



AMO No. 45-89, 540 Marjorie Street, Winnipeg, Manitoba, Canada R3H 0S9
1.204.788.4765 and 1.800.561.5544, Fax: 1.204.786.2775

ATTENTION: Owners, Maintenance Personnel and Pilots

SUBJECT: **ENGINE BREAK-IN AFTER OVERHAUL**

MODELS AFFECTED: A) Pratt & Whitney R-985, R-1340 and R-1830
B) WSK PZL ASz-62IR-M18

TIME OF COMPLIANCE: 1. When installing an overhauled engine
2. Cylinder change with new rings

Caution: Cooling baffles and engine cowling must be installed to ensure proper cooling air flow differential across the cylinders.

Important: Discourage prolonged ground runs. This can be detrimental to the life of the engine.

This engine has been test run for 3-4 hours after overhaul, however, an additional 10 hours or more will be required to further seat the piston rings to the cylinder barrel to prevent high oil consumption.

A. Initial Ground Run - Have you pre-oiled your engine (see attached):

1. In hot weather select the coolest time of day for both ground run and test flight.
2. Select the most dust free area with a good surface and no loose dirt or gravel.
3. Head the aircraft into the wind for all ground running. Engine survival depends on proper cooling.
4. Start the engine and perform a normal pre-flight run-up in accordance with the engine operation manual.
5. If necessary, shut the engine down and allow to cool and correct any discrepancies as needed. Make carburetor idle speed and mixture adjustments.
6. Under no circumstances attempt to clear a fouled spark plug by a power run during this critical period. Stop and change fouled spark plugs.
7. Temperatures must be monitored closely.
8. Cycle propeller pitch and perform feathering checks according to applicable per airframe manufacturer's recommendations.

9. Run engine to full static airframe recommended power for no more than 10 seconds.
10. Allow the engine to cool down moderately. Check idle mixture adjustment prior to shut down.
11. Inspect the entire engine installation checking for oil leaks and fuel leaks.

B. Flight Test:

1. Take off at airframe recommended take-off power monitoring R.P.M., fuel pressure, and cylinder head temperature.
2. As soon as possible, reduce to climb power specified in operator's manual. Assume a shallow climb angle to a suitable cruise altitude.
3. After establishing cruise altitude, reduce power to approximately 75% and continue flight for 30 minutes. During the next 30 minutes alternate power settings between 65% and 75% power.
4. Descend at low cruise power while closely monitoring the engine instruments, avoiding long descents at low manifold pressures. Do not reduce altitude too rapidly or the engine temperatures may drop too quickly. If necessary, decrease the R.P.M. sufficiently to maintain manifold pressure.
5. After landing and shut down check for leaks at fuel and oil fittings and accessory parting surfaces. Check oil and fuel consumption.
6. Remove oil suction screen and oil pressure screen or oil filter to check for contamination. Record test flight and oil consumption in the engine log book before the aircraft is released to service.
7. After the first 10-12 hours of initial operation the oil should be changed due to the extraordinary amount of contamination that results from the break-in process. After this initial oil change, continue with the recommended oil change maintenance interval of 100 hours.
8. An overhauled engine is an expensive investment and the break-in process is the most important time in the engine's life. Proper break-in will help the engine to reach and maintain top performance to TBO. A multi-viscosity ashless dispersant mineral base aviation oil is recommended.