

High oil pressure is a signal for a myriad of potential problems

By **HARRY KRAEMER**

Throttle 2,000 rpm. Magnetos, check. Engine gauges, check. Wait a second. The oil pressure is running high. Doesn't that pose a problem? No, responded the copilot. That just means we have a lot of oil pressure. It's no problem.

But is it?

What do we really know about each engine gauge indication? Our instructors taught us to look at each one for proper indications. What if, as in the opening scenario, there is one that could be causing the problem? And how much of a problem is it? Let's examine these questions through the expertise of Lycoming and other general aviation engine manufacturers.

First, let us study the oil-pressure gauge. We should know it measures pressure in pounds per square inch of oil supplied to the engine. Low pressure may be caused by insufficient oil, high oil temperature, a defective oil pump, an oil leak or an oil pressure relief valve that is in need of adjustment or cleaning.

High oil pressure may be caused by using too heavy of an oil viscosity, or, like low pressure, there may be problems with the oil-pressure relief valve. The resulting problems of incorrect oil pressure, if not addressed properly, are as follows:

- ✓ Vital engine parts are not receiving the necessary lubrication with low oil pressure, and the engine may seize up.
- ✓ High oil pressure will put a strain on oil lines and seals, and increase oil consumption.

Located close to the oil-pressure gauge is the oil-temperature gauge. It measures the oil temperature as it enters the engine. Insufficient oil supply or clogged oil lines and/or strainers may cause high oil temperature.

Oil temperature consistently near the maximum allowable indicates that heavier

grade oil is needed. Excessive oil temperature may cause detonation, loss of power and/or high oil consumption.

Engine temperature may be reduced by enriching the mixture, reducing the rate of climb, or by reducing power and increasing airspeed.

The magneto check is crucial also. Additional factors other than the engine system affect magneto drop-off. They are the load power output, propeller pitch and mixture strength.

The most important factor is that the engine runs smoothly. A smooth drop-off

past normal is usually a sign of the mixture being too lean or too rich. With an unsatisfactory magneto check, inspect for incorrect fuel grade, fouled or incorrectly gapped plugs, incorrect fuel/air ratio, or an incorrectly timed magneto.

Always perform the magneto check at the rpm listed in your POH. At these settings the ignition system and spark plugs must work harder because of the greater pressure within the cylinders. According to the manufacturers, any ignition problems, if they exist, will occur under these conditions. Magneto checks at low power settings will only indicate fuel/

air distribution quality.

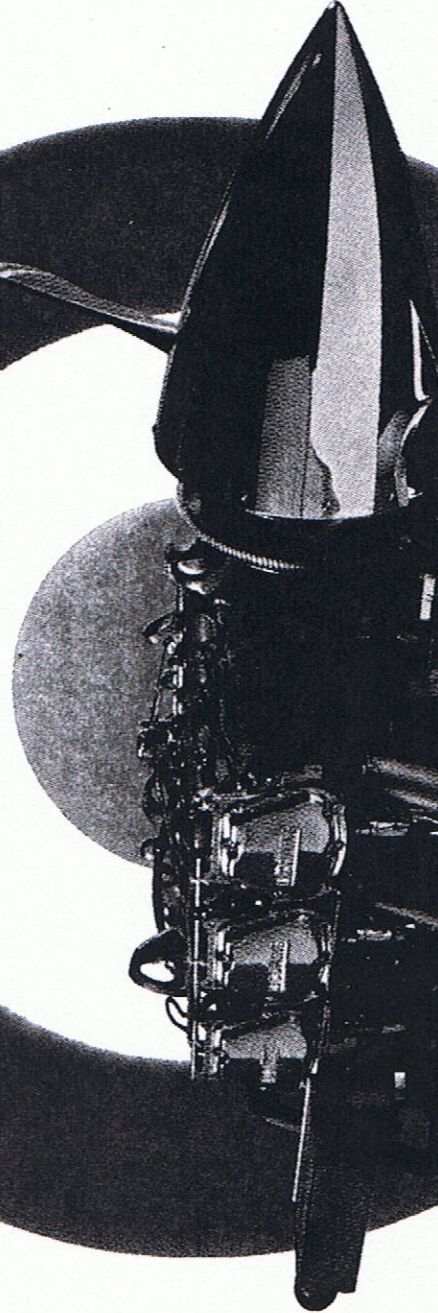
So, there could be quite a few problems with a high-oil-pressure reading, however slight it may be. You should always monitor all of your engine gauges during your flight.

I teach that as you add power to start your takeoff roll, check your engines for proper indications and abort if things don't look good.

Harry Kraemer is a Gold Seal flight instructor and a corporate pilot flying a PC-12 in the Washington, DC, area. He is also current in the Piper Malibu.

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