THE adlog AIRCRAFT MAINTENANCE RECORDKEEPING SYSTEM

Oil Analysis Status

Page 1 of ____

If Multi-Engine: Left ☐ Right ☐ Front ☐ Rear ☐ Engine Make: Cont. Model: IO 360 ES6 Serial No.: 360000

Sample Date	Report Recv'd	Analysis Date	Lab/Report No.	Lab Name	Sample Results	Next Due	Remarks
1/28/09		1/29/09	349	SPECTRO	OK ☐ Resample ☑	788	Above Normal Wear Resample
					OK ☐ Resample ☐		
					OK ☐ Resample ☐		
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THE adlog AIRCRAFT MAINTENANCE RECORDKEEPING SYSTEM

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Oil Analysis Status (continued)

Sample Date	Report Recv'd	Analysis Date	Lab/Report No.	Lab Name	Sample Status	Next Due	Remarks
					OK ☐ Resample ☐		
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SPECTRO

ENGINE OIL SAMPLE TEST REPORT

Phone: (817) 297-2159 - Fax: (817) 297-0088

Customer Name:	LANGA AIR	**Aircraft Number:**	N110BW
Bill Address 1:	#4 EAGLE CT. HANGER #18	**Aircraft Model:**	SR-20
Bill Address 2:		**Mfg:**	CIRRUS
City/State/Zip	EAST ALTON, IL 62024	**Engine Make:**	T.C.M.
Phone:	(618) 258-1005	**Engine Model:**	IO-360-ES
		Serial Number:	360000
		Engine Position:	SINGLE

Lab#	Sample Date	Eng Time	Oil Time	Add	Fe	Cr	Pb	Sn	Mg	Si	Cu	Ag	Ni	Al
349	01/28/2009	738	30	0	25.00	3.5	600	4.0	0.2	7	3.0	0.0	**6.4**	5.0

Evaluation:

ABOVE NORMAL WEAR.
VALVE OR ROCKER ARM SHAFT WEAR. RECOMMEND RESAMPLING AT THE NEXT OIL CHANGE FOR CONFIRMATION OF THE WEAR TREND.

SOME MAINTENANCE TIPS

COMPRESSION TEST: The differential compression test is designed to check whether a cylinder may be leaking by the piston rings, exhaust valve or the intake valve. If there is a compression loss listen to the crank case vent, exhaust stack and carburetor intake to find where the cylinder is losing pressure. A good pressure indication may not be conclusive. Rocking the propeller back and forth VERY SLIGHTLY while pressure is on the cylinder will show a pressure fluctuation if piston ring lands are worn.

BORESCOPE: A carefully conducted borescope look in the cylinders will often reveal the cylinder causing excess wear when a compression check will not reveal the problem cylinder. Another method sometimes used to find a problem cylinder is to insert a mechanics magnet through the top spark plug hole and check for iron fuzz in the bottom of the cylinder.

OIL ON SPARK PLUGS: Worn, stuck or broken piston rings and/or worn valve guides are the usual cause. Rings can be broken and the cylinder still have good compression if the compression rings (top) are in good shape. Badly worn valve guides will sometimes allow oil to drain down into the exhaust pipe or into the carburetor duct while the engine sits idle.

INTAKE PIPE LEAK (CARB TO CYLINDER): This is a common problem that will lean the affected cylinder and cause hot running with excess wear. Check to make sure all fittings are secure.

EXHAUST GASKET LEAKS: Hot exhaust gasses leaking around a cylinder head will cause excessive cylinder wear. Exhaust gasket leaks are easy to detect by visual inspection.

FUEL INJECTORS: Even a partially clogged injector on an injected engine will starve that cylinder and cause it to run not resulting in excessive wear and power loss.

MAGNETO TIMING: Improper magneto timing to the engine can cause hot running and loss of power. Excessive or lack or mag drop is an indication of poorly timed magnetos.

CHECKING IDLE MIXTURE: Warm the engine to operating temperature then allow the engine to stabilize at idle RPM. Pull the mixture control to idle-cut-off and carefully observe both RPM and manifold pressure as the engine dies. RPM should hesitate (not go up more than ten RPM) before falling. Manifold pressure should go down about 1/2 inch before going up as the engine dies. Push the mixture in before engine stops and repeat the above several times. If RPM goes immediately down land manifold pressure immediately up as engine dies the idle mixture is set too LEAN. If RPM is up more then ten RPM and manifold pressure is down more than 1/2 inch the mixture is too RICH. Idle RPM will usually require setting after idle mixture is adjusted.

DEFINITION OF A RECIPROCATING ENGINE: An assembly of hundreds of parts made from various metals that rotate and reciprocate several thousand times per minute at extreme temperatures and pressures constantly trying to tear itself apart.

OIL ANALYSIS: Routine and regular engine oil analysis can help you detect and correct small problems before they become big problems.

METAL SYMBOLS

Fe	Iron*	**Cr**	Chromium	**Pb**	Lead
Sn	Tin	**Mg**	Magnesium	**Si**(dirt)	Silicon
Cu	Copper	**Ag**	Silver	**Ni**	Nickel
Al	Aluminum				

*High Fe can indicate corrosion if the engine has an inactive history. The Fe will reduce with regular usage IF the cylinders, cam, lifters, etc. are not pitted.

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