VFR guide for Norway 2019

Luftfartstilsynet

This guide is made for the purpose of assisting you, as a VFR pilot, in your planning and conduct of flight in Norway.

Introduction

Pilots of VFR flights within Norwegian airspace are invited to consult this guidance material on the understanding that it does not represent a substitute for the more comprehensive information contained in the AIP or regulations. In the event of conflicting information in this guide, information in the AIP or relevant regulation should be regarded as the authoritative source.

Please note that the Norway AIP can be viewed free of charge at: www.ippc.no The vast majority of the Norwegian land masses consist of mountainous terrain with countless valleys and deep fjords. You will enjoy a spectacular scenery and great fun while flying in these areas, but you should also bear in mind that the environment may suddenly "bite" you during unfavorable flight conditions. During low level flight, obstacles like power spans and masts, some of them not or only partly marked, will also pose a significant threat to you and your aircraft.

We hope this course will increase your awareness of unfavorable 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!**

Entering or leaving Norway

First landing in Norway shall be done at airports where custom services are available.

Aircraft entering Norway has to file a flight plan at least 60 minutes before departure. Privately operated aircraft with maximum take-off mass not exceeding 5700 kg and a maximum of ten passengers may also use other airfields, in that case, a complete ICAO flight plan shall be sent to the Directorate of Customs and Excise at the latest four hours prior to entering or leaving Norwegian territory. This requirement can be meet by forwarding a copy of your ICAO flight plan by e-mail to desken@toll.no. AIS/NOTAM may help you to forward a copy of your flight plan to the Directorate of Customs and Excise upon request.

If stated arrival or departure times has to be changed, the Directorate of Customs and Excise shall be notified ASAP: Phone: **(+47) 22 17 18 17** or send an e-mail to customs.

Aircraft shall not depart before the time stated in the flight plan without prior permission from the Customs service. Persons who arrive with the aircraft shall not leave the aircraft prior to the arrival time stated in the flight plan. Goods carried on board shall not be removed from arrived aircraft prior to the arrival time stated in the flight plan.

TOLL.NO

Relief in the duty to notify Customs about small aircraft etc. in traffic between Norway and other Schengen countries - Norwegian Customs

Regulations concerning relief in the duty to notify Customs about small aircraft etc. in traffic between Norway and other Schengen countries. (Regulations to the Act on Customs Duties and Movement of Goods (Customs Regulations) - Section 3-2-2, 3-2 ..

READ MORE TOLL.NO >

Aircraft shall only carry goods which:

1. Can be imported/exported free of tax and duties according to existing rules of exceptions from these Regulations
2. Are not included in the import/export restrictions, and not require clearance.

Norwegian International Aerodromes

- **BERGEN/Flesland**
  ENBR
- **HARSTAD/NARVIK/Evenes**
  ENEV
- **HAUGESUND/Karmøy**
  ENH
- **KIRKENES/Høybuktmoen**
  ENKR
- **MOLDE/Årø**
  ENML
- **OSLO/Gardermoen**
  ENGM
- **RØROS**
  ENRO
- **SANDEFJORD/Torp**
  ENTO
- **STAVANGER/Sola**
  ENZV
- **TROMSØ/Langnes**
  ENTC
- **TRONDHEIM/Værnes**
  ENVA
- **ÅLESUND/Vigra**
  ENAL
- **BODØ**
  ENBO
- **KRISTIANSAND/Kjevik**
  ENCN
- **SVALBARD/Longyear**
  ENSB

Aircraft without standard certificate of airworthiness

In accordance with European Civil Aviation Council (ECAC) recommendation INT.S/11-1 Norway accepts flights over Norwegian territory by homebuilt aircraft with a Non-Standard Certificate of Airworthiness or a “permit to fly” issued by the Civil Aviation Authority of another

ECAC member state. The flight test program must be completed. Aircraft from other than ECAC member states not holding a standard certificate of airworthiness or operated on a “permit to fly must apply for a prior permission to operate within Norwegian airspace.

Permission may be obtained from Civil Aviation Authority.

Contact Civil Aviation Authority Norway
Please send your application to this e-mail address.

E-MAIL

Non standard - The application shall contain the following information:

- [ ] Name, address, phone/telefax and e-mail of the Operator
- [ ] Purpose of the flight
- [ ] Area of planned operations
- [ ] Timeframe of operations
- [ ] Documentation of airworthiness (copy of permit to fly with flight restrictions and flight conditions)
- [ ] Certificate of registration
- [ ] Valid maintenance documentation
- [ ] Relevant pages of flight manual (Information which verify flight manual for this particular aircraft)
- [ ] Certificate of Insurance

Microlight entering and flying in Norway

In order to cross the border and fly microlight in Norway, you will need a permission from Civil Aviation Authority – Norway.

Permission may be obtained from Civil Aviation Authority,

Contact Civil Aviation Authority Norway
Please send your application to this e-mail address.

E-MAIL

UL - The application shall contain the following information:

- [ ] Name, address, phone/telefax and e-mail of the Operator
- [ ] Purpose of the flight.

- [ ] Area of planned operations
- [ ] Timeframe of operations
- [ ] Certificate of registration
- [ ] Certificate of Airworthiness
- [ ] Valid maintenance documentation
- [ ] Certificate of Insurance
- [ ] Pilot license
- [ ] Medical certificate
- [ ] Radio license+ documentation for English language proficiency

ICAO Flight plan

> Aircraft entering Norway has to file a flightplan at least 60 minutes before the departure.

For your own safety, you should always file a flight plan with ATS.

A flight plan may also be filed by phone to the national AIS/NOTAM office located at ENGM, tel. **(+47) 64 81 90 00**.

When calling, be sure to have your completed flight plan handy and ready to read to the AIS-operator. The flight plan should be delivered within Norway: 30 minutes prior to estimated time of departure.

A complete flightplan is mandatory for:

1. All flights when a national border crossing is required.
2. All flights within EN-R402 (Finnmark).
3. All flights where Search and Rescue (SAR) is requested.
4. Flights to or from Bergen airport, Flesland (ENBR)
5. Flights to or from Oslo airport, Gardermoen (ENGM)

Special requirements for Bergen airport, Flesland

Bergen Flesland (ENBR)

A complete ICAO FPL is mandatory for all flights (IFR and VFR) to/from the aerodrome. ATC is authorized to make exemptions from this requirement.

AVINOR.NO

AVINOR

Private flights (GA) - Avinor

Bergen Airport, Flesland appreciate visits by light aircraft and offers fuel and parking for GA flights (general aviation). Airport Patrol offers an additional service to the pitches and helping with transportation to and from the terminal.

READ MORE AVINOR.NO >

Special requirments for Oslo airport, Gardermoen

Image courtesy of Avinor

Allocation of departure and arrival times is compulsory for all flights at Oslo airport, Gardermoen.

The following regulations are in force for both IFR and VFR flights within ENGM CTR:

- Carriage and use of SSR transponder is mandatory
- A complete ICAO FPL shall be submitted prior to flight
- School flights/training flights are not permitted

At Oslo airport, Gardermoen, application for "slot-time" shall be submitted to Avinor scheduling coordinator: Tel. (+47) 64 81 90 00.

Prior permission required (PPR) to land at private airfields

Please note that the majority of airfields and airports, other than those operated by Avinor, require prior permission for landing or departure. Please check the AIP, Jeppesen airfield manual, Skydemon or the airfields' official website.

A number of airfields and airport are using a PPR tool called MyPPR, which is available online. This service may give you an instant permission to land and depart.

MYPPR

MyPPR - ppr made easy

MyPPR letter arbeidet knyttet til administrasjon av PPR for GA flyvning i Norge for både flyplassadminisasjonen og piloten.

READ MORE MYPPR >

Parking fees

Avinor have introduced an automatic invoicing system for GA parking. The system registers aircraft registration, arrival time, off-block time and MTOM. GA aircraft with MTOM 2730 kg or below are exempt from the parking charges.

GA aircraft with MTOM over 2730 kg are subject to parking charges. A monthly invoice for parking charges is automatically sent to the aircraft owner.

Owners of GA aircraft with MTOM over 2730 kg holding individual agreements regarding parking arrangements must register their aircraft with the local airport administration to avoid charges. Other charges for use of the airport will be charged separately.The charge is based on weight, current price is 15 NOK per 1000 kg per hour. The charge is levied as of the third hour the aircraft is parked. However, if the parking

exceeds two hours, the charge is reciprocal for the first two hours as well. Agreements for long-time parking can be arranged with the local airport administration.

The minimum charge is 125 NOK. All prices include VAT.

AVINOR.NO

Charges - Avinor

The air navigation charges are en route charges and terminal navigation charges. The charges are for services provided in the airspace for which Avinor is responsible and the terminal fee for tower services at our airports.

READ MORE AVINOR.NO >

Animals and pets

No animal may be brought into Norway without an import license from the Norwegian Animal Health Authorities: **Tel: +47 23216800.**

MATTILSYNET

Contact us | The Norwegian Food Safety Authority

Norwegian Food Safety Authority

READ MORE MATTILSYNET >

Flights to Svalbard/Spitsbergen

If you are planning to fly to Svalbard/ Spitsbergen, an application has to be submitted to reach the Civil Aviation Authorities (CAA-Norway) at least two working days prior to the planned arrival at the islands. Same information required as listed under paragraph about ***Non-standard*** -

The application shall contain the following information. Please observe that flights for sight-seeing purposes are prohibited on Svalbard, and private flights may require special permission from the Governor of Svalbard (Sysselmannen).

