

VFR Tutorial

Every effort was made to attain 100% accuracy. Please inform the author of any errors or omissions.

This document is NOT to be used for real-world aviation, as it is an uncontrolled document and will become outdated.

This document has been created for use by the members of the International Virtual Aviation Organisation (IVAIO).

Keep Them Separated!!

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This tutorial demonstrates the procedures to use on a VFR flight.

This is a guideline to be used by Virtual ATC's. **Red is Pilot & Blue is ATC**. The document follows the flight from Port Elizabeth all the way to East London.

Please note the progress between ATC's is based on REAL life. Port Elizabeth & East London GND, TWR is combined into 1 position. In virtual situation it might be all separate.

If any ATC position is not manned the next higher position available, would be responsible. Handovers to the next ATC will obviously NOT occur if there is no ATC manning that position. Area ATC's may be responsible for their entire controlled airspace and all the procedures given in this guide.

When reading this document ATCs and Pilots alike; please note in the communications which part of the transmissions are read back and which NOT.

The Radio Check

The pilot's first contact with any ATC or ATSU should be to establish radio contact.

ZSMJS

"Port Elizabeth Tower, ZSMJS, Good day, radio check."

FAPE_TWR

"ZSMJS, Strength 5, loud and clear"

"ZSMJS, Strength 2"

"ZSMJS, Strength 1, reconnect Voice client and call me back."

"ZSMJS, [If too Loud (soft)] – Adjust your MIC and call me back."

The Flight Plan

| | | | | |
|-------|---------|-------|------|------------------|
| FAPE | ZSMJS/L | FL055 | FAEL | PA |
| V | BE58 | | | |
| #3506 | 120 | | | VOICE AND CHARTS |
| | | | | |

ATC's must check the FPL to ensure compliance with your Controlled Airspace. If there is something you are not happy with, tell the pilot immediately, and get him to fix it and then re-file.

ZSMJS

"Port Elizabeth Tower, ZSMJS, At A1, request taxi for flight to East London"

Pilot requests departure clearance. Pilot must state his parking bay, FL is optional.

The parking bay assists ATC in knowing where the aircraft is parked on the airfield.

Ensure the FL is correct semi-circular.

FAPE_TWR

"ZSMJS, QNH1020, Squawk #3506, Taxi to holding point for runway 26, report ready for departure"

(Note, you do not say "Port Elizabeth Tower" again, as you have identified the ATC on THIS frequency and should not use it again. Each time you are told to change frequency, you will greet with their callsign first – once only).

ZSMJS

"ZSMJS, QNH1020, Squawk #3506, Taxi to holding point for runway 08, report ready for departure"

Listen carefully to ensure that the clearance is readback 100% correct.

If the clearance is not read back correctly – i.e. Pilot said "runway 08", then say

FAPE_TWR

"ZSMJS, Negative, runway 26 in use"

ZSMJS

"ZSMJS, Taxi to holding point runway 26"

Aircraft taxis to the runway.....

ZSMJS

"ZSMJS, Ready for departure"

If you have an aircraft on final approach or relatively close to final approach (2 minutes from Runway Threshold or at OM), do not line up the aircraft, wait for the approaching aircraft to land. If the approaching aircraft is more than 2 minutes from the runway threshold, there should be time to depart the traffic, it is your discretion.

FAPE_TWR

"ZSMJS, Line & wait runway 26"

You do not always have to tell the aircraft to “line & wait” it all depends on the current traffic situation. A good reason to do this is to see if the pilot automatically squawks Mode C.
DO NOT let an aircraft take-off without squawking Mode C.

FAPE_TWR

“ZSMJS, Right hand turn out, route for Swartkops, climb initially 1500ft, Clear for Takeoff, surface wind 270 degrees @ 5 knots, report CTR outbound”

Runway designator is necessary ONLY when there is more than 1 runway in use, e.g. Johannesburg.

ZSMJS

“Right hand turn out, route for Swartkops. Initial climb to 1500ft, Cleared for Takeoff, ZSMJS”

Swartkops is a physical place just North-East of the Port Elizabeth CTR, if you and/or the pilot is not familiar with the airspace, use direction as an exit point.

E.g. “route to exit the CTR to the North-East”

OR

FAPE_TWR

“ZSMJS, Behind the landing B732 on a 2 Mile final, Line up and wait behind”

ZSMJS

“Behind the landing B732 on a 2 Mile final, Line up and wait behind, ZSMJS”

If you want to make sure if the pilot sees the aircraft on final, have the pilot report the traffic in sight, before giving him clearance to enter the runway.

ZSMJS

“ZSMJS, CTR outbound to the North-East”

FAPE_TWR

“ZSMJS, Broadcast on UNICOM 122.8, Contact APP when ready for further climb on 120.4, Good day”

ZSMJS

“Broadcast UNICOM, Contact APP when ready for climb on 120.4, Good day”

.....

ZSMJS

“Port Elizabeth Approach, ZSMJS Good day, 1500ft, request climb to FL055 en-route to East London”

Pilot **should** report his altitude on very 1st contact with a RADAR controller. The RADAR controller must check this altitude against the readout on the aircraft RADAR label. Give margin of a few hundred feet to incorporate the time the altitude was reported and your RADAR screen is updated. This is to check the aircraft’s altitude against what the RADAR receives from the transponder’s Mode C altitude.

