

Safety Regulation Group



CAP 428

Safety Standards at Unlicensed Aerodromes

(Including Helicopter Landing Sites)

www.caa.co.uk

CAP 428

Safety Standards at Unlicensed Aerodromes

(Including Helicopter Landing Sites)

© Civil Aviation Authority 2004

ISBN 1 904862 03 9

First Edition April 1980

Second Edition August 1985

Third Edition March 1989

Fourth Edition July 1991

Fifth Edition October 2004

Enquiries regarding the content of this publication should be addressed to:
General Aviation Department, Safety Regulation Group, Civil Aviation Authority, Aviation House,
Gatwick Airport South, West Sussex, RH6 0YR.

The latest version of this document and all applicable amendments are available in electronic format at www.caa.co.uk, where you may also register for e-mail notification of amendments. Details for purchasing paper copy can be found at the same web address.

List of Effective Pages

Chapter	Page	Date	Chapter	Page	Date
	iii	October 2004			
	iv	October 2004			
Chapter 1	1	October 2004			
Chapter 2	1	October 2004			
Chapter 2	2	October 2004			
Chapter 2	3	October 2004			
Chapter 3	1	October 2004			
Chapter 4	1	October 2004			
Chapter 4	2	October 2004			
Chapter 4	3	October 2004			
Chapter 5	1	October 2004			
Chapter 6	1	October 2004			
Chapter 7	1	October 2004			
Chapter 8	1	October 2004			
Chapter 9	1	October 2004			
Chapter 9	2	October 2004			
Annex A	1	October 2004			
Annex B	1	October 2004			
Annex C	1	October 2004			
Annex D	1	October 2004			

Contents

Chapter 1	Introduction	
Chapter 2	Planning Considerations	
	Planning Permission	1
	Safeguarding	1
	Planning Authority Liaison	2
	Opposition	2
	Obstructions	2
	Rights of Way	2
	Usage Levels	2
	Planning Conditions	3
	Use of Aerodromes for Other Activities	3
	Good Neighbour Relations	3
Chapter 3	Aeronautical Notification	
Chapter 4	Aerodrome Physical Characteristics	
	Runways	1
	Wind Indication	2
	Obstacles	2
	Aerodrome Lighting	3
	Aircraft Parking	3
Chapter 5	Flying Operations	
Chapter 6	Aircraft Fuelling	
Chapter 7	Low Flying and the Unlicensed Aerodrome	
Chapter 8	Emergency Services	
Chapter 9	Provision of Air Traffic Services	
Annex A	Take Off and Landing Safety Factors	
Annex B	Fire Fighting, Rescue and First Aid Equipment	
Annex C	Helicopter Landing Sites	
Annex D	Associated and Complementary Documentation	

Chapter 1 Introduction

- 1 Whilst perhaps a majority of aviation activity in the UK takes place at licensed aerodromes, there are a large number of unlicensed facilities around the country. The aim of this document is to provide guidance and advice on setting up and operating an unlicensed aerodrome. Its contents are not mandatory, nor do they purport to be exhaustive: however, they do provide what can be considered as sound practice. Throughout the document the word "aerodrome " has been used as a generic term to refer to all unlicensed flying sites, including helicopter landing sites.
- 2 Advice on the standards required of licensed aerodromes is contained in CAP 168 - Licensing of Aerodromes, and that document may be used in conjunction with this to provide detailed information on, for example, aerodrome physical characteristics, lighting standards, signs and signals.
- 3 Whether an unlicensed aerodrome is a "farm strip" a helicopter landing site or a hard runway equipped airfield, the physical characteristics and operating standards should provide a safe operational environment: particularly if passenger operations are planned. This publication provides guidance to the owners of, and those who operate or fly from unlicensed aerodromes to enable high safety standards to be met.
- 4 The guidance offered in this publication is, of necessity, non-specific in certain areas since the range of aerodrome types is so wide. Should more specific guidance be required, contact:

General Aviation Department
Aviation House
Gatwick Airport South
West Sussex
RH6 0YR

Tel: 01293 573540
Fax: 01293 573973
- 5 It must be remembered however, that the fact that an aerodrome is unlicensed does not preclude compliance with the Air Navigation Order (ANO) or the Rules of the Air (ROA). In particular care should be taken to meet the requirements of Rule 5 of the ROA.
- 6 This publication is written primarily to cover unlicensed aerodromes used by aeroplanes. Less demanding criteria may apply to aerodromes solely used by helicopters. Annex C details where guidance can be found, and again specific advice for helicopter-only operations can be sought from the General Aviation Department at the above address.
- 7 The ANO and the ROA may be found at:

www.caa.co.uk/publications/publications.asp?action=subcat&id=23

Chapter 2 Planning Considerations

- 1 The regular use of an area of land or water for aircraft take-offs and/or landings amounts in law to the establishment of an aerodrome. The extent to which this use is made public is a matter of choice, but aeroplanes disappearing below hedge height will cause bystanders to believe they have witnessed an accident if there is no visible clue that an aerodrome exists.

