

79 Oil

BEEHCRAFT
DUKE 60 SERIES
MAINTENANCE MANUAL

CHAPTER 79

LIST OF PAGE EFFECTIVITY

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CHAPTER 79 - OIL

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GENERAL - DESCRIPTION AND OPERATION

The engines are equipped with a wet sump, pressure type oil system with a capacity of 13 quarts. The sump fastens to the bottom of the crankcase and incorporates two oil drain plugs and the oil suction screen housing. A pressure relief valve

installed on P-227 and after protects the oil radiator, on these serials, from damage caused by cold weather pressure surges. The oil system may be checked through the access doors in the engine cowling. A calibrated dip stick attached to the filler cap indicates the oil level. Due to the canted position of the engines, the dip sticks are calibrated for either the right or left engine and are not interchangeable.

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GENERAL - MAINTENANCE PRACTICES

The oil should be changed every 75 to 100 hours under normal operating conditions and the oil filter changed every 50 hours.

All T10-541 series engines are limited to using only ashless dispersant multi-grade oil conforming to MIL-L-22851 (see Chart 201) or a Lycoming approved synthetic oil. Oil equivalent to SAE 50 or SAE 60 above 60°F; below 30°F SAE 40 is recommended. However, newly overhauled engines of this series may be run-in on the test stand with single viscosity, grade SAE 50 oil conforming with MIL-L-6082, (6, Chart 207, 91-00-00).

The determining factor for choosing the correct grade of oil is the oil inlet temperature observed during flight; however, inlet temperatures consistently near the maximum allowable indicate a heavier oil is needed. Lycoming

recommends use of the lightest weight oil that will give adequate cooling.

CHANGING THE OIL FILTER

The oil filter should be replaced every 50 hours. Replace the filter as follows:

- a. Disconnect the fuel line to the inlet side of the engine-driven fuel pump. Cap the fuel line (P-4 through P-20) and push the line down to allow clearance for oil filter removal.
- b. Cut the safety wire and remove the filter housing.
- c. After making sure all traces of gasket material and cement are removed from the oil filter adapter recess, install the new aluminum ring and O-ring seal which replace the existing rubber gasket. (Refer to Lycoming Service Bulletin No. 337.)
- d. Torque the retainer bolt to 25 to 30 foot-pounds and safety.
- e. Remove cap (P-4 through P-20) and reinstall the fuel line.

**CHART 201
APPROVED ENGINE OILS (ASHLESS DISPERSANT)**

| <i>SPECIFICATION</i> | <i>PRODUCT</i> | <i>*VENDOR</i> |
|----------------------|--|---|
| MIL-L-22851 | Global Concentrate A | Delta Petroleum Company Inc. P. O. Box 10397 New Orleans, La. 70121 |
| | Paranox 160 and 165 | Enjay Chemical Company 60 West 49th Street New York, N. Y. 10020 |
| | RT-451, RM-173E, RM-180E | Mobil Oil Corporation 150 East 42nd Street New York, N. Y. 10017 |
| | Shell Concentrate A Code 60068 Aeroshell W120 Aeroshell W80 | Shell Oil Company One Shell Plaza Houston, Texas 77002 |
| | TX-6309 Aircraft Engine Oil Premium AD120 Aircraft Engine Oil Premium AD80 | Texaco Inc. 135 East 42nd Street New York, N. Y. 10017 |
| | PQ Aviation Lubricant 753 | American Oil and Supply Co. 238 Wilson Avenue Newark, N. J. 07105 |

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**CHART 201 (Cont'd)
APPROVED ENGINE OILS (ASHLESS DISPERSANT)**

| <i>SPECIFICATION</i> | <i>PRODUCT</i> | <i>*VENDOR</i> |
|----------------------|--|--|
| MIL-L-22851 | Chevron Aero Oil Grade 120 | Chevron Oil Co. 1200 State Street Perth Amboy, N. J. 08861 |
| | Esso Aviation Oil E-120 Enco Aviation Oil E-120 Esso Aviation Oil A-100 Enco Aviation Oil A-100 Esso Aviation Oil E-80 Enco Aviation Oil E-80 | Humble Oil and Refining Co. P. O. Box 2180 Houston, Texas |
| | Chevron Aero Oil Grade 120 | Standard Oil Co. of Calif. 225 Bush Street San Francisco, Calif. 94120 |

*The vendor products appearing in this table have been selected at random to help field personnel determine products conforming to the specifications in this publication. The brand names are listed for ready reference and are not specifically recommended by Beech Aircraft Corporation. Any product which conforms to the referenced specification may be used.

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