AERIAL
APPLICATION
MANUAL
AERIAL APPLICATION MANUAL

Table of Contents

SECTION 1. GENERAL .............................................................................................................. 4
1.1 Corporate Statement ........................................................................................................ 4
1.2 Record of Amendments ..................................................................................................... 5
1.3 Manual Distribution .......................................................................................................... 6
1.4 Abbreviations .................................................................................................................... 7
1.5 List of Effective Pages ....................................................................................................... 8

SECTION 2. MANAGEMENT .................................................................................................. 9
2.1 Trust and Habitat Restoration Project Background ........................................................... 9
2.2 Management Structure ..................................................................................................... 10
2.3 Management Group Structure ........................................................................................ 11
2.4 Services Provided ............................................................................................................. 12
2.5 Aircraft used by South Georgia Heritage Trust on Air Operations .................................. 12
2.6 Helicopter Operational Personnel ................................................................................... 13
2.7 Location of Bases ............................................................................................................. 14
2.8 Safety Meetings ................................................................................................................. 15
2.9 Records ............................................................................................................................. 16
2.10 List of records used by the Trust ....................................................................................... 17
2.11 Records Continued (Maintenance) .................................................................................. 18
2.12 Alcohol, Drugs and Smoking Policy ................................................................................. 19
2.13 Communications Centre ................................................................................................ 19
2.14 Safety Policy .................................................................................................................... 21

SECTION 3. RESPONSIBILITIES .......................................................................................... 22
3.1 Project Director ................................................................................................................ 22
3.2 Flight Operations Manager .............................................................................................. 23
3.3 Assistant Flight Operations Manager ............................................................................. 24
3.4 Pilot in Command .............................................................................................................. 24
3.5 Senior Engineer ............................................................................................................... 25
3.6 Baiting Operations Manager ........................................................................................... 26
3.7 Search & Rescue Manager ............................................................................................... 26

SECTION 4. AIRCREW AND TRAINING............................................................................. 27
4.1 Pilot License Requirements .............................................................................................. 27
4.2 Minimum Experience Requirements ................................................................................ 27
4.3 Recent Type and Flight Experience ................................................................................ 27
4.4 Baiting Competency Checks ........................................................................................... 28
4.5 Flight and Duty Times ...................................................................................................... 28
4.6 Pilot Authorisation ........................................................................................................... 29

SECTION 5. OPERATIONS .................................................................................................... 30
5.1 General Operations .......................................................................................................... 30
5.2 Flight Safety Briefings ...................................................................................................... 30
5.3 Minimum Safe Heights ................................................................................................... 33
5.4 Flight Recording and Operational Records ...................................................................... 33
5.5 Flight Following ................................................................................................................. 33
5.6 Communications Centre Minimum Requirements ............................................................ 34

pg. 2
5.7 Communications Centre Staff Training .......................................................... 34
5.8 Emergency Situation Action Plans .................................................................. 34
5.9 Operational Limitations and Procedures .......................................................... 36

SECTION 6. FUEL AND OIL REQUIREMENTS ...................................................... 38
6.1 Fuel and Oil Consumption (see also section 6.4 Fuel Planning) ....................... 38
6.2 Fuel Contamination Checks .......................................................................... 38
6.3 Refuelling Equipment ..................................................................................... 39
6.4 Fuel Planning .................................................................................................. 40
6.5 Refuelling Aircraft ......................................................................................... 41

SECTION 7. AIRCRAFT AND EQUIPMENT ............................................................ 42
7.1 Operational Limitations .................................................................................. 42
7.2 Basic Instruments and Equipment .................................................................... 43
7.3 Communications Equipment .......................................................................... 43
7.4 Emergency Equipment ................................................................................... 44
7.5 Aircraft Security .............................................................................................. 44
7.6 Weight and Balance ....................................................................................... 45

SECTION 8. MAINTENANCE .................................................................................. 46
8.1 Maintenance Control Organisation Chart ....................................................... 46
8.2 Persons for liaison with CAA and ASSI ......................................................... 47
8.3 Persons Authorised to Release an Aircraft to Service ..................................... 47
8.4 Responsibilities of the Maintenance Manager ............................................... 48
8.5 Identification of Maintenance Organisations .................................................. 49
8.6 Maintenance Contract for Bolkow BO 105 DB &DBS Model Aircraft .............. 49
8.7 Identification of Aircraft Used ....................................................................... 52
8.8 Maintenance Program for Bolkow BO 105 ..................................................... 52
8.9 After Maintenance Checking & Power Checks .............................................. 55
8.10 Servicing and Cleaning of Aircraft ............................................................... 56
8.11 In-Service Defect Reporting ........................................................................ 57
8.12 In Service Defect Flow Chart ....................................................................... 58
8.13 Reportable Defects ...................................................................................... 59
8.14 Interchange of Information .......................................................................... 59
8.15 Maintenance Records ................................................................................... 60
8.16 Upkeep of Maintenance Manual .................................................................... 61
8.17 Spares and Supply Organisations .................................................................. 61
8.18 Tools, Calibration and Quality ...................................................................... 62
8.19 Records for use by Maintenance Manager ................................................... 62
8.20 Check Flight Pilots ...................................................................................... 63
8.21 Maintenance Programme for Emergency Equipment ..................................... 64
8.22 Inoperative Equipment ................................................................................ 65
8.23 Flight Time Recording ................................................................................ 65
8.24 Defect Recording ....................................................................................... 66
8.25 Preflight Inspection ..................................................................................... 66
8.26 Hook Inspections ....................................................................................... 67
8.27 Airworthiness and Service Information ....................................................... 68
8.28 Service Information Flow Chart ................................................................. 69
8.29 Maintenance of Role Equipment ............................................................... 70
SECTION 1. GENERAL

1.1 Corporate Statement

South Georgia Heritage Trust is a Scottish Registered charity (SC036819) and Company limited by Guarantee (Company no. SC466431). The Trust plans to enhance the biodiversity of the South Atlantic island of South Georgia by eradicating pests.

In order to achieve the above objective, the Trust will operate helicopters spreading bait from underslung spreader buckets.

Company policy is to conduct its activities such that every practicable effort shall be made to ensure the safety of flight operations and the health and safety of all persons working for the company or associated with company activities.

Accident and incident prevention is our priority. It is therefore every employee’s duty to integrate safety into all aspects of operations so that our objectives and priorities are achieved.

Adherence by all employees to the procedures and requirements contained in this manual and any supplementary part is mandatory.

Complacency can never be associated with aviation activities and the company therefore actively promotes health and safety objectives not only in the operation of its aircraft, but also in associated ground support activities, maintenance of its aircraft and other allied functions. This manual establishes relevant safety procedures for the control of the company operations in compliance with the Civil Aviation Act, the Resource Management Act, the Occupational Safety and Health Act and amendments to these Acts.

SOUTH GEORGIA HERITAGE TRUST

...........................................

Prof. Anthony Martin
1.2 Record of Amendments

Persons identifying a perceived need for change to this manual should notify the company in writing.

The Flight Operations Manager
pghtd@xtra.co.nz

The Project Director	tony_sghr@live.co.uk

Upon a receipt of a recommendation for change to this manual, the Flight Operations Manager shall initiate action of a proposed change. Distribution is by email, for the immediate attention of all operations personnel.

It is the responsibility of each manual holder to enter amendments as and when issued and record details in the appropriate section below. At the bottom right corner of the page denotes the amendment number and date of issue.

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</tbody>
</table>
1.3 Manual Distribution

Copies of this manual will be held by those in the table below.

A copy of this manual will also be held by each pilot employed by the company, and be available to each employee of the company.

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## 1.4 Abbreviations

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<td>ARA</td>
<td>Annual Review of Airworthiness</td>
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<td>ASSI</td>
<td>Aviation Safety Support International</td>
</tr>
<tr>
<td>BAS</td>
<td>British Antarctic Survey</td>
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<tr>
<td>CPL(H)</td>
<td>Commercial Pilot License (Helicopter)</td>
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<tr>
<td>ELT</td>
<td>Emergency Locator Transmitter</td>
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<td>Federal Aviation Authority (USA)</td>
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SECTION 2. MANAGEMENT

2.1 Trust and Habitat Restoration Project Background

South Georgia Heritage Trust was established in 2005. The Trust’s Habitat Restoration Project began operating on South Georgia in 2010, in an effort to eradicate invasive rodents from the Island.

**Project Director:**

Professor Anthony Martin was appointed by the Trust to direct its operations and has the title of Project Director.

**Company Directors:**

Alison Neil, Howard Pearce, Elaine Shemilt, Michael Richardson

**Staff:**

Peter Garden is the Flight Operations Manager. Peter has been flying fixed wing since 1965, and converted to helicopters in 1976. From working in England and Scotland and numerous islands he was the chief pilot for Southern Aviation Ltd from 1977 to 1985. He then formed Peter Garden Helicopters, which operated until 30 September 2004. He sold his business to South West Helicopters Ltd and became Flight Operations Manager for that company operating 9 helicopters on various types of work in Fiordland and Southern New Zealand. Peter has extensive experience in agriculture operations and remote area predator eradication operations.

Peter is also a D & E Cat instructor and holds the position of Training Manager and Occurrence Investigator.
2.2 Management Structure

- **Project Director**
  - *Prof Anthony Martin*

- **Flight Operations Manager**
  - *Peter Garden*

- **Maintenance Manager**
  - *Andy Bloxham*

- **Flight Operations Manager**
  - *Dave McLaughlin*
  - *Bryan Beck*

- **Senior Engineer**
  - *Paul Wilkinson*

- **Search & Rescue Manager**
  - *Dr Jamie Doube*

- **Communications Manager**
  - *Denis Browne*

- **Assistant Flight Operations Manager**
  - *Dave McLaughlin*

- **Baiting Operations Manager**
  - *Keith Springer*

- **Ground Crew**
2.3 Management Group Structure

South Georgia Heritage Trust Helicopter Operations

Aerial Work Operations
  Aerial Baiting
  Long Line Operations
  • Type Ratings
  • Annual Base Checks

Maintenance Control
  • Scheduled Maintenance
  • Unscheduled Maintenance
  • Component Overhaul
2.4 Services Provided

PURPOSE
The services that the company provides in South Georgia are in support of the SGHT Habitat Restoration program and are a private operation with no work carried out for any third party.