2 Planning Permission

If the aerodrome is to be used for more than 28 days in a calendar year it is likely that specific planning permission will be required. Whether or not this is the case it is usually helpful if a constructive dialogue with the local authority planning department is established as early as possible. Planning law is complex and there are many significant cases giving guidance on the nature of development, the special status of agricultural land and buildings and other such issues. The advice of a specialist Planning consultant may be needed.

3 Safeguarding

- 3.1 "Safeguarding" is a term used in planning departments to describe the process whereby the effects of planning permissions on other interests can be assessed.
- 3.2 Railways, certain industrial installations, even certain scenic views as well as aerodromes can be safeguarded. In practical terms this usually means some form of consultation between the planning officers and a representative of the safeguarded interest. HM Government advises that aerodrome owners should take steps to safeguard their operations.
- 3.3 Safeguarding will assist the planning authority to make reasonable decisions in response to local development proposals; it is a basic principle that, in order to be clearly reasonable, a planning decision has to be taken in the knowledge of how it will affect the interested parties in the area in question. It is therefore advantageous to a planning authority to cooperate with safeguarding, but the degree to which this is achieved will depend upon negotiation. Safeguarding cannot be imposed, other than by Statutory Direction.
- 3.4 It is sometimes possible to supply planners with a map that can be used to determine the effect of decisions. An exclusion zone in which no residential development is permitted, for example, may safeguard explosives storage areas. Aerodromes are advised (in government planning guidelines) to provide maps as the basis of a consultation process. Such a map would normally be used as a trigger for discussion rather than to indicate areas where development should be ruled out.
- 3.5 There is no official format for an aerodrome-safeguarding map but guidance is given in CAP 738, Appendix A www.caa.co.uk/docs/33/CAP738.pdf. Its purpose is simply to indicate the areas in which development could affect aerodrome operations. Consultation about such development proposals will allow the aerodrome operator to explain how aviation interests might be affected. The degree of consultation requested is a matter for negotiation with the local planning department.
- 3.6 Further advice on safeguarding aerodromes can be obtained from CAP 738 - Safeguarding of Aerodromes www.caa.co.uk/docs/33/CAP738.pdf - or from the

Aerodrome Standards Department of the Safety Regulation Group at the following address:

Aerodrome Standards Department
Aviation House
Gatwick Airport South
West Sussex RH6 0YR

Tel: 01293 573264

Fax: 01293 573971

4 Planning Authority Liaison

A constructive dialogue with the local planning authority can provide the basis of a general "good neighbour" policy which will establish the aerodrome as a valued asset within the local community. If the safeguarded area is likely to include more than one local authority, contact should be made with all the affected planning departments.

5 Opposition

Any aerodrome is likely to suffer some degree of opposition, although this can often be minimised by the operator taking a helpful, open and reasonable attitude to the local community. It is not unknown, however, for obstructions to be deliberately erected with the intention of interfering with aircraft flightpaths. Nevertheless, pilots operating from unlicensed aerodromes remain ultimately responsible for the safety of their flight.

6 Obstructions

When obstructions are placed deliberately in the path of aircraft the affected operations must be suspended if a safe approach cannot be made. Planning enforcement is to some extent a matter of expediency and the removal of such unauthorised obstructions will not necessarily be ordered unless they are shown to be inconsistent with planning policy. Unauthorised developments that go unchallenged may eventually be granted Lawful Development Certificates.

7 Rights of Way

The question of rights of way on the aerodrome and on adjacent land is often complex and can be the cause of conflict if an uncooperative or high-handed attitude is taken. Right of access to the site is obviously crucial and may involve negotiation with neighbouring landowners. For example an aerodrome operator might be asked to contribute a proportion of the costs of maintaining a roadway for vehicular access.

8 Usage Levels

It sometimes happens that an aerodrome is granted a temporary planning permission, so that the effect of operations can be assessed before a permanent consent is granted. In such cases, neighbours may feel misled if the level of activity is low during the period of temporary permission but then rises significantly after permission is granted. It is therefore better to be frank about plans from the outset and thus demonstrate that aviators are responsible and trustworthy.

