

Sky Africa
Sky Africa

Volume

2

The Pilots Guide

Flying in Africa

This manual serves as a guide to the general rules of the air in South and Southern Africa.

As a qualified pilot you will be aware of the general rules and regulations of flying as they apply to your country. At Sky Africa, we have guests from all over the world and it is important that each pilot is aware of the workings of the controlled and uncontrolled airspace in South Africa.

The General Rules of the Air and good airmanship apply anywhere and are important basics for any pilot. As the Pilot-in Command of the aircraft assigned to you during your trip, you will be responsible for caring for the aircraft as if it were your own. These are not 'rentals' to be abused, they are our personal aircraft which are well treasured.

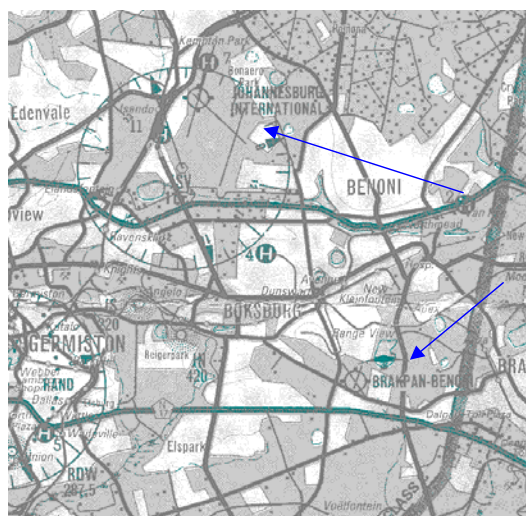
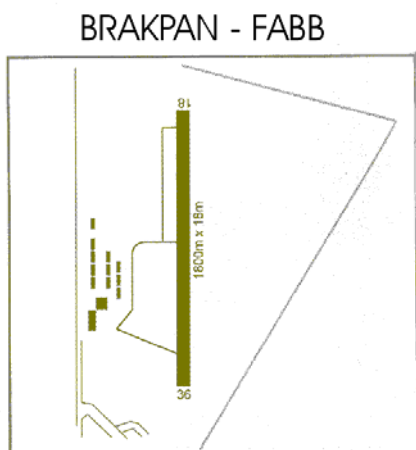
Note: Only the pilots of each aircraft who complete and pass the South African Foreign Licence Validation may taxi, fly or operate the Sky Africa aircraft.

The Brakpan/Benoni Airfield

Your home base airfield will be the Brakpan/Benoni Airfield commonly known as "Brakkies". The airfield is uncontrolled but has some specific regulations due to its proximity to Johannesburg International Airport (JIA).

- 📖 Brakpan has a single tarred runway 1.8km (5900ft) long, positioned directly North/South. Runways 18/36, 18m wide.
- 📖 The airfield **elevation is 5300'** AMSL.
- 📖 The airfield is located within 10nm of JIA and is under the TMA. The circuit height is thus restricted to 6000' (700' AGL).

📖 Right-Hand circuits only off runway 36 !

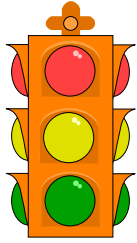


The Brakpan Airfield

The above image is from the PWV 1:250 000 VFR map showing JIA in the upper left and Brakpan in the lower right of the map (SE of JIA).



- 📖 Brakpan Airfield is an Aerodrome Traffic Area (ATA). Information about the airfield may be given over the radio but no control is exercised.
- 📖 Brakpan callsign is 'BRAKPAN TRAFFIC' on **122.7**
- 📖 Departures from Brakpan may only be to the East or South of the field. A/C must be transponder equipped and contact **Johannesburg Info 119.5** upon leaving the circuit.
- 📖 Departures to the South must remain at 6000', routing to **Ergo Slimes Dam** and contacting 119.5
- 📖 Departures to the East must also remain at 6000', routing to the Jan Smuts Dam.
- 📖 **NB:** It is important to keep in mind the high elevation of the airfield (5300' AMSL). Many GA pilots have not experienced the dramatic reduction in engine and aircraft performance when flying from this altitude. In addition, the hot summer weather will further increase the Density Altitude.



License Validation for foreign Pilots

To fly South African registered aircraft you must have your Private Pilot license validated in accordance with regulations of the South African Civil Aviation Authority (CAA).

It involves:

- * South African Private Pilots Air Law exercise
a multiple choice, open book, written quiz
- * Cross Country Navigational Check ride -- Your instructor will define a three-stop round-robin cross-country flight. He'll ask you to prepare a simple written navigation log for the route. You'll fly this route with your instructor (This is not required for holders of an ATPL)
- * Flight Check Ride -- general-handling flight with your instructor.

All the above will be done with a flight instructor at the SKYAFRICA Flight Training facility.

No government examiners are involved. Both the written test and the checkride are easily accomplished in several hours. As a practical matter the process is done over a span of two or three days. It is not difficult.

Before you arrive in South Africa, we'll ask you to fax or mail to us

- * copies of your pilot license
- * medical
- * passport
- * log book pages showing recent experience and/or an instructor's sign-off for the specific aircraft you intend to fly.