Public and Environmental Health Ops:

1. Aerial distribution of toxic rat bait
2. Aerial Survey of areas to be treated
3. Transport of Bait Loading Crew to Load Site
4. Sling loading of equipment from support ship to shore, and between Forward Operating Bases.

Facilities:

Bases

Maintenance Hangar  Grytviken, South Georgia
Forward Operating Bases  Various sites near the coast of South Georgia

2.5 Aircraft used by South Georgia Heritage Trust on Air Operations

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<td>Bolkow</td>
<td>BO-105 DBS</td>
<td>G-WAAS</td>
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2.6 Helicopter Operational Personnel

PURPOSE
Identify personnel and their positions within the Trust as required.

SCOPE
This applies to all personnel employed directly or contracted to the company.

RESPONSIBILITY
The Project Director shall ensure that all personnel understand their role and responsibilities as required by this manual.

PROCEDURE
The following are positions held in the company

<table>
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<th>Position</th>
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<td>Prof Anthony Martin</td>
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<td>Flight Operations Manager</td>
<td>Peter Garden</td>
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<td>Search &amp; Rescue Manager</td>
<td>Dr Jamie Doube</td>
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<td>Maintenance Manager (Of Part 145)</td>
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<td>Senior Engineer</td>
<td>Paul Wilkinson</td>
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<tr>
<td>Communications Manager</td>
<td>Denis Browne</td>
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Signature verifies acceptance and understanding of the respective position in the company.
2.7 Location of Bases

Dundee Head Office

Project Director
Prof Anthony Martin
SGHT
Verdant Works
West Henderson’s Wynd
Dundee, DD1 5BT
P: +44 (0) 1382 229792
F: 
e: tony_sghr@live.co.uk

Grytviken

Hangar
P: 
F: 
e: 

King Edward Point

P: 
F: 
e: 

Wanaka (NZ)

184 Faulks Road RD2
Wanaka 9382
New Zealand
P: +64 (0)3 443 8289
F: 
e: pghltd@xtra.co.nz
2.8 Safety Meetings

PURPOSE
Safety meetings provide regular reviews of the effectiveness of flight and safety procedures in place at the time.

SCOPE
To maintain a safe working environment.

RESPONSIBILITY
The Flight Operations Manager is responsible for ensuring that safety meetings are held as required by this section of the manual. He will implement the safety programme and make staff aware of company policy in promoting a safety conscious environment.

PROCEDURE

1. Safety meetings will be held regularly throughout the project and whenever a safety issue arises that requires immediate attention for the on-going safety of aircraft and staff.

2. The results of safety meetings will be brought to the attention of the Project Director, and made available to those concerned.

3. Urgent safety notices will be brought to the attention of all staff as soon as they are promulgated.

4. Records will be kept for at least 12 months from the date of the meeting.

5. The safety programme may include

   a) Ground Crew Safety Awareness courses
   b) Pilot Checks - prior to starting operations
   c) Pilot Checks - Safety Equipment Use – prior to starting operations
   d) BAS staff awareness
   e) Emergency Training (SAR) – prior to starting operations
   f) Training standards

6. Daily briefings & debriefings will be considered as safety meetings
2.9 Records

PURPOSE
To keep records that are required to maintain a documented system.

SCOPE
This shall apply to the following:

1. Pilot Records
2. Maintenance Records
3. Maintenance Records (Role Equipment)
4. Aircraft Hours
5. Daily Records
6. Audit Reports
7. Aircraft Log Books (Aircraft as listed in 2.5)

RESPONSIBILITY
The Project Director shall ensure that these records are stored, maintained, distributed and available to those authorised persons.

PROCEDURE
1. Pilot records shall be confidential.
2. Maintenance Records shall be kept by the Maintenance Manager.
3. Maintenance Records (Role Equipment) shall be maintained by the Maintenance Manager.
4. Aircraft hours & scheduling shall be monitored by the Senior Engineer.
5. Daily records shall be maintained by the Senior Engineer.
6. Any audit reports carried out by the Flight Operations Manager will be reported to the Project Director, and retained by him.
7. Aircraft records compiled by the Maintenance Manager shall be reviewed by the Senior Engineer.
### 2.10 List of records used by the Trust

<table>
<thead>
<tr>
<th>Form No.</th>
<th>Record</th>
<th>Retention Period</th>
<th>Issued</th>
</tr>
</thead>
<tbody>
<tr>
<td>SGH 02 *</td>
<td>Aircraft Technical Log</td>
<td>12 months after replaced</td>
<td>01 Jan 2015</td>
</tr>
<tr>
<td>SGH 05*</td>
<td>Daily Flight Following Record</td>
<td>12 Months</td>
<td>01 Jan 2015</td>
</tr>
<tr>
<td>SGH 06</td>
<td>Pilot Survival Bag Contents</td>
<td>12 Months</td>
<td>01 Jan 2015</td>
</tr>
<tr>
<td>SGH 07</td>
<td>Overdue Aircraft Procedure</td>
<td>12 Months</td>
<td>01 Jan 2015</td>
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<tr>
<td>SGH 08</td>
<td>SAR Reporting Form</td>
<td>12 Months after entry</td>
<td>01 Jan 2015</td>
</tr>
<tr>
<td>SGH 09</td>
<td>Aircraft Accident Report Form</td>
<td>12 Months after entry</td>
<td>01 Jan 2015</td>
</tr>
<tr>
<td>SGH 010</td>
<td>Helicopter Emergency Equipment</td>
<td>12 Months after entry</td>
<td>01 Jan 2015</td>
</tr>
<tr>
<td>SGH 011</td>
<td>Safety Occurrence Report</td>
<td>12 months</td>
<td>01 Jan 2015</td>
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<td></td>
<td></td>
<td>12 Months</td>
<td>01 Jan 2015</td>
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<tr>
<td>SGH 214</td>
<td>First Aid Kit</td>
<td>12 Months</td>
<td>01 Jan 2015</td>
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<td></td>
<td>12 Months after</td>
<td>01 Jan 2015</td>
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<tr>
<td>SGH 300*</td>
<td>Pilot Authorisation Record</td>
<td>12 Months after entry</td>
<td>01 Jan 2015</td>
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<tr>
<td>SGH 301</td>
<td>Pilot Qualification Record</td>
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<td>01 Jan 2015</td>
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<td></td>
<td></td>
<td>12 Months after</td>
<td>01 Jan 2015</td>
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<tr>
<td>SGH 306</td>
<td>Ground Crew Training</td>
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<td>01 Jan 2015</td>
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<td>SGH 308</td>
<td>Flight &amp; Duty Times</td>
<td>12 months after</td>
<td>01 Jan 2015</td>
</tr>
<tr>
<td>SGH 312</td>
<td>Aerial Baiting and GPS competency</td>
<td>12 months after</td>
<td>01 Jan 2015</td>
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<td>SGH 316</td>
<td>Pilot Maintenance Approval</td>
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*Indicates landscape form
### 2.11 Records Continued (Maintenance)

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<th>Form No.</th>
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<tr>
<td></td>
<td>A2B Heli Maintenance Ltd forms</td>
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<tr>
<td></td>
<td>All Records</td>
<td>indefinite</td>
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<tr>
<td></td>
<td>Test Flight Report</td>
<td>Life of A/c</td>
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<td></td>
</tr>
</tbody>
</table>
2.12 Alcohol, Drugs and Smoking Policy

PRECURSOR
The Trust has a “No Smoking” policy inside all buildings, hangars and in or around aircraft. Alcohol shall not be consumed by flight or ground crew while on duty in any capacity.

SCOPE
This shall apply to all persons including:

a. Ground Crew
b. Pilots

RESPONSIBILITY
It will be the responsibility of the Flight Operations Manager to enforce this policy.

PROCEDURE

1. All staff must adhere to the “no smoking” policy as stated above.

2. No person shall act in the capacity of a Flight Crew or Ground Crew member while under the influence of alcohol or drugs.

3. When receiving medication a pilot must enquire from an aviation medical examiner as to the effects of that medication on flying performance. He shall advise the Project Director immediately of any limitations that are likely to affect flight duties.

4. A pilot may disallow any person from boarding an aircraft if he has reason to believe that they are under the influence of alcohol or drugs that might affect the safe flight of that aircraft.

2.13 Communications Centre

PURPOSE
To provide support to Trust aircraft operating in the greater South Georgia Island area

SCOPE
The Communications Centre shall provide the following services:

1. Maintenance of VHF radio communications with aircraft
2. Maintaining a flight following log
3. Liaison with UK flight following team, in the event of overdue aircraft
4. Gathering weather information
5. Emergency support
RESPONSIBILITY
The Communications Manager will be responsible for providing this service.
The Pilot in Command requiring this service shall establish contact with the communications centre prior to all flights, and initiate regular communications for flight following and to pass on details of the proposed flight.

PROCEDURE
1. The Communications Centre is at King Edward Point
2. Activated when required by pilots
3. On any flight more than 5 nautical miles away from base, pilots are required to give the operator the following information equivalent to a VFR flight plan

   1. Number and names of persons on board
   2. Time of departure and ETA at destination
   3. Fuel quantity and endurance
   4. Route, direct or other
2.14 Safety Policy

South Georgia Heritage Trust is committed to, and responsible for, taking all practical steps to ensure a safe and healthy environment for all staff and contractors at all of its places of work as part of the Trust’s work practices.

Safety is paramount and the reiteration of safe practices around helicopters is a continuing process. Trust pilots operate in a demanding environment.

As part of our commitment to safety, the South Georgia Heritage Trust will comply, as a minimum, with all Health and Safety Legislation and take every practical step to prevent accidents and injury.

