

PILOT'S OPERATING HANDBOOK

Austflight Drifter SB - 582

Serial No. _____

AUF Registration No. _____

Airworthiness Category:

Civil Aviation Order (CAO) 101.55 Approved

Operational Category:

Civil Aviation Order (CAO) 95.55 Only

“THIS HANDBOOK INCLUDES THE MATERIAL REQUIRED TO BE FURNISHED TO THE PILOT BY THE CIVIL AVIATION REGULATIONS AND ADDITIONAL INFORMATION PROVIDED BY THE MANUFACTURER AND CONSTITUTES THE APPROVED AEROPLANE FLIGHT MANUAL. IT MUST BE CARRIED IN THE AEROPLANE AT ALL TIMES.”

MANUFACTURER

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CONTENTS

	Page
Cover	a
Contents	b
Log of effective pages	c
Amendment Record	e
Particular Amendment Record	f
Installed equipment pages	g
Symbols, abbreviations and terminology	h
Airspeed	h
Minimum approach speed	i
Landing safety & Turbulence penetration speed	i
Meteorological	i
Power terminology	j
Weight and balance terminology	j
Miscellaneous	l
Aircraft performance and flight planning	l
* SECTION 1 GENERAL	1-1
* SECTION 2 LIMITATIONS	2-1
* SECTION 3 EMERGENCY PROCEDURES	3-1
* SECTION 4 NORMAL PROCEDURES	4-1
* SECTION 5 PERFORMANCE	5-1
* SECTION 6 WEIGHT & BALANCE	6-1
SECTION 7 DESCRIPTION OF AEROPLANE AND ITS SYSTEMS	7-1
SECTION 8 HANDLING, SERVICE & MAINTENANCE	8-1
* SECTION 9 SUPPLEMENTS	9-1
SECTION 10 SAFETY AND OPERATIONAL INFORMATION	10-1
APPENDIX	A-1
* Denotes: SECTIONS APPROVED BY THE CIVIL AVIATION SAFETY AUTHORITY	

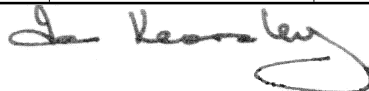
PILOT'S OPERATING HANDBOOK
LOG OF EFFECTIVE PAGES.

PAGE	DATE	PAGE	DATE	PAGE	DATE	
a	15/03/96	2.10	15/03/96	4.10	15/03/96	
b	15/03/96	3.1	15/03/96	4.11	15/03/96	
c	16/07/97	3.2	15/03/96	4.12	15/03/96	
d	16/07/97	3.3	15/03/96	4.13	15/03/96	
e	16/07/97	3.4	15/03/96	4.14	15/03/96	
f	15/03/96	3.5	15/03/96	4.15	15/03/96	
g	15/03/96	3.6	15/03/96	4.16	15/03/96	
h	15/03/96	3.7	15/03/96	4.17	15/03/96	
i	15/03/96	3.8	15/03/96	4.18	15/03/96	
j	15/03/96	3.9	15/03/96	4.19	15/03/96	
k	15/03/96	3.1	15/03/96	4.20	15/03/96	
l	15/03/96	3.11	15/03/96	4.21	15/03/96	
1.1	15/03/96	3.12	15/03/96	4.22	15/03/96	
1.2	15/03/96	3.13	15/03/96	4.23	15/03/96	
1.3	15/03/96	3.14	15/03/96	4.24	15/03/96	
1.4	15/03/96	3.15	15/03/96	4.25	15/03/96	
1.5	15/03/96	3.16	15/03/96	5.1	15/03/96	
1.6	15/03/96	3.17	15/03/96	5.2	15/03/96	
2.1	15/03/96	4.1	15/03/96	5.3	15/03/96	
2.2	15/03/96	4.2	15/03/96	5.4	15/03/96	
2.3	15/03/96	4.3	15/03/96	5.5	15/03/96	
2.4	15/03/96	4.4	15/03/96	5.6	15/03/96	
2.5	15/03/96	4.5	15/03/96	6.1	16/07/97	
2.6	15/03/96	4.6	16/07/97	6.2	15/03/96	
2.7	15/03/96	4.7	16/07/97	6.3	15/03/96	
2.8	15/03/96	4.8	15/03/96	6.4	15/03/96	
2.9	15/03/96	4.9	15/03/96	6.5	15/03/96	

**PILOT'S OPERATING HANDBOOK
LOG OF EFFECTIVE PAGES (CONT.)**

PAGE	DATE	PAGE	DATE	PAGE	DATE
6.6	15/03/96	8.15	15/03/96		
6.7	15/03/96	8.16	15/03/96		
6.8	15/03/96	8.17	15/03/96		
6.9	15/03/96	8.18	15/03/96		
6.10	16/07/97	8.19	15/03/96		
6.11	15/03/96	8.20	15/03/96		
7.1	15/03/96	8.21	16/07/97		
7.2	15/03/96	8.22	16/07/97		
7.3	15/03/96	8.23	16/07/97		
7.4	15/03/96	9.1	15/03/96		
7.5	15/03/96	9.2	15/03/96		
7.6	15/03/96	10.1	15/03/96		
7.7	15/03/96	10.2	15/03/96		
8.1	16/07/97	10.3	15/03/96		
8.2	15/03/96	A1	15/03/96		
8.3	15/03/96	A2	15/03/96		
8.4	15/03/96	A3	15/03/96		
8.5	15/03/96				
8.6	15/03/96				
8.7	15/03/96				
8.8	15/03/96				
8.9	15/03/96				
8.10	15/03/96				
8.11	15/03/96				
8.12	15/03/96				
8.13	15/03/96				
8.14	15/03/96				

Approved



Date

5 DEC 1996

**For and on behalf of the Civil Aviation Safety
Authority and delegate of the Authority**

Amendment Number	Description of Amendment	Pages Affected	Signature and Date of Incorporation
G1	Amend Section 2.4 to include a 5 minute time rating limit for coolant water temperature limit maximum.	2-5	
G2	Section 6 numbering sequence amended.	6-1, 6-10	
G3	Section 4.3 Wings: Amendments- Dacron cover and Gap seal	4-6	
G4	Section 4.7 Empennage: Amendments- Dacron Cover and Gap seal	4-7	
G5	Section 8.18 Wing and Empennage covering.	8-1, 8-23	

NOTE: Amendment numbers may not always be consecutive

Amendment Number	Paragraphs affected	Signature	Date of Incorporation

Incorporation of a Particular Amendment must be certified by inserting the date of incorporation and signature in the appropriate columns. All amendments must be embodied consecutively. This page will be issued with each Particular Amendment, and previous copies should be retained in the Flight Manual to serve as a record of amendments issued. Superseded Flight Manual pages should be removed and destroyed.

Date: _____ **for the Authority:** _____

DESCRIPTION OF EQUIPMENT	ADDITIONAL REVISED PAGES	PAGE DATE	ENTEREDBY

SYMBOLS ABBREVIATIONS AND TERMINOLOGY

The following definitions are for terms used throughout this manual.

AIRSPPEED

- CAS - Calibrated airspeed - The airspeed corrected for position and instrument error.
- KIAS - Knots indicated airspeed - The airspeed as shown on the airspeed indicator when corrected for instrument error.
- TAS - True airspeed - The airspeed relative to undisturbed air and corrected for altitude, temperature and compressibility.
- Va - Manoeuvring speed - The maximum speed for manoeuvres involving an approach to stall conditions or full application of the flight controls.
- Vne - Never exceed speed - The airspeed which must never be exceeded.
- Vno - Normal operating speed - (Maximum structural cruising speed) is the speed that should not be exceeded except in smooth air and then only with caution.
- Vs - Stalling speed or minimum steady flight speed at which the Drifter is controllable.
- Vx - Best angle of climb speed - The speed which gives the greatest gain of altitude in shortest possible horizontal distance.
- Vy - Best rate of climb speed - The speed which gives the greatest gain of altitude in the shortest possible time.
- TOSS - Take off safety speed - The minimum speed chosen to ensure that adequate control will exist under all conditions, including turbulence and sudden and complete engine failure, during the climb after take-off.

MINIMUM APPROACH SPEED

The minimum speed chosen to ensure adequate control under all conditions, including turbulence, to carry out a normal approach and touch-down or baulked landing without requiring exceptional pilot skill.

LANDING SAFETY SPEED (TARGET THRESHOLD SPEED)

Landing safety speed is an airspeed that provides an adequate safety buffer from the stall and conditions during approach to land.

TURBULENCE PENETRATION SPEED.

The speed determined, that will reduce the possibility of exceeding the positive/negative load limits of the Drifter.

METEOROLOGICAL.

ISA - International standard atmosphere - The temperature and pressure at sea level is assumed to be 15° C and 1013 hPa and a lapse rate of 2° C per 1000 feet.

AMSL - Above mean sea level.

PA/PH - Pressure altitude or pressure height - The reading in feet on the altimeter with sub scale set at 1013 hPa. This converts local area QNH and altitude to a standard value for use on performance charts.

OAT - Outside air temperature - Is the free air static temperature. It is expressed in either degrees Celsius or degrees Fahrenheit.

AIRFIELD PRESSURE ALTITUDE (PRESSURE HEIGHT)

Airfield pressure altitude or pressure height is the height in the international standard atmosphere above the 1013 hPa pressure level

There are two methods of determining pressure altitude (height).

- 1 Set 1013 hPa on the altimeter subscale and read off directly the value of pressure height.
- 2 A calculation based on the fact that up to 5,000 ft. the approximate rate of fall of pressure is 1hPa per 30 ft.

POWER TERMINOLOGY

Take off power

Maximum power allowable for take off.

Maximum Continuous Power

Maximum power allowable for continuous use.

Brake horsepower

Brake horsepower is the power developed by the engine.

Revolutions Per Minute

Engine speed.

Static RPM

Is engine speed attained during a full throttle engine run-up, when the aircraft is on the ground stationary.

WEIGHT AND BALANCE TERMINOLOGY

Reference Datum

Reference datum is an imaginary vertical plane from which all horizontal distances are measured for balance purposes.

Station

Station is a location along the longitudinal axis given in terms of the distance from the reference datum.

Arm

Arm is the horizontal distance from the reference datum to the centre of gravity (CG) of an item.

Moment

Moment is the product of the Weight of an item multiplied by its arm. (Moment is normally defined as the product of a force by a distance. For the purposes of this handbook a moment index is used, being the moment divided by the acceleration of gravity, but is referred to at all times as the moment.)

Centre of Gravity (CG)

Centre of gravity is the point at which an airplane, or equipment, would balance if suspended. Its distance from the reference datum is found by dividing the total moment by the total weight of the aircraft.

CG Arm

Centre of gravity arm is the arm obtained by adding the aircraft's individual moments and dividing the sum by the total weight.

CG Limits

Centre of gravity limits are the extreme centre of gravity locations within which the aircraft must be operated at a given weight.

Standard Empty Weight

Standard empty weight is the weight of a standard aircraft including unusable fuel and full operating fluids.

Basic Empty Weight

Basic empty weight is the standard empty weight plus the weight of optional equipment.

Useful Load

Useful load is the difference between ramp weight and the basic empty weight.

Maximum Takeoff Weight

Maximum takeoff weight is the maximum weight approved for the start of the takeoff roll.

Maximum Landing Weight

Maximum landing weight is the maximum weight approved for the landing touchdown.

Longitudinal Axis

Is the axis running fore and aft through the centre of gravity of the aircraft and is horizontal when the aircraft is in the steady flight position.

Tare

Tare is the weight of chocks, blocks, stands, etc. Used when weighing an airplane, and is included in the scale readings. Tare is deducted from the scale reading to obtain the actual (net) airplane weight.

MAC

Mean aerodynamic chord - the average chord over the span of the wing.

%MAC

The distance aft of the wing leading edge expressed as a percentage of mean aerodynamic chord.

MISCELLANEOUS

g gravity
agl or AGL

Above ground level.

AIRCRAFT PERFORMANCE AND FLIGHT PLANNING TERMINOLOGY

Demonstrated Crosswind Velocity

Demonstrated crosswind velocity is the velocity of the crosswind component for which adequate control of the airplane during takeoff and landing was actually demonstrated during certification tests. The value shown is not considered to be limiting.

Usable Fuel

Usable fuel is the fuel available for flight planning.

Unusable Fuel

Unusable fuel is the quantity of fuel that cannot be safely used in flight.

GENERAL

TABLE OF CONTENTS	Page
1.1 Introduction	1-2
Three View and Principal Dimensions	1-4
General Information	1-5
1.2 Issue of Amendments	1-6

Manufacturer	- Austflight ULA Pty Ltd.
Aircraft type and model	- Drifter SB - 582
Aircraft serial number	-
Nationality and registration marks	-
Airworthiness category	- CAO 101.55
Operational Category	- CAO 95-55 only

This Pilot's Operating Handbook contains information legally approved by the Civil Aviation Safety Authority of Australia, together with additional manufacturer's information not subject to approval.

The approved sections are: 1, 2, 3, 4, 5, 6, and 9.

The sections not subject to approval are: 7, 8 and Appendix.

This handbook applies only to the particular aircraft identified by registration marking and serial number on the Approval Page and contains the airworthiness limitations and essential operating data for this aircraft.

For operating information not included in this handbook, reference should be made to the appropriate operations or manufacturer's manuals.

The handbook shall be carried in the aircraft on all flights.

In accordance with the provisions of CAR 138 (4), the pilot in command of an Australian aircraft shall comply with all requirements, procedures and limitations with respect to the operation of the aircraft set out in this handbook.

The aircraft has been certificated on the basis of the equipment fitted at the time of certification. Any changes in equipment are subject to approval by the CASA.

No entries or endorsement may be made to this handbook except in the manner and by persons authorised for the purpose by the CASA.

Documents such as service bulletins, service letters, safety and operational information and approved supplements may be obtained by contacting:

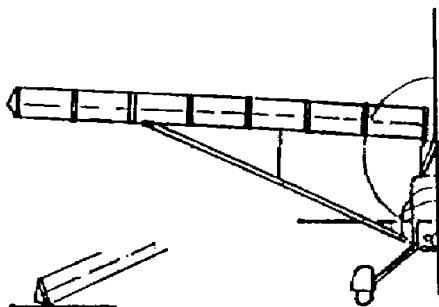
Austflight U.L.A. Pty Ltd
PO Box 84, Boonah Queensland Australia 4310
Phone: (07) 5463 2755 Intl. 61 7 5463 2755

Modification of any component part of the Drifter aircraft, or failure to strictly follow the procedures set out in this handbook, can result in structural failure, engine failure, injury to the pilot, other persons on board or to persons or property on the ground.

Austflight ULA makes every effort to supply the current owner of the aircraft with revised pages to this handbook but cannot assume responsibility for ensuring receipt or insertion of such pages in this handbook. The current owner is required to notify Austflight ULA of the address to which revised pages should be forwarded. Austflight ULA assumes no responsibility for any property damage or personal injury occasioned by unauthorised modifications, improper assembly or the use of procedures not contained in this handbook.

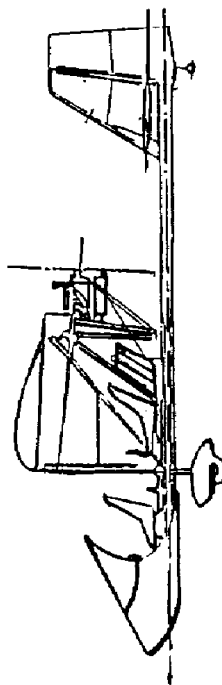
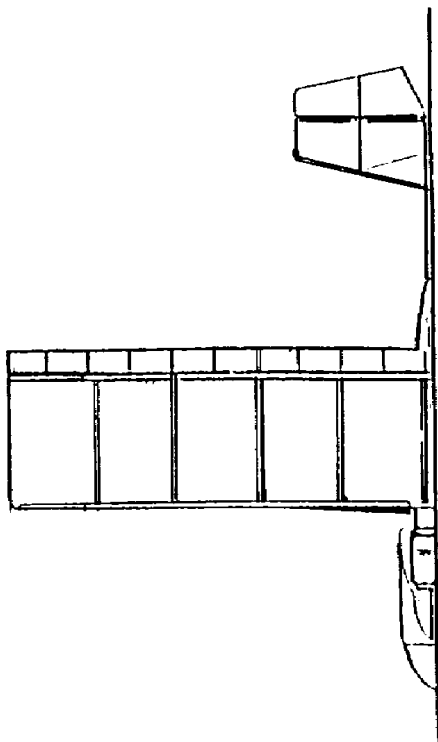
Operators of the aircraft are warned that due to possible modifications to the aircraft and to changes in techniques and procedures, the information contained in this handbook only applies at the time the aircraft was purchased.

