Voss Fallskjermklubb (VFSK).

Part-NCO

Skydiving / Parachuting
Standard Operating Procedures (SOP)

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Record of Amendment

Amendment No	Section Affected	Brief detail of change	Date Issued	Incorporated By (signature)	Date

Proposal for Amendment

Amendment proposed (section affected)	Reason for Amendment	Proposed by (Name & Initials)	Date
Page 37	124.700 Polaris Control	GT	May 21
Page 26	Oxygen Requirements Clarified by (F/NLF)	GT	May 21

IMPORTANT: No amendments shall be made to this manual in the form of manuscript changes with the exception of the Proposal for Amendment form. Only the Chief Instructor (HI) or Chief Pilot may authorize amendments to this manual. All amendments must be made by reissuing the relevant page(s), the Record of Amendments page and the List of Effective Pages (and, if necessary, the Contents Page) all of which shall be dated to reflect the changes. Changes will have a vertical side bar on the left of all amended text.

Any changes to this manual pertaining to ORA.GEN.200(a)(1), (a)(2), ORA.GEN.130, and associated AMCs, must be approved by the Authority before they may be incorporated, issued to those listed in the Distribution list, and used.

Distribution List

COPY NUMBER	HOLDER
1 Hard copy/Word version	Chief Instructor (HI) Office
2 Hard copy/Word version	Aircraft
3 PDF version	Daily Manager
4 PDF version	Pilots

List of Effective Pages

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26	09/05/21	GT
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Glossary of Terms and Definitions

Glossary of Terms

A	Aeroplane
AAIB	Aeronautical Accident Investigation Board
A/C	Aircraft
ACAS	Airborne Collision Avoidance System
ADF	Automatic Direction Finding
AFM	Aircraft Flight Manual
AGL	Above Ground Level
AIC	Aeronautical Information Circular
AIP	Aeronautical Information Publication
AMC	Acceptable Means of Compliance
ANO	Air Navigation Order
AOM	Aircraft Operating Manual
AIRPROX	Air Proximity
ATC	Air Traffic Control
ATCC	Air Traffic Control Centre
ATIS	Automatic Terminal Information Service
ATO	Approved Training Organisation
ATP	Airline Transport Pilot
ATPL	Airline Transport Pilot Licence
ATS	Air Traffic Service
ATSU	Air Traffic Service Unit
AUM	All Up Mass
BEM	Basic Empty Mass
CAS	Calibrated Air Speed
CAT	Clear Air Turbulence
CDI	Course Deviation Indicator
CDFA	Constant Descent Final Approach Technique
CFI	Chief Flying Instructor
CG	Centre of Gravity
CGI	Chief Ground Instructor
CTKI	Chief Theoretical Knowledge Instructor
CoT	Certificate of Test
CPL	Commercial Pilot Licence
CRE	Class Rating Examiner
CRI	Class Rating Instructor
DME	Distance Measuring Equipment
DDR	Deferred Defect Record
EASA	European Aviation Safety Agency
EFATO	Engine Failure After Take-Off
EFIS	Electronic Flight Instrument System
ETA	Estimated Time of Arrival
FAF	Final Approach Fix
FCL	Flight Crew Licensing

FE	Flight Examiner
FFS	Full Flight Simulator
FI	Flight Instructor
FIE	Flight Instructor Examiner
FIS	Flight Information Service
FMC	Flight Management Computer
FMS	Flight Management System
FNPT	Flight and Navigation Procedures Trainer
FS	Flight Simulator
FSTD	Flight Simulation Training Device
ft	feet
FTD	Flight Training Device
FTL	Flight Time Limitations
G	Gravity forces
GLONASS	Global Orbiting Navigation Satellite System
GM	Guidance Material
GNSS	Global Navigation Satellite Systems
GPS	Global Positioning System
HF	High Frequency
HPA	High Performance Aeroplane
hrs	Hours
HT	Head of Training
IAS	Indicated Air Speed
ICAO	International Civil Aviation Organisation
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions
ISA	International Standard Atmosphere
kg	Kilogram
Kts	Knots
LO	Learning Objectives
LOFT	Line Orientated Flight Training
m	Metre
MCC	Multi-Crew Cooperation
MCCI	Multi-Crew Cooperation Instructor
ME	Multi-engine
MEL	Minimum Equipment List
MEP	Multi-engine Piston
MET	Multi-engine Turboprop
METAR	Meteorological Aerodrome Report
MMEL	Master Minimum Equipment List
MP	Multi-pilot
MPA	Multi-pilot Aeroplane
MPL	Multi-crew Pilot Licence
MSA	Minimum Safe Altitude

MTOM	Maximum Take-off Mass
NDB	Non-directional Beacon
NM	Nautical Miles
NOTAM	Notice to Airmen
OAT	Outside Air Temperature
OBS	Omni Bearing Selector
OEM	Original Equipment Manufacture
OML	Operational Multi-pilot Limitation
OSL	Operational Safety Pilot Limitation
OTD	Other Training Devices
PAPI	Precision Approach Path Indicator
PC	Progress Check
PF	Pilot Flying
PIC	Pilot-In-Command
PICUS	Pilot-In-Command under Supervision
PFL	Practice Forced Landing
PLB	Personal Locator Beacon
PM	Pilot Monitoring
POH	Pilots Operating Handbook
PPL	Private Pilot Licence
PT	Progress Test
QDM	Magnetic heading
QFE	Atmospheric pressure at aerodrome elevation
QNH	Altimeter sub-scale setting to obtain elevation when on the ground
RNAV	Radio Navigation
RPM	Revolutions Per Minute
R/T	Radiotelephony
RTF	Radiotelephony
SE	Single-engine
SEP	Single-engine Piston
SET	Single-engine Turboprop
SFE	Synthetic Flight Examiner
SFI	Synthetic Flight Instructor
SID	Standard Instrument Departure
SIGMET	Significant Meteorological Weather
SLPC	Single Lever Power Control
SOP	Standard Operating Procedure
SP	Single-pilot
SPA	Single-pilot Aeroplane
SPIC	Student Pilot-in-Command
SSR	Secondary Surveillance Radar
STI	Synthetic Training Instructor
TAF	(Terminal Area Forecasts) Aerodrome Forecast

TAS	True Air Speed
TAWS	Terrain Awareness Warning System
TEM	Threat and Error Management
TKI	Theoretical Knowledge Instructor
TMG	Touring Motor Glider
TORA	Take-off Run Available
TODA	Take-off Distance Available
UTC	Coordinated Universal Time
V	Velocity
VASI	Visual Approach Slope Indicator
VDF	Very High Frequency Direction Finding
VFR	Visual Flight Rules
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOR	VHF Omni-directional Radio Range
Vy	Best rate of climb speed
ZFM	Zero Fuel Mass

Part 1 General

1. General

1.1. Introduction

1.1.1. Applicability

This manual details the operation of aircraft operated by Voss Fallskjermklubb. In the event that there is any conflict between this manual and the current EU requirements for flight crew licensing, air operations and SERA then these Orders are subordinate to the above except when this manual is more limiting, in which case this manual shall apply.

1.1.2. Compliance

No employee or trainee of Voss Fallskjermklubb shall be absolved from compliance with this manual or any other relevant notices or regulations because of ignorance of their existence content or effect. This manual is issued in accordance with the applicable elements of the BSL D-42 and the F/NLF safety and operational regulations at the time of writing. It complies with national regulations, EASA Part-FCL and Part-NCO

1.1.3. Continued Validity

The NCO declaration remains valid subject to the Organization remaining in compliance with the relevant requirements and the certificate not being revoked or surrendered.

In the event of revocation or surrender of the approval, it is the responsibility of the Accountable Manager to return the original certificate to the competent authority without delay.

