

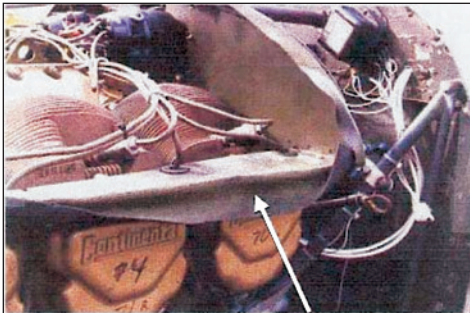
## TECHtimes TECH TIP

### Baffles

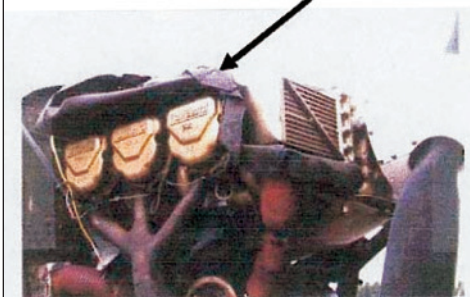
Pratt & Whitney, Continental & Lycoming Engines

By John Morton, Aero Recip (Canada) Ltd.

Does your engine have low oil pressure and/or high oil temperature? Low oil pressure and high oil temperature quite often go "hand in hand". Before removing the engine check the oil screen or oil filter for metal. Check the oil pressure with a calibrated oil pressure gauge. Replace the oil temperature gauge with a calibrated gauge and replace the oil temperature sending unit with a new one or one of known condition. It is not uncommon for gauges to go out of calibration. As an AMO we are required to calibrate our gauges on a regular basis to ensure accuracy and we would assume that the aircraft gauges are also calibrated on a regular basis.



**Peripheral Baffle Seals  
improperly positioned**



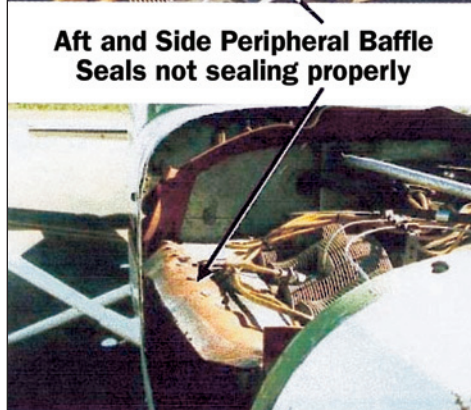
**Aft and Side Peripheral Baffle  
Seals not sealing properly**

Remove the oil pressure relief valve and inspect the plunger or ball and the seat. If there is a plunger installed check the movement on the shaft. Sometimes a small piece of carbon

will become lodged on the seat and cause low oil pressure. The piece of carbon or other contaminate will usually disappear when removing the oil pressure relief valve assembly from the engine.

If you have high oil temperature determine the cause. Is the engine making metal? What is the condition of the baffles? Are the intercyylinder baffles fitting snug against the cylinders? Are the intercyylinder baffles worn and/or cracked? What is the condition of the baffle seals? The baffle seals should face into the direction of the air flow and be in full contact with the engine cowl in static position. If the seals do not touch the cowls with the engine in static position they will not touch the cowls in flight. To check the seals put a light up the cowl flaps. If you can see light around the seals when looking through the bug eyes then the seals need replacing.

We have observed over the years that intercyylinder baffles and the perimeter baffles are much neglected accessories. These items are



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commonly found to be worn, missing, bent and cracked which may result in one or more cylinders operating at unusually high temperatures. Good examples of unserviceable baffles can be found in Teledyne Continental Motors Service Bulletin SID97-2 (latest revision).

The baffling installed on the engine of today is the result of considerable study. Special wrap around baffles now guide the cooling air completely around the cylinder heads and barrels. On a pressure aircooled system it is important to understand that to control the airflow from the propeller and ram air there has to be a pressure differential inside the cowling. Peripheral baffles with rubber seals are installed on the engine to provide this pressure differential. On most installations this pressure differential is around 4 to 6 inches of water pressure.

Heat related problems have become more prevalent with the fleet of aircraft getting older and more power upgrades being made. Therefore, it is very important to make sure the baffles are maintained properly. ✂

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