Maximising safety and minimising risk is the responsibility of all staff and is essential to South Georgia Heritage Trust achieving its strategic goals. Management, pilots, and ground staff shall comply with Trust safety policies and Civil Aviation Rules and ensure that no action or inaction creates an undue risk to the health and safety of themselves or their colleagues.

The South Georgia Heritage Trust will strive to:

• Integrate Health and Safety into day-to-day management practices and;

• Continually improve Health and Safety management through constructive practice and review

and will ensure that:

• Practicable steps are taken to identify and manage areas of risk, and that Trust staff are equipped, trained, competent and supervised in line with this manual, to perform their duties in a safe and efficient manner.

Project Director:

Prof Anthony Martin ..................................................

Flight Operations Manager:

Peter Garden ..........................................................
SECTION 3. RESPONSIBILITIES

3.1 Project Director

The Project Director is appointed by South Georgia Heritage Trust Board of Trustees. He has overall responsibility for the aviation activities carried out by the Trust.

Responsibilities include the following:

a) To ensure that resources are made available to safely carry out the aviation activity.

b) To ensure that all aviation activities are carried out in accordance with this manual and the relevant Civil Aviation Legislation in force at the time.

c) The appointment of senior persons for the positions of:

1) Flight Operations Manager
2) Assistant Flight Operations Manager
3) Maintenance Manager
4) Communications Manager
5) Baiting Operations Manager
6) Search & Rescue Manager

d) To ensure that all new and current employees are appropriately trained for their job and responsibilities, and reviewing the competency of staff with the Flight Operations Manager

e) Ensuring that the Trust employs appropriately experienced and qualified persons.
3.2 Flight Operations Manager

The Flight Operations Manager reports directly to the Project Director. He shall be responsible for the safe and efficient operation of all aircraft and crew.

Qualifications for this position are:

1. A current Commercial Helicopter Licence & Class 1/2 Medical
2. 3 years as Pilot in Command, or 3 years in an operational position
3. Experience as required in section 4.2 of this Manual.

Responsibilities include:

a) Reviewing operations and procedures
b) Bringing any safety concerns to the attention of the Project Director
c) Liaising with the Project Director, Maintenance Manager, and Senior Engineer when any aircraft maintenance is due
d) Scheduling flight activities
e) Managing ground crew support to aircraft
f) Controlling all pilot training
g) Authorizing a pilot for duties after completion of a satisfactory competency test
h) Ensuring that crew safety training and other safety training is carried out when required
i) Taking all reasonable steps to ensure the safe and efficient conduct of company operations by means of briefing pilots and or ground crew and operations staff.
j) Regularly informing pilots and ground crew of any new developments with regard to procedures, changes or introduction of new equipment to the operation.
k) Investigating any reported occurrences
3.3 Assistant Flight Operations Manager

The Assistant Flight Operations Manager reports to the Flight Operations Manager or Project Director. He shall be responsible for the safe day-to-day operation of the Trust’s aircraft.

Qualifications for this position are:

1. Current Commercial Pilot licence and class 1/2 medical certificate.
2. 3 years as an operational pilot
3. Experience as required in section 4.2 of this Manual

Responsibilities include:

a) Reviewing operations and procedures in conjunction with Flight Operations Manager
b) Bringing any safety concerns to the attention of the Flight Operations Manager
c) Supervision of flight duties
d) Upkeep of all pilot and daily aircraft records
e) Liaising with Senior Engineer and Flight Operations Manager on all aircraft maintenance issues
f) Overseeing all aircraft cleaning and security
g) Liaising with staff and ground crew on all safety issues
h) Supervising aircraft hangarage
i) Managing ground power equipment to ensure serviceability

3.4 Pilot in Command

On employment, a pilot passing the initial and competency training requirements and meeting the minimum qualifications will be authorised by the Flight Operations Manager to act as Pilot in Command of a company aircraft.

Qualifications for this position are as specified in section 4.2 of this Manual. Where two pilots are on the same flight, the Pilot in Command shall be the pilot occupying the certified command seat unless otherwise authorised for the purpose of conducting training or check flights.
Responsibilities shall include:

a) Taking all reasonable care to ensure the safety of any passenger, crew or cargo carried in or under the aircraft;
b) Having the final authority to control the aircraft operation, he may restrict or suspend operations if he believes the safety of the aircraft or those persons working with it are put at unnecessary risk;
c) Complying with all relevant Civil Aviation Legislation in force at the time;
d) Complying with this Manual;
e) Reporting any safety occurrences to the Flight Operations Manager;
f) Controlling any ground crew involved with the operation of the aircraft;
g) Ensuring the completion of pre-flight checks for his allocated aircraft as per the flight manual of that aircraft and carrying out any repetitive Airworthiness Directives as instructed by the Maintenance Manager;
h) Recording and or deferring any defects found during an inspection through the Minimum Equipment List;
i) On acceptance of maintenance carried out by maintenance facility, checking that all work performed is authorised as required in Part 8.13 of this Manual;
j) Recording as accurately as possible the flight hours and information required in SGH 001;
k) Maintaining knowledge of current rules and legislation relevant to the type of operation;
l) Ensuring that passenger briefings are carried out prior to flight.
m) Supervising the cleaning and security of his allocated aircraft at the completion of each day’s work.

3.5 Senior Engineer

Shall be responsible for the maintenance of the company aircraft, under the direct control of the EASA Part 145 Maintenance Contractor located in the UK (A2B Heli (Maintenance) Ltd.)

Qualifications for this position are:

EASA Part 66 Licenced Engineer with a valid authorisation issued by the Part 145 Maintenance Contractor. The Licence shall include type endorsement for the BO 105 Helicopter.

The Senior Engineer tasks include:

a) Ensuring that maintenance of aircraft is conducted in accordance with this Aerial Application Manual and relevant aircraft maintenance manuals;
b) Releasing aircraft to service only when the appropriate maintenance and documentation have been completed and signed;
c) Having a sound knowledge of rules relating to the maintenance of aircraft operated by the company;

d) Maintaining a record of the current operational status of aircraft and equipment in the records (Grytviken maintenance base);

e) Maintaining accurate records of daily flight hours of each aircraft;

f) Checking that maintenance performed at each 100 hour inspection by verifying that the aircraft tech-log (SGH 02) has been completed correctly, from information on SGH 01;

g) Liaising with Flight Operations Manager on changes to maintenance on aircraft and role equipment;

h) See also Section 8.4.

3.6 Baiting Operations Manager

The Baiting Operations Manager is appointed by the Project Director and is responsible for organisation and safety of the project’s ground operations, as detailed in the Phase 3 Operational Plan. He reports to the Flight Operations Manager and has the authority to suspend the operation if unsafe situations arise.

3.7 Search & Rescue Manager

The Search & Rescue Manager will be appointed by the Project Director and will be responsible to the Flight Operations Manager for:

a) Planning and implementing any SAR training and exercises
b) Drawing up and maintaining any Operational Emergency Plans
c) Managing any SAR equipment
d) Activating and managing emergency operations when required
e) Maintaining any records required
SECTION 4. AIRCREW AND TRAINING

4.1 Pilot License Requirements

4.1.1 All pilots employed or contracted by SGHT must hold a Commercial Pilot Licence (Helicopter) issued by a Civil Aviation Authority that is a signatory to ICAO.

4.1.2 Pilots who hold Commercial Pilot Licences, not issued in the United Kingdom, must hold a ‘Certificate of Validation’ issued by the UK CAA Directorate of Flight Crew Licensing.

4.2 Minimum Experience Requirements

4.2.1 Flight Operations Manager

(i) Must have completed at least 1500 hours of Flight Operations.
(ii) Must have a minimum of 200 hours on underslung load operations.
(iii) Must have at least three years’ experience in a senior position with an operator carrying out Operations.
(iv) Must have completed a minimum of 500 hours on type of work.

4.2.2 Company Pilot

(i) Must have completed at least 1000 hours of Flight Operations.
(ii) Must have completed a minimum of 100 hours of underslung work.

4.3 Recent Type and Flight Experience

All pilots must have completed 3 take offs and landings on each type being flown, within the 90 days prior to commencing bait spreading operations. This means flying a circuit between lift off and landing.
4.4  Baiting Competency Checks

4.4.1  Each 12 calendar months all employed or contract pilots must have completed a Baiting Competency Check.

4.4.2  This check shall be carried out by a ‘Cat E’ flight instructor.

4.4.3  This check shall be carried out using form SGH 312 “Aerial Baiting and GPS Competency” sheet.

4.4.4  A record of this check shall be held with the pilot records and retained for the duration of employment or contract of the pilot or 12 months from issue whichever is the longest.

4.5  Flight and Duty Times

4.5.1  Flight Time

Pilots shall not fly more than:

(i)  8.5 hours on any day
(ii) 35 hours in any week
(iii) 100 hours in any period of 28 days

4.5.2  Duty Time

(i)  Pilots shall not be rostered on duty for more than 12 hours on any day
(ii) At the end of any duty period pilots shall have at least 12 consecutive hours free of operational duties.

4.5.3  Recording of Flight and Duty Time

This shall be recorded on form SGH 308 and retained on the pilot records for the duration of employment or contract or 12 months whichever is the longest.

4.5.4  Flight Operations Manager Responsibilities

The Flight Operations Manager shall be responsible for ensuring that pilot fatigue is managed and that no pilot who has reported to be fatigued is required to fly until sufficient rest has been achieved.

4.5.5  Pilot in Command Responsibilities

The Pilot in Command shall be responsible for advising the Flight Operations Manager when he believes that he is suffering from fatigue.
4.6 Pilot Authorisation

The Flight Operations Manager shall authorise each pilot to carry out duties.

