

VFR in Norway!



- a guide to Norwegian airspace

Written by Sverre H. Falkenberg

Layout by Erlend Våge

Questions about this publication can be directed to:

Norsk Aero Klubb, Motorflyseksjonen
P.O.Box 383 Sentrum
N-0102 OSLO
NORWAY

Tel. +47 23 01 04 50

Fax. +47 23 01 04 51

Introduction

Welcome to Norway and Norwegian Airspace!

This booklet is made for the purpose of assisting you, as a VFR pilot, in your planning and conduct of flight within Norwegian Airspace.

The vast majority of the Norwegian land masses consist of mountainous terrain with countless valleys and deep fjords. You can enjoy a spectacular scenery and great fun while flying in these areas, but you should also bear in mind that the environment can suddenly “bite” you during unfavourable flight conditions. This booklet tries to raise the awareness of such unfavourable flight conditions. Relevant rules and regulations applicable to VFR flights within Norway are covered and so is other information necessary for safe planning and conduct of flight.

Set your own limitations and prepare for the expected so you do not have to recover from the unexpected!

Table of contents

Flight Planning.....	7
Take Charge of Flight Safety.....	7
Your Own Personal “IMSAFE” Evaluation for Flight	7
Risk Taking	7
Risk Factors	8
Personal Minimums Checklist	8
Aircraft Performance	10
Performance Factors for Light Aircraft.....	10
Performance Table.....	11
Types of Manuals and Charts Available.....	12
Military Low Flying Areas	14
Cruising Levels.....	14
Pre-flight Met Briefing and Volmet Broadcasts.....	15
Go/No-go Weather Criteria	15
Visual Meteorological Conditions (VMC)	16
Weather Minima for Special VFR Flights.....	16
VFR Flights between Sunset and Sunrise.....	17
VFR on top	17
Operative Flight Plan.....	18
Fuel Planning.....	18
Flight Plan.....	18
Departure Message	19
Arrival Report	19
Completing a Flight Plan.....	20
Flights in Mountain and Remote Areas	23
Mountain Flying	23
Takeoff.....	24
Downdrafts	25
Windshear.....	25
Enroute	26
Landing	28
Wires.....	29
Whiteout and Brightout.....	29
Svalbard	30
Areas with Sensitive Fauna	31
Survival and Personal Equipment.....	32

Communication	33
SSR Transponder.....	33
Aerodrome Flight Information Service (AFIS).....	33
Airspace.....	34
Clearances to Operate in Class D Airspace outside the Hours of Service of the ATC Unit.....	34
Established as Control Zone (CTR)	34
Established as Terminal Control Area (TMA)	34
Emergencies	35
Search and Rescue Services (SAR).....	35
Rescue Coordination Centres are:	35
Emergency/Precautionary Landing	36
Use of Emergency Locator Transmitter (ELT)	36
Other Information.....	38
Aircraft Entering or Leaving Norway	38
Permission to Enter	38
Customs and Immigrations.....	38
Norwegian International Aerodromes	38
Flights between Norway and Sweden	40
Takeoff Charges/Weekly Season Card.....	41
Isolated- and Home Field Usage Restrictions	42
Bird Hazards.....	42
Bird Migration Routes and Concentration Areas:.....	43
Protection of Reindeer against Noise from Low Flying Aircraft.....	43
Photographing	44
Flight with Foreign Amateur Built Aircraft in Norway	44
Use of Intoxicating Liquor, Narcotics or Drugs.....	45
Contact Details	46
Your Personal IMSAFE Checklist	48

Flight Planning

Every flight must be preceded by a certain amount of planning and checking. Planning would begin with determination that you, as the pilot, is qualified for the task at hand and physically and mentally fit to fly. Weather considerations, selection of route to fly, aircraft performance calculations and pre-flight inspections of the aircraft and its systems follows. Always check NOTAMs and if planning to use private airfields, remember to call the owner for permission to land and to obtain airfield conditions.

Take Charge of Flight Safety

Your Own Personal “IMSAFE” Evaluation for Flight

Illness	Are you physically well?
Medication	Are you free from the effects of drugs?
Stress	Are you free from significant stress?
Alcohol	Are you free from the effects of alcohol?
Fatigue	Are you adequately rested?
Eating	Have you eaten properly to work effectively?

Risk Taking

What is your gut feeling telling you? Pay attention, because that gut feeling is often there for a reason. Have you passed your personal IMSAFE evaluation? Have you done a proper pre-flight check and flight planning including obtaining prevailing and forecast weather conditions? Are you familiar with your aircraft and route to be flown? Are you in charge, as you should as pilot in command, for any decisions regarding the flight and not being subject to pressure either from passengers, other persons or circumstances? Are you paying attention to your responsibility as pilot in command and stick to the rules and regulations, focusing on handling the aircraft in a safe manner and not showing off in any way?

If you fail in any of these areas, stop and do something about it. Reconsider doing the flight if an assessment of the risk factors mentioned below turns out with a unfavorable outcome in two or more risk factors. Take pride in doing the right thing. Do what's necessary to minimize risk factors.

Risk Factors

- **Pilot**
 - How current are you?
 - How rested?
 - Do you have experience with the type of airspace you will be flying in?
 - Experience with the terrain and airfields to use?
- **Aircraft**
 - Is it properly equipped?
 - Maintenance problems?
- **Performance**
 - Fuel Consumption
- **Environment**
 - What is the weather like?
 - Day or Night?
 - What type of terrain and airfields are involved?
- **External pressure**
 - Why are you making the trip?
 - What outside forces are pushing you?
 - Are you pressed for time?

Personal Minimums Checklist

The use of checklist in general is very important, because humans make errors. It's in their nature. Even very experienced pilots do errors and they too can get distracted or fall into the trap of being complacent. The conscious use of checklists is the only way you can be certain that you do things by the book, time after time.

The use of mnemonics, as a substitute for checklists while in flight, can sometimes be more convenient. Regardless of either method, you must ascertain that you actually carry out the procedure steps by confirming them either by eyesight and/or touch.

It is a fact that most errors that lead to incidents are made prior to takeoff, so it is important to identify and minimize risk factors during your pre-flight planning. This can be done by making your own Personal Minimums Checklist, listing the sequence of actions necessary to prevent you from forgetting or overlooking anything that can jeopardize flight safety. Such a checklist should also include personal minimums with your own experience and proficiency as the basis. This is important, because what the regulation allows you to do does not mean that you should do it if you feel uncomfortable doing it. Set your own personal minimums, not 5 minutes before a flight, but when you are not influenced by any pressure, and write it down. Use these minimums as a guide in your planning and decisions.

A Personal Minimums Checklist will help you make sure you have thought through your most important pre-flight and in-flight decisions. It will also make you more alert when these minimums are approached. If you should choose, for some reason, to operate under conditions less than these minimums, you have been alerted by your checklist to get whatever information or help necessary to make you more capable to handle these lower minimums. Such information or help could be a more thorough briefing of your flight route or practicing crosswind landings with an instructor.

To minimize the risk factor and operate safely, do your homework and don't take any shortcuts. Learn from other pilots experiences, have always an alternative plan and be conservative in your decision making.

Use the form and fill in your own personal minimums.

Aircraft Performance

To know your aircraft performance capabilities is paramount for flight safety, especially during flights at high density altitudes and from marginal takeoff and landing sites. Remember that Attitude + Power = Performance, and hence are directly dependent on each other. Become familiar with attitude and power settings for the flight-path (performance) you want to achieve in your aircraft. Fly the numbers and you will achieve maximum performance and also become more easily alerted to environmental effects acting on your aircraft, such as downdrafts.