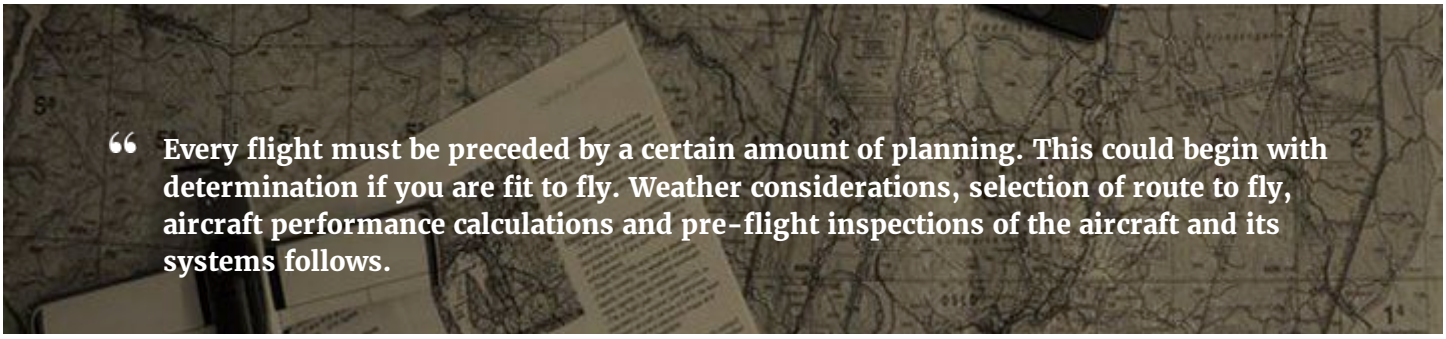
Fuel and oil may only be available if arranged specifically. You shall, when flying over the high seas, carry a minimum of one portable ELT/PLB, life raft(s) able to carry all occupants, survival suits, emergency rations, first aid kits and blankets.

Weather conditions at Svalbard can be very unstable and local variations prominent. Reliable weather reports/info may sometimes be hard to obtain, which calls for considerable attention while assessing flight conditions in these areas. 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 knots will always result in drifting snow, due to the fine-grained and dry snow. The danger of 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), aircraft operating in Svalbard and its surroundings shall be of such color that it will give good contrast to over-flown 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 marked area shall not be less than 2 m^2.

Flying with Ultra-light aircraft to/from Svalbard is prohibited without special permission.

Flight planning



Always check NOTAMs and if planning to use private airfields, remember to call the owner for permission to land and to get latest local airfield information.

Some riskfactors

Aircraft

Equipment and maintenance? Any maintenance problems that should be taken care of?

Maintenance and technical services are only available at some airfields and airports. Independent Part-66 certificate holders may be available. Please contact the local flying community of the destination to find out which services that may be available.

List of approved Part-145 maintenance organizations in Norway

Performance

Fuel Consumption, weight and balance, field elevation and runway length available.

Environment

How is the weather? Day or Night operations? What type of terrain and airfields are involved?

Many areas in Norway offers very few or limited options to make a successful forced landing. Water temperatures are often close to zero. Without right equipment and training, a ditching at sea leaves you with a very low possibility for survival.

External pressure

Why are you making the trip? Limited on time or demanding passengers? Have an alternative travel plan been discussed before the trip started?

Types of Manuals and Charts Available for Norway FIR

Aeronautical Information Publication (AIP) Norway in English is available at:

AVINOR.NO

Current AIP - Avinor

Aeronautical Information Publication Norway

READ MORE AVINOR.NO >

IPPC – Internet Pilot Planning Center:

This is the internet address for Avinor's web-based information and flightplanning tool.

The site is linked to NAIS, Norwegian Aeronautical Information System. Here you can obtain briefings, weather reports and forecasts, map-updates and also check AIP-Norway online.

IPPC IPPC

IPPC - Norwegian Aerodrome Info

READ MORE IPPC >

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.

VFR Trip-kit Norway

The Jeppesen Bottlang Airfield Manual covering Norway only. No revision service.

> **Warning: This is a private web-page and data published here is NOT verified and/ or checked by the Norwegian authorities. Norwegian language only.**

Aeronautical Chart ICAO, 1:500 000

These charts are often preferred by pilots for VFR cross-country flights.
3 charts covering Norway:

- Southern Norway
- Central Norway
- Northern Norway

M517 Air Aeronautical Charts, 1:250 000Provides higher detail level. 16 charts covering Norway:

Provides higher detail level. 16 charts covering Norway:

- Kristiansand
- Bergen
- Rjukan
- Oslo
- Førde
- Otta
- Molde
- Trondheim
- Namsos
- Mosjøen
- Bodø
- Narvik
- Tromsø
- Kautokeino
- Hammerfest
- Kirkenes

Chart updates

At www.ippc.no, under AIS publications –CHAD NOR, you will find the latest chart updates for 1:500 000, and 1:250 000 series.

> **CAUTION: Please beware of obstacles that might not be shown on your map. Masts and high- tension power lines are constantly being build and caution is especially advised when flying along fjords, valleys and in the vicinity of islands along the coast. Especially power lines are almost impossible to see, and they frequently cross fjords and inlets.**

Electronic flightbag

The technological evolution has introduced several types of electronic equipment for aiding the pilot during flight. Most aircraft today are equipped with some type of GPS for aiding in navigation, and several types of situational awareness systems are being introduced in even the smallest of aircraft.

For permanently installed equipment, updating procedures are usually in place, while that may not be the case for non-permanent equipment. Several types of handheld pads are available with software and apps, that you as the pilot, must keep updated. Although these solutions may work excellently for most situations, please have a backup in case your primary solution fails. It is good airmanship to fly well prepared.

Fuel planning

An operator of an aircraft must take all necessary steps to ensure that the aircraft is carrying sufficient fuel and oil for the planned flight. The regulations require that you have enough fuel on board to fly to your destination and then for 30 minutes. Especially in the northern parts of Norway 100LL fuel is only available at some airports. You may call the airport before departure and please check NOTAM and AIP if desired fuel is available at your destination and planned alternates.

CAA-Norway recommends the following practice to achieve safe fuel planning:

1. Make sure you know total fuel capacity and usable fuel available of your aircraft.
2. Check weight and balance, you might not be able to depart with full tanks.
3. Determine fuel consumption and make sure you take any headwind component into consideration as well.
4. Check Notams to make sure you know the status of fuel supply on aerodromes along your route. Note that opening hours for fueling may vary from ATS opening hours. Also note that 100LL might not be available on all aerodromes.
5. Always plan to arrive with your fuel reserve intact, never plan to use any reserve to get to your destination.
6. Keep the weather in mind, sudden changes are common in Norway. Holding or diversion might become necessary. Make sure you are prepared for this eventuality.

Available fuel facilities

AIRBP

Air BP Customer Portal

We have placed cookies on your computer to help make this website better. You can change your cookie settings at any time. Otherwise, we'll assume you're OK to continue.

READ MORE AIRBP >

AFSN

Aviation Fuelling Services Norway - Home

The Shell Carnet card is offered to our global and regional carrier customers and military customers and is designed to help you fully leverage our network of airports wordwide.

READ MORE AFSN >

VFR-minimum visibility and distance from clouds

ALTITUDE BAND	AIRSPACE CLASS	FLIGHT VISIBILITY	DISTANCE FROM CLOUD
At and above 3050 m (10000 ft) AMSL	B C D E F G	8 km	1 500 m horizontally, 300 m (1000 ft) vertically
Below 3050 m (10000 ft) AMSL and above 900 m (3000 ft) AMSL, or above 300 m (1000 ft) above terrain, whichever is the higher	B C D E F G	5 km	1 500 m horizontally, 300 m (1000 ft) vertically
At and belov 900 m (3000 ft) AMSL, or 300 m (1000 ft) above terrain, which-ever is the higher	B C D E	5 km	1 500 m horizontally, 300 m (1000 ft) vertically
	F G	5 km(***)	Clear of cloud and with the surface in sight

Airspace - Flight visibility and distances from clouds

(***) Flight visibilities reduced to not less than 1500 m may be permitted for flights operating:

1. At speed of 140 kts IAS or less to give adequate opportunity to observe other traffic or any obstacles in time to avoid collision;

2. Or, in circumstances in which the probability of encounters with other traffic would normally be low, e.g in areas of low volume traffic and for aerial work at low levels;

3. Helicopter can operate in less than 1500 m but not less than 800 m flight visibility, if maneuvered at a speed that will give adequate opportunity to observe other traffic or any obstacles in time to avoid collision. Flight visibilities lower than 800 m may be permitted for special cases, such as medical flights search and rescue operations and firefighting.

Weather minima for Special VFR Flights

Upon request to TWR, a clearance to fly special-VFR within the CTR may be obtained, provided:

- Day or night conditions
- The ground and flight visibility is not less than 1500 m, for helicopters, not less than 800 m.
- the speed does not exceed 140 kts IAS.
- intention is to conduct the whole flight within the control zone.
- intention is to enter the control zone and land at the aerodrome within the control zone.

VFR night

VFR night over Nordland

During the period between the end of evening civil twilight and the beginning of morning civil twilight, VFR night can be done according to SERA 5005 c. Civil twilight summary for Norwegian airports may be generated at www.civiltwilight.me

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 to or higher than Minimum Safe Altitude (MSA) and a minimum of 10 nm either side of your planned route is recommended. We strongly advise you to have some current IFR-training in case you get stuck VFR on top. The weather in Norway changes rapidly and the weather forecast is no guarantee that you will have VFR-conditions when you arrive at your destination.

To calculate your MSA on the ICAO 1:500 000 chart, you should add 1000 ft to the published Maximum Elevation height (printed in each quadrangle) along your route. This will give you a safety margin of 1000 ft above the highest obstacle including any unmarked obstacles.

Weather information

As a pilot today, you have a lot of sources for weather information. Official aviation weather information services are available in Norway. In addition we recommend the use of webcams and weather information available at Windy.com

WINDY.COM/

Windy as forecasted

Weather radar, wind and waves forecast for kiters, surfers, paragliders, pilots, sailors and anyone else. Worldwide animated weather map, with easy to use layers and precise spot forecast. METAR, TAF and NOTAMs for any airport in the World. SYNOP codes from weather stations and buoys.

READ MORE WINDY.COM/ >

Pre-flight Met Briefing

Met briefings can be obtained from the following three MWO's:

- Oslo tel. **(+47) 22 69 25 62**
- Bergen tel. **(+47) 55 23 66 50**
- Tromsø tel. **(+47) 77 62 13 00**

In addition the following local MET offices are available:

- Bardufoss - ENDU **(+47) 67 03 44 85**
- Bodø - ENBO **(+47) 75 53 72 80**

METAR, TAF,SIG-WX, SIGMET, ICE AIRMET, IGA-prognosis and NOTAMS can be obtained from all ATS-units.

