

PART 138 (Draft NAMCAR and NAM-CATS)

AIR AMBULANCE OPERATIONS

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NAMCAR: PART 138

AIR AMBULANCE OPERATIONS

LIST OF REGULATIONS

SUBPART 1: GENERAL

- [138.01.1](#) Applicability
- [138.01.2](#) Requirements for commercial air ambulance operations

SUBPART 2: FLIGHT CREW

- [138.02.1](#) Pilot qualifications
- [138.02.2](#) Medical qualifications

SUBPART 3: TRAINING

- [138.03.1](#) Training of flight crew, medical personnel and operations personnel

SUBPART 4: MANAGEMENT

- [138.04.1](#) Quality assurance system
- [138.04.2](#) Manual of procedure
- [138.04.3](#) Training records
- [138.04.4](#) Presumption

SUBPART 5: INSTRUMENTS AND EQUIPMENT

- [138.05.1](#) Aircraft configuration
- [138.05.2](#) Lighting and electrical equipment
- [138.05.3](#) Communication systems
- [138.05.4](#) Patient restraints, stretchers and incubators
- [138.05.5](#) Medical equipment
- [138.05.6](#) Oxygen and other gas cylinders
- [138.05.7](#) Intravenous fluids

SUBPART 6: FLIGHT OPERATIONS

- [138.06.1](#) Control of operations
- [138.06.2](#) Dispatching base
- [138.06.3](#) Landings
- [138.06.4](#) Loading and unloading
- [138.06.5](#) Night flying

SUBPART 7: OTHER OPERATIONS

- [138.07.1](#) Infection control and fluid contamination

SUBPART 8: MAINTENANCE

- [138.08.1](#) Aircraft maintenance

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SUBPART 1: GENERAL

138.01.1 Applicability

- (1) This Part applies to-
 - (a) aircraft registered in Namibia and engaged in commercial and non-commercial air ambulance operations;
 - (b) foreign-registered aircraft operated by an air service operator licensed in terms of the Air Services Act, 1949 and engaged in commercial air ambulance operations;
 - (c) foreign-registered aircraft utilised in commercial air ambulance operations to transport one or more patients in or out of Namibia; and
 - (d) persons acting as flight crew members, operations personnel and medical personnel in respect of any air ambulance operation carried out in terms of this Part.
- (2) The provisions of Part 91, Part 121, Part 127, and Part 135 shall apply with the necessary changes to any aircraft operated in terms of this Part.

138.01.2 Requirements for commercial air ambulance operations

- (1) The operator of an aircraft engaged in a commercial air ambulance operation, must not operate the aircraft unless such operator is the holder of a valid -
 - (a) licence issued in terms of the Air Services Act, 1949; and
 - (b) Air operating certificate issued in terms of Part 121, Part 127 or Part 135, as the case may be, and endorsed for operations in terms of this Part ; or
 - (c) in the case of a foreign-registered aircraft, a foreign operator's permit issued in terms of their Air Services Act or similar legislation.
- (2) Only aircraft that has been certified on its certificate of airworthiness for use as air ambulance may be used in commercial air ambulance operations.
- (3) An operator, engaged in commercial air ambulance operations who wishes to utilise an aircraft that has not been certified for air ambulance operations as a substitute for one of its certified aircraft, can utilize such aircraft for a maximum of seven (7) consecutive days only or during a period of maximum fourteen (14) days, provided that such aircraft is essentially configured according to the provisions of this Directive.
- (4) In the event that it is not possible to adhere to the conditions prescribed in (3) above, the operator must obtain approval from the Executive Director for the utilisation of the aircraft which is not certified for air ambulance operation.

