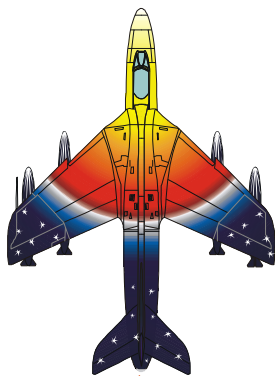




Heritage Aviation Developments Limited
Organisational Control Manual



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ORGANISATIONAL CONTROL MANUAL

COPY No. 2

This is a PDF version of the printed **Controlled** Copy No 2.
This PDF version is NOT a Controlled copy of Heritage Aviation Developments Ltd OCM
Compare **Section i List Of Effective Sections and Controlled Copies of OCM** with the
Controlled copy's page to ascertain validity.

No amendment shall take place to this Organisational Control Manual without the approval of the CAA and the Managing Director of Heritage Aviation Developments Ltd. Amendments shall be by the means of a re-issue of whole pages.

Jonathon Whaley
Managing Director
Heritage Aviation Developments Ltd



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Section i List of Effective Sections and Controlled Copies of OCM

Effective Section	Date	Issue	Number of Pages
Title Page	2 October 2000	1	1
Index	5 April 2013	2	2
i	5 April 2013	2	1
ii	2 October 2000	1	1 + Continuation a/r
1	2 October 2000	1	1
2	5 April 2013	2	1
3	5 April 2013	2	3
4	5 April 2013	2	4
5	5 April 2013	2	3
6	2 October 2000	1	1
7	2 October 2000	1	1
8	2 October 2000	1	2
9	2 October 2000	1	1
Appendix A	9 July 2012	1	2
Appendix B	28 June 2012	1	13
Appendix C	10 July 2013	1	1

Organisation	OCM Copy No.
Heritage Aviation Developments Ltd - Managing Director	1
CAA	2
Maintenance & Flight Line Operations organisation (MFLOP)	3

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Amendment Record CONTINUED

OCM ii Continuation -01.wpd	Section : ii Cont	Issue: 01	2 nd October 2000	Pages as required
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1 Introduction

1.1 Organisational Control Manual

This Organisational Control Manual (OCM) sets out the Standard Operating Procedures (SOPs) for safe, reliable and efficient operation of aircraft belonging to Heritage Aviation Developments Ltd (HAD)

It is the terms of reference for pilots and crew of aircraft belonging to or under the control of HAD, such that they conform to current legislation, CAP 632, the aims and objectives of HAD OCM and SOPs therein.

1.2 Aims and Objectives of Heritage Aviation Developments Ltd

- 1.2.1 The formal Aims and Objectives of HAD are set out in the Memoranda and Articles of Association of HAD. Section 1 of the OCM sets out the aims and objectives in relation to the operation of ex-military aircraft and CAP 632
- 1.2.2 The primary aim and objective of HAD is to display by way of flying, ex-military aircraft at public and private events and for the purpose of still, video and film photography.
- 1.2.3 A secondary aim is to provide continuation and refresher training on the types of aircraft belonging to HAD for pilots and crew flying on behalf of HAD as well as providing a facility for other organisations with similar types.
- 1.2.4 As part of meeting the above aims and objectives, the aircraft will operate on a 'Permit to Fly' and the flight crew with 'Exemptions' to fly each individual type.
- 1.2.5 HAD does not have a maintenance or flight operations facility and will therefor make use of organisations which hold the appropriate CAA approvals relevant to the type of aircraft.
These organisations are referred to in this OCM as the Maintenance and Flight Line Operations companies (MFLOPs) and the interface is covered under Section 9 Maintenance and Flight Line Operations Interface

1.3 Contents and Amendments

The Managing Director is responsible for the contents of the OCM.

All amendments must be agreed with the CAA (GAD) prior to incorporation.

Amendments will take the form of complete re-issue of relevant pages or issue of additional pages.

No hand written amendments are permitted.

The Managing Director is responsible for ensuring all Controlled copies of the OCM are kept up to date.

1.4 Aircraft

Listed below are the aircraft types operated by HAD

- i. Hawker Hunter



2 Personnel

It is the responsibility of all HAD personnel to be aware of, and comply with, all United Kingdom and appropriate International regulations applicable to aircraft and HAD aircraft in particular. Safety is paramount.

2.1 Managing Director and Chief Pilot

Jonathon Whaley is the Managing Director and Chief Pilot

He is an ex Royal Navy, Fleet Air Arm pilot, (Sea Vixen, Phantom and Hunter aircraft and Air Warfare Instructor), CPL, display, film, seaplane, glider and CAA Test Pilot with experience on a multitude of aircraft types.

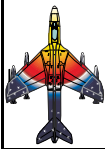
He is responsible for

- a. The appointment of all HAD personnel and the appointing the MFLOP.
- b. The Organisational Control Manual
- c. Liaison with the Civil Aviation Authority on all matters concerning HAD and the CAA.
- d. The safe and economic operation of HAD aircraft.
- e. Setting out the Standard Operating Procedures (SOPs) for HAD aircraft.
- f. Approval of all pilots flying HAD aircraft.
- g. Ensuring approve pilots are suitably qualified and current on the appropriate type or on a similar type before flying HAD aircraft, including training on the use of the aircraft's ejection seats.
- h. Keeping a record of pilots signatures recording that they have read and understood the HAD OCM and agree to abide by it.
- i. Briefing approved pilots prior to their first flight in an HAD aircraft.
- j. Ensuring the MFLOP has adequate facilities to meet the requirements of HAD and this OCM.
- k. HAD only utilises an MFLOP that has the appropriate CAA approvals and is maintaining those approvals.

2.2 Aircraft Captain

Due to the nature of the operations and flying undertaken, a considerable amount of responsibility will rest with the flight crew. The Aircraft Captain will ensure that they :

- a. Adhere to the SOPs within this OCM.
- b. Adhere to the MFLOP maintenance and flight line operating procedures.
- c. Adhere to the operating limitations of the aircraft and any further limitations put in place within the SOPs, consistent with safe conduct of the flight.
- d. Comply with the current National and where relevant, International regulations covering flight and the operation of ex-military aircraft.
- e. Hold a current licence with the required Exemptions and Certificates.
- f. For Display Flying, the minimum Medical Certificate shall be a Class 2
- g. Maintain a Flying Log Book
- h. Notwithstanding the above, the Aircraft Captain may set aside the limitations set out in the OCM or aircraft manuals solely in the interests of, and with in the strictest definitions of, SAFETY.
- i. Any deviations carried out as a result of the pursuit of Safety, must be report to the Managing Director, including any violations of HAD, MFLOP or CAA procedures or regulations as soon as possible but in any event withing 3 days. Violations of CAA regulations must be reported to the CAA direct by the Aircraft Captain within the appropriate time frames set out by the CAA.



3 Aircrew

3.1 Pilot Qualifications

3.1.1 General

Pilots flying HAD jet aircraft must have a minimum of 1500 hours as Pilot In Command in jet Fixed Wing aircraft and must flown as flight crew in one of Her Majesty's armed forces. Such a pilot will be deemed to be an experienced pilot. The Managing Director may decide to make an exception to the above rule, should a pilot have met all CAA requirements to act as Aircraft Captain of the particular HAD aircraft type. Such a pilot will be deemed to be an Inexperienced Pilot.

