8.2 Ground operating instructions

The company has adequate and sufficient ground support for the operations it performs.

Handling operators contracted to carry out operations are informed that they have at their disposal the sections of the "Operations Manual" containing the procedures they must comply with in order to provide their services (in Spanish and English), which can be accessed at:

https://clipperjet.eu/seguridad/

The sections of the OM are:

- Section 8.2 of the MOA.
- Section 9 of the MOA.
- Section 7 of each fleet's MOB.

By sending the signed acceptance of the service via email, the handling company ensures that all personnel attending to the Company's aircraft have the necessary information and training to comply with our procedures.

Furthermore, the Company's website provides access to the Safety Policy and the established procedure for reporting incidents.

Whenever there is any disagreement about the service received from the contracted Handling company, the Captain sends a report to the ROV, who then communicates it to the ROT (Responsible for contracting) so that the appropriate measures can be taken.

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8.2.1 Fuel management procedures

A. The management of each airport, fuel suppliers and operators all have responsibilities regarding the measures to be taken during fuel loading/unloading. This section sets out CLIPPER NATIONAL AIR's rules for this operation.

The States or the Airport Authority may impose additional requirements, in which case the Station Managers shall establish the appropriate measures for compliance and inform the Captain, as applicable.

When the aircraft is assigned and delivered for service, loading/unloading operations, even when carried out by personnel not employed by the Company, shall remain the responsibility of the Captain.

The following must be done:

- Check the type of refuelling tank and type of fuel.
- Supervise the refuelling
- Sign and file the refuelling receipt.

The fuels approved for use in each aircraft are listed in its AFM, Section II – Operating Limitations – Fuel Limits for the C-525C (Page 2-110-7). The fuel normally used by the Company is JET A1

B. Special loading and unloading.

The Company has established special fuel loading/unloading procedures that comply with the conditions set forth in CAT.OP.MPA.200.

a. The Company guarantees that a risk analysis of the operation has been carried out,

   Its procedures have been developed (refer to 8.2.1.b of this section), and

   A training programme has been established for our personnel involved in the operation (MOD 2.1.22).

b. The special loading or unloading of fuel/energy used by the Company includes:

   - The loading/unloading of fuel/energy during embarkation, disembarkation or while passengers are on board.

c. The procedures for carrying out this special loading/unloading of fuel, or any modifications thereto, must be approved in advance by the Agency.

8.2.1.a SAFETY MEASURES DURING FUEL SUPPLY AND DISCHARGE

1) Portable fire-fighting equipment must be available, at least for initial intervention in the event of fuel ignition. The fire extinguishers normally fitted to tankers are considered sufficient to meet this requirement.

2) All loading/unloading operations shall be carried out outside, never inside hangars.

3) Extreme caution shall be exercised during loading/unloading operations in stormy weather, and operations shall be interrupted if lightning occurs in the vicinity of the airport.

4) Loading/unloading shall be avoided when any part of the landing gear is abnormally overheated; loading/unloading shall be interrupted or postponed until the abnormal excess heat has dissipated.

5) Special care shall be taken to avoid spillage, and engines shall not be started until spilled fuel has been removed.

6) Electrical and/or electronic systems, except radar, may be operated as necessary during pre-flight operations.

7) Fuel shall not be loaded/unloaded or such operation shall be interrupted when there is an aircraft with engines running in the immediate vicinity of the area.

8) Batteries shall not be installed, connected or removed from the aircraft. Battery chargers shall not be started or disconnected.

9) Electric power generators shall not be connected.

10) No power tools, drills or similar equipment that may produce sparks shall be used; nor shall electronic or electric flashes be used to take photographs in the vicinity of refuelling equipment, and in particular, the filling or venting holes of the aircraft.

11) Personnel involved in loading/unloading operations are strictly prohibited from using lighters or matches.

12) The presence of open flames or devices capable of producing them is strictly prohibited in areas located less than fifteen metres from where any refuelling operation is being carried out. Such flames and devices capable of producing them include, but are not limited to:
    i) Lighted cigarettes and pipes.
    ii) Flame heaters.
    iii) Blowtorches.
    iv) Torches.

13) Refuelling operations are prohibited while aircraft engines are running.

14) Prevention of electrostatic discharges**.** During fuel loading/unloading operations, with possible differences in electrical potential, there is a risk of spark discharge. Electrostatic charges can build up on the surface of the aircraft or the tanker vehicle, or both, and create hazardous conditions. To prevent this, the tanks, the metal parts of the pipes and the aircraft must be connected to each other, and the tanks and the aircraft must be connected to earth.

15) Among the safety measures during refuelling, guidelines and precautions to be taken shall be drawn up with regard to:

- Approach and positioning of the refuelling vehicle:
  - C-525C are positioned by the front end
- Establishment of the refuelling safety area:
  - This is marked out by cones
- Ground cable connection sequence:
  - This is carried out by the tanker operator.
  - Whenever the hose is in contact with the aircraft, the ground fault switch must be turned on.
- Availability of fire extinguishers.
- The captain is responsible for supervising the fuel supply, paying special attention to verifying the specific amount to be refuelled.
- Ground cable disconnection sequence.
- Departure of the refuelling vehicle

8.2.1.b FUEL REFUELLING AND UNLOADING WHEN PASSENGERS ARE BOARDING, ON BOARD OR DISEMBARKING.

The Company contemplates the case of refuelling or unloading fuel with passengers on board, due to the interest in reducing the duration of transit time on land or for the comfort of passengers.

The procedure covers the following conditions:

a. The entire procedure must be carried out with the engines stopped.

b. Ground service activities and work inside the aircraft, such as catering or cleaning, may be carried out provided that they do not create a hazard and allow for emergency evacuation through the aisle and emergency exits.

c. The aircraft steps shall remain deployed and unobstructed.

States, with some exceptions, allow passengers to remain on board the aircraft while refuelling/defuelling is taking place and may establish additional rules to those set out below, which must be complied with.

(1) At least one of the two pilots shall remain in the aircraft and, in the event of a fire, shall apply the procedures to extinguish it and initiate and direct the evacuation if necessary.

(2) Two-way communication must be established and remain available between the ground personnel carrying out the refuelling and the pilot on board the aircraft.

(3) Passengers, personnel and crew must be warned that refuelling/defuelling will take place.

(4) The "fasten seat belts" signs must be turned off.

(5) "No smoking" signs must be illuminated, together with interior lighting to enable identification of the emergency exit.

(6) Passengers must be instructed to unfasten their seat belts and refrain from smoking.

(7) If fuel vapour is detected inside the aircraft or if any other hazard arises, refuelling/defuelling must be stopped immediately.

(8) The floor area around and below emergency exits must be clear of obstacles.

(9) The flight commander and the personnel carrying out the loading/unloading shall plan measures to ensure a rapid and safe evacuation if necessary.

(10) Passengers with reduced mobility during loading/unloading**.** Provided there are no legal impediments and sufficient personnel are available to ensure their evacuation, the captain, in agreement with the handling agent, may authorise them to remain on board, even when the rest of the passengers are disembarking.

(11) If a flight is being operated with a patient on a stretcher, the CM1 shall ask the doctors to prepare the patient for possible evacuation.

8.2.1.c PRECAUTIONS TO BE TAKEN TO AVOID FUEL MIXTURE.

The crew shall:

- Coordinate with the supplier the specific type of fuel required.
- Check the delivery note to verify the type of fuel supplied.
- Check the refuelling receipt before signing.
- The driver supervising the refuelling is responsible for these precautions and must sign the delivery note to confirm this.

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8.2.2 Operational safety procedures for the aircraft, passengers and cargo

The Company shall contract the appropriate handling services at each airport to identify hold baggage and ensure that it has passed security checks before being loaded onto the aircraft.

No passengers or part thereof may be admitted on board or remain in transit stops if there is not at least one technical crew member on board who must:

- Have an electrical supply on the aircraft
- Have the means to initiate an evacuation
- Be familiar with their responsibilities on board as specified in the Operations Manual
- Be aware at all times of the position of service and cargo vehicles at or near the exits

The following operational procedures shall be followed

1. Approach and positioning of equipment
   - When approaching and moving away from the aircraft, move at walking speed (8 km/h).
   - In low visibility conditions, the driver of the vehicle or equipment shall be guided by another person who will guide them to the aircraft using standard visual signals.
   - Unattended vehicles and ramp equipment located near the aircraft shall have their engines switched off, be in neutral and have the handbrake applied.
2. Placement of chocks.

   These shall be placed by a member of the crew or handling staff before passengers disembark and always after the aircraft's engines have been completely shut down.

   During stopovers, two chocks shall be placed on the nose wheel, one in front and one behind, and depending on the slope of the parking area, another on a main landing gear wheel to prevent the aircraft from moving.

   They shall always be placed so that they touch the wheels, first on the nose gear and then on the main gear, three in total.

   In adverse weather conditions, two chocks shall be placed on each wheel, one at the front and one at the rear, to increase the immobility of the aircraft. Six in total.

   The chocks may only be removed with the authorisation of the Captain.

FAILURE TO FOLLOW THIS PROCEDURE MAY CAUSE THE AIRCRAFT TO ROLL UNCONTROLLED, CREATING RISKS TO ASSISTANCE PERSONNEL AND THIRD PARTIES.

3. Placement of cones.

   Once the engines have been shut down and the chocks have been placed, the cones should be placed. These cones are used to mark the traffic areas around the parked aircraft and should be removed once the aircraft is ready to start up.

   One cone shall be placed towards the nose, to the right of the exit door, and another near the tip of the left wing, to facilitate passenger entry and exit.

4. F.O.D.

   Handling personnel, under the supervision of the Captain, shall ensure that the runway surface is clear of objects that could cause damage to the aircraft or its engines before departure.

   Before arrival, the Tower Control assigns the parking space and the handling personnel must notify them if the runway is not clean enough to receive the aircraft.

5. Accident prevention.

   - Vehicles required for operations shall not approach the aircraft until authorised to do so by the handling supervisor.
   - Doors shall not be opened or closed until authorised by the Captain.
   - The handling company contracted by the Company shall have a coordinator responsible for ground handling operations. The Company shall have previously sent a copy of the procedures to be used in ground handling operations for its aircraft.

8.2.2.a. SPECIAL PASSENGERS INCLUDING CHILDREN/INFANTS, SICK PASSENGERS AND PASSENGERS WITH REDUCED MOBILITY

a.1. Minors

For transport purposes, a minor is considered to be a person who is under TWELVE years of age on the date of the flight and who is over seven days old.

INFANT: A minor who has not reached the age of TWO on the date of the flight. They travel **without occupying a seat and** are accompanied by a person over the age of 18.