RMK: IGA-prog, a special forecast provided mainly for VFR-flights below FL100, are available for most areas of Norway.

ATS units are connected to the Norwegian Aeronautical Information System (NAIS), 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: www.ippc.no

Autometar

The use of Autometar is approved by CAA-Norway on airports where the AWOS - Automatic Weather Observation System is currently used. This is an automatic weather report based on the AWOS observations, and used outside the ATSunit opening hours.

In non-significant weather conditions there are normally not any difference between Autometar and manual Metar.

In significant weather conditions there are quite often differences between measured and actual visibility, both horizontal and vertical, and in the present of the weather phenomena. The following codes are used exclusively by Autometar and will not occur on the official Metar: The suffix /// is used after all clouds, i.e: **FEW040///**
NCD – No Clouds Detected

NDV – No Directional Variations UP – Unidentified Precipitation

An Autometar will always be identified by the term AUTO, i.e:
ENAL 060250Z AUTO 24010KT 9999...

ICAO Flight plan

For your own safety, you should always file a flight plan with ATS.
A flight plan may also be filed by phone to the national AIS/NOTAM office located at ENGM, tel. **(+47) 64 81 90 00**. When calling, be sure to have your completed FPL handy and ready to read to the AIS-operator.

The FPL should be delivered no later than 60 minutes before EOBT.

EUROCONTROL

Flight Plan Guide: Search items

The Flight Plan Guide allows users to search for the correct format to be used for the different fields of the new ICAO Flight Plan via a database.

READ MORE EUROCONTROL ›

Filing a flightplan via ippc.no:

For access to the flight planning tool you need a username and password.

You choose the username and password yourself and apply for access by completing and submitting the form under "Logon to Flightplanning – New User" window at IPPC. This is subsequently authorized by the AIS-office located at Oslo-Gardermoen airport.

Due to capacity limitations in the flight plan processing, foreign users will be granted access for a limited time, and only flight plans into, out of or within Norway will be accepted.

Taking off or landing on airstrips without a four letter ICAO designator; field 13 and/ or 16. Departure and/ or arrival aerodromes without an ICAO 4-letter code shall be filed in a FPL as follows:

IPPC IPPC

IPPC - Norwegian Aerodrome Info

READ MORE IPPC ›

1. If the flight departs from an aerodrome without an ICAO 4-letter code, ZZZZ shall be entered infield 13 in the FPL. Enter DEP/ followed by geographical name and lat/long

2. position in field 18 of the FPL.
3. If the flight arrives at an aerodrome without an ICAO 4-letter code, ZZZZ shall be entered in field 16 of the FPL. Enter ARR/ followed by geographical name and lat/long position in field 18 of the FPL
4. If alternate aerodrome(s) without an ICAO 4-letter code are filed, ZZZZ shall be entered in field 16 of the FPL. Enter ALTN/ followed by geographical name and lat/long position in field 18 of the FPL. If more than one alternate is filed in the FPL, use ALTN1/ and/or ALTN2/ respectively.

Routing; field 15
Although legal, the use of DCT in the route-field is not recommended.

ATC prefers to have a reasonable clue as to where you intend to fly and i.e an approach controller will not necessarily know exactly where you will enter a TMA if you are on a long DCT route between two other airports and happens to transit a TMA in between.

Of course, you may still fly on a direct track, but please file a point on the route for at least every 30 mins. flight time. This can be filed either a geographical name, a lat/long position, a Navaid, a five-letter Sigpoint or a fix given as a VOR radial and DME. (I.e. FLO065040 –a point on FLO radial 065 at DME 40 from FLO.)

> DO NOT use the four-letter ICAO designator for airports you overfly along the route as a point in the routing filed under item 15 in the flightplan. This is to avoid confusion as to whether you will be landing at these airports. Please use a Navaid at the airport or the airport name instead in the routing. The term "coastwise" will sometimes be used by both ATC and pilots to describe a routing along the coast. In some places this may be very accurate, but due to the amount of fjords, inlets and islands along Norway's coastline we would like you to file a few points along the route instead. Thereby we avoid confusion about your intended route

Changing the EOBT
If you like to bring your EOBT forward or delay your flightplan, this is not a problem. Notify ATC or call AIS (tel. **(+47) 64 81 90 00** (H24)) if you change the EOBT more than 30 mins. either way.

Please bear in mind that some airports are slot-restricted and make sure your slot time is adjusted accordingly.

Departure message
Departing 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 that EOBT (Estimated Offblock Time) in the flight plan shall be considered as ATD.
- By giving the time, considered to be ATD, to AIS/ NOTAM by phone immediately prior to departure. (tel. **(+47) 64 81 90 00**)
- By radiotelephony to ATS after departure.
- The flight plan will not be activated unless one of the above procedures has been complied with.

Delays and/or changes to flightplan

If a delay of more than 30 mins. occur or you have to make a planned change to your FPL, notify the local ATS-unit or AIS/NOTAM in order to send a DLA or CHG message.

Arrival report

Arrival report and closure of the flight plan must be made within 30 minutes after ETA. If you don't send an arrival report or close your flightplan, the SAR procedures 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
- **Not closing the flight plan will initiate SAR.**

You may close the flightplan with any ATC unit on the radio or by phone. Call (+47) 64 81 90 00 to close your plan. If you land at an airport with active AFIS or ATC, your flightplan will be closed automatically.

Note: If you are planning to use Oslo airport, Gardermoen, allocation of departure and arrival times (Slot time) are compulsory.
Application for slot time for AD Hoc business, MIL and general aviation flights, shall be submitted to Avinor scheduling coordinator:
Tel: (+47) 64 81 90 00
E-mail: ais@avinor.no



Airspace, communication and reporting

Airspace

In Norway we have class C, D, and G airspace. Class E and F are not in use. Separation from other aircraft remains the responsibility of the pilot in command of a VFR flight. The exception to this applies in class C airspace – where ATC will separate VFR from IFR but not VFR from VFR. When flying through class C and D airspace it is mandatory to obtain an ATC-clearance.

Prior to entering class C and/ or D airspace you will need a clearance from the appropriate ATC - unit. This clearance is valid until leaving controlled airspace or reaching the clearance limit (the point or area to which an aircraft is granted an air traffic control clearance) issued by the appropriate ATC-unit.

> **NOTE: Prior to departure, TWR will issue a clearance to leave the CTR. This will normally contain a routing, altitude limit and a transponder code. This is NOT a departure clearance or clearance to enter any taxiways or runways**

Image courtesy of Avinor

Operations in class C and D airspace outside ATC operational hours

Established as Terminal Control Area (TMA)

A clearance to operate in class C or 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.

Use of aerodromes outside published opening hours

Avinor allows use of most of their aerodromes outside published opening hours for non-commercial flights, in accordance with specific terms and conditions. The PIC must hold a valid Avinor ID card (PFLY) and submit a flight plan. The flight must be in accordance with VFR during the period of 0700 – 2300 local time. Maximum take-off mass of the aircraft must not exceed 2730 KG.

The aerodrome will normally not be manned outside published opening hours, and it is the pilots responsibility that the flight is conducted in a safe manner. See BSL D 1-2 4-1 and Part-NCO, NCO.OP.100, Use of aerodromes and operating sites. The permission only allows for take off and landing, alternatively touch and go. Use of an aerodrome as destination must be conducted during published opening hours and aircraft parking must be arranged prior to arrival at most airports. ENGM, ENZV, ENBR, ENVA, ENTC, ENSB and ENVR is excepted from the general permission to use Avinor aerodromes outside published opening hours. Preflight procedures by the PIC, by obtaining a Avinor ID-card and submitting a flight plan is required.

AVINOR.NO

AVINOR

ID card - Avinor

Her kan du søke om adgangsbevis til en eller flere av Avinors lufthavner.

READ MORE AVINOR.NO >

Contact ID-office

In case of questions, please contact the AD in question or send an e-mail with subject "Outside HR of OPR".

E-MAIL

Radio mandatory zone (RMZ)

Traffic Information Area (TIA) and Trafic Information Zones (TIZ), and Control Zones (CTR) outside the opening hours of the ATC-units are classified as RMZ. Pilots shall maintain continuous air-ground voice communication watch and establish two-way communication, as necessary, on the appropriate communication channel when flying inside Radio Mandatory Zones.

Before entering a radio mandatory zone, an initial call containing the designation of the station being called, call sign, type of aircraft, position, level, the intentions of the flight and other information as prescribed by the competent authority, shall be made by pilots on the appropriate communication channel.

Outside the opening hours of the ATC-unit you are not permitted to take off or land at controlled aerodromes unless you have obtained a ATC-clearance or a PFLY permit. Operations within a CTR between the end of evening civil twilight and the beginning of morning civil twilight requires a clearance from an appropriate ATC-unit.

Aerodrome Flight Information Service (AFIS)

Norway have an AFIS network of smaller airports serving thousands flights and passengers each year. These airports provide AFIS, but must not be confused with simpler "unicom" information services operated at smaller General Aviation elsewhere in Europe. Here you will be operating alongside commercial air transport, and some of the airports are quite busy. You can also read about these airports in the chapter; Tips for safe operations.

Stokmarknes/Skagen AFIS

Traffic Information Areas (TIA) and Traffic Information Zones (TIZ), both G-class 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. A PFLY ID card is required for operations outside airport opening hours.

Two-way radio contact with AFIS is mandatory.

The AFIS unit will state runway in use, weather conditions and traffic information.

Phraseology at airports where AFIS is provided

An AFIS unit shall be identified by the name of the aerodrome followed by the word INFORMATION, e.g. VALAN INFORMATION. At airports where AFIS is established, the AFIS unit shall use relevant phraseology from ICAO Doc 4444, PANS-ATM Chapter 12 and BSL G 8-1. When AFIS relays ATC-clearances the name of the ATC unit shall be included. Requirements for read-back to an AFIS-unit are described in BSL G 8-1, reference is made to AIP GEN 3.3 In addition, the following phraseologies are available:

- RUNWAY IN USE (number)
- RUNWAY FREE
- RUNWAY OCCUPIED (reason)
- (reason for why the runway is not free) RUNWAY AVAILABLE FOR LINE UP (or TAXI, or TOWING)

- REPORT POSITION (or ALTITUDE, or LEVEL)
- REPORT PASSING (altitude)

Phraseologies used exclusively while flying at an AFIS aerodrome: “RUNWAY FREE” means that the runway is visually checked free of 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. .

