Thomson Virtual

OPS100 - Operations

© Edition One

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Thomson Virtual Difficulty Indication

This document has been classed as:

Level 1 – Beginner

1 = Beginner, 2= Novice, 3 = Skilled, 4 = Advanced, 5 = Expert

Introduction

Welcome to the Thomson Virtual Flight Operations Manual. This manual contains all the operational information you will need to conduct your flights safely when operating for Thomson Virtual. The manual will seem a probably very daunting with a lot of information in it.

You are not expected to know everything in this manual before your first flight. You can use this manual over time to familiarise yourself with our procedures. You should initially familiarise yourself with some of the areas and from time to time build up your knowledge on our operations.

Once you have completely read and understood the operations manual the appropriate “Flight Crew Notice” should be signed off.

Format of this manual.

This manual is split into four sections.

Part A: General – General operating requirements and recommendations.

Part B: Aircraft – How we operate our aircraft. This does not replace aircraft check lists.

Part C: Aircraft Route – How we fly the routes at this airline. Operational requirements for flying routes and navigation.

Part D: Training – Our training programme.

Requirement and Recommendations

Using the JAA (Join Aviation Authorities) style this document contains requirements and also recommendations.

Requirements

You are required to follow the requirements in this manual. They are numbered. Not complying with the requirements may compromise flight safety or mean that you are not operating to the correct procedures.

Recommendations

These do not have to be followed but it is how we recommend you should operate during your time at this Virtual airline. We would advise that the recommendations are also followed as well as the requirements.

Conception

All real world airlines have an Operational Manual that is the reference for flight crew and indeed airline management of all of the operating requirements of the airline. Most operations manuals are in fact 4 manuals – one for each part as detailed above. We have attempted to condense our operations manual to more closely represent our virtual operations.

The manual was written in 2008 to be the basic reference for all of our pilots on our operations. The manual is owned by the flight operations department who will issue interim updates via Flight Crew Notices initially before updating and re-issuing the Operations Manual.

Definitions

Aeronautical Information Publication (AIP) – The publication by a particular state, containing all of the aeronautical information pertaining and not limited to airfields, navigation aids and routes.

Airline – Typically refers to the "Thomson Virtual" virtual airline

Apron – The aircraft part of an aerodrome used for parking of aircraft which may or may not be under the control of a ground management service.

The Company – Refers to the Thomson Virtual airline.

Above Ground Level (AGL) – The height specified is measured above ground level.

Above Mean Sea Level (AMSL) – The height being specified is measured from the average seal level height.

Air Traffic Control (ATC) – An organisation dedicated to the safe and expeditious movement of air traffic throughout controlled airspace.

Callsign – The identification given to an aircraft as a means of identification by ATC.

Decision Altitude / Height (DA/H) – The altitude above mean sea level or height about the runway threshold elevation where a missed approach should be carried out if visual references to the runway have not been obtained.

ETOPS (Extended-range Twin-engine Operational Performance Standards) – Rules that allow twin engine aircraft to fly further than 60 minutes away from a suitable diversion after an engine failure.

Flight Crew Notice (FCN) – A notice issued to flight crew containing important operational information.

Flight Tracking System (FTS) – The software used by Thomson Virtual for tracking and recording of flights.

Line Flying – Flying as part of the profit making operations for the virtual airline.

Manoeuvring Area – The part of an aerodrome to be used for take off, landing and taxiing of an aircraft excluding the aprons.

Minimum Descent Height / Altitude (MDA/H) – The altitude or height below which an aircraft on a non precision approach may not descend unless visual references have been obtained. Note that the height is references to the runway elevation.

Movement Area – The part of an aerodrome to be used for the take off, landing and taxiing of aircraft consisting of the manoeuvring area and aprons.

Notam (Notice to Airman) – A communication to air crew.

North Atlantic Track (NAT) – An organised track for the passage of aircraft over the North Atlantic

Obstacle Clearance Altitude / Height (OCA/H) – Issued for very airport is the height of the highest obstacle which may infringe upon the approach of any aircraft. Note that the height is references to the runway elevation.

Oceanic Control Area (OCA) – An oceanic area controlled by a specific air traffic control serviced specially tasked with controlling aircraft after oceanic sectors.

On Duty – The time from which operational duties start to the time when operational duties end. Additionally a flight crew member is on duty when conducting any activities for the virtual airline such as contribution in the forum or on the Teamspeak server.

Operator – The operator of an aircraft. The operator could be one airline operating under the ownership of another company.

Pilot Flying (PF) – The pilot flying the aircraft.

Pilot In Command (PIC) – The designated commander of the aircraft for a specific operational duty. Does not need to be the highest ranked pilot onboard the aircraft.

Pilot Not Flying (PNF) – The pilot not flying the aircraft.

Pilot Report (PIREP) - A report completed at the end of a flight containing information about that flight.

Precision Approach Path Indicator (PAPI) – A bar of four coloured lights positioned so as to be visual for landing aircraft indicating the correct glide slope.

QFE – Altimeter setting giving an indicated reading showing height above current ground level.

QNH – Altimeter setting giving an indicated reading showing height above mean sea level.

Rejected Take Off (RTO) – The rejection of an in progress take off.

Reduced Vertical Separation Minima

Standard Operating Procedures (SOP's) – Procedures used for the standard operating of aircraft.

Standard Pressure Setting (SPS) – The altimeter setting of 1013 millibars to be used above transition altitude.