You have to have the ability to use and fully understand takeoff and landing performance charts. Every pilot have been planning and executing short- and soft-field takeoffs and landings during their training, but how often are you practicing these skills? Another important consideration is what kind of performance charts you are using. Do they calculate with a built-in margin for error or do they reflect the best performance you could hope to achieve in a new airplane, in ideal conditions? Do they account for runway slope and surface type? Many performance charts don't have this built-in safety margins. What about your performance charts?

Performance Factors for Light Aircraft

If your performance charts do not include safety margins, you can multiply with these factors:

Condition	Increase in takeoff distance to height 50 feet	Increase in landing distance from height 50 feet
A 10% increase in airplane weight	Factor 1.2 (20%)	Factor 1.1 (10%)
An increase of 1000 feet in airfield altitude	Factor 1.1 (10%)	Factor 1.05 (5%)
An increase of 10°C in ambient temperature	Factor 1.1 (10%)	Factor 1.05 (5%)
Dry grass – up to 20cm (on firm soil)	Factor 1.2 (20%)	Factor 1.2+ (20%+)

Wet grass – up to 20cm (on firm soil)	Factor 1.3 (30%)	Factor 1.3+ (30%+)
A 2% slope	Uphill: Factor 1.1 (10%)	Downhill: Factor 1.1 (10%)
A tailwind component of 10% of speed	Factor 1.2 (20%)	Factor 1.2 (20%)
Soft ground or snow	Factor 1.25+ (25%+)	Factor 1.25+ (25%+)

On top of these factors you should add a factor for own proficiency and experience, which you feel comfortable with (ref. Personal Minimums Checklist).

Performance Table

Fill in the numbers for your aircraft.

Flight path/Condition	Performance IAS	Power RPM	Attitude
Best rate of climb speed			
Best angle of climb speed			
Normal climb speed			
Fast cruise			
Slow cruise			
Cruise descent			
Best glide speed – Heavy			
Best glide speed – Light			
Maneuvering speed – Heavy			
Maneuvering speed – Light			
Short field takeoff speed			
Short field landing speed			
Flapless landing speed			
Normal landing speed			

Fly the numbers and you will achieve maximum performance!

Types of Manuals and Charts Available

These VFR Manuals and Charts for Norway are available:

- **Jeppesen Bottlang Airfield Manual, Scandinavia**

The Manual contains a general section and country related parts with Communications, Meteorology, Regulations, Aerodrome Directory as well as Visual Approach, Landing and Area Charts. Updated by a monthly revision service.

- **Airfield Manual Norway**

This is an annual subscription with 12 revisions. The Manual include sections; Special notes, General, Communications, Meteorology, Regulations, Emergency, Aerodrome Directory as well as Visual Approach, Landing and Area Charts for all (with a few exceptions) Norwegian airports, airfields and military aerodromes authorized for joint civil use.

- **VFR Trip-kit, Norway**

This is Jeppesen Bottlang Airfield Manual, covering Norway only without revision service.

- **Aeronautical Chart ICAO, 1:500 000**

This chart is preferred by pilots for VFR cross-country flights.

3 charts covering Norway:

Southern Norway

Central Norway

Northern Norway

- **Helicopter/Light Aircraft Charts (HLC), 1:250 000**

25 charts covering entire Norway, except Oslo and Hamar. It is recommended for pilots who want a handier chart with more details.

- **M517 Air Aeronautical Charts, 1:250 000**

These charts will replace HLC. For the moment only Oslo (including Hamar), Molde and Bodø is covered by these charts.

- **ONC, 1:1000 000 and TPC, 1:500 000 Charts**

American navigation charts with limited flight information.

The above mentioned charts are available from accredited agents throughout Europe and USA.

For purchasing in Norway, contact:

Norsk Aero A/S, NAK Shop

P.O. Box 826 Sentrum

NO-0104 Oslo Norway

Office: Wergelandsveien 1, Oslo

TEL: +47 23 10 29 03

FAX: +47 23 10 29 02

E-mail: nak.shop@nak.no

Web: www.nakshop.no

Air Traffic Map Svalbard may be purchased from:

Norsk Polarinstitut

NO-9170 Longyearbyen Norway

TEL: +47 79 02 26 00

FAX: +47 79 02 26 04

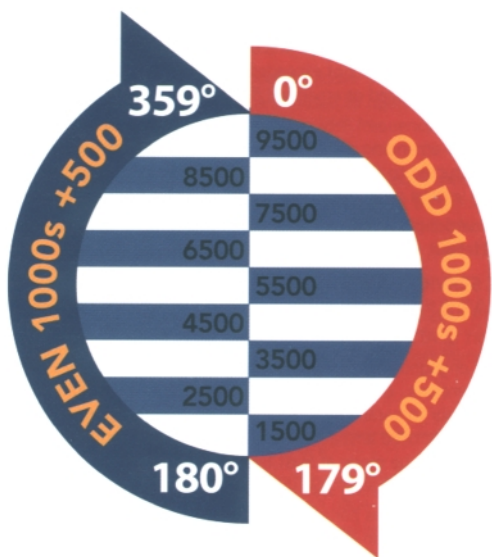
Aeronautical Information Publications (AIP) Norway in English is now available on CD-ROM. This document covers all information regarding Norwegian Airspace and Aerodromes and includes charts for VFR Routes Light Aircraft. It can be purchased as a single edition (no revisions) through Norsk Aero A/S.

Military Low Flying Areas

Military low flying occurs within areas shown on charts, at altitudes between 200 and 500 feet above ground and water with visibility of minimum 8 km.

Geographical details of these areas are available at the ATS units where special charts, scale 1:500 000 are at hand.

Cruising Levels



Pre-flight Met Briefing and Volmet Broadcasts

Personal briefing and consultation for flight crew members is provided at the main aerodromes. At all other aerodromes consultation is available by telephone. ATS units are connected to the Norwegian Aeronautical Information System (AIS), which means that NOTAMs and various AIS and MET bulletins, including the special area forecasts for lowland, coast and fjord districts of Norway (IGA-forecast), are provided by all ATS units.

Planning information is also available via internet on web address: <http://ippc.nais.luftfartsverket.no>

Volmet stations at Bodø (124,250 MHz) and Oslo (128,600 MHz) broadcast observations made at some major airports.

Go/No-go Weather Criteria

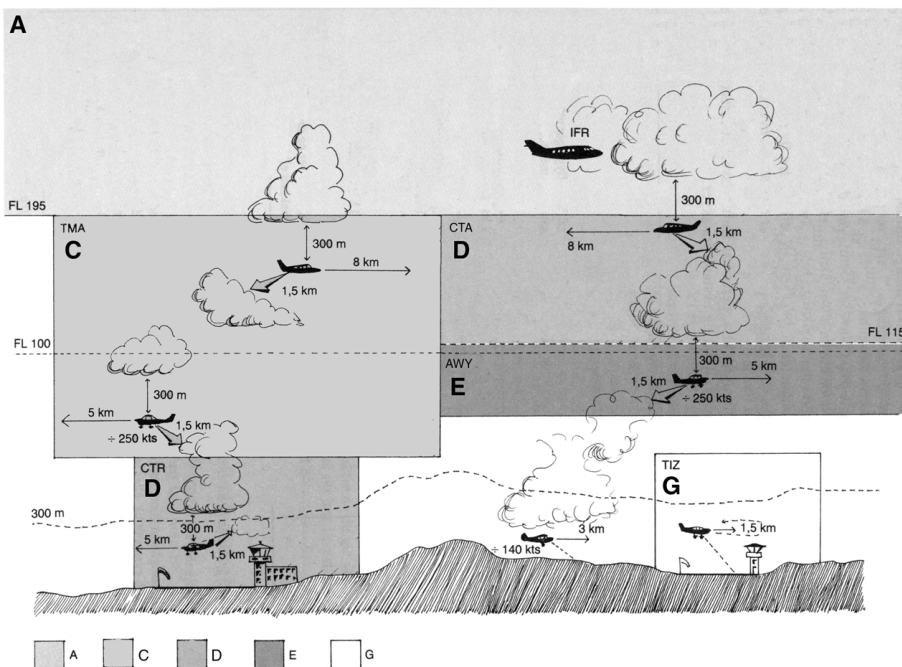
During your flight planning for a flight below the clouds of a distance of more than 50 nm, you must obtain weather forecast/information, showing that the ceiling and visibility along your entire route will be equal or better than 1000 feet and 5 km.