1.1.4. Access by the Competent Authority

Representatives of the CAA are to be given access to all of the Organization’s facilities, aircraft, documentation, records, data, procedures or any other material relevant to its approved activities.

1.1.5. Phraseology

Throughout this manual where the male pronouns he, him, and his are used they should be read as he/she, him/her, and his/hers. The use of the male pronouns is intended to make the text less cumbersome. Where the use of the term student or students is used this is interchangeable with trainee or trainees.

1.1.6. Endorsement by Accountable Manager

Endorsed by Captain Gareth Thomas, Chief Pilot. 03/01/2018

2. List & Description of the Operations Manual

This manual is made up of the following parts:

Part 1 General – Description and administration of the operations manual. Policies, and procedures to enable all Voss Fallskjermklubb's staff and trainees to safely and correctly operate the aircraft.

Part 2 Technical – Contains information specific to the planning and execution of Specialized Operations (Parachuting) flights. Including Mass & Balance, Aircraft Loading and Fueling Procedures.

Part 3 Aircraft Procedures – Contains information regarding the operating of aircraft in the Specialized Operation (Parachuting). Quick Reference Checklists and Emergency Procedures specific to the type of operation.

Part 4 Approved Operating Sites – Contains information relating to the Approved Operating Sites, including localized and noise abatement procedures, as well as local contacts and other pertinent information.

Part 2 Technical

1. Daily Flight Sheets

The following is an example of a Daily Flight Sheet for each aircraft. Once completed, Daily Flight Sheets should be given to the Chief Pilot.

Daily Flight Sheet

SPO:	S
NCO:	N
Training:	T
Ferry	F

Send log to Office after the last flight of the day: **operations@foxy.aero**

FOXY Air-Service Ltd
The Control Tower
Langar Airfield
Tel: +44 1949 480960
info@foxy.aero

Date of Flight	Registration	Aircraft Type	Pilot Name	Pre-Flight Insp*
	D-FOXY	C208 00303		

Flight No.	Type	PIC	From: / To:	OFB / ONB	ATD / ATA	Time AIR	Time BLOCK	LDGS	Engine Cycles	Fuel Uplift	Fuel Off / Fuel On	Fuel Used	Oil Uplift	PARA / PAX / CARGO 5	4	3	2	1
1			To:			:	:											
2			To:			:	:											
3			To:			:	:											
4			To:			:	:											
5			To:			:	:											
6			To:			:	:											
7			To:			:	:											
8			To:			:	:											
			Daily Totals			:	:						Total Para					

*The pilot's signature above confirms that the instruction of the Flight Manual and Operations Manual has been complied with.

OAT	FL	IAS	TQ	PROP	ITT	NG	OIL TEMP	OIL PRESS	FF

Notes

	PARA / PAX / CARGO 5	4	3	2	1
	14	15	13	14	10
	14	14	13	12	9

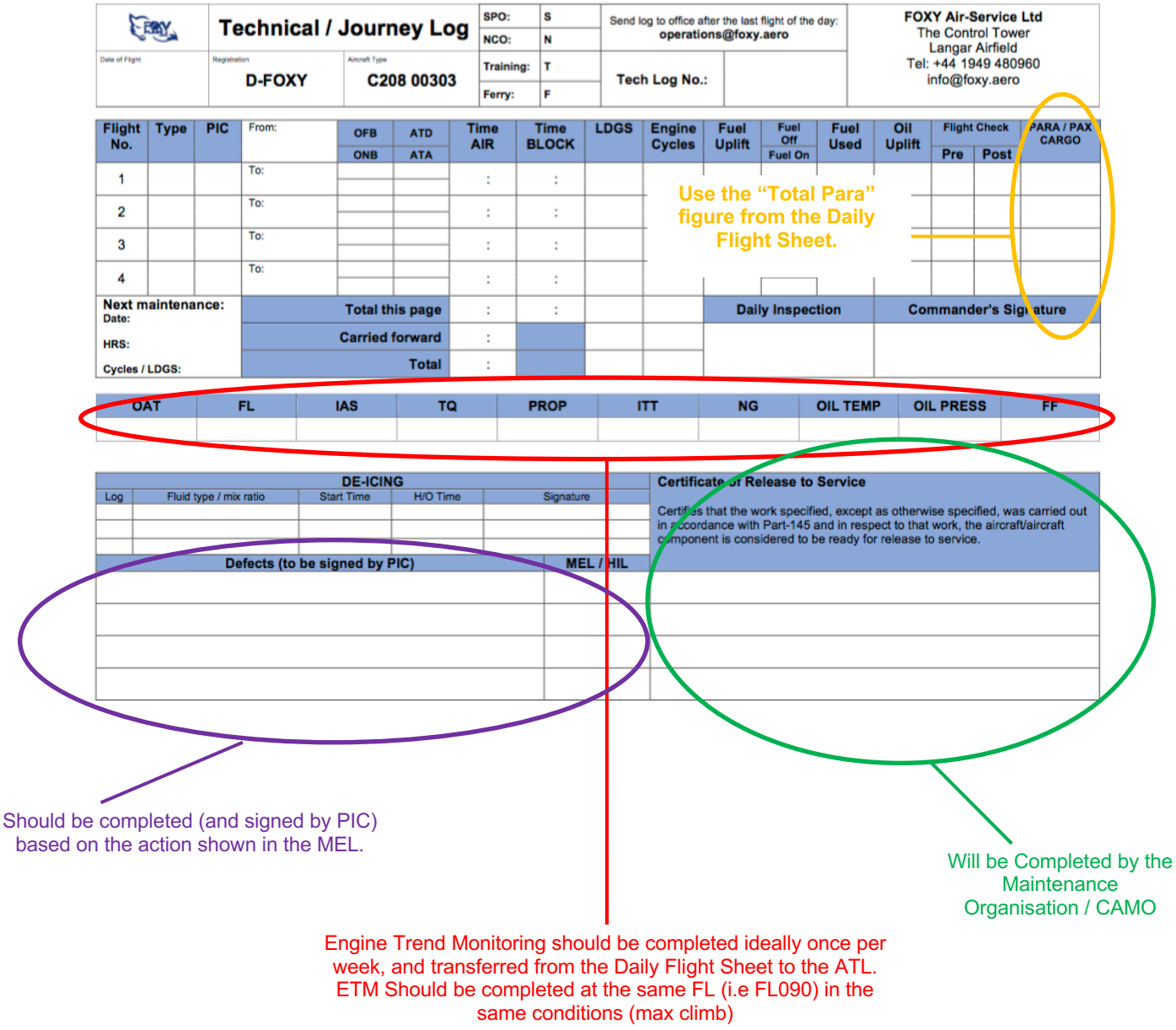
Number of loads of fuel on-board

Number of task specialists on-board.

N.B. The combination of Number of loads of fuel on-board and Number of task specialists on-board should match a Standard Mass & Balance Computation. For operations, outside of the standard profile, specific Mass & Balance and Performance Calculations for the load carried and ambient conditions must be made.

2. Airplane Technical Log

The following is an example of an Airplane Technical Log (ATL) for each aircraft. Once completed, ATL Sheets should be emailed to the aircraft owners office (atl@foxyplane.com). The ATL should remain with the aircraft in the documents folder during all normal operations.