CHILD: A minor who is at least two years old but has not reached the age of TWELVE on the date of the flight. They travel in a seat.

a.1.1. Oxygen masks per aircraft and flotation devices on board

1) The C-525C aircraft has three additional masks, which are used to supply oxygen to infants carried by adults and are installed on the cabin ceiling

2) Life jackets on board. Whenever flying over water, the number of life jackets on board must include the necessary number for all children on board.

a.1.2. Seating for minors a.1.2.1. Infants

Babies do not occupy a seat. The adult responsible for the baby during the flight, whenever the use of a seat belt is mandatory, must secure the baby with their arms on their lap after fastening the seat belt.

Infants are not allowed to be secured by the same seat belt as the person accompanying them.

On the 525C three babies can be transported.

a.1.2.2 Seat occupancy by two children (SOD)

No more than one person is allowed to occupy a seat, unless one of them is an adult and the other is an infant.

In order to comply with the regulations governing the distribution of oxygen in the event of cabin decompression, the grouping of an adult and an infant is only permitted in a row of seats where an additional mask is available.

a.1.3. Unaccompanied minors

The Company does not accept this type of transport.

a.2. Persons with reduced mobility or passengers with reduced capacity

This includes any passenger:

- Who, due to their special physical or mental condition, require more individual attention than is normally provided to other passengers during the journey, during a possible emergency evacuation and/or on land. These special physical or mental conditions are identified on the basis of requests or statements made by passengers and/or their relatives or by a medical authority, or because they have been observed and reported by airline staff or persons associated with the industry (agents, etc.).

  Note: The passengers mentioned above include those who have serious difficulties in receiving or understanding emergency instructions.

- Passengers whose health could deteriorate as a result of air travel.

Passengers with reduced mobility may be classified as follows:

- Ambule: Able to board, disembark or move around the aircraft without assistance or with minor assistance from another person, such as deaf, blind or mentally disabled passengers.
- Non-ambulatory: Unable to board, disembark or move around the aircraft without assistance.

a.2.1. Valid companion

This refers to a person over the age of 18, in full possession of their faculties, who is travelling with a passenger with reduced mobility in order to provide them with any assistance they may require during the journey.

They will be informed of the safety procedures, the location of the emergency exits and the route to follow in the event of evacuation, which will be provided on board.

Companions of ambulatory passengers, including blind passengers, may be under 18 years of age.

A guide dog is considered a valid companion for a blind or deaf person travelling alone.

a.2.2. Companies specialising in assistance and transport for sick and injured persons (EATEH)

These are companies that provide transport on CLIPPER NATIONAL AIR aircraft with their own professional staff and medical support equipment on board. CLIPPER NATIONAL AIR will establish cooperation agreements with these companies.

- The personnel of these companies will have accreditation of their identity and authority to transport sick/injured persons on CLIPPER NATIONAL AIR aircraft, which must be shown to the crew and is sufficient for the transport of such passengers. (INCAD is not required).

- NATIONAL AIR aircraft, which must be shown to the crew, this accreditation being sufficient for the transport of such passengers. (INCAD will not be required).
- The Company's competent services shall have taken the necessary measures to equip the aircraft with the devices and mechanisms that may be necessary for this type of transport, without compromising the safety of passengers and the aircraft.

As an annex to the contract between CLIPPER NATIONAL AIR and these companies, a catalogue of all the auxiliary medical equipment that the company plans to use in its normal operations is included. This catalogue shall expressly state CLIPPER NATIONAL AIR's authorisation for such equipment prior to its use or transport in the cabin or hold. This procedure must be followed for any new equipment that may be required in the future. The devices shall bear a label indicating their name, period of validity and authorisation by CLIPPER NATIONAL AIR.

a.2.3. Authorisation for transport

When medical authorisation is required for travel, it may only be granted by doctors authorised by the Company if the maximum number of passengers and other safety regulations are complied with and the necessary formalities are completed.

Authorisation from the Medical Service is the only valid means of admitting a passenger who requires medical authorisation to travel on board.

The ROT will include the passenger's name, flight number, date and route, as well as any additional services (stretcher, oxygen, etc.) and type of companion, if required.

The passenger or a representative must first complete the documents and requirements requested by the Medical Service, which will then decide whether or not to issue authorisation.

a.2.4. Medical oxygen (therapeutic)

The transport of medical oxygen requires authorisation from the Medical Service. Only oxygen cylinders supplied by CLIPPER NATIONAL AIR will be accepted. Passengers' own cylinders will not be accepted on board for use in the cabin.

Stretchers have their own certified oxygen service and are the only ones permitted on board the Company's aircraft.

a.2.5. Acceptance

These rules and instructions apply exclusively to transport on CLIPPER NATIONAL AIR flights. If an itinerary also includes flights with other airlines, the conditions of acceptance may differ, particularly with regard to equipment provision and/or extra charges. The requirements for acceptance on the flight will vary depending on the passenger's condition. (See point A.2.7).

a.2.6. Passenger classes

Passengers with reduced mobility are divided into different classes for the purposes of aeronautical communications. These classes are indicated in airline messages using the AIRIMP code with codes such as:

MEDA: Medical case, those requiring authorisation. STCR: Passenger:

Passenger on stretcher.

WCHR: Wheelchair - R, for ramp. The passenger can ascend/descend stairs and move to/from their seat in the passenger cabin, but needs a wheelchair for long distances to/from the aircraft, i.e. to move along ramps, telescopic gangways or apron stands.

WCHS: Wheelchair –S, for steps. The passenger cannot ascend or descend steps, but can move to/from their seat in the passenger cabin; requires a wheelchair to move to/from the aircraft or gardeners and must be lifted up or down steps.

WCHC: Wheelchair –C, to cabin seat. The passenger cannot move independently; requires a wheelchair to move to/from the aircraft/jardinera and must be lifted up and down steps and to/from their seat in the passenger cabin.

BLND: Blind passenger. May be accompanied by a guide dog. DEAF: Deaf

passenger. May be accompanied by a guide dog.

a.2.7. Passenger categories and requirements demanded by the Medical Service

a.2.7.1. Non-medical cases. Passengers who do not require authorisation for transport and only need special assistance on the ground and/or from the crew during an emergency evacuation or during the flight.

Cat.	Description (1)	Airimp Code	Medical Authorisation	Max. limit per aircraft type	Max. number unaccompanied	Accompanying person Required	Asian insurance Special	Group limit
A-1	Passengers with fractures, dislocations, sprains, etc., in a lower or upper limb, with or without a cast, which do not prevent them from moving freely, and mentally disabled passengers capable of understanding instructions.	-	NO	NO	NO	NO	NO	NO
A-2	Passengers who require wheelchairs for long distances. Elderly passengers, convalescent, etc.	WCHR	NO	NO	NO	NO	NO	NO
A-3	Passengers who require wheelchairs to access/exit steps: Passengers who are hemiplegic. Passengers with amputation, mutilation or defect of one of their lower limbs who can walk unaided but require the use of walking sticks or crutches. Passengers who cannot flex one of their lower limbs (in a cast or not).	WCHR	NO	NO	NO	YES/NO (4)	NO	NO
A-4	Passengers who require wheelchairs to move to/from their seat on the aircraft: Passengers who are paraplegic or quadriplegic. Passengers with both lower limbs amputated, without prostheses. Passengers who cannot support both lower limbs but can flex their knees (bilateral casts, sprains, etc.). their knees (bilateral casts, sprains, etc.).	WCHR	NO	NO	NO	YES/NO (4)	NO	NO
A-5	Pregnant women in normal health. According to IATA recommendations, air travel is not advisable for pregnant passengers during the 7 days prior to the expected date of delivery and during the 7 days after delivery, if complications are expected during childbirth (2). complications are expected during childbirth (2).	-	NO	NO	NO	NO	NO	NO

Cat.	Description (1)	Airimp code	Medical authorisation	Max. limit per type of vehicle	Max. number unaccompanied	Accompanying person Required	Asian insurance Special	Group limit
A-6	Deaf, mute or deaf-mute passengers.	DEAF	NO	NO	NO	YES/NO (4)	NO	NO
A-7	Blind passengers	BLND	NO	YES	YES	YES/NO (4)	NO	NO
A-8	People with mental disabilities who have difficulty understanding and following instructions during a possible emergency evacuation. emergency evacuation.	-	NO	NO	NO	YES/NO (4)	NO	NO

(1) Special circumstances may determine classification in a category other than that initially assigned. In case of doubt, authorised medical personnel will be consulted, who will decide which category the passenger should be placed in and what requirements must be met.

(2) Travel is not recommended according to IATA regulations for healthy newborns or premature babies under seven days old.

a.2.7.2. Medical cases: Passengers requiring special attention, both on the ground and on board

Cat.	Description (1)	Incad (2)	Medical authorisation (2)	Max. limit By Type Avo.	Max. No. Unaccompanied	Accompanying person required (3)	Asian Insurance Special Special	Group Limit
B-1	Passengers requiring oxygen supply	YES	YES	YES	-	YES	NO	YES
B-2	Passengers who are unable to travel seated and require travel on a stretcher.	YES	YES	YES	-	YES	YES	YES
B-3	Premature babies. The incubator must be of the autonomous type.	YES	YES	YES	-	YES	NO	YES
B-4	Passengers with mental disabilities who are unable to understand and follow instructions.	YES	YES	YES	-	YES	YES/NO	YES
B-5	Passengers not included in other groups, with non-contagious, acute or chronic medical or surgical conditions which, due to their characteristics at the time of the flight, may be admitted on board at the discretion of authorised doctors, because it is not foreseeable that transport could cause aggravation or death.	YES	YES	YES	-	YES	YES/NO	YES

(1) In case of doubt, authorised medical personnel will be consulted, who will decide which category the passenger should be placed in and which requirements must be met.

(2) The type of companion will be determined by authorised medical professionals.

a.2.7.3. Cases that cannot be accepted on the flight

These are persons who, due to their physical or mental condition, may cause discomfort to other passengers, or are in such a serious condition that they may suffer complications or death.

In general, they will not be accepted on the flight. In case of doubt, authorised doctors will decide whether or not to accept the passenger on the flight and the requirements to be met. The following cases are distinguished.

CAT	DESCRIPTION
C	Persons whose unpleasant odours, severe disfigurement or other unpleasant characteristics are so unusual that they may cause discomfort or disturbance to other passengers.
C-2	Persons with contagious diseases.
C-3	Persons whose behaviour may be dangerous to other passengers. **Note:** If deemed necessary, the intervention of the authorities will be requested in order to endorse the actions of CLIPPER NATIONAL AIR in the event of any further complaints.
C-4	People in such a serious condition that the journey could cause complications or death.
C-5	Any passenger with reduced capacity in categories A and B who does not meet the requirements set out therein and who is detected by the boarding, public relations or check-in staff at the airport, or by the crew when boarding.
C-6	Persons under the evident influence of alcohol, drugs or narcotics.

