Cessna 182 Procedures

Historically, Cessna 182's have been known to experience engine troubles well before the recommended TBO. These problems are caused primarily from improper engine temperature management. Just a reminder to all of our 182 pilots to please pay particular attention to those engine temperatures while you're flying this airplane. This column will review techniques used to manage temperatures in the 182.

The term "descent profile" refers to the technique used to descend into a traffic pattern. Improper technique shortens cylinder life and reduces passenger comfort. Shock cooling can destroy cylinders, and low power settings reduce warmth available for controlling cabin temperatures. Particular attention must be paid to engine power settings and temperatures especially during cold snaps like we've experienced recently. The Cessna 182 has gone through two sets of cylinders in 1200 hours. At $2200.00 per top overhaul, this can become an expensive operational problem. It is believed that most of this is due to improper power, mixture, and temperature management in cruise and especially during descent (All of our aircraft would greatly benefit from extra attention in this area). Any power change should be done smoothly and gradually to maintain as constant an engine and cylinder temperature as possible.

The Cessna 182 requires constant attention to temperature management. Cowl flaps, mixture, and power settings are the pilot's tools to control oil temperature, exhaust gas temperature (EGT), and cylinder head temperature. Cylinder head temperature being the most critical of these, however, all require constant attention. The EGT is set by using the mixture control. The mixture is gradually leaned to peak EGT and then enriched to 50 deg. rich of peak (each line represents 25 deg.). After setting the mixture, it may be necessary to adjust the cowl flaps. The cowl flaps directly affect the cylinder head temperature and the oil temperature. The cylinder head temperature green arc runs from 200 deg. to 460 deg. with the ideal temperature being about 2/3 of the normal operating range (375 deg.). Cowl flaps should be adjusted to maintain this optimum temperature. As with any aircraft, temperatures and pressures should be continuously monitored. Any changes should be implemented as gradually as feasible.

The descent should be initiated far enough from the airport to give the aircraft a 300 to 500 fpm rate of descent with 20 to 21 inches of manifold pressure. The mixture should be enriched every 1000 ft until it is increased to full rich before landing. Cowl flaps are usually closed for cruise and descent to maintain proper engine temperatures.

To preserve the longevity of our 182 engine and to reduce maintenance (and to save all of us money), we ask that you monitor engine temperatures closely while flying this airplane.

by Finlay Beaton