For night flights of a distance of more than 50 nm the criteria are respectively 2000 feet and 10 km.

When planning to fly VFR on top, which are allowed only during day time, the weather forecast/information at your destination must show that cloud coverage is not more than scattered and that ceiling and visibility is at least 1000 feet and 5 km at the time of planned descent.

If you can't meet these criteria, you can't go.

Visual Meteorological Conditions (VMC)



Weather Minima for Special VFR Flights

A clearance to operate within a control zone as a special VFR flight when the ground visibility or the flight visibility is between 5 and 3 km may be obtained.

Aeroplanes at speeds not exceeding 140 kts IAS which intend to conduct the whole flight within the control zone or to enter the control zone and land at the aerodrome within the control zone may be cleared to operate as a special VFR flight provided the ground visibility and the flight visibility is not less than 1.5 km.

VFR Flights between Sunset and Sunrise

During the period between the end of evening civil twilight and the beginning of morning civil twilight all flights within controlled airspace shall be conducted in accordance with the instrument flight rules. Special authorization to operate in accordance with the visual flight rules may, however, be obtained from the Norwegian Air Traffic and Airport Management or from the appropriate air traffic control unit.

VFR on top

Due to the possibility of an engine failure while flying VFR on top in a single engine aircraft, you should always be certain that the cloud base is equal or higher than Minimum Safe Altitude (MSA), 10 nm either side of your planned route. To calculate your MSA on the ICAO 1:500 000 chart, you should add 1000 ft to the published Maximum Elevation Figures (printed in each quadrangle) along your route. This will give you a safety margin of 1000 ft above highest obstacle including any unmarked obstacles.

Be aware, if you are in the need of returnig back, that the hole in the cloud you ascended through easily can close up at lot more quickly than you can decend back through it.

Operative Flight Plan

You have to prepare and use an Operative Flight Plan for VFR flights extending more than 50 nm from your origin.

Fuel Planning

The regulations require, before initiation of the flight, that you have enough fuel onboard to fly to your destination and then for 45 minutes.

Bear in mind that if you are in need of refueling along the route or at your destination, you should have it confirmed that the refueling site you are intending to use actually do offer 100LL fuel.

Flight Plan

For your own safety, you should always file a flight plan with ATS. Besides, filing a flight plan in Norway is free. If you are unable to do so, you should give a person on the ground your flight details, so if circumstances dictate, SAR will be able to get information about the flight.

A complete flight plan is mandatory for:

- All flights originating outside Norwegian territory and planned to enter or pass over Norwegian territory. The flight plan must be submitted to reach appropriate Norwegian ATC no later than 60 min prior to aircraft entering Norwegian territory.
- All flights in controlled airspace C and D, which limited flight plan information is sufficient for VFR flights of local character or where a minor part of the flight is conducted within this airspace. The time limit for submitting such limited flight plan information to obtain a clearance is within “due time”. The time limit for submitting a complete flight plan is 30 min prior to takeoff or while in flight, 10 min prior to entering relative controlled airspace.
- All flights within EN-R402 (Finnmark).
- All flights where Search and Rescue (SAR) is requested.

Departure Message

If taking off from an airfield where ATS is not provided, the pilot must transmit a departure message by one of the following means:

- Telephone from a person on the ground as arranged between the pilot-in-command and the person involved.
- A statement by the pilot-in-command to the ATS that EOBT (Estimated Off-block Time) in the flight plan shall be considered as ATD.
- By giving the time, considered to be ATD, to ATS on telephone immediately prior to taxiing out for take off.

The flight plan will not be activated unless one of the above procedures has been complied with.

Arrival Report

Arrival report and closure of the flight plan must be made within 30 min after ETA, or else SAR will be initiated. If an arrival report is not expected to reach the appropriate ATS unit within 30 minutes after ETA, item 18 in the flight plan shall contain the latest time at which an arrival report can be expected.

The pilot or the operator may be charged for the total costs of SAR operations if the pilot has failed to comply with the appropriate rules for notification to ATC of:

- deviations from the flight plan, or
- closing of the flight plan, resulting in initiation of SAR operations.

Note: If you are planning to use Oslo airport, Gardermoen, allocation of departure and arrival times (Slot time) is compulsory.

For slot time, contact the Scheduling Coordinator at Oslo airport, Gardermoen on:

Tel: +47 64819050

Fax: +47 64819051

Completing a Flight Plan

This guideline will cover most conditions regarding completing and submitting a complete Flight Plan for an ordinary day VFR flight within Norwegian borders.

The Flight Plan is to be submitted to ATS no later than 30 minutes prior to taxiing for takeoff. If you are submitting by fax, remember to call ATS to have receipt and content confirmed.

7. Aircraft Identification:

(e.g. LNABC).

8. Flight rules:

Always **V** (for VFR).

- *Type of flight:*

Always **G**.

9. Number:

Normally left blank.

- *Type of aircraft:*

ICAO code (if unknown, use **ZZZZ** and write “**TYP/** followed by type of aircraft in plain language” in item 18).

- *Wake turbulence category:*

Always **L** (for light).

10. Equipment:

Left of the dash, enter code for COM/NAV/Approach

equipment installed and serviceable. Most common codes: **D** = DME, **F** = ADF, **L** = ILS, **O** = VOR, **V** = VHF radio. Right of the dash, enter transponder code: **N** = no transponder, **A** = transponder mode A, **C** = transponder mode A and C.

13. Departure aerodrome:

ICAO's 4 letter code. For aerodromes without an ICAO 4 letter code, enter Flight Information Region (FIR) code, which depar-

LUFTFARTSVERKET
SIVIL AVISJON ADMINISTRASJON

FLIGHT PLAN
REISEPLAN

Priority: FF

Address: (blank)

Filing time: (blank)

Origin: ASL

Specific identification of addressee(s) and/or originator: (blank)

3. Message type: FPL

7. Aircraft identification: LNABC

8. Flight rules: V

9. Number: (blank)

10. Equipment: G

11. Departure aerodrome: ZZTR

12. Time: 1430

13. Cruising speed: (blank)

14. Level: (blank)

15. Route: DCT FOLLDAL DCT RINGEBU

16. Destination aerodrome: ENKJ

17. Other information: DEP/OPPDAL DOF/020823
RMK/WILL OPEN FPL WITH TRONDHEIM CONTROL
RMK/WILL CLOSE FPL BY PHONE AFTER LDG
RMK/TEL PIC +47 911 91334

18. Supplementary information: (blank)

19. Endurance: (blank)

20. Equipment: (blank)

21. Aircraft colour and markings: WHITE WITH BLUE TRIM

22. Pilot in command: JOHN PILOT

23. Time received by ARD: (blank)

ture aerodrome sorts under. See FIR code table on the next page. Write **DEP/** in item 18 followed by geographical name or position of departure aerodrome.

- *Time:* Enter taxiing for takeoff time UTC. (UTC is Norwegian standard time -1 hrs, or -2 hrs while summertime).

15. **Cruising speed:**

Write N0 followed by estimated true airspeed (TAS) in knots.

- *Level:* Always **VFR**.

- *Route:* Write route points which must be less than 30 minutes apart. Use known geographical names in plain language, nav aids or coordinates. Separate the points with the letters **DCT**.