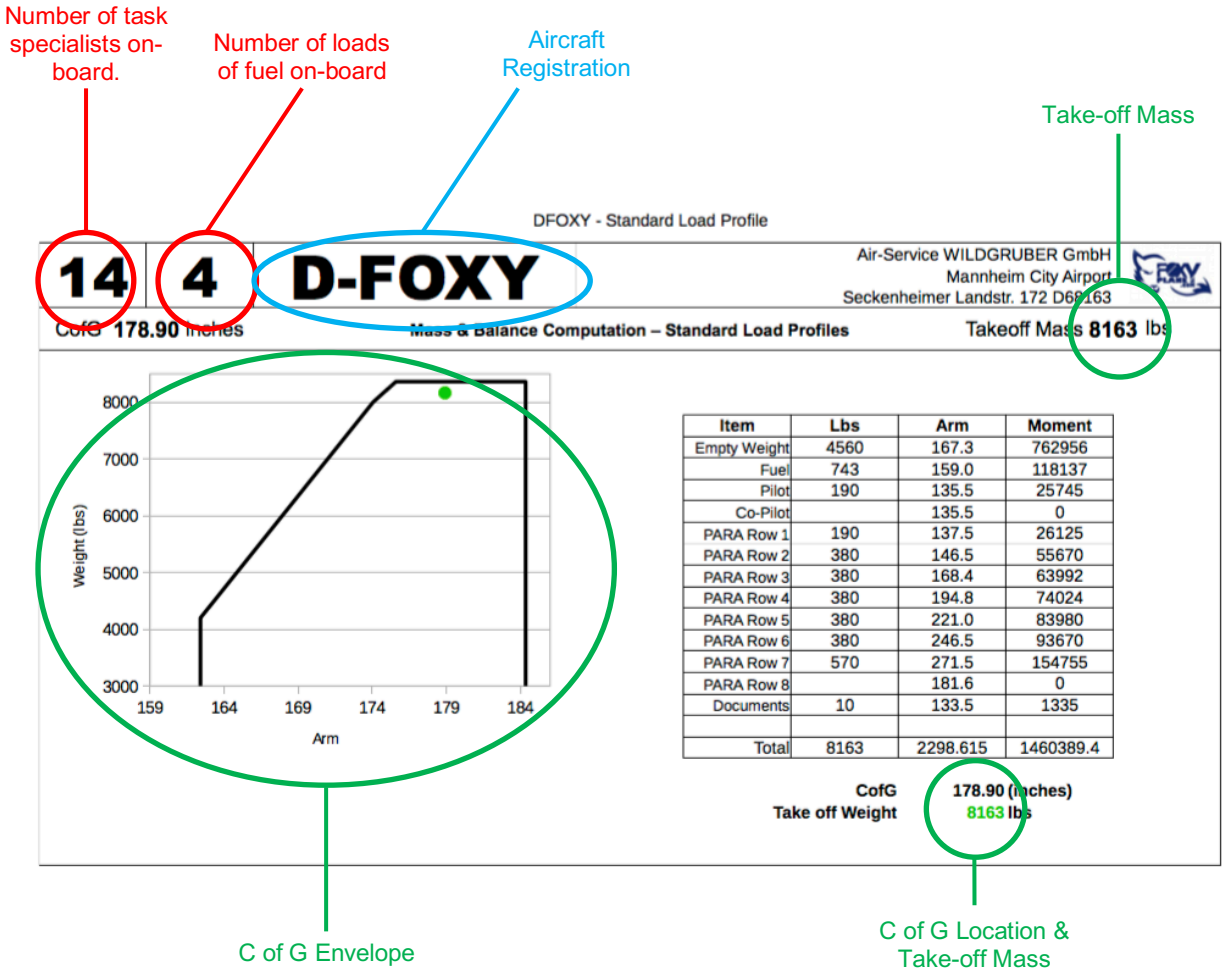
Should be completed (and signed by PIC) based on the action shown in the MEL.

Will be Completed by the Maintenance Organisation / CAMO

Engine Trend Monitoring should be completed ideally once per week, and transferred from the Daily Flight Sheet to the ATL. ETM Should be completed at the same FL (i.e FL090) in the same conditions (max climb)

3. Mass & Balance Computation

The following is an example of a standardized load profile Mass & Balance Computation for each aircraft. A laminated copy of each standardized load profile is carried on-board. For operations, outside of the standard profile, a specific Mass & Balance Computation for the load carried and ambient conditions must be completed.



4. Aircraft Performance

The following is an example of a standardized Take-off Performance Calculation for each aircraft. A laminated copy of the Take-off Performance Calculation specific to each aircraft is carried on-board. For operations, outside of the standard Take-off Performance Calculation, a specific Calculation for the load carried and ambient conditions must be completed.

Performance Calculation

Aircraft Registration

Flight Manual Supplement Reference

DFOXY - Performance

PERF **D-FOXY**

Air-Service WILDGRUBER GmbH
Mannheim City Airport
Seckenheimer Landstr. 172 D68163

Take-off Performance **AFMS 201201-1**

Conditions: 20° Flaps, 2000 RPM, Inert Sep NORMAL, Heater OFF, TQ Take-off, Paved-Level-Dry Runway, zero wind.

Notes: Decrease distances 10% for each 11 kts headwind, Increase distances 10% for each 2 kts tailwind

	TAKEOFF Speed KIAS			10° C		20° C		30° C	
WEIGHT	LIFT OFF	AT 50 FT	PRESS ALT FT	GRD ROLL	TOTAL TO 50	GRD ROLL	TOTAL TO 50	GRD ROLL	TOTAL TO 50
8360	75	85	SL	1020	1720	1080	1815	1150	1915
			1000	1088	1823	1155	1978	1245	2073
			2000	1155	1925	1230	2140	1340	2230
8000	72	82	SL	935	1575	990	1660	1055	1755
			1000	998	1670	1058	1760	1143	1895
			2000	1060	1765	1125	1860	1230	2035
7500	70	80	SL	800	1370	850	1430	900	1490
			1000	855	1438	908	1510	978	1618
			2000	910	1505	965	1590	1055	1745