VFR routes inside CTR

These published VFR-routes are to be used for flight planning purposes and the clearances issued will state the reporting points to identify the route.

The cleared route with specified altitude limitations and related procedures shall be complied with unless weather conditions necessitate to divert from the clearance.

The diversion or need for a diversion from the clearance shall be transmitted to ATC as soon as possible.

Prohibited, restricted and danger areas

Prohibited Areas

Prohibited areas are not established in Norwegian airspace.

Restricted Areas

Restricted areas and restricted areas which are active only as notified by NOTAM are promulgated in AIP Norway.

Restrictions concerning EN R402 - Finnmark County

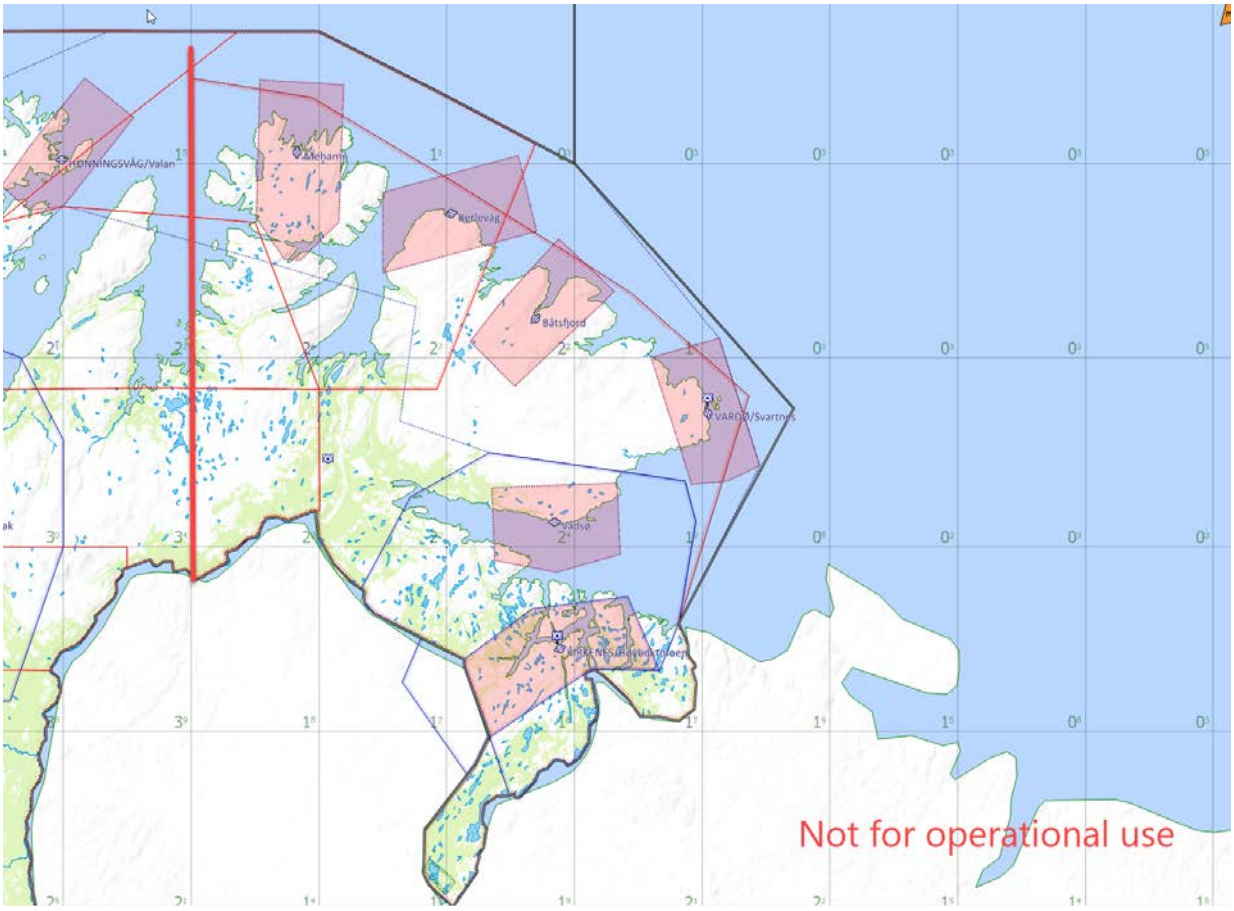


Image courtesy of SkyDemon

Non-scheduled and private flights may only take place within the area (displayed east of the red line) provided a complete flight plan has been filed prior to departure. The route to be flown must be specified. For VFR-flights entirely within the CTR or TIZ only, it is sufficient to give the ATS-unit information regarding the flight prior to departure. VFR-flights operating entirely within the TIZ outside ATS opening hours may do so, given certain criteria have been fulfilled and prior permission has been arranged with Norway ACC: (+47) 75 58 29 57

Danger Areas

Danger areas which are continuously active, and danger areas which are active only as notified by NOTAM - are promulgated in AIP Norway. In other cases danger areas are promulgated by NOTAM only.

Based on information given by the agency responsible for the activity, the upper limits of danger areas are promulgated as:

- an altitude (FT AMSL), when the upper limit is at 10000 FT or below, or
- a flight level (FL), when the upper limit is above 10000 FT.

By promulgation of the upper limits as a flight level (see para b above) due regard is taken to possible deviations from the standard atmosphere. The promulgated upper limit of a danger area can always be considered as safe.

In addition to the upper limit of the activity, a “buffer” of 1000 FT (2000 FT above 25000 FT) is included. It is the pilots responsibility to avoid all danger areas, however ATC can give advise and guidance regarding the circumnavigation of these.

ATC will also order a stop in the activity if a controlled flight has to be cleared closer to a danger area than the prescribed minimum.

Real time activation

For some of the danger areas - promulgated as continuously active - a real-time activation is practiced. Hence all activity in the danger area concerned is coordinated between ATC and the agency responsible for the activity.

The agency responsible for the activity will inform ATC prior to the activation. Based on this information, ATC will always be able to inform the pilot in command regarding the status of a real-time activated area, whether it is active or non-active.

Information regarding a non-active area is valid for a limited period of time only, normally 30 minutes.

Unless the pilot in command has obtained information on a danger area being non-active, the area shall be considered as continuously active within the promulgated time period.

Danger Areas - Continuously active See AIP Norway ENR 5-1

Protection of wildlife and sensitive areas

Several protected areas are established to preserve and safeguard vulnerable and threatened ecosystems and wildlife. Motor vehicles, including landing and departure with aircraft are generally forbidden in protected areas. In very sensitive areas a minimum altitude have also been established.

Language requirements

Use of standard phrases for radiotelephony communication between aircraft and ground stations is essential to avoid misunderstanding. Users of airband radios are required to hold a valid Radio Telephone license. These documents shall confirm language proficiency level equal to ICAO standards. The primary language for aviation communication is English, but Norwegian may also be used.

SSR Transponder

Transponder equipped VFR flights shall select code 7000 unless otherwise instructed by the appropriate air traffic services unit. SSR transponder mode S is not mandatory in Norway. Always use Mode C for vertical separation purposes.

Transponder operating procedures

When an aircraft carries a serviceable transponder, the pilot shall operate the transponder at all times during a flight, regardless of whether the aircraft is within or outside airspace where SSR is used for ATS purposes.

Except emergency or communication failure, the pilot shall:

1. Operate the transponder and select codes as individually directed by the ATS unit with which contact is being made.
2. Unless otherwise directed by ATS, operate the transponder on the last assigned code, until aircraft has landed.
3. In the absence of any ATS directions, select code as follows: VFR-flights:
Code 7000.

When the aircraft carries serviceable Mode C equipment, the pilot shall continuously operate this mode, unless otherwise directed by ATS. If you are flying in a formation, only the formation leader shall operate the transponder, unless otherwise directed by ATS. Pilots shall not SQUAWK IDENT unless requested by ATS.

Emergency procedures
The pilot of an aircraft encountering a state of emergency shall set the transponder to Code 7700 except when previously directed by ATS to operate the transponder on a specified code. In the latter case, the pilot shall maintain the specified code unless otherwise instructed. Notwithstanding the procedures above, a pilot may select Code 7700 whenever there is a specific reason to believe that this would be the best course of action.

Communication failure procedures
The pilot of an aircraft losing two-way communications shall set the transponder to Code 7600. Note: A controller observing a response on the communications failure code 7600 will ascertain the extent of the failure by instructing the pilot to SQUAWK IDENT or to change code.

Where it is determined that the aircraft receiver is functioning, further control of the aircraft will be continued using code changes or IDENT transmission to acknowledge the receipt of clearances issued.