16. **Destination aerodrome:**

ICAO's 4 letter code. For aerodromes without an ICAO 4 letter code, enter Flight Information Region (FIR) code, which destination aerodrome sorts under. See FIR code table. Write **DEST/** in item 18 followed by geographical name or position of destination aerodrome.

- *Total Estimated Elapsed Time:*

Hours and minutes from takeoff to landing.

- *Alternate aerodrome:*

ICAO's 4 letter code. For aerodromes without an ICAO 4 letter code, enter Flight Information Region (FIR) code, which alternate aerodrome sorts under. See FIR code table. Write **ALTN/** in item 18 followed by geographical name or position of alternate aerodrome.

18. **Other information:**

If no information, enter 0 (zero). When submitting Flight Plan more than 24 hrs prior to start, date for departure shall be noted. Use date of flight, e.g. **DOF/021224** (=Christmas Eve 2002). Other information as seen relevant, e.g. pilot in command phone number, shall be written in plain language after the abbreviation **RMK/**.

19. **Endurance:**

Estimated time in hours and minutes from start till all usable fuel is used.

- *Persons on board:* Numbering (zeros in front).

- *Emergency radio:* Cross out **U** if no 243.0 MHz frequency or **V** if no 121.5 MHz frequency is available on portable emergency

radio. Cross out **E** if no Emergency Locator Transmitter is carried.

- *Survival equipment*: Cross out equipment not carried.
- *Dinghies*: Cross out **D** and **C** when dinghies not carried.
- *Aircraft colour and markings*: Plain language.
- *Remarks*: Concerning emergency equipment; Cross out **N** if no remarks.
- *Pilot in command*: Name (capital letters).
- *Filed by*: Name (capital letters).

Remember to cancel Flight Plan no later than 30 minutes after **actual departure time + estimated elapsed time**. Otherwise Search and Rescue will be initiated.

A flight plan provides you with automatic Search and Rescue services if needed!

Flight Information Region (FIR)	ICAO Code
OSLO FIR	ZZOS
STAVANGER FIR	ZZSV
TRONDHEIM FIR	ZZTR
BODØ FIR	ZZBD
BODØ OCEANIC FIR	ZZOB

Flights in Mountain and Remote Areas

Norway mainly consists of mountainous terrain, deep fjords often encircled by sharply rising terrain and remote areas. Adding Norwegian weather conditions, which often can change rapidly from good to worse resulting in such as fog, low cloud base, precipitation, icing and strong winds, will necessitate for special planning considerations, safety/survival equipment and flying skills. You should always have planned for alternatives while flying in such areas. Because of Norwegian topography and settlement remote areas are not easily defined, but good examples are Hardangervidda, Jotunheimen, Finnmarksvidda and of course Svalbard.

Mountain Flying

The purpose for this section is not to give you a comprehensive lecture on how to fly in the mountains. The purpose is rather to give you some appreciations on what is involved, and to raise your alertness of unsafe conditions. Deteriorating weather conditions and winds above 15 knots will have a greater effect on you and your aircraft in the mountains than over flatland. Seek local knowledge and by all means, get some mountain flying instructions if possible. If you are inexperienced in mountain flying and prevailing and/or forecast weather are marginal or winds are close to 20 knots or more, find another time to fly.

Even though high mountainous terrain with “Glittertind” as the highest, reaching to an elevation of 8110 ft, the vast majority of airfields listed in “Airfield Manual Norway”, are situated in valleys and fjords, not many above 2000 ft with “Wadahl” as the highest situated at an elevation of 3150 ft. What is of concern is that many of these airfields have high and sharply rising terrain close by, which could create turbulence, downdrafts and windshear in windy conditions, and during low visibility and low cloud base, extra care should be taken while approaching and departing such airfields. Study the Approach and Landing Chart for the airfield carefully and pay extra attention to the Caution note.

Even though the vast majority of airfields are situated at lower elevations where density altitude will not normally be of major concern (depending on the nature of the surrounding terrain), attention to high altitude techniques is important due to high elevation landings sites such as small private airfields, lakes and snow airfields. Even “Wadahl” airfield (3150 ft) with its 500m gravel runway on a hot summer day of 25°C, will give a density altitude of 4840 ft. This will undoubtedly have an impact on your aircrafts performance. For example, a normally aspirated engine will lose 3% of its power per thousand feet of density altitude increase.

Takeoff

Starting and taxi at high density altitudes are performed as you would at sea level, except you must lean the mixture significantly to avoid fouling the spark plugs. Run-up is also normal except a full power run-up of non-turbocharged engines should be used to set mixture for takeoff power.

If you are planning to take off heavy, remember that 10 % increase in weight, increases the stall speed by 5 %, and since lift-off speed is generally about 15% above the stall speed, this increase in weight will result in a higher lift-off speed. Since your true airspeed increases with increasing density altitude for a given indicated airspeed (add 2% to TAS per 1000 feet of altitude), the visual cues of higher ground speed on takeoff at a high density airport can make a novice pilot to rotate at a too low IAS. You should also be aware of the temptation to over-rotate to try to compensate for the reduced climb performance resulting from higher density altitude. This is especially important when taking off from a down sloping airfield where your relative airflow over the wings is now parallel with the slope of the airfield and not with the horizontal plane. A rotation to a normal climb out attitude with reference to the horizontal plane will result in a higher angle of attack which reduces your safety margin for stalling the wing. When taking off from a down sloping airfield, remember to rotate to a flight path parallel with the horizontal plane to pick up speed before increasing your climb out flight path. Do not turn before reaching 500 feet AGL with sufficient speed. Too many accidents have occurred

during a climbing turn while heavy on a warm day high altitude take off. Remember that your stalling speed will increase by 10% in a 30° of bank, 20% in a 45° of bank and 40% in a 60° of bank.

As a rule of thumb, you should achieve lift-off speed by half runway length. This will give you the option to abort the takeoff at lift-off speed if necessary and also give you an adequate airborne distance after rotation to climb clear of obstacles in front of you.

You should also bear in mind that several Norwegian airfields have sharply rising terrain close by, which under disfavoured windy conditions could call for a spiral climb above the airfield instead of a straight climbing departure towards rising terrain.

Downdrafts

Down drafts can seriously affect the climbing capability of your aircraft. To demonstrate this, let say a wind of 25 kts is blowing down a mountain side of 20 degrees. The vertical component will equal 9 kts. 1 kts is 1nm/hrs, which again equal 6080 ft/hrs or approx. 100 ft/min. This means that your aircraft under these conditions are subject to a vertical force pushing your aircraft down with a speed of 900 ft/min. This force can easily overcome your aircraft climb performance, especially at higher density altitudes. This is especially important to have in mind before takeoff where you have a head wind blowing over rising terrain in front of you.

Windshear

Most of the windshear that occur in Norway during winter are caused by temperature-inversions at ground level. These wind shears are usually long lasting and may be detected by measuring the wind at higher levels (mountain peaks) above the runway level.

Wind gauges for this purpose are installed at the following aerodromes:

ALTA (ENAT)

BANAK (ENNA)

BERGEN/Flesland (ENBR)

HARSTAD/NARVIK/Evenes (ENEV)
KIRKENES/Høybuktmoen (ENKR)
MOSJØEN/Kjærstad (ENMS).

In windshear situations these wind observations will be included in the METARs from the aerodromes.

Information on forecast/reported windshear will be passed on radiotelephony by use of the phraseologies listed below, having the meaning stated. The information is included in ATIS broadcasts at aerodromes where this service has been established.