Bring with you to South Africa the original pilot documents and your pilot logbooks. If your experience in the aircraft you intend to fly is logged in an old logbook, bring the old one, too.

Recent experience:

Before arriving in South Africa, pilots are STRONGLY urged to fly with an instructor in the specific type of aircraft you intend to fly. You should review air work, soft and short-field landings and navigation by pilotage.

An instructor's sign-off of this dual is sufficient to satisfy the South African legal requirements for a sign-off in type.

Time-in-Type: Insurers of SKYAFRICA aircraft safaris require pilots to have a minimum amount of experience (logged time) in the aircraft. For example, use of a C-210 requires a minimum of 500 hours total time and 50 hours time-in-type to satisfy insurance requirements.

We'll need to know your experience in the specific aircraft you intend to fly.

You must have and bring with you to South Africa these ORIGINAL DOCUMENTS:

- * Current FAA or JAR or other ICAO pilot license or higher). Note: a current and valid pilot certificate from any ICAO country can be validated.
- * Current medical certificate (3rd Class or higher)
- * Pilot logbook showing an instructor's endorsement in the type, make and model aircraft you intend to fly in South Africa. It should ALSO show PIC time in that make and model aircraft. If your experience in the aircraft you intend to fly is logged in an old logbook, bring the old one, too.
- * You must be current.
- * Your medical must be up to date and you must have a current BFR.

IMPORTANT:

Type Specific requirements:

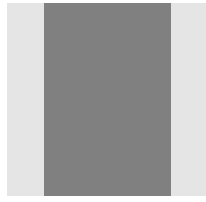
You must be current in the aircraft you intend to fly BEFORE arrival in South Africa.

Being current in a C-182 does NOT qualify you to fly a C-172; being current in a PA-28-180 does NOT qualify you to fly a PA-28-181.

If you carry an FAA class specific license, you are to make sure that aircraft you will fly in South Africa fall within the class of aircraft stated in your license.

Pilots **MUST** show an instructor's sign-off in the specific model aircraft they plan to fly. If no such sign-off exists, the candidate must show in his logbook substantial PIC time in that specific model aircraft. For European and other pilot licenses, the specific aircraft type must appear in your license.

SKYAFRICA will take your original documents and the completed paperwork to the Civil Aviation Authority (CAA) for final processing and official validation certification.



The Johannesburg Airspace

The airspace directly around JIA is radar controlled for all traffic and is a corridor type airspace. Above this is the Johannesburg TMA which extends from JIA to approximately 35nm (see VFR map) and from 7600' upwards. All traffic is to remain 7500' and below when flying under the TMA.

We may fly under the TMA as long as we follow the rules. The area under the TMA (uncontrolled) is termed: SPECIAL RULES AREA.

📖 Towards the East of JIA: Callsign - **Traffic Special Rules Area East** > on **125.4**

📖 Towards the West of JIA: Callsign - **Traffic Special Rules Area West** > on **125.8**

📖 Under the TMA the normal Hemispherical rules fall away. The *Special Rules* are:

- VFR flights operating to and from AD's within JHB Special Rules Area may not exceed 7500ALT
- It is recommended that A/C have their landing lights switched on
- VFR flights on Northbound Magnetic tracks must operate at 7500ALT
- VFR flights on Southbound Magnetic tracks must operate at 7000ALT

Where possible all Sky Africa training flights (check rides for licensing) and trip departures will be on a VFR (day only) basis and routed clear of controlled airspace, but may pass within the Special Rules Area.



The Air Traffic Services

The Air Traffic and Navigation Services (ATNS) provide Radar, Traffic , Navigation and Search and Rescue services in South Africa. As the Sky Africa adventures are designed as scenic visual flights, most of the flying will be in uncontrolled airspace and will thus not require many of the ATNS services.

However as many of the flights are over-border and to International Airports for customs control, we will require a flight plan. In addition, we will always use the Search and Rescue service to monitor all our flights as a safety backup.

Flight Plans are required for all flights partly in controlled or advisory airspace as well as International flights. All the trip flight plans will be prepared in advance by the ops staff and instructors, but checked and modified by the pilot if required.

A Flight Plan may be filed by telephone, or fax with the nearest Air Traffic Service Unit (ATSU) at least 30 minutes before departure. If the Flight Plan is not activated (contact established over the aircraft radio) within ONE hour from the departure time, the Flight Plan will be cancelled and must be re-filed.

If flying from a remote area with poor radio reception, the Flight Plan should be activated by telephone before getting airborne.

A Flight Plan will be closed automatically when landing at a controlled airfield. However when landing at remote airfields with Search and Rescue requested, the S&R must be cancelled by telephone upon landing. Failure to do so may result in a costly search being undertaken.



The Visual Flight Rules - VFR

Each country tends to have a slightly different variation on the laws of being ‘visual’. The VFR rules can be summarized into a few points to simplify the matter.

- The pilot can maintain visual contact with the ground
- The aircraft is not above more than 3/8 cloud within a 5nm radius
- VFR is not permitted above FL195 (if you can get there)

“VMC on top” is not considered a VFR flight, as the pilot cannot maintain visual contact with ground.

