

Switch functions :



Backup mode : BARC is powered directly by the battery. Central green light is active.

Main mode : Normal operation. Green light is inactive.

Mute : Mutes the continuous NR horn (self-reactivation).

LOW FUEL functions :

LOW FUEL light lights on when independent sensor is set off (less than 12 L).

Lighting is signaled by a short tone.

Caution light should be preferred to EPM indication in case of doubt.

Other equipment

Pitot - Static system

The Pitot tube is non-heated. It is located under the helicopter belly. The static port is located just aft of it.

Engine governor

An electric engine governor helps the pilot control the engine speed. When engaged, it acts on the twist grip to control throttle.

Once switched-on, the governor engages above 2000 RPM (NR = 400 RPM), and self-disengages below.

The pilot can disengage it by two ways :

- Using the GOV switch located on the tip of the collective stick. The GOV OFF light then comes on,
- Forcing the twist-grip to NM = 2000 RPM, for an engine failure simulation.

At any time, a friction clutch in the governor motor enables the pilot to overtake it by acting on the twist grip. The pilot can easily disengage the governor while overtaking its action.

7-5 Training areas of special emphasis [M]

7-5.1 Autorotation training

Cabri G2 is a very good aircraft to train and demonstrate autorotation. However, the instructor should keep in mind that aborting autorotation should not be decided in the flare, when there is too much workload and that low rotor speed could prevent adequate yaw control.

Decision procedure during autorotation training is as follows:

At **500 ft** height, check:

- 50 kt IAS, (check airspeed and longitudinal attitude),
- Rotor speed in the green arc,
- Vz approx 1500 ft/min
- Field is clear.

If all parameters are OK, the instructor should ensure collective stick is down and roll throttle fully to its stop.

If one parameter is not OK, the instructor should abort autorotation.

Lowest recommended height for decision is **300 ft**.

Aborting autorotation:

- If Rotor speed is above 530 rpm, the governor will control engine speed to green arc after the pilot has manually increased it above 2000 rpm. Then, the pilot should resynchronise by pulling collective stick.
- If rotor speed is below 530 rpm, the pilot should anticipate that there will be torque to counteract with frank pedal movement to the right when rotor synchronise.

7-5.2 Yaw control in approach

Particular attention should be paid to yaw control in approach, when transitioning from forward flight to hover, especially if pilot is used to operating conventional tail rotors.

Service Letter 12-001 should be closely studied.

Instructors should demonstrate the different needs of pedal travel amplitude depending on wind.

7-6 Optional equipment

Not evaluated

Power failure in hover in ground effect practice

1. Roll-off throttle frankly until on its stop,
2. Counteract yaw motion by applying left pedal,
3. Increase collective as ground approaches, to smooth landing,
4. Push collective down once landed.

Note 1 : If the helicopter is light, it may bounce after a first touchdown.

Note 2 : The Cabri G2 has no natural tendency to depart in roll or pitch after failure. No systematic corrective cyclic action is needed.
A slight forward motion at impact is recommended for better control.

Note 3 : For a forgiving practice, respect a maximum of 5 feet height.

Note 4 : Avoid practice at maximum gross weight.

Autorotation practice

1. Lower collective full down,
2. Counteract yaw motion by applying left pedal,
3. Roll-off throttle through its spring ramp to its stop,
4. Maintain IAS between **30 and 50 kt IAS (50 kt IAS recommended)** by controlling longitudinal cyclic,
5. Slightly increase collective if required to keep rotor speed in the green arc,
6. At about 60 feet AGL, apply aft cyclic to raise the helicopter nose smoothly and continuously.
7. As ground closes-on, apply forward cyclic to level the helicopter while raising the collective to stop sink rate.
 - With a **50 kt IAS** approach, landing requires a longer distance but is easier to manage. Little action is required on the collective control since the flare will stop the sink rate.
 - A **30 kt IAS** approach needs smaller cleared area for landing but is more difficult to manage.
8. Use pedals to minimize ground drift,
9. Once stopped, lower the collective.

Note : When autorotation is stabilized with collective full down, the rotor speed should stay in the authorized range, whatever the weight and the altitude in flight envelope.

Caution : If airspeed drops below 30 kt IAS, push frankly the cyclic forward to recover airspeed.

Aborting autorotation practice

If power recovery is decided during autorotation :

1. Roll-in throttle until governor engages,
2. Gradually raise collective pitch to stop autorotation and descent,
3. Control yaw during power recovery with pedals.

Note : Do not worry for very fast engine acceleration. There is no risk of overtorque at re-synchronization. Be prepared to yawing to the left when power recovers.

EPM failure

A flight instructor should make the student familiar with the NR lights :

1. Select an appropriate flight phase with little workload,
2. Mask the EPM screen with a paper or the night vision filter,
3. Switch NR to "Backup",
4. Control the flight in order not to exceed the power limit : moderate the cruise speed and practice cautious landing within this flight take-off conditions.