SUBPART 2: FLIGHT CREW

138.02.1 Pilot qualifications

- (1) The pilot of an aircraft engaged in air ambulance operations must -
 - (a) as a minimum be the holder of a valid commercial pilot licence (CPL) with night rating appropriate to the category and type of air ambulance aircraft and the mission to be flown;

- (b) have received training and demonstrated minimum competency for the relevant mission to be flown, as prescribed in the manual of procedure; and
 - (c) have successfully completed the training referred to in section 6.3.
- (2) The manual of procedure of the operator must set minimum criteria for qualifications of pilots to be used for the missions intended.

138.02.2 Medical qualifications

Medical personnel and medical service providers involved in commercial air ambulance operations must provide evidence of complying with the relevant legislation and Regulations administered by the Ministry of Health and Social Services, the Health Professions Councils of Namibia, the Namibian Nursing Council or foreign equivalent, as the case may be.

SUBPART 3: TRAINING

138.03.1 Training of flight crew, medical personnel and operations personnel

- (1) The owner or operator of an aircraft engaged in an air ambulance operation must ensure that each flight crew member, medical personnel member or operations personnel member, assigned to an air ambulance operation, has successfully completed the initial or recurrent training as prescribed in the Annexure to this Directive.
- (2) Notwithstanding the provisions of paragraph (1), a medical specialist who is not trained in accordance with these Regulations may be taken on a specific air ambulance operation, in addition to the regular medical personnel, for the benefit of the patient.
- (3) The operator must ensure that all flight crew members, medical personnel or operations personnel, as the case may be, who have not completed the training as referred to in paragraph (1), must have a standard safety briefing pertaining to the aircraft to be used for the operation.
- (4) The owner or operator of an air ambulance operation must ensure that no flight crew member, medical personnel or operations personnel whose training has expired, is assigned flight duties on an aircraft engaged in an air ambulance operation until such time that such member undergoes recurrent training.
- (5) Notwithstanding (4) above, a flight crew member, medical personnel or operations personnel, as the case may be, may be assigned flight duties without having undergone recurrent training as stipulated in (4) above: Provided that such flight crew member, medical personnel or operations personnel, as the case may be -
 - (a) undergoes such recurrent training within a period not exceeding three (3) months from the date of expiry of the preceding training;
 - (b) is, during the period of assignment, assigned to duties with at least one flight crew member, medical personnel or operations personnel, as the case may be, whose training has not expired; and

- (c) has, during the period of assignment, not been off active duty for a period exceeding three (3) months.
- (6) Any training required by this Aviation Directive must be conducted in accordance with the relevant requirements of this Aviation Directive or by an ATO approved in terms of Part 141.

SUBPART 4: MANAGEMENT

138.04.1 Quality assurance system

- (1) The owner or operator of an aircraft engaged in an air ambulance operation must have a quality assurance system for the control and supervision of the air ambulance operation in place.
- (2) In respect of the owner or operator of a commercial air ambulance operation, the quality assurance system of the operator referred to in Part 121, Part 127 or Part 135, as the case may be, must apply.

138.04.2 Manual of procedure or standard operating procedures

- (1) The owner or operator of an aircraft engaged in an air ambulance operation must compile a manual of procedure in accordance with the provisions of this Section, for the use and guidance of flight crew, medical personnel and operations personnel, setting out the manner in which such owner or operator will operate the air ambulance operation.
- (2) In respect of an owner or operator of a commercial air ambulance operation, the operations manual of the operator referred to Part 121, Part 127 or Part 135, as the case may be, must include the procedures as prescribed by this Aviation Directive.
- (3) The owner or operator of an aircraft must, prior to commencing an air ambulance operation therewith, submit in duplicate the manual of procedure to the Executive Director for approval.
- (4) If the Executive Director is satisfied that the aircraft owner or operator will comply with the provisions of this Aviation Directive, the Executive Director must certify in writing on both copies of the manual of procedure that such manual has been approved, and must return one copy of the approved manual to the owner or operator.
- (5) The owner or operator of an aircraft engaged in an air ambulance operation must submit in duplicate any amendment to the manual of procedure to the Executive Director for approval.
- (6) If the Executive Director is satisfied that the aircraft owner or operator will comply with the provisions of this Aviation Directive, the Executive Director must certify in writing on both copies of the amendment to the manual of procedure that such amendment has been approved, and must return one copy of the approved amendment to the owner or operator.
- (7) The owner or operator of an aircraft in an air ambulance operation must at all times operate the aircraft in accordance with the approved manual of procedure and any approved amendment thereto.
- (8) The owner or operator of an aircraft engaged in an air ambulance operation must:

- (a) ensure that those parts of the manual, which are required for the conduct of a flight, are easily accessible to the flight crew and medical personnel on board the aircraft;
 - (b) make the manual of procedure available for the use and guidance of operations personnel;
 - (c) keep the manual of procedure up to date; and
 - (d) keep the manual of procedure in a safe place.
- (9) The structure and contents of the manual of procedure must be as prescribed in Annexure to this Directive.
- (10) The manual of procedure must be reviewed annually and updated in accordance with the quality assurance system established by the owner or operator.

138.04.3 Training records

- (1) The owner or operator of an aircraft engaged in an air ambulance operation must retain records of all training undertaken in terms of this Aviation Directive by the flight crew, medical and operations personnel in his, her or its employ or as a crew member.
- (2) The records referred to in (1) above, will be valid for a period of 12 calendar months calculated from the last day of the calendar month in which such training is given.
- (3) The owner or operator of an aircraft engaged in an air ambulance operation must retain the records of each flight crew member, medical personnel and operations personnel for a period of at least 12 months from the date on which the flight crew member, medical personnel or operations personnel has left the employ or ceased to be a crew member of such owner or operator.

138.04.4 Presumption

For the purposes of this section, a medical personnel member will be deemed to be a crew member of the air ambulance aircraft if the medical personnel member is assigned duties by such owner or operator, irrespective of whether such medical personnel member is remunerated by such owner or operator or not.

SUBPART 5: INSTRUMENTS AND EQUIPMENT

138.05.1 Aircraft configuration

- (1) The owner or operator of an aircraft engaged in air ambulance operations must ensure that the cabin of the aircraft -
 - a. Has a type certificate or modification for air ambulance operations
 - b. If the owner or operator has to modify the aircraft in order to comply with the provisions of this Section, such owner or operator must obtain prior written approval from the Executive Director for such modification.

138.05.2 Lighting and electrical equipment

The owner or operator of an aircraft engaged in an air ambulance service must ensure that -

- (a) adequate lighting equipment is provided in the patient care area;
- (b) portable lighting equipment is provided for use in the event of a failure of, or inability to use, the main electrical system;
- (c) the cockpit or the flight deck, as the case may be, is screened from lights in the patient care area during night operations; or alternatively, where such protection is not possible, must ensure that sufficient light of low intensity is used in the patient care area provided that such lighting does not interfere with the operations of the flight crew;
- (d) without compromising the normal operation of any aircraft equipment, and if required by the medical service provider, there must be a power source available from the aircraft.

138.05.3 Communication systems

The owner or operator of an aircraft engaged in an air ambulance operation must not operate the aircraft -

- (a) unless such aircraft is equipped with means to establish two-way communication with the dispatching base; and
- (b) in cases where unaided verbal communication cannot be sustained, unless such aircraft is equipped with an interphone system which provides a means of two-way communication between the flight crew members and medical personnel members and the pilot can isolate himself or herself from such system.

138.05.4 Patient restraints, stretchers and incubators

- (1) The owner or operator of an aircraft engaged in an air ambulance operation must not operate the aircraft unless such aircraft is equipped with -
 - (a) an approved restraining strap for each patient; and
 - (b) an additional restraining device for a child or small adult who will not be adequately restrained with the restraining strap referred to in paragraph (a), if applicable;
 - (c) an incubator, which is properly secured in position, should an incubator be needed for the flight; and
 - (d) a stretcher and mounting system which allows for rapid detachment from the base unit.
- (2) The stretcher or incubator must be positioned such as -
 - (a) to allow medical personnel a clear view of, and access to the patient to perform monitoring and therapeutic intervention as needed;
 - (b) not to block access to normal and emergency exits;
 - (c) not to interfere with any operation of any aircraft controls; and
 - (d) not to restrict access to any emergency equipment.