VFR-flights under Oslo TMA

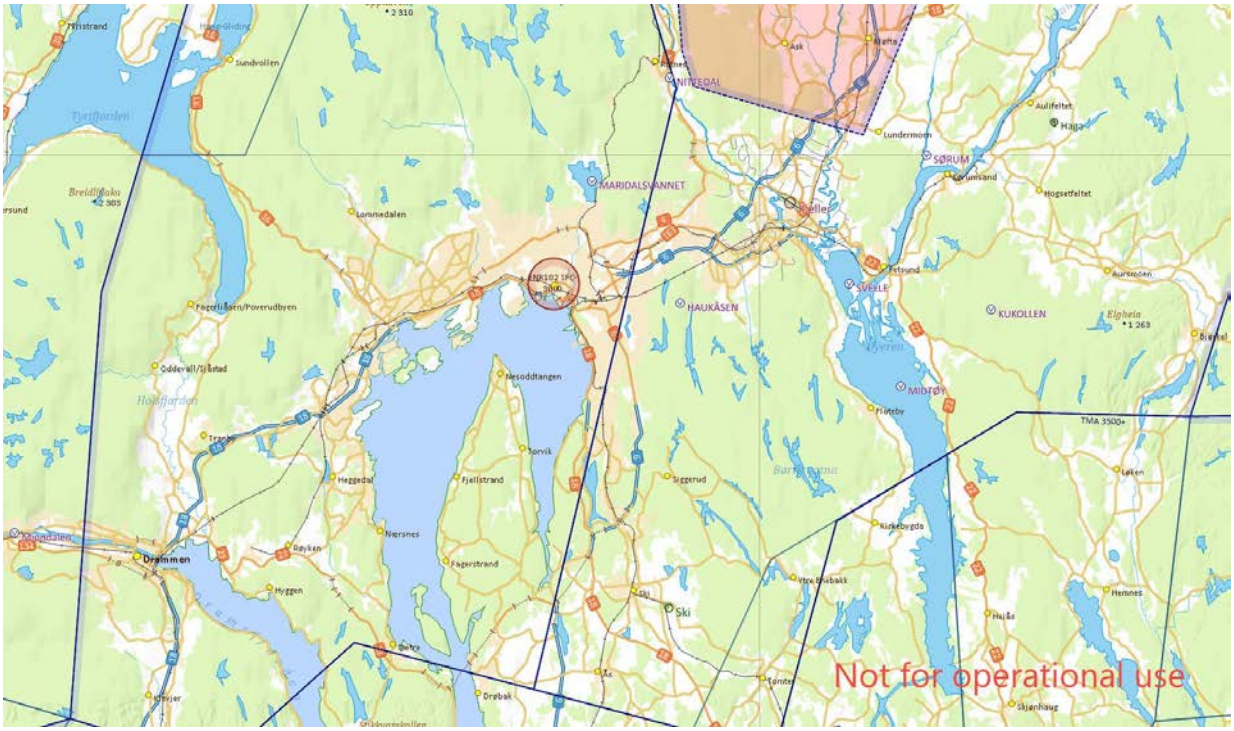


Image courtesy of SkyDemon

When flying in the G-class airspace underneath Oslo TMA close to Oslo city you should tune in frequency 122.000 MHz and transmit call sign, position, altitude and intensions blind on that frequency. For more information (in Norwegian only) AIC-N 21/13.

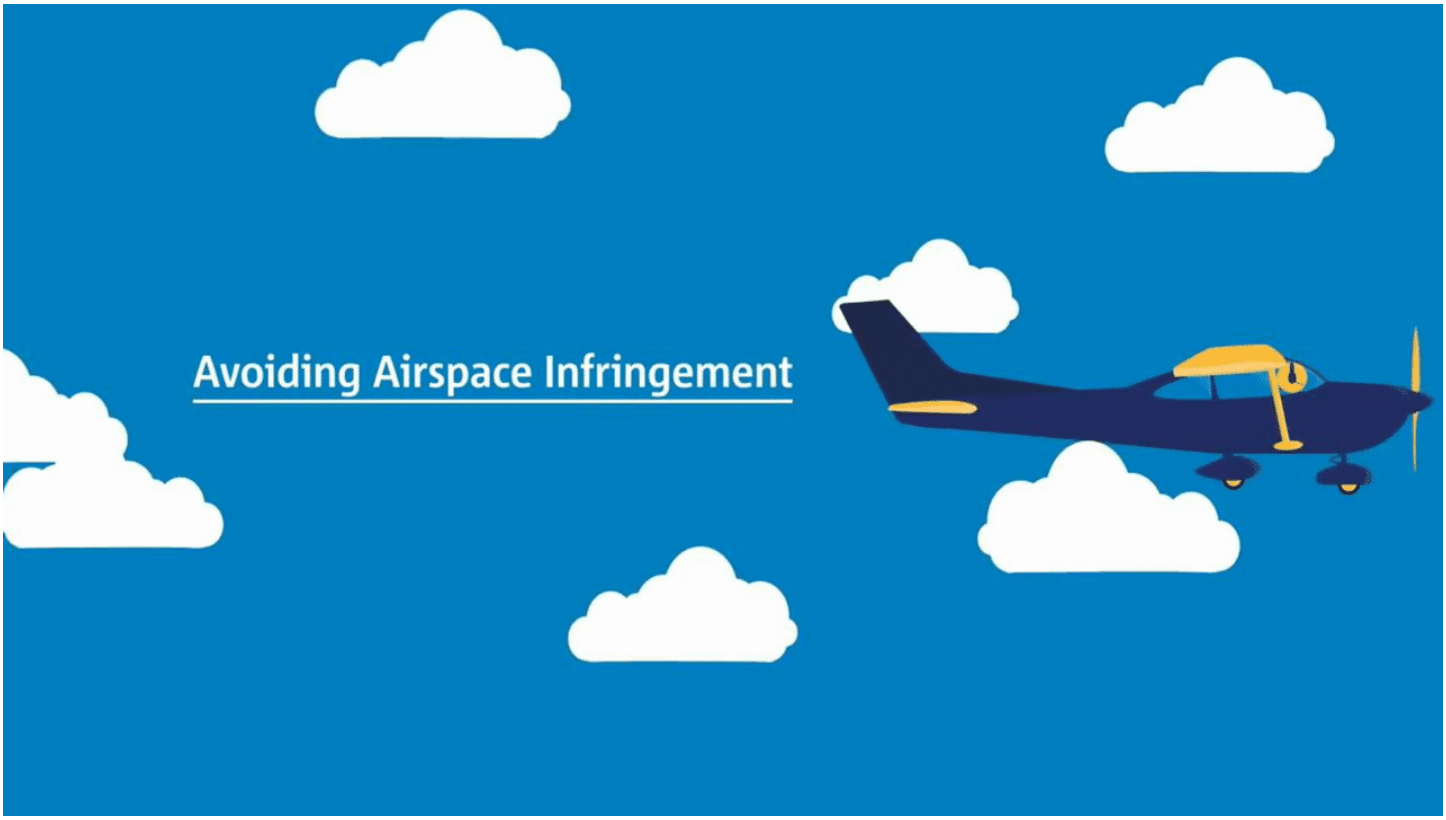
122.000 MHz is a Unicom pilot-to-pilot frequency and there is no ATS-service provided. Beware of the restriction area R 102 over the city center. Tune to the appropriate local frequency when approaching local airfields.

Use of frequency 123.500 MHz

Pilots flying in G-class airspace are strongly recommended to use 123.500 MHz for blind reporting. This frequency is a general pilot to pilot frequency used all over Norway outside controlled airspace. Always make sure you change to the appropriate ATS-frequency before entering controlled airspace or a TIA or TIZ.

Airspace Infringement

Unknown aircraft stray into some of the busiest areas of Europe's airspace at least once a day. To avoid that you cause airspace infringement, the following recommendations, based on good airmanship and common sense, should be considered:



EASA - Avoid airspace infringement

Planning

- [ ] Plan your flight! Where possible, avoid flying close to controlled airspace boundaries. A small navigational error or distraction of any sort may lead to an infringement.
- [ ] Read NOTAMs and check weather charts closely. The weather changes rapidly in Norway, and pilot workload rises rapidly in bad weather.
- [ ] File a flight plan – an opened FPL is mandatory to receive SAR services.
- [ ] If your aircraft carries a GPS, be sure to have current electronic maps and latest update available.
- [ ] Have updated charts available for the planned flight.

Communication

- [ ] You are more than welcome to contact Air Traffic Services, even in uncontrolled airspace. If communication is established, you'll get flight
- [ ] information and may request to be transferred to the next ATS unit when approaching sector boundaries.
- [ ] Communication established well in advance facilitates a request to enter controlled airspace as well as makes it easier to get assistance for example, if the weather deteriorates.

Phraseology and clearance

- [ ] Use standard phraseology.
- [ ] Your first transmission should be e.g.: ”Kjevik Tower – D-EEMH – on VFR flight plan.” This gives ATS time to find your flight plan in the system and generate an SSR code for your flight.
- [ ] If there is any doubt whether you have received a clearance to enter controlled airspace or not – ask for confirmation.
- [ ] If you need to deviate from your clearance to remain VMC – Take necessary action immediately, but advise ATC as early as possible. STAND BY is not a clearance to enter controlled airspace. Be aware that a clearance through controlled airspace may take you away from your planned route, due to traffic patterns and other traffic.

Transponder

Use the transponder, it will help ATC identify you in case you need assistance and may also prevent an infringement.

Mandatory Occurrence reporting

REGULATION (EU) No 376/2014 covers everything regarding occurrence reporting and is now in effect in the European Union, Norway and some other countries as well. **Who**, **What**, **When** and **How** is clearly stated in the regulation. Here we focus on the key content that applies to General Aviation.

Who – is required to report

All occurrences that have taken place under commercial operation shall be reported via own organization. But as a private pilot, you shall report occurrences directly to the state of your pilot’s license. However, in some cases, the country in which the occurrence took place would appreciate a copy of the report. In Norway, please send a copy to e-mail
NF-2007@CAA.NO.

Occurrences that are important in this context are especially matters regarding traffic conflicts and deviations from clearances and/or procedures. Also, we appreciate reports on occurrences involving Norwegian aircraft (your own or other’s).

What – shall be reported

Occurrence Reporting is considered in two categories: MOR, mandatory, and VOR, voluntary. These are only differentiated when deciding if you are required to submit a report.

If your occurrence is covered in the mandatory list, you shall report it. General aviation is covered in Annex 5 (starts at page 14) of the Regulation. For manual lookup, the document name is: “IMPLEMENTING REGULATION (EU) 2015/1018.” Sanctions are available if the reporting requirements are not met. If your occurrence is not covered by the mandatory list, but you consider it to be a hazard or to have had an impact on safety, you should also file a report.

How – to file a report

http://www.aviationreporting.eu/ is normally a good start if you are new to reporting. This portal will guide you to the appropriate reporting destination for your state of license.

You can always go directly if you know where to file the report. In Norway, for example, it links to the state portal www.altinn.no form: "NF2007". Other countries link to their method of reporting..

How soon – the report must be filed

From the time of the occurrence, you have 72 hours to file the report to the appropriate authority. It is highly recommended that you immediately write down a description of the occurrence to not forget the details. The human memory about details fades quickly.

Why – occurrence reporting

First of all, it is the law. But more importantly, there is a need to learn from accidents and incidents so as to take appropriate action to prevent the repetition of such events. Apparently minor occurrences are also important, in order to prevent catalysts for major accidents. Analysis and investigations are necessary and effective means of improving safety, by learning the appropriate lessons from occurrences and adopting preventative actions.