Note: If the above persons insist on travelling and/or there is any doubt as to their acceptability, authorised medical personnel shall decide on their acceptance and the requirements to be met.

Type of aircraft	Maximum total number
All fleets	2

a.2.8.2. Maximum number of individual passengers travelling unaccompanied

Passengers in categories A-3/A-4/A-6/A-7 and A-8 may travel unaccompanied in numbers not exceeding those indicated in the following table:

Type of aircraft	Maximum number
All fleets	1

Accompanying persons required

When the number of passengers in categories A indicated in the previous point is exceeded, accompanying persons will be required in accordance with the following:

(a) For passengers in categories A-3/A-4/A-8, one accompanying person is required for each passenger.

The Company, or if necessary the Captain, may require two accompanying persons for reasons of passenger weight or other circumstances, in order to facilitate evacuation.

(b) For passengers in categories A-6 and A-7 (deaf or blind), one person for every two passengers.

Guide dogs are considered valid companions for blind or deaf passengers.

For all categories B, one companion per passenger is always required.

Passengers on stretchers

The number of passengers on stretchers on board is limited ONE for the CESSNA 525C.

a.2.9. Criteria for assigning seats to passengers in seats

Seats with access to the emergency exit must be occupied by passengers who are able to assist in a possible evacuation. The following passengers must never be seated in these seats:

(a) Passengers with a physical or mental disability that prevents them from moving quickly.

(b) Passengers with vision or hearing impairments that prevent them from quickly understanding written or verbal instructions.

(c) Passengers who, due to their age or illness, are unable to move quickly.

(d) Passengers who, due to obesity, have difficulty moving or passing through the door.

(e) Children, regardless of whether they are accompanied.

(f) Passengers who are being deported, not admitted to their destination or in custody.

(g) Passengers with animals.

a.2.10. Seat allocation for passengers on stretchers

The seats to be occupied by the stretcher and those affected by it will be blocked.

Seats blocked and not occupied by the stretcher will be assigned to the companions of the passenger on the stretcher.

a.2.11. Handling of passengers

In all cases where passengers have to be transported on a stretcher/wheelchair, as well as in cases where passengers with reduced mobility cannot board/disembark without assistance, the necessary assistance will be provided by the contracted handling staff. Boarding shall not be considered complete until the passenger has been seated by said personnel in the previously assigned seat. They shall assist in locating the seat and in ensuring that the passenger is comfortably seated on board.

In cases where the seat allocation is clearly incorrect, the Captain may change it.

In the case of passengers with reduced mobility who can board/disembark without assistance, the crew will seat them in their previously assigned seats.

a.2.11.1. Actions to be taken at airports

Handling will take care of everything related to the transport of passengers with reduced mobility, from the moment they are accepted until they leave the destination airport.

Origin airport Ground

operations:

Check that all requirements, limitations (maximum number accepted) and formalities have been processed and complied with.

It will verify that the passenger is able to travel in accordance with the previously agreed conditions.

It will verify that passengers/groups of passengers with reduced mobility are accompanied by the person or persons notified and are carrying the specified equipment/medication. If this is not the case, transport will not be authorised.

If any requirement is not met, the possibility of meeting it at the time or until the departure of the flight will be analysed. When the time frame or circumstances do not make this possible, the passenger cannot be accepted on the flight.

They shall allocate/block the necessary seats. They shall inform the Captain (Cargo Sheet or other form). They shall pass on the relevant information to the cabin crew. They shall board the passenger/passengers with reduced mobility before the other passengers. They shall send the appropriate message to the affected stopover or stopovers.

Whenever possible, passengers travelling with their own folding wheelchairs may remain in them, properly labelled, until they reach the aircraft, where they will be stowed in the hold.

Specially trained guide dogs for the blind or deaf will be accepted for transport when accompanying their owners at no additional charge.

Medical personnel belonging to a company specialising in the transport of sick persons, if travelling alone to meet the sick person or on the return flight after completing their mission, may carry bulky and delicate medical equipment in the cabin, with the exception of oxygen.

Transit stop

Handling will have the appropriate personnel and equipment ready to carry out disembarkation if necessary.

If the passenger needs or wishes to remain on board during a transit stopover due to difficulty in moving independently, the Captain may authorise this, provided that it is permitted by:

- The safety regulations issued by the Company.
- The provisions of the local authorities on this matter.
- The rules on refuelling with passengers on board.
- Other circumstances.

a.2.11.2. Deviation from the flight itinerary Transit

stopover or destination

If during the flight the aircraft suffers any deviation from the planned itinerary, the intermediate stopover or destination where the aircraft should have landed will IMMEDIATELY send the appropriate message to the alternative airport.

In the event of a diversion or interruption of service, the Company will provide the necessary assistance for these passengers, but will not be obliged to cover any maintenance and accommodation expenses arising from their condition as disabled passengers and exceeding those of the other passengers.

Crew

In the event of a flight being diverted to an alternative airport where CLIPPER NATIONAL AIR has an assistance agreement for that airport, the Captain may, in accordance with the terms of the agreement, contact the Assistance Company and request any medical or assistance services required, such as doctors, ambulance services, hospitalisation, etc.

With regard to any unforeseen and unpaid charges that may arise, the rules established by our Company will be taken into account.

a.2.11.3. Destination airport

The destination airport will be notified by message of the arrival of the passenger with reduced mobility and will have the necessary services in place in advance.

These passengers will be disembarked last.

Disembarkation operations will be carried out by the personnel in charge, using the same means and equipment as described above for boarding operations. Once disembarked, passengers will be accompanied to the arrival hall or customs area, where they will be assisted in collecting their luggage and finding subsequent means of transport.

a.2.12. Special or specifically chartered flights for transporting injured persons or victims of catastrophic events

In these cases, there are no limitations, and the specific instructions received in these circumstances must be followed.

a.2.13. Rules of conduct on board - Normal operation

Passengers with reduced mobility will be given special attention by the crew as far as their flight duties allow.

Location on board

It is important that walking sticks (rigid or telescopic) and crutches used by passengers with reduced mobility are stowed in a suitable place. The use of these items during emergency evacuation has been shown to hinder rather than speed up the exit of passengers. Furthermore, there is a possibility that these items could accidentally fall in an aisle and obstruct or completely block it.

Instructions before take-off

In general, passengers with reduced mobility do not have any problems in this regard. The instructions and demonstrations are also valid for these passengers; those who require it due to their characteristics will be instructed individually, taking into account their particular circumstances.

The crew will be responsible for giving the following instructions to those accompanying groups of passengers with reduced mobility:

They will show them the location of the nearest emergency exit. They will show them

the location of the life rafts and life jackets.

They will give each accompanying person a "Safety Instructions" leaflet.

They will ask the accompanying persons to study them and to request any additional information they may require.

The forms shall be collected and stored in their place to prevent them from being lost.

a.2.14 Emergency operation

Evacuation

(a) Individual passengers with reduced mobility.

In the event of an emergency, the evacuation of passengers with reduced mobility shall be carried out as safely and quickly as possible, without causing any delay or slowing down the evacuation of the other passengers.

a.2.15. Passengers affected by incidents/accidents on the ground

If, after being accepted on the flight, any passenger suffers illness, accident, injury, wounds or aggravation of their illness, the following procedure will be followed for the initiation or continuation of transport.

a.2.15.1. The passenger appears fit to fly and wishes to proceed

Handling will consult with the airport Medical Service and submit the case to the Captain for consideration.

a.2.15.2. The passenger does not appear fit to travel

Handling will consult with the airport Medical Service and submit the case to the Captain for consideration.

a.2.15.3. Injuries or accidents occurring on board

In the event that a passenger who has accepted transport as a sick/disabled passenger's condition worsens while on board the aircraft in flight, the Captain may decide to land at the nearest suitable airport depending on the seriousness of the incident.

a.3 TRANSPORT OF PASSENGERS NOT ADMITTED AT THE DESTINATION, DEPORTED PASSENGERS AND PERSONS IN CUSTODY

These passengers mainly fall into the following groups:

- Not admitted
- Deported
- Convicts, Prisoners and Persons Subject to Extradition The rules to be followed with these passengers are detailed below, bearing in mind that they are **always subject to the rules of the country ordering the passenger's departure.**

a.3.1 Passenger Not Admitted (INAD)

In accordance with IATA Resolution 701, these are passengers of a nationality other than that of the arrival airport who are not admitted by the competent authority. The usual reasons for non-admission are:

- Defects in the passenger's documentation
- Decision by the immigration authorities that the passenger is not acceptable.

If any of the Company's passengers are not accepted at their destination, they will return to the airport of departure on the same aircraft.

This non-admission will be communicated to the Captain.

a.3.2 Deported passengers (Deportees, DEPO)

According to IATA Resolution 701, this is a person who has been legally admitted to a country by its authorities or who has entered the country illegally and who is subsequently formally ordered by those authorities to leave the country.

a.3.3 Transportation restrictions

Given the characteristics of the aircraft used by the Company, unless ordered by the competent authority, deported passengers, convicted prisoners and/or persons subject to extradition will not be admitted on board due to the potential danger they pose.

8.2.2.b PERMITTED SIZE AND WEIGHT OF HAND LUGGAGE

- **Classification and definition**.

The dimensions of the item shall not exceed 50x40x20 cm, such that no item whose length + width + height exceeds 110 cm and a weight of 6 kilograms.

Under no circumstances shall the location of luggage in the cabin obstruct access to emergency exits or the crew's view of the passengers.

- Limitations on number of items, weight and size. Passengers may carry one item of luggage with the dimensions described above, one handbag and warm clothing.
- Hand luggage exceeding the accepted measurements: handling staff will be initially responsible for checking the measurements of hand luggage. The crew will then check again that there is no luggage on board that exceeds the measurements described above.
- Items exceeding these measurements or weights will be loaded into the hold.
- As the aircraft do not have pressurised cargo holds, pets (dogs and cats) must be transported in the passenger cabin accompanied by their owners. They must be over 3 months old, have a veterinary passport and identification system and, if they weigh more than 8 kg, they must be transported in a cage.

  Some types of small pets that meet the above requirements and are harmless may be accepted.

8.2.2.c LOADING AND SECURING ITEMS ON THE AIRCRAFT

The cargo compartments of the Company's aircraft are not accessible to the crew during the flight, are not pressurised and do not have any warning system to the cabin (except for the C-525C, which has a smoke detector with a warning to the cabin).

c.1. Passenger cabin.