9 Planning Conditions

- 9.1 Planning permissions are often granted subject to conditions.
- 9.2 Such conditions might include restrictions on where aircraft may fly in particular areas or definition of circuit patterns to reduce noise pollution.
- 9.3 Similarly some local authorities may insist on a noise survey being carried out in advance of granting planning permission. This can result in the permission being limited to the aircraft type(s) used in the survey.
- 9.4 The Rules of the Air further limit aircraft activity over congested areas (any area substantially used for residential, industrial, commercial or recreational purposes) and the net result may be that all aircraft movements are concentrated along fairly narrow corridors. It is important to consider this aspect and identify suitable methods of mitigating noise disturbance accordingly.
- 9.5 Planning conditions may be applied to impose limits to the operating times, dates, the frequency of flights, noise and other considerations. Aircraft weight is often perceived as an indicator of noise and planning permissions may state maximum aircraft weights in an attempt to contain noise levels.

10 Use of Aerodromes for Other Activities

Specialised activities may involve a need for particular considerations. For example, parachutists may occasionally overshoot their intended landing area in a certain direction, dependent on the prevailing wind. Insofar as such mishaps are predictable it may be advisable to include a provision for them in safeguarding maps. In this example, advanced warning of proposed development on open land downwind of the drop zone would be useful to the aerodrome operator.

11 Good Neighbour Relations

- 11.1 Dialogue with neighbours is always to be encouraged, indeed it is essential if good neighbour relations are to be achieved and maintained.
- 11.2 The manner in which aircraft are flown is important. For example the use of sideslip approaches to maximise available runway length may be perceived as recklessness. If the reason for such an approach is explained to neighbours, emphasising that it is flown for safety, local anxieties can be reduced.
- 11.3 Environmental factors are a common cause of complaint to the operator or the planning authority. Mobile homes, caravans and tents used as temporary aerodrome accommodation may in themselves not require planning permission, depending on the extent of their use, but their proliferation may cause local opposition. Car parking may similarly become a sensitive issue. The supply of water, electricity and other services may involve the digging of trenches or the erection of poles etc. that may themselves become aerodrome obstructions. If the aerodrome operator is always seen to be reasonable when such issues are discussed, confidence may be increased.

Chapter 3 Aeronautical Notification

- 1 If regular operations are to take place it is advisable to publicise the location of your aerodrome and ensure that your activities are coordinated with other nearby civil and military aviation activity.
- 2 To do this you should contact the Directorate of Airspace Policy (DAP) ORA5 to notify both civil and military users of vicinity of your aerodrome. The address is:
 Directorate of Airspace Policy
 ORA5
 CAA House
 45–59 Kingsway
 London WC2B 6TE
 Tel: 0207 453 6545
 Fax: 0207 453 6565
- 3 You may also wish to notify your aerodrome for publication in one of the general aviation guides such as:
 Airplan VFR Flight Guide www.airplan.u-net.com
 Bottlang fra-services@jeppesen.com 01293 842400
 Pooley's Flight Guide editor@pooleys.com 02082070171
 Lockyer's Guide to Farm Strips www.flightstore.co.uk 01924 509273
 The British Helicopter Advisory Board Handbook.info@bhab.org 01276 856100
- 4 It is also worth letting your local police know that your aerodrome exists. In these days of terrorism, smuggling and such like they will certainly wish to know who is operating from your aerodrome and will almost certainly pay regular liaison visits.

Chapter 4 Aerodrome Physical Characteristics

1 The physical characteristics of an unlicensed aerodrome will depend very much on its location, how much space is available - at one end of this spectrum will be found farm strips, whilst at the other will be the privately operated ex-military airfield with hard runways - the type of aircraft operating from the aerodrome and the nature of the operations the aerodrome will host.

2 The physical characteristics required of a licensed aerodrome are internationally agreed and detailed in CAP 168 - Licensing of Aerodromes:

www.caa.co.uk/publications/publicationdetails.asp?id=232

At most unlicensed aerodromes the licensing criteria are neither achievable nor necessary for safe operation. However, they can be used as guidance on which the layout of an unlicensed aerodrome may be based.

3 Runways

3.1 Terrain and obstacles will affect runway design: however, the following should be borne in mind:

3.2 The runway should be of sufficient length and width - *the standard recommendation is 18 metres* - to meet the requirements of the aircraft that will operate from the aerodrome.

3.3 The runway surface condition is very important, particularly for light aeroplanes, and should be kept as smooth and well drained as possible. Hard surfaces should be regularly checked for debris and natural surfaces should be mown, rolled and kept debris free. *It is recommended that grass be kept to a maximum of 10 cms (4 ins) high.*

3.4 If laying a grass runway consider the use of seed mixtures which will give slower growth and reduced rolling resistance.

3.5 It is essential to mark any obstacles, potholes and bad ground. Runway markers and runway numbers will help line up for both take-off and landing.