TOC (Top of Climb) - The point where the cruise altitude is reached

TOD (Top of Descent) – The point at where the descent should be started from.

Touch Down Zone (TDZ) – The area on a runway designated for the landing of aircraft.

VATSIM (Virtual Air Traffic Control Simulation) - A network allowing pilots using Flight Simulator to connection to a virtual service offering multiplayer capability and virtual air traffic control.

Visual Approach Slope Indicator (VASI) – See PAPI

VMC (Visual Meteorological Conditions) – Conditions which allow flight using visual flight rules where the crew can operate the aircraft with visibility of other aircraft and terrain.

UTC (Co-ordinated Universal Time) – The time of day that is used in all aspects of aviation.

1 Part A – General and Basic

1.1 Captains Responsibilities

The captains' responsibilities are as follows:

1.1.1 Operate in a way which at all times maintains the good name that has been achieved in the virtual community of the Thomson Virtual operation.

1.1.2 Maintain professionalism and proper conduct at all time when in on duty for Thomson Virtual. Note that you are on duty when conducting any activity for Thomson Virtual.

1.1.3 Operate all aircraft in a safe and efficient manner at all times and in conjunction with these operating procedures unless deviation from these procedures is necessary for the safety of the aircraft, passengers or flight crew.

1.1.4 Never undertake dangerous or high risk operations of manoeuvres that may but our aircraft, passengers, flight crew or any other person or object in danger.

1.1.5 Understand that when operating an aircraft you are responsible for the safety of the aircraft, passengers, flight crew contained within the aircraft, at all times once the aircraft is operating under its own power for the purpose of conducting a take off, until the aircraft is shutdown at the end of an operation.

1.2 Language

The company standard language to be used at all times whilst engaged in company operations is ENGLISH.

1.3 Time System

UTC will be used for all flight operations.

1.3.1.1 Care should be taken when booking flight times in FTS to ensure that the correct UTC time – that is the UTC time applicable to the actual real word flight time and not the scheduled flight time is used. The FTS manual has full details on this.

1.3.1.2 Aircraft commanders will ensure that company aircraft clocks and flight simulation time are set to UTC where applicable.

Note: Examples of UTC are GMT. In British Summer Time UTC is GMT + 1.

1.4 Operating Procedures

Type	Description / Location
Company General Operations	This manual. These are global operational procedures applicable to any flight or company operation.
Flying Standard Operating Procedures	Standard flying procedures applicable for any aircraft type e.g. containing details of standard call outs to be used during flight. Located in the PRC in Flight Operations Section.
Aircraft Check Lists	Type specific check lists to be used whilst flying. Located in the PRC under Flight Operations Section.

The procedures should be used in the following order.

1. Firstly the Operations Manual should be consulted. This manual contains global procedures including flying procedures that are not type specific but should be used on every flight. It also contains procedures on how to go about your day to day operations in this airline.

2. For flying operations in the flight deck, the Flying SOP's details how you should operate the aircraft. This document includes details of standard checks and call outs that are not type specific.

3. Finally you use the aircraft Check Lists to verify aircraft operation specific to type.

1.4.1.1 It should be noted that there is scope outside of these procedures for the commander to decide how the aircraft should be flown. At all times however adherence to procedures is important to ensure safety and efficient operation. The commander does have a large say in how many of these procedures will however be implemented from his position on the flight deck.

1.4.1.2 It is important however that the aircraft commander exercises sound airmanship and judgement. Deviation from all procedures is allowed in the interests of safety, particularly if following a procedure at that time would have an adverse affect.

1.5 Crew Announcements

Note: For information only. Doing crew announcements is entirely down to your discretion.

1.5.1.1 The Captain should make an initial welcoming message prior to pushback. This is so that all persons are familiar with his or her voice. This will be important if any none standard procedures are required.

1.5.1.2 Taxing is considered a safety critical phase of flight. If it is required to make an announcement at this time the aircraft should be stopped with the parking brake on.

1.5.1.3 An exception to the above is informing the cabin crew to take their seats for take off. This should be a short and concise message and can be made whilst the aircraft is moving, allowing at least 30 seconds before take off commences. A short "Cabin Crew, take your seats is sufficient."

1.5.1.4 During the cruise it is up to the captain if an announcement will be made. A short announcement is acceptable informing passengers of expected arrival time and weather.

1.5.1.5 Calls of "Cabin Crew, 10 minutes to landing" and "Cabin Crew, please be seated for landing" should be made at the appropriate point.

1.5.1.6 If the surface wind on landing exceeds 20kts, the Captain should advise cabin crew to take caution on door opening due to the winds.

1.6 Communication Channels

The company communicates to pilots through the following channels:

1.6.1 Notams

We use Notams to inform you of general news and events taking place either within the Virtual Airline or on VATSIM. Notams do not have to be read and it is your choice if you decide to read the website Notams or not. We occasionally send Notams to your email address to announce important news or developments.

Recommendation – We recommend that all pilots keep up to date with the Notams to make them part of the community and aware of the news and events within the Virtual Airline.

1.6.2 Airline News

1.6.2.1 All news can be found on the home page either on the bottom of the page or at the top on the left hand side. This will be a quick link to the news, once clicked on you can view in full detail the news announcement.

1.6.2.2 Although the news is not mandatory to read it is advised as this will keep you up to date with airline operations, additions to the airline or announcements of events etc

1.6.3 Emails

Any staff member can send either one individual pilot or all pilots an email. This is used for announcements which are important to the running of the airline or advertising events.