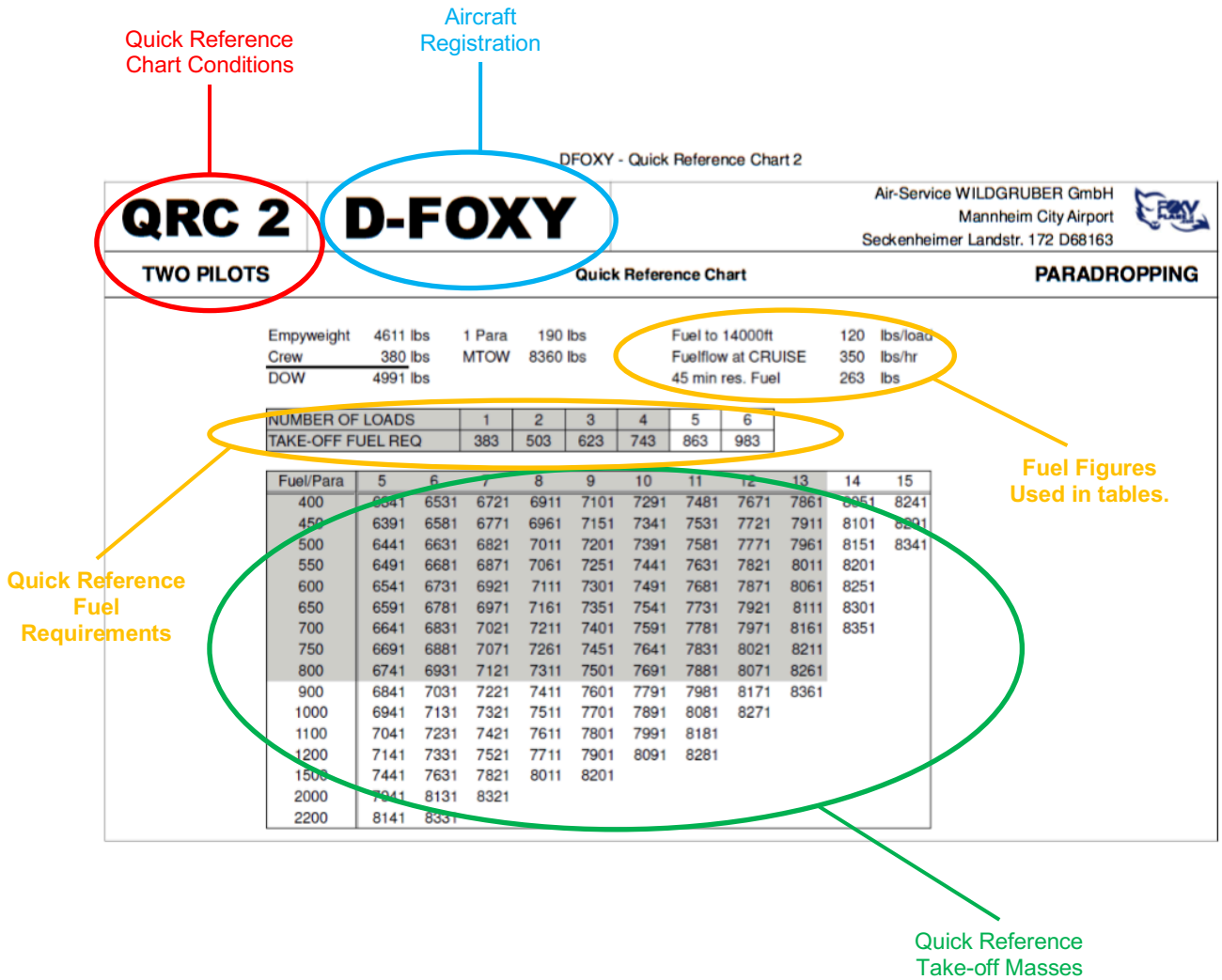
Example Calculation

Take-off Mass = 8350lbs
Pressure Altitude = SL
Outside Air Temperature = 20
Headwind = 11Kts

GRN ROLL = 972 ft **TOTAL TO 50' = 1634 ft.**

5. Quick Reference Charts

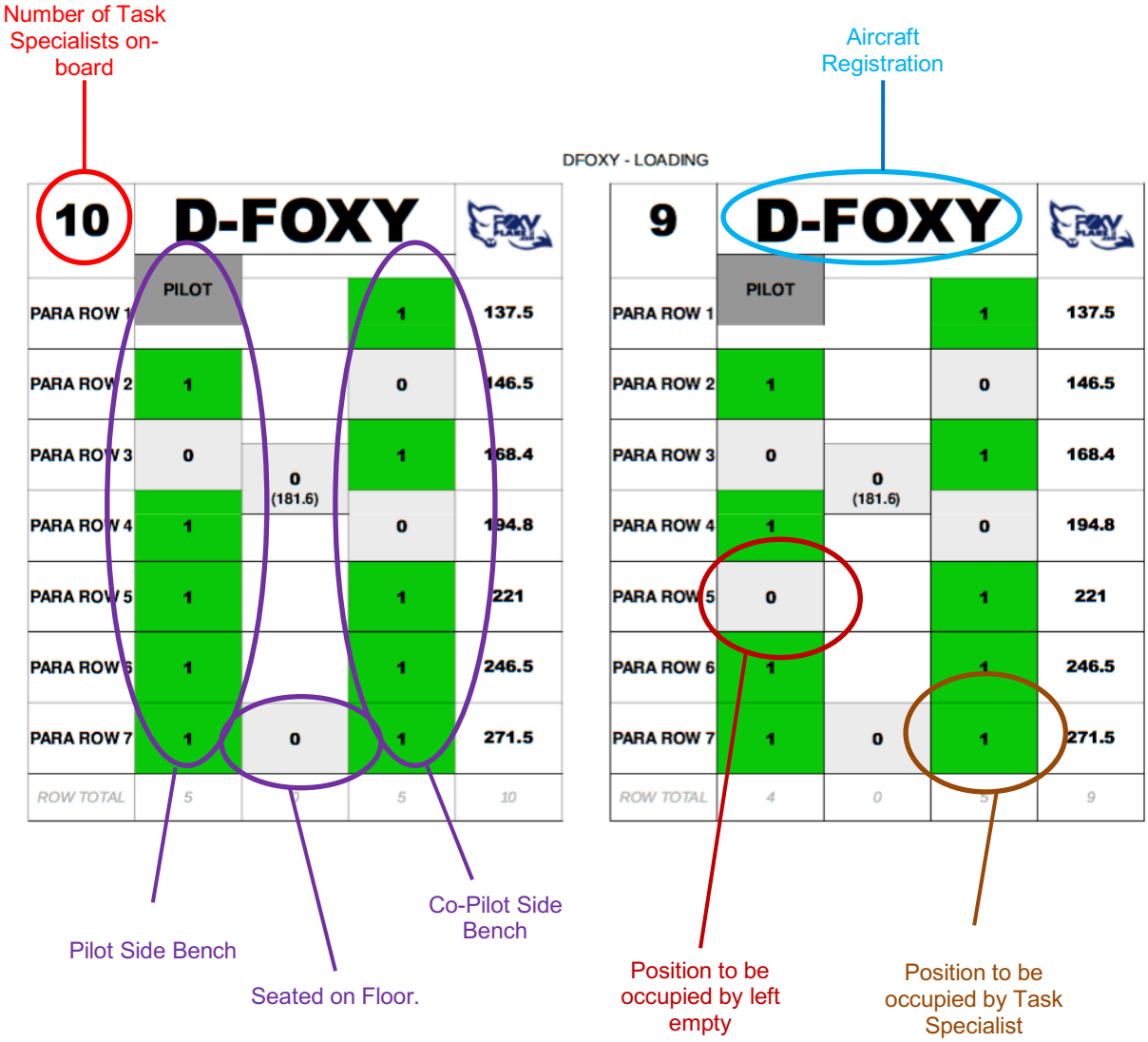
The following is an example of a standardized Quick Reference Chart for each aircraft. A laminated copy of the Quick Reference Chart specific to each aircraft is carried on-board. For operations, outside of the standard Quick Reference Chart, a specific Calculation for the load carried and ambient conditions must be completed.



Fuel/Para	5	6	7	8	9	10	11	12	13	14	15
400	6341	6531	6721	6911	7101	7291	7481	7671	7861	8051	8241
450	6391	6581	6771	6961	7151	7341	7531	7721	7911	8101	8291
500	6441	6631	6821	7011	7201	7391	7581	7771	7961	8151	8341
550	6491	6681	6871	7061	7251	7441	7631	7821	8011	8201	
600	6541	6731	6921	7111	7301	7491	7681	7871	8061	8251	
650	6591	6781	6971	7161	7351	7541	7731	7921	8111	8301	
700	6641	6831	7021	7211	7401	7591	7781	7971	8161	8351	
750	6691	6881	7071	7261	7451	7641	7831	8021	8211		
800	6741	6931	7121	7311	7501	7691	7881	8071	8261		
900	6841	7031	7221	7411	7601	7791	7981	8171	8361		
1000	6941	7131	7321	7511	7701	7891	8081	8271			
1100	7041	7231	7421	7611	7801	7991	8181				
1200	7141	7331	7521	7711	7901	8091	8281				
1500	7441	7631	7821	8011	8201						
2000	7941	8131	8321								
2200	8141	8331									

6. Aircraft Loading

The following is an example of a standardized Loading Chart for each aircraft. A laminated copy of the Loading Charts specific to each aircraft is carried on-board. For operations, outside of the standard Loading Chart, a specific Calculation for the load carried and ambient conditions must be completed.



7. Aircraft Fueling & Parking

1.1 When fueling the aircraft, steps or ladders should be used which are free-standing and do not cause damage to the leading edge of the wings.

