NAMIBIA CIVIL AVIATION AUTHORITY

Advisory Pamphlet (AP)

FSS-AGA-AP139/05

07/2021

DISABLED AIRCRAFT REMOVAL AT AERODROMES

Explanation of Advisory Pamphlets (AP) system.

The Namibia Civil Aviation Authority (NCAA) issues advisory pamphlets to inform the aviation public in a systematic way of non-regulatory material. Unless incorporated into a regulation by reference, the contents of an advisory pamphlet are not binding on the public. Advisory pamphlets are issued in a numbered-subject system corresponding to the subject areas of the Namibia Civil Aviation Regulations (NAMCARs).

Advisory Pamphlets are intended to provide information and guidance to illustrate a means but not necessarily the only means of complying with the Regulations or to explain certain regulatory requirements by providing interpretative and explanatory material. Where an AP is referred to in a 'Note' below the regulation, the AP remains as guidance material.

APs should always be read in conjunction with the referenced regulations.

1. ***Reproduction of Advisory Pamphlets - Advisory pamphlets may be reproduced in their entirety or in part without permission from the Civil Aviation Authority.***

2. ***Effective date:*** 14/07/2021

NAMIBIA CIVIL AVIATION AUTHORITY NCAA 14 JUL 2021 P O BOX 12003 AUSSENPLATZ WINDHOEK OFFICE OF THE EXECUTIVE DIRECTOR

Mr. Gordon Elliott

Interim Executive Director of Civil Aviation

Table of Contents

1. INTRODUCTION AND BACKGROUND

1.1. Introduction

This guidance describes the factors to be considered when developing procedures or a plan to be followed when removing a disabled aircraft on the aerodrome. The procedure is based on the characteristics of the aircraft that may normally be expected to operate at the aerodrome, and include among other things:

- Procedure for notification of the appropriate aeronautical information service units;
- a list of equipment and personnel on, or in the vicinity of, the aerodrome which would be available for such purpose (Use a Task Resource Analysis (AGA-AP139-06) to determine the quantities of equipment for Category A, B and C aerodromes (Category A aerodromes must use the minimum list provided in table 3.1);
- arrangements for the rapid receipt of aircraft recovery equipment kits available from other aerodromes;
- a list of nominated agents acting on behalf of each operator at the aerodrome;
- a statement of the airline's arrangements for the use of pooled specialist equipment; and
- a list of local contractors (with names and telephone numbers) able to supply heavy removal equipment on hire;
- contact information concerning the office of the aerodrome coordinator of operations for the removal of a disabled aircraft be made available, on request, to aircraft operators.

1.2. Background

The NAMCARs, Part 139 requires the operator of a certified or licensed aerodrome to establish a plan for coordinating the removal of disabled aircraft on, or adjacent, to the movement area of the aerodrome.

1.3. Purpose

This Advisory Pamphlet (AP) provides guidance on procedures to be followed for the development of Disable aircraft removal plans for Certified or licensed aerodromes to meet the requirements of the NAMCARs, Part 139 and the associated technical standards.

1.4. Applicability

This advisory pamphlet is applicable to all aerodromes in Category A, Category B and Category C. However, this advisory pamphlet is also recommended for implementation by aerodromes under Category D and E in the interest of aviation safety.

1.5. Description of Amendments

There are no amendments.

2. REQUIREMENTS AND REFERENCES

2.1. Regulatory reference

- NAMCARs, PART 139.16.4. and NAMCAT – AH, Part 139.16.4

2.2. Reference documents

- Namibia Civil Aviation Regulations (NAMCARs) 2018

3. OUTLINE OF A DISABLED AIRCRAFT REMOVAL PLAN

An outline of a disabled aircraft removal plan is given below. It is intended as a guide on basic matters to be covered in the plan as well as action to be taken by the main responsible parties for the overall aircraft removal operation. In general, the disabled aircraft removal plan should be structured to consider the principal functions shown in Planning chart Part 4 of this document.

3.1. Responsibilities

(a) Removal of a disabled aircraft or parts thereof: Identify a person or agency (usually the aircraft owner or operator) responsible for the removal of the aircraft and define procedures in the event of failure to comply with such directions.

(b) Notification of the aircraft accident or serious incident to DAAI: Identify a person or agency (usually the aircraft owner, operator or the aerodrome operator) responsible for notifying DAAI. List the details to be notified, such as aircraft operator, time, passengers and extent of the damage.

(c) Preservation of aircraft, mail, cargo and records: Identify person or agency (normally the aircraft owner or operator) responsible for preserving, the aircraft and parts thereof, cargo, mail, and all records. Define procedures to be followed when it is necessary to disturb or move the aircraft or parts thereof (i.e. photographs, marks on the ground and diagram of the accident site).