3.1.2 Single Seat Aircraft

Pilots will not qualify for flights in single pilot fast jet aircraft until they have been granted a full Exemption on a similar dual control aircraft or carried out training in aircraft with similar handling peculiarities and potential problems.

Before flying a single pilot aircraft, all pilots will receive a technical and flying brief specific to the aircraft type with emphasis on the differences from the dual control variant if applicable.

If a pilot has not had previous experience in a comparable single pilot aircraft, a record of the training and briefing will be made on the pilot's record.

Currency in a single pilot variant of a dual control aircraft will count towards currency on the aircraft family type. Eg. Hawker Hunter Mk58A flights count for all marks of Hunter and vice versa provided the pilot meets the above requirements and has received the required briefings.

Authorisation for flights in single pilot seat aircraft by inexperienced pilots will be made by the Chief Pilot, until the pilot has achieved the status of self authorisation in the dual control variant. See also currency requirements below.

3.2 Flight Authorisation

Experienced pilots will be self authorising.

Inexperienced pilots have to have each flight authorised by the Chief Pilot but see 3.4.3.1 below.

3.3 Licence Exemption, Annual

For a pilot to fly a jet aircraft, a Type Rating or in the case of aircraft where no Type Rating exists, a valid Exemption from the need to hold a Type Rating is required for either the private or commercial privileges of a UK civil licence holder. The Exemption from the need to hold a Type Rating issued by CAA (FCL) is usually valid for 12 months. It can be renewed by production of logbook evidence to CAA (FCL) of 5 flights on type, or similar agreed types, in the previous 12 months.

It is the responsibility of individual pilots to ensure they maintain a valid Exemption for the type of aircraft they propose to fly.

3.4 Conversion Training and Licence Exemptions

HAD may carry Training for the purpose of Hunter Conversions and flights for Licence Exemptions.

Conversion to the Single Seat Hunter without prior flight in a Twin Seat Hunter will only be undertaken after consultation with the CAA. This will be when little or no benefit will be gained by pilot, due to his or her substantial experience in similar jet aircraft, such as the Hawk T1. "Substantial experience" MUST have included displaying a fast jet.

Training will be in two parts:

- Ground School
- Conversion Flights

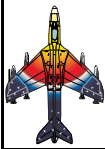
3.4.1 Ground School

The Conversion Flights may not commence until the Ground School element has been completed and Certified.

The Chief Pilot or personnel deemed qualified by the Chief Pilot, will carry out a Ground School program covering all the aircraft's normal and emergency systems, the aircraft handling in normal and emergency procedures and Limitations. See OCM APPENDIX - Mk9-Mk58 Technical Exam

At the conclusion of the program, the pilot will take an exam covering these systems, including After Flight (AF), Before Flight (BF) and Turn Round (TR) servicing. The MFLOP will carry out the AF/BF/TR instruction and will issue the necessary Certificate for Flight Servicing.

On satisfactory conclusion of the Ground School program, the Chief Pilot and the pilot undertaking conversion will complete the following Declaration Certificate. It will be kept with Copy 1 of the OCM.



3.4.2 Ground School Training Declaration Certificate

I [Full Name] being the Chief Pilot of Heritage Aviation Developments Ltd confirms that [Full Name] has successfully completed the Ground School Systems Training on the [Aircraft Type and Registration] and has received briefings on the aircraft's Limitations and Handling in normal and emergency procedures. He/she* has furthermore passed an exam covering this training.*

I consider he/she* now has the required level of knowledge to commence flying the above aircraft type.*

I consider that sufficient training has/has not* been given in order to undertake flights in alternative Mk's of this aircraft.*

[Signature] [Date]

I [Full Name] declare that I have received and completed the above training and taken the exam relating to the above aircraft.

I furthermore declare that I have in my possession a set of the approved Pilots Notes and Flight Reference Cards.

I am satisfied that I have received, to the best of my knowledge, the necessary training and briefings in order that I may commence flying the above aircraft or other Mk's of this aircraft if so permitted.

[Signature] [Date]

Validity

Supervised Conversion flights must be satisfactorily completed within 30 days of the above Declaration. Failing that, a re-briefing must be carried out and the exam re-taken.

** delete as required*

3.4.3 Conversion Flights

Conversion flights will be in two phases.

- i. Supervised type conversion flights
- ii. Un-supervised flights, including Display work-up and Display Authorisation.

3.4.3.1 Supervised Conversion Flights

The Chief Pilot will supervise the flight preparation and start up. He will be in position to have two way communication with the pilot prior to take off and throughout the flight. He will monitor the take-off, circuits and landing, preferably from the Tower or runway threshold.

Each flight will be de-briefed with the Chief Pilot and the flights repeated as required if either party feels it necessary before moving on to the next flight profile.

See OCM APPENDIX Hunter Mk9/Mk58 Conversion Flights

The aim of the first flight will be Aircraft Familiarisation and normal Circuits

The aim of the second flight will be introduction in to aerobatics, Fuel Management and Flapless Circuits.

The aim of the third flight will be Display introduction and Manual Flights.

If the Chief Pilot is satisfied with the de-briefs and what he has witnessed, he may authorise un-supervised flights to complete the conversion and progression to Display Authorisation. Such flights will be self-authorised in the HAD Flight Authorisation sheet, being the exception to 3.2 above.

3.4.3.2 Unsupervised Conversion Flights, Display work-up and Display Authorisation

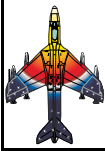
The pilot undertaking conversion to type will carry out such further flights as he/she requires until they are satisfied they have achieved a satisfactory level of familiarity. At that point, they will discuss their appraisal of the aircraft with the Chief Pilot and if satisfied, the Chief Pilot will complete the relevant sections of the CAP 632 Type Rating Exemption application for the grant of an Initial Full Exemption and submit to the CAA.

The pilot may continue to work up their Display Routine.

Once a Full Exemption has been granted, the pilot may carry out a Display Authorisation evaluation flight for the purpose of gaining a Display Authorisation on the type.

The Display Evaluation for the purpose of the Initial evaluation must be carried out by a suitably qualified DAE but excluding the Chief Pilot.

On grant of a DA on type, the pilot becomes "Experienced"



3.5 Currency - Aircraft (Experienced Pilots)

The following CAA currency rules are to be observed:

- a. Licence Exemption expired, one year or more out of currency or less than 5 flights on type, or similar type, or similar agreed types, within 12 months - Training as specified by CAA (FCL) for the renewal of the Exemption
- b. More than 6 months but less than 1 year out of currency within a current Exemption.
 - i. Full ground briefing on aircraft systems, limitations, normal and emergency operation and airfield brief.
 - ii. Dual check at the Chief Pilot's discretion, dependant upon pilot experience, currency on other types and availability of suitable dual control aircraft.
 - iii. Supervised start and solo.
 - iv. Pilot current on type available in the tower or in radio communication.
 - v. Solo General Handling flights and display practice, if appropriate, at the Chief Pilot's discretion.
- c. More than 90 days since last flight on type - a General handling flight and if required, a display practice. Whenever possible dependant on availability of suitable dual control aircraft, such a re-familiarisation flight should be flown dual with another pilot more current on type.