To ensure that hand luggage and packages are correctly stowed, the following measures must be taken into account:

- Each item carried in the cabin must be placed only in a location capable of retaining it;
- No luggage should be placed under the seats.
- No items should be placed in toilets or next to bulkheads.
- Luggage and packages must not be placed where they may obstruct access to emergency equipment; and
- Before take-off and landing, the co-pilot shall ensure that luggage is stowed where it will not impede evacuation or cause injury (by falling or other movement).

c.2. Hold.

- Care must be taken with doors during loading and unloading operations.
- Precautions must be taken when handling bulky or heavy cargo inside the hold to avoid damage to the floor.
- When liquids are spilled in the cargo holds, this must be reported immediately to prevent damage to the floor or electrical wiring.
- Any package labelled as dangerous goods must be removed immediately.
- Proceed with caution when a damaged package is detected. These packages must not be transported, as they are a potential source of damage.
- The runway surface must be clear of any objects that could cause damage to the aircraft or its engines.
- Before the aircraft departs, a visual inspection shall be carried out to ensure that all service doors and holds, as well as all panels, are closed, latched and free of FOD.

8.2.2.d. POSITION OF GROUND EQUIPMENT

The mobile equipment that normally approaches the aircraft are:

- Passenger van
- Stewardess van
- Handling van
- GPU
- Waste tank and
- Pushback

Responsibility for handling lies with the handling company serving the aircraft.

Mobile ground equipment, operated only by Company personnel or appropriately trained handling agents, shall not approach the aircraft until all engines have been shut down (anti-collision lights off) and chocks have been applied, or authorisation has been given by the Captain. The speed of this equipment shall always be reduced. In the event that an engine must remain in operation, the mobile equipment shall approach the aircraft on the side where the engine is stopped. In any case, the flight crew and ground personnel shall agree in advance on the action to be taken.
A distance must always be maintained between the ground crew and the aircraft to avoid possible damage caused by movement of any part of the aircraft during loading/unloading/refuelling, etc.
The ground crew should not encroach on areas designated for aircraft taxiing and passenger boarding/disembarking.

8.2.2.e OPERATION OF AIRCRAFT DOORS

The opening and closing of the passenger cabin door shall be carried out after authorisation by the Captain.

Both the passenger door and the cargo door must not be opened until the engines are stopped and the chocks are in place, and these same conditions must be met with the cargo door before starting the engines.

The passenger door may remain open, with the right engine running, to allow the cabin to be conditioned. It shall be closed, once all passengers are on board, before starting the left engine.

They are operated by the crew from inside. In an emergency, they can be opened from the outside.

The doors of all the Company's aircraft are operated in the same way:

To open: Turn the lever clockwise and push outwards

To close: Close the door and turn the lever counterclockwise.

Tankers must be positioned so that:

i) They do not obstruct access to the aircraft by rescue and/or fire-fighting vehicles.

ii) Their exit is clear in case they need to move away quickly in an emergency. Loading/unloading will be interrupted if any vehicle obstructs the rapid evacuation routes for tanker vehicles.

iii) They do not obstruct the evacuation of the aircraft in the event of a fire on board.

iv) The engines of these vehicles are not located below the aircraft's wings.

Vehicles used for operations other than loading/unloading fuel shall comply with the provisions of the previous point. They shall be positioned so as not to impede the operation of fire-fighting vehicles or the exit of tankers.

The exhausts of all vehicles operating in the loading/unloading area shall be carefully maintained to eliminate causes of sparks or flames that could ignite fuel or its vapours.

Auxiliary power units on land and/or on board (APUs) shall be connected and started before the start of refuelling and shall not be stopped or disconnected until loading/unloading has been completed.

8.2.2.f RAMP SAFETY, INCLUDING FIRE PREVENTION, AND JET AND SUCTION ZONES

All personnel working on the ramp shall wear reflective vests and exercise extreme caution with mobile equipment moving on the ramp.

When ground equipment is approaching or leaving the aircraft, it must not be driven at a speed greater than walking pace.

Before moving ground equipment, an inspection shall be carried out around the aircraft to check that it is free of FODs.

When positioning equipment, special care must be taken to ensure adequate clearance from vehicles, aircraft, or other equipment.

When visibility in critical areas is limited, a person shall guide the operation. Standard hand signals shall be used to guide ground equipment.

The guide shall position themselves so that they can accurately judge the space available, remain visible and be in a position to communicate signals to the vehicle operator at all times. The vehicle operator shall stop immediately if they lose sight of the guide.

Motorised equipment must check its brakes before entering the restricted area and again before reaching the side of the aircraft.

Vehicles with rubber protective bumpers shall not press them against the aircraft fuselage to prevent damage.

All equipment, except that necessary for departure, shall be positioned behind the restriction line before the aircraft pushback begins.

In an open departure area, equipment shall be positioned so that there is sufficient space for the aircraft to move.

f.1. FIRE PREVENTION IN COMBUSTION RISK AREAS AND REFUELLING AREAS.

Fire prevention is more important than firefighting. The following considerations shall be taken into account to prevent and protect against fire:

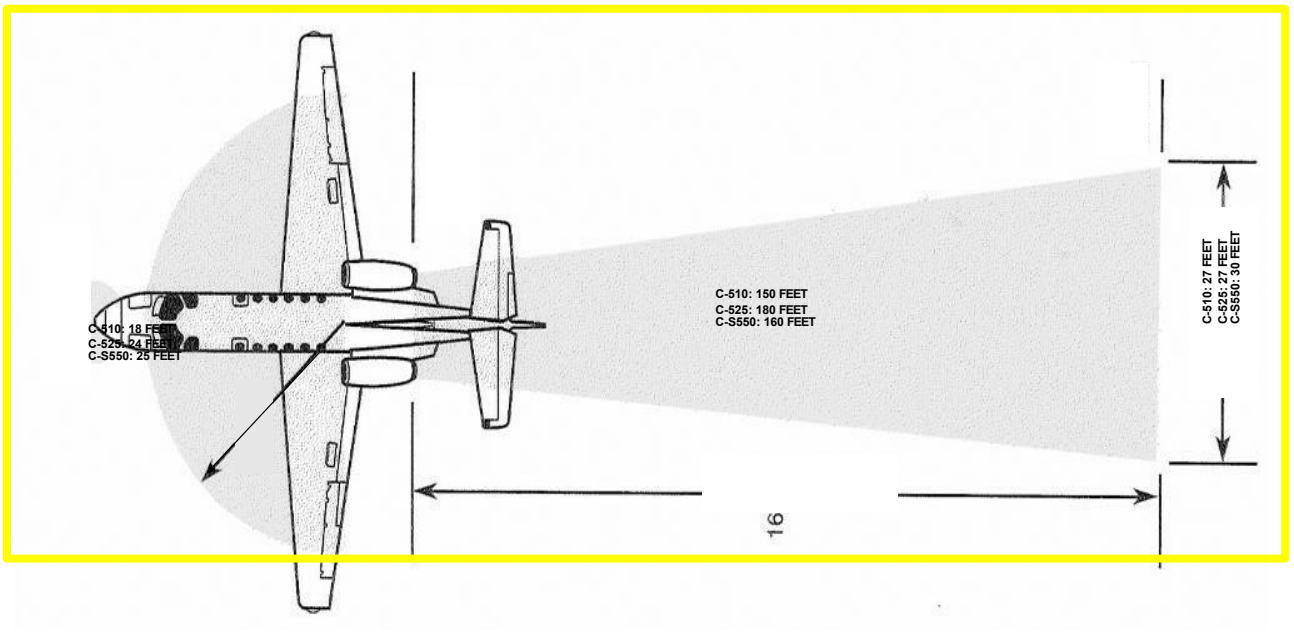
- No accumulation of rubbish shall be permitted, unless in appropriate containers.
- Any suspicion or knowledge of the existence of a fire shall be reported immediately.
- Any faults in the electrical wiring must be reported immediately.
- Smoking is not permitted on ramps or in any vehicle located on ramps.
- The location of fire-fighting equipment, fire alarms, emergency switches, etc. must be known to all personnel.
- Access to fire-fighting equipment, fire alarms, emergency switches, etc. must not be obstructed.
- If a fire is observed in a parked aircraft, the people inside shall be warned immediately and evacuation shall be carried out.

- While the fire is being controlled, if there is any doubt about the safety of personnel, any extinguisher from ground equipment or those available on the aircraft may be used.
- If possible, the aircraft doors should be closed.
- If the fire occurs in any ground support equipment, it shall be fought using the extinguishers available on the ramp or those belonging to the ground crew. As soon as possible, the ground crew shall be removed from the vicinity of the aircraft.
- No ground equipment shall operate in the vicinity of a fuel spill.
- Personnel shall be familiar with the types of equipment available for firefighting and shall be trained in their use.

f.2. PRECAUTIONS IN JET AND SUCTION AREAS

On the ramp with the engines running, ground personnel shall take extreme precautions in the area affected by the jet engines. The following safety distances shall be maintained:

C-525C: OM Figure 1-5 (Page 1-6)



8.2.2.g. PROCEDURES FOR START-UP, RAMP DEPARTURE AND ARRIVAL, INCLUDING TOWING AND TOWING OPERATIONS

The auxiliary power unit or ground power unit shall be used as the power source on the ground prior to start-up.

If these units are out of service, the aircraft engines shall be started with the battery as specified in Section 3 of the AFM and in the QRH (Battery Start).

g.1. Start-up.

Engine start-up can be dangerous for ground personnel and objects near the aircraft.

The captain shall take into consideration the departure time, the slot and other related factors before starting the aircraft.

Before start-up, the captain shall ensure that the aircraft clamps are on board and that the start-up area is clear.

g.2. Ramp departure procedure.

Before taxiing, the appropriate clearance must be obtained from the Control Tower and ground personnel must give the area clear and clear.

The Captain will inform Handling/Maintenance that he is ready for start-up, with brakes applied and Beacon On.
Once the aircraft has started, handling/maintenance personnel remove the GPU equipment. They check that the area is clear and give the signal that the aircraft is ready to taxi.

When taxiing, the captain must assess the situation around the aircraft, especially near other aircraft and objects, maintaining an appropriate taxiing speed and power that does not cause excessive noise, particularly when taxiing from the parking area.

The captain is responsible for ensuring that the aircraft does not come into contact with any object while manoeuvring with engine power.

The "aircraft clear" signal must be given by ground personnel before taxiing begins.

Taxi lights shall be activated once the "aircraft clear" signal has been received, before releasing the brakes and commencing taxiing.

