

SECTION 1 - GENERAL

This supplement provides information necessary for the operation of the Piper Mirage aircraft for flight into known icing conditions.

Icing conditions can exist when:

- The outside air temperature (OAT) is 5°C or colder, and visible moisture in any form such as clouds, fog or mist, rain, snow, sleet and ice crystals are present.
- During ground operations when operating on contaminated ramps, taxiways or runways where surface snow, ice, standing water or slush are present.
- There are visible signs of ice accretion on the aircraft.

The Mirage ice protection system was designed and tested for operation in light to moderate meteorological conditions defined in FAR 25, Appendix C, for continuous maximum and intermittent maximum icing conditions. The ice protection system was not designed or tested for flight in freezing rain, freezing drizzle or supercooled liquid water and ice crystals, or conditions defined as severe. Flight in these conditions is prohibited and must be avoided.

The ice protection system was not designed to remove ice, snow or frost accumulations from a parked airplane. Ice, snow or frost must be completely removed during preflight to ensure a safe takeoff and subsequent flight. Procedures for ice, snow or frost removal, such as a heated hangar and/or approved deicing fluids, must be used to ensure that **ALL** ice, snow, or frost is **COMPLETELY** removed from the wings, tail, control surfaces, windshield, propeller, engine intakes, fuel vents and pitot-static ports, prior to flight.

Some icing conditions not defined in FAR Part 25, Appendix C have the potential of producing hazardous ice accumulations, which may exceed the capabilities of the airplane's ice protection equipment. See section titled Visual Cues for Supercooled Large Droplet (SLD) Conditions in this supplement.

Flight into icing conditions which are outside the FAR defined conditions is prohibited, and pilots are advised to be prepared to divert the flight promptly, by changing course or altitude, if hazardous ice accumulations occur.

SECTION 2 - LIMITATIONS (continued)

ENVIRONMENTAL CONDITIONS (continued)

With frost, ice, snow or slush adhering to the following areas: (continued)

8. Top of fuselage
9. Static ports
10. Windshield
11. Upper surface of engine cowling forward of windshield

A visual and tactile (hand on surface) check of the wing leading edge and wing upper surface must be performed to ensure the wing is free from frost, ice, snow, or slush when the outside air temperature is less than 10°C (50°F) and

1. there is visible moisture present (rain, drizzle, sleet, snow, fog, etc.); or
2. water is present on the wing upper surface; or
3. the difference between the dew point and the outside temperature is 3°C (5°F) or less; or
4. the atmospheric conditions have been conducive to frost formation.

MINIMUM SPEED IN ICING CONDITIONS

Minimum speed during flight in icing conditions with the flaps up is 130 KIAS.

FLAP SETTINGS FOR OPERATIONS IN ICING CONDITIONS

Flaps must be up when holding in icing condition, maximum flap extension with **ANY** ice accumulation on the airframe is limited to 20°.

MINIMUM APPROACH SPEED WITH FAILED SURFACE DE-ICE SYSTEM

A minimum approach speed of 105 KIAS should be used with the flaps in the 0° (fully retracted) position.

MINIMUM APPROACH SPEED WITH OPERATIONAL SURF DE-ICE SYSTEM

A minimum approach speed of 95 KIAS should be used with the flaps in the 20° position.

SECTION 4 - NORMAL PROCEDURES (continued)**CAUTION**

If cruise airspeed drops below 130 knots in icing conditions, increase power to maintain 130 knots. If maximum continuous power is required to maintain 130 knots, immediate action should be taken to exit icing conditions.

CAUTION

Accumulation of ice on any surface of the airplane leads to an increase in total drag and a resulting reduction in airspeed. Aircraft airspeed, airspeed indicator markings, adverse handling characteristics, and frequent pitch trim activation (blue TRIM annunciator light or trim wheel movement) should be monitored closely to maintain proper low air-speed awareness.

NOTE

An icing encounter can render the aircraft radar unreliable due to beam reflection off of the ice layer on the radome. Also, there may be a degradation of communication and navigation equipment due to ice accumulation on antennas.

If ice is remaining on the unprotected surfaces of the airplane at the termination of the flight, the approach and landing should be made using 20° of flaps and carrying the required amount of power to keep airspeed at 95 KIAS. If ice removal from the protected surfaces cannot be accomplished (ie. due to a failure of the surface deice system) prior to the approach, the flaps must be left in the full up position and approach speeds should not be reduced below 105 KIAS. Allow for increased landing distance due to the higher approach speeds. See Section 2 of this supplement for additional limitations.