FAPE_APP

“ZSMJS, Good day, Radar Identified on squawk 3506, enter the TMA climbing to FL055”

Any aircraft not in controlled airspace needs a clearance to enter controlled airspace.

The clearance into the TMA all depends on the traffic situation

The Handoff to Area Controller

Remember to always hand off an aircraft ‘clean’ i.e. this means there is no further conflicts for this aircraft in your airspace. The aircraft being handed off should be atleast a 1000ft above all aircraft within close proximity (less than 5nm).

FAPE_APP

“ZSMJS, Contact Cape Town East on 124.7 Good day”

ZSMJS

“Cape Town East 124.7, Good day, ZSMJS”

.....

ZSMJS

“Cape Town East, ZSMJS, at FL055 routing for East London via Port Alfred, estimating Port Alfred at 1355, Good day”

FACT_E_CTR

“ZSMJS, Good day, No reported traffic at FL055, report overhead Port Alfred”

.....

ZSMJS

“ZSMJS, overhead Port Alfred, estimate East London at 1425”

FACT_E_CTR

“ZSMJS, Traffic is a PA28, 9 o'clock 7nm, routing to East London, passing 3500ft for FL075, Keep a lookout for the traffic”

You may also refer to the aircraft as a Piper Cherokee. This usually sounds better than saying a PA28. It adds a bit to the professionalism.

ZSMJS

“Copy the traffic will keep a look out”

FACT_E_CTR

“Enter controlled airspace at the East London TMA FL055, report entering the TMA”

Any aircraft not in controlled airspace needs a clearance to enter it. The above is it.

ZSMJS

“Enter controlled airspace at East London TMA FL055, report entering the TMA”

The Handoff to next ATC

Although the ATC will have constant “RADAR” contact with the aircraft, the trend is for VFR to report a various places along his route. You (ATC) don't have to wait for his report, when ZSMJS will not affect your traffic anymore, hand it off to FAEL.

FACT_E_CTR

“ZSMJS, Contact East London on 118.3, Good day”

ZSMJS

“ZSMJS, East London on 118.3, Good day”

.....

ZSMJS

“East London, ZSMJS, your TMA inbound at FL055, Good day”

FAEL_TWR

“ZSMJS, East London, Good day, route inbound for the field, join left downwind for runway 29, QNH1014”

You may provide the surface wind if you want, the 2 important things are the runway in use and the QNH.

ZSMJS

“Route inbound, join left downwind for runway 29, QNH1014”

.....

ZSMJS

“ZSMJS, Request descent”

OR the ATC can initiate the descent.

FAEL_TWR

“ZSMJS, descend to 2000ft, QNH1014”

In the case where TWR & APP are separate, APP descends to the lowest allowed level or have the aircraft exit the TMA below and then enter CTR from the side. Otherwise if TWR & APP is combined the lowest level to descend the aircraft can be all the way down to circuit altitude.

ZSMJS

“Descend to 2000ft, QNH1014, ZSMJS”

Give descend according to your terrain height and radar terrain chart.

Descend the aircraft as required to a height of approx. between 2000 & 3000ft AGL, still assuring terrain clearance, unless the aircraft is executing a visual approach. Remember to provide QNH again when descending an aircraft to an altitude.

ZSMJS

“Left downwind runway 29, ZSMJS”

FAEL_TWR

“ZSMJS, report final approach runway 29”

ZSMJS

“Final approach runway 29”

FAEL_TWR

“ZSMJS, Continue approach, aircraft departing ahead, wind 250 degrees at 10 knots”

Providing the wind now before the actual landing clearance is optional, not required, but it does provide the pilot earlier of what to expect.

Wind must be given in degrees Magnetic.

NOTE: The wind in the ATIS block on IvAc indicates True wind NOT magnetic.

As a general rule in South Africa, add 20 degrees to the True wind to get Magnetic.

You may round off the surface wind direction to the nearest 10. The wind speed can rounded to the nearest 5, or say “varying between 5 & 10knots”. When wind speed less than 5 knots say “surface wind calm”, note no direction indication.

ZSMJS

“ZSMJS, Continue approach”

FAEL_TWR

“ZSMJS, Clear to land, wind 260 degrees at 10 knots”

SAA601

“ZSMJS, Clear to land”

When you see the aircraft vacate the runway or pilot reports runway vacated. You may also tell the aircraft at which intersection to exit the runway. Do this usually on final approach, "Clear to land, wind..., plan to vacate at E"

FAEL_TWR

"ZSMJS, Taxi to A1 via Delta, cross runway 06/24, Good day."

If there is conflicting traffic, keep the aircraft on your frequency until it is clear of all traffic and then release it. The request from aircraft to shutdown when at the gate is an overseas procedure and is not used in South Africa, thus you may tell the aircraft in 1 transmission to taxi and terminate communications.

SAA601

"Taxi to A1 via Delta, cross runway 06/24, Have a good day"

