

service bulletin

M89-9

Technical Portions Are
FAA Approved

21 April 1989

SUBJECT: **EXCESSIVE CRANKCASE PRESSURES**

MODELS

AFFECTED: All

COMPLIANCE: Information Only

The following trouble shooting test is recommended when excessive crankcase pressures are suspected. For some time we have been recommending the use of an airspeed indicator as a substitute for a water manometer. The indicator can be plumbed into a field modified oil cap, dipstick housing or timing plug, depending on engine model, to determine excessive crankcase pressure.

The engine with timing plugs can be modified or use P/N 630415 plug which is already drilled for attachment of the fitting for the airspeed indicator. On engines that incorporate a separate dip stick tube, the rubber hose to the airspeed indicator can be connected directly to this tube and secured with a clamp.

By the use of the following table it will be possible to obtain actual water pressure (in H₂O) when checking a suspect engine. Run engine on the ground at full power to check for excessive pressure. If the pressures are excessive, then check the system with crankcase breather system disconnected from the engine vent standpipe. If the pressure then drops appreciably the breather system should be checked for possible blockage caused by, but not limited to, the air oil separator, collapsed lines, sludge build up, wet vacuum pump, etc.

After disconnecting the breather system if the pressure is still high, the cylinders should be checked for blow-by.

If the aircraft has an air oil separator installed in the breather system it will cause a higher airspeed reading when connected because of the back pressure. When the ground run has been finished and no excessive pressures are found the breather system should be reinstalled.

NOTE: Excessive crankcase pressure in flight can be induced by ram air entering through an improper fitting oil cap seal and/or defective crankshaft nose seal. If the problem occurs on turbocharged engines only at higher altitudes, then it is possible that the turbocharger is suspect.

(continued)

AIRSPEED VERSUS WATER PRESSURE (INCHES H2O)

40MPH=	.79	H2O	LIMITS FOR A-65, C-75, C-85, C-90, 0200,
44MPH=	1.00	H2O	C-145, 0300, GO300, IO346

44MPH - Maximum limit on ground

50MPH=	1.23	H2O	LIMITS FOR IO360, TSIO360, 0470, IO470,
60MPH=	1.77	H2O	TSIO470, IO520, TSIO520, GTSIO520, 6-285,
70mph=	2.42	H2O	IO550
80MPH=	3.16	H2O	
90MPH=	4.00	H2O	

90MPH - Maximum limit on ground

100MPH=	4.94		Reference: 1 PSI=2" Hg.
120MPH=	7.131		1"Hg=13.6" H2O
140MPH=	9.729		
150MPH=	11.18		