Attachment 1 - Fixed Pitch Prop Break-in Checklist
(FIRST FLIGHT ONLY)

Engine/Cylinder Break-In Checklist
(Reference: CAP Engine Break-In Instructions)

I have fully read and understand the provided CAP Engine/Cylinder break in instructions.

Name:	**CAP ID:**
Phone #:	**Email:**
Tail #:	**Date:**
Mission #:	**Sortie #:**

Tach	Hobbs
Stop	Stop
Start	Start
Total	Total

Pre Flight preparations:	**FIRST FLIGHT PLANNING**

The goal of this flight is a one-hour flight remaining over the departure airport at altitude. During this initial hour the crew will be EXTREMELY AWARE of all operations of the engine systems and the power it is producing. **REMAIN WITHIN GLIDING DISTANCE AT ALL TIMES.**

* Maximum 7000 DA is recommended.

FLIGHT PLANNING: Prior contact with tower crew at controlled fields is advisable. Let the ATC crew know your intentions and that you wish to remain within gliding distance at altitude for the hour-long flight. At non-towered locations make traffic and position calls periodically and remain at least 1000 ft above the normal traffic pattern altitude.

DENSITY ALTITUDE (DA) PLANNING: Determine and record the expected settings you will be using at the expected cruise altitude you are planning. Write these figures below. (Indicated Altitude (IA), Throttle (RPM)) Adjust as necessary once at altitude, consult POH for accuracy)

	Planned DA	**Equivalent IA**	**Required RPM**
75% power			

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Verify Airplane Belly condition during pre-flight inspection **(Picture might help –** you will make assessment following flight for oil overboard determination.**)**	
Cold Engine Oil level (record BEFORE adding any oil)	
Oil added to achieve 8 qt. C172 (record only oil added (qt))	
Total oil in sump preflight (TOTAL cold oil level + oil add)	
***Flight plan for remaining within gliding distance of departure airport** (towered or uncontrolled)	
Full Preflight Inspection COMPLETED	

Taxi:

Limited ground time where possible	
Normal runup	
Oil Pressure during taxi	
Oil Temperature before departure	

TAKE OFF TIME (Z)	**Z**

Climb out:

Maintain shallow climb angle to cruise level where possible (300 ft/minute). Monitor CHT, Oil Pressure, Oil Temperature during climb, OPEN cowl flaps.

Verify

Cruise: **REMAIN WITHIN GLIDING DISTANCE**

Level at or below 7000 Density Altitude

Verify

During the FIRST hour at Cruise (Hour ONE)

- **Maintain 75% power** at or below 7000 ft Density Altitude.
- **Monitor CHTs –** maintain temperatures as low as possible. **Maintain rich mixtures.**
- **Record data every 20 minutes.** (see below)
- **NEVER allow any of these procedures to jeopardize the safety and success of your flight. Please land as soon as practical if you notice any unusual issues.**
- **TOUCH and GOs PROHIBITED**

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***TIME Record** z (T+0 min)	**Indicated ALT (IA)**	**OAT –** Outside Air Temperature	**Oil Temperature**	**Oil Pressure**	***CHT - Highest Temp & Cylinder #**	***EGT - Highest Temp & Cylinder #**	**FUEL FLOW - GPH**
Hour ONE at cruise altitude begins here (75% power)							
T + 0							
T + 20							
T + 40							
T + 60							
Begin descent and Land – return to FBO for inspection.							

***TIME Record =** Record (Z) time **after the aircraft is at cruise altitude,** this is the begin time (T + 0) for all recording intervals.

* Some Carburetor engines may only have a single cylinder monitored for CHT or EGT – in those cases simply record the temperature indicated. (Some EGT gauges do not have numeric values shown in those cases the EGT recording is not required.)

Monitor all engine parameters. All areas should remain in the "GREEN" areas of performance.

Temperatures may be higher than you normally observe during the engine break in period but must remain in the GREEN. Return for landing is any area outside of GREEN.

If at any time you suspect something unusual - land and assess.

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Descent:

AVOID large power reductions unless necessary. "Chopping" the power leads to extreme temperature changes.

Achieve a cruise descent – Start by reducing RPM by 200 RPMs – allow CHT to stabilize (5 minutes)	
If additional descent is required – reduce another 200 RPM and allow CHT to stabilize – repeat as necessary	
Use of flaps (high drag configuration) supports maintaining higher RPM and thus higher CHT at reduced speed. (try to **maintain CHT between 300°F and 400°F**)	
Avoid pattern work and Touch and GOs	

LANDING TIME (Z)	**(Z)**

Post Flight:

Secure Aircraft – normal shutdown and secure checklist.	
Aircraft Inspection – inspect for signs of oil. Consult picture from preflight. Inspect all openings, fasteners, and connections available **Report findings to AMO!**	
Cold engine oil level (1 hour post shutdown) **CAUTION - HOT ENGINE!** – wait at least 1 hour to determine post flight oil level	

IMPORTANT!! REPORT ALL RECORDINGS at THIS LINK:

https://app.smartsheet.com/b/form/630e9e4368b34a84ab74cd0d131c7bda

If the link is not working, please email a copy of this completed sheet to: LGPSD@capnhq.gov