4.6.1 Pilots may only carry out flight duties as authorized by the FOM.

4.6.2 Flight Duties that require specific authorization from the FOM are:

   (i) Aerial Baiting
   (ii) Aerial Survey of baiting area
   (iii) Transport of bait loading crew
   (iv) Bait calibration flights
   (v) Emergency Flights
   (vi) Lifting Operations

4.6.3 Flight Authorization Form SGH 300

The Flight Operations Manager will complete and sign form SGH 300 when he is satisfied that the pilot is competent to carry out the required operations
SECTION 5. OPERATIONS

5.1 General Operations

Operations conducted on South Georgia comprise:

   1. Aerial Baiting for the eradication of rats and mice.
   2. Flights in support of (1) above.
   3. Emergency flights where property or life is in danger.

5.2 Flight Safety Briefings

PURPOSE
To specify the minimum content of a safety briefing required to be provided to all passengers or any person working in or near the aircraft.

SCOPE
This shall apply to all flights.

RESPONSIBILITY
The Pilot in Command shall ensure that a briefing has been carried out as part of the flight planning stage. If used, Ground Crew shall ensure that all in Appendix C is covered before passengers enter the helicopter.

Where no Ground Crew are used, the Pilot in Command shall ensure all applicable briefings are carried out.

PROCEDURE
All briefings shall be clear, audible and comprehensible in a common language to ALL those persons being carried. When using a visual presentation (Briefing Cards or signs) all reasonable steps are taken to ensure that everyone understands the briefing.

   Over-water Ops.
   Safety Briefing shall include the contents in Appendices A & B.
APPENDIX A

Minimum Aircraft Briefing

1. Introduction

The legal Safety Requirements instructions

2. Seat Belts

- Show how to put it on and how to release the latch.
- The seat belt is to remain on at all times
- Only remove on instruction from the pilot

3. Emergency Equipment

Point out the location of the following:

- Fire Extinguisher
- Axe, First Aid Kit
- Pilot Survival Bag (if applicable to the flight)
- ELT

4. Do Not Touch

This applies to the front seat passenger regarding controls, fuel shut-off, collective, and radios etc.

5. Emergencies

As per the Aircraft Flight Manual and the area of operation.

6. Drugs, Alcohol & Smoking Policy

7. Baggage

Hand luggage must be stored under seats where practical. Hand luggage must not be able to inadvertently move in flight.
**APPENDIX B**

**Over-Water Operations Briefing**

1. **General**
   
   As in Appendix A and the following.

2. **Emergency Evacuation**
   
   Evacuation of the aircraft, including how and when to do this.

3. **Immersion Suits & Life Jackets**
   
   Ensure that the briefing given has been understood by all passengers. If not, it must be repeated by the Pilot in Command.

4. **Life Raft**
   
   Show everyone where it is located and how to activate it. Nominate a passenger to be “crew chief” to look after the raft.

5. **E.P.I.R.B.**
   
   Show the location of this.

**APPENDIX C**

**General Pre-boarding Briefing for field operations**

1. Suitable clothing for the terrain encountered on the flight i.e. shoes, jacket, eyewear.
2. Walk (in a slight crouched position with head up) to the front of the aircraft, No running.
3. No loose items (wind & down wash). Check for hats, coats, scarves etc.
4. Listen to the instructions from your Pilot.
5. Use of doors
6. Seat Belts. Demonstrate how to open, close and adjust them.
7. Life Jackets. Demonstrate how to put on and when to activate them. The use of the whistle.
8. Bring it to the passengers attention that there is no smoking allowed until after the flight, away from all buildings and Aircraft.
9. Baggage will be loaded for them by the Pilot or ground crew (if applicable).
5.3 Minimum Safe Heights

South Georgia presents some significant issues regarding minimum safe heights at which aircraft may fly. This is due largely to the abundance of ‘aircraft naïve’ wildlife.

The lack of any aerial structures and areas of population may lead a pilot into thinking that there are no issues relating to low flying.

This is not the case and all flying activities must take place in accordance with the published South Georgia Wildlife and Low Flying Avoidance Map other than when operational requirements so dictate.

The minimum safe height of 500 feet applies to any area that is outside of those areas defined on the above map except when applying bait & commissioning or decommissioning load sites.

*Bait may only be applied to those areas identified on the above map at a lower altitude than indicated when a safe lower altitude has been established by the Project Director.*

5.4 Flight Recording and Operational Records

In order to accurately record aircraft flight times for the purpose of maintaining the aircraft, the Pilot in Command must record the take-off time and the landing time of each flight. If the aircraft is fitted with a flight-recording device then the times may be recorded off this and written into the aircraft ‘Daily Flight Record’ form SGH 01.

Any defects discovered must be reported to the Senior Engineer before flight and the aircraft may not be flown until these have been either cleared or deferred.

Daily Flight Records must be handed to the Senior Engineer at the completion of each day’s work.

5.5 Flight Following

The purpose of this section is to establish a procedure to accurately track the aircraft at all times that they are operating away from the Communications Centre, in order to set up a timely response should an aircraft become overdue.

5.5.1 For helicopter operations, the SGHT Search & Rescue Plan response begins to take effect 10 minutes beyond an expected contact time (5 minutes if a portion of the flight is over water), if contact with the aircraft cannot be established.
5.5.2 All aircraft operating on South Georgia will have marine band FM radio communications with the Communications Centre, and will be fitted with a satellite tracking device that constantly uploads the position of the aircraft to a website. This website requires a reliable internet connection, so will be accessed in the UK by a nominated organisation which is immediately contactable by phone and will pass position information to the field team on South Georgia on request. The procedures in the SGHT SAR Plan will then be followed.

5.5.3 In order to help establish where an overdue aircraft may be, the Pilot in Command must advise the ground team of any deviation from the planned flight program for the day.

5.5.4 During baiting operations, aircraft movement and sortie times will be monitored to expedite SAR procedures.

5.6 Communications Centre Minimum Requirements

(i) The communications centre at King Edward Point must be manned continuously while aircraft are operating;
(ii) Radio communications must be established with aircraft flying and with the active loading site;
(iii) Communications Centre staff must be trained in the above procedures;
(iv) Handover procedures must be established when staff change or go for a meal break.

5.7 Communications Centre Staff Training

All staff carrying out communications duties must:

(i) Be competent in radio & satellite phone telephone procedures;
(ii) Have been briefed on the proposed aircraft activities for the day.

5.8 Emergency Situation Action Plans

5.8.1 Aircraft accident at load site involving fire

(i) Wait until main rotor blades have stopped rotating.
(ii) Attack the seat of fire with fire extinguishers from the loadsite safety kit.
(iii) Use fire blankets from loadsite safety kit to protect pilot and or passengers from flames as they are extricated.
(iv) Remove injured away from fuselage and commence first aid treatment.
(v) Call Project Paramedic and KEP Doctor.
(vi) Advise Project Director.
5.8.2 **Aircraft accident at load site not involving fire**

(i) Wait until main rotor blades have stopped rotating.
(ii) Extricate pilot and or passengers.
(iii) Remove injured away from fuselage and commence first aid treatment.
(iv) Call Project Paramedic and KEP Doctor.
(v) Advise Project Director.

5.8.3 **Loading accident**

(i) Secure accident scene and if possible remove injured from site.
(ii) Establish extent of injuries.
(iii) Commence first aid.
(iv) Call Project Paramedic and KEP Doctor.
(v) Advise Project Director.

5.8.4 **Aircraft Overdue**

(i) Follow procedures detailed in SGHT Habitat Restoration Project Phase 3 Search & Rescue Plan

5.8.5 **Ditching & Water Rescue Procedures**

(i) Follow procedures detailed in SGHT Habitat Restoration Project Phase 3 Search & Rescue Plan
5.9 Operational Limitations and Procedures

5.9.1 Operation Meteorological Minima

The following limits shall apply to bait spreading operations:

(i) Continuous wind steady speed 20 knots
(ii) Maximum wind gusts 30 knots
(iii) Minimum visibility 1000 metres
(iv) Minimum cloud base Operate clear of cloud

The following limits shall apply to all other operations:

(i) Continuous wind speed 35 knots
(ii) Maximum wind gusts 45 knots
(iii) Minimum visibility 1000 metres
(iv) Minimum cloud base Operate clear of cloud and in sight of ground

5.9.2 Restriction or Suspension of Operations

At any time during operations that an unsafe or dangerous situation arises the person with immediate responsibility must restrict or suspend the operation until the unsafe situation ceases.

When an operation has been restricted or suspended the person calling the restriction or suspension action must immediately advise all those involve of the situation starting with those most at risk and ensuring that the Project Director has been advised at the earliest safe time.

The person calling the restriction or suspension must report in writing to the Project Director within 24 hours.

Once an operation has been restricted or suspended only the Project Director can call for a full restart.

5.9.3 Radio Procedures

Radio communications must be continually maintained between the operating aircraft, the bait loading site and the comms centre, using standard radiotelephony procedures.

• Aircraft will use the last two letters of aircraft registration e.g. ‘Alpha Mike’.
• Load site will use the call sign ‘Helibase’.

• Comms Centre will use the call sign ‘Comms’.

5.9.4 **Occurrence Reporting**

In order to ensure continued safe operating practices and compliance with procedures, all accidents, incidents and non-compliance with procedures will be treated as ‘Occurrences’ and must be reported.

Unless there is a blatant disregard of rules or procedures all incidents will be treated as no blame incidents but reporting will be mandatory.

Post operational briefings will be carried out after each day’s work and occurrences must be reported at this briefing where they will be discussed and closing actions established which may require written reports.

Pre operational briefings will be carried out and any relevant previous occurrences may be included in this briefing for safety purposes. These briefings will constitute safety meetings. Recurring occurrences may call for a change to documented procedures.

5.9.5 **Lifting Operations**

Refer to SGHT Helicopter Load Lifting Manual.

5.9.6 **Poison bait approved for aerial applications**

Brodifacoum impregnated cereal bait manufactured by Bell Laboratories Inc., with the active ingredient at concentrations of 20-50 parts per million (ppm).
SECTION 6. FUEL AND OIL REQUIREMENTS

6.1 Fuel and Oil Consumption (see also section 6.4 Fuel Planning)

6.1.1 It is the responsibility of the Pilot in Command to ensure that sufficient quantities of fuel and oil are carried for the flight.