1.6.4 Aircraft

The company operates the following aircraft:

Type Code	Description
A320	Airbus A320-214
A321	Airbus A321-211
B733	Boeing 737-300
B738	Boeing 737-800
B752	Boeing 757-200
B762	Boeing 767-200 ER
B763	Boeing 767-300 ER
B744	Boeing 747-400
A332	Airbus A330-200

To be used for Corsairfly only!

1.7 Callsigns

The Callsign is the identification that air traffic control will use to identify the flight.

1.7.1 When operating on the VATSIM network, the correct Callsign (derived from the tables below) will be used to identify the flight.

1.7.2 The following callsigns must be used dependant on operator code as described below.

Operator	ICAO / Voice callsign
Thomson	TOM / “TOMSON”
Corsairfly	CRL / “CORSAIR”

1.7.3 The Callsign will be a combination of the ICAO code and then a series of numbers. Allowable combinations are detailed below:

Operator	Callsign Example
Thomson	TOM12A TOM123 TOM1AT The numeric letter can be chosen as required and our systems will inform you if it’s not valid.
Corsairfly	CRL123

1.7.4 The flight Callsign may be ended by one of the following letters to indicate special operations:

Suffix	Meaning
P	Positioning Flight. A flight without passengers for the sole purpose of "positioning" the aircraft for a subsequent duty.
T	Training. All training flight callsign's will have this suffix.
D	Delivery. The non revenue generating flight of a brand new aircraft from the manufacturer to a base airport.
M	Maintenance Flight. A non revenue generating flight for the sole purpose of assessing aircraft airworthiness. It is not intended that this suffix will be used by out pilots.

1.8 Flight Crew Designations

1.8.1.1 For every flight a PIC (Pilot in Command) will be established who may or may not be the most senior person aboard the aircraft.

1.8.1.2 For every flight a PF (Pilot Flying) and a PNF (Pilot Not Flying) will be established to carry out specified operational roles.

1.8.1.3 The PF and PNF can be interchanged throughout the flight as deemed required.

Note: For Flight Simulator operations the PF and the PNF will be the same person.

1.8.1.4 The PF will be responsible for the safe handling of the aircraft in any phase of flight.

1.8.1.5 The PNF will be responsible for duties not directly related to the handling of the aircraft such as radios, monitoring of systems, check lists etc.

1.9 Operating Minima and Flight Crew Limitations

1.9.1 Crew Duty Hours

1.9.1.1 Due to the nature of our virtual operation, the individual must monitor their own fatigue levels, duty hours and rest days ensuring that they feel fit and rested enough before commencing operational duties.

Recommendation – We recommend that no flight crew member is on duty for more than a continuous 8 hour period and no more than a continuous 12 hour period when rest periods have been observed throughout.

Recommendation – We recommend that no flight crew member operates for more than 4 consecutive days without observing 2 or more rest days.

1.9.2 Operating Minima

The crew operating minima specifies the required meteorological visibility that must be in place for take off and landing of the aircraft. This is in place to ensure that inexperienced crew don't land in poor visibility conditions which may be more challenging than their skill levels.

1.9.2.1 Crew will only commit to take off or landing of a company aircraft in the following visibility levels. In the event of take off the flight cannot operate until the conditions improve. In the event of landing an alternate airport should be sought, or holding can take place until conditions permit a landing.

Note: More information on crew landing minima is contained in section 2.7

1.9.2.2 Note: For take off, the visibility must be equal to or above the stated visibility.

Rank	Take Off
Second Officer	200m
First Officer	100m
Senior First Officer	100m
Captain	50m
Senior Captain	50m

1.9.3 Cross Wind Limitations

1.9.3.1 Take off and landing of a company aircraft will only be undertaken within the wind limitations imposed below. If the wind is above the limit in the case of take off then the wind must be allowed to reduce before the take off can be undertaken. If landing them the wind must be allowed to reduce or an alternate airfield must be sought.

Rank	Cross Wind Limit
Second Officer	10 knots
First Officer	15 knots
Senior First Officer	20 knots
Captain	Aircraft limit.
Senior Captain	Aircraft limit.

1.9.3.2 Note: Pilots may use the ATC wind and runway direction to work out the wind limitation using the following table.

Wind direction offset from nose	Cross wind component of wind speed
0° - 15°	¼ of wind speed.
15° to 30°	½ of wind speed.
30° to 45°	¾ of wind speed.
45° to 60°	All of wind speed.

1.10 Flight Booking Services

Flights can be pre-booked on the Thomson Virtual website before being logged into Blue Sky. This allows other pilots to view when you plan to operate and to perhaps join you in your flight.

1.10.1.1 When a flight has been booked, the details can be put into Blue Sky by clicking on the “get flight info” which is the magnifying glass button. You will then be required to connect to Flight Sim, check the cruising altitude, select your aircraft you are flying the route with from the drop down and then add any comments should you wish to do so.

1.10.1.2 Booked flights must be carried out or cancelled as soon as possible.

1.10.1.3 If you don’t complete a flight you have booked that flight will remain in your bookings until you remove it. If you don’t remove it within 5 days it will automatically be removed.

1.10.1.4 Flight bookings can be made through Blue Sky by clicking on the schedules tab. This saves time going through the site.