Phraseology	Meaning
Windshear forecast	The weather situation indicates that windshear may be present below 3000 FT AAL.
Windshear forecast and reported	The weather situation indicates that windshear may be present below 3000 FT AAL, and that at least one aircraft, within the last 30 minutes, has reported windshear during approach or departure.
Windshear reported	At least one aircraft has, within the last 30 minutes, reported windshear during approach or departure, but the basis for forecasting windshear is not present.

Enroute

Route selection over mountainous terrain does often involve more than drawing a straight line between your origin and destination. Wind conditions, cloud base and proper emergency landing sites along your route often necessitate route selection along valleys and fjords, and choosing an alternative plan goes hand in hand with the selection of route.

Weather conditions along your route must of course be equal or better than those specified by the Visual Meteorological Condition (VMC), but you should not push your luck by flying in mountainous terrain

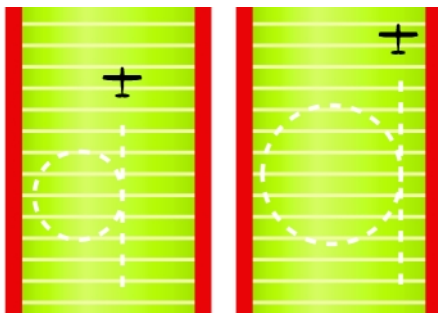
during marginal conditions. Even locally experienced pilots find it sometimes difficult and stressful to aviate and navigate during such conditions. Set your own personal minimums and stick to them.

Rapidly deteriorating weather and windy conditions is what makes mountain flying so challenging and sometimes dangerous. If you start to feel uncomfortable due to uncertainty of where you are, clouds forcing you down, reducing visibility, increasing turbulence or downdrafts, you should do something about it. Make an evaluation of the situation, make a decision and act upon it. Don't fly along and hope for the best. If you are in doubt, there is no doubt that you should do something about it. Turn around and go back or choose an alternate route, and do it in time.

Here follows a few guidelines on mountain flying techniques:

Air will in many ways flow like water. So when air moves along, it will change directions, decelerate or accelerate, move up and down like waves or tumble around when it hits obstructions or being squeezed through mountain passes. In windy conditions (in this context, meaning more than 15 knots at ground level and increasing with altitude), turbulence, updrafts and downdrafts will start to have an impact on flight conditions.

If you decide to fly at high altitudes under such conditions, add a safety margin of at least 1000 feet above the peaks along the route to stay away from mountain waves.



Positioning to one side of the valley leaves maximum room to turn.

If you decide, under such conditions, to follow the valleys or fjords below the ridgelines, you should be proficient in assessing wind direction and speed, and where to position yourself in the valley.

Before entering a valley, be sure it is the right valley by referring to the map and navigation

instruments. Too many pilots have ended dead at the dead-end.

Fly on the downwind side of the valley to avoid downdrafts on the lee side and to gain uplift advantage from the updrafts, and preferably fly on the right hand side to avoid opposite traffic. Flying on the downwind side will also help you if you have to turn back in a narrow valley. You will have more space and you will turn into wind, which will tighten your radius of turn. See illustration. You should bear in mind that for a given rate of turn, an increase of only 10% TAS will increase your turn radius by 20%. A controlled climbing or descending turn can reduce your turn radius significantly. Bank angle which will correspond to a Rate One turn can be found by adding 10% of airspeed to 7° . So at 80 knots, bank angle will be $8 + 7^\circ = 15^\circ$. Bank angle for Rate Two will in this case be 30° . Get familiar with your aircraft turn radius before you fly into a narrow valley.

When you are planning to cross a ridge, you should first of all be certain that you will be able to cross it with adequate terrain clearance. On climb from lower terrain in windy conditions, you should plan to reach safe altitude in good distance before the crossing point. Don't try to out climb the mountain wall. This can be very dangerous due to unexpected downdrafts and uncertainty of the steepness of the wall. You will clear the ridge if you can see more terrain behind the ridge than in front of it. Add at least 1000 feet for safety in windy conditions. Approach and cross the ridge at 45° to the ridge preferably with the ridge on your left side for better view. This will give you a less angle to turn to steer away from the ridge if necessary, and make sure your escape will be downhill and downstream.

Landing

If you are intending to land at an airfield you are unfamiliar with, you should make a low pass and have a closer look at the airfield and its surroundings. Make an assessment of the airfields length and surface, wind, terrain and wires. Plan your departure track and look for escape routes and emergency landing site in the event of an engine failure right after takeoff.

In windy and gusty conditions and if there is a chance for downdrafts, aim for a touchdown one quarter down the runway, which will ensure some extra height above the threshold. Keep some power in and use full flaps. If the effective length is limited but adequate, you should

make a normal approach to your selected touchdown point, but during this phase do not look at the strip length. Doing so will almost certainly cause you to overshoot. An airfield looks shorter on approach compared to when flying over it, so concentrate on getting the aircraft down where you want it and then concentrate on the landing ground roll.

Wires

When you fly along valleys or fjords and during takeoffs and landings, you should pay extra attention to the possible presence of wires. Wires often run across valleys and fjords between the poles situated on the ridgelines. The lowest part of the span can be several hundred feet above ground depending on the steepness and height of the mountains and the width of the valley. Wires can often be almost impossible to see in time, so in your search for wires you should look for the poles. The firebreak along the path of high voltage wires is also a good indication of the presence of wires. If you encounter wires, you should try to cross at a height equal or above the height of the poles or even better above the pole it serves. High voltage span, which can be easier to see, often have a much thinner earth wire running from the top of the poles, which are not that easy to spot.

Note: Not all wires are depicted on the charts, so to be on the safe side, you should not fly below the ridgeline if you are not absolutely certain about wire locations.

Wires kill!

Whiteout and Brightout

If you are going to fly over areas covered by snow or ice you can be exposed to the phenomenon called whiteout. Whiteout is a situation where you lose the ability to see surface texture, shadows and hollows. This can happen when the light is reduced by an overcast sky. Everything turns into a flattened white surface. You can easily lose your horizon under such conditions and the ability to judge height and distance can become impossible. Patches of clouds beneath the overcast sky will blend in with the background and

become invisible. This situation can be very dangerous during low level flying. This is one reason why you should not try to climb up a snow covered mountain hill or glacier head on.

Brightout will give the same flattening white surface appearance with no visible definitions. This can happen when bright sunlight from a clear sky shines on a white unmarked surface.

If you feel you loose your outside references, use your flight instruments to verify your flight attitude!

Svalbard

If you are planning to fly to Svalbard/Longyear, an application to use this airport has to be submitted to reach the Civil Aviation Authorities (CAA) at least two working days prior to the planned arrival at the airport. Fuel and oil available by prior arrangement only.

You shall, when flying over the high seas, carry a minimum of one portable ELT, life raft(s) able to carry all occupants, survival suits, emergency rations, first aid kits and blankets.

Weather conditions at Svalbard can be very unstable and local variations prominent. Reliable weather reports/info can sometimes be hard to obtain, which calls for considerable attention while assessing flight conditions in these areas. The larger fjords are often ice-free, even during winter, due to strong currents. This often results in frost mist and/or low dense fog. During winter, winds of more than 20 kts will always result in drifting snow, due to the fine-grained and dry snow. The danger for whiteout is always present.

You have to be familiar with Polar Region navigation when flying in Svalbard and its surroundings.

According to the Norwegian Operational Regulations (BSL D), aircrafts operating in Svalbard and its surroundings shall be of such color that will give good contrast to over-flying terrain. Otherwise the aircraft shall be marked with fluorescing paint or adhesive folio in color of red, yellow or orange. On airplanes these markings shall be placed on both sides of the wings, airframe or tail section. Total marking shall not be less than 2 m².