- (3) The attachment of the stretcher or incubator to the aircraft structure must allow its rapid detachment for evacuation. The stretcher must be certified for use in an aircraft by the manufacturer or any other recognised certification body which is acceptable to the Executive Director: Provided that all recommendations by such manufacturer or certification body must be implemented and adhered to for the stretcher to be acceptable to the Executive Director.
- (4) All restraint systems to be used in the aircraft must be approved by the Executive Director. In cases where the certification referred to in (3) above cannot be obtained, the operator must obtain approval from the Executive Director for the use of such stretcher.
- (5) All other restraint systems to be used in the aircraft must be approved by the Executive Director.
- (6) The operator must ensure that suitable measures are taken to protect the pilot, aircraft controls, communication and navigation equipment from any interference by the patient, medical personnel or medical equipment on board the aircraft during flight or during loading and unloading.

138.05.5 Medical equipment

The owner or operator of an aircraft engaged in an air ambulance operation must ensure that -

- (a) any medical equipment, supplies or other items on board of the aircraft are-
 - (i) properly secured;
 - (ii) so positioned that they do not or are not likely to -
 - (aa) cause injury to any person on board of the aircraft;
 - (bb) obstruct access to any regular or emergency exit; or
 - (cc) obstruct access to any emergency equipment.
 - (iii) appropriately certified by the manufacturer thereof for use in an aircraft; and
- (i) prior to flight, any medical equipment, which transmits any signals, has been: certified by the manufacturer for use in an aircraft or has been certified by an aviation authority acceptable to the Executive Director for use in an aircraft; and
- (ii) tested to ensure that it does not interfere with any aircraft system, in particular with the avionic equipment of the aircraft, and that such avionic equipment does not interfere with the proper functioning of the medical equipment.

138.05.6 Oxygen and other gas cylinders

- (1) If an aircraft engaged in an air ambulance operation is equipped with gas cylinders for medical purposes, the cylinders must -
 - (a) be carried in accordance with the provisions of Part 92; and
 - (b) if the cylinders are inside the cabin, be positioned in such a way that no part of the fitment constitutes a hazard to any person inside the cabin, the pressure gauges are fitted and visible for use, and shut-off and change-over valves are readily accessible; or

- (c) if the cylinders are positioned outside the cabin, be positioned in such a way that the in-line pressure gauges are visible for use and shut-off and change-over valves are installed inside the cabin.
- (2) All portable gas cylinders must be properly secured with approved devices during flight.
- (3) All gas outlets must be clearly marked for identification as to their function and gas supplied in accordance with the applicable Namibian Standards Institution (NSI) Code of Practice.
- (4) All oxygen and medical gas cylinders used in an air ambulance operation -
 - (a) Must have an annual visual and a five-yearly hydrostatic inspection by a testing facility approved for the purpose by the Department of Labour;
 - (b) must be marked with a sticker denoting approval for "return to service" and "next service due" date, which sticker must be clearly visible to flight crew and medical personnel;
 - (c) must, where applicable, bear a stamp of approval from an appropriately approved provider which stamp must be clearly visible on each cylinder and certifying such cylinder as being approved.
- (5) All oxygen and medical gas cylinders fixed in an air ambulance aircraft must be maintained as per the manufacturer's specifications.

138.05.7 Intravenous fluids

An adequate supply of conveniently placed hangers or hooks must be available and all such supports must be -

- (a) soft, padded or flush-mounted to prevent head trauma to any person on board the aircraft; and
- (b) of a design which prevents the accidental release of intravenous containers in the event of turbulence, a hard landing or an emergency situation.