1.10.1.5 If you do not wish to carry out a scheduled route then by clicking on the “charter flight” tick box on Blue Sky this will then allow you to manually fill out the fields in Blue Sky. Once you have filled out the required fields it must be checked and started the same way you would if you were doing a booked flight.

1.11 Flight Logging Procedures

Thomson Virtual uses customised and specially written flight logging software called Blue Sky. This section details how you should log your flights using Blue Sky or manually if required.

1.11.1 Blue Sky Tracker

1.11.1.1 All flights should be logged using Blue Sky.

1.11.1.2 In the event that something happens where the Blue Sky logging cannot be completed (e.g. an unplanned shutdown of your PC), then flight operations should be contacted as soon as possible to ensure the flight is entered in your logbook.

1.11.1.3 The Blue Sky documentation can be found on the website Downloads page.

1.11.2 Manual Flight Logging

1.11.2.1 In the event of a system problem that means Blue Sky cannot be used then you can go to your flight bookings and manually file the PIREP. You will be required to fill out some flight information. Once sent a member of staff will check the flight has been completed and is legit. If it is then it will be accepted if not then it will be rejected with a reason to why it has been rejected.

1.11.2.2 If the PIREP is found to hour building without completing the flight then the pilots account will be closed.

1.11.3 Flight Logs

1.11.3.1 You are required to be at the controls of the aircraft at all times. Breaks are allowed but you must be away from the controls a maximum time of 30minutes. Any longer than that then your flight report will be rejected.

1.11.3.2 Your flight is NOT allowed to be paused at any stage throughout the flight. The log will tell us if Flight Sim has been paused which result in your flight report being rejected.

1.11.4 Modification of PIREPS

1.11.4.1 Flight operations reserve the right to make changes to your flight logs without prior notice.

1.11.4.2 You may make modifications to your flight reports and/or request changes to be made up to 28 days from the initial filing of the flight report. After 28 days the report is then locked and no further changes can be made.

1.12 Data retention policy

1.12.1.1 We will keep your flight data according to the following policy

- Single line log book entry – indefinite.
- Detailed flight report data obtained from Blue Sky including flight maps, detailed flight log etc – 28 days.
- Flight score report data obtained from Blue Sky – indefinite.
- Flight data allowing ability to resume flights – 48 hours.

1.13 Reporting Systems

The reporting systems are set up to allow flight crew to know how to report a number occurrences that should be brought to the attention of the company management. Flight crew are encourages to make use of the reporting systems as required.

For example, in the event of a runway incursion, a Mandatory Report would be completed. This allows the company Flight Operations department to follow up the incident with for example a VATSIM division and suggest corrective action, or at least highlight the division to possible training deficiencies.

At all times, and for any type of report the organisation will respond within the times set out in the management charter.

1.13.1 FCSR (Flight Crew Special Report)

A Captain's special report will typically be filed when airport or air traffic services are not at the required standard and the airline needs to follow this up with another organisation.

1.13.1.1 To file a FCSR contact Flight Operations with the following information:

- Your name and pilot number.
- Location, date and time of the occurrence.
- Details of the occurrence.

1.13.2 Mandatory Reporting System

The airline operates an MRS which requires crew members to report any incident or occurrence where there was danger to the aircraft, passengers other person or structures.

Incidents which should be reported via MRS include and are not limited to:

- Technical problems.
- Accidents.
- Airborne proximity (AIRPROX)
- Runway incursions.
- Weather related problems.
- Crew Injury.
- Bird Strikes.

1.13.2.1 To file an MRS report contact with operations with the following information:

- Ensure the message indicates this is an incident or occurrence to be filed under MRS.
- Your name and pilot number.
- Details of the aircraft.
- Date, time and location of the incident or occurrence.
- Details of the incident or occurrence.
- Details of the parties involved.
- Any supplementary information.

1.13.2.2 An MRS report may be followed up by the following departments:

- Flight Operations
- Training Department
- Human Resources
- 3rd Party e.g. VATSIM

1.13.3 CRS – Confidential Reporting System

The airline operations a Confidential Reporting System where flight crew members can confidentially report any safety related incident or matter. This should be used when a crew member does not wish to question or report a matter on an open channel such as the forum.

The system is run by the Flight Operations department and has no connection to top level management or the HR department. Therefore, the person making the report can be guaranteed that no action will be taken against them – unless the incident is followed up by an investigation from another body e.g. VATSIM.

1.13.3.1 To file a CRS Incident contact Flight Operations with the following information.

- Ensure the message indicates this is an incident or occurrence to be filed under CRS.
- Your name and pilot number.
- Details of the aircraft.
- Date, time and location of the incident or occurrence.
- Details of the incident or occurrence.
- Details of the parties involved.

- Any supplementary information.

The flight operations department will respond within the time limits set out in the management charter.

1.14 VATSIM Operations

Please observe the following requirements when operating on the VATSIM network.

Recommendation – If you have not operated before in an online air traffic control environment then please request training to learn the required skills for this type of operation. The workload can be very high and the flights very demanding – however once mastered operating on VATSIM is extremely rewarding.

1.14.1 Connecting to VATSIM

1.14.1.1 Always connect to VATSIM with your aircraft on an appropriate parking stand. If you are using scenery that is known to conflict with others, include this briefly in your flight plan remarks.

1.14.1.2 Never slew your aircraft across the apron when connected to VATSIM.

Recommendation – We recommend that if you connect to VATSIM on a parking stand that is already occupied you should disconnect from the network and reconnect on a new stand.