3.6 Currency - Aircraft (Inexperienced Pilots)

Until a pilot has achieved 25 hours P1 on type, a dual check by the Chief Pilot will be required if they have not flown the aircraft within a 28 day period. After achievement of 25 hours P1 a dual check will be required if the pilot has not flown the aircraft within a 3 month period. Irrespective of currency, a dual check will also be carried out every six months.

3.7 Display Authorisation and Currency

The CAA's Display Authorisation currency sets out that the Display Authorisation aircraft classification are split into categories of aircraft up to 5,700 Kgs MTWA except that all jet aircraft, irrespective of weight, are classified individually. The DA can be renewed on any authorised category or specific aircraft type.

- a. HAD Display Pilots must hold valid a DA for the type to be displayed.
- b. To maintain a valid DA, prior to a Display, HAD Display Pilots must have carried out a minimum of three practice or actual displays within the previous 90 days, at least one practice to have been in the category of aircraft to be displayed.
- c. Display Formations or Tail Chases may only be led if the pilot holds such an endorsement on his DA.

3.8 Display Awareness

Pilots are to be aware of, and make due allowance for, any on-crowd wind component. Note that if flying towards the crowd, but inadvertently too close to turn safely, an early decision to terminate the manoeuvre and climb, even if this involves the final resort of overflying the crowd, is preferable to risking an overstress or departure from pulling too hard.

3.9 Carriage of Passengers

HAD does not currently operate aircraft capable of carrying passengers.



4 Documentation, Flight Management and Flight Safety

4.1 General

Operations are to be carried out in accordance with the Air navigation Order, Rules of the Air, CAP403, CAP 632, AICs, Pilots Notes and this Organisational Control Manual.

4.2 Promulgation

Urgent Information relating to specific HAD aircraft will be directly notified to individual pilots by the Chief Pilot.

The MFLOP will have its own procedures for promulgating information of a temporary or urgent nature and it is the responsibility of individual pilots to check for such promulgations.

4.3 Documentation

4.3.1 Personal Logbooks

Personal flying log books are to be maintained by all pilots, and it is the responsibility of each individual pilot member to ensure that all entries are made correctly indicating flying times as block times.

Log Books are to be made available for inspection by the CAA as required.

4.3.2 Check Lists

Check lists as applicable to each aircraft type will be carried on every flight in the form of HAD approved FRCs.

Turnround guides, where available, should also be carried on all flights.

4.3.3 Documents to be carried in flight.

Mandatory requirements for documents which must be valid and amended to date and which must be carried on aircraft at all times are as follows:

- i. Relevant Charts, Flight Guides and airfield plates
- ii. Fuel Carnet or method of paying for fuel unless prior arrangements have been made.
- iii. Permit to Fly (copy)
- iv. Insurance Certificate (copy)
- v. Aircraft travelling technical log (Only if landing away from base)
- vi. Aircraft radio station licence (copy)
- vii. Certificate of Registration (copy)
- viii. Aircraft FRCs.

In addition for all international flights

- ix. Overflight/landing Diplomatic clearances
- x. Crew licences

4.3.4 CAA Mandatory Occurrence Reporting Scheme

HAD does not hold a Public Transport Air Operators Certificate and as such is therefore not obliged to actively participate in the CAA Mandatory Occurrence Reporting Scheme. However, it is to be considered Company policy that all categories of occurrence reportable under the scheme are to be reported to the Company as the "Operator".

Pilots are to report occurrences on the appropriate forms, listed below, which may be available from the MFLOP but are available from the CAA and to advise the Chief Pilot as soon as possible after the event:

- | | | |
|---|---|---|
| a. Occurrences | - | Form CA 1673 |
| b. Reportable Accidents | - | As per AIC 125/1992 |
| c. Bird Strikes | - | Form CA 1282 |
| d. Airprox | - | Form CA 1094 (Formerly Airmiss) |
| e. Wake Turbulence | - | Form CA 1695 |
| f. Confidential Human Factors Incidents | - | Confidential Reports to 'CHIRP' IAM DRA Farnborough |



4.4 Pre-flight

Before flight, the Aircraft Captain will:

- a. Check all necessary route information on radio aids, met. conditions, destination and alternate airfields, and danger and prohibited areas.
- b. Ensure that the documents detailed in 4.3.3 are valid and on board the aircraft as necessary.
- c. Ensure that the requirements of aerodrome operating minima as laid down have been and will be met.
- d. Ensure that all the aircraft prescribed instruments, radio and safety equipment is installed and serviceable.
- e. Ensure that the aircraft is serviceable and that a valid preflight clearance is in force and will remain in force and valid for the expected duration of the flight and operation away from base.
- f. Ensure that all the reported defects have been rectified or that other suitable action taken.
- g. Check that sufficient fuel, oil, and hydraulic fluid for the planned flight has been serviced the HAD 700 Form 705R Flight Servicing Replenishment Certificate, with appropriate time and date and signed for.
- h. Check that ATC flight plans where necessary have been filed and that the appropriate authorities have been notified of the ETA of the aircraft.
- i. If applicable, ensure that the relevant landing and overflight Diplomatic Clearance has been obtained for operation into the specific country of destination and countries of overflight to that destination.
- j. Consult the Chief Pilot of HAD for approval of any decisions taken or for advice if any doubt exists of the safety of the intended flight or the suitability of the weather or other conditions to meet Company criteria.
- k. Ensure that planned flights are entered into the HAD Authorisation Sheets.
- l. Inspect and complete as required the HAD700

4.5 En Route

During a flight, the Aircraft Captain will ensure that

- a. A radio watch will be maintained at all times on the frequency appropriate to the section of the route being flown. In all telephony procedure approved ICAO terminology and phraseology is to be used.
- b. Except in an emergency, Air Traffic Control instructions are obeyed at all times.
- c. The aircraft is being navigated in an accurate and efficient manner.
- d. The correct transmission of accurate reports as to the aircraft's position and height and any other information which may be requested by ATC.
- e. All crew members regularly check the serviceability and contents of their individual oxygen equipment as appropriate for the altitude at which the aircraft is operating.

4.6 After Landing

The Aircraft Captain will ensure that:

- a. The HAD700 sheet relative to the flight is completed.
- b. The crew compliance by with all Health and Customs regulations at the airport of arrival.
- c. Ensuring that all documentation as required by the local authorities is completed including arrangements for the payment of landing fees.
- d. A thorough post flight check is made of the aircraft.
- e. The aircraft Ejection Seats are secured.
- f. All flight details, including flight times and any flights in excess of 250 knots below 10,000 ft, are recorded in the HAD Authorisation Sheets.

4.7 Oxygen Requirement

4.7.1 Use

It is the Aircraft Captain's responsibility to ensure that all oxygen equipment is serviceable and the oxygen contents sufficient as appropriate for the intended flight. In all aircraft where oxygen equipment is provided it is to be switched ON and used regardless of altitude.



4.7.2 Unserviceability

In the event of oxygen system unserviceability an aircraft may be flown providing the cabin altitude is restricted to 10,000 ft.

4.8 Flight with Unserviceable Equipment

4.8.1 General

Flights with unserviceable equipment should not be made if it is reasonably practical to effect the repair or replacement of the defective item before take-off. It would be impossible to create a comprehensible list of acceptable defects. However, common sense should always be applied, without commercial pressure, with the safety of the aircraft and crew of paramount importance at all times.