3.6 The runway should, wherever possible, be designed such that trees, power lines, high ground or other obstacles do not obstruct its approach and take-off paths. *It is recommended that there are no obstacles greater than 150 feet above the average runway elevation within 2,000 metres of the runway mid-point.*

3.7 The runway orientation in relation to the prevailing local wind should be considered carefully. It may be possible that a slight re-orientation by 10 or 20 degrees could reduce a prevailing cross wind. This is particularly important for tailwheel aircraft where the maximum crosswind component may be 10 knots or less. Also bear in mind the possible effect of buildings, trees and other natural features on the local surface wind.

3.8 Runway slope should always be considered. Taking off or landing up or down a slope is acceptable. Taking off and landing across the slope is dangerous. Ensure that the orientation of the strip eliminates excessive lateral slope. *It is recommended that lateral and longitudinal gradients are limited to 1:33 maximum.*

3.9 The runway at an aerodrome provided at an event - eg a race meeting - and/or where large numbers of visitors are expected, should be positioned so that the overflight of

assembled spectators, car parks or other areas likely to attract large numbers of people is avoided.

- 3.10 Where possible the runway should be oriented to avoid overflight of population, houses, stables, and other sensitive areas during take off and approach to land. It must be remembered however, that the fact that an aerodrome is unlicensed does not preclude compliance with the Air Navigation Order (ANO) or the Rules of the Air (ROA).

www.caa.co.uk/publications/publications.asp?action=subcat&id=23

In particular care should be taken to meet the requirements of Rule 5 of the ROA.

- 3.11 The usable parts of hard runways (if all of the hard area cannot be used) and of grass runways may be edged with white rectangular paint markings or marker boards, flush with the runway surface, each 3 metres long and 1 metre wide, at intervals of not more than 90 metres. Alternatively, suitable elevated frangible markers, such as traffic cones at the same spacing may be used. The ends of the usable runway may be indicated with similar paint or markers at right angles to, and adjoining the end lateral markers.
- 3.12 Where operations are not confined to marked, paved or unpaved runways, the limits of the usable area may be marked in a similar way, i.e. 3 metre by 1 metre markers spaced at intervals of not more than 90 metres around the perimeter. If any area within this perimeter is temporarily or permanently unfit for use by aircraft, it should be outlined by similar-sized orange and white raised markers or traffic cones.

4 Wind Indication

A wind sock, clearly visible from the air, and positioned so as to indicate a representative direction and strength should be provided. Avoid locations close to trees or buildings or where terrain may cause an unrepresentative indication, and ensure it will not interfere with aircraft taking-off or landing.

5 Obstacles

- 5.1 Anything that, because of its height or position, could be a hazard to an aeroplane landing or taking off, and which cannot be removed, should be conspicuous and marked if necessary.
- 5.2 The height of the highest obstacle within 4 nm of the centre of the aerodrome, together with any potentially hazardous obstacles outside the aerodrome boundary, over which the aerodrome operator cannot exercise control, should be mentioned in any aeronautical information publications in which the aerodrome is included.
- 5.3 It is sometimes possible to have local power lines and telephone lines moved at personal expense.
- 5.4 If the aerodrome does not feature in any aeronautical publications, a procedure should be developed whereby visiting pilots are warned of hazards prior to arrival.
- 5.5 **Roads, Buildings and Other Structures Outside the Aerodrome Perimeter**

The location of roads, buildings and other structures outside the aerodrome perimeter should be considered and the runways aligned to allow safe approaches and departures to be flown without hazarding people or vehicles using such roads, buildings and other structures.

6 Aerodrome Lighting

- 6.1 The majority of unlicensed aerodromes will operate without lighting but there is no limitation on its employment.
- 6.2 CAA permission is not required for the installation of aeronautical ground lighting at an unlicensed aerodrome.
- 6.3 It is recommended that on aerodromes used at night, the runway should be provided with edge, threshold and end lighting and, if possible, approach slope guidance.
- 6.4 Airfield lighting and approach slope guidance can be permanent or portable. Lighting characteristics, standards and layouts are detailed in CAP 168.
- 6.5 Runway edge lighting, if used, should be placed along, or within 3 m of, the outside edge of the runway with the lights spaced at intervals of 60 ± 6 m. Threshold and end lighting, if used, should consist of six lights evenly spaced at intervals of not more than 9 m across threshold and runway end respectively.
- 6.6 It is essential that any approach slope guidance is correctly installed and properly maintained. Owners and operators are encouraged to seek advice from the Aerodrome Standards Department prior to installation.

Aerodrome Standards Department
Aviation House
Gatwick Airport South
West Sussex RH6 0YR

Tel: 01293 573264

Fax: 01293 573971

- 6.7 Taxiways should be identified at least on one edge or on the centre line, by the use of lights or reflective markers. If the lighting system does not adequately illuminate apron edges they should be marked in the same manner as taxiways.
- 6.8 Obstacles should be lighted with steady red low intensity obstruction lights.