AEROPLANES

Airspace	Ceiling	Visibility	Distance from cloud	
			horizontally	vertically
CTR/ATZ/ATA (*)	1500 feet AGL	5 km	2000 feet	500 feet
Other airspaces:				
Ground to 1000' AGL by day		1.5 km	Clear of cloud	
1000' AGL to FL100 by day Ground to FL100 by night		5 km	2000 feet	500 feet
FL100 to FL195 by day or night		8 km	1.5 km	1000 feet

SPECIAL VFR

In poor weather conditions, Air Traffic Control (ATC) may grant Special VFR to an aircraft to leave the CTR for a cross-country flight or to arrive from a cross-country flight by day only provided that:

- I. Ground visibility is at least 1NM
- II. The aircraft stays clear of cloud
- III. The aircraft stays within sight of ground

ALTIMETER SETTING PROCEDURES

In Southern Africa the altimeter is set in millibars/hectopascals (both names are common) as opposed to mercury pressure. This is termed the QNH and is used for Altitudes. A common high QNH is around 1035 and a low around 1008 to give you a reference scale. In Johannesburg, the QNH is generally around 1020.

For Flight Levels, the Standard pressure of 1013 hPa is used. This is termed QNE.

QNH should always be used when in the circuit and within 25nm of an aerodrome below Transition Altitude.

The Transition Altitude is published for most airfields and you should change from QNH to 1013 as you climb through this level, or otherwise through 2000' AGL if not published.

The Transition Level is given by ATC and is the level at which descending aircraft should change the altimeter subscale setting from 1013.2 to the local QNH. Use 3000' AGL if no TL is given.

SEMI-CIRCULAR RULE

The semi-circular rule is a standard rule to separate opposing traffic by allocating altitudes. VFR flying is always at an intermediate level (+500')

For VFR TRAFFIC:

Traffic **Eastbound** on magnetic track 000 – 179 **FLY ODD LEVELS + 500'**

Traffic **Westbound** on magnetic track 180 – 359 **FLY EVEN LEVELS + 500'**

NOTE: Traffic below 1500' AGL does not need to comply with the semi-circular rule!

Minimum Heights

No aircraft shall be flown over a populated area at a height less than 1000' above the highest obstacle, within a radius of 2000' of the aircraft.

When flown elsewhere the aircraft may not be flown at a height less than 500' above the ground or water, unless the flight can be made without hazard or nuisance to persons or property (including livestock) on the ground or water.

Where any persons, buildings or livestock are in the area (and flying below 500') the aircraft must climb or select an alternate route.

NOTE: The National Parks are an exception to this rule. No aircraft may fly below 2000' AGL within the boundaries of any South African National Park.



The Sky Africa Aircraft

The appeal of the Sky Africa trip is that as a pilot you get to fly yourself through a visually spectacular adventure in Southern Africa. No pilot enjoys sitting in the back and being a passenger. We want to be up front taking part in the excitement. All the staff involved in Sky Africa are pilots and some personally own the aircraft you will fly. Being pilots ourselves means we know what you want out of a flying adventure such as the one you are about to undertake.

All the work that goes into a trip such as this will have been arranged in the background, so that you may concentrate on the flying and having a holiday. However, as a qualified pilot you will also be aware that flying an aircraft takes proper planning, careful preparation and the right mental approach to each flight. As the Pilot-In-Command you will be responsible for the safety of the aircraft as well as the other pilot/passengers.

The following section covers some of the legal and safety aspects of your allocated aircraft as well as information on the trip.

DOCUMENTS TO BE CARRIED ON-BOARD

The Sky Africa aircraft all contain the relevant legal documents in the aircraft's flight folder, which remains on-board, the aircraft. For your ability to check what is required here is a list of the legal documents.

If the Sky Africa trip will be leaving South Africa the follow documents will be required on-board the aircraft for the International Flight:

- ☞ Certificate of Registration;
 - ☞ Certificate of Airworthiness;
 - ☞ The appropriate licence of each flight crew member
 - ☞ Aircraft radio station licence
 - ☞ The journey logbook or general declaration
 - ☞ If passengers are carried, the passenger manifest, unless the information is included in the general declaration referred to above
 - ☞ If cargo is carried, a manifest and detailed declaration of the cargo
-

- 📄 The certificate of release to service
- 📄 The aircraft flight manual
- 📄 The mass and balance report;
- 📄 The flight folio;
- 📄 A list of visual signals for use by intercepting and intercepted aircraft;

EMERGENCY EQUIPMENT

As with flying anywhere in the world, planning for the unexpected is always a must. The Sky Africa aircraft will each be thoroughly equipped with safety equipment.

The primary factor is our well-maintained aircraft to prevent any unforeseen problems. All the aircraft will be monitored by Search and Rescue of ATNS.

Secondly, the aircraft are equipped with ELT's to transmit the position of the aircraft in case of a forced landing. This will expedite the search for the aircraft.

On board each aircraft will be a safety kit including:

- 🚒 First Aid Kit
 - 🚒 Fire Extinguisher
 - 🚒 Emergency Signal strips
 - 🚒 Emergency water and provisions
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The Route and Destinations

You will already have chosen the trip which you plan to take and have a fair idea of the destinations you will be flying to. Your Instructor/Guide will progressively provide more details of what to expect on your holiday. This chapter serves to cover some of the basic flying, airfield, weather and Navaid information.