Just Culture

This means that you are protected from sanctions and repercussions by filing a report. Note that this does not apply, and sanctions are available if occurrences are unreported. Read more about just culture on the webpage: www.aviationreporting.eu.

What will the information be used for?

Occurrence reporting is essential in the work to improve aviation safety. Filed reports are subject to confidentiality, and are not available to the media or other parties in aviation (or elsewhere). Reported occurrences will be made anonymous and filed in the national databases, where they will be included in statistics and summaries to improve aviation safety. Accidents and serious incidents will be investigated by the Accident Investigation Board in the country of occurrence.

Aeronautical information

Where to find information: Norway Aeronautical Information Publication (Norway AIP) Static information, updated every 28 days, containing information of lasting (permanent) character essential to air navigation:

1. **GEN** - General operational, legal and administrative information.
2. **ENR** - En-route airspace information, including airspace classifications and types of airspace or airspace restrictions, operation of equipment, etc
3. **AD** - Information pertaining to Norway licensed aerodromes.

AVINOR.NO

Current AIP - Avinor

Aeronautical Information Publication Norway

READ MORE AVINOR.NO >

AIP Supplements

Temporary changes to the AIP, usually of long duration, containing comprehensive text and/or graphics

Aeronautical Information Circulars (AICs)

AICs are notices relating to safety, navigation, technical, administrative or legal matters. These are issued whenever it is necessary to promulgate information that does not qualify for inclusion in the AIP or as an AIP supplement. Circulars are published on Thursdays every 28 days.

LUFTFARTSTILSYNET

AIC I

Aeronautical Information Circular (AIC). A notice containing information that does not qualify for the origination of a NOTAM or for inclusion in the AIP, but which relates to flight safety, air navigation, technical, administrative or legislative matters.

READ MORE LUFTFARTSTILSYNET >

LUFTFARTSTILSYNET

AIC-N

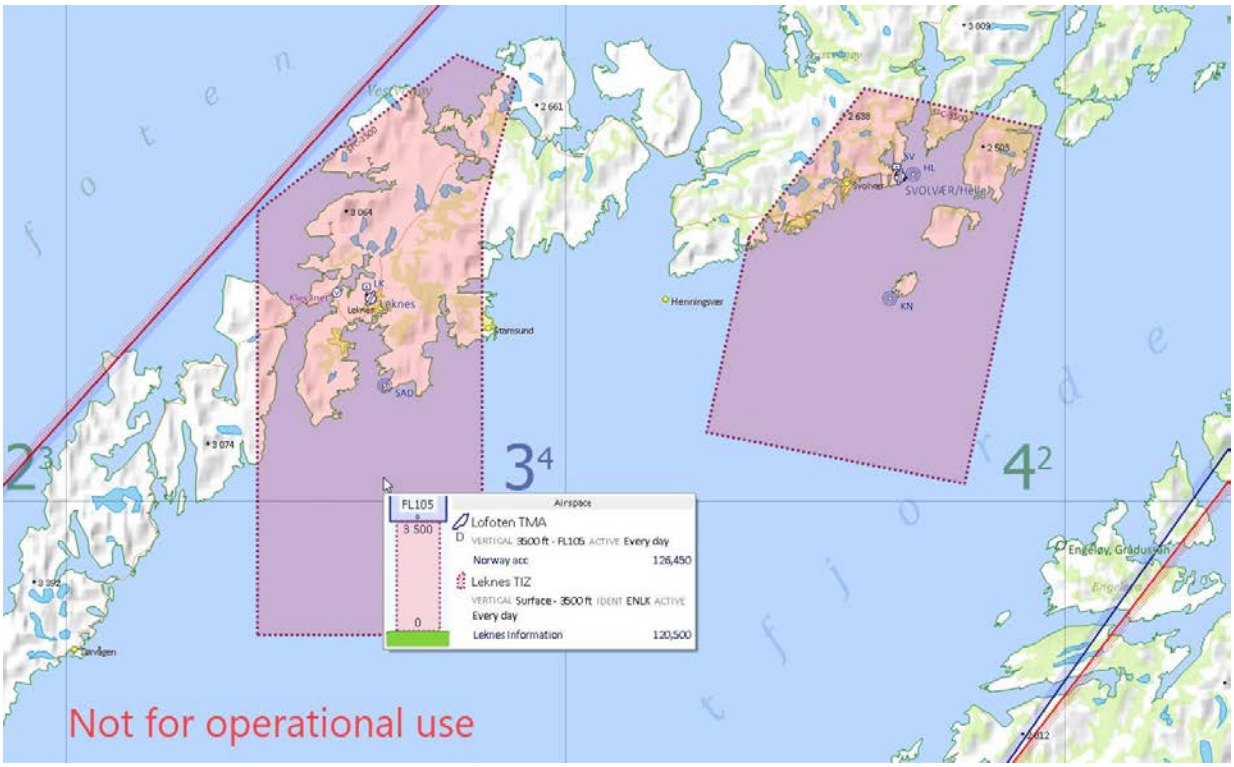
Luftfartstilsynet publiserer meldinger i form av AIC (Aeronautical Information Circular). AIC publiseres i to serier: AIC N for meldinger til norske aktører og AIC I for meldinger til internasjonale aktører. Disse meldingene inneholder informasjon som ikke har et innhold som gjør det nødvendig å publisere NOTAM eller oppdatering av AIP (Aeronautical Information Publication), men som inneholder tema knyttet til flysikkerhet, navigasjon, eller tekniske, administrative og juridiske forhold.

READ MORE LUFTFARTSTILSYNET >

Tips for safe operations

Short field operations

Norway has a unique system of short airfields operated by scheduled services. These airfields are mainly located along the coast from the west coast north of Stavanger to the Russian/Norwegian border in the extreme northeast part of the country. On average these airports have a runway length of 800 m. They are fully equipped for IFR operations (CAT I landings) and AFIS. Pilots should be aware that these airports often had to be constructed in a non-standard way due to limitations given by surrounding terrain, obstacles and available land area. Safety zones surrounding the runways are often limited. Many of these airports are very close to the sea. For some of these airports wind from certain directions cause turbulence and downdrafts that can make a flight impossible or very hazardous. Especially for small aircraft with low performance.



AFIS/Shortfield airports in Lofoten - Image courtesy of SkyDemon

Wind you would consider no problem at airports located at flat terrain, might present a very different hazard, and you may experience the aircraft difficult to control. Therefore you should seek information on local conditions for all of these airports. A few of these airports to mention is Hammerfest, Honningsvaag and Stokka/ Sandnessjøen where certain wind conditions can make a flight an extremely unpleasant experience. We advise you to contact the AIS/NOTAM Office (Tel. (**+47) 64 81 90 00**) before departure when operating on the AFIS network of airports. They will transfer your call to the local AFIS unit. They will be able to give you the latest weather updates and how this affects local flight conditions.

Balked Landing lights

Short approach Svolvaer runway 19

On most short field airports there are balked yellow landing lights, or “Go-around” lights. They consist of a group of two lights on each side of the runway, normally around 300 M from THR. Their purpose is to give the pilot a reminder that more than 1/3 of the runway has been used. Unless the A/C is firmly on the ground a go-around is advised.

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 percent increase in weight, increases the stall speed by 5 percent, since lift-off speed is generally about 15 percent 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 percent to TAS per 1000 feet of altitude), the visual cues of higher ground speed on takeoff at a high-density airport can make a pilot rotate too early. 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. 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 during windy conditions could call for a spiral climb above the airfield instead of a straight climbing departure towards rising terrain.

Wind shear

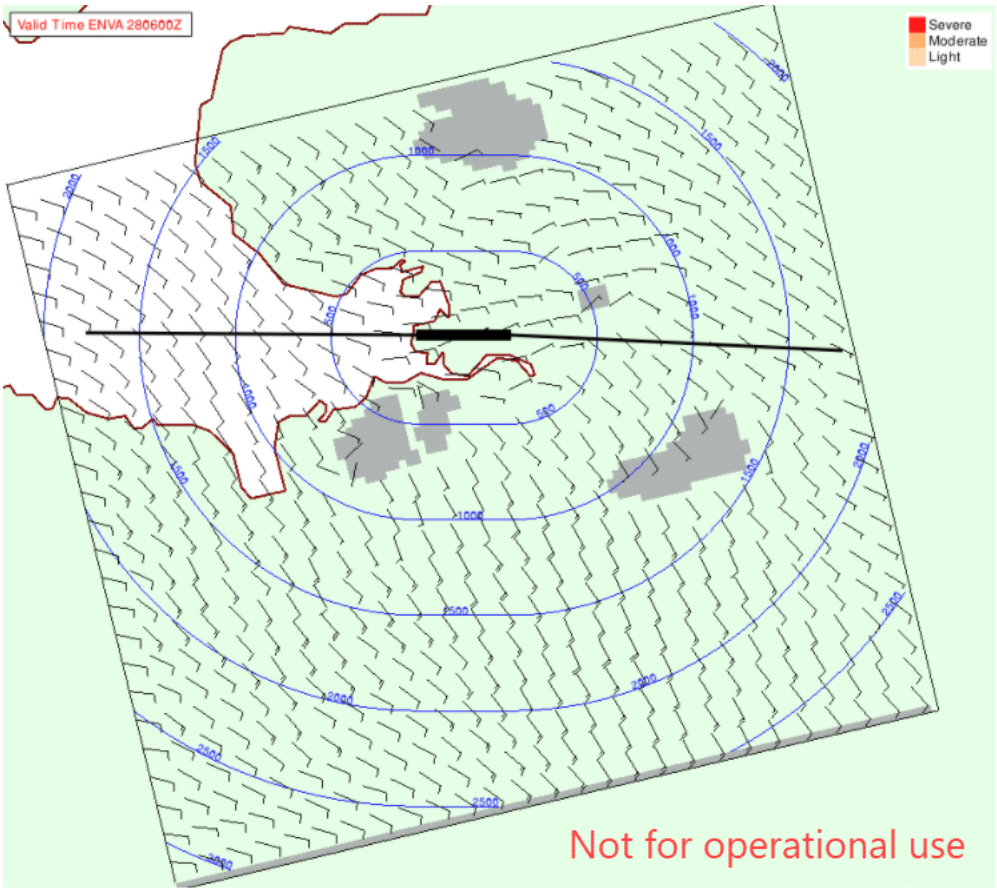
Most of the wind shear that occurs in Norway during winter are caused by temperature-inversions at ground level. These wind shears are usually long lasting and may be detected by measuring the wind at higher levels (mountain peaks) above the runway level.