If any doubt exists regarding the carriage of an unserviceability the MFLOP Duty Engineer should be consulted before any flight is attempted. Further, the weather en route and at destination and the circumstances must be compatible with any limitations imposed by carriage of the defect.

4.8.2 U/S Radios

Flights with known unserviceable radios, which do not permit any form of communication, are not to be carried out under any circumstances.

4.9 Fuelling and De-fuelling

4.9.1 General

When fuelling away from the base operated by the MFLOP, it is the Aircraft Captain's responsibility to supervise fuelling the aircraft and to ensure that the required uplift is actually placed on the aircraft. Careful note is to be made of the refueller's delivery counters and compared with the calculated uplift from fuel gauge readings and known capacities and accurate receipts retained.

4.9.2 Smoking

Smoking is strictly prohibited in the vicinity of refuelling or de-fuelling operations.

4.10 Life Preservers

In view of the Abandon Aircraft and Ejection Policy of the company stating a controlled Abandonment or Ejection should if at all possible take place with the aircraft pointing towards the sea, aircrew are strongly advised to wear life preservers on all flights.

Life preservers are to be worn whenever a planned flight crosses open water or there is the possibility of the flight crossing open water.

Aircrew life-preservers are not to be left unattended at any time and when not in use are to be stored in a secure place.

4.11 Ejection Seats

4.11.1 General

Aircraft ejection seats are at all times on the ground to be made safe and secure from unqualified persons.

4.11.2 Hangared Aircraft

Whenever the aircraft are hangared the seat pins are to be inserted in the 'Safe for Servicing' positions by the MFLOP engineering personnel.

4.11.3 Before Flight

Before flight, MFLOP engineering personnel are responsible for removing the seat pins from the 'Safe for Servicing' position to the 'Safe for Parking' position. The Aircraft Captain is responsible for checking this has been carried out and if not, is responsible for this action at the appropriate time, which is normally during the Ejection Seat Checks, prior to strapping in.

Aircraft Captains are responsible for removing seat pins from the 'Safe for Parking' and their correct stowage once the seats are 'live'. This action may be completed personally or by the MFLOP engineering or line assistants by request and under supervision of the Captain.



4.11.4 Unattended Aircraft

When the aircraft are left unattended for any length of time the cockpit area/canopy is to be secured in such a way that access cannot be gained except by authorised personnel.

4.11.5 Training

All aircrew are to be refreshed on the capabilities and limitations of the ejection seats annually before the commencement of the display season. This will normally be carried out by the MFLOP or the Chief Pilot unless the pilot can show he has received refresher training elsewhere. For example, other similar organisation or Military Safety Equipment training on comparable equipment.

The requirements for wearing and the contents of life jackets is also to be refreshed annually. Training will normally be carried out by the MFLOP or the Chief Pilot unless the pilot can show he has received training elsewhere. For example, other similar organisation or Military Safety Equipment training on comparable equipment.

The Chief Pilot may demand documentary proof of training and refresher training in the use of ejection seats and survival equipment.

The Chief Pilot will keep a calendar of training carried out and where relevant, expiry of such training.

The Flight Authorisation sheets will be used for reference in regards to currency. Pilots may produce other evidence of currency on type or acceptable types, which the Chief Pilot may at his discretion, accept as evidence of currency.

4.12 Abandon Aircraft and Ejection Policy

If ejection/abandonment becomes inevitable every effort is to be made to ensure that the aircraft falls into an unpopulated area. A premeditated ejection is, wherever possible, is to be made over the coastline with the aircraft pointing out to sea. If time permits the engines should be shut down prior to the ejection/abandonment. A MAYDAY call should be made at all times should time permit.

4.13 Stores Jettison Policy

Drop tanks are only to be jettisoned as a last resort and when not to do so would jeopardise the safety of the aircraft and crew. Any premeditated jettison is to be made over an unpopulated area and preferably over the sea clear of shipping. If the jettison is completed in an emergency, every effort is to be made to ensure that the stores fall into an unpopulated area.

Empty drop tanks have a negligible effect on the gliding characteristics and range of jet aircraft and, therefore, drop tanks should be retained unless there is a fire risk or aircraft control problems from asymmetry. In many undercarriage emergency situations it is often recommended to forced land on empty underwing tanks rather than with undercarriage asymmetry where one main wheel is still retracted.



5 Standard Operating Procedures

5.1 Flight Conditions

Aircraft limitations imposed under the terms of a Permit to Fly are that such aircraft are to be flown Day VFR. Although the aircraft may have instrumentation and avionics to qualify them for IFR flight, only VFR flight is approved. Therefore, airways routes, unless VFR Airway flights are permitted by the State being flown in, may not be planned for transit flight and no controlled airspace may be entered or crossed without permission and under radar control. For those flights departing from or terminating at airfields within controlled airspace, the weather conditions must be such as to permit departure or arrival to be completed in VFR or Special VFR.

For flights in States that permit flight in airway routes, the required minimum equipment fit by that State must be serviceable.

Whenever in transit, both departure and destination airfields and a suitable diversion airfield must be available with weather conditions to permit VFR operation in the planned timescale.

5.2 Weather

Take-off and Landing

For take-off and landing the minimum permitted cloud base is 1000 ft provided this is not the overcast level and the VMC conditions below 3000 ft can be met.

Transit Flight

All pilots are to comply with Visual Flight Rules to the Visual Flight Rules applicable for the airspace being transited.

See also Para 5.9 Flights in excess of 250kts IAS below FL100

5.3 Charts

The following should be available:

- a. Departure airfield approach plate (in VMC this is not essential provided that the Aircraft Captain is very familiar with the airport of departure).
- b. VFR charts applicable to the route and possible diversions.

5.4 Self Briefing

The object of self briefing before take-off, en-route, descent, and landing, is to act as an aide memoire to clarify and confirm in the pilots mind, his intended course of action and any relevant details that should be considered.

5.5 Take-Off

The following items should be considered for special attention:

- a. Airfield restrictions and obstructions.
- b. Take-off alternate.
- c. Flap setting.
- d. Runway surface conditions and crosswind.
- e. Standard instrument departure, routing and altitude restrictions.
- f. Noise abatement procedure.
- g. Radio aid selection.
- h. Terrain clearance and en route MSAs.



5.6 Descent and Approach

The following items should be considered for special attention:

- a. Airfield approach self brief.
- b. Time and position of commencement of descent.
- c. Terrain clearance, en route and 25 nm MSAs.
- d. Routing, altitude and speed restrictions.
- e. Horizontal and vertical approach pattern.
- f. Radio aid selection.
- g. Landing elevation and QFE computation.
- h. Aerodrome operating minima, if applicable.
- i. Overshoot procedure.
- j. Runway surface conditions and crosswind.
- k. Airfield restrictions, obstructions, and abnormalities.

5.7 Diversion

If a diversion is likely or contemplated then the following should be considered.

- a. The nominated alternate airfield, and descent and approach procedures.
- a. The routing to the alternate.
- b. Fuel requirements for the diversion bearing in mind air distance, weather and anticipated ATC delay.

Close liaison with ATC where the likelihood of a diversion exists will minimise delays in obtaining route clearance and prompt advice on possible landing delays at the alternate. Consideration should always be given to diverting from altitude in order to conserve fuel.