THE SQUADRON AND FORMATION FLYING

Before each leg of the journey, a quick briefing will be held to cover the operational aspects of the next flight as well as point out the scenic splendors en-route. There is no set rule as to which aircraft should fly first or last. There may be up to six aircraft per trip and it is up to the group to decide how they would like to fly the days flight. Generally the flying may be staggered (several minutes apart) to a loose formation flight (good for aerial photography). Any loose formation flying must be agreed to by each PIC. Tight formation flying is not allowed and strongly discouraged.

Each aircraft will be GPS equipped and thus has the navigational ability to divert off track to view a particular part of the scenery and then continue with the journey. This is perfectly acceptable. Use good lookout and airmanship procedures when near other aircraft and always keep your flying safe and predictable.

UNMANNED AIRFIELDS

Since your trip will take you to many spectacular and unspoiled areas of Africa, you can also expect some of the airfield facilities to be basic. Some of the 'airfields' are no more than a dirt strip cut into the bush. This means a gravel/sand runway with no threshold, centreline or edge markings. This kind of strip provides for challenging and exciting flying.

A short-field landing technique will generally be required and you will be briefed on this where it is required. In addition, a runway inspection may be necessary to verify the safe condition of the strip. This will generally be conducted by the lead aircraft.

The lead aircraft will should broadcast all intentions, overfly the airfield and runway to verify the safe condition of the strip. Having done so, the wind direction should be ascertained and a landing direction selected. All circuits should then be flown to the left (unless there is reason not to) at 1000' AGL. All other aircraft should descend on the dead side of the field and join crosswind for the chosen landing direction. Allow sufficient spacing between aircraft, as the preceding aircraft may need to backtrack prior to the next aircraft landing. Use standard radio procedures advising of your arrival, intentions and actions at the field. The **unmanned frequency is 124.8**.

Chapter

2

Bushpilot's guide

It is relevant that the flying you will be doing is not designed around getting as far as possible in a day, or staying in the air for as long as possible.

The real issue is the freedom - away from "big brother" and the ability to fly to areas of great biodiversity and natural beauty; upon landing to experience the awesome interface with wild animals in their wilderness habitats, the cultural diversity of the different people and tribal lore, the scenery and to experience a safari lifestyle that most have only dreamed about or seen on the best wildlife TV programs.

Our tours are planned and routed to take advantage of the best weather conditions. The region has many different climatic zones. Some areas are rainy and frontal in winter, others have localised tropical thunderstorms in summer. We do not experience tornadoes, hurricanes, snow, or freezing rain. Icing is very rare. The reasons are many including that the southern tip of Africa is a relatively small landmass and a peninsula in effect, with moderating influences of the ocean; also our latitude is low enough to straddle the tropic of Capricorn, 23 degrees South.

Our winter co-incides with the Northern Hemisphere summer; the sun arcs through the northern skies and disorients the first-time aviator from northern climes.

With modern satellite imaging, weather forecasting is as good as it gets. However there are no guarantees, no predictions that are cast in stone. We have never had tours cancelled or re-routed or delayed because of weather factors. In many instances, we are unable to call for a weather forecast, as we are just too remotely located inside National Parks and Game reserves. Good judgement and enroute ATC and ATIS, when available, gets us through this.

Temperatures are mild to hot during the day. For reasons of high-density altitude we restrict our loads in the aircraft to remain well within safety margins.

The airfields we use are all in good to excellent condition. Many are gravel (dirt), some grass, some hard calcrete or tarmac. Some of them have bumps in the middle, are uphill (or downhill depending on your view), have cross-ruts or sandy patches. In many instances we will be securing the airplanes with pegs to the ground - and piling thorn tree branches on the tires and plastic bits of the stabilisers to keep off chewy hyenas - those strong jaws can cause considerable damage!

The terrain we traverse is also varied. For most of our Big Game safari flying, the land is relatively flat, between 3000 and 5000 feet amsl, the average height of the inland plateau. Some of our routes descend to the coastal plains into temperate or sub tropical zones. Whilst much of our routings take us over vast tracts of virgin country, this is mostly bush. Usually there is a good chance of survival in the event of a forced landing.

Visibility under clear weather conditions is generally good; however during the months of July through September, inland flying conditions can be hazy from dust and smoke from veldfires far afield. Due to relatively high temperatures and atmospheric instability, daytime flying conditions can also be bumpy and turbulent. On the ground, the features, animals and attractions you have come to see are unaffected.

Most flying is conducted during the middle morning; sometimes a long leg means arriving at our destination early afternoon. The reason is that early mornings is the best time to view game from the open game driving vehicles and you will soon come to realise that this is worth far more than rushing off to the next destination just to avoid some mild turbulence. This does not preclude some in the group from going game-spotting from the air early mornings

Landing on private airfields

Prior permission to operate in and out of *private* airfields must be obtained from the license holder or owner

Pilots must ensure that the airfield is in fact suitable and safe for use by the particular aircraft flown.

