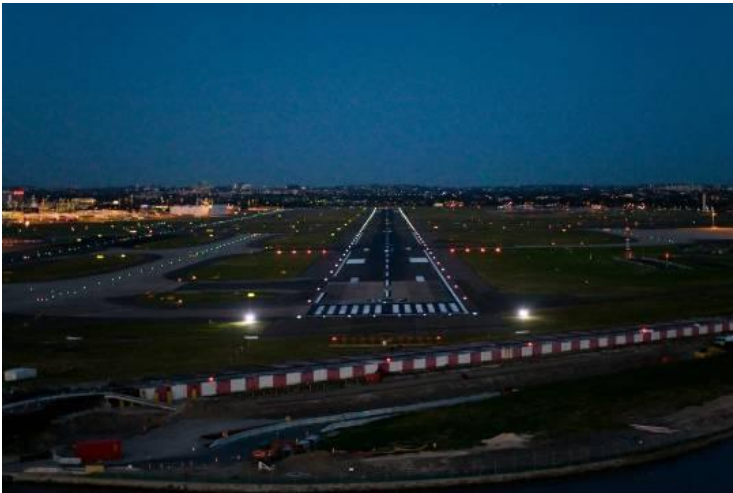


CHAPTER 2

NIGHT PRE-FLIGHT PREPARATION

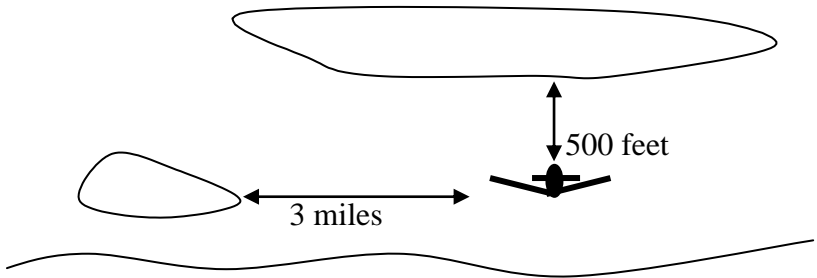


NIGHT VFR RULES

Visibility - 3 miles

Distance from cloud

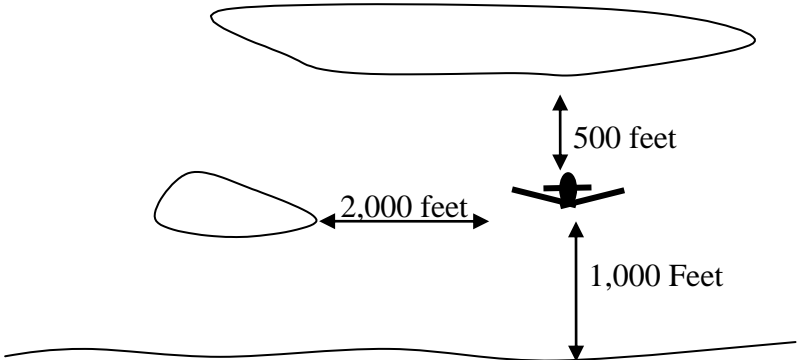
- In controlled airspace - 500 feet vertically, 1 Mile horizontally



Controlled Airspace

Fig. 2.1

- In uncontrolled airspace at or above 1,000 feet - 500 feet vertically, 2,000 feet horizontally



Controlled Airspace above 1,000 Feet

Fig. 2.2

- In uncontrolled airspace below 1,000 feet - clear of cloud

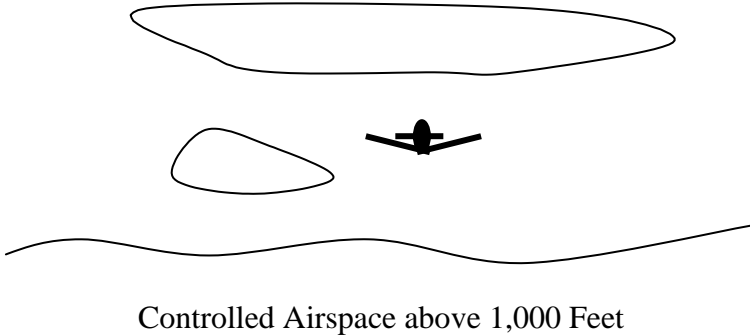


Fig. 2.3

REQUIRED EQUIPMENT FOR NIGHT FLYING

Over and above the aircraft equipment required for flying in the day time, you must have:

- A turn coordinator or turn and bank indicator;
- An adequate source of electrical energy for all electrical equipment;
- A gyroscopic heading indicator or a stabilized magnetic direction indicator;
- Illumination for all instruments;
- Position and anti-collision lights;
- A serviceable landing light when carrying passengers;
- In Northern Domestic Airspace, a means of establishing direction not dependent on a magnetic source;

- Extra fuses. 50% extra for each type of fuse installed; and
- A flashlight with fresh (or spare) batteries.

Select with care the flashlights you will carry for night flying. A large flashlight will be difficult to hold in the event of an electrical failure. A very small flashlight may not provide enough illumination for a wide area, or be bright enough to illuminate detail.

A flashlight with a red lens will help save your night vision while reading checklists and maps, but red print or lines will not be visible under a red light, and fine detail on maps is difficult to see under red light.

A flashlight with a white lens is the best type of flashlight overall, providing it is not too bright.

WEATHER

Clouds and Visibility

It can be difficult to see cloud at night, let alone judge one's distance from cloud. When flying at night with a cloud cover, it is best to leave at least 1,000 feet of vertical clearance from the cloud base, 2,000 feet would be better as cloud bases can lower suddenly. Care must be taken to watch for scattered cloud at, or below, your planned altitude.

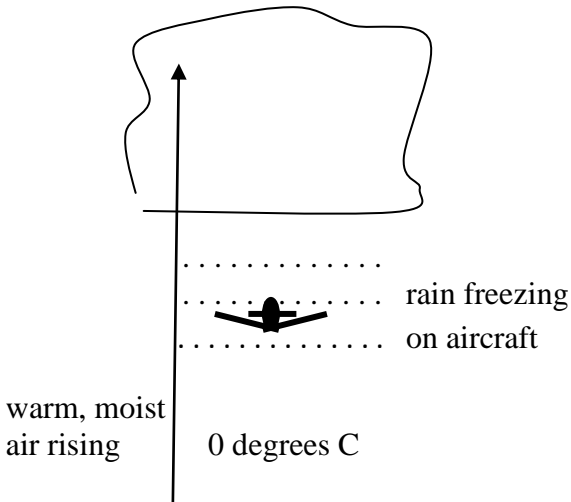
Deteriorating ceilings and virga (fine rain that doesn't reach the ground) are very difficult to see at any distance at night. You can be flying along with a forward visibility of several miles, and suddenly the lights you could see a long way ahead have disappeared. You must descend rapidly to stay VFR, terrain permitting, or immediately reverse course.

The visibility may suddenly decrease from 3 miles to less than a mile in showers or virga.

Showers are a sure sign that not only is the visibility dropping, but the ceiling is coming down. Ceilings may lower 2,000 feet or more, and very suddenly, when it starts to rain.

Airframe Icing

As the temperature decreases, the freezing level drops, lowering the altitude at which icing can occur. Accidental flight into cloud now has the additional danger of airframe ice.



Flying In Rain above the Freezing Level

Fig. 2.4