It is very important that all flight crew members pay close attention during taxiing, especially when conditions are adverse, e.g. low visibility, unfamiliar airport, etc. The reading of checklists shall not be started or continued while conditions requiring special attention exist.

When there is any doubt about the position at the airport, the aircraft shall be stopped immediately and ATC or runway control shall be informed.

Surface markings must be strictly followed. Stop lights must not be passed.

Taxiways vary from place to place and are not always free of obstacles. They should be used with caution as a guide for positioning the aircraft.

The pilot in command, when guided by signs placed on the ramps, is responsible for the manoeuvres of the aircraft.

External pushback and towing procedures

When pushback is necessary, proceed as follows:

1) The personnel attending the tow, with the aircraft braked or with the main landing gear wheel chocks in place to prevent the aircraft from rolling back, shall insert the equipment ramp under the nose wheel and secure it with a hold.
2) They shall notify the pilot in command to "remove chocks and release brakes".
3) Move the aircraft to the departure point, stop it and instruct the crew to apply the brakes before removing the nose wheel ramp and taking away the tow.

Authority for taxiing the aircraft

CLIPPER NATIONAL AIR aircraft will taxi in the movement area of an aerodrome always under the control of members of the flight crew, unless the person at the controls:

1) has been duly authorised by CLIPPER NATIONAL AIR or an agent designated by it and is competent to:
   i) taxie the aircraft
   ii) use the radio telephone and
2) has been briefed on the general layout of the aerodrome, taxiways, signs, markings, lights, air traffic control instructions, phraseology and procedures, and is able to follow the practical rules for the safe movement of aircraft on the aerodrome.

g.3. Arrival procedures.

With the aircraft braked, engines and beacon switched off, the Captain signals for chocks. The handling personnel place the chocks and signal to the Captain to release the brakes and order the doors to be opened.

The number of chocks and their placement are specified in point 8.2.2 of this section.

g.4. Parked aircraft

When an aircraft is parked, the main landing gear wheels shall be fitted with wheel chocks.

8.2.2.h. MINOR AIRCRAFT MAINTENANCE

The Captain must request the necessary services from the handling agent, such as:

- De-icing/Anti-icing
- Maintenance
- Fuel
- Catering
- Oxygen
- Cleaning, etc.

These services will be supervised by a member of the crew and invoiced by the handling agent, within the framework contract it has with the Company, which provides for this possibility.

8.2.2.i DOCUMENTS AND FORMS FOR AIRCRAFT HANDLING

General

Reports, forms and, in general, all documentation shall be written in pen (in very clear handwriting, preferably in capital letters) and, where required, shall be signed.

Unless otherwise specified, the date shall be the date of departure, and the time shall be GMT.

Each stage of a series of flights is considered an individual flight.

The following documents and forms are required for ground operations:

- **Load sheet**. This is provided by CLEARWAY flight dispatch, its details must match those of the PVO and it must be approved by the pilot in command.

- Cargo and passenger information is included in the "GenDec" sent to the handling agents involved in the operation and to the flight dispatcher, who uses this information to prepare the cargo manifest sent to the crew, together with all flight documentation.

  The number of passengers, their mass and/or the weight of the cargo indicated in the "GenDec" must match the data indicated on the load sheet.

- **Information for the crew.** The "Pilot info" contains all the details of the service to be performed, scheduled flights and times, passengers, special cargo if any, hotels, fuel, etc.
- **Fuel sheet**, completed by the person responsible for supplies. The captain signs the delivery note to confirm that he has checked it. The captain keeps the receipt and includes it in the flight envelope.

- **Medical assistance report.** This is signed by the doctor responsible for assisting the patient on medical flights.
- **Safety lists** Once the passengers and cargo have disembarked, the lists described in the safety procedures shall be completed by the relevant personnel.

8.2.2.j. SPECIAL CARGO AND CLASSIFICATION OF CARGO COMPARTMENTS.

Information on the transfer of special cargo is received by the Captain via the "Flight Info" and the details thereof from the "GenDec" received with the flight documentation.

Special cargo PERISHABLE goods

All goods that must be transported without delay are perishable, as otherwise they lose their usefulness and therefore their value, either because they must be delivered within a certain period of time or because they could deteriorate due to changes in temperature and humidity and the passage of time.

Examples of perishable goods are:

- Foodstuffs such as meat, fish, fruit and vegetables, flowers, etc.

Human remains

The Company will accept the transport of human remains (HUM) provided that the following restrictions are met:

1. With the exception of cremated human remains, they must be contained in a lead or zinc inner coffin hermetically sealed inside a wooden coffin. The wooden coffin must be protected by an outer canvas covering so that its contents are not visible.
2. Incinerated remains must be contained in funeral urns protected against breakage with suitable packaging.
3. They must be handled with respect and kept covered during loading/unloading.
4. They shall not be transported in the same hold as any perishable goods.
5. The commander will be informed via his flight info and Gen Dec of the presence of human remains, their weight and their exact location in the aircraft.

Human remains will not be accepted unless the relevant documentation is attached to the coffin or casket.

Compatibility between perishable goods and human remains

The following table shows the various perishable goods or human remains that may be loaded together in the hold, and those that may not.

Type	MEAT	SEAFOOD	FRUIT & VEGETABLES	FLOWERS	HUM
MEAT	☑	☑	☑	☑	X
SEA FOOD	☑	☑	☑	☑	X
FRUIT & VEGETABLES	☑	☑	☑	X	X
FLOWERS	☑	☑	X	☑	X
HUM	X	X	X	X	☑

Non-perishable goods

Non-perishable goods are any goods that do not risk losing their usefulness or value if transported with delay.

Aircraft spare parts, company material and mail (non-dangerous goods) CO-MAIL = Company mail

CO-MAT= Company material

Company mail and material shall mean internal mail and material shipments, such as documents, stock, maintenance parts, cleaning supplies or other items, which must be delivered to the company itself or to the company contracted to perform a particular service (e.g. cleaning company).

Both internal mail and Company material transported on Company aircraft shall be subject to security checks prior to being loaded.

The Company must ensure that any co-mail or co-mat shipment made on its behalf by a contracted company is examined before being loaded onto the aircraft.

All requests for the transport of aircraft spare parts must come from the Company's maintenance department. The transport of CO-Mail and spare parts is permitted on aircraft, subject to space and weight restrictions.

The Gen Dec must be completed, including the relevant information, and sent to the contracted handling agent at the departure airport.

You must provide a description of the part, its dimensions and weight, as well as a declaration that it is not dangerous goods.

Maintenance will ensure that the spare parts have been taken to the aircraft, that they have been properly protected and labelled as "spare parts".

Postal mail

The Company accepts and transports commercial mail or parcels

Wheelchairs

Given the size of the warehouse and the door, only folding wheelchairs can be transported.

Live Animals (AVIS)

Animals may travel in the passenger cabin provided they do not disturb other passengers.

In all cases, they must be secured and carry the relevant documentation issued by the freight agent.

Animals (dogs and cats) must be transported in the company of their owners. They must be over 3 months old, have a veterinary passport and an identification system. Live animals must be in a cage and their maximum weight is 8 kg. They will be considered wet goods and the floor of the cage must be covered with absorbent material. No more than 2 animals may be transported in the cabin.

Refrigerators containing organs for transplant.

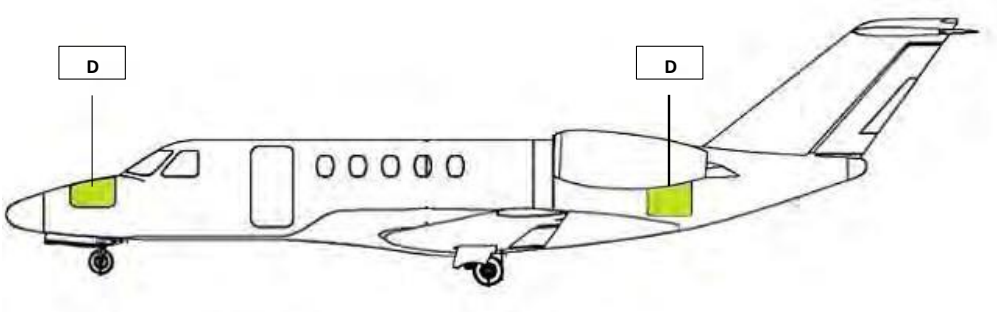
These refrigerators must be in the passenger cabin as the cargo compartments are not pressurised. They will be used to transport surgical equipment. These are specially chartered

j.1. Classification of cargo compartments

Cargo compartments are classified according to their accessibility during flight, the possibility of being isolated in terms of ventilation and the type of fire extinguishing system that may be required inside them.

CESSNA 525-C

It has two Class "D" cargo or luggage compartments, which are not accessible from the cockpit, are not pressurised or ventilated, and are equipped with fire alarms.



The load data for weight, volume and floor strength are listed in Section VI of the AFM, pages 6-110-20, and are as follows:

NOSE: has a capacity of 400 pounds in an area of 15 cubic feet.

8.2.2.k. MULTIPLE OCCUPANCY OF AIRCRAFT SEATS.

Multiple occupancy of aircraft seats by both passengers and crew members is prohibited.

Multiple occupancy of seats is only permitted when one of the occupants is an adult and the other is an infant

8.2.3 Denied boarding procedures

The company will not allow any person to enter under the influence of alcohol or drugs, in such a way that may affect the safety of the aircraft or its occupants.

Before departure, the Commander is empowered to prevent boarding of passengers who are under the influence of alcohol, drugs, etc., and those who could be dangerous or a nuisance to the rest of the passengers. The Commander may seek advice from airport health personnel before making such a decision.

These points do not apply to patients undergoing medical care and who have their release form and/or the corresponding medical company.

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8.2.4 De-icing and anti-icing on the ground.

The applicable procedures shall be those established in the AFM and/or OM for each type of aircraft for Special Operations and Cold Weather Operations.

Considerations to be taken into account when assessing aircraft icing:

1) It is necessary to have a clear idea of the adverse effects of roughness on the exterior surface of the aircraft on its performance.

2) It is not advisable to request de-icing services without knowing the procedures and products used in them.

3) It is essential to know the most critical areas of the aircraft in terms of icing, so that they can be properly treated to prevent possible deterioration in de-icing operations and so that they can be properly examined during pre-flight inspections.

4) If deemed appropriate, additional pre-flight inspections should be carried out without hesitation.

5) Several variables affect the effectiveness of anti-icing fluids.

6) The effective time of anti-icing fluids cannot be determined with absolute accuracy, as there are many variables that affect this time.

7) Anti-icing treatment should be carried out as close as possible to the time of take-off.

8) Engines should not be started if there are ice fragments on the surface that could be ingested.

