



AVIATION TECHNICAL BULLETIN

Champion Spark Plug Company

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FREQUENT OIL & OIL FILTER CHANGES MINIMIZE OIL CONTAMINATION

EXCERPT FROM AVCO-LYCOMING SERVICE INSTRUCTION NO. 1425

Field experience has shown that engine oil contamination increases the possibility of sticking and/or stuck valves. This situation occurs when the contaminants in the engine lubrication oil become deposited on the valve stems, restricting the valve movement, and resulting in intermittent engine hesitation or miss. If corrective action is not taken to remove the deposits, a valve could become stuck causing engine damage.

Since the rate of oil contaminant accumulation is increased by high ambient temperatures, slow flight with reduced cooling, and high lead content of fuel, owners and operators experiencing these conditions are encouraged to consider the following suggestions for operation and maintenance if they have experienced valve sticking.

PART I — OIL AND FILTER CHANGES

More frequent oil and filter changes (50-hour) will minimize the accumulation of harmful contaminants, the prime cause of valve sticking. This procedure is advisable whether the engine has a pressure-screen oil filter or a full-flow oil filter. Operating the engine with a clean air filter is also important for keeping dirt from accumulating in the oil supply. Therefore, the entire air-induction system should be well sealed to prevent the entry of unfiltered air.

It is also important that the cooling air baffles and baffle strips be in good condition to prevent localized overheating problems.

When the aircraft cannot be flown frequently, the oil should be changed even sooner than a 50-hour interval. The oil should then be changed every 25 hours to eliminate moisture and acids that collect in the oil of an inactive engine. For aircraft that are not flown for long periods of time, the oil should be changed every six (6) months, if the aircraft is not flown at least 25 hours within this 6-month period. Short ground runs should be avoided.

Exposing the engine to sudden cool down, as in a rapid descent with the power reduced, or shutting the engine down before it has sufficiently cooled down can also induce valve sticking.

SRF/mf