1.14.2 Aerodrome/Area NOTAMS

1.14.2.1 NOTAMS and weather for departure, destination and alternate aerodromes should be checked before departure

1.14.2.2 NOTAMS are available from Aeronautical Information Service and VATSIM vACC websites.

1.14.2.3 Thomson Virtual Flight Crew Notices should be checked for any company related information that may affect your flight.

1.14.3 Radio Communication Procedures

Radio telephony is one of only a few ways that you are judged when flying online. As an Air Traffic Controller you are looking for sharp and precise read backs and instructions from your pilots. There are a few simple rules to ensure you and ATC get along over the radio

1.14.3.1 When handed off to the next controller, wait about 5 seconds once tuned to the new frequency before transmitting

1.14.3.2 Listen to instructions issued to other flights before starting a transmission. If an instruction to another flight requires a read back, do not transmit until this has been given.

1.14.3.3 Use the correct phraseology – slang can sometimes lead to confusion and create more work for yourself and Air Traffic Control

1.14.3.4 Be brief - this particularly applies to ‘checking in’ on a new frequency. The new controller does not need to hear the entire story of the flight. Just current and cleared level and heading or next waypoint is suffice unless advised by either the previous controller or in the new controller’s ATIS.

1.14.3.5 Read back all instructions unless advised by ATC – this shows that you have understood the instruction that you have been given

1.14.4 Flight Plans

1.14.4.1 For company operations you will always file a VATSIM flight plan which will be based on your operational flight plan (see 3.5). This flight plan will form a contract between you and air traffic services.

1.14.4.2 You will enter a departure time on your flight plan. If the actual departure will be 30 minutes or more delayed from this departure time your flight plan should be updated with the new departure time.

1.14.4.3 If you plan to depart earlier than the flight plan time you should submit a new flight plan.

1.14.4.4 Always put appropriate comments in your flight plan to indicate that you are operating for this VA. Check Flight Crew Notices for up to date details.

1.14.5 Initial Contact with Air Traffic Control

1.14.5.1 Your *initial* contact with air traffic control should include detail on the wake turbulence category of your aircraft if the category is that of “Heavy” (or above if subsequent categories are introduced). See section 2.11 Wake Turbulence Categories for more information. This should be said as “<Callsign> Heavy” e.g. “Thomson 1234 Heavy…”.

1.14.5.2 A controllers ATIS should always be checked before transmitting on their frequency

1.14.5.3 Typical examples of initial contact are

- Departure clearance – ‘<aircraft type, stand number> requesting clearance to <airport> with information <atis>’.
- Area control – ‘passing 2500 climbing 5000ft, on <departure given>’.
- ‘descending through FL320 for 240, XX miles south of XXXXX’

1.14.6 Clearances

1.14.6.1 The flight crew shall read back to the air traffic controller safety related parts of the air traffic control clearance and instructions transmitted by voice. The following should be read back:

- ATC route clearances.
- Clearances and instructions to enter, land on, take off from, hold short of, cross, taxi and backtrack on any runway and,
- Runway in use, altimeter settings, transponder codes, level instructions and whether issued by the controller or contained in ATIS broadcasts transition levels and code of ATIS information received e.g. “… with information Bravo”. It is not necessary to read back wind vector information unless specifically asked by an air traffic controller.

1.14.6.2 Clearances can be issued and read back in any combination of voice or text.

1.14.6.3 If the level of an aircraft is reported in relation to standard pressure datum of 1013Mb, the words “Flight Level” should be used[1]. Otherwise words of “Feet” or “Meters” should be used.

1.14.6.4 If the clearance is not acceptable to the pilot in command then you must request and if practical obtain an amended clearance.

1.14.6.5 You should always obey the controllers instructions except when:

- You receive a conflicting instruction from TCAS. In this case the TCAS instruction should be obeyed.
- You believe that the controller’s instruction will endanger your flight. In this case you should take action to avert the danger by available means that do not further endanger the aircraft, crew or passengers.

1.14.7 Clearance Limits

Clearance limits are issued by controllers for the purpose of safe transit of an aircraft on ground or in flight. Examples of clearance limits are as follows:

“Taxi to holding point A1 for Runway 26”.

“Climb to altitude 7000ft”

“Climb flight level 350”.

1.14.7.1 The flight crew should never operate an aircraft beyond the clearance limit without authorisation from the air traffic control service.

1.14.7.2 If you are approaching a clearance limit and have not received onward authorisation it is acceptable to contact the Air Traffic Control Unit and request onward clearance. Examples of onward clearance are:

“TOM1234 approaching holding point A1 for runway 26” is typically sufficient to remind a controller you have not yet been cleared onto the runway for take off.

“TOM1234 level at 5000ft. Request further climb.”

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[1] Except when operating in an area where meters are used, the term meters can be used when operating on the 1013Mb pressure datum.

1.14.8 Taxiing

1.14.8.1 To reduce controller work load ensure you are fully familiarised with the airfield layout or have an airfield chart to hand before you start to taxi.

1.14.8.2 If you get lost whilst taxiing, at first refer to your airfield chart and then to a ground or tower controller if available.

1.14.9 Weather Services

1.14.9.1 The de-facto standard for online weather is Active Sky. This should be used for your online weather service if available. If you do not have Active Sky available then you should use the weather facility of either Squawk Box or FSINN, or your chosen VATSIM connection program.