Areas with Sensitive Fauna

There are three National Parks and two Nature Reserves established in Svalbard, in addition to several smaller Protected Areas. Approximately 50% of the land areas are affected by Conservation Rules. In addition there are also several vulnerable areas of birds and mammals. A number of Provisions control the use of aircraft in these areas. The above-mentioned areas are shown on 1:500 000 scale maps over Svalbard, and the rules applying to the use of aircraft in these areas are also stated.

A brief summary of the Provisions states that it is prohibited for aircraft to land within National Parks and Reserves. Visitors (including pilots) must pay particular attention to plant, wildlife and areas of special importance to wildlife, particularly to areas shown on Norsk Polarinstitutt's pilot map series. During the period 1st of April – 31st of August an aircraft are prohibited to be flown closer than 500m from bird cliffs.

Pilots in command are obliged to know the Conservation rules and maps, and to confirm this by signing a protocol in the tower at SVALBARD/Longyear aerodrome.

Survival and Personal Equipment

Flying in mountainous and remote areas in Norway and Svalbard calls for special attention to type of equipment carried. During the winter months, the temperature can often get down to -30° C or colder. A forced landing in such conditions emphasise the importance to have proper winter clothing, boots and other equipment.

As a guide, such equipment should be:

Compass, knife, blankets, storm matches, ordinary matches contained in a waterproof packing, stearin candles, primus, emergency rations, first aid kit, emergency light signals, snow shuffle and skies or snowshoes.

Flying in coastal areas in Svalbard and northern Norway often involves flying over very rough and pointy terrain where sometimes the only option for an emergency landing is by ditching in the ocean or the fjord. Since the water is very cold, even during summertime, and ice free, even during wintertime, a survival suit for each occupant is advisable.

Communication

SSR Transponder

Aircraft flying VFR within Norwegian Flight Information Regions (FIR) must in airspace class A, C and D, and in airspace class G above FL 195, carry and use SSR-transponder.

Transponder equipped uncontrolled VFR-flights shall select mode A/3 code 7000, unless otherwise instructed by the appropriate air traffic services unit.

Controlled aircraft entering Norwegian FIR/UIR from areas where no SSR-code has been assigned shall select mode A/3 code 2000.

Always use Mode C for vertical separation purposes if installed.

Aerodrome Flight Information Service (AFIS)

Traffic Information Areas (TIA) and Traffic Information Zone (TIZ), both G-Airspace, are established at airports where the traffic is relatively light and therefore only AFIS is provided (call sign: INFORMATION). Hence, the responsibility for avoiding collisions solely rests with the pilots when flying in to or out from these airports. Two-way radio contact with AFIS is mandatory, while flying within TIA and TIZ. The AFIS unit will state runway in use, weather, time and traffic situation considered.

Phraseologies used exclusively while flying at an AFIS aerodrome:

“RUNWAY FREE” means that the runway is cleared for other traffic and usable for taxiing, takeoff or landing.

“RUNWAY OCCUPIED” means that the runway is occupied by other traffic and not usable for taxiing, takeoff or landing.

“INFORM (ME).....” is a request to the pilot to inform AFIS of PASSING (or PASSING OVER or ON or AT), POSITION or ALTITUDE.

Pilots shall report their whereabouts, intentions, position in the circuit and AIRBORNE (time) and LANDED (time).

Airspace

In Norway we have standard class A, C, D, E and G airspace.

Clearances to Operate in class D Airspace outside the Hours of Service of the ATC Unit

Established as Control Zone (CTR)

No clearance is required to operate as a VFR flight in class D airspace, established as a CTR outside the published hours of service of the unit responsible for providing service in the CTR. Flights are, however, in such period required to maintain listening watch on the control frequency.

Flights are, however, not permitted to take off or land at state owned controlled aerodromes unless ATC is provided, and not to operate within a CTR between the end of evening civil twilight and the beginning of morning civil twilight unless a clearance has been obtained.

Established as Terminal Control Area (TMA)

A clearance to operate in class D airspace, established as a TMA, outside the published hours of service of the ATC unit normally providing service within the airspace, may be obtained from the appropriate ACC which may specify conditions to be complied with.

Emergencies

Search and Rescue Services (SAR)

The services are provided by two Rescue Co-ordination Centres. In addition 16 Rescue Sub-centres, associated to air traffic services units, have been established, being responsible for initiating search and rescue actions.

Rescue Coordination Centres are:

Stavanger Rescue Co-ordination Centre, Sola (South of 6500N):

Tel: +47 51517000

Fax: +47 51652334

Hours of services: 24H.

SAR area:

Bodø Oceanic FIR south of 6500N

Oslo FIR

Stavanger FIR south of 6500N

Trondheim FIR south of 6500N

Bodø Rescue Co-ordination Centre, Bodø (North of 6500N):

Tel: +47 75521267

Fax: +47 75524200

Hours of service: 24H.

SAR area:

Bodø FIR

Bodø Oceanic FIR north of 6500N

Trondheim FIR north of 6500N

SAR HEL (Helicopter) is normally stationed at the following aerodromes: Banak (ENNA), Bodø (ENBO), Stavanger/Sola (ENZV) and Ørland (ENOL). SAR HEL is able to reach any place within mainland Norway within 90 min direct flight from its home base.

Emergency frequencies are: 121.50 MHz and 243.00 MHz. In addition the international maritime distress frequencies 500 KHz and 2182 KHz are guarded by coastal radio stations.

If due to engine failure, weather conditions or other unexpected circumstances an uninformed diversion from flight plan is necessitated, resulting in landing somewhere else than planned and where there are no means of contacting ATC/ATS, the CAA recommend following procedure:

By the use of your aircraft radio, if still intact and safe to use, or a handheld radio, call and listen out on 121.5 MHz for the first 5 minutes after full and half hours. ATC will be requesting other aircrafts along your planned route to call and listen out on this frequency on these specific times as an additional aid to locate you.

Emergency/Precautionary Landing

If you are forced down due to engine failure, maintain altitude by selecting best glide speed. The best glide ratio for a traditional single is about 12:1, which will give you about 2 nm gliding distance per 1000 feet height AGL. So your best friend during an engine failure is height, which will give you time and distance. Trim your aircraft to maintain your best glide speed and to ensure control of the aircraft. Aim for best suitable field for an emergency landing and go through your engine failure check list, and then communicate with ATC.

Remember to first aviate, so deviate then communicate!

Use of Emergency Locator Transmitter (ELT)

An ELT is a valuable search aid if your aircraft is forced down and is mandatory while flying in Norwegian airspace. Proper use and activation of your ELT can be paramount for your survival. Study the manufacturer's instructions thoroughly.

A few guidelines:

- If you are forced down: Activate ELT immediately.
- If in water and the beacon is floating, the ELT should be activated in the water and allowed to float to the end of the lanyard with the aerial vertical. Do not hoist the ELT up a mast. The performance of an ELT may be degraded if it is raised above the water surface.

- If on land and your ELT is portable, place the ELT on the ground on an earth mat. If an earth mat is not available, place the ELT on the wing of the aircraft or another metal reflective surface.
- Make sure the ELT remains vertical by securing it with rocks, tape etc.
- Do not deactivate the ELT even if it is damaged.
- In many cases a portable ELT standing on an earth mat will increase effective range by 50 %. Such an earth mat can easily be made by using household aluminium foil to make a 120 cm square. Fold it and tape it to the unit. To use the earth mat, unfold it and place the ELT on top.

Other Information

Aircraft Entering or Leaving Norway

Permission to Enter

For private flights into or over Norwegian territory with aircraft registered in a State party to the Chicago Convention, no prior permission is required.

For private flights into or over Norwegian territory with aircraft registered in a State not party to the Chicago Convention prior permission is required.

Application for such permission should be submitted to reach the Civil Aviation Authority (CAA) at least 48 hours prior to the estimated time of entry into Norwegian territory. Saturdays/Sundays and Norwegian public holidays must not be included in this time limit.

