## USE OF CARBURETOR HEAT

Carburetor ice can form in a wide range of atmospheric conditions, but is most likely to form when OAT is between -4°C and 30°C (25°F and 86°F) and the difference between OAT and dew point is less than 15C° (27F°). When conditions conducive to carburetor ice are suspected, use carburetor heat as follows:

During Run-up: Use full carburetor heat (it is filtered) during warm-up to preheat induction system.

During Takeoff, Climb, and Cruise: Use carb heat as required to keep CAT gage indication out of yellow arc.

During Descent and Autorotation: At power settings below 18 inches MAP, apply full carb heat regardless of CAT gage indication. CAT gage does not indicate correct carburetor temperature below 18 inches MAP.

***CAUTION***

The pilot may be unaware of carburetor ice formation as the governor will automatically increase throttle and maintain constant manifold pressure and RPM. Therefore, the pilot must apply carburetor heat as required whenever icing conditions are suspected.

## USE OF CARB HEAT ASSIST

A carburetor heat assist device is installed on R22s with O-360 engines. The carb heat assist correlates application of carburetor heat with changes in collective setting to reduce pilot work load. Lowering collective mechanically adds heat and raising collective reduces heat. A friction clutch allows the pilot to override the system and increase or decrease heat as required.

A latch is provided at the control knob to lock carburetor heat off. The knob should be left unlatched unless it is obvious that conditions are not conducive to carburetor ice. Apply carburetor heat as required if carburetor ice is a possibility. Monitor CAT gage and readjust as necessary following lift to hover or any power change.

## STARTING ENGINE AND RUN-UP

Throttle twists for priming . . . . . As required
Throttle . . . . . Closed
Battery, strobe switches . . . . . ON
Area . . . . . Clear
Ignition switch . . . . . Start, then Both
Starter-On light . . . . . Out
Set engine RPM . . . . . 50 to 60%
Clutch switch . . . . . Engaged
Blades turning . . . . . Less than 5 seconds
Alternator switch . . . . . ON
Oil pressure within 30 seconds . . . . . 25 psi minimum
Avionics, headsets . . . . . ON
Wait for clutch light out . . . . . Circuit breakers in
Warm-up RPM . . . . . 70 to 75%
Engine gages . . . . . Green
Mag drop at 75% RPM . . . . . 7% max in 2 seconds
Carb heat . . . . . CAT rise/drop, set as required
Sprag clutch check . . . . . Needles split
Doors . . . . . Closed and latched
Limit MAP chart . . . . . Check
Cyclic/collective friction . . . . . OFF
Governor On, increase throttle . . . . . RPM 102-104%
Warning lights . . . . . Out
Lift collective slightly, reduce RPM . . . . . Horn/light at 97%

***CAUTION***

Avoid continuous operation at rotor speed of 60 to 70% to minimize tail resonance.

***CAUTION***

On slippery surfaces, be prepared to counter nose-right rotation with left pedal as governor increases RPM.

***NOTE***

Before takeoff, pilot should uncover one ear and listen for any unusual noise which may indicate impending failure of a bearing or other component.