7 Aircraft Parking

- 7.1 If designated parking areas are provided:
- They should not be sited under aircraft flight paths or within the runway strip, and should have barriers and notices warning against unauthorized entry.
 - Suitable fire extinguishers should be available in areas where aircraft engines are started.

Chapter 5 Flying Operations

- 1 If there are no permanent buildings such as a hangar, on the site, consider siting a small hut, or caravan, on the aerodrome to store fire appliances, first aid equipment and your movements log. A notice board displaying aerodrome information is also a useful adjunct. Mark the building clearly with a large letter "C" to show visiting pilots where the movements log, etc. are kept.
- 2 Provide a movements log and ensure pilots always complete it. The local police and Customs and Excise will wish to check on flights in and out as may your local planning department if you are operating under the 28-day rule - Chapter 2, Paragraph 2.2 refers.
- 3 Check the runway each day before start of flying.
- 4 If you have hard surface runways ensure that they are inspected, particularly for debris, prior to all operations. Damaged areas should be repaired as soon as possible.
- 5 Grass runways also need constant maintenance; regular cutting and rolling together with the elimination of potholes is essential. Also beware of rabbit and other animal excavations and check runway surfaces regularly for them. The surface of a grass runway can be considered smooth enough if you can drive a car over it at 30 mph without undue discomfort.
- 6 Ensure ruts, soft ground or other problems are marked, particularly if you allow visitors to use the aerodrome.
- 7 Consider emergency options, where is the best over-run area, it might not be directly beyond the runway? A slight turn to left or right may improve the situation. What options are available following an engine failure soon after take off? Remember that in such a situation bank must be limited to 30 degrees or less and heading change to less than 30 degrees either side of the aircraft's nose. In the event of an over-run remember that stopping the engine will considerably reduce the distance travelled.
- 8 Consider the effect of runway surface state (eg wet or longer than usual grass) and/or contamination (e.g. recent rain, standing water or mud) on aircraft take off and landing performance. Annex A details the necessary allowances.
- 9 If your aerodrome is accessible to the public or to livestock always ensure that both are clear of the operating surfaces before commencing operations. Public footpaths should be clearly marked with warning signs advising of flying operations.
- 10 Investigate and be aware of the effect of various wind directions on operations, consider wind shear, roll over from trees etc.
- 11 Birds are a hazard at all aerodromes but can be particularly so at small strips where roosting sites can be very close to the runway. Bird control is rarely feasible at such sites therefore awareness of the hazard must be high.
- 12 Before each flight, pilots must consider the AUW of their aircraft, its loading and the prevailing weather conditions and confirm that they can still safely operate from the aerodrome.
- 13 Pilots must also check that the runway surface is suitable for use by their aircraft type, and that there is sufficient distance for the take off or landing and to abort the take off if necessary.

Chapter 6 Aircraft Fuelling

- 1 Fuelling procedures and guidance are contained in CAP 748 'Aircraft Fuelling and Fuel Installation Management'.

www.caa.co.uk/docs/33/cap748.pdf

Chapter 7 Low Flying and the Unlicensed Aerodrome

- 1 It is a pilot's responsibility to comply with the Rules of the Air. Nevertheless aerodrome operators must be aware of the limitations imposed on their operations by the Rules, in particular those governing low flying - Rule 5.
www.caa.co.uk/publications/publications.asp?action=subcat&id=23
- 2 Rule 5 of the Rules of the Air, amongst other requirements, prohibits flights below 1000 feet over 'congested' areas except when aircraft are taking off or landing at a licensed or government aerodrome. It is therefore most important that climb out, approach and circuit paths at unlicensed aerodromes do not overfly built-up areas. These Congested Areas are legally defined in Article 129 of the Air Navigation Order 2000, as, "in relation to a city, town, or settlement, any area which is substantially used for residential, industrial, commercial or recreational purposes;...".
- 3 Operators should also be aware that military low flying, down to 250 feet above surface level, takes place from Monday to Friday excluding Bank Holidays, over most of the UK away from congested areas. It is recommended that the Military Low Flying organisation be notified, either directly or through the Directorate of Airspace Policy (DAP), of all unlicensed aerodromes so that military crews can be made aware of their location. Notification does not mean that military traffic will not overfly or fly close to an aerodrome.
- 4 The military low flying organisation can be contacted on:
Tel: 01895 426509 or via e-mail on: so2ops.lf@nats.co.uk.
- 5 The DAP can be contacted on:
Tel: 0207 453 6540
Fax: 0207 453 6565