5.8 Crew Drills and Checklists

5.8.1 General

Due to the nature and type of flying involved, written checklists should be kept to a minimum and most normal operating procedures are to be actioned by memory. It is therefore vital that crews maintain a thorough knowledge of these memorised checks and where necessary allocate abbreviations for these checks to act as an aide memoire.

5.8.2 Emergency and Abnormal Procedures

It is most important that any malfunction is correctly diagnosed and that hurried action without thought is avoided.

Emergency primary actions should be carried out from memory and checked when the situation permits with reference to the FRCs. Subsequent actions should where necessary be actioned from the relevant FRCs.

5.9 Communications

Pilots must at all times maintain a listening watch on the appropriate frequency. If it becomes necessary to make a call on the secondary VHF or UHF transmitter, to another frequency, it is preferable to continue to maintain a listening watch on the primary frequency. Where this is not practical, then ATC must be informed of the change and on the subsequent return to the frequency, establish any changes in ATC instructions. Pilots should maintain good R/T discipline and make every effort to reduce speech traffic particularly on congested frequencies. The following general rules apply:

- i. Always listen out before transmitting.
- ii. Use standard phraseology and avoid using clipped English or replying without giving a call sign.
- iii. Read back essential instructions.
- iv. On first contact after changing frequency, say your altitude or flight level.
- v. When cleared to leave a level, do not say you have vacated it until you have actually left.



5.10 Flights in excess of 250kts IAS below FL100

5.10.1 General

All aircraft flown by HAD pilots may exceed 250 knots when below FL100 provided the appropriate exemption has been granted to the aircraft by the CAA . This is to permit the safe conduct of air displays, demonstrations and some flexibility in transit speeds when proceeding to such displays with critical timing schedules; it is not a licence for indiscriminate high speed flight which might jeopardise the safety of other traffic or be an annoyance to the public.

5.10.2 Limitations

When exercising permission to fly in excess of 250 knots IAS below FL100 the following limitations apply:

- a. Flights will only be made within Class D,E,F and G airspace and in Class D and E airspace a clearance must be obtained from the relevant Air Traffic Control Authority.
- b. Pilots are to be those approved by the Chief Pilot.
- c. The aircraft is to remain at least 3 kilometres horizontally and 1000 ft vertically from cloud with an in-flight visibility of at least 10 kilometres.
- d. Unless flying within an Air Traffic Zone the pilot must be in receipt of a radar service.
- e. On any occasion that 250 knots IAS is exceeded below FL100, the fact is to be annotated in the appropriate column in the HAD Authorisation Sheet after flight.

5.11.2 Maximum Speeds

The maximum speeds to which the aircraft type may be flown are as follows:

Hunter 600 knots

5.11 Minimum Landing Fuel

All pilots are to plan their sorties so as to arrive at their destinations, or back at base if appropriate, with sufficient fuel to reach a nominated diversion.

These fuel states may only be reduced if :

- i. In the vicinity of and in sight of the final landing place
- ii. The weather is VMC and forecast to remain so.
- iii. There is no likelihood of any delay when landing is required.

This is to permit continuation training and/or display practice when arriving at a display venue.

The absolute minimum landing fuel states, except for emergency reasons, are as follows:

Hunter 800 lbs

5.12 Use of Brake parachute

The Hunter aircraft may not be operated in to an airfield where a Brake Parachute is required to land safely.

Use of the Brake Parachute should be considered for all runways of less than 1830 metres (6000 feet) dependant on wind and in all cases on wet runways of less than 1830 metres.



6 Displays

6.1 General

CAP 403 is the definitive document, providing guidelines on display participation whilst giving practical, skilful and convincing displays within an overriding framework of safety and protection of the watching public.

6.2 Display Minima

Company display minima conform to CAP 403 and are as follows unless the pilot's Display Authorisation or Display Permission require a higher minima:

6.2.1 Minimum Heights

Straight and level flypasts	- at or above 30 feet agl
All other manoeuvres	- at or above 100 feet agl
Recovery from vertical manoeuvres	- at or above 500 feet agl

6.2.2 Minimum Weather Conditions

Full vertical display	- 4000 feet cloud ceiling	- 5 kilometres visibility
Restricted routine	- 1000 feet cloud ceiling	- 3 kilometres visibility

6.2.3 Spectators Enclosures

Aircraft are not to be flown closer to the spectators enclosure than the following minimum distances:

Max display speed	Flypast	Aerobatics
100 - 200 Kts IAS	100 metres	150 metres
200 - 300 Kts IAS	150 metres	200 metres
Above 300 Kts IAS	200 metres	230 metres

- Aircraft are not to be flown over the spectators enclosures.
- Pilots are to be aware of, and make due allowance for any on crowd wind component. Note that if flying towards the crowd, but in-advertently too close to turn safely, an early decision to terminate the manoeuvre and climb, even if this involves the final resort of overflying the crowd, is preferable to risking an overstress or departure from pulling too hard.

6.2.4 Special Circumstances

HAD from time to time flies its aircraft for purposes other than Air Show displays. On those occasions the aircraft will be flown within the terms and limits specified in the CAA Exemption issued for that particular event or purpose.

6.3 General Provisions

- Display pilots or their nominated representative must attend the Display Organisers display briefing or receive a telephone brief prior to all displays.
- Aircraft are not to be flown outside the aircraft's proven limitations. Aircraft must not exceed Mach 0.9 or 600 IAS or other limitations specified in the 250 knot permission.
- No manoeuvre is to be attempted which is likely to jeopardise the safety of spectators in the event of mishap or misjudgement.

6.4 Display Manoeuvres

The Hunter aircraft is fully aerobatic. However, in addition to the guidelines and limitations outlined in CAP 403 the following apply:

- Acceleration. Unless higher limits are specified in the aircraft's Pilots Notes and also subject to limitations in its Permit to Fly and unless the Chief Pilot has granted permission to use such specified higher limits, aircraft are to be limited to a maximum of +4 G and -2 G.
- Manoeuvres. No complete looping manoeuvres are permitted unless specifically approved by the Chief Pilot. Vertical manoeuvres are allowed but must be completed with a wing-over or a roll-off-the-top manoeuvre which may have an upward or downward component. Pilots are to avoid any combination of speed, height and/or aircraft attitude from which a safe recovery cannot be made. Slow rolls must not be attempted below 500 ft AGL.



7 Engineering

7.1 General

HAD does not operate an Engineering facility. It will rely upon external expertise for Engineering support from an organisation with the appropriate approvals from the CAA.

This organisation is referred to in the OCM as the **Maintenance and Flight Line Operation (MFLOP)**. Section 9 defines the interface between HAD and the MFLOP.

A series of forms called the HAD 700 (based on the MOD 700 forms) are used to record maintenance, servicing and flight activities.

All pilots must familiarise themselves with the contents, instructions and use of the HAD700 prior to undertaking flights in HAD aircraft.

7.2 Pre Flight Requirements.

Before an aircraft can be permitted to fly it must have been serviced and inspected and those actions formally recorded. The documentation which makes this statement is the HAD 705/ 705R Flight Servicing and Flight Servicing Replenishment Certificates and only those persons formally approved by the MFLOP and listed in their appropriate documentation, are permitted to sign this document.

The HAD705 Flight Servicing Certificate will be presented to the pilot for signature as acceptance before flight.