THREE VIEW AND PRINCIPAL DIMENSIONS



DIMENSIONS

Height	2.16m
Wingspan	9.10m
Chord	1.54m
Wing Area	13.9m ²
Propeller Diameter	1.52m
Aspect	5.94



GROUND TURNING CLEARANCE

Minimum ground turning clearance = 15m.

APPROVED ENGINES

ROTAX Type 582 DCDI, Liquid cooled 65 HP.

APPROVED PROPELLERS

Aero Fibre Industries Proprietary Limited

BROLGA 4-Blade, 60" diameter, 17 degree pitch

APPROVED FUEL TYPES AND GRADES

50:1 (Unleaded MOGAS to two stroke oil)

Oil injection option - Neat unleaded MOGAS

TOTAL AND USEABLE CAPACITY OF EACH FUEL TANK

Tank	Usable litres	Unusable litres	TOTAL LITRES	
Rear	28.0	2.0	30	
Total	28.0	2.0	30	System A
Rear	28.0	2.0	30	
Auxiliary	33.0	7.0	40	System B
Total	61.0	9.0	70	System A & B

Note: Auxiliary is the Belly fuel tank system

APPROVED OIL TYPES AND GRADES

Recommended high performance 2-stroke approved oil

2ASTM/CEC TSC3

TOTAL AND USEABLE OIL CAPACITY - 2.4 litres.

1.2 ISSUE OF AMENDMENTS

NOTE

It is the responsibility of the owner/operator to maintain this handbook in a current status when it is being used for operational purposes.

Amendments to this handbook will be made as whole page replacements and insertions. Changes to text will be indicated by a vertical line in the margin. Amendment date will be shown at the bottom of the page.

Interim or temporary amendments may be issued in the same manner and inserted as directed. These amendments will be issued on coloured paper and will take precedence over the stated affected page.

When the amendment is received the superseded page is to be removed and destroyed and the new page inserted in its place. Additional pages are to be inserted in numerical sequence.

A record of the amendment shall be made on the Amendment Record Sheet and is to show:-

- amendment number
- amendment issue date
- date amendment entered in the handbook
- signature of person entering the amendment in the handbook

It is the Owner's responsibility to incorporate in this handbook all such amendments, and to log pages added for Operator installed equipment.

All amendments require CASA approval prior to issue and incorporation.

SECTION 2 LIMITATIONS

TABLE OF CONTENTS	Page
2.1 General	2-2
2.2 Operational Limitations	
Kinds of operations	2-2
Manoeuvre limits	2-2
Smoking restrictions	2-2
Load limits	2-3
Flight crew and limits	2-3
Mandatory use of helmets	2.3
Low Fuel Warning System	2.3
2.3 Airspeed limitations	2-4
Indicator markings	2-4
2.4 Power plant limitations	2-5
2.5 Instrument markings	2-6
2.6 Performance limitations	
Cross wind limit	2-6
2.7 Weight & balance limitations	2-7
Weight limits	2-7
Centre of gravity limits	2-7
2.8 Placards	2-7

2.1 GENERAL

The limitations included in this section are approved by the Civil Aviation Safety Authority and must be observed to ensure safe operation of the Drifter SB-582

2.2 OPERATIONAL LIMITATIONS.

KINDS OF OPERATION

VFR by day.
Flight in known icing conditions prohibited.

MANOEUVRE LIMITS

Non aerobatic manoeuvres as for normal flight, including - stalls (except whip stalls), chandelles, lazy eights and steep turns in which the angle of bank is not more than 60°.

MANOEUVRE	ENTRY SPEED
Stalls	Slow deceleration.
Chandelles	65
Lazy eights	65
Steep turns	65

NOTE

Aerobatic manoeuvres, including intentional spins, are prohibited

SMOKING RESTRICTIONS

Smoking is not permitted.

LOAD FACTOR LIMITS

Positive Load Limit Factor	+ 3.8
Negative Load Limit Factor	- 1.9

FLIGHT CREW AND PASSENGER LIMITS

Minimum flight crew	One pilot
Command seat	Front seat
Maximum permissible number of persons on board.	2
Minimum load front seat	65 kg
Maximum load front seat	95 kg

NOTE : The Drifter must be flown from the front seat when only one person on board.

MANDATORY USE OF PROTECTIVE HELMETS

Each person on board is required to wear a protective helmet during all flights.

LOW FUEL WARNING SYSTEM

A Low Fuel Warning System is fitted to the aircraft (see Section 7 Page 7-6). The fuel sensor is located in the fuel tank and activates a red warning lamp in the cockpit when the fuel reaches a predetermined level. This indicates 30 minutes fuel remaining.

2.3 AIR SPEED LIMITATIONS

SPEED	KIAS	REMARKS
V _A Manoeuvring speed	65	Do not make full or abrupt control movements above this speed.
V _{NE} Never exceed speed	85	Do not exceed this speed in any operation.
V _{NO} Maximum structural cruising speed	75	Do not exceed this speed except in smooth air and then only with caution.

AIRSPEED INDICATOR MARKINGS

MARKING	KIAS	SIGNIFICANCE
Yellow Arc	38-45	Cautionary operating range. Lower limit is MTOW stalling speed
Green Arc	45-80	Normal operating range
Yellow Arc	80-85	Operations must be conducted with caution and only in smooth air
Red Line	85	Maximum speed for all operations

2.4 POWER PLANT LIMITATIONS

Maximum power (continuous)	64.4 BHP @ 6500 RPM
Maximum take-off power	64.4 BHP @ 6800 RPM (for 5 minutes)
Maximum engine speed for all operations	6800 RPM
Maximum cylinder head temperature	150 °C
Maximum continuous coolant water temperature	80 °C
Maximum coolant water temperature (5 minutes)	90 °C
Maximum exhaust gas temperature	650 °C
Maximum take-off power	Full throttle
Maximum continuous RPM	6500 RPM

2.5 INSTRUMENT MARKINGS

INSTRUMENT MARKINGS

Instrument	Red Line Minimum Limit	Yellow Caution Range	Green Arc Normal Operations	Yellow Caution Range	Red Line Maximum Limit
Exhaust Gas Temp	455°C	455°C-499°C	499°C-621°C	621°C-650°C	650°C
Coolant Temp	60°C	-	60°C-80°C	80°C-90°C	90°C
Voltmeter	-12V		12-14V		+14V

OTHER ASSOCIATED INSTRUMENT MARKINGS

Tachometer	Red line	6,800 rpm	Maximum limit
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2.6 PERFORMANCE LIMITATIONS

CROSS WIND LIMIT

Take Off 15 knots
Landing 15 knots

MAXIMUM AMBIENT OPERATING TEMPERATURE - 45°

STRUCTURAL DURABILITY

As structural fatigue life testing is not required under CAO 101.55 Certification, the aircraft's structural durability is unknown

2.7 WEIGHT & BALANCE LIMITATIONS

WEIGHT LIMITS

Maximum take off Weight	450 kg
Maximum landing Weight	450 kg

CENTRE OF GRAVITY LIMITS.

Forward limit	388 mm aft of datum at	450 kg
Rear limit	487 mm aft of datum at	450 kg

Reference datum is Wing Leading Edge (WLE) immediately adjacent to down tube bracket with aircraft in longitudinally level position.

WARNING

It is necessary to determine the weight and centre of gravity prior to each flight. The method of calculation is described in Section 6

2.8 PLACARDS

NOTE

Placards in this section are not to scale.

MANOEUVRES ARE LIMITED TO -

MANOEUVRE ENTRY SPEED

STALLS	SLOW DECELERATION
CHANDELLE	65
LAZY EIGHT	65
STEEP TURN	65

INTENTIONAL SPINS PROHIBITED
WHIP STALLS PROHIBITED

On instrument panel face.

NEVER EXCEED SPEED V_{ne} 85 KIAS

DESIGN MANOEUVRING SPEED V_a 65 KIAS

MAX. CONTINUOUS RPM - 6500

MAX. TAKE-OFF RPM (5 MINUTES) 6800

**The markings and placards installed
in the Drifter contain operating
limitations which must be complied with.**

**Certain other limitations to be complied
with are found in the Drifter SB-582
Pilot's Operating Handbook.**

SPINS PROHIBITED

RECOVERY FROM UNINTENTIONAL SPIN

- CLOSE THROTTLE
- NEUTRAL AILERONS
- FULL OPPOSITE RUDDER
- FORWARD CONTROL COLUMN
- WHEN ROTATION STOPPED, CENTRALISE RUDDER
- EASE OUT OF DIVE

On inside right face of cockpit pod, above stowage satchel.

FLIGHT MANUAL
STOWAGE

On mainwheel.

25 PSI
172 kPa

On tailwheel

30 PSI
205 kPa

EARTH

Adjacent to fuel tank filler.

FUEL MIX - 50 : 1 Unleaded MOGAS to two stroke oil
OIL INJECTION OPTION- Unleaded MOGAS

In view of both seats

LOADING LIMITATIONS

-MAXIMUM TAKE OFF WEIGHT	450 Kg
-MINIMUM PILOT WEIGHT FRONT SEAT (REAR SEAT NOT APPLICABLE)	65 Kg
-MAXIMUM PILOT WEIGHT FRONT SEAT	95 Kg

NOTE : BALLAST MUST BE ADDED TO BRING FRONT SEAT WEIGHT TO 65 Kg WHETHER FLOWN DUAL OR SOLO.

In view of both seats

SINGLE PILOT OPERATION

THIS AIRCRAFT MUST BE FLOWN FROM FRONT SEAT WHEN ONLY ONE PERSON ON BOARD

In view of both seats

THIS AIRCRAFT MUST NOT BE FLOWN EXCEPT IN ACCORDANCE WITH THE REQUIREMENTS OF CAO 101:55

In view of both seats

NO SMOKING

In view of both seats

PROTECTIVE HELMETS MANDATORY
Each person on board is required to wear a protective helmet at all times during flight.

SECTION 3
EMERGENCY PROCEDURES

TABLE OF CONTENTS		Page
3.1	General	3-2
3.2	Airspeed for emergency operations	3-2
3.3	Emergency procedures check lists	3-3
	Engine failures	
	Engine failure during takeoff roll	3-3
	Engine failure after take off	3-4
	Engine failure during flight	3-5
	Partial engine failure during flight	3-6
	Precautionary landing after partial engine failure	3-6
3.4	Fires	
	During start on ground	3-7
	Engine fire during flight	3-8
	Electrical fire during flight	3-8
3.5	Landing emergencies	
	Emergency landing without engine power	3-9
	Precautionary landing with engine power	3-9
	Ditching	3-11
	Landing with a flat tyre	3-12
	Landing without elevator control	3-12
3.6	Rough engine operation or power loss	3-13
	Rough running	3-13
3.7	Inadvertent flight in icing conditions	3-15
3.8	Spin/Spiral dive	3-16
3.9	Engine re-starting during flight	3-17

3.1 GENERAL

The procedures detailed herein allow the pilot to take premeditated action in the event of an emergency. The procedures have been carefully designed to use the most logical, and therefore the quickest and safest, steps to take in coping with an emergency situation.

Some pilots may tend to rely on previously known methods but are encouraged to practice the procedures and drills as shown in this handbook as they are applicable to the Drifter aircraft.

Prevention is all important to aviation safety and can minimise the possibility of an emergency arising. Due attention should be paid to maintenance and to preflight inspections of the Drifter. Prudent flight planning should ensure that flight is not made in, nor continued towards, weather conditions beyond which the pilot has the ability to cope.

3.2 AIRSPEEDS FOR EMERGENCY OPERATIONS

Best glide	49 knots
Manoeuvring speed	65 knots
Precautionary landing with power	49 knots

<p style="text-align: center;">NOTE</p>
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<p style="text-align: center;">All airspeeds for the preceding are assuming MTOW</p>

EMERGENCY PROCEDURES CHECKLIST
3.3 ENGINE FAILURE

Engine failure during takeoff roll

ENGINE FAILURE DURING TAKEOFF ROLL

- | | |
|--------------------------|----------------|
| 1.Throttle | - IDLE |
| 2.Brakes | - APPLY |
| 3.Ignition switch | - OFF |
| 4.Master Switch | - OFF |

CAUTION

Ensure throttle closed to prevent engine surge causing an acceleration when remaining length of runway may be critical. Power fluctuation could also lead to difficulties with directional control.

WARNING

If engine is intermittent or showing any sign of malfunctioning, the take-off should be aborted. Don't ever expect an engine to clear itself when airborne.

Engine failure after takeoff

ENGINE FAILURE AFTER TAKEOFF

- | | |
|--------------------|--------------------------------|
| 1. Airspeed | - ATTITUDE FOR 49 KNOTS |
| 2. Land | - STRAIGHT AHEAD |
| 3. Ignition | - OFF |

NOTE

Control of the aircraft, maintenance of airspeed and prevention of stall, is paramount. The pilot should not be distracted by unnecessary checks.

WARNING

Never attempt to turn back to runway if below 500 feet.

Engine failure during flight

ENGINE FAILURE DURING FLIGHT

1. INITIAL ACTIONS

- Fuel pump - ON
- Speed - TRIM 49 KIAS

2. PLAN

- Field - SELECTED
- W/V - LANDING DIRECTION
- 1000 ft. area selected - DESCENT PLAN

3. TROUBLE CHECK

- Throttle - EXERCISED-SET 20MM
- Ignition - LEFT - RIGHT - BOTH
- Temperatures/pressures - CHECKED

4. RESTART

- If propeller stopped - KEY TO 'START'

5. MAYDAY - if engine restart fails

- Radio - MAYDAY CALL
- Transponder (if fitted) - 7700 SQUAWK IDENT
- Emergency locator (if fitted) - ACTIVATED

6. PASSENGER BRIEF

7. CLOSE DOWN CHECKS

- Fuel shut off valve - PULL TO OFF
- Ignition switches - OFF
- Master switch - OFF
- Harnesses - TIGHT

8. LAND

- TAIL LOW

9. CANCEL MAYDAY CALL IF LANDING IS SUCCESSFUL

Partial engine failure during flight

When an engine is running roughly, has lost power, or shows other evidence of partial failure, and the cause cannot be located and rectified, it has to be assumed that the engine can, without further warning, fail completely. The pilot should treat the situation as a potential complete engine failure and take the following action :

PRECAUTIONARY LANDING

If suitable area for a landing

1. Throttle - CLOSED
2. Airspeed - 49 KIAS
3. Glide approach - ESTABLISH
4. Radio - PAN or MAYDAY CALL
5. Landing - TAIL LOW

If area not suitable for a landing

1. Safe altitude - CLIMB
2. Safe landing area - LOCATE
3. Notify intentions - PAN CALL

When suitable area located

5. Radio - POSITION AND INTENTIONS
6. Throttle - CLOSED
7. Airspeed - 49 KNOTS
8. Glide approach - ESTABLISH
9. Landing - TAIL LOW
10. Cancel Mayday call if landing is successful

NOTE : A glide approach should be made. If a power assisted approach is made and the engine should fail completely, the aircraft may not reach the intended touch-down point

3.4 FIRES

Engine Fire During Start On Ground

DURING START ON GROUND

1. Cranking - CONTINUE

If Engine Starts

2. Power - 2200 RPM (For a few minutes)

3. Engine - SHUTDOWN (Inspect for damage)

If Engine Fails To Start

4. Throttle - FULLY OPEN

5. Cranking - CONTINUE

7. Master switch - OFF

8. Ignition switch - OFF

9. Fuel shut off valve - PULL TO OFF

10. Fire extinguisher - LOCATE (Operate as necessary)

Engine fire during flight

ENGINE FIRE DURING FLIGHT

- | | |
|------------------------|---------------|
| 1. Fuel shut off valve | - PULL TO OFF |
| 2. Throttle | - FULLY OPEN |
| 3. Ignition | - OFF |
| 4. Emergency Descent | - 80 KNOTS |
| 5. Radio | - MAYDAY CALL |
| 6. Master Switch | - OFF |
| 8. Forced landing | - EXECUTE |
- (As described in emergency landing without engine power.)

WARNING

If engine fire goes out do not attempt a restart as this may cause a catastrophic explosion.

Electrical fire during flight

ELECTRICAL FIRE DURING FLIGHT

- | | |
|-------------------------------|-----------|
| 1. Battery Master | - OFF |
| 2. Avionics | - OFF |
| 3. Switches (Except ignition) | - ALL OFF |

If fire extinguished, check circuit breakers and fuses. If faulty circuit located, cautiously turn on other switches.

Consider other actions, including PAN call.

3.5 LANDING EMERGENCIES

This subsection briefly discusses the factors to be considered in the event of an emergency on other than a properly prepared surface.