1.14.10 Operating in Online Events

Recommendation – It is recommended that you install and use the specified scenery for the event. This will ensure that all aircraft are parked in the correct stand positions and that all stands will be available for other aircraft.

1.14.10.1 An event briefing will be provided by the company before the event takes place. This briefing should be read and understood before you commence operations in the event.

1.14.11 Transfer of Communications

You should be aware of the system for transfer of communications that exists when operating on the VATSIM network as this is different to the JAA OPS system which you may be used to from real world flying experience.

In JAA OPS the tower controller must operate visually this means that he/she cannot technically control the airfield if they do not have visual contact with the aircraft they are controlling. The following tables summarise how this operates on the VATSIM network:

Arriving Aircraft

“Control of arriving aircraft shall be transferred from the unit providing approach control service to the unit providing aerodrome control service (the tower) when the aircraft…”

<table>
<tr><th>JAA OPS</th><th>VATSIM</th></tr>
<tr><td colspan="2">Is in the vicinity of the aerodrome, and</td></tr>
<tr><td>It is considered that the approach and landing will be completed in visual reference to the ground, or</td><td rowspan="4">In all VATSIM operations the aircraft will typically be cleared onto the aerodrome control service when they are established to land on the operational runway. This is irrespective of the whether or not the runway is visual.</td></tr>
<tr><td>Has reached uninterrupted visual meteorological conditions, or</td></tr>
<tr><td>Is at a prescribed point or level, or</td></tr>
<tr><td>Has landed</td></tr>
</table>

Note: The “Has Landed” phase refers to what would happen when a tower controller cannot visual control aircraft and the landing must be controlled by an approach controller and control passed to the aerodrome tower once the aircraft has landed. This does not typically happen on VATSIM as per notes in the table above.

Departing Aircraft

"Control of a departing aircraft shall be transferred from the unit providing aerodrome control service (the tower) to the unit providing approach control service…"

JAA OPS	VATSIM
When visual meteorological conditions prevail in the vicinity of the aerodrome:	
Prior to the time the aircraft leaves the vicinity of the aerodrome.	Any time after take off or as prescribed by JAA.
Prior to the aircraft entering instrument meteorological conditions, or	Any time after take off or as prescribed by JAA.
When the aircraft is at a prescribed point or level.	Any time after take off or as prescribed by JAA.
When instrument meteorological conditions prevail at the aerodrome:	
Immediately after the aircraft is airborne, or	Any time after take off or as prescribed by JAA.
When the aircraft is at a prescribed point or level.	Any time after take off or as prescribed by JAA.

Note: VATSIM controllers will typically clear the pilot to contact the departures (approach) controller after take off.

1.14.12 Operating in Unmanned Airspace

1.14.12.1 The definition of "Operating in Unmanned Airspace" is as follows:

- When connecting to the VATSIM service and commencing operations at an airfield without an online air traffic control service.
- When operating within a controller airfield or airspace and then leaving that area to an unmanned area.

1.14.12.2 When flying in unmanned airspace you must ensure that your comm frequency is set to 122.80 which is the Unicom frequency.

1.14.12.3 You must ensure that all actions concerning your flight are stated in Unicom. This is particularly important in the taxi to take off and landing phases of flight where other aircraft may also be using an unmanned airport. However, there is no need to use the Unicom frequency for sending irrelevant information. Only state operational information and your decided clearance

1.14.12.4 Under no circumstances should the Unicom frequency be used for general chat with other aircraft. Use private messaging to do this.

1.14.12.5 The order of priority for unmanned airports is as follows:

- Emergency aircraft – any aircraft that has stated an emergency on the Unicom frequency will be given priority over all other traffic.
- Aircraft landing – will be given priority over any aircraft waiting to take off. For safety we would advise any aircraft that is less than 10 nm out from your runway holding position should be given priority.
- Aircraft taking off – will be given priority over all taxiing aircraft.
- Aircraft taxiing – will be given priority over all aircraft awaiting taxi.
- If you need to overtake another aircraft in unmanned airspace you should ensure vertical separation according to RVSM levels. This will mean a change in altitude of 2000ft either above or below the other aircraft. You should state your intentions in Unicom.

You may amend your clearance limits as required when operating in uncontrolled airspace. Intentions must be stated on Unicom.

1.14.13 Air Traffic Reports

Position Reports

You may be asked by ATC to give a position report or it may be required as part of Transatlantic Procedures. The transatlantic position report is detailed in section 3.8.6

The report for a standard position report is as follows:

- Callsign.
- Position
- Time at position
- Flight Level
- Next Position

For example:
"Thomson 1234, now 15 miles southwest of Mayfield VOR at 15:55 Zulu. Flight Level 95. Next waypoint final approach fix Runway 26L".

When operating on Unicom you may wish to give position reports when passing way points to inform other uncontrolled pilots of your intentions.

Met Reports

ATC may request from you, or you may wish to provide them with a report of the current weather situation at your location.

Met reports take the following format:

- Callsign.
- Position
- Flight Level
- Weather system in use.
- Air temperature
- Wind direction and speed
- Turbulence
- Icing
- Other notable weather e.g. Thunderstorms.
- Humidity

For example:
"Thomson 1234, now at intersection of [INSERT] on airway [INSERT] at Flight Level 360. Using Active Sky. Air temperature -57. Wind from 270 at 35. Moderate turbulence and icing in Cumulous Nimbus clouds."

When operating on Unicom you may wish to pass Met reports of significant weather to assist other pilots.