Valid insurance covering third party liability is mandatory for private flights conducted over Norwegian territory.

No animal may be brought into Norway without an import licence from:

Norwegian Animal Health Authorities

Tel: +47 22241940

Fax: +47 22241945

Customs and Immigrations

Aircraft flying into or leaving Norwegian territory shall, for the purpose of customs and immigration clearances, make their first landing or last takeoff from an international aerodrome as listed below, unless exemption from this rule has been granted in special cases by the authorities concerned.

Norwegian International Aerodromes

ALTA	ENAT
BERGEN/Flesland (MIL/CIV AD)	ENBR
(customs free of charge during office hours)	
BODØ (MIL/CIV AD)	ENBO

FAGERNES/Leirin	ENFG
HARSTAD/NARVIK/Evenes (MIL/CIV AD)	ENEV
HAUGESUND/Karmøy	ENHD
KIRKENES/Høybuktnoen (MIL/CIV AD)	ENKR
KRISTIANSAND/Kjevik	ENCN
NARVIK/Framnes	ENNK
OSLO/Gardermoen (MIL/CIV AD)	ENGM
(customs free of charge during office hours)	
RØROS	ENRO
STAVANGER/Sola (MIL/CIV AD)	ENZV
(customs free of charge during office hours)	
SVALBARD/Longyear	ENSB
TORP (MIL/CIV AD)	ENTO
TROMSØ	ENTC
TRONDHEIM/Værnes (MIL/CIV AD)	ENVA
ÅLESUND/Vigra	ENAL

The CAA may in certain cases grant permission for single flights or a series of flights to and from aerodromes which do not have status as international aerodromes.

Pilots requesting customs at aerodromes where such requests shall be forwarded to the appropriate ATS unit, shall in item 18 of the flight plan include the abbreviation "RMK", followed by the words "REQUEST CUSTOMS".

When the customs authorities have approved an exemption for an aircraft from the requirement to use an international aerodrome, this shall be indicated in item 18 of the flight plan by inserting the abbreviation "RMK", followed by the words "CUSTOMS ARRANGED".

Entry or exit control may as a main rule not take place at border crossings between Norway, Belgium, the Netherlands, Luxembourg, France, Germany, Spain, Portugal, Greece, Italy, Austria, Sweden, Denmark, Finland or Iceland (internal Schengen-border).

When crossing a border to countries not mentioned above (external Schengen-border), passengers are obliged to hold a valid passport, or other travelling identity document approved by the appropriate authority instead of passport, and with visa inserted when required.

Contact details:

Directorate of Customs and Excise
P.O.Box 8122 Dep.
NO-0032 OSLO
Norway

TEL: + 47 22 86 03 00
FAX: + 47 22 17 54 85

Directorate of Immigration
P.O. Box 8108 Dep.
NO-0032 OSLO
Norway

TEL: + 47 23 35 15 00
FAX: + 47 23 35 15 04

Flights between Norway and Sweden

The Directorate of Customs and Excises has established a simplified customs and immigration clearance procedure for flights between Sweden and Norway with light aircraft.

The regulation concerns flights between two airfields where one or neither one is an international airfield or an airfield approved for the purpose of custom clearance.

The aircraft must not carry goods other than those listed as duty-free in accordance to the regulations of exemption from duty.

Each passenger must fill out a custom declaration form, stating that they do not bring with them goods not listed as duty-free. These forms are to be put in a sealed envelope and handed over to the custom officers at arrival or otherwise send to the custom service granting the flight. Exemption from this is when the flight is of private nature and the passengers are relatives of the pilot or are members of the same household as the pilot and the pilot is certain that no such goods are carried onboard by the passengers.

The aircraft must not depart before departure time, stated on the application form, without the customs permission.

Passengers and goods must not depart the aircraft before the arrival time, stated on the application form, without the customs permission.

The application form “Application for Flight Approval between Norway and Sweden” has to be filled out and sent, within 24 hours before departure time, to the collector of customs and excise.

The form which is in Norwegian is available on request from the Directorate of Customs and Excises.

At the time of printing of this booklet, there is a discrepancy between the Norwegian and Swedish regulations regarding time limit for submitting the form “Application for Flight Approval between Norway and Sweden”. You should check with the Norwegian Directorate of Customs and Excises if there have been any changes to these regulations. If not, the time limit is 24 hours.

Takeoff Charges/Weekly Season Card

For aircraft of foreign registration with a maximum authorised takeoff weight not exceeding 2000 kg, a Weekly Season Card covering takeoff charges may be purchased, provided that the flights are not made for commercial purposes.

The card is valid for 7 days from validation and covers takeoff charges for an unlimited number of takeoffs from all airports covered by these regulations, except at Oslo airport Gardemoen and Ørland.

The charge for this card is NOK 701,- for aircraft not exceeding 1500 kg MTOW and NOK 1884,- for aircraft weighting 1501 – 2000 kg.

The card may be issued for several 7-day periods in succession.

The card may be purchased from all airports covered by these regulations, except Ørland and Rygge and must be paid in cash or with a credit card. Payment can also be made to The Norwegian Air Traffic and Airport Managements (NATAM) bank account number 7874.06.01279.

At payment the following information shall be submitted:

- The charge for which the payment applies.
- The aircraft's nationality and registration number as well as its MTOW.
- The name and address of the owner or operator of the actual aircraft.

Any questions regarding the Weekly Season Card, contact the section:

Accounts Receivable in NATAM's headquarter.

Phone: +47 22942000

Fax: +47 22942152

E-mail: kunder@lv.no

Isolated- and Home Field Usage Restrictions

By law, it is not allowed to commit power driven traffic in isolated fields. Isolated fields of concern in relation to the conduct of flight, is frozen and open lakes. This means that it is not allowed for aircrafts to land or takeoff from lakes, neither frozen nor open.

Exemption can be given for special cases where one decisive criterion must be that the usage will have some sort of utilitarian value. Contact the community in question for clarification on permission to use the lake.

Landing and takeoffs from home fields can only be conducted by prior permission from the land owner.

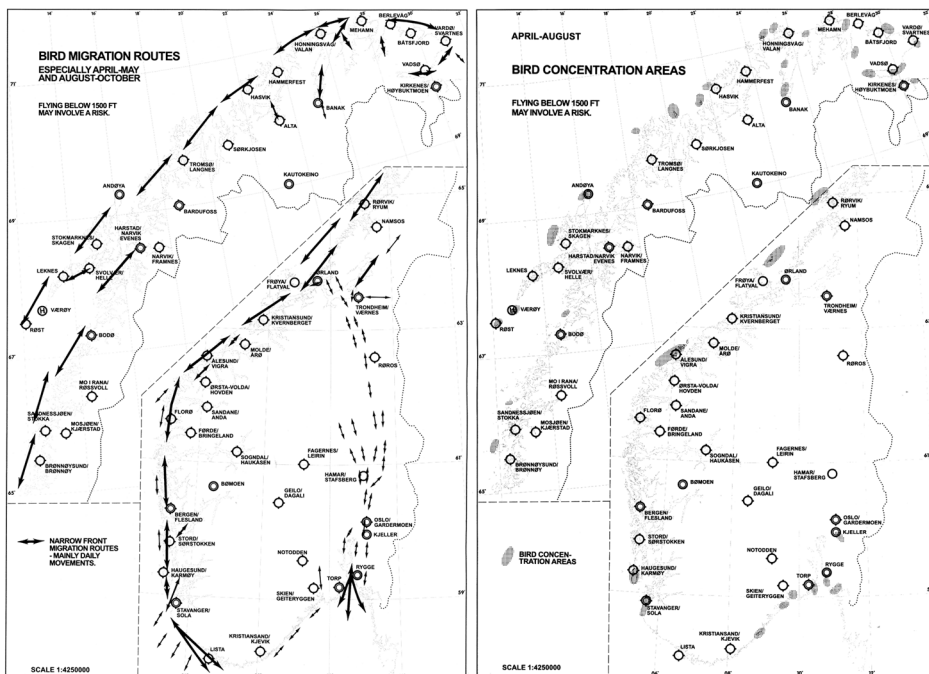
Bird Hazards

The risk of strikes between aircraft and birds should be taken into concern. The risk for bird-strikes is higher during migration where the autumn migration, peaking from mid August until mid October, involves a high number of birds where many are young and inexperienced as regards to aircraft encounter. Spring migration involves less numbers of birds and the peak period is from mid April to the end of May. Migration altitude during daytime varies from 500 feet to 3000 feet, and during night varies from 2000 feet to 5000 feet.