9) Certain operations can cause recirculation of ice crystals, snow or a mixture of water and ice.

10) The operation of some equipment in the vicinity of the aircraft may facilitate the accumulation of snow or ice in critical areas.

11) It is recommended to check for possible ice accumulation on the profiles during taxiing.

12) Immediately before take-off, a final visual inspection must be carried out from the cockpit. Do not attempt take-off if you cannot ensure that the aircraft is clean.

Definitions:

Anti-icing: the process of protecting the aircraft to prevent contamination due to existing or expected weather conditions, usually by applying anti-icing fluids to uncontaminated surfaces of the aircraft.

Conditions conducive to ice formation on aircraft ground: freezing fog, freezing precipitation, frost, rain or high humidity (on wings soaked in cold), hail, ice pellets, snow or a mixture of rain and snow, etc.

Pre-take-off check: the flight crew should continuously monitor weather conditions after de-icing/anti-icing treatment to assess whether the maintenance time applied is still adequate. Within the aircraft's HOT and before take-off, the flight crew must check the aircraft's wings or representative surfaces for frozen contaminants.

Contamination: Any type of frozen or semi-frozen moisture such as frost, snow, sleet or ice.

Contamination check: a check of the aircraft for contamination to determine the need for de-icing.

Pre-take-off contamination check: a contamination check of treated surfaces, carried out when the HOT has been exceeded or if there is any doubt regarding the continuation of the anti-icing treatment applied. It is normally carried out externally, just before the start of the take-off run.

De-icing: the process of removing frozen contamination from aircraft surfaces, usually by applying de-icing fluids.

De-icing/Anti-icing: Combination of de-icing and anti-icing procedures, carried out in one or two stages.

Cold soaked surface frost (CSSF): frost developed on aircraft surfaces that have been cold soaked by sublimation of moisture from the air. This effect can occur at ambient temperatures above 0 °C.
Cold-soaked aircraft surfaces are most common on aircraft that have recently landed. The external surfaces of fuel tanks (e.g. wing skins) are typical areas for CSSF formation (known in this case as cold-soaked fuel frost (CSFF)), due to the thermal inertia of very cold fuel remaining in the tanks after landing.

Clear ice: a layer of ice, usually transparent and smooth, but with some air pockets. It forms on exposed objects whose temperatures are at, below, or slightly above freezing, due to the freezing of supercooled drizzle, droplets, or raindrops. Clear ice is very difficult to detect visually.

Anti-icing fluid: includes, but is not limited to, the following:

1. Normally, Type II, III or IV fluid (pure or diluted), applied without heating (*);
2. Mix Type I fluid and water heated to a minimum of 60 °C in the **nose.**

   (*) When performing de-icing and anti-icing in a single process, Type II and Type IV fluids are typically applied diluted and heated.

3. Type II, III or IV fluid (pure or diluted). De-icing fluid is normally applied heated to ensure maximum efficiency and its freezing point must be at or below the outside air temperature (OAT).

Ground Ice Detection System (GIDS): a system used during ground operations to inform personnel involved in the operation and/or the flight crew of the presence of frost, ice, snow or sleet on aircraft surfaces.

Liquid water equivalent (LWE) system: an automated weather measurement system that determines the LWE precipitation rate in freezing or icy precipitation conditions. The system provides the flight crew with continuously updated information on the protective capability of fluids in different weather conditions.

Lowest operating temperature (LOUT): the lowest temperature at which a fluid has been tested and certified as acceptable in accordance with the appropriate aerodynamic acceptance test, while maintaining a freezing point buffer of not less than:

1. 10 °° °C for a Type I fluid; or
2. 7° C for type II, III or IV fluids.

Maximum effectiveness time (Hold Over Time): the period of time during which an anti-icing fluid provides protection against frozen contamination on treated aircraft surfaces. It depends, among other variables, on the type and intensity of precipitation, OAT, wind, the particular fluid (or fluid type), the aircraft design and the aircraft configuration during treatment.

Post-treatment, de-icing or de-icing/anti-icing verification: an external check of the aircraft after treatment has been completed by qualified personnel and from suitably elevated observation points (e.g. from the de-icing/anti-icing equipment itself or other elevated equipment) to ensure that the aircraft is free of frost, ice, snow or slush.

ANTI-ICE CODES

Upon completion of the anti-icing treatment, qualified personnel provide the anti-icing code to the flight crew as follows:
"fluid type / fluid name (except for Type I) / concentration (except for Type I) / local time at start of antifreeze / date (optional) / statement 'post-thaw / anti-icing verification completed' (if verification was completed).

Example:
"TYPE II / MANUFACTURER, BRAND X / 75% / 1335 / 15FEB20 / POST-DE-ICE CHECK / ANTI-ICE COMPLETED".

When a two-step de-icing/anti-icing operation has been performed, the anti-icing code must be determined by the fluid from the second step.

A) COMMERCIAL NAMES

The most commonly used in de-icing and anti-icing operations, according to fluid type, are:

Type I:

- Hoechst: Safewing DG I and Safewing MP I.
- Kilfrost: DF.
- BASF: Aerex 102.

Type II and III:

- Hoechst: Safewing MP II.
- Kilfrost: ABC-3.
- UCAR: AAF ULTRA.

Type IV:

- Hoechst: Safewing MP IV.
- UCAR: AAF ULTRA PLUS.

B) CHARACTERISTICS

Type I fluid.

It has a high glycol content and very low viscosity, as it does not contain thickeners, which limits its effectiveness as an anti-icing agent.

It is mainly used to remove ice, snow or slush from the surface of the aircraft before departure, by spraying it, either alone or mixed with water, at a temperature between 70 and 80 degrees Celsius and at a distance of about three metres.

It does not alter aircraft performance, and if atmospheric conditions allow a holdover that covers the time between application of the fluid and the scheduled take-off time, its use is the preferred option (see Annex II to the MOA).

Type II, III and IV fluids.

These are normally used as anti-icing fluids to ensure that the aircraft remains clean from the time of de-icing until the scheduled take-off time.

The atmospheric conditions and the time between de-icing and take-off determine the type of fluid and its concentration (refer to the Holdover tables in Annex II to the MOA).

They are sprayed cold onto the surface of the aircraft approximately three minutes after cleaning and are not compatible with each other, so they cannot be mixed.

Their high viscosity reduces aircraft performance and requires inspection and cleaning, normally after every three applications.

If Type I fluid is not available, they can be used for de-icing following the same procedure.

When precipitation or icing conditions exist, or there is a risk of these occurring during take-off, the aircraft surfaces must be treated with anti-icing in accordance with GM2.CAT.OP.MPA 250 (b)(3).

The de-icing and anti-icing procedure can be carried out in one or two steps, depending on weather conditions, the availability of ground equipment, the types of fluids available and the protection time required according to the Holdover tables.

The one-step procedure means that de-icing and anti-icing are performed at the same time, using a mixture of de-icing/anti-icing fluid with water heated to a minimum of 60 °C.

Mixture concentration (fluid/water) % vol	Lower temperature limit for application (OAT)
50	-3
75/25	-14°C
100	-25

The two-step procedure separates the two functions. First, de-icing is performed using hot water alone or mixed with fluid, as in the previous case. Then, once de-icing is complete, a mixture of anti-icing fluid with or without water is sprayed onto the aircraft surfaces.

This second step must be carried out within a maximum of 3 minutes, before the liquid from the first step can freeze.

The fluid used for anti-icing will depend on the time required to protect the aircraft and the prevailing weather conditions (Holdover Tables).

All restrictions published by the fluid and aircraft manufacturers must be observed to prevent the formation of residues.

C. EFFECTS ON AIRCRAFT PERFORMANCE

The pilot in command shall not commence take-off unless the external surfaces are clear of any deposits that could adversely affect the performance and/or control of the aircraft.

TAKEOFF PERFORMANCE – TYPE II, TYPE III, AND TYPE IV FLUIDS

Established in Section VII of each aircraft's AFM:

MODEL C-525 C

Precautions in accordance with Section VII of the AFM (Page 7-210-1,2,3 and 4)

Ground de-icing/anti-icing operations.

Icing may occur whenever there is high humidity with temperatures of +10 °C or less. Type I de-icing fluids and Type II, Type III or Type IV anti-icing fluids may be used sequentially to ensure de-icing and anti-icing of critical fuselage components.

Note: It is recommended that flight crews re-familiarise themselves each season with the following publications for extended de-icing and anti-icing procedures:

- Cessna Maintenance Manual, Chapter 12.

De-icing/anti-icing procedures (Type I, Type II, Type III, and Type IV fluids). ONE-STEP DE-ICING

(Refer to item B in this section)**:**
Type I fluid is used to remove ice, sleet and snow from the aircraft and to provide minimum anti-icing protection. (Refer to the Holdover tables in Appendix II to the MOA).

TWO-STEP DE-ICING/ANTI-ICING (Refer to point B of this section):
May be used to ensure that the aircraft remains clean after de-icing. Type II, Type III or Type IV fluids are used to provide additional anti-icing protection.

CAUTION

Type I, Type II, Type III and Type IV fluids are not compatible and cannot be mixed. In addition, most manufacturers prohibit mixing brands within a type.

Line personnel must be supervised by the crew to ensure proper application of de-icing or anti-icing fluids. Refer to Annex II of MOA Point "B" C-525C.
Ensure that the aircraft is always sprayed from the front. Spraying from the rear may force the fluid into aerodynamic areas where it may not drain from the aircraft.

NOTE
The first area to be treated with de-icing/anti-icing should be easily visible from the cockpit/pilot compartment and should be used to provide a conservative estimate of unseen areas of the aircraft before initiating take-off roll.

The protection times in the Holdover tables in Annex II to the MOA are only estimates and vary depending on many factors, such as temperature, type of precipitation, precipitation rate, wind, and aircraft surface temperature. The times begin when the last application begins.

Refer to GM3.CAT.OP.MPA.250(a)(3).

CAUTION
The Company is responsible for ensuring that the Holdover tables are kept up to date.
The tables are for use in departure planning only and must be used in conjunction with pre-takeoff pollution control procedures.

NOTE
The tables do not apply to fluids other than SAE or ISO Type I, Type II, Type III or Type IV FPD.
The responsibility for their application lies with the Company.
The freezing point of Type I fluid mixture must be at least 10 °C (18 °F) below the current OAT. The freezing point of Type II, Type III and Type IV fluid mixtures must be at least 7 °C (13 °F) below the current OAT.

SPRAYING TECHNIQUE - TYPE I FLUID.

