

Low Pressure Oil Cabin Heater

Michael Marshall (NM) - The following engine oil system is used to heat my Cozy. In contrast to systems using engine oil pressure, this system meets the following requirements:

1. allows only low pressure oil into the cabin,
2. no heated oil is in the cabin during landing or takeoff,
3. does not compromise engine oil flow,
4. in the event of line rupture, it does not empty the oil sump,
5. works independently of the engine oil cooler.

A standpipe removes hot oil 1-3/4" above the bottom of the oil sump. This means that about 2-1/2 quarts (Lycoming's minimum safe level) will always remain in the sump. An electric oil pump mounted on the front side of the firewall pumps oil through 3/8" aluminum tubing enclosed in 1-1/2" duct to the nose. There a standard oil cooler coupled to a centrifugal blower heats the feet. Oil then returns to the sump through a fitting on the accessory case.

A panel mounted switch selects Fan - Off - (Fan and Pump). Engine oil temperature typically drops 5-10 degrees during operation. Since the pump I am using is far too large for this use (output of 4 gpm vs. need for .5 gpm) there is a relay device to automatically switch the pump on and off. The whole thing weighs about 14 pounds.

Parts:

24 feet of 3/8" tubing, engine and bulkhead fittings and hose, 6 feet of SCAT 1-1/2" hose, PAR blower model 35115-0020 (order from marine supply store), preluber pump model M-93, Lycoming oil cooler.

A lighter cheaper oil pump would be great if I could find one.

If anyone has questions call me during the day at (505) 662-3608 or 662-6895 at night.

Warmly,

Michael N89CZ