Emergency landing without engine power

EMERGENCY LANDING WITHOUT ENGINE POWER

- | | |
|------------------------|-----------------|
| 1. Airspeed | - 49 KIAS |
| 2. Fuel shut off valve | - PULL TO OFF |
| 3. Ignition switches | - OFF |
| 4. Master switch | - OFF |
| 5. Touchdown | - TAIL LOW |
| 6. Brakes | - APPLY HEAVILY |

Precautionary landing with engine power

PRECAUTIONARY LANDING WITH ENGINE POWER

- | | |
|---|---|
| 1. Airspeed | - 49 KIAS |
| 2. Select field | - SHAPE, SIZE, SURFACE,
SLOPE, SURROUNDS |
| 3. Avionics switch and
electrical switches | - OFF |
| 4. Master switch | - OFF |
| 5. Touchdown | - TAIL LOW |
| 6. Ignition switch | - OFF |
| 7. Fuel shut off valve | - PULL TO OFF |
| 8. Brakes | - APPLY HEAVILY |

CAUTION

If a safe landing is completed, do not taxi unless taxi path is obviously clear. If in doubt, inspect by foot before further taxiing.

Emergency Landing Considerations

Wind velocity

Generally a landing should be made directly into the wind. A crosswind landing could be considered if a landing has to be made:

- along ploughed furrows;
- along a narrow strip to avoid obstacles; or
- lengthwise into a paddock too short for an in to wind landing.

A tailwind landing could be considered if:

- faced with landing up a slope; or
- an into wind landing means approaching over high obstacles.

Terrain

Land along ploughed furrows rather than across them and where possible land up slopes. Be alert for difficult to see obstacles on the likely approach areas such as power lines. Where trees are located in the landing area, land between trees if possible, however, do not attempt to stall on to the tops of trees. Shallow water may offer an obstacle clear approach and a safer landing than unsuitable terrain.

Ditching

DITCHING

- | | |
|---------------------------|------------------------|
| 1. Radio | - MAYDAY |
| 2. Heavy loose objects | - SECURE |
| 3. Approach | |
| High winds, Heavy seas | - INTO WIND |
| Light winds, Heavy swells | - PARALLEL TO SWELLS |
| 4. Power (if available) | - ESTABLISH 300FT/ MIN |
| 5. Approach | - 49 KNOTS |
| 6. Touchdown | - TAIL LOW ATTITUDE |
| 7. Aircraft | - EVACUATE. |
| 8. Life jackets and rafts | - INFLATE |

WARNING

Never inflate life jackets, or life rafts whilst still inside aircraft

Landing with a flat tyre**LANDING WITH A FLAT TYRE**

- | | |
|---------------|----------------------|
| 1. Approach | - NORMAL |
| 2. Wind | - DIRECTION/VELOCITY |
| 3. Touch-down | - THREE POINT |

Consider the effect of crosswind and weathercock effect and try to have crosswind on opposite side to the flat tyre. Aim for a 3 point landing at minimum touch-down speed and be prepared to use maximum rudder to keep straight.

Landing without elevator control**LANDING WITHOUT ELEVATOR CONTROL**

- | | |
|-----------------------|-----------------------|
| 1. Approach | - LONG FINAL |
| 2. Trim/Minimum power | - 49 KNOTS |
| 3. At flare height | - TRIM ATTITUDE LEVEL |
| 4. Touch-down | - POWER TO IDLE. |

3.6 ROUGH ENGINE OPERATION OR POWER LOSS

Rough running

IGNITION CAUSING ROUGH RUNNING OR MISFIRING

- | | |
|-----------------------------|---------------------------------------|
| 1. Identify faulty ignition | CHECK LEFT AND RIGHT |
| 2. Ignition switches | RETURN BOTH TO 'ON' |
| 3. Power | VARY TO ATTEMPT
SMOOTHER OPERATION |
| 4. Ignition | SELECT GOOD IGNITION |
| 5. Action (see note) | PROCEED TO NEAREST
AIRFIELD |

SPARK PLUG FOULING OR BREAKDOWN

- | | |
|-------------------------------|---------------------------------------|
| 1. Identify if ignition fault | CHECK LEFT AND RIGHT |
| 2. Ignition switches | RETURN BOTH TO 'ON' |
| 3. Power | VARY TO ATTEMPT
SMOOTHER OPERATION |
| 4. Ignition | SELECT GOOD IGNITION |
| 5. Action (see note) | PROCEED TO NEAREST
AIRFIELD |

NOTE

Magneto and spark plug malfunction cause similar symptoms.

NOTE

Always endeavour to proceed by having both ignition switches on. Only if the engine is running too roughly should single ignition be used.

Carburettor icing

At first sign of carburettor icing try varying throttle position and, in any case, prepare for a possible engine stoppage.

Signs of carburettor icing are:

- a decrease in RPM, this may be rapid or so gradual that it is barely noticeable;
- rough running; or
- the engine stops.

WARNING

Carburettor icing can occur over a wide range of

- **Flight conditions**
- **Humidity**
- **Outside air temperatures**

3.7 INADVERTENT FLIGHT IN ICING CONDITIONS

<h4>INADVERTENT FLIGHT IN ICING CONDITIONS</h4>
--

- | | | | | | | | | |
|--|---------------------|----------|----------------|-----------|---------------|---------------------|----------------------------|--------|
| <table><tr><td>1. Flight path</td><td>- DIVERT</td></tr><tr><td>2. Instruments</td><td>- MONITOR</td></tr><tr><td>3. Engine RPM</td><td>- CONSIDER INCREASE</td></tr><tr><td>4. Ice accretion continues</td><td>- LAND</td></tr></table> | 1. Flight path | - DIVERT | 2. Instruments | - MONITOR | 3. Engine RPM | - CONSIDER INCREASE | 4. Ice accretion continues | - LAND |
| 1. Flight path | - DIVERT | | | | | | | |
| 2. Instruments | - MONITOR | | | | | | | |
| 3. Engine RPM | - CONSIDER INCREASE | | | | | | | |
| 4. Ice accretion continues | - LAND | | | | | | | |

Should airframe icing conditions be encountered, the flight should immediately be diverted to an area where icing conditions are less probable. Consider turning to the reciprocal bearing or consider climbing or descending to a different altitude. Also consider an advisory radio call and monitor instruments for signs of carburettor icing. Increasing RPM may help prevent ice accretion on the propeller.

If ice accretion continues, plan to land. Preferably the landing should take place at an airfield or other suitable area. Consider the effect of ice causing a higher stalling speed and increase approach speed accordingly.

3.8 SPIN/SPIRAL DIVE

RECOVERY FROM UNINTENTIONAL SPIN

- | | |
|-------------------|-----------------|
| 1. Throttle | - CLOSED |
| 2. Ailerons | - NEUTRAL |
| 3. Rudder | - FULL OPPOSITE |
| 4. Control column | - FORWARD |

When rotation has stopped

- | | |
|--------------------------------|--------------|
| 5. Rudder | - CENTRALISE |
| 6. Ease out of resultant dive. | |

SPIRAL DIVE RECOVERY

- | | |
|-------------------|--------------------------|
| 1. Throttle | - CLOSED |
| 2. Wings | - LEVEL |
| 3. Control column | - CAUTIOUS BACK PRESSURE |
| 4. Slip ball | - IN CENTRE |

The difference between a spin and a spiral dive is that the spiral dive is not a stalled manoeuvre and therefore the airspeed will be increasing.

During the recovery from a spiral dive, the controls have to be moved cautiously to prevent over stressing the structure.

3.9 ENGINE RESTARTING DURING FLIGHT

Under some circumstances, (fuel mismanagement for example) it is possible for the engine to stop in flight. The propeller may continue to rotate or it may stop rotating.

<p style="text-align: center;">RESTARTING ENGINE IF PROPELLER ROTATING</p>

- | | | | | |
|---|----------------|-----------|-------------|--------------|
| <table><tr><td>1. Glide speed</td><td>- 49 KIAS</td></tr><tr><td>2. Throttle</td><td>- 20 mm OPEN</td></tr></table> | 1. Glide speed | - 49 KIAS | 2. Throttle | - 20 mm OPEN |
| 1. Glide speed | - 49 KIAS | | | |
| 2. Throttle | - 20 mm OPEN | | | |

<p style="text-align: center;">RESTARTING ENGINE IF PROPELLER STOPPED</p>
--

- | | | | | | | |
|---|----------------|-----------|-------------|--------------|-------------------|------------|
| <table><tr><td>1. Glide speed</td><td>- 49 KIAS</td></tr><tr><td>2. Throttle</td><td>- 10 mm OPEN</td></tr><tr><td>3. Starter switch</td><td>- TO START</td></tr></table> | 1. Glide speed | - 49 KIAS | 2. Throttle | - 10 mm OPEN | 3. Starter switch | - TO START |
| 1. Glide speed | - 49 KIAS | | | | | |
| 2. Throttle | - 10 mm OPEN | | | | | |
| 3. Starter switch | - TO START | | | | | |

If engine fails to start, carry out forced landing procedure as shown in 3.5.

<p style="text-align: center;">WARNING</p>

<p style="text-align: center;">Never attempt engine restart if engine has been shut down after an engine fire.</p>

SECTION 4

NORMAL PROCEDURES

TABLE OF CONTENTS	Page
4.1 General	4-3
4.2 Speeds for normal operation (MTOW)	4-3
4.3 Normal procedures check lists	
Plan view of aircraft	4-4
Preflight inspection check-list	4-5
Prestart	4-8
Engine starting - Cold engine	4-8
- Warm engine	4-9
- With ground power	4-9
After start, before taxiing	4-10
Taxiing	4-10
Engine run up	4-10
Pre take-off	4-11
Normal take-off	4-11
Short field take-off	4-11
Cross wind take-off	4-11
Climb (Normal)	4-12
Climb (Noise sensitive areas)	4-12
Cruise	4-12
Pre-stall	4-13
Descent	4-13
Pre-landing	4-13
Balked landing	4-14

TABLE OF CONTENTS (Continued)	Page
Landing	4-14
Short field landing	4-14
After landing	4-14
Cose down	
	4-15
4.4 Amplified normal procedures	
Pre start	4-16
Starting	4-17
After start	4-17
Taxiing	4-18
Control column position	4-19
Warm up	4-20
Run up	4-20
Take off	4-22
Climb	4-23
Cruise	4-24
Pre-landing	4-24
Baulked landing	4-24
Short field landing	4-24
4.5 Aircraft characteristics	
Stalls	4-25

4.1 GENERAL

This section outlines the normal operating procedures. It sets out the correct techniques to ensure that the Drifter is operated within design limitations. Adherence to these procedures and techniques is essential.

CAUTION

Short cuts and the use of unauthorised procedures could lead to damage to the aircraft, engine failure, injury to the pilot or other persons on board, or to persons or property on the ground.

4.2 SPEEDS FOR NORMAL OPERATION (MTOW)

	KIAS
TAXIING	walking pace
TAKE OFF SAFETY SPEED (TOSS)	49
LIFT-OFF SPEED	45
CLIMB	
- NORMAL	49
- BEST RATE	47
- BEST ANGLE	47
CRUISE	
- NORMAL 75% POWER	65
BEST GLIDE	49
APPROACH	
- NORMAL	49
- SHORT FIELD	47
- BAULKED LANDING	49
DEMONSTRATED CROSSWIND	15
TURBULENCE PENETRATION SPEED	60

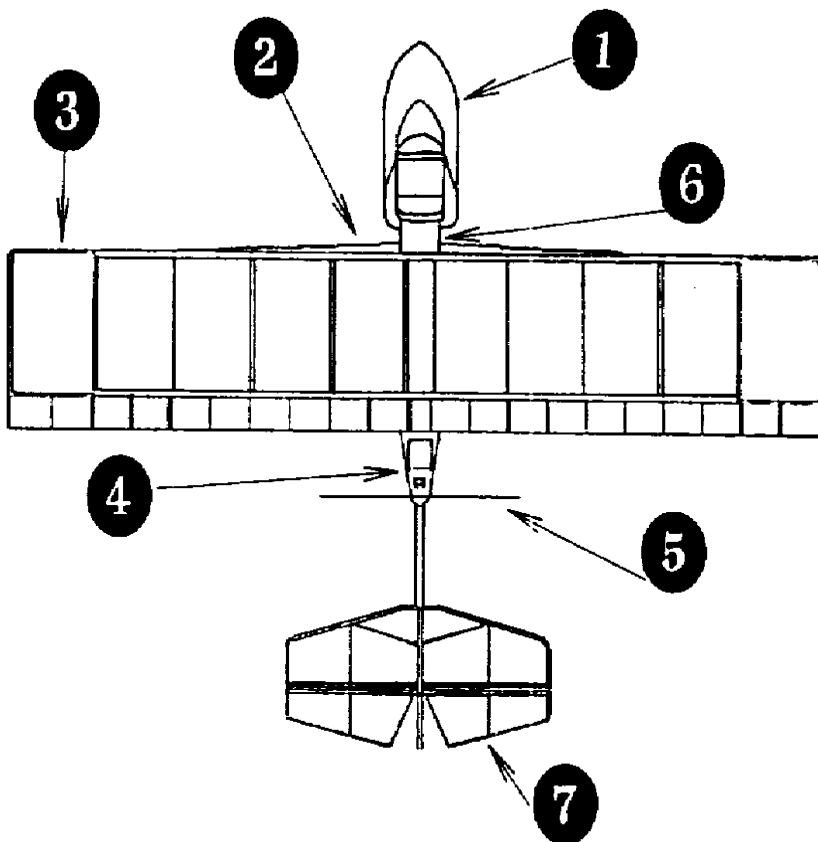
NOTE

The speeds shown above are Indicated Airspeeds. They are calculated using maximum take off weight and may be used for lesser weights. To obtain maximum performance the charts in Section 5 are to be used.

4.3 NORMAL PROCEDURES CHECK LISTS

PREFLIGHT INSPECTION CHECK-LIST

PLAN VIEW OF AIRCRAFT



PREFLIGHT INSPECTION CHECK-LIST

Aircraft Position TAXI PATH CLEAR IN FRONT
NO GRAVEL - STONES - ETC.
CLEAR BEHIND - NO OPEN HANGARS,
ETC.

1. COCKPIT

Seats SECURE, COVERS TIED IN PLACE
IF FLYING SOLO ENSURE REAR BELT
AND SEAT COVER FASTENED

Ballast REMOVED/ INSTALLED AS REQUIRED

Pitot Cover REMOVED AND STOWED

Brakes TESTED

Control locks REMOVED AND STOWED

Controls FULL, FREE, CORRECT MOVEMENT
ATTACH POINTS FOR SECURITY

Trim FULL, FREE, CORRECT MOVEMENT
LEAVE IN NEUTRAL

Avionics master OFF

Master switch ON

Avionics master ON - VHF 121.5 SELECT & MONITOR *

Avionics master OFF

Fuel quantity SUFFICIENT

Master switch OFF

Ignition Check OFF

Removable equip. HELMETS PLUGGED IN
EQUIPMENT STOWED

Fuel checker, dipstick, clean rag COLECTED FROM STOWAGE

*** NOTE**

If signal heard, check aircraft ELT has not been activated and, in any case, notify the nearest Air Traffic Service of the signal reception.

2. UNDERCARRIAGE

Legs	NOT BENT - ATTACH POINT FOR SECURITY AND CRACKING
Tyre	WEAR, INFLATION, CREEP
Wheel	SECURITY
Brake assembly	SECURITY, PADS FOR WEAR
Spat	SECURITY, BRACKET FREE FROM CRACKS

3. WINGS

Tie downs	REMOVED AND STOWED
Wing attach bolts	CHECKED
Antenna	SECURITY
Strobe light	SECURITY
Wing strut	SECURITY
Control surfaces	CHECK FOR FREEDOM OF MOVEMENT CLEVIS PINS/RINGS FOR SECURITY
Push rods	NOT BENT - BALL JOINTS FREE
All surfaces	NO DISTORTION - NO STONE DAMAGE
Dacron cover	INSPECT FABRIC FOR CONDITION
Gap seal	'VELCRO' PROPERLY FASTENED

4. ENGINE

Throttle	CABLE AND CHOKE FOR SECURITY AND SEATING
Carburettor	ALIGNMENT CLAMPS FIRM
Coils/wiring	CONDITION AND SECURITY
Spark plugs	LEADS CORRECTLY CONNECTED AND SECURE
Engine mounts	CONDITION AND SECURITY
Exhaust system	SECURITY-CRACKING- SAFETY WIRE IN PLACE
Coolant	LEVEL CHECKED - CAP SECURE OVERFLOW BOTTLE SECURE
Rotary disc bottle	OIL LEVEL CHECKED - CAP IN PLACE

5. PROPELLER

Blades SECURE - NO STONE DAMAGE -
 NO NICKS OR ABRASIONS
Flange SECURITY - BOLTS IN PLACE

6.FUSELAGE.