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)
- HAMMERFEST (ENFH)
- SVALBARD/Longyear (ENSV)

In wind shear situations these wind observations will be included in the METARs from the aerodromes. Information on forecast/reported wind shear 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.

Wind and turbulence



Wind and turbulence forecasts are published for 20 airports in Norway, maps with both horizontal and vertical view. www.ippc.no Please check under tab Met - meteo.

Icing

An aircraft shall not take-off for the purpose of making a flight into known or expected icing conditions unless the aircraft is adequately equipped with de-icing or anti-icing equipment of the type and quantities required to handle such conditions. Please note that in some areas, like over or nearby larger glaciers as Svartisen or Folgefonna, severe carburetor icing may occur.

Whiteout and Brightout

If you are going to fly over areas covered by snow or ice you may be exposed to the phenomenon called whiteout.

Whiteout is a situation where you loose the ability to see surface texture, shadows and hollows

In conditions where the light is reduced by an overcast sky, the result may be that everything turns into a flattened white surface. You can easily lose your horizon under such conditions and the ability to judge height and distance become impossible. Patches of clouds beneath the overcast sky may also blend in with the background and become invisible. This may result inadvertently entering IMC conditions and may be

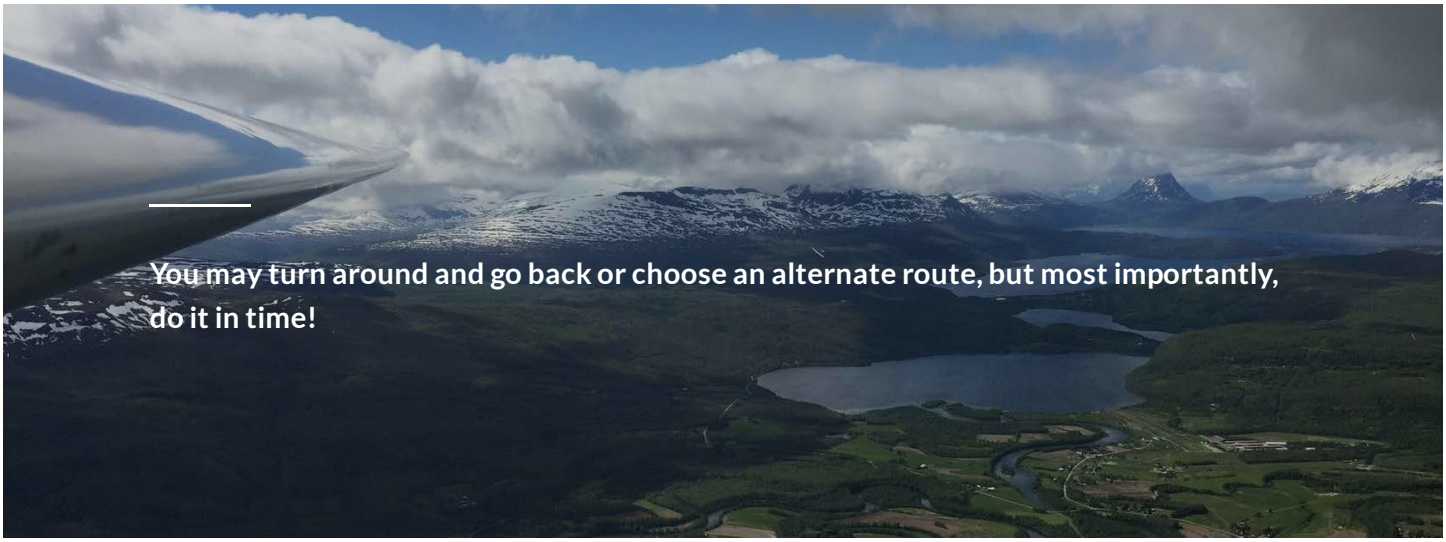
a very dangerous situation during low-level flying. This is one reason why you should not try to climb up a snow covered mountain hill or glacier head on. Bright out will give the same flattening white surface appearance with no visible definitions, and happens often when bright sunlight from a clear sky shines on a white unmarked surface.

If you feel you loose your outside references, immediately initiate a climb, using your flight instruments to verify a positive climb attitude!

Enroute

Route selection over mountainous terrain does often involve more than drawing a straight line between your origin and the destination. Wind conditions, cloud base and proper emergency landing sites along your route, often dictate your route selection. For some areas in Norway, the only suitable emergency landing sites may be to ditch along the shore in the fjords.

Therefore, a map study with emergencies in mind, choosing an alternative plan goes hand in hand with the selection of the main route. Weather conditions along your route must be checked before take off and monitored constantly to detect deteriorating weather as soon as possible. Especially during winter, the weather conditions may change extremely quickly, from a nice sunny day to dense snow showers in a matter of minutes. Some of these extreme weather conditions, like the Polar Lows, are intense and very hard to forecast. Rapidly deteriorating weather and windy conditions are what makes mountain flying so challenging and sometimes dangerous. If you start to feel uncomfortable due to the uncertainty of where you are, clouds forcing you down, reduced visibility, increasing turbulence or downdrafts, take action and take precautionary measures.



Crossing over water

Flying over water without gliding distance to land involves a high level of risk. Especially in the northern parts the sea temperature is very low. In case you are planning to fly over water you need to be prepared for a ditching. As pilot in command you are responsible to ensure to have proper safety equipment available, both for yourself and your passengers.

Cold water robs the body's heat 32 times faster than cold air. Should you find yourself in the water, avoid panic. Air trapped in clothing can provide buoyancy as long as you remain still in the water. Swimming or treading water will greatly increase heat loss and can shorten survival time by more than 50%.

Water temperature	Exhaustion or Unconsciousness	Expected Survival Time
4–10° C	30–60 minutes	1–3 hours
0–4° C	15–30 minutes	30–90 minutes
<0° C	Under 15 minutes	Under 15–45 minutes

Before setting course over water you should first gain enough altitude to make it back to shore in case of an engine failure. Navigation apps such as SkyDemon have great tools to calculate your gliding distance. If your flight includes segments without the possibility to reach land you may check what maritime traffic is present in the vicinity of your route. If you are forced to ditch the aircraft you should do this in close proximity (without endanger others) of maritime vessels to ensure a quick rescue. Positions of maritime traffic is available online.

MARINETRAFFIC

MarineTraffic: Global Ship Tracking Intelligence | AIS Marine Traffic

MarineTraffic Live Ships Map. Discover information and vessel positions for vessels around the world. Search the MarineTraffic ships database of more than 550000 active and decommissioned vessels. Search for popular ships globally. Find locations of ports and ships using the near Real Time ships map. View vessel details and ship photos.

READ MORE MARINETRAFFIC ›

Landing

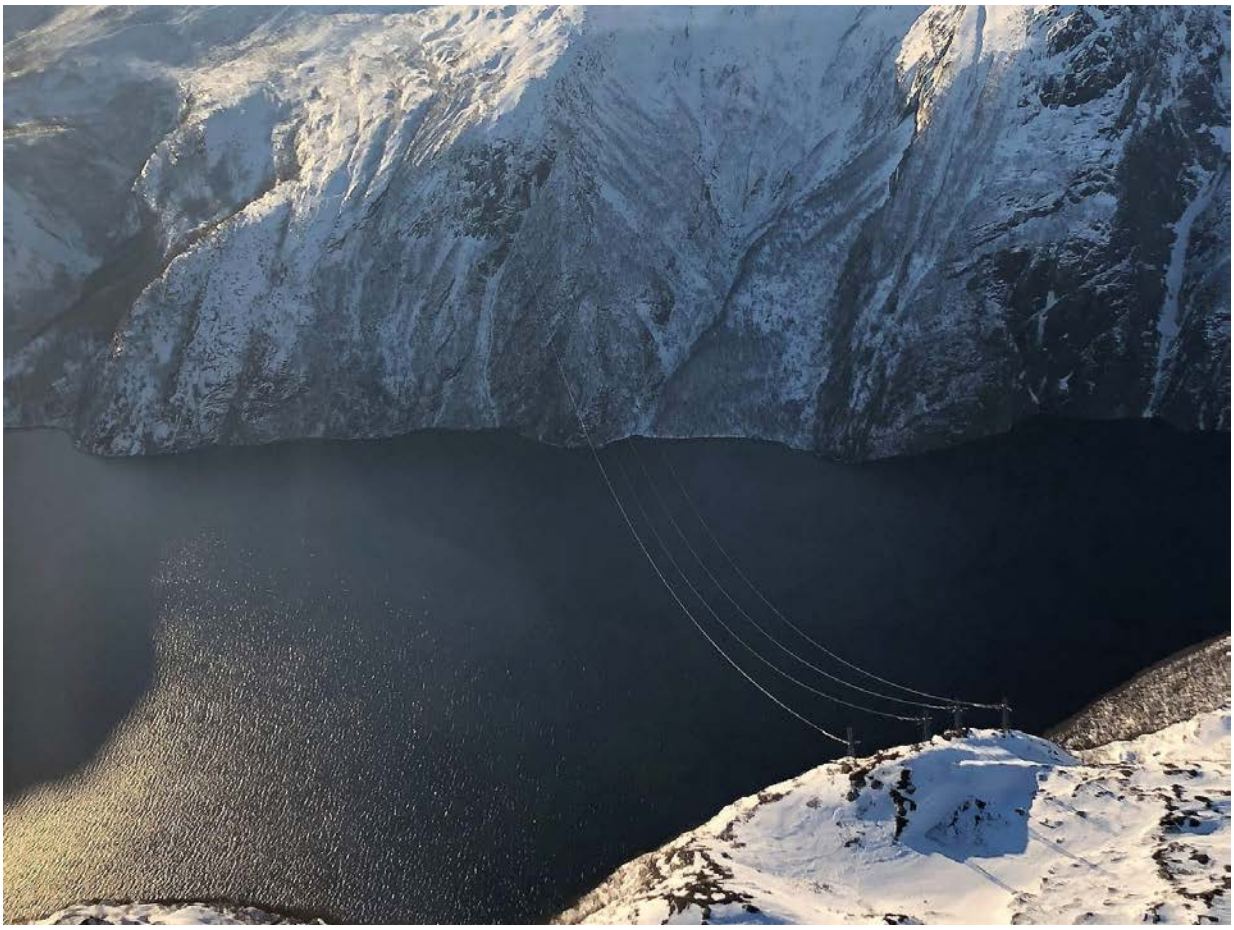
If you are intending to land at an airfield you are unfamiliar with, you should make a pass and have a closer look at the airfield and its surroundings. Make an assessment of the airfield length and surface, wind, terrain and check for wires. Plan your departure track and look for escape routes and emergency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

In windy and gusty conditions and if there is a chance of 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 after touchdown.