6.1.2 Standard fuel consumption rates for the BO 105DBS are 225 litres per hour.

6.1.3 Standard oil consumption rates for the BO 105DBS are 0.2 litres per hour.

6.2 Fuel Contamination Checks

It is the responsibility of the Pilot in Command to ensure that no contaminated fuel is used in company aircraft and all practical steps must be taken to maintain contamination free fuel in storage.

6.2.1 Procedure to check fuel in aircraft after standing for a minimum of 4 hours

(i) Drain a sample from the aircraft fuel sump drain into a clear container.
(ii) Visually check sample for cloudiness and dirt or rust particles.
(iii) Apply a small amount of ‘water detecting’ paste to a rod and stir in the sample.
(iv) If paste changes colour drain 2 litres of fuel from sump drain and carry out sample check again.
(v) If water is still detected, drain and clean aircraft fuel tank.

6.2.2 Procedure to check drum fuel stock

(i) Ensure drum has been standing upright for at least 4 hours.
(ii) Remove cap and inspect contents with a torch.
(iii) Apply a small amount of ‘water detecting’ paste to a rod long enough to reach the bottom of the drum.
(iv) Stir the rod around in the bottom of drum then withdraw and check for any change in colour of paste.
(v) If colour change is observed, discard fuel.
6.2.3 **Procedure for checking refuelling equipment**

(A) **Daily**

(i) Drain a sample from fuel pump filter assembly into a clear container.
(ii) Visually check for cloudiness and dirt or rust particles.
(iii) Apply a small amount of ‘water detecting’ paste to a rod and stir in sample.
(iv) If paste changes colour or excess contamination appears, drain and service filter.

(B) **At each refuel**

(i) Check fuel nozzle for contamination (dirt and moisture) before inserting into fuel tank.
(ii) Always use a static discharge line from pump to aircraft.

6.3 **Refuelling Equipment**

In order to ensure security of fuel, all equipment used to store or discharge jet fuel must be checked regularly. It is the responsibility of the Flight Operations Manager to ensure that this is carried out.

6.3.1 **Refuelling Pumps**

(i) When not in use, pumps need to be stored in such a way as to ensure that they are not exposed to contamination.
(ii) Apart from the daily pump checks detailed in section 6.2.3 fuel delivery pumps must be serviced regularly.

6.3.2 **Storage of Fuel Drums**

(i) Wherever possible drummed fuel stock should be stored undercover. If this is not possible then drums should be stored on their sides.

6.3.3 **Spreader Bucket Fuel**

Care must be taken to ensure that aircraft fuel is not cross-contaminated with fuel for spreader bucket motors.

(i) Drums containing spreader bucket fuel must be clearly identified separately from jet fuel.
(ii) Containers used for refuelling spreader bucket motors may not be used to store jet fuel.
6.4 Fuel Planning

6.4.1 For planning purposes use these figures for fuel consumption

(i)  Ground running 130 litres per hour
(ii) Survey ops 200 litres per hour
(iii) Baiting ops 190 litres per hour

6.4.2 Fuel Reserve Requirements

(i) Minimum fuel reserve will be 20 minutes flight time = 75 litres
(ii) Minimum fuel reserve with passengers will be = 100 litres
6.5  Refuelling Aircraft

It will be the responsibility of the Pilot in Command to ensure that the aircraft is refuelled correctly in accordance with the following procedures.

6.5.1  Authorised Persons

(i) Pilot in Command.
(ii) Appropriately trained ground support crew.
(iii) Senior Engineer.
(iv) Other persons authorised by the Flight Operations Manager.

6.5.2  Safety Precautions

(i) Fire extinguisher must be immediately available.
(ii) No smoking by anyone within 20 metres of refuelling activity.
(iii) Contamination and grade of fuel check verified as done.
(iv) Fuel supply bonded to aircraft.
(v) Fuel cap refitted to aircraft at completion of refuelling.
(vi) First aid kit available.
(vii) Beware of distractions during operation.
SECTION 7. AIRCRAFT AND EQUIPMENT

7.1 Operational Limitations

Operational limitations are as set out in the relevant ‘Aircraft Flight Manual’ and Section 5.9.1 of this manual.

Dimensions of the two aircraft variants are shown below.
7.2 Basic Instruments and Equipment

The following are the minimum instruments and equipment required to be fitted and operational to the aircraft.

- 7.2.1 Air Speed Indicator 1
- 7.2.2 Altimeter 1
- 7.2.3 Turbine Outlet Temp 2
- 7.2.4 Vertical Speed Indicator 1
- 7.2.5 Compass 1
- 7.2.6 VHF radio 2
- 7.2.7 Oil Pressure 2
- 7.2.8 Turn and Slip 1
- 7.2.9 Clock 1
- 7.2.10 Fuel gauge 1
- 7.2.11 Engine taco 2
- 7.2.12 Rotor taco 1
- 7.2.13 Fire Extinguisher 1
- 7.2.14 Axe 1
- 7.2.15 First aid kit 1
- 7.2.16 Four point seat harness pilot 1
- 7.2.17 Seat belts for each passenger 1
- 7.2.18 Emergency Locator Beacon 1
- 7.2.19 Satellite tracking beacon 1

7.3 Communications Equipment

7.3.1 Onboard aircraft communications equipment must include:

(i) One aviation band VHF radio.
(ii) One marine band VHF FM radio.
(iii) One satellite tracking beacon.
(iv) One satellite phone

7.3.2 Frequencies to be used

(i) Air to air on aviation band 119.1
(ii) Air to ground on marine band Channels 63, 64, 65

7.3.3 Communications Centre

(i) One marine band VHF FM radio base station
(ii) One backup marine band VHF radio
(iii) One satellite phone
7.3.4 **Forward Operating Base**

(i) One marine band VHF FM radio  
(ii) One backup marine band VHF radio  
(iii) One satellite phone

7.3.5 **Communications Training**

(i) Pilot in Command must hold a Flight Radio Telephone Operators rating.  
(ii) Loading Site Controller must be trained in the use of marine band VHF radios.  
(iii) Communications Centre staff must be trained in marine band VHF radio and flight following procedures.  
(iv) Standard radio procedures to be used.

7.4 **Emergency Equipment**

It shall be the Pilot in Command's responsibility to ensure that the required emergency equipment is carried appropriate to the flight.

7.4.1 **Operations within 10 nautical miles of KEP or Forward Operating Base**

(i) Pilot Survival Suit.  
(ii) Satellite Tracking Unit.  
(iii) Emergency Locator Transmitter.  
(iv) One Satellite Phone

7.4.2 **Operations more than 10 nautical miles from KEP or Forward Operating Base**

(i) All items in 7.4.1.  
(ii) Pilot Survival Bag.

7.4.3 **Operations over water**

(i) All items in 7.4.1 and 7.4.2 above.  
(ii) All occupants wear survival suits & lifejackets.  
(iii) Life raft capable of holding all crew and passengers.

7.5 **Aircraft Security**

Because of the unpredictability of weather on South Georgia aircraft security is extremely important. It shall be the responsibility of the Pilot in Command to ensure that the aircraft is moored in such a place as to prevent damage from wind or flying objects.
7.5.1 Aircraft moored in the open

Aircraft may be moored in the open if anticipated weather conditions allow.

(i) Overnight with blades tied down, intake covers on and tail rotor secured.
(ii) For several days if blades are folded and secured, intake covers on, tail rotor secured and aircraft tied to anchor blocks.

7.5.2 Aircraft must be hangared or tied down securely when

(i) Wind gust of more than 40 knots are expected.
(ii) Heavy rain or snow is forecast.

7.5.3 When unpredicted conditions occur while aircraft are operating

(i) If possible land aircraft so they can be hangared or securely tied down.
(ii) If not possible, land aircraft at identified sites in lea of buildings, ridges or some other wind breaks and secure as in 7.5.2.

7.6 Weight and Balance

See Weight and Balance section of the BO 105 Flight Manual (Sections 6.4 to 6.7).
SECTION 8. MAINTENANCE

8.1 Maintenance Control Organisation Chart

Air Operator Certificate Holder

South Georgia Heritage Trust

Project Director
Prof Anthony Martin

Maintenance Contractor
A2B Aero Ltd.

Maintenance Manager
Andy Bloxham

Senior Engineer
Paul Wilkinson

Maintenance Contractor
GPS Avionics
Keith James
8.2 Persons for liaison with CAA and ASSI

**Project Director**

All matters

Prof Anthony Martin

**Maintenance Manager**

Andy Bloxham

**Senior Person regarding Airworthiness:**

Andrew James

**Flight Operations Manager**

Peter Garden

**Senior person regarding manual amendments and airworthiness**

Peter Garden

8.3 Persons Authorised to Release an Aircraft to Service

**Maintenance Contractor**

A2B Aero (ALL Aircraft)

Aircraft Engineers Authorised Licence

Andy Bloxham

GPS Guidance Avionics

Keith James

**Trust Line Pilots**

Role Equipment and specialised maintenance with CAA Approval

1. Current Commercial Helicopter License and
2. Rated on Type
3. Authorisation from the Trust Project Director on form SGH 300
4. Pass a knowledge test and have license endorsed by the CAA.

**Inspection Authorisation**

Licensed Engineers who hold a rating

1. ........................................................
2. Other as contracted in by the Maintenance Contractor who meets this part.
8.4 Responsibilities of the Maintenance Manager

PURPOSE
To ensure that the recommendations of the aircraft manufacturer and current and relevant Civil Aviation Rules are compiled with.

SCOPE
Scheduling of maintenance, scheduled and unscheduled inspections for each aircraft operated.

RESPONSIBILITY
The Maintenance Manager shall be responsible for the overall maintenance of the fleet.