Chapter 8 Emergency Services

- 1 The scale of emergency service that should be provided at an unlicensed aerodrome depends upon the amount of flying and types of aircraft expected to use the aerodrome. At a farm strip this may of necessity be limited to a fire extinguisher for self help use. At larger unlicensed aerodromes greater provision would be prudent.
- 2 Fire and rescue scales are set out in Annex B for licensed aerodromes. Operators of unlicensed aerodromes should examine this list and determine what level of cover will be appropriate for the anticipated operations at their particular aerodrome. Further advice on suitable scales of rescue and fire facilities can be obtained from the Aerodrome Standards Department.
- 3 The operators of unlicensed aerodromes are recommended to make general emergency arrangements as practicable. These can be summarized as follows:
 - a) Arrange a procedure for summoning the local Police, Fire and Ambulance Services in the event of an emergency.
 - b) Consider informing the local emergency services when flying operations are expected.
 - c) Arrange for local Emergency Service Officers to visit the aerodrome so that they can brief their personnel on suitable routes for their vehicles.
 - d) Ensure first aid and fire fighting equipment is available.
 - e) Provide written instructions on the action to be taken should an emergency occur, including the names, addresses and telephone numbers of local doctors, hospitals, and the standard emergency services.
 - f) Inform local emergency services of the largest type of aircraft likely to use the aerodrome and, where necessary, its expected passenger capacity.

Chapter 9 Provision of Air Traffic Services

- 1 The provision of an air traffic service will depend on a number of factors. Aerodrome Operators should consider the following:
 - a) The anticipated number of aircraft that will use the airfield.
 - b) The movement rate including circuit traffic.
 - c) The type of aircraft that will use the airfield, fixed-wing, rotary, micro-lights, vintage jets etc.
 - d) The complexity of the operation – cross-runway usage etc.
 - e) The proximity of other airfields and how that will effect the operation of the airfield.
 - f) Local airspace and complexity.

- 2 Advice on ATS matters may be sought from the appropriate CAA Regional Manager, Air Traffic Standards and Services Department. Their addresses are:

Regional Manager ATS
Southern Regional Office
Floor 2W
Aviation House
Gatwick Airport South
West Sussex RH6 0YR

Tel: 01293 573426
Fax: 01293 573974

Regional Manager ATS
Central Regional Office
Manchester International Office Centre
Suite 5
Styal Road
Wythenshawe
Manchester M22 5WB

Tel: 0161 499 3055 Ext 242
Fax: 0161 499 3048

Regional Manager ATS
Northern Regional Office
7 Melville Terrace
Stirling FK8 2ND