Skin NO DISTORTION OR BUCKLING
 RIVETS TIGHT
Control rods NO BUCKLING - GUIDES FOR
 SECURITY
Trim cable CONDITION CHECKED

7. EMPENNAGE

All surfaces NO DISTORTION - NO STONE DAMAGE
Fin SECURITY - WIRES FOR TENSION
Tailplane SECURITY
Elevator BOLTS, PINS, RINGS, BALL ENDS,
 SECURE - FULL, FREE MOVEMENT
Dacron cover INSPECT FABRIC FOR CONDITION
Gap seal 'VELCRO' SECURE
Rudder BOLTS, PINS, RINGS, HORN ATTACH
 POINTS - SECURE
Trim tab SECURITY AND FUNCTION
Tail wheel ATTACH POINT TO FUSELAGE
 CHECKED FOR CRACKING AND
 SECURITY
 SPRINGS AND CABLES CHECKED
Tyre FOR WEAR, INFLATION AND CREEP

PRESTART CHECKLIST**PRE START**

Documentation	COMPLETED
Preflight inspection	COMPLETED
Baggage - ballast	LOADED AND RESTRAINED
Aircraft	SUITABLE POSITION
Seat belts	ADJUSTED
Electrical equipment and radio	OFF
Passenger briefing	COMPLETED

ENGINE STARTING CHECKS**COLD ENGINE**

Brakes	ON
Master switch	ON
Fuel	QUANTITY SUFFICIENT
Fuel shut off valve	PUSH TO ON
Prime	AS REQUIRED
Throttle	SET CLOSED
Ignition	BOTH SET TO 'ON'
Check clear	'CLEAR PROP
Starter	ENGAGE
Idle	SET 2,200 RPM

NOTE

**Cold engine may be primed with priming pump.
To use priming pump - depress button, hold for 2
seconds and release.**

Warm Engine Start

Brakes	ON
Master switch	ON
Fuel	QUANTITY SUFFICIENT
Fuel shut off valve	PUSH TO ON
Throttle	SET 10mm OPEN
Ignition	BOTH
Check clear	“CLEAR PROP”
Starter	ENGAGE
Idle	SET 2200 RPM

CAUTION

Ensure engine intake areas and propeller are clear before engine start

Engine Starting With Ground Power

1. Ground power source	CHECK CORRECT POLARITY (Positive terminal - positive lead) (Negative terminal - negative lead)
2. Propeller	CLEAR
3. Ground power attendant	BRIEFED ON PROCEDURE
4. Brakes	ON
5. Master switch	ON
6. Avionics master	OFF
7. Ground power	CONNECTED TO BATTERY (See Note)
8. Engine start	AS IN PREVIOUS SECTIONS
After start	
9. Ground power	OFF
10. Volts	CHECKED
11. Amp. meter	CHARGING
12. Ground power equipment	DISCONNECT
13. Normal after start checks	EXECUTE

After Start Before Taxiing

External power (if used)	CLEAR
Idle	SET 2200 RPM MINIMUM
Ammeter - voltmeter	CHARGING
Avionics master	ON
Taxi	APPROPRIATE FREQUENCY

Taxiing

Brakes	TESTED
Radio aids	CORRECT INDICATIONS
Instruments	CORRECT INDICATIONS
Control column position	IN ACCORDANCE WITH W/V

Engine Run Up

Idle	SET 2200 RPM
Suitable area	NO GRAVEL - CLEAR BEHIND
Temperatures - Pressures	GREEN RANGE
Run up	4500 RPM
	CHECK BRAKES HOLDING
Ignition	RIGHT-LEFT
(maximum allowable drop 400rpm and differential 200rpm)	
Ammeter - voltmeter	CHARGING
Temperatures - Pressures	GREEN RANGE
Idle	SET 2200 RPM

Pre Takeoff

Idle	SET 2200 RPM
Trim	SET FOR TAKE OFF
Fuel	QUANTITY SUFFICIENT
Instruments	CHECKED
Switches - circuit breakers	CHECKED
Seat belts	SECURE - CHECK REAR SEAT
Controls	FULL - FREE - CORRECT
Strobes	ON

Normal Takeoff

Brakes	RELEASED
Power	FULL THROTTLE

Short Field Takeoff

Brakes	APPLY
Throttle	FULL OPEN
Brakes	RELEASE
Climb speed	47 KIAS (until all obstacles are (cleared

Cross Wind Takeoff

Brakes	RELEASED
Column control towards the wind	AS REQUIRED
Normal takeoff RPM	CHECK

Climb (Normal)

Airspeed	49 KIAS
Throttle	FULL OPEN

NOTE

For maximum performance refer to Section 5.

Climb (Noise Sensitive Areas)

RPM	MAXIMUM
Best angle of climb	45 KIAS
Flight path	AVOID BUILT UP AREAS

Cruise

Attitude	CRUISE
Power	5,000 - 5,500 RPM
Elevator trim	ADJUST

Pre-Stall

Mnemonic	HASELL
Height	SUFFICIENT TO RECOVER ABOVE 1500 FT AGL
Airframe	TRIM NEUTRAL
Security	NO LOOSE ARTICLES HARNESSTIGHT
Engine	TEMPERATURES AND PRESSURES NORMAL FUEL SUFFICIENT
Locality	IN APPROVED AREA NOT ABOVE OR NEAR CLOUD OVER FORCED LANDING AREA
Look-out	NOT OVER BUILT UP AREA OR HOUSES GOOD LOOK-OUT IN ALL DIRECTIONS ABOVE AND BELOW

Descent

Power	AS REQUIRED FOR SINK RATE
Attitude	AS REQUIRED FOR AIRSPEED
Trim	AS REQUIRED

Pre-Landing

Brakes	PRESSURE TESTED
Fuel quantity	SUFFICIENT
Seat belts	SECURE

Balked Landing

Throttle	MAXIMUM
Attitude	FOR 49 KIAS
Trim	AS REQUIRED

Landing

Airspeed	49 KIAS
----------	---------

Short Field Landing

Airspeed	45 KIAS
Power	AS REQUIRED
Immediately prior to flare	
Power	IDLE
Touchdown	3 POINT ATTITUDE
Control column	HOLD FULLY BACK
Brakes	APPLY HEAVILY

After Landing

Taxi clear of runway

Close Down

Aircraft	SUITABLE POSITION
Brakes	ON
Idle	SET 2200 RPM
Avionics	SELECT AND MONITOR 121.5 MHz (SEE NOTE)
Avionics master	OFF
Ignition	CHECKED
Ignition	OFF
Master switch	OFF - KEY REMOVED
Control locks	IN PLACE
Aircraft security	TIED DOWN VENT COVERS CONTROL LOCKS IN PLACE
Documentation	FLIGHT TIME RECORDED SNAG BOOK

NOTE

If signal heard, check aircraft ELT has not been activated and in any case, notify the nearest Air Traffic Service of the signal reception.

4.4 AMPLIFIED NORMAL PROCEDURES.

This sub-section gives detail to those items of the check-list which require additional detail. This ensures that the reason for the check is understood and that the correct technique is used to carry out the check.

Techniques and procedures for the various stages of the flight are also expanded upon where appropriate.

PRE-START

Documentation

This includes - aircraft signed out, maintenance releases signed off, passenger data recorded, charts, navigation gear, licences carried.

Aircraft position

Ensure that the taxi path of the aircraft is clear. Ensure that it is clear behind the aircraft so that the slip-stream blast does not affect other operations.

Seating

Ensure rear seatbelt closed and seat cover in place, whether occupied or not.

Avionics

Ensure avionics master switch is off before starting engine as transient voltages and current surge may cause damage to avionics during engine start.

Passenger Briefing

Ensure passenger is aware of aircraft entry and exit procedure including operation of safety harness release

STARTING

Always visually check area is clear and call 'CLEAR'. Pause for possible reply.

Prime by holding prime switch button down for 2 seconds. With the throttle closed the engine is then cranked over with the starter. The starter key must be released when the engine fires. If the engine does not start within 30 seconds, allow a 2 minute period for the starter to cool before a further start attempt.

Over priming results in intermittent firing and black smoke from the exhaust. Under priming results in the engine not starting or starting and then stopping. If this occurs - re-prime the engine.

It is also possible to use the PRIME switch intermittently whilst the engine is being cranked during exceptionally cold weather.

A warm or hot engine should not require priming.

AFTER START

Idle

Always idle at 2200 rpm when not taxiing. This will ensure that spark plug core temperatures are sufficiently high so that lead and carbon deposits are burned off and scavenged.

Ammeter (if fitted)

Initially will show a high charge rate as battery takes up charge after a start up. The indicator should then fall to reflect only the current load on the electrical system.

TAXIING

Test brakes

before releasing brakes hold control column fully back
reduce power to idle
release brakes but keep hand lightly on brake lever
use sufficient power to start aircraft rolling
reduce power to idle and apply pressure to brake lever to
stop aircraft.

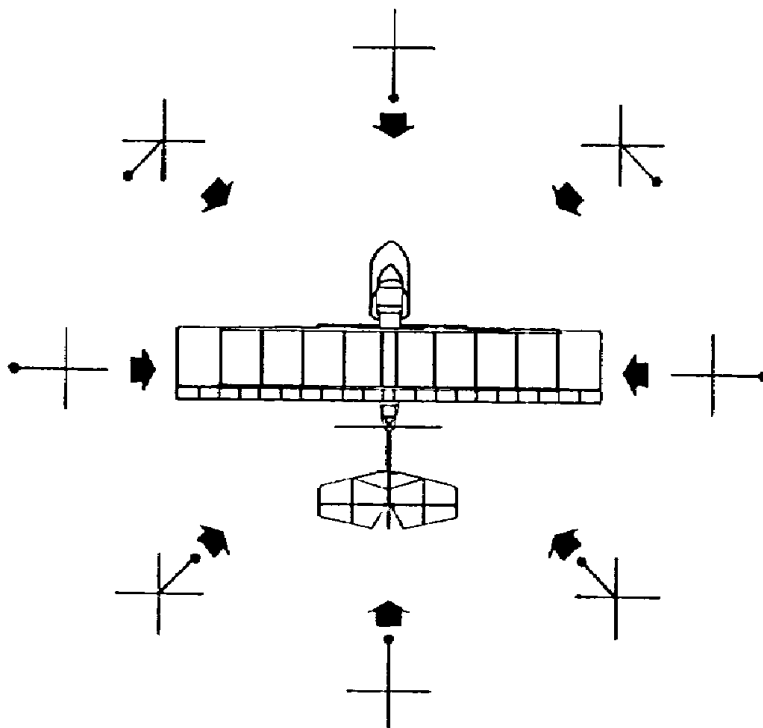
Avoid sudden and high bursts of power, especially when engine is cold. Be aware of damage that can be caused to airframe and propeller when taxiing over loose stones and gravel. Taxi slowly especially in moderate to high wind conditions.

Certain instruments should be checked for proper functioning.

balance indicator- turning left, should indicate skid right.
turning right, should indicate skid left.
turn indicator- should indicate turning direction
compass- should show turns correctly and align with
bearing of taxi-ways and runways.

Hold the controls as shown.

CONTROL COLUMN POSITION WHILST TAXIING IN WIND



 INDICATES WIND BLOWING IN THIS DIRECTION

CONTROL COLUMN POSITION

EXAMPLE

MEANING



ELEVATOR UP
AILERON NEUTRAL



ELEVATOR NEUTRAL
AILERON LEFT UP



ELEVATOR DOWN
AILERON RIGHT UP

WARM UP

Under normal circumstances, the engine will reach a satisfactory operating temperature during the taxi. Coolant must be a minimum temperature of 60°C and engine must have been running for at least 3 minutes

Due to the pusher configuration and the cowl and baffle design, cooling of the engine can be affected whilst taxiing. Care is therefore to be exercised to prevent the engine overheating during ground operations.

RUN UP

The need for a proper run up cannot be over-emphasised. A run up will result in greater pressures and loads and, any ignition problems, if present, are more likely to be manifested. In addition, engine systems and controls can be checked for correct functioning.

If engine roughness, hesitation, surging or any other indication of malfunction occurs, the aircraft should be taxied back to the tarmac and the problem investigated by a competent person.

WARNING

Never expect a suspect engine to clear itself whilst taking off or airborne. Always investigate problems before taking off.

Run ups should not exceed 4500 RPM or 65% power and should be limited to not more than 3 minutes.

Suitable area always ensure that the area behind the aircraft is clear so that the slip-stream blast does not cause a nuisance. Ensure there are no loose stones or debris which may be pulled into and strike the propeller blades.

TAKE OFF

Runway surface

gravel surface can cause damage to the propeller from stones being pulled up to, and striking, the blades. If use of this type of surface is unavoidable, stone damage can be minimised by opening the throttle slowly and allowing the aircraft to gather speed smoothly before a high RPM is reached.

Runway Length

it is good airmanship to use the maximum take off distance available, even if the performance of the aircraft permits the use of a lesser distance.

Normal Take Off

with the aircraft lined up, the take off is commenced by releasing the brakes and smoothly advancing the throttle. Shortly after full throttle is reached, RPM should be checked to confirm normal power is being developed.

WARNING

If engine is intermittent or running roughly, or is developing less than normal power, the take off should be abandoned. Never expect a suspect engine to clear itself when airborne

As speed increases, the tailplane will rise and rudder input will be required to maintain directional control. The best attitude for lift off is slightly tail low. After lift off, the attitude is adjusted as necessary to maintain the take off safety speed, or the required climbing speed.

Short field / Soft field take off

the tail should be held in a low attitude when taking off from a rough or soft field. This will ensure that the aircraft does not overpitch if a soft patch of ground is encountered. Lift off and initial climb technique and the target speeds are similar to those required for a normal take off.

Crosswind Take Off

standard crosswind take off techniques are used. At the commencement of the take off roll, the ailerons are held with the control column towards the wind. Directional control is maintained with rudder and the wings are kept level with ailerons. As the speed increases, the tailplane will rise and rudder input is required to keep straight.

In strong crosswinds, it may be necessary to lower the into wind wing as speed increases. This will usually require additional rudder input to keep straight. It may also be necessary to increase the lift off speed slightly so that the aircraft has no tendency to settle back to the runway after lift off. After lift off and when well clear of the ground, allow the aircraft to turn into the crosswind so that runway heading is maintained with the wings held level with ailerons, balanced flight established with rudder, and either the take off safety speed, or the required climbing speed, maintained with elevator.

CLIMB

The difference between TOSS, best angle of climb speed and best rate of climb speed is not significant. The climb speed selected should therefore be the TOSS of 49 KIAS.

Climb power setting is full throttle.

CRUISE

Normal cruising is performed between 65% and 75% power.

Cruise performance data may be found in Section 5.

PRE-LANDING

Brakes

Check that the brake lever is functioning.

Fuel

Ensure quantity sufficient for a go-around.

Approach speed

The minimum approach speed at maximum weight is 49 KIAS. The minimum landing distance will be achieved by approaching at the minimum approach speed appropriate to the weight; higher speeds are permissible if excess runway length is available.

CAUTION

It is quite possible to fly the approach at less than the published minimum approach speed; however this may lead to an excessive rate of descent near the ground, from which a flare may not be effective in preventing a heavy landing; power is not effective in arresting a descent near the ground at less than the minimum approach speed. The technique of “dragging it in” at minimum speed with power is not suitable for this aircraft; correct short-field technique is to approach steeply at the minimum approach speed with throttle shut, and to make a normal landing.

BAULKED LANDING

In the event of a baulked landing, the correct procedure is:

1. Apply full throttle.
2. Establish an attitude to achieve 49 KIAS. Establish a climb at not less than this speed until obstacle clearance is achieved; re-trim as necessary.

NOTE

There is almost zero trim change with power; the above procedure will be found to present no difficulty.

SHORT FIELD LANDING

Adjust power to maintain sink rate to touch-down target. Reduce power to idle immediately prior to the flare, then touch down in a 3 point attitude. The brakes are applied with maximum effort. It is most important that the control column is held fully back whilst brakes are being applied. If there is any tendency for the tail wheel to lift off, the brakes should be eased off a little.

NOTE

The steepest approach path over obstacles is achieved with power at idle and 49 KIAS.

4.5 AIRCRAFT CHARACTERISTICS

STALLS

The stall is conventional with a slight buffet immediately prior to the stall.

SPINS

Intentional spins are prohibited
Refer to page 3-16 for spin and spiral dive recovery.