1.2 If fueling using the Caravan's in-board fuel points, care should be taken if more than 120 liters of fuel is added to either wing, as fuel may splash out of the fuel points.

1.3 Refueling of aircraft is not permitted with parachutists on board.

1.4 Control locks should be fitted at all times when the aircraft is parked.

1.5 When parking the aircraft outside overnight, all bungs, ties, covers, locks, chocks and the windshield cover should be installed. If windy conditions are forecast, the aircraft should be parked nose into wind and tied down with the blue ratchet straps where possible.

8. Hot Fueling Procedures

Fueling with an engine running is extremely hazardous and should not normally be conducted. However specific procedures for conducting Hot Refueling under unforeseen and exceptional circumstances have been developed. Hot refueling should only be conducted under the specific conditions and limitations hereunder, as specified in EASA Safety Information Bulletin 2014-16. Hot fueling should only be conducted:

a. In unforeseen and exceptional circumstances;

b. In accordance with the specific procedures for hot refueling detailed below.

c. With no passengers on-board, nor embarking or disembarking

d. Under permission by the aerodrome operator; and

e. In the presence of appropriate aerodrome Rescue and Fire Fighting Service.

Appropriate training must be given to all personnel involved in the Hot Fueling Procedure. The Pilot has sole discretion to decide if it is safe and appropriate to action Hot Refueling of the aircraft.

Before allowing the hot refueling of an airplane to commence, the pilot in command must ensure that the refueling can be carried out safely in accordance with this appendix and the guidance from EASA SIB 2014-16.

8.1. Responsibilities of the Pilot

The pilot in command must ensure no passengers are on board during hot refueling.

1. A pilot with a license that is valid for the airplane must, at all times, be at the controls of the airplane while hot fueling is carried out.

2. While the pilot is at the controls of an airplane, communication between the pilot and the person on the ground in charge of the refueling system must be maintained by means of an electronic intercommunication system, or ideally by visual contact and an agreed system of signals

3. While hot refueling is taking place, the pilot in command must ensure that:

    a) The area outside the aircraft that would be used in event of evacuation is kept clear of obstacles; and
    b) If the presence of fuel vapor is detected inside the aircraft, or any other hazard arises during refueling, refueling is stopped immediately and the aircraft's engine shutdown.

8.2. Equipment and Procedures

All persons engaged in hot refueling must be trained in, and familiar with, the procedures to be followed during hot refueling or any emergency that may occur in relation to the refueling:

1. The area inboard of the Pitot Tubes and forwards of the Wings is Sterile and is to remain clear of all hazards, obstacles and persons during the refueling process.

2. The aircraft must be appropriately bonded to the fuel delivery vessel.

3. The aircraft must be chocked to prevent any unintentional movement during the refueling process.

4. Suitable and properly maintained firefighting equipment must be readily available for use if an emergency occurs during the refueling.

8.3. Fuel Loading

1. The quantity of fuel to be loaded must be decided before hot refueling is commenced.

2. If an open system of refueling is used, there must be a means of quickly cutting off the fuel supply at the point of entry into the fuel tank of the airplane

3. Before the airplane’s fuel filler cap is removed, the refueling equipment and the airplane must be earthed and connected so as to ensure they are of the same electrical potential.

While hot refueling is taking place, radio transmissions from the airplane must be restricted to the greatest extent practicable.

Part 3 Aircraft Procedures

1. Documentation

1. The pilot must verify that all necessary documentation is on board the aircraft and is current and in-date.
2. All pilots are responsible for the validity of their licenses, qualifications, ratings and medical certificates.
3. Pilots must carry their license and appropriate photographic identification on all flights.

2. Functions Duties and Responsibilities

1. The pilot is responsible for all aspects of aircraft operation, including, but not limited to the following:

- Aircraft pre- and post-flight checks
- All flying activities
- Fueling
- Upkeep of relevant aircraft technical logs and documentation
- Movement of the aircraft in and out of hangars and on the airfield apron
- Security of the aircraft when unattended
- Reporting of any maintenance or serviceability issues
- Cleaning of the aircraft

2. The pilot is expected to observe all relevant duty, flying and rest time regulations and limitations as published by the Company, relevant NAA or local SOPs.
3. The pilot shall function as an advisor to the parachute operation for which they are flying. For example, this may be in the context of providing weather information or advice concerning the safe operation of the aircraft for parachuting purposes.
4. The pilot is expected to behave in a professional manner at all times and must recognize that they represent the reputation of the company and aircraft fleet at all times. Should an issue arise, the pilot is expected to deal with it professionally and to approach a resolution only via the appropriate authority or personnel.
5. The pilot will conduct all pre-flight planning and flying operations in accordance with procedures and limitations specified in the Aircraft Flight Manual. Exceptions to this are any stricter or more stringent Company Procedures or local Standard Operating Procedures, where the most limiting procedure or limitation shall apply.
    - **Company Procedures impose a limiting Vfe speed of 125kts IAS**

3. Daily Aircraft Inspection

1. Before the first flight of each day the pilot must perform the daily pre-flight inspection as described in the AFM and manufacturer's checklist.

2. The pilot must satisfy themselves that the aircraft is in a fit condition and suitably prepared to operate at the start of each operational day.

4. Pre-flight Responsibilities

1. The pilot is responsible for ensuring that weather and meteorological conditions and forecasts have been checked and that prevailing and forecast weather conditions meet appropriate weather minima for safe operation, in accordance with the Company SPO Operations Manual, NAA regulations and local aerodrome SOP.
2. The pilot is responsible for checking for any NOTAMs that may affect the intended flight or operations.
3. The pilot is responsible for ensuring safe aircraft performance criteria can be complied with at all times throughout the intended flight and aircraft operations.
4. The pilot is responsible for ensuring adequate weight and balance calculations are performed, or, in the case of parachuting operations, that each flight conforms to a Standardized Load Profile as shown in Section 2 of this manual.

5. Task Specific Pre-Flight Checks

In addition to the pre-flight checks detailed in the AFM and manufacturer checklist, the following pre-flight checks must also be completed before parachute operations:

1. A suitable knife should be carried in the aircraft for use in an emergency by parachutists. This should be easily accessible and is usually to be mounted near the rear door.
2. A thorough check should be performed for loose articles, rubbish and debris in the cabin of the aircraft (including under the seat benches and in the “boot” of the cabin).
3. If the aircraft is fitted with a static line strong point, the security of the strong point and the stowage of static line strops should be checked. Further, when a static line strong point is fitted, the aircraft should also carry a double-carabiner which should be located securely with the parachutist's knife.
4. A check should be made of the on-board pilot oxygen supply, regulator and delivery mask/nasal cannula (if fitted) to ensure serviceability.
5. Serviceability of the pilot and parachutist red and green parachute lights should be checked.
6. The number, placement and condition of all restraints should be checked. The aircraft should have at least 15 restraints. Each should be appropriately placed to allow parachutists to sit according to the loading diagram. No restraints should be placed in a position which would allow the parachutist to exit the aircraft whilst still wearing a restraint.

6. Task Specific Fuel / Mass & Balance

1. The pilot must ensure that aircraft Weight and Balance will remain within the limits defined in the AFM at all times.

2. When conducting parachuting operations, the pilot must satisfy themselves that the fuel and parachutist status of each aircraft lift is adequately defined by a pre-calculated Standardized Load Profile as shown in Section 2 Above.

3. The pre-calculated Standardized Load Profiles specify a minimum fuel reserve to be carried for parachuting operations. However, the pilot must also consider local diversion possibilities and may choose to carry extra reserve fuel. In this case, a full weight and balance calculation should be completed to calculate the maximum number of parachutists that may be carried given the new fuel load.