Tel: 01786 431400
Fax: 01786 448030

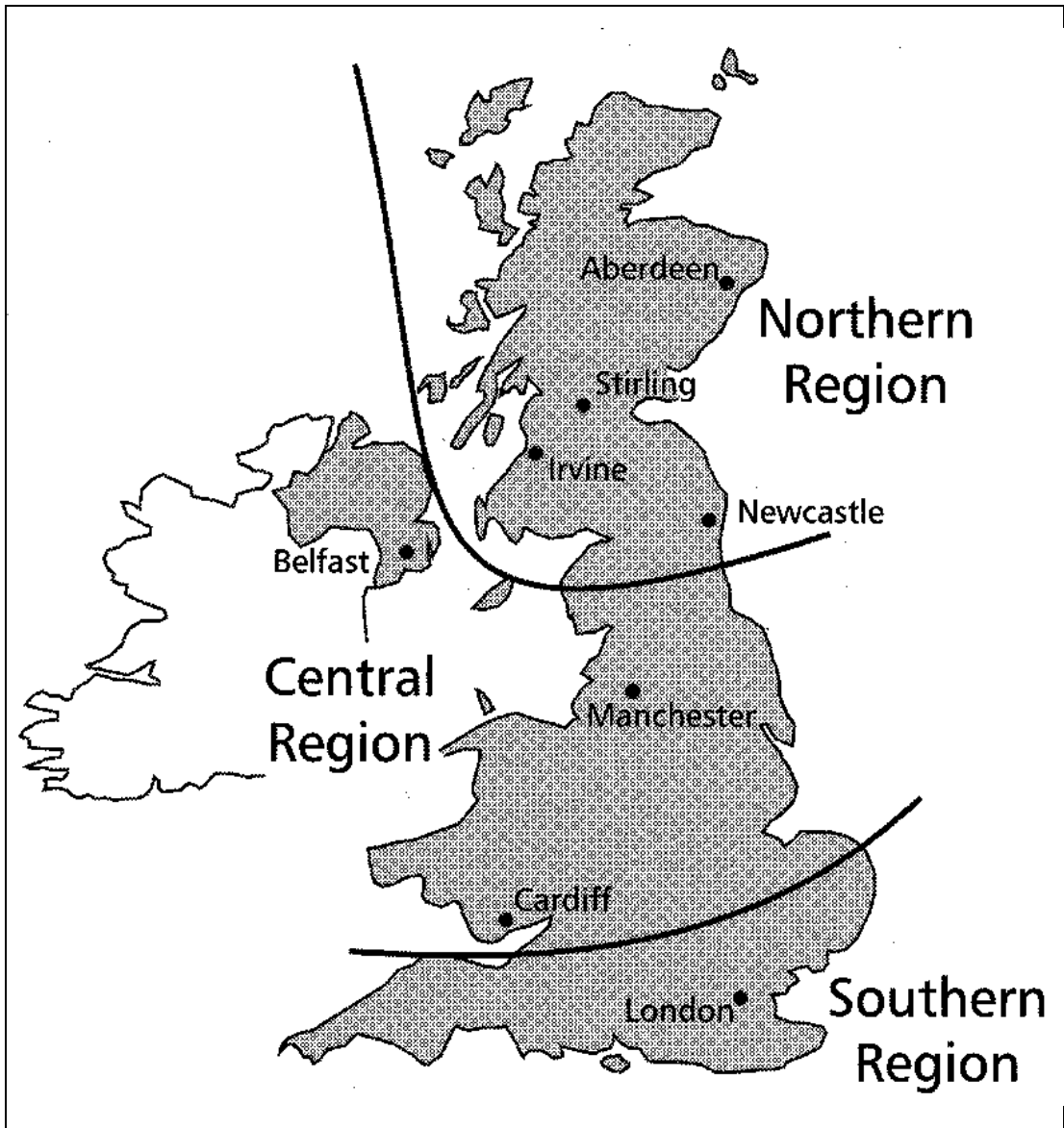


Figure 1 Air Traffic Services UK Areas

Annex A Take Off and Landing Safety Factors

Take Off

Condition	Increase in Take-Off Distance to 50 feet	Factor
A 10% increase in aeroplane weight.	20%	1.20
An increase of 1000 ft in aerodrome altitude.	10%	1.10
An increase in 10 degrees C in ambient temperature.	10%	1.10
Dry grass ¹ - Up to 20 cm (8 ins) (on firm soil).	20%	1.20
Wet grass ¹ - Up to 20 cm (8 ins) (on firm soil).	30%	1.30
A 2% uphill slope ¹ .	10%	1.10
A tailwind component of 10% of lift off speed.	20%	1.20
Soft ground or snow ¹	25% or more	1.25 +

1. The effect on ground run/roll will be proportionally greater.

Landing

Condition	Increase in landing distance from height of 50 ft	Factor
A 10% increase in aeroplane weight.	10%	1.10
An increase of 1000 ft in airfield altitude.	5%	1.05
An increase of 10% in ambient temperature.	5%	1.05
A wet paved runway.	15%	1.15
Dry grass ¹ - Up to 20 cm (8 ins) (on firm soil).	15%	1.15
Wet grass ¹ - Up to 20 cm (8 ins) (on firm soil). See Note 3.	35%	1.35
A 2% downhill slope.	10%	1.10
A tailwind component of 10% of the landing speed.	20%	1.20
Snow ¹	25% or more	1.25 +

1. The effect on ground run/roll will be proportionally greater.

NOTE: 1 After taking account of the above variables it is recommended that a safety factor of 1.33 for take-off and 1.43 for landing be applied.

NOTE: 2 Any deviation from normal operating techniques is likely to result in an increase in the distances required.

NOTE: 3 When grass is very short, the surface may be slippery and distances may be increased by up to 60% (a factor of 1.60).

Annex B Fire Fighting, Rescue and First Aid Equipment

- 1 Determination of the appropriate level of emergency equipment is entirely dependent on the level of operations at the aerodrome. At a farm strip provision of a fire extinguisher may be all that is required. However, if a number of aircraft are to be flown from an aerodrome or significant numbers of visiting aircraft are the norm, then the provision of a wider range of equipment would be recommended.
- 2 The following is the minimum scale of equipment that would be required for immediate use at a licensed aerodrome operating a fleet of Cessna 150/172s or PA 28 type aircraft:
 - 2.1 A vehicle or vehicles with cross country capability and capable of carrying the equipment and personnel specified, either on the vehicle or on suitable trailer connected to the vehicle.
 - 2.2 A foam extinguisher containing not less than 90 litres of a foam meeting performance Level B (CAP 168, Chapter 8, Appendix 8E) with a discharge rate of not less than 60 litres per minute through one or more hose lines. Complementary fire fighting media in the form of 14 kg of Dry Powder, BCF or 25 kg CO₂ should be available. Details of Level B requirements can be found at:
www.caa.co.uk/docs/33/CAP168.pdf
 - 2.3 Rescue equipment consisting of:
 - 1 axe, aircraft type non-wedging
 - 1 bolt cropper 61 cm
 - 1 crowbar 1 metre
 - 1 heavy-duty hacksaw with six spare blades
 - 1 pair pliers side cutting
 - 1 harness knife with sheath
 - 1 fire-resisting blanket
 - 2 pairs fire-resisting gloves
 - 1 set screwdrivers (Phillips and slotted)
 - 1 top snippers
 - 2.4 A medical first-aid pack plus at least one stretcher with blankets. The first-aid pack to include:
 - 6 emergency dressings No. BPC 9
 - 6 emergency dressings No. BPC 12
 - 6 triangular bandages
 - 1 eye dressing
 - 1 pair scissors
 - 2.5 The medical pack should be protected from the elements.