Type I fluid should be sprayed into the aircraft in such a way as to minimise heat loss from the aircraft. If spraying is carried out with the engines running, the engines must be idling with all engine bleeds off. If possible, the fluid should be sprayed in a solid cone pattern of large, coarse droplets at a temperature of 70°C to 80°C at the nozzle. The fluid should be sprayed as close as possible to the aircraft surfaces, at least three metres away if a high-pressure nozzle is used. Refer to Annex II of the MOA Point. "B" for essential areas to be treated with de-icing/anti-icing.

Pre-take-off contamination check: icing conditions.

When icing conditions exist, in addition to the tactile check required in Section II of the AFM, Take-off and Landing Operating Limits, the crew must perform a visual check for contamination within 5 minutes prior to take-off, preferably just before taxiing to the active runway. Visible areas of the aircraft, such as the wing, must be checked to ensure that they are free of ice, sleet or snow and that de-icing/anti-icing fluids continue to protect the aircraft.

Takeoff performance – Type II, Type III and Type IV fluids.
Refer to GM2.CAT.OP.MPA.250 (c).
Takeoff performance is degraded when Type II, Type III, and Type IV fluids are on the aircraft. The fluid that remains on the aircraft during takeoff causes the elevator forces at rotation to be increased and takeoff distance to be increased.

Takeoff is limited to flaps 0° configuration, per Section II, Takeoff and Landing Operational Limits when Type II, Type III, or Type IV anti-ice fluid has been applied to the airplane.

The following procedures are required when departing with anti-ice fluid on the aircraft:

1. *Use Flaps 0°.*
2. *Determine the normal Flaps 0° takeoff field length, and apply any adjustments to speed and field length required by runway gradients or runway contamination. Multiply the resulting takeoff field length by 1.15.*

CAUTION
Anticipate a heavier than normal elevator force at rotation. Up to a 75 lb. pull force may be required. Even with the increased pull force, the aircraft may rotate slower than normal. The elevator forces will return to normal shortly after liftoff.

POST-FLIGHT INSPECTION - TYPE II, TYPE III AND TYPE IV FLUIDS.

Cessna recommends that all operators using Type II, Type III or Type IV fluids for antifreeze perform periodic visual inspections to detect antifreeze fluid residues (Refer to GM2.CAT.OP.MPA 250(h)).
The visual inspection should include:

1. Along the rear wing spar area with the flaps extended.
2. Around the perimeter of the aileron surface.
3. The spaces around the elevator and elevator trim tab.
4. The spaces around the rudder and rudder trim tab. Initially, these inspections should be performed after a maximum of three applications of Type II, Type III, or Type IV fluid. If the aircraft is washed or if fluid is used

Type I for de-icing, the inspection frequency may be reduced. The operator should determine the frequency of inspections based on the results of residue inspections, the frequency of de-icing/anti-icing operations, and the frequency of aircraft washing.

D. EFFECTIVENESS TIME.

This is the estimated time during which an anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of an aircraft, depending on the type of fluid used, its concentration, the outside ambient temperature and the prevailing weather and precipitation conditions.

These times are set out in the Holdover tables in Annex II to the MOA and are updated annually to reflect advances and improvements in the fluids used.

E. PRECAUTIONS DURING USE.

These fluids are toxic; avoid breathing them during application and contact with the eyes or skin.

Do not spray directly onto pitot and static tubes, windows, air conditioning intakes and cockpit windshields.

F. AIRCRAFT DE-ICING/ANTI-ICING PROCEDURES.

1) Carefully plan de-icing activities on the ground with reference to the tables and recommendations above to ensure that the appropriate materials and equipment are available according to the forecast weather conditions and that responsibilities have been assigned and understood. This should include an assurance from the service provider that, in matters that cannot be verified by the pilot in command, the provider complies with satisfactory quality standards in terms of procedures and facilities used.

2) Ensure that de-icing service operators do not apply the data in Table 8.2.B 'Amount of Fluid for Anti-icing with Thickened Fluids' in Appendix B of AS6286.

3) Ensure that the concentrations of fluids used will provide an suitable "holdover time".

4) Organise de-icing and anti-icing processes so that final treatments are carried out as close to departure time as possible.

5) Arrange for the aircraft to be positioned as close as possible to the departure point with passengers on board, prior to the final de-icing operation, in order to reduce the time between de-icing/anti-icing and take-off.

6) Apply anti-icing fluids so that they completely cover the surfaces and form a uniform layer.
Note: Sufficient de-icing fluid has been applied when it can be visually confirmed that the fluid is just beginning to run off the leading and trailing edges of the surface.

7) Arrange for areas visible from the cockpit to be de-iced first, so that during the pre-take-off inspection the crew can be sure that other areas of the aircraft are clean, as areas that are de-iced first will generally freeze first.

8) Check that the engines are free to move by turning them manually. If friction is detected, blow hot air through the engine core until free movement is achieved. DO NOT ATTEMPT TO START THE ENGINE - THIS COULD CAUSE CATASTROPHIC DAMAGE.

The areas where de-icing and anti-icing must be carried out on aircraft are listed in Annex II to the MOA

Pre-flight inspection.

The pre-flight inspection must be carried out after de-icing on the ground as close to the departure time as possible. The aircraft must be thoroughly checked for ice or snow residue, paying particular attention to the following areas:

- Leading edges, trailing edges and surfaces of the wings.
- Stabilisers
- Control surfaces
- Spoilers and air brakes
- Windows
- Landing gear and doors
- Brakes
- Air intakes and drains
- Engines checked to ensure they rotate freely and APU
- Pitots, antennas and static.
- Fuel tank ventilation
- Pressurisation control valves
- Cooling air inlet and outlet to air conditioning packs.

G. COMMUNICATIONS WITH GROUND PERSONNEL PERFORMING THE TREATMENT.

i. Before treatment.

The crew must confirm with the personnel who will perform the de-icing/anti-icing the types of fluid used to achieve the expected holdover times and their application in all areas indicated in Section 7 of each aircraft's AFM (Refer to Annex II to the MOA).

ii. After treatment.

Once the treatment has been completed, the crew must receive confirmation from the personnel who carried it out that it has been completed and that the aircraft is free of contamination.

iii. Process completed notice.

Once the process is complete, the crew will be notified by ground personnel that the personnel who carried out the treatment have left and that the equipment used has been removed.

H. TECHNICAL LOG.

The pilot in command must confirm that each time de-icing has been carried out, the de-icing/anti-icing form has been completed and there is an appropriate and signed entry in the technical log, and that, in particular, the start time, type of fluid and concentration used for the anti-icing operation have been indicated. If there is a subsequent delay in departure, or a deterioration in weather conditions, you should use this information together with that in the tables above to make a realistic assessment of whether the entire process needs to be repeated.

The de-icing/anti-icing service provider must ensure that information on the type of fluid and concentration of the mixture used, as well as the start time of the operation, is not provided to the crew until it has been verified by suitably qualified personnel that the operation has been carried out properly by means of a post-application inspection.

It is not permitted to apply a second layer of anti-icing fluid over the previous application when the protection time is running out. It is always mandatory to carry out a complete de-icing operation before applying anti-icing protection in the case of a two-step operation, or to repeat the entire de-icing-anti-icing process in the case of a single-step operation.

A) HOLDOVER TABLES

FAA Holdover Time Guidelines — **Winter 2025-2026**

TABLE 2: HOLDOVER TIMES FOR SAE TYPE I FLUID ON CRITICAL AIRCRAFT SURFACES COMPOSED PREDOMINANTLY OF ALUMINUM

Outside Air Temperature[1,2]	Freezing Fog, Freezing Mist[3], or Ice Crystals[4]	Snow mixed with Freezing Fog[5]	Very Light Snow, Snow Grains or Snow Pellets[6,7]	Light Snow, Snow Grains or Snow Pellets[6,7]	Moderate Snow, Snow Grains or Snow Pellets[6,7]	Freezing Drizzle[8]	Light Freezing Rain	Moderate Snow mixed with Rain[8,10]	Rain on Cold-Soaked Wing[10]	Other[11]
-3 °C and above (27 °F and above)	0:11 - 0:17	0:08 - 0:11	0:18 - 0:22	0:11 - 0:18	0:08 - 0:11	0:09 - 0:13	0:02 - 0:05	0:02 - 0:02	0:02 - 0:05	CAUTION: No holdover time guidelines exist
below -3 to -6 °C (below 27 to 21 °F)	0:08 - 0:13	0:05 - 0:08	0:14 - 0:17	0:08 - 0:14	0:05 - 0:08	0:05 - 0:09	0:02 - 0:05			
below -6 to -10 °C (below 21 to 14 °F)	0:06 - 0:10	0:04 - 0:06	0:11 - 0:13	0:06 - 0:11	0:04 - 0:06	0:04 - 0:07	0:02 - 0:05			
below -10 °C (below 14 °F)	0:05 - 0:09	0:02 - 0:04	0:07 - 0:08	0:04 - 0:07	0:02 - 0:04					

NOTES

1 Type I fluid / water mixture must be selected so that the freezing point of the mixture is at least 10 °C (18 °F) below outside air temperature.
2 Ensure that the lowest operational use temperature (LOUT) is respected.
3 Freezing mist is best confirmed by observation. It is never reported by METAR; however, it can occur when mist is present at 0 °C (32 °F) and below.
4 Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or freezing mist.
5 The Snowfall Intensities as a Function of Prevailing Visibility table (Table 54) is required to confirm the precipitation intensity is no greater than "moderate". No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.
6 To determine snowfall intensity, the Snowfall Intensities as a Function of Prevailing Visibility table (Table 54) is required.
7 Use snow holdover times in conditions of very light, light, or moderate snow mixed with ice crystals.
8 Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
9 These holdover times apply to conditions of "moderate" precipitation intensity. In cases of very light or light snow mixed with light rain or drizzle, use light freezing rain holdover times. The Snowfall Intensities as a Function of Prevailing Visibility table (Table 54) is required to confirm the precipitation intensity. No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.
10 No holdover time guidelines exist for this condition for 0 °C (32 °F) and below.
11 Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail.

CAUTIONS

- The cautions that apply to the holdover times in the table above can be found on page 11.