4.6 NOISE CHARACTERISTICS

Pilots should try to minimise the effect of aircraft noise on the public, the following are suggested procedures.

1. Pilots operating aircraft over outdoor assemblies of persons, recreational and park areas, and other noise-sensitive areas should make every effort to fly at not less than 2000 feet above the surface, weather permitting, even though flight at a lower level may be consistent with the provisions of government regulations.
2. During departure from or on an approach to an airfield procedures should be used so as to avoid prolonged flight at low altitude near any known noise-sensitive areas.

SECTION 5
PERFORMANCE

TABLE OF CONTENTS	Page
5.1 General	5-2
5.2 Airspeed calibration Normal static source	5-2
5.3 Temperature conversion chart	5-3
5.4 Stall speeds	5-4
5.5 Calculation of crosswinds	5-4
5.6 Maximum Crosswind Component	5-5
5.7 Takeoff distance	5-5
5.8 Maximum rate of climb	5-5
5.9 Cruise performance	5-5
5.10 Range	5-5
5.11 Endurance	5-5
5.12 Glide performance	5-6
5.13 Landing distance	5-6

5.1 GENERAL

INTRODUCTION

This section describes the procedures for determining weight and balance of the aircraft for flight.

It is, at all times, the responsibility of the pilot to ensure that the aircraft is loaded correctly.

Specific information regarding the weight and arms of installed and optional equipment for this aircraft may be found at section 6.5

5.2 AIRSPEED CALIBRATION

NORMAL STATIC SOURCE

CONDITION: 1. Power required for level flight.
2. Power at idle.

1.	CIAS	45 50 55 60 65 70 75
	KCAS	44 49 53 57 61 65 69
2.	CIAS	45 50 55 60 65
	KCAS	44 49 54 58 62

5.3 TEMPERATURE CONVERSION CHART

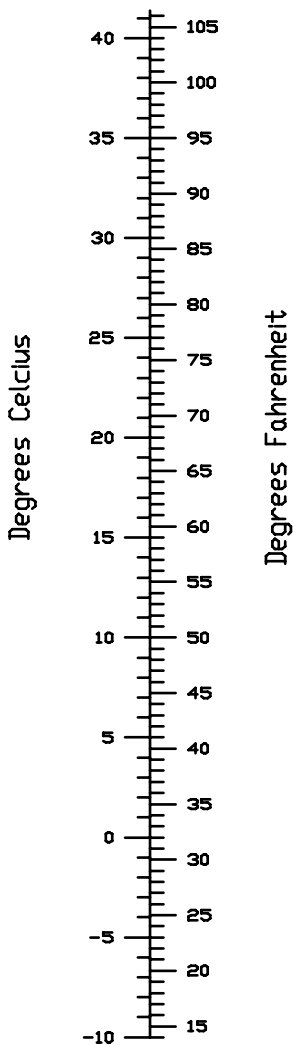


Figure 5-1 Temperature Conversion Chart

5.4 STALL SPEEDS

Conditions:

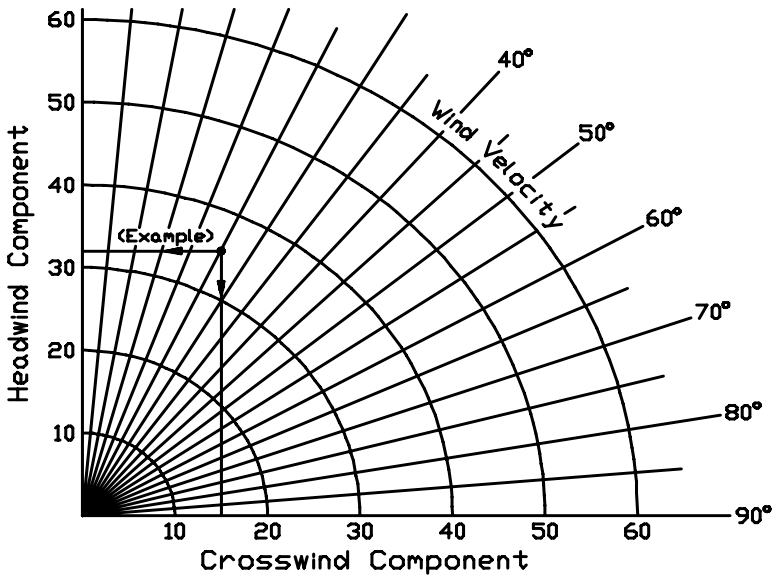
Aircraft Weight: 450 kg.

No Flap.

MTOW	
450 kg	KIAS
Take off	38
Cruise	38
Landing	38

THE STALL IS CONVENTIONAL,
WITH A SLIGHT BUFFET
IMMEDIATELY
PRIOR TO THE STALL.

5.5 CALCULATION OF CROSSWIND COMPONENT



5.6 MAXIMUM CROSSWIND COMPONENT

Maximum crosswind component for takeoff and landing is 15Kts.

5.7 TAKEOFF DISTANCE

Take off distance at MTOW to 15 m 395 m
under standard sea level conditions

5.8 MAXIMUM RATE OF CLIMB

Rate of climb at 49 KIAS 512 fpm
under standard sea level conditions

5.9 CRUISE PERFORMANCE

4800 RPM	50 KIAS
5200 RPM	55 KIAS
5400 RPM	60 KIAS
5600 RPM	65 KIAS

(Standard 2.62:1 Gear Ratio)

5.10 STILL AIR RANGE

Rear and Auxiliary tank full 60 litres usable fuel

Range at cruise power - 260 NM

(Based on fuel consumption of 15 litres per hour)

5.11 ENDURANCE

Rear and Auxiliary tank full 60 litres usable fuel

Endurance at cruise power - 240 minutes

(Based on fuel consumption of 15 litres per hour)

5.12 GLIDE PERFORMANCE

Glide ratio 10 : 1 at 50 KIAS

5.13 LANDING DISTANCE

477 metres

NOTE:

This distance is calculated at standard sea level conditions on a zero slope runway.

The take-off and landing distances given above are for standard sea level conditions in nil wind on a level runway.

Both landing and take-off distance must be increased by 20% for each 1,000 ft the aerodrome is above sea level

SECTION 6

WEIGHT BALANCE AND EQUIPMENT LIST

TABLE OF CONTENTS	Page
6.1 General	
Introduction	6-2
6.2 Aeroplane Weight and Balance	6-2
Aeroplane Weight	6.3
6.3 Loading System	6-4
Weight and balance loading form	6-5
Loading Diagram	6-6
6.4 Weight limits	6-7
6.5 Centre of Gravity Limits	6-7
6.6 Datum	6-7
6.7 Example calculation	6-8
6.8 Equipment list	6-10

6.1 GENERAL

INTRODUCTION

This section describes the procedures for determining weight and balance of the aircraft for flight.

It is, at all times, the responsibility of the pilot to ensure that the aircraft is loaded correctly.

Specific information regarding the weight and arms of installed and optional equipment for this aircraft may be found in section 6.5

Refer to Section 8.15 for aircraft weighing procedures.

6.2 AEROPLANE WEIGHT AND BALANCE

The basic empty weight is determined before delivery and the data is listed below. Any minor modifications to the aircraft such as equipment addition or removal will alter the basic empty weight and must be included on the history of changes on the insert page, DA 3202 Weight and Balance Record

WARNING

Major repairs or changes to the aircraft or changes to the fixed ballast shall require a reweighing by a suitably approved person.

AS DELIVERED	WEIGHT (kg)	MOMENT (kg mm)
BASIC EMPTY WEIGHT		

Basic Empty Weight includes - unusable fuel.

Refer to current Load Data Sheet and Weight and Balance Record on following pages

AEROPLANE WEIGHT

Aeroplane Type - Drifter SB 582

Registration Marking 55-_____

ISSUE	DATE	DATE OF EXPIRY

Aeroplane Weight and Centre of Gravity Data

Item	Weight lb.	Arm inches aft of datum	Index Unit lb.ins.	Cabin configuration

Note: The above weight(s) include:

APPROVAL STAMP

6.3 LOADING SYSTEM

Aeroplane Type - Drifter SB 582

Registration Marking 55-_____

ISSUE	DATE

APPROVAL STAMP

The following section depicts the information and method required to determine the weight and centre of gravity of the aircraft to ensure that these lie within the flight envelope.

The Weight and Balance Loading Form is shown on the following page.

An example using this form is shown on page 6-8.

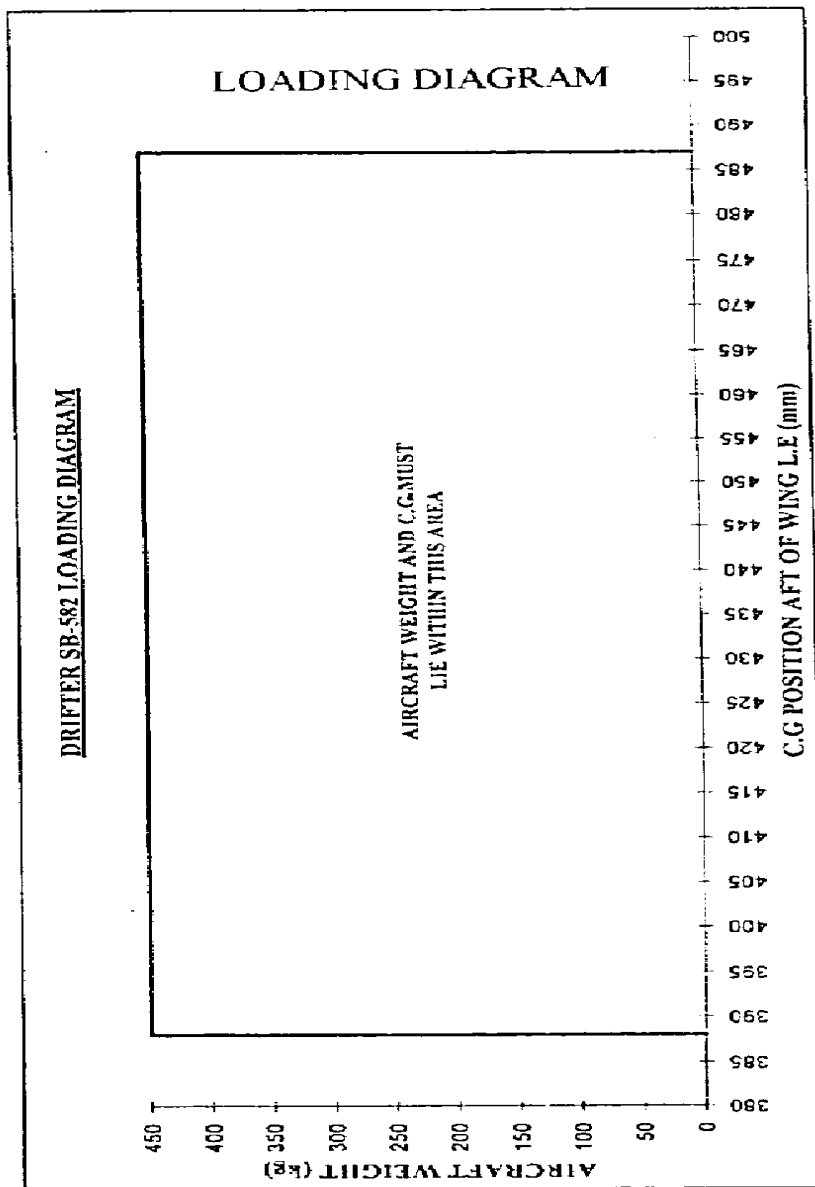
The pilot is responsible for loading the aircraft.

WEIGHT AND BALANCE LOADING FORM

Drifter SB - 582		Registration 55 -	
ITEM	WEIGHT X ARM = MOMENT		
	kg	mm	kg * mm
BASIC EMPTY CONDITION			
FRONT SEAT PILOT		- 693	
FRONT SEAT BALLAST		- 693	
REAR SEAT PILOT		428	
OTHER			
ZERO FUEL CONDITION			
REAR TANK - L x 0.72		896	
BELLY TANK - L x 0.72			
TOTAL			

Weight and Balance Loading Form

Both total and zero fuel condition values must be within the approved weight and centre of gravity limits. Refer to the loading diagram on the following page for aircraft weight and balance limits (diagram 6.1). It is the responsibility of the pilot to ensure that the aircraft is loaded correctly. The basic empty weight and moment are listed on the insert Load Data Sheet.



6.4 WEIGHT LIMITS

Maximum Take Off Weight 450 KG

Maximum Landing Weight 450 KG

Minimum Weight Front Seat 65 KG

Maximum Weight Front Seat 95 KG

6.5 CENTRE OF GRAVITY LIMITS

Forward limit 388 mm aft of datum = 25.7% MAC

Aft limit 487 mm aft of datum = 31.7% MAC

6.6 DATUM

Wing Leading Edge. (Refer to Section 8.15)

6.7 EXAMPLE CALCULATION

The following example demonstrates the use of the form.

Drifter SB - 582		Registration - 55 -		
ITEM	WEIGHT X ARM = MOMENT			
	kg	mm	kg * mm	
BASIC EMPTY CONDITION	271	835	226,260	
FRONT SEAT PILOT	70	-693	-48,510	
FRONT SEAT BALLAST		-693		
REAR SEAT PILOT	65	428	27,820	
OTHER				
ZERO FUEL CONDITION	406	506	205,570	
REAR TANK 30L x 0.72	20,2	896	18,099	
AUXILIARY TANK 40L x 0.72	23,8	336	7,997	
TOTAL	450	515	231,666	

Zero fuel condition is within limits. (32.9% MAC)

Total loaded condition is within limits. (33.4% MAC)

PROCEDURE (as shown by example)

1. Enter the basic empty weight and moments from the latest data as shown on insert Weight and Balance Record.
2. Enter the weights for the crew and ballast.
3. Multiply each weight by the relevant arm to calculate the moment for each item.
4. Total the weights to give a zero fuel weight and total the moments to give a zero fuel moment. Care is to be used to subtract minus figures.
5. Divide the zero fuel moment by the zero fuel weight to give the zero fuel arm.
6. Input the fuel quantity (in litres) and multiply by 0.72 to obtain the fuel weight. Multiply the fuel weight by the appropriate fuel arm to obtain the fuel moment.
7. Add the fuel weight and moment to the zero fuel condition weight and moment respectively to give the total weight and moment.
8. Divide the total moment by the total weight to give the total arm.

NOTE

Do not add arms together at any time.
Only masses and moments may be added.

9. This arm must lie between the cg limits : 388 mm and 487 mm.
10. If both conditions fall within the cg limits, the aircraft is correctly loaded. Under no circumstances is the aircraft to be flown if the cg is outside these limits.