Following factors should also be considered:

- ✈ that length of runway is adequate compared to requirements of aircraft
- ✈ that the condition of the runway surface during wet conditions may impair braking action and during dry seasons, strong winds may cause sandy surfaces to become very uneven
- ✈ that length of grass cannot be accurately judged from the air and the surface under the grass may be dangerous
- ✈ that depth of motorcar tracks across or alongside landing strips are often deceptive
- ✈ that damage which may be caused by rodents overnight may not easily be observed from the air
- ✈ that unserviceable portions of landing strips may not be marked
- ✈ that cattle or sheep may graze on the airfield
- ✈ that game may be a hazard, especially at airfields in or near game reserves and parks
- ✈ that pedestrians may be crossing the runways, especially if there are settlements, rubbish dumps or townships in the vicinity.

Landing at unlicensed fields is entirely at your own risk
Contact owner or operator before landing so that they can check the

runway condition and repair if necessary.

About Flying in Africa

1. If you are flying in Botswana, Mozambique, Namibia, Zambia or Zimbabwe, and you are not familiar with the route, get a good briefing from someone who is. These countries are vast and one can easily get lost.
2. Always take as much fuel as possible, but still allowing you not to be too heavy for take-offs from any short airstrips along your route.
3. In addition to the normal pre-landing inspection of small airfields and landing strips, watch out for:
 - ✈ animals on the runway or animals near the runway which may run into the runway on landing
 - ✈ surface sand patches, ruts, water, mud, stones, holes, long grass concealing obstructions, etc.
 - ✈ approach and overshoot obstructions
 - ✈ width for wingtip clearance and turning radius
4. When flying in remote areas, expect the unexpected: should you need to do an emergency landing, it is vital (for survival) to have the following on board the aircraft: at least 5 litres of drinking water, tinned or dried food, flares, signal strips, a torch, a signaling mirror, a hand-held radio, warm clothing or a space blanket, and some means of making a fire to keep wild animals away.
5. Observe minimum height regulations over game parks: see separate sections.
6. Make sure that your arrival is known and you will be collected, otherwise buzz the camp/lodge. Keep a look out for birds. Camps have rubbish tips which the birds frequent.
7. Never walk long distances between airstrips and camps in the bushveld or game parks. You are among wild animals.
8. When leaving the aircraft unattended at airstrips (especially in the bushveld or game parks), pack thorn bushes around the tyres, external fuel and hydraulic lines and tailplane to prevent damage from hyenas.
9. If refueling from drums other than from a recognized refueling agent, always filter fuel to remove possible water and dirt contamination.
10. Always check fuel levels with a dipstick before take-off. Fuel could have been drained during the night or fuel gauges can become unreliable.
11. Never ever leave your valuables in an unlocked aircraft for any amount of time at any airfield or airport in Africa. If possible, get someone to guard the aircraft during stops at unattended airfields.
12. Listen carefully to the instructions from Air Traffic Controllers. Some are very difficult to understand because of their accents or "broken English". If it is not clear ask for a repeat. Never assume, get clarification.
13. When out of range of a particular ATC, ask for a relay or transmit "blind" on the appropriate frequency.

Flight Rules & Airmanship

- Always adhere to the semi-circular VFR flight rules at all altitudes in order to effect safe flight operation. Look and listen at all times.
- Look out for birds at all altitudes at all times - they can represent a significant hazard. Never fly directly below birds as they tend to drop to avoid the aircraft. If they are at your level on a collision course - *climb!*
 - 55% of bird strikes occur in first 50ft
 - 65% of bird strikes occur in first 100ft
 - 88% of bird strikes happens below 1000ft
 - Highest known strike was at 37000ft, it was a vulture.
- Never fly low over animals, bird colonies and ostrich farms. They are easily frightened and their eating and breeding habits are disrupted. Ostrich chicks frequently die of fright.
- Don't fly low over beaches, you could fly into kite fishing lights
- When flying into unmanned airfields, use correct frequency, do not approach straight in unless in emergency. Before joining circuit, fly over the airfield. No right-hand turns may be executed, either prior to landing or after take-off, unless a different procedure has been approved as is indicated by a traffic pattern indicator. Always be alert and aware.
- Flying in Restricted, Danger and Prohibited Areas is only allowed with prior permission. Avoid Blasting Areas at all times, unless specific blasting times are stated, or no warning has been issued by ATC.

● Noise abatement

In order to reduce or restrict aircraft noise to the minimum following procedures are proposed:

1. All aircraft must, as far as possible, use the full length of runways for take-off to ensure that sufficient altitude is gained in order to cross built-up areas with the minimum noise. No jet aircraft are to use TWY or THR intersections for take-off between 2000-0400Z.
2. Turnouts immediately after take-off must as far as possible be avoided and runway heading must be maintained to a reasonable altitude.
3. Where possible, aircraft must climb at the best angle of climb after take-off and this must be maintained until all built-up areas are over flown, or the desired altitude has been reached.
4. Testing and run-ups of aircraft engines must, as far as possible, be avoided during the period 1800 and 0400 Z.
5. After landing min. reverse thrust must, as far as possible, be utilized for purposes of braking.
6. An appeal is made to all pilots to be considerate towards inhabitants of areas adjacent to airfields by combating aircraft noise at all times.