7. Aircraft Starting Procedures (General)

7.1. Normal Operations

1. When starting with the assistance of a marshal / starter, the pilot must ensure that they are suitably briefed regarding the sequence of the starting process and appropriate hand signals to be given.

2. During parachuting operations, the rear cabin door should be left open until engine start is completed. This is in case of fire during an engine start – if the cabin door is left open then occupants may easily exit the aircraft to safety in the event of an engine fire during start.

7.2. Warm / Hot Engine Starting Procedures

1. After a shutdown, the engine should normally be left to cool for a minimum of 15 minutes before being re-started.

2. If an engine start is required while the ITT continues to indicate a higher-than-normal temperature (above 150ºC), the indicated temperature can be reduced by delaying the introduction of fuel into the engine after the start sequence begins (as the NG stabilizes, it will pull cooler air through the engine and the ITT indication will reduce, at which point fuel may be introduced). However, it should be noted that it is always better to allow the engine to cool naturally, if possible. In addition, the pilot must make a judgement call regarding the maximum length of time to delay the addition of fuel to the engine, observing the starter time limitations in the AFM.

3. An engine start may not be commenced if the initial engine ITT continues to show a temperature in excess of 250ºC.

7.3. Cold Weather Starts

1. Once started, the pilot must ensure the engine oil temperature is indicated in an acceptable (green arc) range before attempting to use beta range, taxi or taking off.

2. If the oil temperature is low, the power may be advanced to set 60% Ng (with the propeller unfeather and set fully fine) to aid warming the engine.

7.4. Post-Start Systems Checks

1. An IPS function check must be performed after the first start of each day. 400Lbs Torque should be set and the IPS moved to the bypass position, a drop-in engine Torque should be indicated, which recovers when the IPS is stowed in the normal position.

2. A Propeller Over-Speed Governor check should be performed at least once per week.

3. A Standby Power Check should be performed before flights in accordance with IFR or any ferry flight. The details of all Post-Start Systems Checks can be found in the Aircraft Checklist.

8. Parachute Operations

1. Task Specialists are to remain seated and restrained until a minimum of 1000ft AAL.

2. Normally, the initial climb out will be at Vy speed. However due to terrain and obstacle clearance constraints a climb out at Vx may sometimes be required.

3. “Climbing passes” (allowing a parachutist to exit while power is applied and/or the aircraft is in a climbing attitude) are forbidden in order to minimize the risk of parachutist tail strikes. Parachutists may only be allowed to exit when the aircraft is correctly configured (power, flaps and aircraft attitude).

4. Ordinary parachuting should not be performed from heights greater than 15000ft. For jumps between 13000ft and 15000ft the maximum allowed exposure time over 10000ft is 30 minutes and 13000ft is 6 minutes. <u>At jumps over 13000ft the pilot must have oxygen available in the aircraft.</u>
(Ref F/NLF handbook 103.4.5 May 2021) NCO.SPEC.PAR.115

8.1. Dropping Procedures

1. The parachute run-in should be performed in accordance with the speeds and figures in Table 12.4 Below. Exit Separation shall be given over the PA.

Ground Speed	Average Separation (Seconds)
70	9
80	8
90	7
100	6

Note: Flap limiting speed, Vfe, is 125kts. This is a company limitation and is stricter than the value to be found in the AFM!

2. During the drop, an initial Power setting is used to ensure the aircraft is in stabilized flight and descending. As the load begins to exit, the power setting can be reduced to keep the airspeed below 80kts and the aircraft in a stabilized descent.

3. Parachutists may only be allowed to exit when the aircraft is in the correct stable configuration with an appropriate power setting and when all necessary ATC (and, normally, DZ) clearances have been obtained.

4. Pilots must be aware of any altitude decrease during the run-in and must ensure that parachutists are not allowed to exit the aircraft below a safe altitude. This is particularly important for static line and low-experience solo freefall students.

5. Pilots must be aware of the aircraft distance from the DZ/PLA during the run-in and must ensure that parachutists are not dropped too far away to safely make a return to the PLA. If necessary, the run-in may be aborted and another pass flown to allow all remaining parachutists to exit at an appropriate and safe distance.

6. The pilot and jumpmaster may, at their discretion, abort the drop and stop the dropping of further parachutists at any time should they determine there to be a safety issue. The abort will normally be communicated by using the aircraft's parachuting lights and/or appropriate verbal communications.

7. Exceptions to the standard aircraft dropping configuration and power settings may be applicable when flying in formation. Typically, formations with other aircraft are usually flown at 100kts IAS with flaps as required. As formations with dissimilar aircraft may require different speeds and flap settings, thorough pre-flight briefing is required.

8. If dropping while flapless, or with higher power settings than normal, every effort must be made to ensure the tail plane of the aircraft is kept as high as possible relative to the rear door and parachutist's exit position in order to minimize the risk of a parachutist tail strike.

8.2. Descent Procedures

1. Before descending, the rear door should be pulled closed. (The limiting speed with door open is 100kts IAS). Simultaneously the aircraft should be pitched nose down, the flaps should be raised and the power lever retarded. Maximum speed in descent is 160kts IAS.

2. No extreme maneuvers should be performed as the descent phase is started, which includes “wing overs” and other abnormal aircraft attitudes. Flights at speeds close to VNE should only be done with caution, noting air conditions and turbulence.

3. A Continuous Descending Approach (CDA) should be flown from the end of the parachute drop to the runway. This minimizes fuel usage and reduces the noise impact of the operation.

4. If it is necessary to descend with parachutists on board, the in-flight door must be closed to prevent any premature deployments exiting the aircraft.

5. If static line students have been dropped, all deployed static line bags must be disconnected from strong point strops and safely stowed before the descent, as per normal static line procedures. Any static line students descending with the aircraft must remain attached to the static line strong point.

6. When descending with parachutists on board, care should be taken below 2000ft AGL to limit the rate of descent to below 2000fpm – this is especially important if student AADs are on board.

7. All persons on board will remain seated and restrained below 1000ft AAL.

8.3. Approach, Landing and Taxi Procedures

1. The final approach and landing can be made with up to 30º flap, however landings with 10º or 20º flap may only be used provided the runway dimensions and prevailing wind conditions allow.
   Note: Flap limiting speed, Vfe, is 125kts. This is a company limitation and is stricter than the value to be found in the AFM!

2. Airfield “low passes” and runway “beat-ups” are not advised. The 500ft-rule should be observed at all times by all pilots.

3. Turns whilst taxiing should be performed at a reasonably slow pace with minimal application of brake. Avoid tight turns, especially spinning the aircraft on one wheel. When using BETA consideration must be given to the condition of the runway surface to ensure no FOD damage to the propeller and compressor blades occurs.

8.4. Shutdown Procedures

1. All unnecessary internal electrical systems must be switched off prior to engine shutdown.

2. The engine must be cooled (Power lever IDLE) for a minimum of 2 minutes before shutdown (taxiing may be included in this time). If power is used during taxi, the “2 minutes” timer must be restarted.

3. The Fuel Boost switch should remain in the NORM position until the amber FUEL PRESS LOW annunciator flashes, then it should be moved to the ON position briefly before selecting OFF.

4. The Aircraft battery must remain ON until the NG indication reaches 0%, then it can be turned OFF. (To avoid damaging the NG indication system).

9. Task Specific Emergency Procedures

Aircraft emergency procedures are described in the Aircraft Flight Manual (AFM) which should be read in conjunction with this Skydiving Procedures Manual (SPM) and the

Operations Manual (OM)

9.1. Open Container or Loose Pilot chute / Drogue during flight.

1. If a parachutist's container opens inside the aircraft during flight, or if a pilot-chute or drogue becomes loose, the aircraft's door should be closed (unless the pilot authorizes the door to be opened) until all parts of the affected equipment are securely stowed.
2. If the parachutist concerned cannot make a safe parachute descent, they will remain in the aircraft and descend with it to land.
3. If the loose items cannot be safely secured, the aircraft door must remain closed and all on board will descend with the aircraft and land.