Wires



When you fly along valleys or fjords and during takeoffs and landings, you should pay extra attention to the most likely presence of obstacles, like power lines (wires) masts and a variety of other manmade obstacles. Wires often run across valleys and fjords between poles situated on the ridgelines. The lowest part of the span may be several hundred feet above ground depending on the steepness and height of the mountains and the width of the valley.

Note: Not all wires are depicted on the charts, so to be safe, you should not fly below the ridgeline or minimum altitude of 1500 feet if you are not absolutely certain about wire locations

In order for you to have a safe flight over Norwegian territory: STAY HIGH – WIRES KILL

Some wires are crossing valleys and fjords with a height of up to 1600 feet above the terrain or water. Some of the wires are NOT, or only PARTLY marked. Low level flying therefore pose a significant threat to you, your passengers and your aircraft. Wires are often 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 to or above the height of the poles, or even better above the poles themselves.

High voltage spans, which can be easier to see, often have much thinner earth wires running from the top of the poles, which are not that easy to spot.

At the website norgeskart.no you will find a national register of aviation obstacles (In Norwegian only).

Facts: There are approximately 73000 obstacles in Norway which are 15 meters or higher. Only 1-2 percent of these are marked with lights, fluorescent paint, wire markers or a combination of these measures.

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 midOctober, 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 midApril 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 may 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.

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 or any other animal by aircraft is considered a very cruel act and is a violation of the provisions in the Norwegian Rules of the Air.

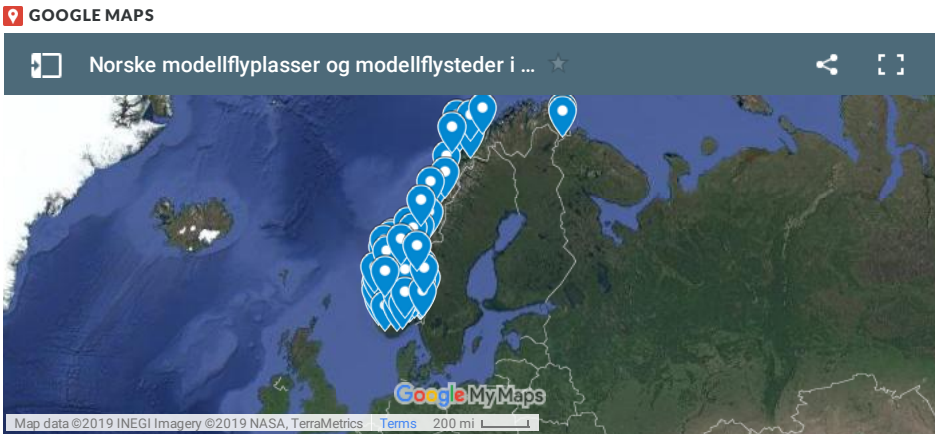
Drones and model aircraft

Operations of drones in Norway have expanded dramatically in recent years. There are both commercial operators, but most private operators that use these for various purposes, primarily for filming of various kinds. In addition, flying drones where the vessel serves as a real-time simulator with image transfer to the ground is increasingly popular, called First Person View (FPV). These may be flown far from the operator at different heights, but by law are supposed to be flown under 400 feet and within line of sight.

Image courtesy of Espen Bakketun

Generally, there is a relatively high model airplane activity in Norway, but please note that it is not only the established model airfields that are used for these activities. The models can be quite large, with the corresponding size of employed airspace. At some locations towing of model sailplanes is quite popular, where gliders from 4 to 9 meter wingspan are operated, with weights up to 30 kilograms. Flights of this kind might be executed at high altitudes, sometimes up to 2 or 3000 feet, and these operations are usually done from established grass airfields or frozen lakes. Such special activities should be notified to the closest ATC or by NOTAM..

Registered model aircraft sites



Norske modellflyplasser og modellflysteder i NLF - Google My Maps

Norske modellflyplasser og flysteder for modellflyklubber tilsluttet Norges luftsportforbund. www.nlf.no

VIEW ON GOOGLE MAPS >

Emergencies and survival

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:

1

Stavanger Rescue Co-ordination Centre, Sola (South of 65N):
Tel. (+47) 51 51 70 00
Fax. (+47) 51 65 23 34
Hours of services: 24H.

2

Bodø Rescue Co-ordination Centre, Bodø (North of 65N):
Tel. (+47) 75 55 90 00
Fax. (+47) 75 52 42 00
Hours of service: 24H.

HOVEDREDNINGSSENTRALEN

English - Hovedredningssentralen

Norwegian rescue services are carried out through cooperation between government agencies, voluntary organisations and private companies who have resources appropriate for rescue services. The Joint Rescue Coordination Centres have the overall operational responsibility during search and rescue operations.

READ MORE HOVEDREDNINGSSENTRALEN >

SAR helicopters

SAR Helicopters are stationed at the following aerodromes: Banak (ENNA), Bodø (ENBO), Ørland (ENOL), Stavanger/ Sola (ENZV), Florø (ENFL) and Rygge/ Moss (ENRY). These are able to reach any destination within mainland Norway within 90 min direct flight from its home bases.

In addition, several emergency medical helicopters as well as offshore SAR helicopters are based at locations both off – and onshore all over Norway.

Emergency frequencies are: 121.50 MHz and 243.000 MHz.

Image courtesy of Martin Mellquist/Forsvaret

If an emergency landing becomes necessary and there are no means available to contact ATS, the following procedure is recommended: By the use of any available aircraft radio, call and listen out on 121.5 MHz for the first 5 minutes after full and half hours.

ATC will be requesting other aircraft along your planned route to call and listen out on this frequency on these specific times as an additional aid to locate you. If a mobile telephone is available, you should try to make contact with ATS.

Remember to first **aviate**, **navigate**, then **communicate**

Use of ELT and PLB

An Emergency Locator Transmitter (ELT) or a Personal Locator Beacon (PLB) is a valuable search aid if your aircraft is forced down and is mandatory, except for ultralights while flying in Norwegian airspace.

Proper use and activation of your ELT/ PLB can be paramount for your survival. It might be advisable to activate the ELT/ PLB as early as possible to make use of the longer range at higher altitude.

Early activation may be the only chance you'll have to alert anyone before the mountains block your distress signal.

This is also advisable for the radio distress call for the same reason. An ELT/ PLB transmitting on both 406 MHz and 121,5 MHz is mandatory.

Some guidelines:

- [ ] If you are forced down: Ensure that the ELT/ PLB is activated.
- [ ] If in water and the beacon is floating, the ELT/ PLB 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/ PLB up a mast.
- [ ] Always position the PLB so that the antenna stands vertical Tree canopy degrades performance. Find a clearing with as much sky view as possible. Ravines, canyons, caves and overhangs should be avoided if at all possible.
- [ ] 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/ PLB even if it is damaged.

FLIGHTS IN MOUNTAIN AND REMOTES AREAS

The purpose of 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 to 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 flat land. 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 is marginal or winds are 20 knots or more, please consider another time or route to fly. Even though there is mountainous terrain with "Galdhøpiggen" as the highest (8100 ft), the vast majority of airfields listed in "Airfield Manual Norway", are situated in the valleys and fjords. Not many airfields are above 2000 ft with "Wadahl" as the highest (at 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 wind shear in windy conditions. Especially 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 Caution notes.

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 to consider when operating at landings sites such as small private airfields, lakes and snow airfields. Even “Wadahl” airfield (3150 ft) with its 500m gravel runway, will on a hot summer day of 25°C, give a density altitude of 4840 ft. This will undoubtedly have an impact on your aircraft performance. For example, a normally aspirated engine will lose about 3% of its power per thousand feet of density altitude increase.

Be prepared

Norway mainly consists of mountainous terrain, deep fjords often encircled by sharply rising terrain and remote areas. Adding Norwegian weather conditions, which often change rapidly from good to worse resulting in conditions 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 plan 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.

A few points 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 increases 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. 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 up dead in a dead-end valley. If weather permits, preferably fly on the right-hand side of a valley as this is a common procedure to avoid opposite traffic. In windy conditions, fly on the windward/ updraft side of the valley to avoid turbulence from rotors and downdrafts on the leeward/downdraft side, and to gain a lift advantage from the updrafts. Flying on the windward/updraft side also helps you, if you have to turn back in a narrow valley. You will have more space available and you will turn into the wind, which will tighten your radius of turn.

You should bear in mind that for a given rate of turn, an increase of only 10 percent TAS will increase your turn radius by 20 percent. A controlled climbing or descending turn may reduce your turn radius significantly. Get familiar with your aircrafts' turn radius before you fly into a narrow valley. When crossing a ridge, you should first of all be certain that you will be able to pass over it with adequate terrain clearance. On climb from lower terrain in windy conditions, you should plan to reach a safe altitude in good distance before the crossing point. Don’t try to out climb the mountain wall. This may be very dangerous due to unexpected downdrafts and uncertainty of the steepness of the wall. Add at least 1000 feet for safety in windy conditions. Approach and cross the ridge at 45º 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.

Contact information

Here you may download a pdf with useful contact information

PDF

Contactlist VFR-guide.pdf
36.5 KB

VFR guides for other countries

Several of our neigbouring countries does also have VFR guides. Here you will find links to their websites for easy access.

Denmark

GO TO VFR GUIDE

Iceland

GO TO VFR GUIDE

Estonia

GO TO VFR GUIDE