PROCEDURE

1. He is familiar with the Civil Aviation Rules

2. To ensure that an Annual Review of Airworthiness is performed every 12 months

3. The aircraft are released from operations when required for maintenance.

4. Any defect is reported and the appropriate action is taken to rectify it.

5. See also Section 3.4
8.5 Identification of Maintenance Organisations

<table>
<thead>
<tr>
<th>Company</th>
<th>Location</th>
<th>Contact Numbers</th>
<th>For</th>
</tr>
</thead>
<tbody>
<tr>
<td>A2B Aero Ltd.</td>
<td>Chinnor, Oxfordshire</td>
<td>P: +44 (0) 7733 368283 E: <a href="mailto:andy.bloxham@a2baero.co.uk">andy.bloxham@a2baero.co.uk</a></td>
<td>All aircraft</td>
</tr>
<tr>
<td>James AE</td>
<td>Dunedin, New Zealand</td>
<td>P: 03 473 7806 F: 03 473 7806 E: <a href="mailto:keith@james-ae.co.nz">keith@james-ae.co.nz</a></td>
<td>GPS Avionics</td>
</tr>
</tbody>
</table>

Role Equipment and Supplementary Emergency Equipment:

1. L.A.M.E as listed in accordance with SGM records for Annual Inspections and
2. Pilots with a Civil Aviation Authority Maintenance Approval As listed in SGC 300 pilot records.

8.6 Maintenance Contract for Bolkow BO 105 DB &DBS Model Aircraft

PURPOSE
Detail of the functions transferred from South Georgia Heritage Trust to A2B Aero (Maintenance) Ltd.

SCOPE
The Maintenance Contractor shall provide the following:

1. **Maintenance** of South Georgia Heritage Trust aircraft in accordance with this manual and
2. **Maintenance Manuals** for the company aircraft including but not limited to:
   a) Engine Operations & Maintenance Manual
   b) Airframe Operations & Maintenance Manual
   c) Service Bulletins, Service Letters, Instructions and Airworthiness Directives.
3. **Tools** - Are the responsibility of the contractor. A record shall be kept regarding the checks performed on any special tools that require calibration.
4. **EQE** - Engineering Quality Exposition that the Maintenance Contractor is certified to is used and a current copy is available for any engineer nominated by the contractor to reference to.
5. **Spares** - Are obtained for and on behalf of the operator with the required
supporting documents as in 8.17 of this manual.

6. **T.C.** - On receipt of an Operator TASK CARD from the Maintenance Manager a signed copy is returned when a check is completed with a full copy of ALL work records. A signed completed copy is faxed to Head Office.

7. **N.D.T** - Non-Destructive Testing when required is performed by a Part 145 organisation. When this is to be performed outside the organisation a Technical Directive must be raised.

8. **Engineers** - Persons to Release to Service as listed in 8.3.

9. **Log Books** - Are updated and signed by the LAME releasing the aircraft to service, after a check or inspection shall not exceed **7 days** from the date of last scheduled inspection. Where a computer-generated entry is used a statement in ink shall be entered referencing the job number and organisation, with LAME details in correct columns. The EASA part 145 Maintenance Organisation (A2B Aero) has 30 days to update all maintenance records from date of certification in accordance with their Part 145 MOE.

10. **Historical Data** - A copy of the **ALL Aircraft work records** is forwarded to the Maintenance Controller within the preceding 14 days of the check performed with original YELLOW copy of the Task Card.

11. **Purchasing** - Parts over £1000 require consultation with the Project Director before ordering and a Task Card issued for it.

12. **Records** - Contractor shall forward all COPIES of original work records, worksheets and supporting documents of parts after inspections to the Project Director.

13. **Outside Maintenance** - Where maintenance is performed away from the contractor listed below, a loose leaf entry will support the work done and a copy will be forwarded to the Maintenance Contractor for inclusion in the aircraft records as soon as practical by the Maintenance Manager.

14. **Amendments** - to the Operators Maintenance section (8) shall be forwarded to the Maintenance Manager listed below, as soon as practical after a change has been accepted by Project Director.

15. **Part 8.0** - The Maintenance Manager shall maintain the operator’s aircraft to Part 8.0 of their Aerial Application Manual unless a change is required from the manufacture or Project Director, or for a safety reason.

16. **Authority** - The Maintenance Manager is authorised to perform maintenance on the operator’s aircraft.
17. **Liability** - Under no circumstances will the Maintenance Manager below be liable to the operator in contract, tort (including negligence) or otherwise (except wilful conduct) for any loss or damages (whether direct or indirect) including loss of profits or any indirect or consequential losses whatsoever that arise from the physical loss or damage of aircraft, parts and property that belong to the operator while in the possession of the Maintenance Manager where such a loss or damage is not occasioned as a direct result of the conduct of the Maintenance Manager.

*Acceptance on behalf of*

**Maintenance Manager**

Name: ........................................... Signed: ...................................................

Date: ....................................

On behalf of **South Georgia Heritage Trust**

Name: ........................................... Signed: ...................................................

Date: ....................................
8.7 Identification of Aircraft Used

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Type</th>
<th>Registration</th>
<th>Serial Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolkow</td>
<td>BO 105 DBS</td>
<td>G-TVAM</td>
<td>396</td>
</tr>
<tr>
<td>Bolkow</td>
<td>BO 105 DB</td>
<td>G-BATC</td>
<td>45</td>
</tr>
<tr>
<td>Bolkow</td>
<td>BO 105 DBS</td>
<td>G-WAAS</td>
<td>S138/911</td>
</tr>
</tbody>
</table>

8.8 Maintenance Program for Bolkow BO 105

**PURPOSE**
To ensure that aircraft are maintained in accordance with that manufactures maintenance manuals and relevant Civil Aviation Rules in place at the time.

**SCOPE**
This shall apply to the BO 105 aircraft operated by the company.

**RESPONSIBILITY**
The Pilot in Command shall be responsible for ensuring that the aircraft hours are recorded and that the aircraft is made available when required for maintenance to the Maintenance Manager for any inspection, defect, maintenance and or task required.

**PROCEDURE**

1. All relevant Airworthiness Directives shall be complied with.
2. Components shall be overhauled / retired from service at periods recommended by the aircraft manufacture.
3. Periodic inspections, maintenance & Role Equipment to be Released to Service in accordance with Bolkow BO 105 Maintenance Program
4. The aircraft shall be inspected in accordance with the schedule in this part and C.A.A Rule Parts 91, 43 and IAW 135.402 (a)(1). Any variation to component inspection or overhaul life and any maintenance inspections require to be requested to the Part M Manager in the PART 145 Organisation. A variation is then issued to allow an extension to take place. All requests must be carried out and permission granted before the maintenance action becomes due. All allowable variations are listed in the EASA approved Maintenance Programme for the SGHT aircraft.
5. The Maintenance Manager shall keep a record of the following for pilot information:
   a) Aircraft total time
   b) Hours to next check
   c) Next check type
   d) Major Components Due
   e) Annual Inspections Due. (ARA, Mods, Role equipment)
   f) Any deferred defects (M.E.L.)
   g) Next Torque Event Inspection Due (as applicable)
h) Out of Phase Maintenance Due

6. Component overhaul period and finite lives as per the manufacturer's Maintenance Manual.

AIRFRAME INSPECTIONS

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>FREQUENCY OF INSPECTION</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Flight Inspection</td>
<td>Daily and or before flight/ after flight</td>
<td>Aircraft Flight Manual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Techlog Information</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Aerial Application Manual Requirements</td>
</tr>
<tr>
<td>Scheduled Inspections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calendar</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aircraft Hours</td>
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<td></td>
</tr>
<tr>
<td>Airworthiness Limitation</td>
<td>As specified in the manufacturer’s requirements</td>
<td></td>
</tr>
<tr>
<td>Overhaul Periods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Inspections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conditional Inspections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Mod Inspection and STC Mods</td>
<td>100, (where manufacture or Mod states) and Yearly</td>
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</tr>
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</table>

ENGINE INSPECTIONS Rolls Royce C 20 B

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>FREQUENCY OF INSPECTION</th>
<th>STANDARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airworthiness Limitations</td>
<td>As specified in the manufactures requirements</td>
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<tr>
<td>Overhaul Periods</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.8.1 Temporary Escalations

Maintenance Variations: As listed above in 8.8, Procedure 4

8.8.2 Avionics

PURPOSE
To maintain avionics and related equipment to a standard at regular inspection intervals.

SCOPE
All company aircraft

RESPONSIBILITY
The Maintenance Contractor is responsible to perform these inspections. Where some other organisation performs an inspection a Technical Directive MUST be raised.
PROCEDURE

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Inspection Type</th>
<th>Record</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radios VHF, VHF/FM, HF</td>
<td>Not to exceed 24 months</td>
<td>Contractors Work Sheet</td>
</tr>
<tr>
<td>ELT</td>
<td>Not to exceed 12 months</td>
<td>Contractors Work Sheet</td>
</tr>
<tr>
<td>Altimeter</td>
<td>Not to exceed 24 months</td>
<td>Contractors Work Sheet</td>
</tr>
<tr>
<td>Transponder</td>
<td>Not to exceed 24 months</td>
<td>Contractors Work Sheet</td>
</tr>
<tr>
<td>Compass</td>
<td>Not to exceed 24 months</td>
<td>Contractors Work Sheet</td>
</tr>
</tbody>
</table>

When an inspection is carried out please refer to this Part when writing a Release to Service Statement.
8.9 After Maintenance Checking & Power Checks

PURPOSE
To define procedure for the Pilot in Command, to check that the correct documents are obtained and in the aircraft before leaving the maintenance base. This check is part of the quality assurance and is mandatory. To monitor the performance of the helicopter with a check as detailed in this part.

SCOPE
This shall apply to all company helicopters on completion of maintenance and when the Pilot in Command has reason to do so, after a pre-take off check has been done.

RESPONSIBILITY
The Pilot in Command shall be responsible to carry out this procedure.

PROCEDURE

1. A power check shall be performed on completion of a check.*

2. A power check shall be performed if the Pilot has reason to believe that the performance of the helicopter is outside its allowable limits or the LAME request.

3. The power-check is recorded on the Daily Flight Record.

4. Any engine suspected of not performing to the manufactures minimum specification shall be reported to the Maintenance Manager immediately.