Flight Safety

Flight Safety



Problem areas and contributing factors to most accidents in the Southern African region:

- ✈ **Pilot Attitude** (overconfidence), is a major killer and involves:
 - Weather
 - Low flying
 - Inadequate or No preflight
 - Distraction
 - Flight Planning
- ✈ **Aircraft overloading**
- ✈ **Fuel management**
- ✈ **Disregard of Standard / Safe Operating Procedures.**

Low Flying

Unless for landing or take-off, aircraft are generally not allowed to fly lower than 100ft above the surface. The VFR minima below 100ft are only 1,5 km flight visibility and clear of cloud. Remember that power lines, radio masts, microwave towers, low-flying SAAF aircraft, telephone lines and kite fishing are hazards that can cause serious accidents.

Low flying can also endanger wildlife and birds, especially ostriches in the ostrich farming areas, and eagle breeding in certain areas.



... and Things to check out

Flight Safety

Use of GPS

GPS should not be used without standard, common sense navigation techniques. Prepare well for your flight, i.e. plan the route, alternates, checkpoints, frequencies, up-to-date charts and double check information like co-ordinates. Never rely entirely on you GPS as batteries can go flat or it could become unserviceable during the flight, or information could have been punched in incorrectly.

Overloaded Aircraft and incorrect mass distribution can have serious consequences. Check your aircraft manual for correct data.

CORRECT FUEL MANAGEMENT

Always assume you have less fuel than indicated. Never completely trust the fuel gauges in your light aircraft but **always** do a visual check using a dipstick. Incidents occurred where fuel is drained from aircraft at night and then sold back to the crew, often in containers without approved filter devices.

Approach Speeds

Pilots often approach at higher than normal approach speeds. Remember V ref is 1.3 times the stalling speed in the landing configuration – high approach speeds lead to bad approaches and usually bad landings!

Make sure control lock, chocks and covers are removed.

Special Note: The pre-flight inspection must be carried out in accordance with the specific aircraft operating manual.

Crosswind Landings

When landing crosswind, whether you use weather cock or dipped wing method, **add extra speed** equal to half the estimated gust speed.

Carbon-monoxide Contamination

Should you experience headache, drowsiness or sluggishness or smell exhaust fumes, shut off all hot air supplies, open window or other fresh air sources and land at first opportunity. Keep a carbon-monoxide detector in your aircraft.

PROPER PRE-FLIGHT CHECK

should be done **every time** before take-off.

Check that: **Cowlings** are secure.

Fuel and oil quantities are sufficient + uncontaminated.

Flight control surfaces are secure and functional.

Air intakes are clean and unobstructed (check that no birds, rats, etc, have nested)

Undercarriage, wheels & brakes: check condition and secure.

Propeller: check for cracks and condition.

Density Altitude

Remember – with a higher temperature and/or a higher airfield elevation, the take-off distance required will increase significantly.

Fuel Contamination

Can cause loss of engine power. Fuel contamination occurs, for example, by **water** in the fuel system, which can enter fuel tanks when it rains, or the aircraft is washed, and the filler caps leak, or when fuel from contaminated containers is added. Aviation fuels also absorb water from the air or the water condenses in fuel tanks, most of it is absorbed under high temperature condition.

Rust in pipelines, storage containers and drums may enter fuel in the form of small particles. A high degree of filtration is necessary to remove such impurities.

Dust and sand may enter the fuel through openings in tanks and dirty fuel handling equipment.

Micro-organisms, i.e. microbes can cause serious corrosion in fuel tanks. They may also clog filters and metering equipment. The growth is particularly serious if it occurs together with other forms of contamination. Turbine fuel is particularly susceptible to microbes.

Precautionary measures:

1. Ensure that filler caps seal properly.
2. If possible, fuel tanks should be filled before parking the aircraft at the end of each day's flying to minimize condensation.
3. Allow for adequate settling time before checking fuel for presence of water.
4. Before refueling and again before flight, check the fuel for the presence of water. Use transparent container and drain off generous amounts of fuel from the fuel tank sumps and the filter bowl. If still in doubt, use water-detecting paste.
5. When refueling from drums or other containers, carefully inspect, identify and check the contents for contamination.
6. Do not use fuel which has a cloudy appearance or which is "off-colour".
7. When refueling from drums, filter the fuel through a 5-micron metal filter, or, as a last resort only, a chamois skin filter. Filtration through chamois skin is dangerous because of the excessive static electricity, which is generated when the fuel passes through the skin pores.
8. Use only the fuel recommended by the engine manufacturer.
9. Ensure that the aircraft is parked on level ground when checking the fuel. Failure to do this could result in water gravitating to an area of the fuel tank where it will not flow through the tank drain.