6.8 EQUIPMENT LIST

Manufacturer Austflight ULA Pty Ltd

Model SB - 582

Serial No _____ Registration No _____

Date

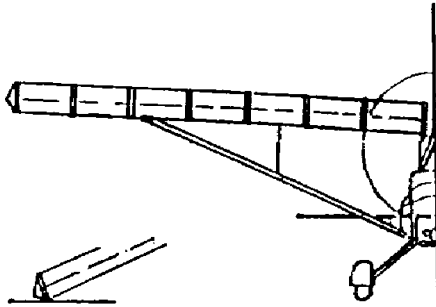
Item No.	Item.	Part No	Req'd equip.	Inst.	Weight kg.	Arm mm
	Description		X	*		
1	O.A.T. guage					
2	Magnetic compass		X	*		
3	ASI		X	*		
4	Artificial horizon					
5	Altimeter		X	*		
6	Turn Coordinator					
7	Directional Gyro					
8	VSI					
9	Tachometer		X	*		
10	Engine Instruments					
	- Oil Temperature					
	-Amp/volt meter		X	*		
	-CHT					
	-Oil pressure					
	-Coolant temperature		X	*		
	-EGT		X	*		
	-Low Fuel Warning		X	*		
	-Hour meter		X	*		
	AVIONICS					
11	VOR indicator					
12	ADF indicator					
13	ADF					
14	Nav/Com					
15	VHF radio					

Item No.	Item.	Part No	Req'd equip.	Inst. equip.	Weight kg.	Arm mm
	Description		X	*		
17	FLUIDS					
18						
19	Unusable fuel-rear		X			
20	Unusable fuel-belly		X			
	GENERAL					
21	Seat front		X	*		
22	Seat rear		X	*		
23	Battery		X	*		
24	Fire extinguisher					
25						
26	GPS					
27	Vacuum Installation					
28	-Vacuum gauge					
	-Filter Installation					
29	-Relief valve					
30						
31						

SECTION 7**AIRCRAFT AND SYSTEMS DESCRIPTION**

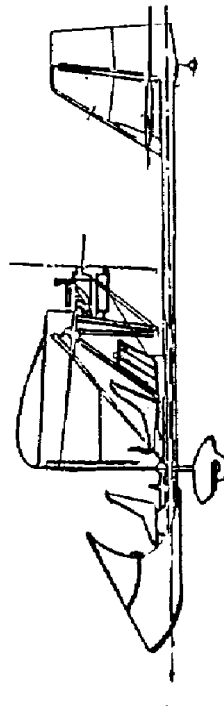
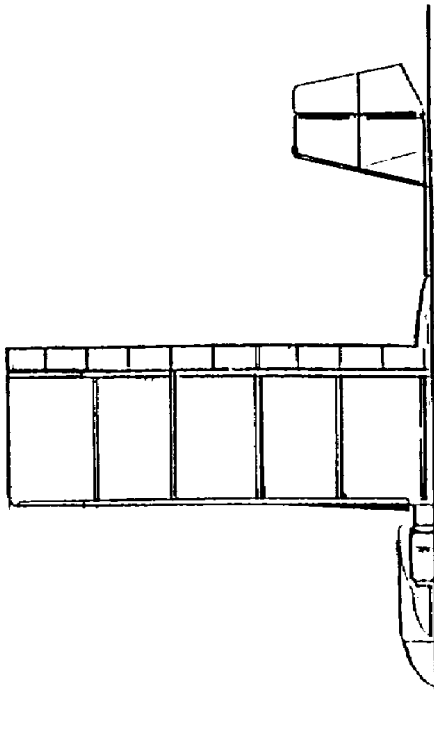
Table of Contents		Page
7.1	Three view and principle dimensions	7-2
7.2	General	7-3
7.3	Airframe	7-3
7.4	Flight controls	7-3
7.5	Undercarriage	7-4
7.6	Instrument panel	7-4
7.7	Seats	7-4
7.8	Seat belts	7-5
7.9	Engine	7-5
7.10	Propeller reduction gear	7-5
7.11	Propeller	7-5
7.12	Fuel system	7-6
7.13	Ignition and electrical system	7-7
7.14	Optional equipment	7-7

7.1 THREE VIEW AND PRINCIPLE DIMENSIONS



DIMENSIONS

Height	2.16m
Wingspan	9.10m
Chord	1.54m
Wing Area	13.9m ²
Propeller Diameter	1.52m
Aspect	5.94



7.2 GENERAL

This section provides description and operation of the aircraft and its systems. Some equipment described herein is optional and may not be installed in the aircraft.

7.3 AIRFRAME

- The SB-582 is a 2 seat, strut braced, high wing pusher configuration aircraft.
- Fuselage ... one piece. seamless, 127mm diameter 6061-T6 aluminium tube with a 6061-T6 floor pan.
- Down tubes ... sleeved 381mm 6061-T6.
- Wing ... one piece, double surface, Dacron covered, aluminium tube spars and ribs. strut braced to the fuselage. Wing is hinged at the centre section for ease of dismantling and carriage.
- Tailplane ... cruciform, double surface, Dacron covered, aluminium tube frame with Isolite ribs. Cable braced.

7.4 FLIGHT CONTROLS

- Ailerons ... operated by side movement of control column through a system of cables, bellcranks and push rods. Full span except for centre section cutout, double surface, Dacron covered aluminium tube frame and ribs.
- Elevator ... operated by forward and backward movement of the control column through a tube push rod. Double surface Dacron covered, aluminium tube frame and Divinacell ribs.
- Rudder ... operated by left and right rudder pedals through a system of cables and bellcranks. Double surface, Dacron covered aluminium tube frame with Isolite ribs.
- Trim...operated by a lever on left side of centre console. This moves a trim tab attached to the trailing edge of left elevator.

7.5 UNDERCARRIAGE

- Conventional undercarriage comprising two mains wheels and a steerable tailwheel.
 - The main wheels are attached to chromemoly steel tube legs connected through attachment brackets to the fuselage tube and floor pan.
 - Tyres are 6.00 x 6 x 15
Tyre pressure minimum 15 psi
maximum 30 psi
 - The tailwheel is attached through a swivel bearing to a tailspring connected to the rear of the fuselage tube. Cables attached to the tailwheel unit are connected to the rudder pedals to allow tailwheel steering.
Tyre is 2.80/2.50 - 4
Tyre pressure is 30 psi
- Note: Optional pneumatic or solid tail wheel may be fitted**

7.6 INSTRUMENT PANEL

The basic pack consists of an airspeed indicator, altimeter, tachometer and coolant temperature gauge. These are housed in a protective casing. The airspeed indicator is connected to a remote mounted pitot tube.

7.7 SEATS

Both seats are constructed of fibre glass with aluminium brackets attached to the fuselage pan. The seats are ground adjustable only.

**NOTE : If the seat position is changed, the centre of gravity position is to be recalculated to ensure that it has remained within limits.
(Refer Section 6.)**

7.8 SEAT BELTS

- Four point seat belts are provided for each seat position.
- If flying solo, the rear seat belt is to be fastened and tightened to prevent it trailing into the propeller or interfering with the controls.
- Before take off, the seat belts are to be checked for proper engagement and firm adjustment.

NOTE : THE WEARING OF SEAT BELTS IS MANDATORY

7.9 ENGINE

The aircraft is powered by a Rotax 582, two stroke, two cylinder, liquid cooled, dual ignition engine with a displacement of 580.7cc developing 64 HP at 6500 RPM.

NOTE : For a more detailed description, refer to the Rotax Operators Manual.

7.10 PROPELLER REDUCTION UNIT

The standard unit is a Rotax gear reduction of 2.62 : 1 ratio. When viewed from the rear of the aircraft, the propeller rotates clockwise to the right.

7.11 PROPELLER

A standard 4 blade Aerofibre Brolga 1524mm diameter with 17° pitch blocks, is fitted.

7.12 FUEL SYSTEM

The fuel system comprises :

- Rear tank with a total fuel of 30 litres of which 28 litres is usable.
- Lower Auxiliary tank with a total of 40 litres of which 33 is usable
- Emergency fuel shut off valve.
- The tank is vented, and incorporates a fuel sediment sump and drain point.
- Fuel line, with an in-line filter between the fuel tanks and the engine.
- 12 volt DC Electric fuel prime and boost pump
- Low fuel warning light.

System A

The rear tank fuel flows through a fuel line incorporating the fuel shut off valve and an in-line fibre filter, to the electric boost pump then to the pneumatic fuel pump and thence to the carburettors.

System A & B

With both tank combination, fuel gravity feeds to lower tank, then via fuel line through ball shut off valve to the in-line fibre filter, electric boost pump, and then up to the pneumatic fuel pump and engine system.

A low fuel warning device is fitted. This device incorporates either a float or a sensor switch in the tank which is activated when fuel reaches a predetermined level. When activated, the switch causes a red lamp to be illuminated on the instrument panel. A green function light remains illuminated to indicate that the device has power supplied. A test function switch is incorporated with the float type only.

The fuel shut off valve is operated by pulling on a handle situated on the right side of the nose pod and is within easy reach off the pilot. To shut off the fuel in an emergency, the handle is pulled. to turn the fuel on again, the handle is pushed in.

NOTE : The fuel shut off valve is only to be used in an emergency. It should not be used undernormal circumstances to turn off the fuel.

7.13 IGNITION AND ELECTRICAL SYSTEM

The Rotax engine is fitted with a Ducati magneto generator. This produces electric power for the ignition coils and does not require a battery source.

A lighting circuit incorporated in the generator, produces a 12 volt 150 watt current which can be used for lights, radios or other equipment.

7.14 OPTIONAL EQUIPMENT

Brakes

Cable operated - A hand lever mounted on the control column, actuates cables running to brakes on each of the main wheels. The system does not allow differential braking.

Avionics

Various avionics are available. Operating instructions and more detail on some of these is found in Section 9, the Supplements section.

Instruments

A comprehensive range of instruments is available and come complete with fitting and operating instructions.

SECTION 8**HANDLING, SERVICING AND MAINTENANCE**

TABLE OF CONTENTS	Page
8.1 Introduction	8-2
8.2 Identification	8-2
8.3 Publications	8-2
8.4 Aircraft inspection periods	
Daily inspection	8-2
Periodic inspections	8-3
8.5 Preventative maintenance by pilot	
General	8-3
Servicing - Pilot Maintenance	8-4
Daily Inspection Schedule	8-5
8.6 Inspection and Service Schedule	8-7
8.7 Servicing - landing gear	8-8
8.8 Servicing - air filter	8-9
8.9 Servicing - battery	8-9
8.10 Propeller care	8-9
8.11 Alterations or Repairs	8-12
8.12 Ground handling	
Towing	8-12
Taxiing	8-12
Parking	8-12
Tie-down	8-12
Levelling	8-13
8.13 Cleaning and care	
Cleaning - windshield	8-13
Cleaning - engine	8-14
Cleaning - painted surfaces	8-14
8.14 Prolonged out-of- service care	8-15
8.15 Aircraft weighing	8-15
8.16 Wing Fitment	8-17
8.17 Propeller Fitment and Tracking	8-19
8.18 Wing and Empennage covering	8-23

8.1 INTRODUCTION

This section details recommended procedures for ground handling, routine care and servicing of the Drifter. It identifies inspections and maintenance which must be followed.

Because of their knowledge and experience, an approved Austflight Dealer should be contacted for service and information.

8.2 IDENTIFICATION PLATE

All correspondence regarding the aircraft should include the aircraft serial number which is rivetted to the rear left side of the fuselage pan extension.

8.3 PUBLICATIONS

The publications below are supplied with the aircraft.

Approved aircraft flight manual. (Incorporated in this handbook)
Engine Operators Manual
Log Book

The following additional publications are available from Austflight distributors.

Rotax 582 Engine Parts manual,
Maintenance manuals for aircraft, engine and accessories.
A subscription service for service information letters.

8.4 AIRCRAFT INSPECTION PERIODS

DAILY INSPECTION

The daily inspection is to be carried out before the first flight on each day the aircraft is operated.

PERIODIC INSPECTIONS

Periodic inspections are to be undertaken in accordance with the schedule shown in Section 8.7.

LIFE LIMITED COMPONENTS

Refer to maintenance manual.

The AUF may require other inspections by the issuance of airworthiness directives applicable to the aircraft, engine, propeller and components. It is the responsibility of the owner/operator to ensure compliance with all applicable airworthiness directives and, when the inspections are repetitive to take appropriate steps to prevent inadvertent non compliance.

8.5 PREVENTATIVE MAINTENANCE BY PILOT

GENERAL

This section details the maintenance activities which may be performed by the pilot.

This maintenance may also be performed by the holder of an AUF Maintenance Level II Authority.

Upon completion of maintenance, the pilot is responsible to ensure that all relevant details and appropriate certifications are entered in the aircraft's log book.

Pilots are responsible for ensuring they are familiar with, and are able to satisfactorily comply with, Austflight's instructions regarding any maintenance before undertaking the tasks identified. Guidance should be sought from experienced qualified maintenance personnel on correct aircraft maintenance practices and procedures.

SERVICING - PILOT MAINTENANCE

The following activities, which do not involve the dismantling of, or interference with, any structure, operating system, or the use of specialised tooling, comprise approved pilot maintenance.

- (1) Removal and installation of landing gear wheels, tyres and repair of pneumatic tubes.
- (2) Servicing of landing gear wheel bearings, such as cleaning and greasing.
- (3) Replacement of defective safety wiring or split pins, excluding those in control systems.
- (4) Any lubrication not requiring disassembly other than removal of non-structural cover plates, cowlings and fairings.
- (5) The making of simple fabric repairs.
- (6) Replacement of hydraulic fluid in brake master cylinders.
- (7) Repairs to seat covers.
- (9) Replacement of seat harnesses.
- (10) Replacement of bulbs, reflectors, glasses, lenses or lights.
- (11) Replacement or cleaning of spark plugs, and setting of gaps.
- (12) Replacement of battery.
- (13) Changing of air filters.
- (14) Replacement of placards and markings.
- (15) Application of preservative or protective materials to components where no disassembly of primary structure or operating systems is involved, anti-corrosive paint to structures or components where such coating is not prohibited or is contrary to good practice.
- (16) Daily inspections.
- (17) The second independent inspection of flying controls.
- (18)
 - (i) replacement of antennas by components of identical electrical design;
 - (ii) re-termination of radio system plugs, sockets or disconnects;
 - (iii) adjustment of contacts in microphone and headset jacks;
 - (iv) replacement of radio system switches, relays and similar minor components with identical components.

If tooling is being used that requires calibration, it is the pilot's responsibility to ensure that the tooling is within its calibrated tolerance and test period.

DAILY INSPECTION SCHEDULE

1. Check that ignition switches are OFF.
2. Check propeller blades are free from cracks, and detrimental nicks, that the propeller spinner is secure and free from cracks, and that the propeller hub, where visible, has no evidence of any defect which would prevent safe operation.
3. Check that induction system and inlets are free from obstruction.
4. Check the engine for fuel and other leaks and that the exhaust system is secure and free from cracks. Where an engine lubricating oil reservoir is fitted, check oil quantity.
5. Check that the rotary disc valve oil quantity is within the limits specified by Rotax for safe operation and that oil filler cap is secure.
6. Check that engine fittings are secure.
7. Check that landing gear tyres are free from cuts or other damage, are not excessively worn and are adequately inflated.
8. Check that tail wheel spring is not damaged and attachment to fuselage is secure.
9. Check wing, fuselage and empennage are free from damage.
10. Check lift and jury struts are free from damage.
11. Check pitot head and static ports are free from obstruction and that pitot cover is removed.
12. Check fuel tank filler caps, chains, vents for security and condition.
13. Check that all flight controls, and trim systems have full and free movement in the correct sense.
14. Check that all radios and antennae are secure and that where visible, radio units and interwiring are secure.
15. Check that all drain holes in the fuselage are free from obstruction.

16. Remove any deposits of frost, snow or ice from wings, tail surfaces, propeller and windscreen.
17. Check that the tank sump and fuel filter is free from water or foreign matter by draining a suitable quantity of fuel into a clean transparent container.
18. Check windscreen for cleanliness and condition.
19. Check instruments are free from damage, for legibility and security.
20. Check that seat belts and buckles are free from damage, are secure and function correctly.
21. Check Fabric for condition.

Any damage or defects found when complying with this inspection are to be endorsed for appropriate rectification action.

In addition to the daily inspection described other special inspections are required following :

Tachometer
abnormal flight loads
heavy landing

together with form for duplicate inspection of controls.

8.6 INSPECTION & SERVICE SCHEDULE

LEGEND : C - Check condition and replace as necessary.

L - Lubricate

R - Replace

T - Tighten or Torque

HOURS	FIRST EVERY					ONE YEAR
	10	10	25	50	100	
AIRFRAME						
Aileron bolts, hinges	C				C	C
Bellcranks	C				C	
Bearings	C				C	
Bolts and nuts	CT				CT	
Bolt sleeves	C				C	
Brakes	CT			CT		
Bushings	C				C	
Cable tension	CT		CT			
Cables, kinked, frayed					C	
Cable guides	C				C	
Cable pulleys	C				C	
Cable crimps, swages	C	C				C
Cable thimbles	C				C	
Clevis pins REMOVE & rings REMOVE &	C C			REMOVE & REMOVE &	C C	
Compression tubes	C				C	
Fabric	C				C	
Fuel tanks	C				C	
Fuel tank attach brackets straps	C CT				C CT	
Fuel lines and clamps	CT		CT		CT	
Fuel primer pump	C				C	More frequently if dusty conditions prevail
Fuel filters	C			C		
Harnesses	C			C		C
Hinges						

HOURS	FIRST EVERY					ONE YEAR
	10	10	25	50	100	
Plastic washers/fittings	C				C	
Push rods	CT				CT	C
Rivets	C			C		
Seats & attach brackets	C				C	
Tailwheel & fork	CTL		CTL			CTL
Tailwheel spring	C				C	
Tubing	C				C	C
Tyres	C				C	C
Wheels	C				C	C
Windscreen	C				C	
Wing fittings	C				C	C
Wing ribs - shape	C				C	
- Lexan tips	C				C	
ENGINE - refer also to Rotax Operators Manual						
Spark plugs	C		C	R		<div style="border: 1px solid black; padding: 5px;"> & replace often in dusty conditions </div>
Air filter	C		CL			
Engine mounts, studs	C				C	<div style="border: 1px solid black; padding: 5px;"> Every 200hrs. sooner if premature clip groove wearing </div>
Decarbonise					C	
Carburettor Needle & Needle-Jet				C	R	
PROPELLER GEAR REDUCTION UNIT						
Oil level	R		C		R	R
Mount bolts	C		C			
Vent plug and safety wire	C				C	
PROPELLER						
Blade attach bolts	CT		CT			Every 200 hours
Tracking	C		C			
Strip Inspection						

8.7 SERVICING - LANDING GEAR

MAIN WHEEL Tyre pressure 25 psi
 TAIL WHEEL Tyre pressure 30 psi

NOTE
 Maintaining correct tyre pressures will minimise tread wear.