SUBPART 6: FLIGHT OPERATIONS

138.06.1 Control of Operations

- (1) The owner or operator of an aircraft engaged in an air ambulance operation must ensure that he or she is aligned with a medical service provider who is compliant with all the relevant legislation administered by the Ministry of Health to consult with on matters pertaining to -
 - (a) the advisability of the transportation by air of the patient;
 - (b) the type of air ambulance aircraft required for the transport;
 - (c) the level of patient-care required;
 - (d) medical equipment needed on board the aircraft; and
 - (e) precautions to be taken during the flight and during ground transportation.
- (2) Where the operator of an aircraft is also the medical service provider, such operator must ensure that the medical aspects of the operation complies with all the relevant requirements as contained in the relevant legislation administered by the Department of Health.
- (3) The medical personnel on board the aircraft must be responsible for patient care from the time of hand-over by the dispatching medical unit until the time of hand-over to the receiving medical unit.

- (4) The PIC of the aircraft must at all times be responsible for the safety of the aircraft operation.

138.06.2 Dispatching base

- (1) The owner or operator of an aircraft engaged in an air ambulance operation must ensure that a person with a reasonable knowledge of aviation, air traffic service, safety and emergency procedures, navigation techniques and the influence of weather is assigned to the dispatching base.
- (2) The owner or operator must establish an appropriately equipped operations centre from which air ambulance operations are controlled.
- (3) The minimum requirements to be met in respect of subregulation (2) are prescribed in Document NAM-CATS 138.

138.06.3 Landings

- (1) The PIC of an aircraft engaged in an air ambulance operation is exempted from the prohibition to land on a public road in terms of Regulation 91.07.42.
- (2) A PIC of a helicopter engaged in an ambulance operation is exempted from the restrictions imposed by Regulation 91.07.42.
- (3) Notwithstanding the provisions of sub-regulations (1) and (2), the PIC must make use of these privileges only if no viable alternative landing place exists and while taking extreme care for the safety of the aircraft and property and persons on the ground.
- (4) The manual of procedure of the operator must clearly state conditions under which landings at non-registered landing areas may be carried out.

138.06.4 Loading and unloading

- (1) The PIC of a helicopter engaged in an air ambulance operation may allow the loading or unloading of a patient with the rotors turning only -
 - (a) under strictly controlled circumstances overseen by appropriately trained personnel;
 - (b) in times of a serious emergency; and
 - (c) if the loading or unloading of a patient is undertaken by appropriately trained personnel.
 - (d) In cases of fixed-wing multi-engine aircraft, the loading or unloading may be undertaken only if the engine on the side of the exit is switched off.
- e) Loading or unloading must not be undertaken in cases of single-engine aircraft.
- (2) The owner or operator must make provisions in the manual of procedure referred to in section 6.04.2 concerning circumstances and procedures for rapid patient loading and unloading.
- (3) Medical personnel must inform the PIC regarding add-on equipment for calculation of the aircraft's mass and balance.

138.06.5 Night flying

The PIC of a helicopter used in an air ambulance operation must not undertake any air ambulance flight operation by night unless such helicopter is certified for instrument flight and is operated in accordance with its flight manual for instrument flight: Provided that in any other case an air ambulance flight which is operated under visual meteorological condition (VMC) -

- (a) may continue to an illuminated hospital stop or an aerodrome approved for night operations for not more than 15 minutes after sun set; and
- (b) may commence such flight within the 15 minutes before sun rise.

SUBPART 7: OTHER OPERATIONS

138.07.1 Infection control and fluid contamination

The owner or operator of an aircraft engaged in an air ambulance operation must ensure that -

- (a) every employee, before performing duty on, or cleaning an aircraft,
 - (i) is familiar with any infection control procedure which may apply in respect of the aircraft; and
 - (ii) has taken appropriate precautions before performing duty on or cleaning such aircraft, as prescribed by the Labour Act of 2007 (Act No 11 of 2007), Aviation Directive 1.2.3.10, and other relevant legislation, and set out in the manual of procedure referred to in section 6.04.2;
- (b) the cleaning agents used for cleaning are non-corrosive or non-abrasive to the aircraft.

