

17. Do regard as extremely hazardous any thunderstorm with tops 35,000 feet or higher whether the top is visually sighted or determined by radar.

18. Do give a PIREP for the flight conditions.

19. Do divert and wait out the thunderstorms on the ground if unable to navigate around an area of thunderstorms.

20. Do contact Flight Service for assistance in avoiding thunderstorms. Flight Service specialists have NEXRAD mosaic radar imagery and NEXRAD single site radar with unique features such as base and composite reflectivity, echo tops, and VAD wind profiles.

b. If you cannot avoid penetrating a thunderstorm, following are some Do's before entering the storm:

1. Tighten your safety belt, put on your shoulder harness (if installed), if and secure all loose objects.

2. Plan and hold the course to take the aircraft through the storm in a minimum time.

3. To avoid the most critical icing, establish a penetration altitude below the freezing level or above the level of -15°C.

4. Verify that pitot heat is on and turn on carburetor heat or jet engine anti-ice. Icing can be rapid at any altitude and cause almost instantaneous power failure and/or loss of airspeed indication.

5. Establish power settings for turbulence penetration airspeed recommended in the aircraft manual.

6. Turn up cockpit lights to highest intensity to lessen temporary blindness from lightning.

7. If using automatic pilot, disengage Altitude Hold Mode and Speed Hold Mode. The automatic altitude and speed controls will increase maneuvers of the aircraft thus increasing structural stress.

8. If using airborne radar, tilt the antenna up and down occasionally. This will permit the detection of other thunderstorm activity at altitudes other than the one being flown.

c. Following are some Do's and Don'ts during the thunderstorm penetration:

1. Do keep your eyes on your instruments. Looking outside the cockpit can increase danger of temporary blindness from lightning.

2. Don't change power settings; maintain settings for the recommended turbulence penetration airspeed.

3. Do maintain constant attitude. Allow the altitude and airspeed to fluctuate.

4. Don't turn back once you are in the thunderstorm. A straight course through the storm most likely will get the aircraft out of the hazards most quickly. In addition, turning maneuvers increase stress on the aircraft.