

[54] EMERGENCY OIL/MIST SYSTEM

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[21] Appl. No.: 31,045

[22] Filed: Apr. 18, 1979

[51] Int. Cl.³ F01M 1/18

[52] U.S. Cl. 184/6.4; 60/39.08; 184/6.26

[58] Field of Search 184/6.26, 6.4, 6.11, 184/55 R; 60/39.08, DIG. 3; 415/110, 111

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[57] ABSTRACT

An emergency oil/mist system is embodied in the main lubrication system for a bearing or gear box assembly of a gas turbine engine, and includes an auxiliary reservoir interconnected between the main source of pressurized

lubricant and an air aspirating nozzle which is capable of either providing a stream of oil to the bearing, or a mist of lubricant to the bearing. A source of pressurized air is connected to the air aspirating nozzle through a control piston valve, and the latter also is provided in a vent line extending between the auxiliary reservoir and the atmosphere. During normal operation of the main lubrication system, the source of pressurized oil is connected through the auxiliary reservoir to the nozzle for providing a stream of lubricant to the bearing. Upon failure of the source of pressurized lubricant, the control piston valve is actuated so as to connect the auxiliary or emergency lubricant reservoir to the atmosphere by the vent conduit, and simultaneously connect the source of pressurized air to the air aspirating nozzle. The pressurized air passing through the nozzle aspirates or draws oil from the emergency reservoir to provide a spray or mist of lubricant to the bearing. The vent assures that the oil in the auxiliary reservoir is withdrawn at a controlled rate, thereby providing a spray of lubricant to the bearing for a limited period of time to enable the engine to maintain its operation. The emergency system produces an ultrasonic impingement of the oil as it leaves the air aspirating nozzle so as to create extremely small droplets of uniform distribution of oil on the bearing.

8 Claims, 4 Drawing Figures