7.3 Accepting Aircraft for Flight

7.3.1 Flight Servicing Certificate

When an aircraft has been prepared for flight and the Flight Servicing Certificate is signed by the pilot he certifies the following

The Captain accepts this aircraft as fit to fly, the fuel state is as required and is aware of the Flight Limitations imposed, Deferred Faults, Flight Requirements, SNOWs, Modifications, SIs and STIs on Form 703STF and accepts any Faults identified..

7.4 Post Flight

7.4.1 Flight Servicing Certificate and Flying Log and Fatigue Data Sheet

The Aircraft Captain must complete the HAD 705 and HAD 725 sheets. All times are to the nearest minute and Flight Duration is from Take Off to Touch Down.

7.4.2 Post Flight Un-serviceabilities

Any un-serviceabilities must be entered in the HAD 708 Flying Faults Log or maintenance Work Order Log HAD 707A and the MFLOP Chief Engineering debriefed.

7.5 Pilot Turnround Requirement

7.5.1 General

All HAD pilots are expected to be able to refuel and complete the turn-round servicing on the aircraft for which they hold an Exemption. During airshows, when landing away from base, it is normal practice for the pilot to have to see to his own flight servicing requirements and pilots must always be prepared to help themselves when landing away.

A record of training for re-fuelling and turn-round servicing will be kept by the Chief Pilot of HAD although the MFLOP who will be asked to undertake this training, may have its own records.

When operating away from the MFLOP base, those documents as laid out in the HAD 700 (HAD 799-1 Para 14) must be carried in the aircraft. This is known as the Travelling HAD 700

7.5.2 Flight Servicing Training

The Chief Pilot will ascertain, before any pilot is required to operate the aircraft away from the MFLOP base, that the pilot has received adequate training in Before and After Flight Servicing sufficient for the expected time away from base.

7.6 Tests Flights

Only pilots approved by the CAA may perform Test Flights in HAD aircraft.



8 Accident Procedures

8.1 General

Circumstances surrounding an accident will vary in each case and therefore many decisions can only be made after the location, extent of damage, fatalities and/or injuries are known.

Nevertheless, certain predetermined urgent steps have to be taken at base immediately it is known that one of the Company's aircraft has been involved in a serious accident, ie involving fatalities or serious injury to persons and / or extensive damage to the aircraft.

8.2 Aircraft Accident

An aircraft accident must be notified to the Chief Inspector of Air Accidents of the Air Accident Investigation Branch if between the time that any person boards the aircraft with the intention of flight and such time as all persons have disembarked therefrom, in which:

- a. A person suffers death or serious injury while in or upon the aircraft or by direct contact with the aircraft or anything attached to it.
- b. The aircraft suffers substantial damage.

NOTE:-

- i. Serious injury is when a person is known to have suffered injury or has become incapacitated or states that an injury has been received unless or until a qualified medical practitioner has stated, preferably in writing, that the injury is neither serious nor likely to be the cause of future disability.
- ii. Substantial damage includes any damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft and which would normally require the major repair or replacement of the affected component.

8.3 Actions to be Taken

8.3.1 The Managing Director

The Managing Director will be responsible for co-ordinating all arrangements arising from the accident.

If the MD is unavailable to make an early response or he himself is involved in the accident, his responsibilities will move down the chain of command which in the case of HAD may befall to the Directors of the MFLOP. If the MD is not involved in the accident, he will assume responsibility as soon as he becomes available.

He will roster appropriate personnel from the MFLOP or other suitable personnel to provide full coverage of an Accident Centre during the emergency, and in addition he will :-

- a. Ensure that the MFLOP Directors are informed as soon as possible.
- b. Ensure that the names of casualties are not released until it is officially established that the next-of-kin have been informed.
- c. Ensure that the Department of Transport is informed as required in 8.3.2
- d. Notify the Company's Insurers, consider if necessary the legal implications surrounding the circumstances of the accident, and deal with all insurance matters and claims made against or by the Company.

8.3.2 Further Immediate Actions

The Chief Inspector of Air Accidents shall be informed by the quickest means available of the following:

- a. Type, model, nationality and registration of the aircraft.
- b. Name of the owner and operator of the aircraft.
- c. Name of the aircraft Commander.
- d. Date and time UTC of the accident.
- e. Last point of departure and next point of intended landing of the aircraft.
- f. Position of the aircraft with reference to some easily defined geographical point.
- g. Number of persons:
 - i On board the aircraft at the time of the accident.
 - ii Seriously injured as a result of the accident.
 - iii Killed or seriously injured elsewhere than on the aircraft.
- h. Nature of the accident and brief particulars of damage to the aircraft as far as it is known.

This information should be forwarded to the Department by the quickest means which in most cases would be by telephone and is available 24 hours, telephone no. 01252 51 22 99



8.3.3 Further Actions

Whatever of the information is not immediately available should be sent as soon as practicable to:

Chief Inspector of Air Accidents
Air Accident Investigation Branch
DRA Farnborough
Hampshire GU14 6TD
Fax: 01252-376999
Tel: 01252-510300 (Office Hours)

8.4 Subsequent Actions

8.4.1 Company Accident Team

The Managing Director will set up a Company Accident Team which will proceed to the accident site, or the nearest communication centre.

The Team, depending upon circumstances, will be made up from the senior personnel in the MFLOP.

8.4.2 Accident Team Immediate Actions

- a. The Accident Team will, on arrival, establish procedures for dealing with the local authorities, and where applicable the British Embassy or Consulate
- b. Establish procedures for dealing with enquiries by relatives and next-of-kin, and where necessary make arrangements for identification.
- c. If considered necessary make the required arrangements with Kenyons, Identification and Repatriation Team 0171 229 9861 (24 hours)

8.5 Statements to the Press or other News Agencies

In principal all Company accident information will be controlled and released by the Chief Executive Officer or through a representative authorised by him. No statements should be made by any other employee to the Press, other news gathering agencies or the public at large.

It is recognised that in certain circumstances it may be advisable for a Senior Company Official to correct false information by means of a short and purely factual statement.

The names of casualties **must not be released** until it is officially established that the next-of-kin have been informed.



9 Maintenance and Flight Line Operation Interface

Maintenance and Flight Line Operation (MFLOP)

It is the responsibility of the MFLOP organisation to maintain HAD aircraft in accordance with the MFLOP Exposition and Procedures Manual, together with the maintenance schedules set out by the aircraft manufacture as amended and agreed with the Civil Aviation Authority.

HAD will ensure that the MFLOP maintains the required records specific to HAD aircraft. These will be based on the MOD Form 700 in the form of the HAD 700.

The Managing Director has the responsibility of approving the MFLOP organisation as suitable for HAD's needs. This may only be done with the pre-requisite that the organisation has and continues to maintain the necessary CAA approvals for maintenance and operation of the type of aircraft operated by HAD.



Appendix A

Hunter Mk9/Mk58 Conversion Flights

Type conversion flights will take place from an airfield with a runway of 5,500 feet or more LDA

The flight schedules 1 to 3 are the MINIMUM for a pilot with similar fast jet experience.

Flight 1

Internal fuel only allowing 30+ minutes.

AIM: Aircraft familiarisation and circuits.

Take Off and climb to operate between FL80 and FL195 under a Radar service.

General Handling. No aerobatic manoeuvres but turns taken to the onset of light buffet.

At or above FL100, configuring the aircraft in to the Approach and Landing configuration.