Annex C Helicopter Landing Sites

- 1 This Annex will summarise the information that is particularly pertinent to helicopter operators. The CAA website is at www.srg.caa.co.uk
- 2 The relevant requirements of the Air Navigation Order (ANO) 2000 and the Rules of the Air (RoA) 1996 must be complied with in full when operating at an unlicensed site.
- 3 Helicopter Landing Sites (HLS) are unlicensed aerodromes, which are used exclusively by helicopters. Thus a private site in a field to the rear of a domestic property is an aerodrome whilst a helicopter is using it. The content of this CAP therefore applies to such HLS.
- 4 The CAA document Helicopter Site Keepers - Guidelines can be viewed from the British Helicopter Advisory Board website at www.bhab.org by following the link to "guidelines". This site also has a simple guide for setting up an unlicensed helicopter site together with a code of conduct for pilots.
- 5 Further guidance on Helicopter Activities and Private Landing Sites is also available on line as follows:
www.caa.co.uk/docs/7/dap_eis06.pdf
- 6 Guidance on Helicopter Activities in the London Control Zone and over Central London is available from:
www.caa.co.uk/docs/7/dap_eis07.pdf
- 7 Prior permission must be obtained from the General Aviation Department of the CAA before:
 - 7.1 Using an unlicensed site within a Congested Area, as defined in Article 129 of the Air Navigation Order (Rule 5(1)(c)(i) of the RoA).
 - 7.2 Using an unlicensed site by landing from the published Helicopter Routes in the London Control Zone (Rule 5(2)(a) of the RoA).
 - 7.3 Using an unlicensed site within 1000 metres of an assembly of more than 1000 persons (Rule 5(1)(d)(i) of the RoA). This includes attending race meetings concerts and shows.
- 8 Applications for permissions may be made on CAA Form CA1757B (SRG/1304 Issue 1), Special Events And Unusual Aerial Activity – Application.
www.caa.co.uk/docs/33/FORSRG130401.pdf
There is a fee to pay for Permissions and Exemptions. The current fee, payable on application, can be found from the CAA Official Record Series 5.
www.caa.co.uk/docs/33/OR5194.pdf
- 9 You may wish to publicise your site details by having them published in the Airplan, Bootlang or Pooleys Flight Guides, which is commonly used by general aviation pilots, and in the British Helicopter Advisory Board (BHAB) Handbook. Contact details for these publications are given below.

Airplan VFR Flight Guide	www.airplan.u-net.com	
Botllang	fra-services@jeppesen.com	01293 842400
Pooleys Flight Guide	editor@pooleys.com	020 8207 0171
BHAB	info@bhab.org	01276 856100

Annex D Associated and Complementary Documentation

CAP 168 - Licensing of Aerodromes

CAP 738 - Safeguarding Aerodromes

CAP 748 - Aircraft Refueling and Fuel Installation Management

Accessible from: www.caa.co.uk/publications

CAA Safety Sense Leaflet No 7 - General Aviation Aeroplane Performance

CAA Safety Sense Leaflet No 12D - Strip Sense

CAA Safety Sense Leaflet No 10 - Bird Avoidance

CAA Safety Sense Leaflet No 18 - Military Low Flying

Accessible from: www.caa.co.uk/srg/licensing/fcl/document.asp?groupid=292

GAAC Leaflet - Considerate Flying

GAAC Leaflet - A Guide to Improving the Natural History of Small Airfields

GAAC Leaflet - Your Local Aerodrome

Accessible from: www.gaac.co.uk

DAP Environmental Information Sheet - Number 5 - Aerodrome Operations

DAP Environmental Information Sheet - Number 6 - Helicopter Activities and Private Landing Sites

DAP Environmental Information Sheet - Number 9 - General Aviation

Accessible from: www.caa.co.uk/docs/7/dar_eiso.pdf