safety devices
- 11/12 . . concerning lubricant level (level indicators in general G01F 23/00)

13/00 **Crankcase ventilating or breathing [2]**

- 13/02 . by means of additional source of positive or negative pressure [2]
- 13/04 . having means for purifying air before leaving crankcase, e.g. removing oil [2]
- 13/06 . specially adapted for submersible engines, e.g. of armoured vehicles [2]