9.2. Parachute or Parachutists Entanglement with the Aircraft

1. If any part of the parachutist's equipment becomes entangled with the aircraft the action to be taken is at the discretion of the pilot and jumpmaster in order to ensure the safety of the parachutists, pilot and aircraft.
2. If practical and safe to do so, the task specialists may use the on-board knife to cut free any entangled equipment or parachutist from the aircraft.
3. If necessary, the pilot or jumpmaster may initiate an In-Air Emergency Evacuation of the aircraft.

9.3. In-air Emergency Evacuation Procedures

1. In case of an in-air emergency evacuation, the altitude and location of the aircraft must be taken into consideration. Either the aircraft's location or the parachutist's experience may not be appropriate for a safe exit, even in an emergency situation.
2. Either the pilot or the jumpmaster may abort an in-air emergency evacuation if they believe the aircraft location or altitude to be unacceptable or if they believe that the plane may be landed.
3. Some suggested guidelines are detailed below, however the severity of the aircraft emergency must be considered:
   - Below 500m (1650ft) tandems should not leave the aircraft
   - It is not recommended for students to exit the aircraft below 300m (1000ft)
   - For all parachutists, it is highly recommended that they do not exit the aircraft below 225m (800ft).

9.4. Engine Failure During, or Immediately After Take-off

1. Follow all the instructions provided in the POH / AFM, additionally;

2. If possible ensure that all parachutists remain seated, restrained and assume the crash position until the aircraft has come to a complete stop.

3. Evacuate the aircraft through the nearest exit in the planned order of parachutists exit and abandon the danger-zone around the aircraft in the direction of the tail.

10. Flight and Duty Limitations

In accordance with NCO.SPEC.115 Crew Responsibilities, the Crew member shall be responsible for the proper execution of his/her duties. This includes the responsibility not to undertake duties on an aircraft if he/she knows or suspects that he/she is suffering from fatigue as referred to in 7.f of Annex IV to Regulation (EC) No 216/2008 or feels otherwise unfit to perform his/her duties.

Additionally, the crew member who undertakes duties for more than one operator shall: maintain his/her individual records regarding flight and duty times and rest periods as referenced in Annex III (Part-ORO), subpart FTL to Regulation (EU) No 865/2012, if applicable; and provide each operator with the data needed to schedule activities.

11. Crew Resource Management (CRM) and other responsibilities

Part of the role of the aircraft / pilot is to ensure that the aircraft fits seamlessly into the DZ operation, meeting and exceeding the expectations of the DZ. A good working relationship with the following key personnel is essential. The following gives an indication on what duties and responsibilities can be performed and expected from key personnel at the DZ.

11.1. Daily Manager / Drop Zone Manager (DZO)

The DZO is responsible for managing and overseeing the DZ Operation, including both the Skydiving Activity and our supporting aircraft operation. Although our aircraft operation may be transient (contractual) with the DZ, the ultimate safety of the DZ and Parachutists resides with the DZO. Specific duties of the DZO (not all inclusive) are as follows:

- Supervise all skydiving / parachuting related activities.
- Ensure compliance with all National Skydiving Association regulations and requirements and other Federal, State and Local rules and regulations.
- Coordinate with the National Skydiving Association on matters pertaining to skydiving Safety and Training.
- Coordinate DZ activates with other aeronautical users, facility managers and Community Officials / Leaders as appropriate
- Establish and maintain a suitable Parachute Landing Area (PLA) with adequate separation and safety margin from the aircraft manoeuvring areas.
- Provide the relevant ATC facility with notification for the intended operation.
- Develop a training system and orientation points for all skydivers / parachutists to include aircraft standard and emergency procedures.

11.2. Jumpmaster (JM)

Regardless of the experience level of the jumpers on board, one individual, usually the most

experienced should be designated as the JM. The pilot and the JM should work as a team for the safety of the skydivers / parachutists. Specific duties of the JM typically include:

- Identify him/herself as the JM to all aircraft occupants.
- Ensure a safe approach to, and loading of the aircraft. Especially if the engine is running. (There may be an additional Loading person to assist with this.)
- Ensure that all parachutists on-board have been properly trained and are adequately equipped for the planned jump.
- Ensure that all parachutists are secured and restrained and all loose articles secured prior to take-off.
- Spot each parachute drop, or designate a spotter for each separate pass.
- Assist the pilot in maintaining the aircraft within Mass & Balance limitations throughout all phases of flight.
- Ensure that all National Skydiving Association rules are followed.
- In coordination with, and at the direction of the pilot, determine and take appropriate action in case of an emergency.

11.3. Briefing Drop Zone Operator (DZO), Jumpmasters (JM) and Staff.

The following points should be briefed to the DZO, JM and other staff prior to Operating at a new DZ, or as a refresher as appropriate.

- Aircraft Fueling Procedures & Requirements
- Aircraft Starting Procedures
- Correct loading and seating (As per Aircraft Loading Charts)
- Operation of the in-flight parachuting doors and lights
- Exit Separation & Timings
- The use and positon of the aircraft restraints.

11.3.1. Additionally, the DZO and other staff should be briefed on:

- Aircraft block / flight times.
- Fuel / Mass and Balance Computations for each fuel / parachutist scenario.

12. Type Specific Check Lists and Procedures

12.1. Start-up Checklist

C208 D-FOXY

START PROCEDURES (GPU)

Fuel Selectors	BOTH ON
Battery Switch	ON
EXT Pwr Switch	START
Prop Control	FEATHER
Fuel Boost Switch	ON
Starter Switch	ON
Condition Lever	LOW IDLE
Fuel Flow	ABOVE 50pph
ITT	MONITOR
Prop Control Lever	FWD
Starter Switch	OFF at 50%

AFTER STARTING

Engine Instruments	CHECK
EXT Pwr Switch	OFF
Generator OFF Ann	OUT
Fuel Boost Switch	NORM
Prop Control Lever	MAX
Standby Pwr	As Reqd.
Avioncs 1&2	ON
Radios / GPS	SET
Suction	Check.

C06T D-EGGO

START PROCEDURES (GPU)

Fuel Selector	BOTH
Battery Switch	ON
PAR / SER	PAR
Prop Control	FEATHER
Starter Switch	ON
Condition Lever	LOW IDLE @ 20%
Fuel Flow	CHECK 100pph
ITT	MONITOR 620°C
Starter Switch	OFF at 50%
External Power	REMOVE

START PROCEDURES (INTERNAL)

Fuel Selector	BOTH
Battery Switch	ON
PAR / SER	SER
Prop Control	FEATHER
Starter Switch	ON
Condition Lever	LOW IDLE @ 23%
Fuel Flow	CHECK ~ 100pph
ITT	MONITOR 580 °C
Starter Switch	OFF at 50%
PAR / SER	PAR