3.2. Action required by main responsible parties

3.2.1. Aerodrome operator should, amongst other things:

a) issue required NOTAM as may be appropriate;

b) coordinate all aerodrome operations with the air traffic service units for the continuation of aircraft operations, when possible;

c) determine if the serious incident or accident created any obstacles and, as a result, consider whether any section of the movement area should be closed;

d) provide for the security of the accident site and co-ordinate with DAAI on measures to be taken before the aircraft removal operation is initiated;

e) provide advance vehicles and personnel to escort airline equipment to the site;

f) establish a removal command post at the site, if necessary;

g) inspect all areas before the resumption of normal aircraft operations;

h) convene a removal operation debriefing of all interested parties. The debriefing may include a review of DAAI requirements, the coordinator's chronological report, and a discussion of the procedures and equipment during the recovery operation;

i) amend the disabled aircraft removal plan to overcome problems identified under h) above; and

j) participate in the removal operation debriefing.

3.2.2. Aerodrome coordinator of disabled aircraft removal operations should, amongst other things:

a) convene a meeting with the aircraft operator representative, DAAI investigators, representatives of resident oil companies, heavy equipment contractors and other parties as may be necessary, to discuss the most appropriate removal operation and agree upon a broad plan of action. This should cover the following points:

i) escort routes between the aircraft operator's area and the event site;

ii) defueling to lighten the mass of the aircraft;

iii) requirements and availability of equipment for the removal of the aircraft;

iv) use of aerodrome and aircraft operator's equipment;

v) dispatch of aircraft operator ancillary support devices to the scene;

vi) weather conditions, particularly when crane lifting or pneumatic lifting bag operation is necessary;

vii) the lighting of the site; and

viii) contingency plan, should difficulties develop in the initial plan;

b) provide for rescue and fire fighting vehicles, when necessary;

c) supervise aerodrome personnel and equipment assigned to the removal operation;

d) report further penetrations of obstacle limitation surfaces due to the manoeuvring of cranes or other equipment during the lifting of the aircraft;

e) monitor weather forecasts;

f) maintain a chronological summary of the removal operation;

g) have photographs of the removal operation taken where possible;

h) where excavations are necessary, check with the appropriate aerodrome maintenance services for underground utilities;

i) keep NCAA and other aircraft operators informed of the progress of the aircraft removal operations;

j) arrange for the removal of mail, baggage and cargo, it being understood that authority to remove these items must be secured from DAAI; and

k) participate in the removal operation debriefing.

3.2.3. Aircraft operator's representative should, amongst other things:

(a) implement the aircraft operator's removal plan for such an emergency;

(b) meet with the aerodrome coordinator, Directorate Aircraft Accident Investigator (DAAI) and other relevant parties to develop a comprehensive plan for the removal of aircraft;

(c) decide on the need for consultation with aircraft airframe and engine manufacturers or other aircraft operator representatives experienced in such accidents; and

(d) participate in the removal operation debriefing.

3.3. Information on equipment, personnel and facilities

3.3.1. Equipment and personnel are available.

List of equipment and personnel on or in the vicinity of the airport that would be available for the removal operation. The list of equipment should include information on the type and location of heavy equipment or special units needed, and the average time it will take to get them to the aerodrome.

The list of personnel should also contain information on the availability of human resources for road making and other duties. Names, addresses and telephone numbers of personnel and equipment representatives should be given.

Table 3. 1: Minimum disabled Aircraft removal kit

Item	**Quantity**
Fencing, with protective signage	As necessary
Steel plate, (25 mm) thick (122 x 183 cm)	12
Steel plate, (25 mm) thick, (91 x 91cm)	12
Manila rope (19 mm) diameter	152 m
Pulley block Double sheaves for (19 mm) diameter rope	4
Hardwood beam (15 x 15 x 122 cm)	2
Felt padding, or equivalent material	20 sq m
Mattress, household type	8
Plywood sheet (25 mm) thick	125
Shoring timber, hardwood, (15 x 8 x 244 cm) and, (30 x 30 x 305 cm)	500
Mobile electrical power unit, 5 kW or larger	1
Floodlights with stands, Use with the above power unit, which includes leads, junction box, and (15 m) extension cords	4
Flashlights, standard, 1 per person	As necessary
Engine-driven	4
Low-height flatbed trailer, 150-ton capacity (1.2 m) maximum height	2
Tow cable, 20-ton capacity wire rope (30 m) length, splice ends at each end	4
Lifting cable, landing gear structure assembly, 50-ton capacity (6 m) length, with splice eyes and thimbles	3
Tethering cable, or (7.6 cm) diameter rope, 20-ton capacity (24 m) length, with splice eyes and thimbles	8
Rachet chain hoist, 3-ton capacity	8
Ground anchor, 10-ton capacity	8
On-site communication equipment, portable radios, interphone headsets, or mobile phones	5
Railroad ties	Up to 1,500
Crushed rock, (3.8 cm)	(23 cubic meters)