*On completion of an inspection the Pilot in Command shall carry out the following;

a) An authorised person has certified the Release to Service.

b) A new Tech Log is issued, the next check due is shown and dated this includes the next scheduled check, ARA, Airworthiness Directives due, operational check flight carried out or not, out of phase maintenance, re-torques due.

c) If any component has been disturbed that a second (dual) inspection is carried out by someone who holds a CAA Document and trained by the LAME responsible for the work.

d) A nominated person must have adequate knowledge of the aircraft and is recorded in the aircraft log book as to the exact check performed.
8.10 Servicing and Cleaning of Aircraft

PURPOSE
To define company requirements for general cleaning and the pilot maintenance of the aircraft before flight, that are not the responsibility of the Maintenance Manager.

SCOPE
This includes before and after service of the aircraft, washing the aircraft and servicing the fuel and oil for the next flight.

RESPONSIBILITY
The Pilot in Command shall ensure that the aircraft is always presented in a clean and tidy condition and the fuel and oil requirements are sufficient for the flight.

The Flight Operations Manager shall ensure that the pilot has undertaken appropriate ground crew training and is signed off for those duties.

PROCEDURE

1. Prior to the first flight of the day the aircraft shall be cleaned including:

   a) Washing with a detergent mix.
   b) All excess grease is removed.
   c) The cabin is clean.
   d) The windscreen is cleaned and polished, using only cheese-cloth on the Perspex.

2. All oils must be checked and replenished as per the aircraft flight manual

3. Any repetitive Airworthiness Directives must be carried out.

4. Any Mandatory Service Bulletins must be carried out.

5. The aircraft will require washing if flown over salt water or there is excess build-up of exhaust marks. The Pilot in Command will always present the aircraft in a clean and tidy condition.
8.11 In-Service Defect Reporting

PURPOSE
To establish a documented system, to defer defects, through an MEL

SCOPE
Pilots operating company aircraft shall

   a) Ensure that a pre-flight inspection is performed by an engineer before the first flight of the day in accordance with aircraft flight manual.
   b) Check the aircraft Tech Log for any defects deferred from the previous flight.
   c) Ensure that the time allowed, by any defect recorded in the defect column is still valid for that flight.
   d) A person under the authorisation of the Maintenance Manager shall rectify those defects found that are not deferrable by the MEL, and should certify these as carried out, in the Tech Log.

RESPONSIBILITY
The Pilot in Command is responsible for ensuring that the aircraft remains in an airworthiness condition at all times.

PROCEDURE

The Pilot in Command shall inspect the aircraft prior to flight according to the following:

1. Prior to pre-flight, check the aircraft Tech Log for defects.
2. First flight of the day, ensure that a Pre-flight check of the aircraft is carried out by an engineer as per the flight manual.
3. After each flight where the aircraft has been left for a period of time, the Pilot in Command shall perform a “walk around” of the aircraft to check the security of doors and cowls, that the fuel cap is on, tie-downs are off, and that windows are clean. He will also visually check the air intakes and look for defects.
4. Defects that are found in inspections (1, 2 or 3) above are recorded in Tech Log after they have been checked against the MEL. The appropriate A.T.A. number reference from the MEL is checked for time the aircraft can remain in service while operating with a defect.
5. The Maintenance Manager must rectify defects that cannot be deferred by the MEL.
6. Once the defect has been rectified an entry is made in the Tech Log signed by the engineer to release it to service. The Tech Log shows an entry with the work sheet number and the signed Release to service by the engineer.
8.12 In Service Defect Flow Chart

PROCEDURE:

1. Pilot to Decide if Deferrable
2. Defect Found
3. Start
4. Check M.E.L.
5. Notify the Maintenance Controller
6. Arrange Time for Engineers to Rectify
7. Enter ATA Number in the Tech Log
8. Sign Off in the Tech Log
9. Continue with A.T.O. Within the Time Limits of the M.E.L
10. End
11. Rectify the Defect
12. Tech Log and/or A/C Log Book Completed
13. Pilot Checks Paperwork
8.13  Reportable Defects

PURPOSE
To ensure the reporting to the appropriate senior personnel of defects that may affect the safety of the aircraft or its occupants, or become a danger to other persons or property.

SCOPE
This applies to all aircraft operated by the company and those pilots in command of any Trust aircraft.

RESPONSIBILITY
The Pilot in Command will be responsible for reporting any defect as described to the Maintenance Manager.

PROCEDURE
1. The original copy of the engineer’s report shall be sent to the Civil Aviation Authority Investigation Branch.

2. The senior Maintenance Manager will file the engineer's copy for reference purposes.

3. The Project Director shall receive a copy and authorise its release outside the company.

8.14  Interchange of Information

PURPOSE
To ensure that all aircraft are maintained with current and up to date information. This information is available to the Maintenance Contractor.

SCOPE
This information shall include records, amendments from aircraft manufactures and any applicable Airworthiness Directives, or directives from Civil Aviation.

RESPONSIBILITY
The Maintenance Manager shall be responsible for this.

PROCEDURE
1. As information comes to hand it is reviewed by the Maintenance Manager for inclusion in the aircraft records and action when required.

2. Airworthiness Directives are checked against the C.A.A. database.
8.15 Maintenance Records

PURPOSE
To ensure that records kept are current updated when required and issued to the appropriate persons in regard to the maintenance of Trust aircraft.

SCOPE
The records *may* include:
- SGHT - Daily Flight Records
- CAA - Aircraft log books
- Aircraft Maintenance Work records

RESPONSIBILITY
The Maintenance Manager shall ensure that any work records are reviewed, current, stored and amended when required by change in law or manufacturer's recommendations.

PROCEDURE
1. The Maintenance Manager shall keep the following records:
   a) Aircraft Airframe and Engine Log Books.
   b) Work records.
   c) Overhauled and Finite Life Component records.
2. Any obsolete documentation is removed on issue of an amendment and destroyed or sent to the person issuing the amendment for disposal.
3. Identification of a current document is referenced by the latest date, in the List of Effective Pages at the front of a document.
8.16 Upkeep of Maintenance Manual

PURPOSE
To ensure that aircraft are operated and maintained to the latest and current publications issued by the manufacturer and Civil Aviation requirements.

SCOPE
This applies to this part of the Aerial Application Manual (8).

RESPONSIBILITY
The Project Director/ Flight Operations Manager shall be responsible for this.

PROCEDURE
1. The Maintenance Manager shall review amendments.
2. Amendments shall be issued to all holders of the Aerial Application Manual by the Project Director
3. The Maintenance Manager shall advise the operator of any changes to maintenance that require an amendment.
4. All expired copies of this manual are to be returned to the Project Director for disposal.
5. All changes are to be recorded in part 1.2 of the Aerial Application Manual.

8.17 Spares and Supply Organisations

PURPOSE
To ensure that any parts used on company aircraft are accompanied with the required and correct documentation.

SCOPE
This includes parts ordered or bought on behalf of SGHT for use on their aircraft.

RESPONSIBILITY
The Project Director shall authorise the Maintenance Manager to purchase parts on SGHT's behalf.

PROCEDURE
1. The parts must have correct documents to verify their identity.
2. Companies supplying parts must have identification.
3. Acceptable documentation such as the following shall be used:
4. A limit of £1000 is in place when ordering parts without the written permission of the Project Director.

8.18 Tools, Calibration and Quality

**PURPOSE**
To ensure that special tools that are used on the maintenance of Trust aircraft are regularly checked for accuracy to a known standard.

**SCOPE**
This shall include all special or standard tools that require calibrating.

**RESPONSIBILITY**
The Maintenance Manager shall keep a record of those tools that require calibration.

**PROCEDURE**
The Maintenance Controller shall record any tools that require calibrating Test Equipment Register.

8.19 Records for use by Maintenance Manager

**PURPOSE**
To provide the Maintenance Manager/Chief Engineer with flight records for updating aircraft records on a regular schedule.

**SCOPE**
1. Aircraft daily flight times
2. Aircraft daily engine starts
3. Aircraft landings (if required)
4. Any defects deferred by the MEL

**RESPONSIBILITY**
The Pilot in Command shall be responsible for recording the items listed above.

**PROCEDURE**
1. Record flight times, engine starts and landings as required daily during operations
2. Forward the daily flight information to the Maintenance Manager at the completion of each day’s operations
3. Retain a copy for updating pilot personal log book
8.20 Check Flight Pilots

PURPOSE
To ensure that the pilot in command of any Trust aircraft is on the insurance and is authorized by the Project Director to perform a CHECK flight or ground run after or during maintenance.

SCOPE
This includes all company aircraft as well as those hired on behalf of the company.

RESPONSIBILITY
The Project Director shall authorise in writing those persons qualified to perform a check of the aircraft.

QUALIFICATIONS

Pilots: Minimum requirements
1. CPL (H).
2. Rated on type.
3. On Insurance Policy.
4. Authorised by the Project Director

Engineers: Minimum Requirements
1. Authorised by the Project Director
2. Authorised by the Maintenance Contractor.
3. Rated on type (Mechanically).
4. The Collective remains down, friction on.
5. On Operators Insurance Policy by name.

PROCEDURE

1. Trust Helicopters may only be ground run or check flown if that person meets either of the above requirements.

2. Every reasonable / practical precaution shall be taken to ensure there is no danger to persons in the area or likely to be in the immediate area of the helicopter while the rotor blades are in motion.

3. No one shall be carried on the flight or in the aircraft while it is being ground run unless they are directly related to the task being performed.

4. The Techlog is signed off by the LAME for an OPERATIONAL CHECK FLIGHT ONLY before the flight commences. The contractors work records shall also be signed as Released to Service for an operational check flight.
# 8.21 Maintenance Programme for Emergency Equipment

## PURPOSE
To maintain emergency equipment in an airworthy condition to a manufacturer’s scheduled programme or a local mod programme.