8.8 SERVICING - AIR FILTER

Replace element every 200 hours or 12 months, or if filter media is torn. Wash and re-oil as per K&N instructions. Check DAILY in severe dust conditions.

It is MOST IMPORTANT that air filter maintenance is not neglected.

8.9 SERVICING - BATTERY

Batteries supplied are sealed and maintenance free. Do not attempt to top up electrolyte

If the battery requires recharging, remove from the aircraft.

Keep the battery top and terminals clean and free of corrosion. Occasionally smear the battery posts with light grease or vaseline.

8.10 PROPELLER CARE

To ensure the Brolga propeller on your aircraft remains serviceable, special care and regular inspections must be made.

Preflight inspection of propeller blades for nicks, and washing it in mild soap and water to clean off grass and bug stains will assure long service. Small nicks on the propeller should be repaired as soon as possible.

Every 200 hours of operation the propeller must undergo a strip inspection for cracks, corrosion, and damage. This is to ensure the propeller remains in a serviceable condition. The following basic procedure should be followed for the strip inspection;

1. Remove the propeller from the engine and disassemble.

2. Inspect both of the Nylon propeller hubs for any sign of damage around the bolt or centre holes. Signs of cracking or discolouration around the holes or anywhere else on the hubs render the hubs unserviceable and these must be replaced before the propeller can be reused.
3. Inspect the Nylon pitch blocks for signs of cracking or discolouration around the splines and attachment bolt holes. Signs of cracking or discolouration render the pitch blocks unserviceable and these must be removed and replaced before the propeller can be used again.
4. Inspect the propeller and propeller blade attachment bolts. Look closely, preferably using a magnifying lens for signs of corrosion or evidence of cracking. Any signs of corrosion, pitting or cracking indicates that the bolt has been weakened and therefore must be replaced.
5. Remove the blades from the propeller hub and inspect the blade along it's length for signs of water ingestion, delamination, and excessive damage. The areas around the bolt holes and splines must be inspected for signs of stress fractures. These fractures may be detected by viewing the end of the blade with a Xenon or halogen light source. Place the end of the blade into the light at varying angles and move it around whilst looking into the blade core. Any dark lines appearing in the core, especially near the bolt holes indicates the presence of a stress fracture and renders the blade unserviceable. The blade must be returned to the manufacturer for further inspection and replaced.
6. The metal propeller hub is to be inspected for signs of corrosion, pitting, cracks and other damage. Inspect the blade closely for signs of corrosion, pitting and damage, preferably using a magnifying lens. These will indicate that the hub plate has been weakened and therefore must be replaced. A dye penetrant crack test is to be undertaken on both sides of the entire metal hub plate. This process will detect any cracks which may be present in the plate not readily visible to the eye. Special attention to the areas surrounding the bolt holes should be made. Dye penetrant kits suitable for use are available from automobile accessory outlets. Instructions provided with dye penetrant kits must be followed closely for the process to work properly.

7. Reassemble the propeller and fit to the engine following the instructions provided in Section 8-17 if no signs of damage were found or after unserviceable items have been replaced.

Minor blade damage repair

Minor damage repairs by the aircraft owner to the composite propeller blades are permitted provided the instructions listed below are adhered to. Refer to diagram 8.21 for allowable blade damage areas.

1. Small stone chips up to 5mm long and extending no further than 2mm from the leading edge may be repaired along the entire length of the blade. The chips may be filled with a good quality epoxy resin after thorough cleaning and de-greasing with MEK, acetone or similar solvent. Slow setting "Araldite" (K106) is recommended.

NOTE: THE FIVE MINUTE ARALDITE TYPES ARE NOT ACCEPTABLE.

2. Repairs to damage confined within area "A" (356mm from tip and up to 10mm rearward from the leading edge) are permitted. Clean area as detailed above and file away damaged fibres using a double cut file. Overfill the damage with a good quality fibre-filled epoxy or polyester putty and file to shape after cure. An alternative is to use milled glass or carbon fibres in an epoxy laminating resin matrix. The later is the optimum to use and essential for repairs exceeding 15mm x 10mm in extent.

3. Repairs within area "B" (500mm from the tip and up to 20mm rearward from the leading edge) are **not permitted**. Return the blade to the manufacturer for repair.

4. Repairs within area "C" (remainder of the blade) are **not permitted**. Damage within this area is uncommon other than to the carbon fibre skin from water ingress. Contact the manufacturer for evaluation if damage occurs in this area.

8.11 ALTERATIONS OR REPAIRS.

It is essential that Austflight be contacted prior to any alteration to the aircraft to ensure the airworthiness approval is not affected. Alterations and repairs to the aircraft must be carried out by appropriately experienced certificated personnel.

8.12 GROUND HANDLING

TOWING

Care must be taken not to exert force on the propeller or control surfaces. Particular care should be taken to observe wing tip clearance when moving in confined areas.

TAXIING

Taxi slowly with controls positioned as shown on page 4-19 of this handbook. Do not ride the brakes, and be aware that the aircraft will naturally weathercock in strong winds if left to its own devices.

PARKING

Ideally, the aircraft should be positioned with nose to wind. Chock the wheels if chocks available. Aileron and elevator movement is prevented by securing the control column with the lap seat belt.

TIE-DOWN

A proper tie-down procedure is the best precaution against damage to the parked aircraft by gusty or strong winds. For tie-down security to be as effective as possible, proceed as follows:

- Position the aircraft so that three secure ground attachments are available for wing and tail-wheel tie-down ropes
- Chock wheels and tie back control column.
- Tie sufficiently strong ropes between the wing tie-down rings and tail wheel spring and secure ground points. Do not over-tighten.
- Install pitot and engine covers, and tie cockpit cover securely.

LEVELLING

The aircraft may be levelled fore and aft with a bubble type level placed on the top of the rear fuselage boom.

CLEANING AND CARE

CLEANING WINDSHIELD.

The windshield is a single piece acrylic plastic panel. It is retained with rivets through to the nose cone.

1. Remove dirt, mud and other loose particles from windscreen with clean water
2. Wash with mild soap and warm water or with aircraft plastic cleaner. Use soft cloth or sponge in a straight back and forth motion. Do not rub harshly.
3. Remove oil and grease with a cloth moistened with kerosene.

CAUTION

Do not use gasoline, alcohol, benzene, carbon tetrachloride, thinner, acetone or window cleaning sprays.

4. After cleaning plastic surface apply a thin coat of hard polishing wax. Rub lightly with a soft cloth. Do not use a circular motion.
5. A severe scratch or mar in plastic can be removed by rubbing out the scratch with a jeweller's rough. Smooth both sides and apply wax.

CLEANING - ENGINE AND ENGINE COMPARTMENT

The engine should be kept clean, with particular attention being paid to cooling fins and baffles, so as to avoid possible overheating. Cleaning also minimises fire danger, and allows more efficient inspection of components. A material such as Mobil "Pegasol" is recommended (38-40 S.G.) for general degreasing.

CAUTION

Particular care should be given to electrical equipment before cleaning. Cleaning fluids should not be allowed to enter magnetos, coils or starter. Protect these components before saturating the engine with solvents. All other openings should also be covered before cleaning the engine assembly. Caustic cleaning solutions should be used cautiously and should always be properly neutralised after their use.

CLEANING - PAINTED SURFACES

Painted surfaces, both metal and GRP should be kept clean by washing with clean fresh water and mild soap or detergent. An occasional waxing with a good automotive wax, followed by polishing with a soft dry cloth, will improve the appearance, and prolong the life of the painted surfaces.

Fabric surfaces should be cleaned with normal detergent and rinsed off with fresh water.

8.14 PROLONGED OUT-OF-SERVICE CARE

FLYABLE STORAGE.

Aircraft placed in non-operational storage or those which are only used intermittently, are considered in flyable storage status. Every seventh day during these periods, the propeller should be rotated by hand through five revolutions. This action prevents any accumulation of corrosion on engine cylinder walls.

WARNING

For maximum safety, check that the ignition switch is OFF, the throttle is closed, and the aircraft is secured before rotating the propeller by hand. Do not stand within the arc of the propeller blades while turning the propeller

After 30 days, the aircraft should be flown for 30 minutes or a ground run-up should be made just long enough to warm the engine.

Excessive ground run-up should be avoided.

If engine is not to be used for a prolonged period, the fuel should be drained from the tanks and stored in an airtight container if it is to be re-used.

8.15 AIRCRAFT WEIGHING

Most aircraft are repaired and have options fitted and removed throughout their life. The weight and balance and equipment list should be checked periodically to verify figures are up to date.

Prepare the aircraft for levelling and weighing as follows:

- Inflate all tyres to recommended operating pressure.
- Drain fuel from tanks and fuel system.
- Full oil and coolant.

- Place all controls in neutral position.
- Ensure that all objects that are not part of the aircraft, or its accessories, are removed from the aircraft.

LEVELLING PROCEDURE

Normally, aircraft levelling is accomplished in conjunction with aircraft weighing. When this is the case, the aircraft should be mounted on the scales prior to levelling.

Levelling datum : Rear fuselage tube, immediately in front of the fin.

Level aircraft as follows.

1. Place under each wheel a ramp, the top of which is level with the top of the scale.
2. Lift the tail wheel so that the rear fuselage tube is level when a straight spirit level is placed on top of the tube in front of the fin.

WEIGHING PROCEDURE

The aircraft datum is the Wing Leading Edge. A plumb bob is dropped from the wing leading edge so that it rests on the fuselage pan just behind the front down tube assembly.

1. Check currency and calibration details of weighing equipment.
2. Record condition of aircraft.
3. Check off equipment list and record variations
4. Level aircraft.
5. Carry out weighing in accordance with CAO 100.7 using datum of wing leading edge.
6. Calculate centre of gravity and moment arms.

8.16 WING FITMENT

- A.. Lay out wing with centre opening uppermost and check both wing halves are connected correctly (see Diag 10.1).
- B. Ensure lock down plates are in the correct position.
- C. With two assistants, lift wing and moving from the front of the aircraft, lower the front and rear spars into the wing mounting plates. Position the front and rear lock down plates over the spars and bolt them in position with AN4-24A bolts and MS21044-N4 lock nuts. (see Diag 10.2)
- D. Using AN4-10A bolts and MS21044-N4 lock nuts, bolt right hand side front and rear lift struts to the wing attachment points. Carefully position and bolt the lower end of struts to the anchor plate using AN4-12A bolts and MS21044-N4 lock nuts.
- E. Carefully position left hand side struts and bolt to wing attachment points using AN4-10A bolts and MS21044-N4 lock nuts. Check that the wing lock down plates, bolts and nuts are correctly positioned and fastened. Then lift the left wing above the horizontal, close the velcro on the centre fabric cover strip and slowly lower the wing to the correct position placing tension on the wing cover. Fasten the lower ends of the front and rear struts to the left side of the anchor plate using AN4-12A bolts and MS21-44-N4 lock nuts.
- F. Using AN3-4A bolts, fasten the front jury struts to the leading edge wing attachment brackets. Screw the AN316-3R half nuts to the eye-bolts and insert them into the front jury struts. Using AN3-6A bolts and MS21044-N3 lock nuts, bolt the front and middle strut to the main lift strut. Then bolt the rear jury strut to the main lift strut. Then bolt the rear jury strut to the trailing edge wing attachment brackets using AN3-4A bolts and MS21044-N3 lock nuts. Screw the AN316-3R half nuts to the eye-bolts and insert them into the middle and rear

jury struts. Bolt the middle and rear jury struts to the rear lift strut using AN3-6A bolts and MS21044-N3 lock nuts.

- G. Using a 3/8" spanner, lock the AN316-3R half nuts securely on all eye-bolts.
- H. Attach aileron push rods to the aileron horns using AN3-13 bolts, AN310-3 castle nuts, AN935-10 lock washers, AN970-3 large flat washers and safety rings. (see Diag 10.3).
- I. Finally check that all attachment bolts, nuts and safety rings are secure.
- J. To disassemble wings, reverse the above procedure.

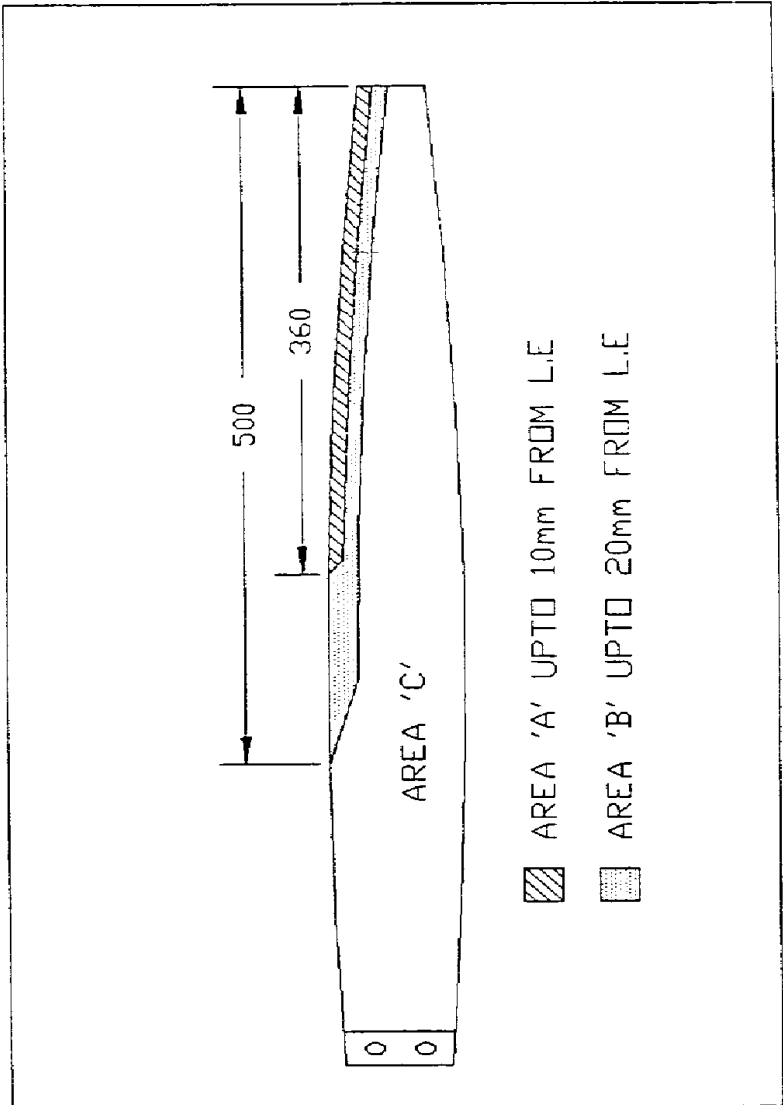
8.17 PROPELLER FITMENT AND TRACKING

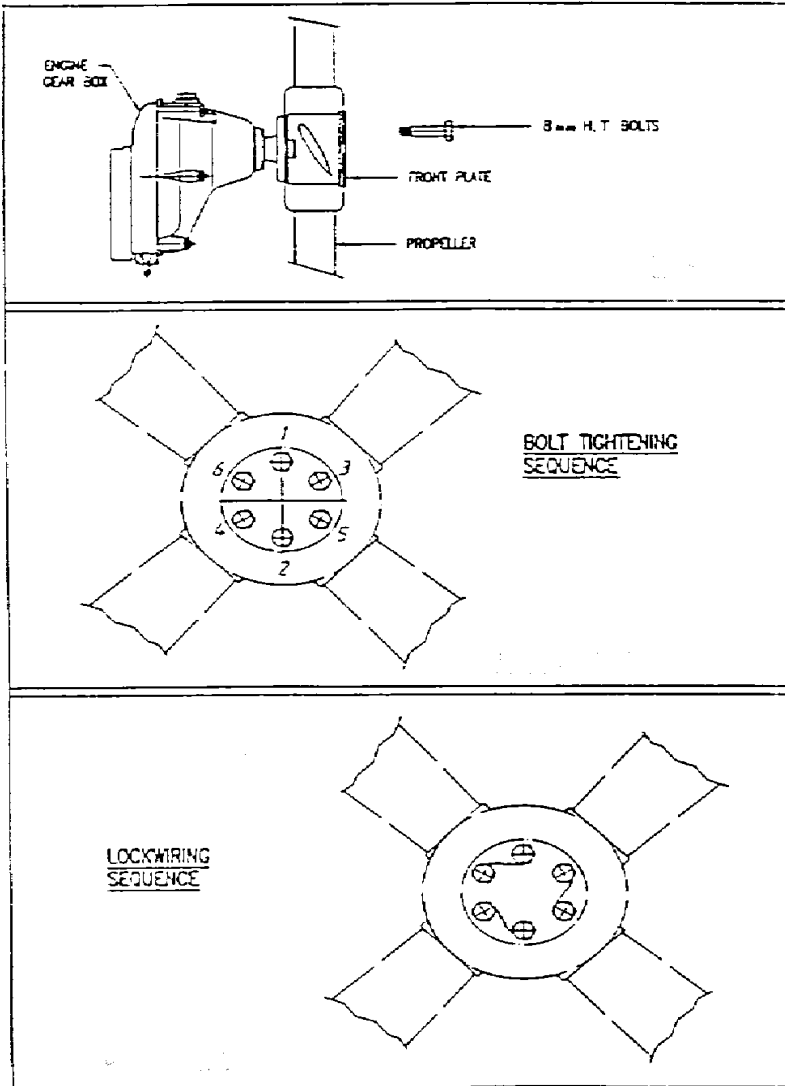
- A. Before working on the propeller ensure the ignition is OFF. An additional safety measure is to remove the spark plugs. This also makes for easier tracking by relieving compression.
- B. Ensure propeller is in good repair: no nicks, splits, chips or bruises. The surface should be smooth and even. Any repairs should be undertaken by a competent person.
- C. Ensure the propeller is in balance. Minor imbalance may be corrected by a coat of varnish to the lighter side. If the propeller is grossly out of balance, a competent person should assess and rectify the problem.
- D. The propeller is positioned over the centering boss of the gearbox propeller mounting back plate with the cambered surface facing towards the front of the aircraft.
- E. Insert bolts (8mm dia, 70mm long high strength grade 8.8) through the propeller hub into the gearbox propeller mounting back plate.
- F. Tighten to finger tight.