Pit run gravel	(38 cubic meters)
Planking, steel or aluminum (5 x 20 x 244 cm) or equivalent epoxy filament cloth ground cover	500
Mobile crane, 12-ton capacity; height (8.53 m) Reach (3 m) for aeroplane component lifting, including engines	1
Bulldozers, bucket loaders, etc., for excavation	As necessary
Winching vehicles, forklifts, flat-bed trucks, etc., for tethering, moving, loading, unloading	As necessary
Ladders, At least (7.3 m) extension	2
Miscellaneous tools: Shovels, picks, crowbars, sledge-hammers, hoes, chainsaws, hammers, nails, handsaws, small hydraulic jacks, shackles, etc.	As necessary
Ballast, Sandbags, cement blocks, scrap iron, drums filled with water, etc.	(1360 kg)
Trailers or workshop tent	As necessary
Quick-set concrete	As necessary
Large mobile cranes, for aeroplane wing and body lifting	As necessary
Used rubber tires	30
Grounding rod, Coppertone-coated steel with (18 m) cables and clips	3 m
Fuel off-load capacity of (75,710 liters), Fixed-mobile or bladder fuel tanks	As necessary
Water pump for draining ditches, (5 cm) diameter pump with (189 to 379 liter/min) capability. Pump power supply with (7.6 cm) diameter, (30 m) suction hose so the pump may clear the fuel vapor area.	2
Soil penetrometer	1

3.3.2. Access routes.

Include information on access routes to any part of the airport. A grid map of the type referred to in NAMCARs, Part 139.16.4, may be useful for this purpose.

3.3.3. Security

Define the means of maintaining security for the aircraft removal operation.

3.3.4. Aircraft removal equipment kits

Describe arrangements for the rapid receipt of aircraft removal equipment kits if available from other airports. This should be coordinated with the airlines operating at the aerodrome.

3.3.5. Aircraft data

Describe arrangements to make available, at the aerodrome, manufacturer's data about the aircraft removal for the various types of aircraft which normally use the aerodrome.

3.3.6. Aircraft defueling

Describe arrangements with the resident oil companies to ensure that the defueling, storage and disposal of the aircraft fuel, including contaminated fuel, can be done at short notice and in consideration of environmental factors.

3.3.7. Responsible representatives

List names, addresses and telephone numbers of responsible representatives of each aircraft operator, as well as of the nearest representatives of aircraft and engine manufacturers.

3.4. Planning chart

The attached chart is intended as a general review and guide to assist in the aircraft removal process. It is not anticipated to be used as step-by-step instructions in dealing with a removal event.

Basic Recovery Steps				
1. Survey	*2. Plan*	*3. Prepare*	*4. Recover*	*5. Report*
Aircraft condition: – Recover or salvage – Attitude – Landing gear – Structure – Damaged components – Missing components – Unserviceable components – Cargo and fuel **Site:** – Terrain – Soil – Access routes **Weather:** – Current – Forecast **Equipment availability:** – Preparation – Levelling – Lifting – Moving – Stabilizing **Manpower availability:** – Number – Skills **Environmental issues:** – Fluid spills – Hazardous materials	**Rapid recovery:** – Important – Not important **Weight and balance:** – Calculate weight of fuel and cargo – Calculate centre of gravity **Weight reduction:** – Unload cargo – Defuel – Remove major components **Recovery:** – Reduce weight – Prepare site – Level – Lift – Stabilize – Move **Schedule equipment and manpower required:** – Confirm delivery plan **Secondary damage:** – Prevent or – Accept to reduce recovery time	**Monitor and record:** – Loads – Actions performed **Assemble equipment and manpower:** – Confirm arrival dates **Weight reduction:** – Unload cargo – Defuel – Remove major components **Prepare site:** – Clear – Excavate – Fill – Stabilize **Roadway:** – Clear – Excavate – Fill – Stabilize – Manufactured temporary roadway	**Monitor and record:** – Loads – Actions performed **Stabilize:** – Tether – Ground anchors – Jacks – Shoring **Level/lift:** – Jacks – Airbags – Cranes – New technology equipment **Debogging:** – Confirm a lifting method **Move:** – Tow on gear – Move on suitable trailer	**Report:** Include in aircraft technical history: – recovery details – repair details – record of loads