SUBPART 8: MAINTENANCE

138.08.1 Aircraft maintenance

The owner or operator of an aircraft engaged in an air ambulance operation must ensure that any person involved in the maintenance of the aircraft has a thorough knowledge of the interior modifications to, and the medical fitments of such aircraft.

[View NAMCAR: Part 138](#)

NAM-CATS 138

Air Ambulance Operations

LIST OF TECHNICAL STANDARDS

138.03.1 TRAINING OF FLIGHT CREW, MEDICAL PERSONNEL AND OPERATIONS PERSONNEL

1. [Initial training of flight crew](#)
2. [Recurrent training of flight crew](#)
3. [Initial training of medical personnel](#)
4. [Recurrent training of medical personnel](#)
5. [Initial training of operations personnel](#)
6. [Recurrent training of operations personnel](#)

138.04.2 MANUAL OF PROCEDURE

1. [Structure and contents](#)

138.06.2 DISPATCHING BASE

1. [Operations centre](#)

138.03.1 TRAINING OF FLIGHT CREW, MEDICAL PERSONNEL AND OPERATIONS PERSONNEL

1. Initial training of flight crew

- (1) Flight crew members engaged in air ambulance operations must successfully complete a course of instruction prior to undertaking flying duties, and course must include the following subjects:
 - (a) an overview of the way in which air ambulance operations function, their purpose and limitations;
 - (b) orientation to infection control;
 - (c) a basic knowledge of the medical and rescue equipment carried in the aircraft;
 - (d) a basic understanding of patient transport consideration including stabilisation, preparation and handling;
 - (e) patient loading and unloading procedures;
 - (f) hot-loading policy and hot-unloading procedures;
 - (g) emergency medical service communication procedures;
 - (h) aircraft emergency procedures pertaining to air ambulance flights, securing oxygen, securing loose equipment and patient evacuation;
 - (i) requirements for use of unprepared or unlit landing sites; and
 - (j) an overview of the training courses the operator supplies to medical personnel and operations personnel.
- (2) Flight crew weather members engaged in air ambulance operations must successfully complete operational training, which must include:
 - (a) terrain and weather considerations peculiar to the area;
 - (b) specific knowledge of the manual of procedure of the operator; and
 - (c) in the case of helicopter flight crew: review of landing sites at referring and receiving hospitals.

2. Recurrent training of flight crew

- (1) The syllabus of the recurrent training course must cover the same subject matter as contained in the initial training course contemplated in section 1 of **technical standard 138.03.1**.
- (2) The amount of training required by the recurrent training course is determined after due note has been taken of the flight crew member's previous training, competency and experience, but must include any relevant new developments in air ambulance operations and emergency medical procedures.

3. Initial training of medical personnel

Medical personnel members engaged in air ambulance operations must successfully complete a course of instruction prior to undertaking flying duties, and such course must include the following:

- (1) General knowledge

A medical personnel member must receive instruction on:

 - (a) all aircraft types operated by the air ambulance operator, their capacity, performance, range, capabilities, as well as aircraft handling (ground);
 - (b) aircraft pressurisation aspects;