NOTE: Do not use Loctite or any other glue in the thread of the back plate nor on the propeller bolt.

- G. Place a set square or block of wood on the fuselage and position within 4 mm of either the front side or back side of the propeller blade tip.
- H. Tighten bolts a little at a time in a cross pattern and check the distance of the blade from the set square.
- I. Rotate propeller through one turn and check the distance of the set square from the tip of each blade.

- J. Continue gradually tightening each bolt in accordance with the sequence shown in diagram 10.5 and checking tracking each time.
- K. Bolts are to be tightened to approx 180 in.lb.
- L. To ensure proper tracking, the minimum distance between the set square and each blade tip should not exceed 3mm.
- M. Thread safety lock the wire through hub bolts in accordance with Diagram 10.6.
- N. Propeller blade to propeller hub attachment bolts must be torqued to 160 in.lb.





8.18 WING AND EMPENNAGE COVERING

REMOVAL AND INSTALLATION.

When removing or installing flight surface coverings, ensure that there are no sharp edges or burrs that might tear the dacron cover material.

INSPECTION.

Check for tears in the dacron covering and for any loose or unravelled seams.

Check all inspection port zippers to ensure that they function smoothly and close completely. Inspect the velcro strips on the in-board closure flap and trailing edge gap seals for wear or frayed edges.

The cover may be repaired with sewn-on patches. Tears of less than 1" (2.5 cm) may be repaired with a glued-on patch of similar material or dacron rip-stop tape.

Keep the covers clean of oil and dirt by washing with a non-alkaline detergent and water.

Keep the aircraft covered when not in use. Continued exposure to the sun shortens the serviceable life of the wing, tail and flight control surface covers. Applications of a recommended UV protectant at 4-monthly intervals can considerably prolong service life of covers.

All covers are to be inspected for condition before each flight and at the recommended period set out in the Aircraft Maintenance Schedule. The coverings must be replaced if they fail inspection.

SECTION 9
SUPPLEMENTS

TABLE OF CONTENTS	Page
9.1 General	9-2
9.2 Drifter SB-582 Floatplane	9-3
9.2.1 General	9-5
9.2.2 Limitations	9-5
9.2.3 Emergency Procedures	9-5
9.2.4 Normal Procedures	9-5
9.2.5 Performance	9-7
9.2.6 Weight and Balance	9-8
9.2.7 Description of Aeroplane and Systems	9-8
9.2.8 Handling, Service and Maintenance	9-8

9.1 GENERAL

Flight Manual Supplements covering the special operations for which this aircraft is approved are listed below

The operations listed shall be conducted in accordance with the limitations and instructions contained in the appropriate supplements included in this manual.

1. **Drifter SB-582 Float plane operations.**
(see attached supplement to this manual)

9.2 DRIFTER SB-582 FLOATPLANE

APPROVED FLIGHT MANUAL SUPPLEMENT

FOR AUSTFLIGHT SB-582 "DRIFTER"

FITTED WITH FLOATS

This supplement must be attached to the Approved Flight Manual when the aircraft is fitted with Full Lotus FL 1260 floats (Austflight Part No. SB-F-001) to Helitech Pty. Ltd. Engineering Order HEO 247. (Australian Certificate of Type Approval Number 182-1 Revision 1)

Information contained in this Supplement supersedes the Basic Flight Manual only in those areas listed. For other limitations and performance information not contained in this Supplement, consult the Basic Flight Manual.

Approved

Date

David C. Punshan

27th March 1997

for and on behalf of the Civil Aviation Safety Authority and Delegate of the Authority.

**LOG OF AMENDMENTS
FLIGHT MANUAL SUPPLEMENT
FOR AUSTFLIGHT SB-582 "DRIFTER"**

TITLE: FLOAT INSTALLATION

AMENDMENT	DATE	AFFECTED PAGES
0	31.12.96	Original Issue (9 Pages)

Approved

Date

David C. Punsan

27th March 1997

for and on behalf of the Civil Aviation Safety Authority and Delegate of the Authority.

FLIGHT MANUAL SUPPLEMENT

1.0 GENERAL

This supplement applies to Austflight SB-582 "Drifter" aeroplanes fitted with Full Lotus FL 1260 floats (Austflight Part No. SB-F-001)

2.0 LIMITATIONS

Maximum take-off/ Landing Weight	476 kg
Maximum Crosswind Component on Water for take-off and landing	10 knots

3.0 EMERGENCY PROCEDURES

The aeroplane can be landed on the ground on the floats in case of an emergency. Use normal water landing procedure to land the aircraft. After landing on ground, perform a thorough inspection of the aeroplane and float structure. Landing on a soft grass surface will minimise damage.

4.0 NORMAL PROCEDURES

4.1 PRE FLIGHT

The pilot must ensure that he/she and the passenger are fitted with floatation life vests and that he/she and the passenger understand the operation of the vests.

4.2 TAXIING

Taxiing can be carried out in crosswind conditions with a windspeed up to 20 knots. Extreme caution should be taken in taxiing downwind, keep the control column fully forward to minimise uplift on the tail.

Directional control can be maintained by use of power and the aircraft rudder which is interconnected with water rudders on each float.

FLIGHT MANUAL SUPPLEMENT

High speed taxi operations with the aircraft raised onto the step of the float, should only be performed in a straight line as turning at high speed may force spray into the propeller which may cause damage. High speed taxi operations downwind should be avoided.

4.3 TAKE OFF

Take off is accomplished by applying power and holding straight with the rudder as near as practical directly into the wind.

Maintain elevators in the neutral position unless difficulty is experienced in raising floats onto step. In this case, a gentle forward pressure on the control column will overcome the problem.

Any tendency to porpoise can be overcome by applying gentle back pressure on the control column.

At 45 knots rotate gently to climb altitude. This will ensure 50 knots is obtained when the aeroplane leaves ground effect.

Conduct climb out at not less than 51 KIAS.

4.4 LANDING

Approach to landing is conducted at not less than 51 KIAS, into the wind. In stronger winds this approach speed must be increased.

At 50 feet apply 4000 RPM and fly the aircraft onto the water gently. Upon contact with the water, smoothly close the throttle and let the aircraft settle. Any tendency to porpoise may be overcome by gentle back pressure on the control column until the aircraft drops off the step and the aircraft is supported by float buoyancy.

FLIGHT MANUAL SUPPLEMENT

Dead stick landings are accomplished in the same way, flying the aircraft onto the water.

CAUTION DO NOT ALLOW THE AIRCRAFT TO STALL ON

5.0 PERFORMANCE

5.1 STALLING

Stall speed with floats fitted is 39 KIAS. Height lost during stall recovery with floats fitted is 140 feet.

5.2 TEMPERATURE AT TAKE OFF

Take off in conditions which exceed 3900 feet Density Altitude are prohibited.

For the following outside air temperatures, the maximum allowable operating pressure altitudes (found by setting the altimeter sub-scale on 1013 mb) are given below:

OAT (°C)	PRESSURE ALTITUDE (ft)
0	4500
10	3600
20	2700
30	1700
40	900

5.3 TAKE OFF

The take off distance required at sea level pressure altitude is 610 metres. The take off distance must be increased by 20% for each 1000 feet pressure altitude above sea level.

5.4 LANDING

The landing distance required at sea level pressure altitude is 300 metres.

FLIGHT MANUAL SUPPLEMENT

Landing distance must be increased by 20% for each 1000 feet pressure altitude above sea level.

5.5 CRUISE PERFORMANCE

Cruise performance, endurance and still air range given for the landplane are not applicable for the floatplane.

6.0 WEIGHT AND BALANCE

See weight and balance section of Approved Flight Manual. Note that maximum take off and landing weight for the floatplane is 476 kg.

7.0 DESCRIPTION OF AEROPLANE AND SYSTEMS

The floats are described in the Full Lotus Manual.

8.0 HANDLING, SERVICE AND MAINTENANCE

8.1 DAILY INSPECTION

Each floats must be inspected daily. Begin at the front of the floats and move to the rear. Check:

- Longitudinal tube pockets for loose stitching;
- Front mounts for loose or bent bolts;
- Front mounts for cracked saddles;
- Front leg and transverse tube for security and condition;
- Bladder access zippers closed and secure;
- Bladders inflated 7-21 KPa (1-3 psig);
- If change in pressure altitude from pressure checking point is greater than 5000 feet, bags must be set at the lower tolerance level of pressure;
- Air valves closed and not leaking;
- Rear mounts for loose or bent bolts;
- Rear mounts for cracked saddles;
- Rear transverse structure for security and condition;

FLIGHT MANUAL SUPPLEMENT

Water rudders and controls for security and condition;
Longitudinal tubes over full length for external evidence of cracking or permanent set;
Check all bladders for evidence of failure or degradation.

8.2 FLOAT CLEANING

Wash off any encrusted mud with soap and water and bristle brush. Do not use strong acidic or caustic cleaning agents.

When operating in salt water, the exterior of the floats and aircraft and the interior of any exposed unplugged tubes must be flushed with fresh water after each days' operation.

8.3 WATER RUDDER CABLE TENSIONS

Water rudder cable tensions are checked by holding the rudders central and pulling sideways at the middle of one cable with a small spring balance. The force for a sideways movement of 50mm must lie between 1.5 and 2.5 kg. The cables on both sides of the aircraft are separately checked at 100 hourly intervals time in service.

8.4 CONVERSION FROM LANDPLANE TO FLOATPLANE

- a. Jack aircraft until main wheels and tail wheel are approximately 12" off ground.
- b. Disconnect and secure brake cables and unbolt landing legs.
- c. Remove landing legs with wheel and brake assembly attached.
- d. Insert and bolt Floatplane landing legs into undercarriage attachment box.

FLIGHT MANUAL SUPPLEMENT

- e. Attach forward float brace struts to front seat belt attachment points on fuselage.
- f. Position floats and float attachment gear under fuselage and bolt into place on rear fuselage float leg attachment bracket and front undercarriage leg attachment plates.
- g. Bolt forward float brace struts to front undercarriage leg attachment plates.
- h. Remove tail wheel assembly from tail wheel leaf spring.
- i. Install floatplane water rudder control horn.
- j. Remove steering cables from tail wheel horn and connect to water rudder control cables to the control horn.
- k. Carefully inspect all systems and attachments for correct installation and security.
- l. Lower aircraft and floats onto ground.

8.5 CONVERSION FROM FLOATPLANE TO LANDPLANE

- a. Jack aircraft until floats are approximately 12" off ground.
- b. Disconnect water rudder control cables and remove water rudder control horn.
- c. Replace tail wheel assembly.
- d. Connect steering cables to tail wheel horn.
- e. Remove forward float brace struts.

FLIGHT MANUAL SUPPLEMENT

- f. Remove attachment bolts from rear fuselage float leg attachment brackets and front undercarriage leg attachment plates.
- g. Remove floats and attachment gear from under aircraft.
- h. Remove Floatplane undercarriage legs.
- i. Replace landplane undercarriage legs, wheels and brake system.
- j. Connect brake cables.
- k. Carefully inspect all systems and attachments for correct installation and security.
- l. Lower aircraft onto wheels.

SECTION 10

SAFETY AND OPERATIONAL INFORMATION

TABLE OF CONTENTS	Page
10.1 General	10-2
10.2 Safety tips	10-2

10.1 GENERAL

This section provides suggestions for pilots to help them operate the aircraft more safely.

10.2 SAFETY TIPS

1. Always keep your aircraft in a dry hangar when not being flown. This will help prevent corrosion of components and will help preserve the appearance of the aircraft.
2. Never intentionally operate the aircraft with low fuel or rely on the accuracy of the fuel gauge alone.
3. Always try to leave aircraft stored with full tanks to prevent condensation forming in tanks. (Not for a prolonged period)
4. Never leave the aircraft unprotected where curious onlookers may damage critical parts.
5. Never carry any external load nor attach anything to the outside of the aircraft. Also be sure no loose articles are in the cockpit. Even a very small object or piece of cloth or paper could damage propeller or block air intake if it came loose in flight.
6. Avoid abrupt control inputs or accelerated manoeuvres particularly at speed.
7. A change in the sound or vibration may indicate an impending failure of a component. Make a safe landing and thoroughly inspect aircraft before flight is resumed.
8. Be sure ground personnel or onlookers are clear of the propeller before starting engine.
9. Avoid engine run-ups on loose or gravel surfaces as these may damage propeller.
10. Never make take-offs or landings down wind.
11. Always ensure airspeeds remain within the limitations set in section 2 of this manual.
12. Never land or take off in long grass.

13. If fuel has spilt or pooled around aircraft, push aircraft clear before starting.
14. Ensure seats are firmly fastened before flight and all control locks are removed.
15. Power lines are deadly.
 - Watch for the towers, the wires are always hard to see.
 - Fly over the towers. Judging the height of the wire is difficult.
 - Constantly scan the higher terrain either side of your flight path for towers.
16. Occupants must never exit the aircraft whilst engine is operating.
17. Loss of visibility can be fatal. Flying the aircraft with obscured visibility can be fatal. Loss of the pilot's outside visual references can result in disorientation, leading to incorrect control movements causing a crash.

APPENDIX

TABLE OF CONTENTS	Page
CONVERSION FACTORS	
Distance	A-2
Weight	A-2
Volume	A-2
Pressure	A-3
Temperature	A-3
Velocity	A-3

APPENDIX
CONVERSION FACTORS

Conversion of Units

DISTANCE

Metres	to feet	multiply by 3.28
Feet	to metres	0.31
Nautical miles	to statute miles	1.15
Statute miles	to nautical mile	0.87
Kilometres	to statute miles	0.62

WEIGHT

Kilograms	to pounds	2.21
Pounds	to kilograms	0.45

VOLUME

Imp. quarts	to litres	1.136
Imp. gals	to litres	4.546
Litres	to imp. gals	0.22
Imp. gals	to U.S. gals	1.20
U.S. gals	to imp. gals	0.833
U.S. gals	to litres	3.78
Litres	to U.S. gals	0.265
US quarts	to litres	0.946

PRESSURE

Pounds per square inch	to kilopascals	multiply by	6.895
Kilopascals	to pounds per square inch		0.145
Inches of mercury	to hectopascals		33.86
Hectopascals	to inches of mercury		0.0295

TEMPERATURE

Degrees Centigrade	to degrees Fahrenheit	$(^{\circ}\text{C} \times 9/5) + 32$
Degrees Fahrenheit	to degrees Centigrade	$(^{\circ}\text{F} \times 5/9) - 32$

VELOCITY

Knots	to Metres/Sec	0.5144
Metres/Sec	to Knots	1.943
Metres/Sec	to Feet/Min	196.8
Feet/Min	to Metres/Sec	0.3048