At or above FL100 carry out simulated approach down to the final approach speed commensurate with weight, followed by overshoot and cleaning aircraft up.

Return to airfield with a minimum of 1800Lbs

Carry out monitored normal circuits with at least one actual Touch and Go.

Final landing with not less than 800Lbs, stream brake chute (on all landings if within limits)

Debrief and decide whether to move on to the Flight 2 profile or carry out further Flight 1 profiles.

Flight 2 Internal and Inboard Drop Tanks to total 4500Lbs fuel allowing 1+Hrs

AIM: Aerobatics introduction, Fuel management and Flapless circuits.

Take Off and climb to operate between FL80 and FL195 under a Radar service.

General Handling to include basic aerobatics using the recommended entry speeds for all manoeuvres. These speeds are well above what may be used with experience, being set in the Service at the lowest common denominator, a Student pilot. The object of the manoeuvres to gain experience with the onset of light buffet and the resultant bleeding of energy.

By having drop tanks partially filled, it is likely that the fuel balance will have to be managed.

Return to airfield with 2000Lbs for monitored circuits

Carry out at least two normal circuits to late overshoot.

Carry out at least two Flapless circuits, first to late overshoot, the second to roll.

Final landing with not less than 800Lbs

Debrief and decide whether to move on to the Flight 3 profile or carry out further Flight 1 or 2 profiles.



Flight 3

Internal and Inboard Drop Tanks to total 4000Lbs allowing 45+minutes

AIM: Display introduction and Manual Flying.

Take Off and climb to operate over southern Wales between FL50 and FL150 under Cardiff Radar control.

Progress aerobatics in to the type of Display sequence flown by myself but limited to the manoeuvres within the sequence my sequence with the exception of flight with the canopy open.

At between 1800 and 2000 Lbs, position close to the airfield at FL100 and at a speed of less than 250Kts, check aircraft configuration and prepare for Manual Flight. (The aircraft will already have been trimmed in an earlier flight by the Chief Pilot, to fly "hands off" in Manual in terms of aileron trim)

Select manual.

The following not below FL80 at any time.

General handling, not exceeding 300Kts.

Configure the aircraft in to normal approach and then landing configuration, simulated approach followed by overshoot and cleaning up the aircraft.

Configure the aircraft into the landing configuration, simulating total hydraulic failure, such that Full Flap is taken in one selection.

Carry out overshoot but not cleaning the aircraft up until a simulated missed approach height has been achieved.

Clean the aircraft up and return to airfield at not above 300Kts. (It is not possible to return to Power control flight.)

Land >800Lbs, <1200Lbs, carrying out a normal but extended circuit to land.

Debrief and decide whether to move on to display practices or carry out modified earlier profiles.

If the pilot and Chief Pilot are happy with the progress of Flight Schedules 1, 2 and 3, further flights can be carried out without the Chief Pilot being present. OCM Section 3 refers.



Appendix B

Hunter Mk9/Mk58 TECHNICAL EXAM

Questions in BLUE ITALICS, Use Pilots Notes or FRCs

No	Fuel	Answers
1	100 Lbs @ 7.9 SG = Ltrs	
2	100 Lbs @ 7.9 SG = Imp Gal	
3	100 Lbs @ 7.9 SG = Kg	
4	100 Imp Gal @ 7.9 SG = Ltrs	
5	How many internal fuel tanks are there?	
6	Where are they?	
7	How many external tanks can be carried?	
8	What are the internal tank capacities in lbs @ 7.7SG?	
9	What is the total internal tank capacity in lbs @ 7.9SG?	
10	What are the external tank capacities in lbs @ 7.9SG? (To the nearest 10 lbs)	
11	What fuel do the Fuel Gauges indicate?	
12	What is the maximum reading on one fuel gauge?	
13	How is the contents of the external tanks known?	
14	How can the external tanks be jettisoned?	
15	How can fuel be cross-fed from one side to the other?	



No	Fuel	Answers
16	What is the full fuel flow routing to the engine, assuming the maximum possible fuel available,?	
17	How is fuel transferred at the various stages up to the fuel proportioner?	
18	Can fuel an imbalance of fuel between port and starboard be corrected?	
19	What provision is made for fuel in inverted flight ?	
20	What is the inverted flight time limit for fuel at Full Power	
21	What might the inverted flight time be at Full Power with only one Booster Pump ON?	
22	How is the fuel feed normally balanced?	
23	How does the fuel feed balancing device work?	
24	Below what booster pump differential inlet pressure can uneven feeding pressure be expected?	
25	Below what pressure does the fuel low pressure warning light illuminate ?	
26	How do you know what the fuel pressure is ?	
27	What are the indications of fuel transfer pressure failure?	
28	What are the indications of proportioner failure	
29	What actions are taken in the event of a fuel proportioner failure ?	



No	Fuel	Answers
30	What provision is made for ceased rotors in the fuel proportioner?	
31	With a fuel transfer failure indicated, what manoeuvres should be avoided and why?	
32	Below what quantity per side should fuel feed not be relied upon?	
33	At high altitude and low temperatures, will the gauges over or under read?	
34	At Low altitude and high temperatures, will the gauges over or under read?	
35	With a failed booster pump, what is the maximum altitude with a clean aircraft or empty drops	
36	With a failed booster pump, what is the maximum altitude with fuel in the drops	
37	If range is not critical, by how much may the above heights be reduced and what is the risk?	
38	Where are the Booster Pump circuit breakers?	
39	List the switches and controls for refuelling.	
40	Why must the refuelling timer be off during flight?	
41	What are the maximum re-fuelling pressures in PSI, Bar, Kg/cm ² ImpGal/Min and Ltr/M	
42	What are the normal re-fuelling pressures	
43	With 2 x 150 Gal Drop Tanks, at Sea Level, what are the 95% Range Speeds and how many Lbs/Min ?	
44	With 2 x 150 Gal Drop Tanks, at 10.000', what are the Range Speeds and how many Lbs/Min ?	



No	Fuel	Answers
45	Give Rule of Thumb Air Nautical Miles per 100 Lbs at 5,000', 10,000', 15,000' and 20,000'	
46	How much fuel for overshoot, one circuit and land.	
47	At what fuel state, for one side, does fuel flow to the engine become unreliable without a serviceable Booster Pump ?	
48	With two inoperable Booster Pumps, what is the Maximum RPM	
49	With two inoperable Booster Pumps, what is the Minimum RPM when below 600 Lbs per side	
50	If a Transfer Pressure on one or both sides occur, what are the implications?	
51	You know you have fuel in the wing tanks, the Transfer Pressure is Ok, the flow dolls eyes are correct and the Booster pumps are working. A 650Lbs fuel light comes on, the fuel gauge drops to 790Lbs, what has happened and actions to be taken?	



No	Engine	Answers
1	What type of engine and what thrust	
2	What controls the twin, engine driven, HP fuel pumps?	
3	What controls the Flow Control Unit ?	
4	What is the capacity of the Oil sump	
5	When and how is the oils level checked ?	
6	Describe the operation of the Variable Incidence Guide Vanes [IGVs]	
7	At what RPM do the IGVs reach Minimum swirl position ?	
8	At what RPM do the Bleed Valves close ?	
9	How is a malfunction of the IGV likely to be detected?	