AVIATION FREQUENCIES May 2004

Subject to change

125.8	GENERAL FREQUENCIES WEST Sector – JHB Special Rules Area (below JHB TMA)
125.4	EAST Sector – JHB Special Rules Area (below JHB TMA)
125.8	WEST Sector – CTN Special Rules Area (below CTN TMA)
124.8	EAST Sector – CTN Special Rules Area (below CTN TMA)
124.8	WEST Sector – DBN Special Rules Area (below DBN TMA) except FAD59 (124.4)
124.2	EAST Sector – DBN Special Rules Area (below DBN TMA)
119.7	PE Special Rules Area – below TMA within 30nm of PEV
118.3	EL Special Rules Area – below TMA
124.8	- for position reports and listening watch at and below 1500 ft AGL and outside lateral limits of JHB Special Rules Area, below PE TMA, below EL TMA, below Hoedspruit TMA, outside General Flying Areas, and for unmanned airfields without allocated frequencies.
123.45	- General Air-To-Air Aviation Frequency
124.4	- Established General Flying Areas, except PE GFA (124.2)
119.0	- Loveld Information (daily 0400-1600) 1500ft/FL195 (outside hrs: Area North)
126.7	FAJS Air TFC Info for Lowveld btn FL110 and FL460 (<i>same as JHB Area North</i>)
127.4	FAJS Air TFC Info for Lowveld btn 1500ft and FL105 (outside hrs) (<i>same as Info North</i>)
126.7	JHB Area North FL105/FL460 – 24hrs
128.3	JHB Area South FL105/FL460 – 24hrs
127.4	JHB Info North 1500ft/FL105 – 0430-1600
119.5	JHB Info South 1500ft/FL105 – 0430-1600
119.9	Jhb Ctl/Info East 1500ft/FL460 – 24hrs
120.3	Jhb Ctl/Info Central 1500ft/FL460 – 24hrs
126.7	Jhb info North/South comb.btw 1600-0430
124.7	Cape Town East 1500ft/fl460 – 24hrs
125.1	Cape Town Central 1500ft/fl460 – 24hrs
126.9	- IATA IFBP for international flights over Africa. Keep listening watch and report positions 10 mins prior to crossing FIR BDRY for TFC INFO

Sky Africa
Sky Africa

Volume

3

South Africa General

South Africa Information

Capital: Pretoria

Population: 43 million

Geography:

South Africa lies at the southern tip of the African continent. The country is flanked in the west by the Atlantic Ocean, in the south and east by the Indian Ocean, in the north by Namibia, Botswana and Zimbabwe, and in the north-east by Mozambique and Swaziland.

There are 9 provinces in South Africa, namely the Western Cape, Eastern Cape, Northern Cape, Free State, KwaZulu Natal, Mpumalanga, Northern Province, North Western Province and Gauteng. Gauteng is the smallest in terms of land mass, but the richest, and biggest contributor to South Africa's GDP thanks to its commercial and mining interests. Johannesburg (which is the main city in Gauteng) has been referred to as the commercial "melting pot" of Southern Africa. Here communities of people from all over Africa and from further afield, have established themselves in order to contribute to and benefit from the economic activities of the region.

Along the northern borders of South Africa, one finds its neighbors, from west to east, Namibia, Botswana, Zimbabwe, Swaziland and Mozambique. Within the borders of South Africa, there is another independent state, namely, the Kingdom of Lesotho.

On the West Coast, the cold Benguela current flows southwards in the Atlantic Ocean, and on the East Coast, the warm Mozambique current flows northwards in the Indian Ocean. The West Coast of South Africa is quite dry and is less populous than the East Coast, which is popular among tourists. The fine climate and beautiful scenery along the southern east coast of South Africa has earned it the name "The Garden Route". The two oceans "meet" at Cape Agulhas (the southern-most point of Africa), which is the site of numerous shipwrecks, ancient and modern.

The Eastern Cape and KwaZulu Natal are characterized by semi-tropical climates, which make them pleasant to visit all year round.

The Western Cape, where the famous Table Mountain and the Mother City, Cape Town, are to be found, is characterized by a more Mediterranean climate which means it can be windy and wet when you least expect it! Generally however, it is sunny and warm for a good eight months of the year.

The coldest temperature recorded in the interior in mid winter (June/July) is about -10, and the warmest in mid summer (December/January) is about 38 degrees centigrade.

There are mountain ranges all along the coast of South Africa, which break the climb from the sandy beaches of the capes and natal, to the high-lying plateaus of the interior.

The real "African" bushveld can be found in the northern provinces and Gauteng, where the weather is characterized by summer rainfall (thunder storms!) and dry, sunny winters. South Africa is famous for its floral heritage, which boasts around 20,000 species, of which many are not found anywhere else in the world. Similarly, bird watchers and animal lovers are easily pleased by a visit to South Africa.

The Cape Peninsula will soon qualify as a World Heritage Site since it forms a significant part of one of only six floral kingdoms in the world. Among fauna too, this area is home to at least 111 invertebrates and one vertebrate

Climate:

Midwinter occurs in June and July; midsummer in December and January. The climate ranges from Mediterranean in the Western Cape (winter rainfall), to subtropical on the KwaZulu-Natal coast, the Northern Province and Mpumalanga. In general, year-round sunshine means that any time of the year is a good time to visit South Africa. Temperatures range from a summer maximum 32°C to a winter maximum of 23°C.