- (c) introduction to aviation, air traffic control, navigation procedures'
 - (d) emergency medical service communication procedures;
 - (e) the manual of procedure of the operator;
 - (f) dress;
 - (g) insurance cover provided by the operator, if any, and additional cover available in the market; and
 - (h) different responsibilities of the flight crew and medical personnel and authority of the pilot-in-command;
 - (i) overdue actions - emergency plans;
 - (j) communications in an emergency;
 - (k) basic survival instructions;
 - (l) a clear understanding of the day and night flying limitations;
 - (m) a basic understanding of aerodrome and heliport requirements;
 - (n) requirements for use of unprepared or unlit landing sites; and
 - (o) crowd control and flight crew and medical personnel duties.
- (2) Definite knowledge
- A medical personnel member must receive instruction on:
- (a) danger areas around the aircraft;
 - (b) standard helicopter and aeroplane safety rules;
 - (c) look-out assistance for obstructions, wires and debris;
 - (d) location and operation of safety equipment, fire extinguishers, emergency exits and ELT;
 - (e) location and operation of aircraft electrical master switches and fuel shut-off valves;
 - (f) location and operation of oxygen emergency shut-off valves;
 - (g) correct stowage of medical equipment;
 - (h) patient loading and unloading procedures;
 - (i) hot-loading policy and hot-unloading procedures; and
 - (j) aircraft emergency procedures pertaining to air ambulance operations, securing oxygen securing loose equipment, seat belts, forced-landing drills and patient evacuation.

4. Recurrent training of medical personnel

- (1) The syllabus of the recurrent training course must cover the same subject matter as contained in the initial training course contemplated in section 3 of [this Technical Standard 138.03-1](#).
- (2) The amount of training required by the recurrent training course is determined after due note has been taken of the medical personnel member's previous training, competency and experience, but must include any new developments in air ambulance operations and emergency medical procedures.

5. Initial training of operations personnel

Operations personnel engaged in air ambulance operations must successfully complete a course of instruction prior to undertaking duties, and such course must include the following:

- (1) All operations personnel
 - (a) general knowledge regarding helicopter and aeroplane types, their capacity, performance, range and capabilities;
 - (b) danger areas around the aircraft;
 - (c) standard safety rules;
 - (d) location and operation of safety equipment, fire extinguishers and emergency exits;
 - (e) patient loading and unloading procedures;
 - (f) hot-loading and hot-unloading procedures;
 - (g) overdue actions;
 - (h) a clear understanding of the day and night flying limitations;
 - (i) requirements for the use of unprepared or unlit landing sites, including the effect of dust, rubbish, obstructions and wires.

- (2) Radio operators and dispatchers

Radio operators and dispatchers must receive additional training on:

- (a) introduction to aviation, air traffic control and navigation procedures;
- (b) emergency medical service communications procedures;
- (c) the manual of procedure of the operator; and
- (d) emergency plans.

6. Recurrent training of operations personnel

- (1) The syllabus of the recurrent training course must cover the same subject matter as contained in the initial training course contemplated in section 5 of technical standard 138.03.1.
- (2) The amount of training required by the recurrent training course is determined after due note has been taken of the operation personnel member's previous training, competency and experience, but must include any new developments in air ambulance operations and emergency medical procedures.

138.04.2 MANUAL OF PROCEDURE

1. Structure and contents

- (1) The manual of procedure must contain specific policies and procedures regarding aircraft operations in the following areas:
 - (a) patient loading and unloading procedures;
 - (b) protocols for hot loading and unloading, if applicable;

- (c) refuelling with the rotors or propellers turning;
 - (d) refuelling with medical personnel and/or patient on board;
 - (e) hearing protection for medical personnel;
 - (f) use of safety equipment, such as flame retardant clothing;
 - (g) use of seat belts and shoulder harnesses by medical personnel;
 - (h) infection control; and
 - (i) records of personnel health or immunisation status.
- (2) The manual of procedure must contain a recurrent training programme for flight crew members, medical personnel and operations personnel.

138.06.2 DISPATCHING BASE

1. Operations centre

The operation centre must provide for the following:

- (a) 24-hour access to the operation centre;
- (b) telephone line;
- (c) ability to communicate with the aircraft as described in CAR 138.05.3;
- (d) maps of the area of operation;
- (e) a database of the contact numbers of emergency medical services, police, fire and traffic departments in the area of operation;
- (f) a log sheet system or method to record all communications and actions related to operations; and
- (g) contact details of the operator's aero-medical advisor.