Special Air Reports

A Special air report should be issued whenever the following are encountered if the aircraft commander thinks it is warranted and will assist other aircraft.

- Significant turbulence.
- Severe icing.
- Mountain waves.
- Thunderstorms and hail.
- Dust or sand storms.
- Volcanic Eruptions.

1.14.14 Disputes with air traffic control

1.14.14.1 Where possible, attempt to resolve a dispute with air traffic control when on the ground. Wait until the aircraft is safely shut down on the ground and then contact a network supervisor (XXX_SUP) by private message or email in order to resolve the dispute. Additionally,

1.14.14.2 The company Flight Operations department will be happy to advise and assist in any resolution between a company pilot and air traffic control organisation. We will at all times operate fairly and without prejudice.

1.14.15 Simulated Flight Limitations

1.14.15.1 It is not permitted to simulate the following whilst operating for the airline.

- Hijackings.
- Interceptions.
- Ad-hoc Emergencies

1.14.15.2 Emergencies can be simulated as part of an authorised and booked training flight.

2 Part B - Aircraft

2.1 Aircraft Operating Documentation

2.1.1 All pilots should ensure they have access to and have read the following:

- Appropriate check lists for the aircraft type they are operating.
- Aircraft Standard Operating Procedures.

Both of these documents are available in the downloads section

2.2 General Flying Procedures

2.2.1 Auto Pilot

2.2.1.1 The aircraft should be flown with the autopilot engaged

- As soon as reasonably possible after take off, and then,
- Up until a suitable point on the final approach, or circling approach when a hand flown landing will be performed.

2.2.1.2 Flight crew should make full use of both LNAV and VNAV autopilot modes.

2.2.1.3 Flight crew should make full use of the auto throttle.

2.2.1.4 In the event of an autopilot failure, the aircraft commander should land at the nearest suitable diversion airfield.

2.2.2 Headsets

2.2.2.1 Headsets should be worn at all times by flight deck crew members whilst the aircraft is operating on the ground or airborne below the current transition level.

2.2.3 Sterile Cockpit

Sterile cockpit approach should be used between the following times:

- Pushback to TOC
- TOD to On Stand and Shutdown

2.2.3.1 The crew should not engage in any other operation apart from duties required to safely fly the aircraft in this time period.

2.2.4 Taxiing

Recommendation – It is recommended that you taxi between 10 and 20 knots of groundspeed. The lower speed should be used in busy apron areas, and the higher speed should be used where the aircraft commander deems appropriate – particularly on straight taxiways free of other aircraft and vehicles.

2.2.4.1 When the aircraft needs to stop, the parking brake should be applied until the taxi is resumed.

2.2.4.2 Power should never be applied against the parking brake. Only against the footbrakes, and then only as required to spool up engines prior to take off.

2.2.4.3 Pilots shall take care when applying thrust to get the aircraft moving as the jet blast may dislodge vehicles or personnel.

2.2.5 Maximum Service Ceiling

2.2.5.1 The maximum service ceiling for any flight is where a rate of climb can no longer be achieved above 200ft per minute.

2.2.5.2 Step climbs are permitted allowing the commander to burn off fuel and then select an appropriate higher cruise altitude once the aircraft is able to climb above the speed of 200ft per minute.

2.2.5.3 If your maximum service ceiling is less than your planned flight altitude then you must inform ATC that you require a lower cruising level.

2.2.6 Altimeter Setting

This section governs how you will set your altimeters for safe and accurate operation whilst flying. Altimeter settings are very important, not only to assess your height above the ground level and obstacles but also to ensure proper separation between you and other aircraft whilst in any phase of flight.

2.2.6.1 Before take off all altimeters will be set to the local QNH value which will mean the altimeter will show the local elevation (or height above mean sea level) of the aircrafts current position.

2.2.6.2 On take off the altimeters will remain at the local QNH value until passing Transition Altitude at which point they will bet set to the standard pressure setting of 1013mb.

2.2.7 Holding Procedures

2.2.7.1 Under no circumstances should aircraft hold unless:

- It is required by air traffic control.
- You are flying in unmanned controlled airspace and deem it is necessary for separation from other aircraft on the approach to an airfield.
- It is required for safety purposes such as reducing fuel load for landing in am emergency situation when your full planned route has not been completed.

2.2.7.2 It should not be used for the purpose of reducing fuel load in order to achieve a better FTS score in the event of bad flight planning.

Note: Pilots engaging in the above are likely to receive a communication from the management for wasting fuel!

2.2.7.3 It can be used for the purpose of burning off additional fuel when the calculated landing weight will be over the aircraft limits, following a flight with a significant tail wind.

2.2.7.4 During aircraft holding a speed should be selected that indicates the minimum fuel flow for the safest available speed. This may not be the lowest speed and is likely to be a speed around VS + 20 kts.

Note: Here, we are attempting to keep the aircraft in the air for the longest possible time (maximum endurance) so fuel flow should reduced to the minimum by monitoring of the fuel flow gauges

2.2.8 Aircraft Lights

2.2.8.1 Aircraft lights will be operated in accordance with the aircraft check list.

2.2.8.2 Landing lights are required to be on for take off until 10,000ft and in descent from 10,000 until landing. This is unless the lights cause a loss of visibility (for example in cloud) or crew performance is reduced due to reflection of the lights (again in clouds or in fog).