Culture

and the socio-political South Africa has long been infamous for its framework for volunteering political history. The many years of colonial rule, apartheid policies, and the associated world-wide isolation and sanctions against South Africa, have left the country with a socio-political nature that is unique. Today, South Africa is still travelling along the dusty road to democracy. Many of the people are illiterate, and many of them live in conditions of abject poverty. However, the country is proud, and its citizens colourful in their striding toward a better tomorrow. Local communities and extended families are of great importance to most South Africans. Communities are accustomed to setting up projects through which they deal with problems of poverty and unemployment. With the democratization of the country's political structures in 1994, a new freedom arose which liberated many individuals and organizations to follow new dreams and to build new horizons.

Currency:

The Rand, R1 = 100 cents.

Electricity:

Generally 220 - 250 volts, AC50Hz.

Getting there & Getting around

South Africa is fast gaining impetus toward being recognized as a premier destination in Southern Africa. There are regular international carriers routed to Johannesburg, Durban and Cape Town from all over the world. There are numerous operators of local flights, which include stops at smaller airports at Upington, Port Elizabeth, East London, Bloemfontein and near the Kruger Park. Although air travel may be the most convenient and quickest mode of travel, it is also the most expensive.

The South African Railway service is quite extensive, and can be used as a relatively comfortable and less expensive alternative to air travel. Most locals use the extensive network of bus and "mini-bus-taxi" services. Although "mini-bus-taxi" services can be useful in urban areas, unless you are travelling with a local, foreigners would be well advised to select their mode of transport carefully. Some "mini-bus-taxis" are not very road-worthy, and others may "take one for a ride", so to speak. The best rule of thumb when using public transport, is to ask the advice of locals that one can trust, or to make use of information kiosks and offices which are staffed with people adept at giving advice to travelers and tourists.

For longer stretches (like that between Johannesburg and Cape Town), air travel is the most efficient since the flight lasts two hours. There is an overnight bus service for this route (12 hours), and also a train service (18 hours). It is recommended that travelers to South Africa investigate these options before purchasing their air tickets, since there is a possibility that they can find deals (at international travel agencies) which enable them to make stopovers at major centers at a cheaper rate. The back-packer, and youth hostel market in South Africa has mushroomed over the past few years, and there is often good availability of accommodation. Travelers who are expecting to travel in the countryside over "peak season" (December/January) would be well advised to book accommodation in advance.

Languages

There are eleven official languages in South Africa, which are representative of the main cultural groupings in the country. In the Western Cape, Eastern Cape and KwaZulu Natal, for instance, one would find

people speaking mostly English, Afrikaans, isiXhosa and isiZulu. In the interior of the country, there are more people speaking Sesotho (Lesotho, Free State, Southern Gauteng), Sepedi (Northern Province), Siswati (Swaziland). In the northern reaches of the country, one would find more people speaking isiNdebele, Setswana, Tshivenda and Xitsonga. There are also large numbers of Khoi, Nama, San, Greek, Hindu, Hebrew, Portuguese, German, French, Italian and Chinese speaking people in South Africa. Fortunately, English is widely understood, and has become the language most frequently used in business. Although most South Africans follow Christian religious principles, there are also Jewish, Hindi, Moslem and Buddhist religious communities in South Africa.

Money and Costs

Foreign currency can be exchanged at commercial banks. It is usually more expensive to exchange travelers cheques at a bank or hotel. It is recommended to use the American Express or Thomas Cook bureaus.

Major international credit cards such as American Express, Diners Club, MasterCard, Visa and other affiliates are accepted in South Africa. VAT (value added tax) is set at 14%, and is included in the price of most goods and services. Visitors have to pay VAT on purchased goods, but may claim refunds on taking the item out of the country when the total value exceeds R250,00. Tipping in restaurants, 10% of the bill generally applies, depending on the standard of service. Restaurants do not usually include the tip in the bill. Taxi drivers expect 10% of the fare. As a rule, R1 per bag is given to luggage porters.

Population: There are roughly 43 million people in South Africa, of whom almost 28 million make their livings in the towns and cities, while the remainder live in rural areas.

Indeed, a colourful and multi-faceted society. South Africans are well educated about their natural heritage, and are usually quite knowledgeable about one or other subject related to the environment.

However, as the population increases and with growing urbanization, it is still necessary to provide education so that the future of this fragile heirloom can be ensured.

Indeed, the biggest enemy to present day social harmony in South Africa is crime. Fortunately, big businesses and other private, public and religious organizations are taking the battle against crime seriously and hopefully solutions will be found soon.

Safety Guidelines: Sensible to take the same precautions in major cities and off- the-beaten track areas as taken in the rest of the world.

Be aware of your belongings, and the other people around you.

Time GMT + 2 hours

IMPORTANT INFORMATION FOR TRAVELLERS TO SOUTH AFRICA

Please note that with immediate effect, anyone travelling to South Africa must have two consecutive blank pages in their passport which lie side by side when the passport is open (i.e. a left and a right hand page).

Passports must also be valid for at least six months.

Passengers travelling to South Africa with passports which do not comply with these requirements, will either be stopped from boarding the aircraft or risk deportation on arrival in South Africa.

In addition, a parent travelling with children, WITHOUT the other parent, will need a letter of consent from the absent parent. The letter of consent must be certified by the police.