



Winter Weather Operations – Effective October 2016

Winter weather operations commence November thru April. OAT = Outside Air Temperature.

1.0 Archer Winter Operation

The winterization plate restricts airflow to the oil cooler allowing it to operate at a warmer temperature during winter months. Use caution on warm days, watch the oil temp!

- Normal operating Oil Temp (on gauge) should be ~ 180°F
- Archers use AeroShell 15w50 oil, all times – all seasons. Check level before flight.

2.0 Cessna 172/182 Winter Operation

There is no winterization plate. Oil heat exchanger is located in the belly of the airplane and is designed to be warmed by the heat generated by the engine and exhaust baffling.

- Normal operating Oil Temp (on gauge) should be ~120-180°F
- Cessna's use AeroShell 15w50 oil, all times – all seasons. Check level before flight.

3.0 Preflight – NonHangared Aircraft

3.1 Engine Preheating

All Aircraft: The engine **must be preheated** anytime the OAT has gone **below 32°F** in the preceding 4hrs before your flight.

KeyStone phone # is (203)264-6525

Option #1 (preferred method) – Overnight Hangar Preheat

- ⑩ **OFC NT17 (free of charge)**
- ⑩ If the hangar is vacant overnight, club members can use NT17 in lieu of a KeyAir hangar preheat. Contact OFC MX Officer to coordinate as we can only fit one plane in the hangar.
- ⑩ **KeyStone (\$20 tug fee if used + \$30 overnight hangar fee):**
 - Hangar preheats are authorized only when a call is received to arrange the overnight hangar space. When calling, please notify them of the departure time for the next day.
 - ⑩ Leave the aircraft on the transient line of the main ramp. There will be **no towing fee** if the plane is towed into the hangar from our main ramp.
 - A Towing charge of \$20 will apply if the aircraft has to be towed from the South ramp into our hangar
 - Per instructions from Burt Stevens, we will record the name of the club member requesting the overnight preheat and note it on our invoices.

Option #2 – OFC portable propane fired heater

- 1 The portable preheater will be tied down next to N98819.
- 2 You want the oil pan to be the focus of the forced hot air.
- 3 Follow the instructions regarding the preheater operation.
- 4 Minimum 30 minute preheat.

Never leave the preheater unattended, potential for a fire is high

Option #3 – Engine Block Heater (N8261H only)

- 1 KeyAir will allow OFC to park 61H between Hangars D & E
- 2 OFC must supply all tiedowns and extension cord when using this spot
- 3 Open the Oil access door on the cowling
- 4 You will find the block heater plug wired to the Oil Filler neck
- 5 Plug in the heater first, then the extension cord into the power outlet on the exterior of the hangar building
- 6 Allow at least **8 hours** for a proper warm up in cold weather conditions.

3.2 Snow, Ice, and Frost Removal from Aircraft

Never use auto deicer fluid anywhere on the aircraft. Glycol can be used at airports that allow it.

NEVER scrape ice/snow/frost off the windshields/windows or any aircraft surface with any type of device, tool, or ice scraper. Contact the MX team for assistance with snow/ice/frost removal.

Option #1 (preferred) –Hangar Preheat!

- If there is visible ice anywhere on the aircraft, a hangar preheat is **required**
- Any snow accumulation must be removed prior to entry into the hangar.
- ⑩ Have the airplane brought into the hangar to allow the ice/snow to melt.
- ⑩ Contact Key Air @ (203) 2646525 to arrange.
- Be aware the potential for control surface, pitot tube, and static port may refreeze.

- ⑩ Know where the ALT AIR valve is on Club aircraft

Option #2 – Remove by hand

- ⑩ All snow needs to be removed from the surfaces of the aircraft using a soft brush or broom. Use care to avoid scratching the paint.

If you have doubts about whether preheating is needed – please preheat

4.0 Winter Engine Start Procedure

An engine preheat will go a long way towards making the engine easier to start:

- 1 PreHeat engine and follow normal preflight checklist
- 2 5 shots of primer and then verify primer is IN and LOCKED
- 3 2 pumps of throttle and then set throttle handle about 1/8 inch in/up from IDLE
- 4 Set mixture to FULL LEAN
- 5 Start engine
- 6 When engine starts, push mixture FULL RICH
- 7 Do not exceed 1000 RPM and verify oil pressure is in Green Arc within 30sec of start
- 8 If oil pressure is not in green arc after 30sec, shut down engine and call MX Team
- 9 Allow engine to run at **1000 RPM for at least 5 minutes prior** to aircraft movement or **increase** in RPM

Do Not Exceed 10 blade turns – STOP, give it two (2) additional shots of prime using the settings above and try again.

Starter – do not crank for more than 15 seconds, let it cool down for 2min before cranking again. Maximum of 3 attempts then starter must cool for 30min.

A partial start – may cause the sparkplugs to ice over. The solution is to get a good preheat. If the engine isn't firing and you suspect that the plugs have fouled, get a thorough preheat rather than run the battery dead.

A Flooded Engine – too much fuel in the cylinders from repeated starts. CAUTION: this procedure may cause an **engine fire** due to excess fuel leaking into the cowl area. Mixture = LEAN, throttle = FULL and start engine. Once engine starts, back off the throttle to 1200 RPM until it stalls. Check for potential fire in cowl area. Start engine normally.

A dead battery will freeze. A frozen battery means we have to buy a new battery. If a battery goes dead, please let the MX Officer know right away.

Engine warm up may require temporary carb heat application.

The oil temp gauge must be "off the peg" before you engage in high engine RPMs.

(tear here)

Acknowledgement

I _____ have read the OFC winter weather operations plan and I shall comply with the processes and procedures outlined herein. Should there be any questions regarding the clearing of snow/ice from the aircraft, ramp area, or hangar area please contact a member of the OFC Maintenance Team for assistance.

_____ Date: ____/____/____ Club member
signature