Bird concentration areas are often located on or close to airfields and during local movements; birds can fly as high as 3000 feet.

Remember that birds have a tendency to dive when disturbed in flight, so if on a collision course, try to pass over them if time and circumstances permit. Avoid any abrupt manoeuvres, especially during landing and takeoffs.

Bird Migration Routes and Concentration Areas:



Protection of Reindeer against Noise from Low Flying Aircraft

Observation of reactions amongst reindeer being exposed to noise from aircraft operating at low altitudes - also at altitudes above the minimum prescribed altitude - has shown that the effects are unwanted and may be harmful whether the flying takes place over herds of reindeer or over a single animal.

During the calving-, mating- and hunting season, which normally occurs from approximately 15th of April to 15th of June and from approximately 25 August to 31 October, the effects are particularly noticeable.

During the periods mentioned above, operations should be conducted at altitudes no lower than 1000 feet above ground or water.

Chasing reindeer by aircraft is considered a very cruel act and is actually a violation of the provisions in the Norwegian Rules of the Air.

Photographing

There are in general no restrictions regarding photographing from the air when the purpose is of a strictly private nature. Exception is that it is not allowed, without permission from Headquarter Defense Command, to take photo or film of military objects of any kind, special areas where prohibition against photography is stated or other objects which are of major importance for the Defense.

You can contact Headquarters Defense Command by calling +47 2309 8000, if you have any enquiries regarding the limitations mentioned.

Flight with Foreign Amateur Built Aircraft in Norway

In accordance with European Civil Aviation Council (ECAC) recommendation INT.S/11-1 Norway accepts flights over Norwegian territory by amateur built aircraft with a Certificate of Airworthiness or a “permit to fly” issued by the Civil Aviation Authority of another ECAC member state provided the aircraft has completed its flight test programme.

Amateur built aircraft in the class experimental from other than ECAC member states can not fly over Norwegian territory without special permission.

Use of Intoxicating Liquor, Narcotics or Drugs

The Norwegian Aviation Act contains the following provision: No person shall serve as a crew member when under the influence of intoxicating liquor or other stimuli or narcotics or when he or she, as a result of illness or fatigue or for other reason, is unable to perform his duties safely. In any event a person is considered to be under influence of alcohol as far as the law is concerned, when the alcohol concentration in the blood is in excess of **0.2 per mill** or the amount of alcohol in the body is large enough to lead to 0.2 per mill. Error regarding the extent of alcohol concentration in the blood shall not exclude liability for punishment.

A person having served as a crew member shall not during the first **6 hours** after completing a tour of duty consume alcohol or other stimuli if he or she knows or suspects that police investigation concerning his or her duties as a crew member is pendent; except if a blood test already has been taken or the police authorities have decided that such test is unnecessary. When there is reason to believe that the regulations above have been violated, the police authorities may order a medical examination, which may include a blood test, of the person responsible for the violation. The appropriate department will issue detailed regulations dealing with such examination and matters related thereto.

Contact Details

Charts and flight equipment:

Norsk Aero A/S, NAK Shop

P.O. Box 826 Sentrum

NO-0104 Oslo, Norway

Office: Wergelandsveien 1, Oslo

Tel. +47 23 10 29 03

Fax. +47 23 10 29 02

E-mail: nak.shop@nak.no

Web: <http://www.nakshop.no>

Air Traffic Map Svalbard.

This chart may be purchased from:

Norsk Polarinstitutt

NO-9170 Longyearbyen Norway

Tel. +47 79 02 26 00

Fax. +47 79 02 26 04

NOTAM (AIS/MET)

PO. Box. 8124 Dep.

N-0032 Oslo, Norway

Tel. +47 22 11 18 98

Fax. +47 22 94 21 68

OSL Slot (Gardermoen)

Tel. +47 64 81 90 00

Fax. +47 64 81 90 01

Directorate of Customs and Excise

P.O.Box 8122 Dep.

NO-0032 Oslo, Norway

Tel. + 47 22 86 03 00

Fax. + 47 22 17 54 85

OSL Customs (Gardermoen)

Tel. +47 64 82 10 00

Fax. +47 64 82 10 01

Met:

Main Office: Tel. +47 22 69 25 62
 OSL (Gardermoen): +47 64819014

Directorate of Immigration

P.O. Box 8108 Dep.
 N0032 Oslo, Norway
 Tel. + 47 23 35 15 00
 Fax. + 47 23 35 15 04

Norwegian Aero Club:

P.O. Box 383
 N-0102 Oslo, Norway
 Tel. +47 23 01 04 50
 Fax. +47 23 01 04 51

NATAM:

Tel. +47 22 94 20 00
 Fax. +47 22 94 21 52
 E-mail: kunder@lv.no

Civil Aviation Authorities - Luftfartstilsynet:

P.O. Box. 8150 Dep
 N-0031 Oslo, Norway
 Tel. 23 31 78 00
 Fax. 23 31 79 95
 E-mail: postmottak@caa.dep.no

Luftfartsskolen (Flight School)

P.O.. Box 826 Sentrum
 N-0105 Oslo, Norway
 Tel. +47 23 10 29 04
 Fax. +47 23 10 29 01
 E-mail: luftfartsskolen@nak.no
 Web: <http://www.luftfartsskolen.no>

Your Personal IMSAFE Checklist

Pilot

Experience/Recency

Takeoffs/landings

in the last

days

Hours

in the last

days

Mountain flying training

hours in the last

days

Planning

Charts and publications

confirmed current

Flight plan and log

completed

Terrain

Studied for lie of land

Route

options plotted

Physical

I - Illness

No symptoms

M - Medication

None or safe medication

S - Stress

None in last days

A - Alcohol or drugs

None in last hours

F - Fatigue

hours sleep in the last 24

E - Eating

In the last hours

- Hypoxia

Flight above 10 000 feet?

Personal

Decision making strategies

Escape routes noted and briefed

Aircraft

Fuel reserves

VFR day

hours

Performance

Density altitude

Additional performance available

Temperature

Hot and high?

Payload

Only what you need

Gross weight

Within limits and distribution

Performance charts

Completed for takeoff and landing

Use the form and fill in your own personal minimums.

Experience on type

Number of take-offs and landings

hours in last 90 days

Familiar with airspeeds

V_A V_Y V_X

Aircraft equipment

Comms

Familiar with system

GPS

Familiar with operation

Survival pack

Appropriate and available

Clothing

Suitable for terrain being flown over

Environment

Weather

Reports and forecasts

hours old

Wind

kts

Cloud base

feet

Visibility

kilometres

Aerodrome conditions

Density altitude

feet

Runway length takeoff/landing

metres

Surface conditions

Checked and suitable

External Pressures

Trip planning

Allowance for delays

minutes

Alternative Plans for Diversion or Cancellation

Notification of people you are meeting

Passengers briefed on alternative plans in case of diversion or cancellation

Modification or cancellation of social plans (reservations)

Arrangement of alternative transport (airline, car etc)