No	Engine	Answers
10	How many seconds should the engine take to become self sustaining on start-up ?	
11	When does the Top Temperature Control (T.T.C.) become operative.	
12	To what JPT temperature does the T.T.C. limit ?	
13	Describe the Engine Anti-Icing system	
14	<i>With the Engine Anti-Ice switched on, what are the penalties?</i>	
15	<i>In what conditions should the Anti-Ice be used ?</i>	
16	<i>Describe use of the Anti-Ice system if runway length precludes the use of the system.</i>	
17	<i>With Anti-Ice OPEN, what is the minimum RPM for climb?</i>	
18	<i>With Anti-Ice OPEN, what is the minimum RPM for descent?</i>	
19	<i>What is the time interval after Anti-Ice SHUT before rapid throttle movements are permitted ?</i>	
20	Describe the Engine Fire warning system and the Fire Extinguisher system	
21	With only the Battery Master switch ON what will the oil pressure gauge indicate ?	



No	Engine	Answers
22	With the Battery Master ON, Engine Master Switch ON and Circuit Breakers IN, what controls and services are supplied with electrical power ?	



No	Hydraulics	Answers
1	What is the normal Hydraulic Pressure and limits ?	
2	Where is the pressure shown ?	
3	Where is it indicated and what is the pressure for Aileron accumulator Elevator Accumulator Wheel Brake accumulator	
4	Where is it indicated and what is the pressure for Undercarriage Emergency Down Air Flap Emergency Down Air	
5	In the event of a Hydraulic failure, what pressure would you get a warning and what would the warning be ?	
6	On falling pressure, at what pressure does Manual Reversion occur ?	
7	How is 'feel' provided for in the elevator ?	
8	What methods stop the follow-up tailplane moving?	
9	Describe the operation of the follow-up tailplane	
10	What can be used to overcome a runaway tailplane trim ?	



No	Hydraulics	Answers
11	When must you NOT use the electrical aileron trim?	
12	At what RPM should the ailerons and elevators be checked before take-off and what do you check ?	
13	When are the flying controls selected to Manual after landing?	
14	What are the symptoms of only one aileron in Power?	



No	Electrics	Answers
1	How many generators are there and capacities?	
2	How many batteries are there for electrical services ?	
3	What is the minium RPM needed to keep both serviceable generators on line ?	
4	How are the inverters grouped ?	
5	What does the Main inverter supply ?	
6	What does the Standby inverter supply ?	
7	What do the inertia switches do ?	
8	With the Battery Master switch OFF what services remain live ?	
9	With both generators failed and Booster Pumps OFF, Tailplane interconnect OFF but all other services on, how long should fully charged batteries last ?	
10	What is the normal Starting Battery voltage	
11	What is the minimum Starting Battery voltage in order to attempt a start ?	
12	Do the Starting Batteries recharge from the generators or the inverters?	
13	List the top three power consuming services and their loads	



No	Systems	Answers
1	Below what accumulator pressure will braking not be available ?	
2	How many brake applications are available from a fully charged accumulator ?	
3	After streaming and then jettisoning the brake parachute, should the switch be left in JETTISON (up) or STREAM (down) and why should the switch be left ?	
4	Can the undercarriage UP button be pressed in on the ground to raise the undercarriage?	
5	What are the time limits for pressing the Artificial Horizon fast erect button	
6	How many "notches" of flap is 38°	
7	List the methods of jettisoning the Hood	
8	What are the ejection seat limits ?	
9	What cabin altitude should be expected at 20,000' 30,000' 40,000'	
10	What cabin pressure differential will activate the Cabin Pressure Warning light come on ?	
11	What is the maximum altitude for the Mk17 regulator?	
12	What is the maximum altitude the Mk9/Mk58 Hunter should be flown at and why?	
13	How is Emergency Oxygen used ?	



No	Limitations	Answers
1	Engine Limitations Take Off and Operational necessity Intermediate Max Continuous Ground Idle	
2	Oil Pressures Normal at 7600 RPM Minimum at 7600 RPM Minimum at 3600 RPM	
3	Speed Limits Vne (Clean or 150 Gal inboard tanks) Extending Undercarriage Flaps from 1 to 4 notches Flaps beyond 4 notches Brake chute deployment Manual Flying above 15,000' Manual Flying below 15,000'	
4	Fuel types permitted	
5	What is the Max Landing weight ?	
6	With full fuel including inboard 150 Gal drop tanks, after normal start up and taxi, will you be above or below Max landing weight after take off ?	
7	What are the aircraft's actual + G and - G limits: Clean or 150Gal Drops 4 Drop Tanks	
8	What are the Tailplane and Flap settings for take-off Clean aircraft Inboard Drop Tanks Inboard and Outboard drop tanks	
9	What are the Brake parachute X-wind limits ? Dry Runway Wet Runway What may happen if these limits are exceeded ?	
10	What is the maximum JPT on hot slam accelerations and for how long ? At Idle RPM	



No	Limitations	Answers
11	If Max JPT for idle is being exceeded, what initial actions can be taken before deciding to shut down.	
12	List actions in aborting take-off from high speed	
13	List <u>recommended</u> speeds for : Loop Roll Roll off the top Vertical roll	
14	What is the normal Oxygen pressure on the Mk17 regulator ?	
15	<i>With full Internal and 150 Gal Drops giving an AUW of 21,800Lbs, <u>ignoring</u> start and taxi fuel, what is the approximate 15°C Nil Wind take off distance in metres for Ground Run and to 50'</i>	
16	What <u>approximate</u> weight are you at with 1600Lbs internal fuel and empty 150 Gal drop tanks?	
17	At 1000Lbs fuel, what will your Final Approach Speed be?	
18	<i>At 17,000 Lbs AUW @ 15°C Nil wind landing distance :</i> <i>Dry Runway WITH Chute WITHOUT Chute</i> <i>Wet Runway WITH Chute WITHOUT Chute</i>	
19	What is the normal Climb RPM	
20	What is the normal climb speeds Kts and M: Clean or 150 Gal Drop tanks? 150 Gal and 100 Gal Drop Tanks?	
21	What is the negative G time limit and what sets it?	
22	At low altitude, how long does it take to reach full power from 4500 RPM	
23	What are the Ejection Seat limits	



Heritage Aviation Developments Limited

Ground School Training Declaration and Certificate

OCM APPENDIX C

For and On Behalf of Heritage Aviation Developments Ltd

I being the Chief Pilot of Heritage Aviation Developments Ltd confirms that

..... has successfully completed the Ground School Systems Training on the

..... aircraft and has received briefings on the aircraft's Limitations and Handling in normal and emergency procedures.

He/she* has furthermore passed an exam covering this training.*

I consider he/she* now has the required level of knowledge to commence flying the above aircraft type.*

I consider that sufficient training has/has not* been given in order to undertake flights in alternative Mks of this aircraft.*

Signature

Date

Pilot's Declaration

I declare that I have received and completed the above training and taken the exam relating to the above aircraft.

I furthermore declare that I have in my possession a set of the approved Pilots Notes and Flight Reference Cards.

I am satisfied that I have received, to the best of my knowledge, the necessary training and briefings in order that I may commence flying the above aircraft or other Mks of this aircraft if so permitted.

Signature

Date

Validity

Supervised Conversion flights must be satisfactorily completed within 30 days of the above Declaration. Failing that, a re-briefing must be carried out and the exam re-taken.

** delete as required*