12.2. Systems Checks

C208 D-FOXY	C06T D-EGGO
SYSTEMS CHECKS **Inertial Particle Separator (IPS)** POWER Lever 400lbs Suction 4.5 – 5.5 in Hg Inertial Separator BYPASS NORMAL Power Lever IDLE **Overspeed Governor Check** Overspeed Switch PRESS & HOLD Power Lever ADVANCE *(Prop should stabilise 1750 +/- 60 RPM)* Power Lever IDLE Slowly Overspeed Switch RELEASE **Standby Power Check** Standby Pwr Switch ON VOLT/AMM Switch GEN VOLT/AMM Switch ALT Generator Switch TRIP *Generator OFF Annunciator ON* *Standby Power Annunciator ON* VOLT/AMM Switch ALT VOLT/AMM Switch VOLT Generator Switch RESET *Generator OFF Annunciator OFF* *Standby Power Annunciator OFF*	**AFTER STARTING** Engine Inst CHECK PROP Control MAX PAR / SER PAR Generator ON (Int: @ 65%Ng) Voltage CHECK ~ 28.0V Avionics ON Fuel Quantity CHECK/SET MVP Radios / GPS SET **SYSTEMS CHECKS** **Primary Governor Check** Prop Control Feather/Unfeather **Overspeed Governor Check** Overspeed Test Switch ON Power Lever ADVANCE (Prop should stabilize 2000 +/- 60 RPM) Power Lever IDLE Overspeed Test Switch OFF

12.3. Before Take-off Checks

C208 D-FOXY		C06T D-EGGO	
BEFORE TAKE-OFF		**BEFORE TAKE-OFF**	
Fuel Tank Selector	BOTH ON	Fuel Tank Selector	BOTH
Flaps	20 DEGREES	Flaps	0 DEGREES
Condition Lever	AS DESIRED	Condition Lever	AS DESIRED
Prop Control	*1900 (White Line)* *	Prop Control	*2000 (White Line)* *
Trims x 3	SET	Trims x 2	SET (Rudder full R)
Lights	ON	Lights	ON
Controls	FULL & FREE	Controls	FULL & FREE

*** Prop Control Reduction to White Line for Noise Abatement Procedures.**

12.4. Dropping Configurations

C208 D-FOXY		C06T D-EGGO	
DROPPING CONFIGURATION		**DROPPING CONFIGURATION**	
Flaps	20 DEGREES	Flaps	0 DEGREES
Power Lever	1000 lbs	Prop Control	1800 rpm
Prop Control	1600 rpm	Power Lever	150 – 220 lbs
Power Lever	300 lbs	Pitch Attitude	0 – 5 Nose Up
Pitch Attitude	0 – 5 Nose Up	Airspeed	70-60 Kts
Lights	OPEN / EXIT	Lights	OPEN / EXIT

12.5. Top of Descent

C208 D-FOXY		C06T D-EGGO	
TOP OF DESCENT		**TOP OF DESCENT**	
Door Handle	PULL CLOSED	Door Handle	PULL CLOSED
Nose Attitude	PITCH DOWN	Nose Attitude	PITCH DOWN
FLAPS	UP	Power Lever	IDLE at 100 Kts
Power Lever	IDLE at 120kts	Max Speed	150 Kts
Max Speed	160Kts		

12.6. Before Landing / Approach

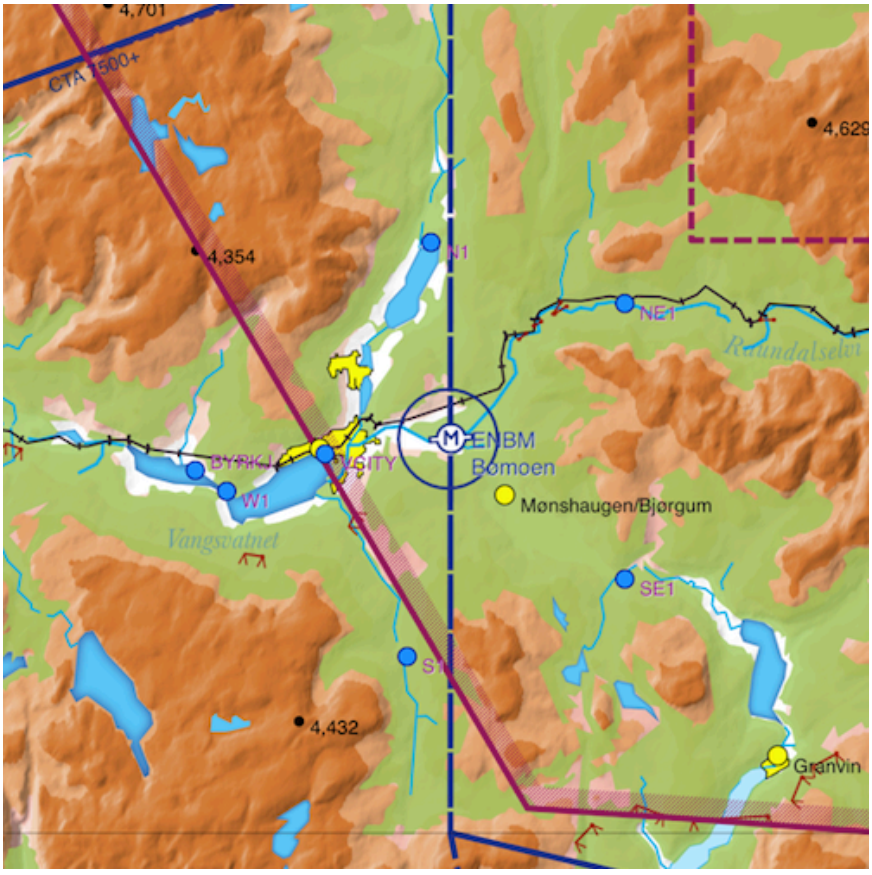
C208 D-FOXY	C06T D-EGGO
BEFORE LANDING / APPROACH Fuel Tank Selectors BOTH ON Flaps 100Kts – 10deg 90Kts – 20deg Power Lever APPR POWER Prop Control Lever MAX	**BEFORE LANDING / APPROACH** Fuel Tank Selector BOTH ON Flaps 0 Degrees or if desired 100Kts – 10deg 80Kts – 20deg Power Lever APPR POWER Prop Control Lever MAX

12.7. Shut down.

C208 D-FOXY	C06T D-EGGO
SHUT DOWN Power Lever IDLE 2 MINS Avionics 1&2 / Stby Pwr OFF Fuel Condition Lever CUTOFF Prop Control Lever FEATHER Fuel Boost Switch OFF Battery OFF (when NG 0%)	**SHUT DOWN** Power Lever IDLE 2 MINS Avionics OFF Fuel Condition Lever CUTOFF Prop Control Lever FEATHER Battery OFF (when NG 0%)

Part 4 Approved Operating Sites & Local Procedures

ENBM		**VOSS / BØMOEN**	
Elevation **300' / 91m**	Location **2 NM E Voss**	Coordinates **N60 38.3** **E006 30.1**	Airfield Category **B**
A/D Frequency **123.500**	FIS Frequency **124.700 - Polaris**	Transponder Code **Given by FIS**	Phone **+47 56 51 1000**



RWY	SFC	TORA	LDA
09 (086)	**Asphalt**	**1000** (3281)	**1000** (3281)
27 (266)	**Asphalt**	**1000** (3281)	**1000** (3281)

SOG	114.200	211 / 37nm
VOO	114.850	082 / 41nm
FLS	115.550	063 / 43nm

Local Procedures: Preferred take-off is RWY 27. After take-off turn left onto heading of 240 to avoid overflying Palmafossen School and Residential Areas. Noise Abatement procedures to be followed until clear of terrain.

Dropping Procedures: Climb North via N1 – NE1 or South via S1 – SE1 and call Polaris Control for clearance above FL115. Run-in from East to West (266) allowing a North or South offset for wind correction. Earliest green light is 1.3nm before the overhead, latest exit is 1.0nm after.
Continuous Descending Approach (CDA) initially over the Vangsvatnet Lake towards W1 with a left-hand turn to downwind 27 / base 09 following Noise Abatement procedures.

HAZARDS: Intense Paragliding activity over VCITY. Rotary operation with regular activity on the aerodrome. Microlight Pilot Training on the aerodrome. Terrain to 4701ft AGL within vicinity.

Date	Name	Position	Signed