TABLE 4: GENERIC HOLDOVER TIMES FOR SAE TYPE II FLUIDS[1]

Outside Air Temperature[2]	Fluid Concentration Fluid/Water By % Volume	Freezing Fog, Freezing Mist[3], or Ice Crystals[4]	Snow mixed with Freezing Fog[5]	Snow, Snow Grains or Snow Pellets[6,7]	Freezing Drizzle[8]	Light Freezing Rain	Moderate Snow mixed with Rain[9,10]	Rain on Cold-Soaked Wing[10]	Other[11]
-3 °C and above (27 °F and above)	100/0	0:55 - 1:50	0:20 - 0:40	0:30 - 0:55	0:35 - 1:05	0:25 - 0:35	0:05 - 0:05	0:07 - 0:45	
	75/25	0:40 - 1:10	0:15 - 0:25	0:15 - 0:30	0:25 - 0:40	0:15 - 0:25	0:03 - 0:03	0:04 - 0:25	
	50/50	0:15 - 0:30	0:05 - 0:10	0:07 - 0:15	0:09 - 0:15	0:06 - 0:09	CAUTION: No holdover time guidelines exist		
below -3 to -8 °C (below 27 to 18 °F)	100/0	0:30 - 0:45	0:15 - 0:30	0:20 - 0:40	0:20 - 0:45	0:15 - 0:20			
	75/25	0:25 - 0:55	0:09 - 0:15	0:10 - 0:25	0:15 - 0:30	0:09 - 0:20			
below -8 to -14 °C (below 18 to 7 °F)	100/0	0:30 - 0:45	0:10 - 0:25	0:15 - 0:30	0:20 - 0:45[12]	0:15 - 0:20[12]			
	75/25	0:25 - 0:55	0:07 - 0:15	0:09 - 0:20	0:15 - 0:30[12]	0:09 - 0:20[12]			
below -14 to -18 °C (below 7 to 0 °F)	100/0	0:15 - 0:20	0:01 - 0:05	0:02 - 0:07					
below -18 to -25 °C (below 0 to -13 °F)	100/0	0:15 - 0:20	0:00 - 0:02	0:01 - 0:03					
below -25 °C (below -13 °F)	100/0	0:15 - 0:20	0:00 - 0:00	0:00 - 0:01					

NOTES

1 To use the HOTs in this table, ensure that the fluid and dilution being used is listed in the Type II Fluids Tested for Anti-Icing Performance and Aerodynamic Acceptance table (Table 56). Any restrictions on the use of the fluid have to be identified and applied.
2 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I fluid when Type II fluid cannot be used.
3 Freezing mist is best confirmed by observation. It is never reported by METAR; however, it can occur when mist is present at 0 °C (32 °F) and below.
4 Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or freezing mist.
5 The Snowfall Intensities as a Function of Prevailing Visibility table (Table 54) is required to confirm the precipitation intensity is no greater than "moderate". No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.
6 To determine snowfall intensity, the Snowfall Intensities as a Function of Prevailing Visibility table (Table 54) is required.
7 Use snow holdover times in conditions of very light, light, or moderate snow mixed with ice crystals.
8 Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
9 These holdover times apply to conditions of "moderate" precipitation intensity. In cases of very light or light snow mixed with light rain or drizzle, use light freezing rain holdover times. The Snowfall Intensities as a Function of Prevailing Visibility table (Table 54) is required to confirm the precipitation intensity. No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.
10 No holdover time guidelines exist for this condition for 0 °C (32 °F) and below.
11 Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail.
12 No holdover time guidelines exist for this condition below -10 °C (14 °F).

CAUTIONS

- The cautions that apply to the holdover times in the table above can be found on page 14.

TABLE 17: TYPE III HOLDOVER TIMES FOR ALLCLEAR AEROCLEAR MAX APPLIED UNHEATED ON MIDDLE SPEED AIRCRAFT[1]

Outside Air Temperature[2]	Fluid Concentration Fluid/Water By % Volume	Freezing Fog, Freezing Mist[3], or Ice Crystals[4]	Snow mixed with Freezing Fog[5]	Very Light Snow, Snow Grains or Snow Pellets[6,7]	Light Snow, Snow Grains or Snow Pellets[6,7]	Moderate Snow, Snow Grains or Snow Pellets[6,7]	Freezing Drizzle[8]	Light Freezing Rain	Moderate Snow mixed with Rain[9,10]	Rain on Cold-Soaked Wing[10]	Other[11]
-3 °C and above (27 °F and above)	100/0	0:45 - 1:55	0:13 - 0:30	1:20 - 1:45	0:40 - 1:20	0:18 - 0:40	0:25 - 0:50	0:14 - 0:25	0:04 - 0:04	0:05 - 0:40	
	75/25	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	50/50	N/A	N/A	N/A	N/A	N/A	N/A	N/A	CAUTION: No holdover time guidelines exist		
below -3 to -10 °C (below 27 to 14 °F)	100/0	0:50 - 1:40	0:13 - 0:30	1:20 - 1:45	0:40 - 1:20	0:18 - 0:40	0:25 - 0:45	0:15 - 0:25			
	75/25	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
below -10 to -20.5 °C (below 14 to -5 °F)	100/0	0:40 - 1:45	0:13 - 0:30	1:20 - 1:45	0:40 - 1:20	0:18 - 0:40					

NOTES

1 These holdover times are for aircraft conforming to the SAE AS5900 middle speed aerodynamic test criterion. Fluid must be applied unheated to use these holdover times. No holdover times exist for this fluid applied heated. If uncertain whether the aircraft conforms to the low, middle, or high speed aerodynamic test criterion, no holdover time guidelines exist below -16 °C (3 °F).
2 Ensure that the lowest operational use temperature (LOUT) is respected. Consider use of Type I fluid when Type III fluid cannot be used.
3 Freezing mist is best confirmed by observation. It is never reported by METAR; however, it can occur when mist is present at 0 °C (32 °F) and below.
4 Use freezing fog holdover times in conditions of ice crystals mixed with freezing fog or freezing mist.
5 The Snowfall Intensities as a Function of Prevailing Visibility table (Table 54) is required to confirm the precipitation intensity is no greater than "moderate". No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.
6 To determine snowfall intensity, the Snowfall Intensities as a Function of Prevailing Visibility table (Table 54) is required.
7 Use snow holdover times in conditions of very light, light, or moderate snow mixed with ice crystals.
8 Includes light, moderate and heavy freezing drizzle. Use light freezing rain holdover times if positive identification of freezing drizzle is not possible.
9 These holdover times apply to conditions of "moderate" precipitation intensity. In cases of very light or light snow mixed with light rain or drizzle, use light freezing rain holdover times. The Snowfall Intensities as a Function of Prevailing Visibility table (Table 54) is required to confirm the precipitation intensity. No holdover times exist if the reported visibility correlates to a "heavy" precipitation intensity.
10 No holdover time guidelines exist for this condition for 0 °C (32 °F) and below.
11 Heavy snow, ice pellets, moderate and heavy freezing rain, small hail and hail.

CAUTIONS

- The cautions that apply to the holdover times in the table above can be found on page 27.

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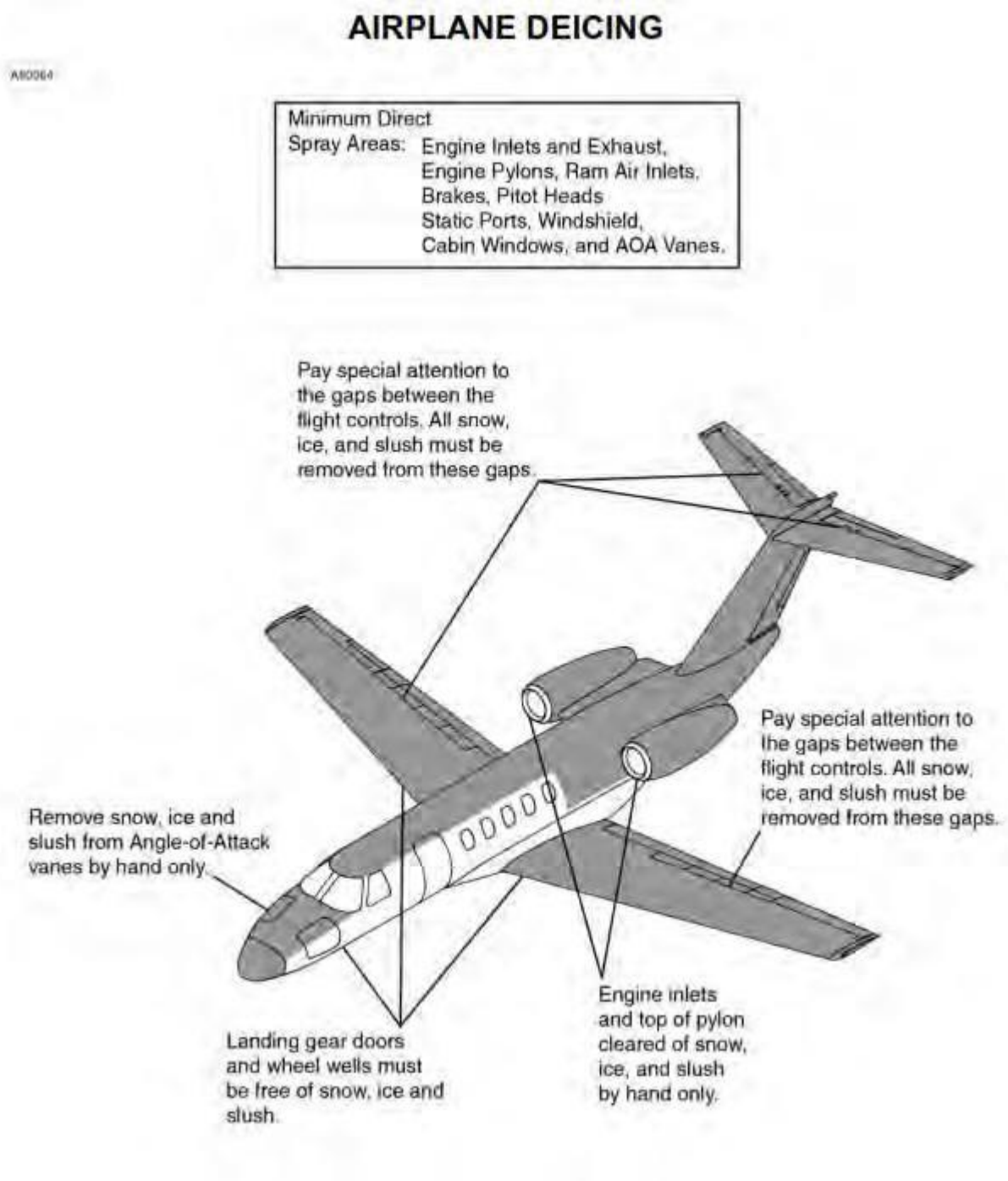
B) DE-ICEING/ANTI-ICE ZONES CESSNA

525C



AIRPLANE ANTI-ICING

A80086

Minimum Direct
Spray Areas: Engine Inlets and Exhaust,
Engine Pylons, Ram Air Inlets,
Brakes, Pitot Heads
Static Ports, Windshield,
Cabin Windows, and AOA Vanes.