## SCOPE

<table>
<thead>
<tr>
<th>Item</th>
<th>Description of type</th>
<th>Record</th>
<th>Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Life Jackets</td>
<td>HM Survivor Marine</td>
<td>SGHT</td>
<td>5 yearly from DOM then 12 monthly</td>
</tr>
<tr>
<td>Life Raft</td>
<td>Survival Products 4-6 Person Raft With Canopy</td>
<td>SGHT</td>
<td>Annual, plus inflation cylinder recharge after 5 years</td>
</tr>
<tr>
<td>Passenger Flotation Suits</td>
<td>Mullion North Sea 1MHA Flotation Suit</td>
<td>SGHT</td>
<td>Regular visual check &amp; repair as necessary</td>
</tr>
<tr>
<td>Survival Suits</td>
<td>Switlik Immersion Suit</td>
<td>SGHT</td>
<td>Regular visual check &amp; repair as necessary</td>
</tr>
<tr>
<td>Flares</td>
<td>Ikaros Handheld Orange Smoke Flare</td>
<td>SGHT</td>
<td>5 year lifespan (purchased Aug ‘14)</td>
</tr>
<tr>
<td>Emergency Equipment Bags</td>
<td>Survival equipment for use if helicopter unable to return to base.</td>
<td>SGHT (SGH06)</td>
<td>Inspect prior to commencing field season</td>
</tr>
<tr>
<td>Emergency Location Transmitter</td>
<td>Fixed Aircraft ELT</td>
<td>Maintenance Contractor</td>
<td>Monthly functional check &amp; annual inspection</td>
</tr>
<tr>
<td>Emergency Location Transmitter</td>
<td>Handheld ELT for Life raft</td>
<td>SGHT</td>
<td>Battery life 7 years 6 monthly internal battery check</td>
</tr>
<tr>
<td>Emergency Beacon Tracker</td>
<td>Ocean Medix Tracker EXT-465</td>
<td>SGHT</td>
<td>Battery life 4-5 hours Check battery</td>
</tr>
<tr>
<td>Axe</td>
<td>As Fitted to Aircraft</td>
<td>Maintenance Contractor</td>
<td>IAW with local Mod CAI</td>
</tr>
<tr>
<td>First Aid Kit</td>
<td>As Fitted to Aircraft</td>
<td>Maintenance Contractor</td>
<td>Annually or if tampered with or used</td>
</tr>
<tr>
<td>Fire Extinguisher</td>
<td>As Fitted to Aircraft</td>
<td>Maintenance Contractor</td>
<td>Annually; when tampered replace</td>
</tr>
<tr>
<td>TracPlus</td>
<td>GPS Tracking System</td>
<td>TracPlus Ltd in Dunedin, NZ</td>
<td>Bi-annually</td>
</tr>
</tbody>
</table>
8.22 Inoperative Equipment
Refer to 8.24 Defect Recording

8.23 Flight Time Recording

PURPOSE
To specify the procedure, by which flight–time shall be recorded for Trust helicopters.

SCOPE
This shall apply to all aircraft operated by the Trust.

RESPONSIBILITY
The Pilot in Command shall be responsible for recording flight time in the relevant documents as set out in this part.

PROCEDURE

1. Flight times shall start from when the collective is raised off its bottom stop until it is lowered again in contact with the bottom stop.
2. Flight time shall be recorded on the Daily Flying Record form SGH01.
3. The form shall correctly record the following:
   a. Pre-flight inspection initials of the Pilot in Command
   b. Flight details with standard abbreviations for destinations.
   c. Name of Pilot in Command, expressed in Initials known to the operator.
   d. Engine starts,(as to type) air time, daily total, aircraft total time, time to next check.
   e. Date and aircraft registration.
   f. Special checks required
4. Total flight time recorded in SGH01 shall be from ‘collective up to collective down’ and shall be the flight time used for control of maintenance.
8.24 Defect Recording

PURPOSE
To ensure that the aircraft are maintained in safe working condition. Defects are recorded and then rectified on company aircraft so that they are safe and maintained to a high standard at all times.

SCOPE
When certain unserviceable conditions arise, which may not affect the satisfactory and safe operation of the aircraft as described in the aircraft M.E.L. These defects can be deferred through that aircraft's M.E.L.

RESPONSIBILITY
The Pilot in Command is responsible for correctly recording any defect found in Tech Log.

PROCEDURE
1. As described on page 10 of the M.E.L. and:

2. a) Pilot finds defect/s on pre-flight check
b) Pilot checks M.E.L. for published defect
c) If published, then records the Defect Deferral number and description of defect in the Tech Log, signs as instructed.
d) Placard U/S (unserviceable) for reference.
  e) Continue with flight within the time given in the Category (A, B, C relative to the Defect Deferral number).
f) If not deferrable through the M.E.L. then contact Maintenance Control for rectification.

Pilot in Command shall advise maintenance control of defect for scheduling rectification and purchase of parts if required.

8.25 Preflight Inspection

PURPOSE
To define inspections of the aircraft for continued airworthiness.

SCOPE
Inspections shall include

1. Prior to first flight of the day as per the aircraft flight manual
2. Prior to each flight thereafter as a walk around check.

RESPONSIBILITY
The Pilot in Command shall be responsible for ensuring that these inspections are carried out.
PROCEDURE

Prior to first flight of the day

1. Inspect aircraft as required by the flight manual.
2. Check the aircraft Tech Log for any defects from the last flight.
3. Initial on completion.
4. Perform any Airworthiness Directives required by the Tech Log and enter a statement as to the completion of those as Airworthiness Directives on the Daily Flight Record (SGH01)

Each flight thereafter

A walk around the aircraft to check the following:

1. Security of cowls, doors and cargo hatches
2. Windscreen is clean and free from any bugs or dirt/damage that could hinder visibility
3. Adequate fuel is on board and reserve requirements are met
4. Any special equipment is carried for that flight such as survival equipment
5. Check the aircraft Daily Flight Record for any defects from the last flight
6. Tie downs are removed and any Bungs in the intake and exhaust are removed

8.26 Hook Inspections

PURPOSE
Maintain the continued airworthiness of Onboard Systems hooks on Trust aircraft.

SCOPE
This program is approved as a variation to manufactures recommendations.

REFERENCE DATA
Onboard Systems 200-227-00 and 200-225-00
Talon LC Cargo Hook Owner's Manual

RESPONSIBILITY

1. Pilot in Command Daily Inspection
   When hook is in use in accordance with Aircraft Flight Manual Pre Flight Check

2. Inspection Periods by a L.A.M.E. 12 Months Visual inspection
   • Remove hook cover, inspect for condition, wear, freedom of movement, return spring correct tension, corrosion, working bolts, correct action of release cable and electric release re grease and assemble.
   • Check operation from pilot's controls.
• Check correct rigging of electric cable and manual cable under aircraft.

3. Year Detailed Inspection

<table>
<thead>
<tr>
<th>Disassemble Cargo Hook</th>
<th>IAW pages 2-3</th>
<th>IAW pages 5-4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Cargo Hook</td>
<td>IAW page 2.</td>
<td>IAW pages 5-1</td>
</tr>
<tr>
<td>Inspect Hook IAW</td>
<td>pages 2-3, replacing recommended replacement part ONLY as required following inspection</td>
<td>IAW Tables 5-1 &amp; 5-3</td>
</tr>
<tr>
<td>Repair hook</td>
<td>By replacement of parts or IAW pages 2 thru 4 or by incorporation of approved modifications or repairs</td>
<td>as R 44</td>
</tr>
<tr>
<td>Assemble hook</td>
<td>IAW pages 2-5</td>
<td>IAW pages 5-4</td>
</tr>
<tr>
<td>Test the hook</td>
<td>Following disassembly of IAW pages 3-1 and 3-3 using a suitable hydraulic testing rig and calibrated gauges</td>
<td>service manual 122-013-00</td>
</tr>
<tr>
<td>Install applicable warning placards</td>
<td>On hook and in cabin</td>
<td>On hook and in cabin</td>
</tr>
</tbody>
</table>

8.27 Airworthiness and Service Information

PURPOSE
To review and assess all new information as applicable to company aircraft.

SCOPE
This includes all **Bulletins, Letters and Temporary Revisions**

RESPONSIBILITY
The Maintenance Manager will review and make an assessment of all Service Bulletins applicable to company aircraft.

PROCEDURE
1. The Maintenance Manager will review the Service information
2. Review will decide if it affects company aircraft by serial number of aircraft.
3. If compliance is mandatory, the Maintenance Manager is to schedule the work to be done.
4. If it is not a mandatory requirement, the Maintenance Manager and the Flight Operations Manager will decide on the appropriate course of action.
The availability of the parts and resources to perform the work, time and place once the item has been obtained. File the Service Bulletin with the aircraft records if actioned or filed with the Service Bulletin Records.

8.28 Service Information Flow Chart

- **Start**
  - Review Service Information
  - Does it affect the SGHT Fleet?
    - YES
    - Is it Mandatory?
      - YES
      - Is it Beneficial?
        - YES
        - Spares & Resources Carry Out
        - Finish
      - NO
      - NO
    - NO
  - NO
  - Spares & Resources Carry Out
  - File service information & record compliance in A/c logbook
8.29 Maintenance of Role Equipment

PURPOSE
To ensure that all role equipment is maintained in safe and serviceable condition on a daily and annual basis.

RESPONSIBILITY

The Maintenance Manager shall ensure that the regular inspections are carried out as appropriate.

PROCEDURE

1. With approval from the Flight Operations Manager and after re-currency training has been given, Pilots shall carry out inspections on a daily use basis where applicable.

2. Any defects or required maintenance shall be reported to the Maintenance Manager as soon as practicable for rectification to keep down time to a minimum.

3. The removal and Installation of role equipment to aircraft shall be carried out by the Pilot in Command and recorded in the Daily Flight Record.

4. A Release to Service is signed by the Pilot in Command.

5. Lifting nets shall be inspected on a daily basis by the Pilot in Command for safety, security of attachments and condition of the net and attachment eyes.

6. Lifting strops shall be inspected on a daily basis by the Pilot in Command for safety, security and condition.