Note: FTS will give a negative score for flights where landing lights are not on for take off to 10,000ft and then from descent from 10,000ft to landing. If the landing lights needed to be switched off for reasons outlined above, send a message including the airfield METAR at the time to the flight operations department who will remove the penalty from your flight score.

2.2.8.3 Landing lights may be used in the cruise for identification of meteorological features above 10,000ft.

Note: FTS will again give a negative mark for this. Please contact flight operations and explain the situation.

2.3 Take Off Procedures

2.3.1.1 The flight crew will comply with the published take off procedure for the aircraft type being flown.

2.3.1.2 On all company aircraft parking brakes will be applied whilst waiting on the active runway for take off clearance.

2.3.1.3 No take off will be rejected at a speed over V1.

2.3.1.4 The flight crew will check that the wind at the time of take off does not exceed the cross and tail wind limits of the aircraft.

2.3.1.5 Flight crew should endeavour to take off on a runway direction giving the largest component of head wind and a request should be made to ATC if such a runway is not issued. If in the event a runway is given having a tail wind component, the take off should be conducted in line with the regulation (above) concerning tail winds.

2.3.1.6 If the tail wind is above limits, and no other runways are available for take off that can give a head wind component the take off cannot take place.

2.3.1.7 Once the rotation speed (VR) has been reached the aircraft will be rotated into the air. It is not acceptable to hold the aircraft on the ground and rotate later in an attempt to increase climb performance.

2.3.1.8 When the taxiway entrance to the runway is at right angles, pilots should taxi straight onto the runway and turn 90 degrees to centralise on runway centre line. This is instead of following a curve onto the runway. Using this technique means that your “line up distance” is reduced and you save value runway. Runway behind you is wasted runway.

2.3.2 Reduced Thrust Take Off Procedures

2.3.2.1 Reduced thrust should be used for all take offs where it is safe, taking into account all of the environmental and aircraft configuration factors with the exception of;Reduced thrust should not be used on contaminated runways.

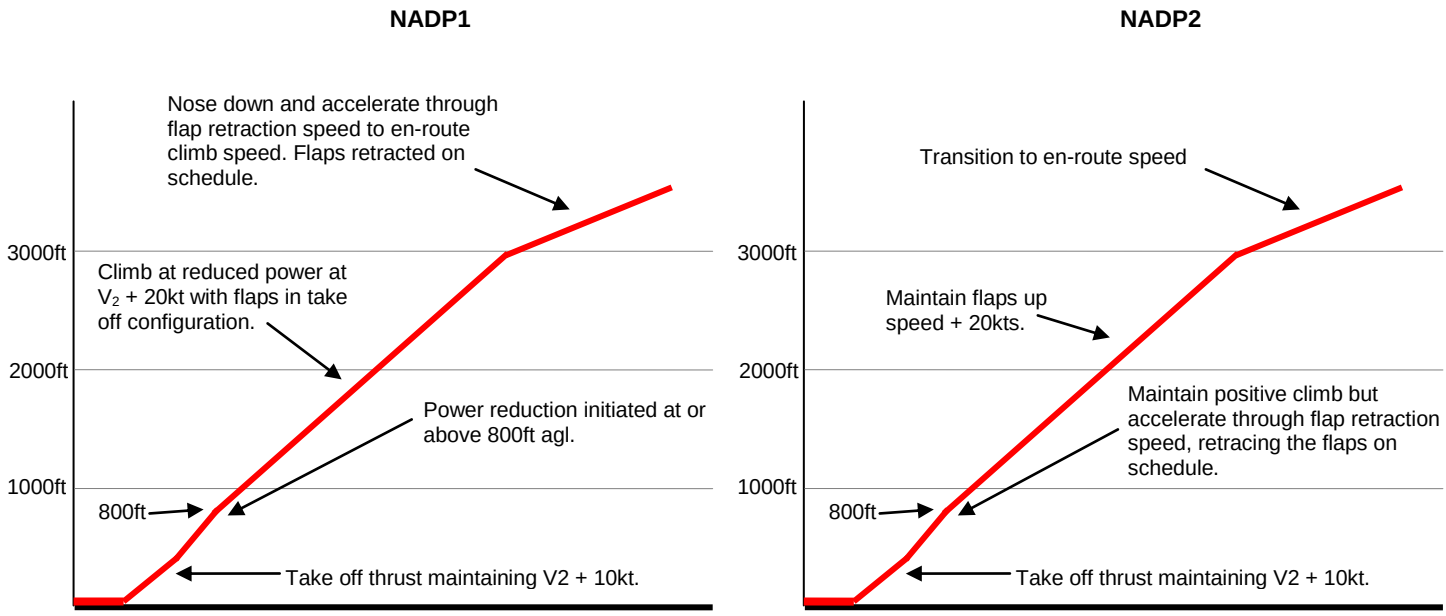

Figure 2-1 - Noise Abatement Departure Procedures

2.3.2.2 The procedure for deducing the take off thrust to be used must be derived by FMC programming, in particular

- The correct aircraft weights should be entered.
- The correct runway information for the airfield should be entered
- The correct take off configuration to be used is entered.
- Wind should be entered where possible.

Recommendation – Upon programming this information the aircraft will either only allow appropriate thrust on take off, or give an indication on the EICAS (or appropriate) system indicating the thrust to be used for the take off.

2.3.2.3 It is acceptable to take off from intersections under the following conditions:

- Remaining runway length is enough to safely rotate the aircraft into take off considering the current take off performance and take off mass of the aircraft.
- Notams for the airfield have been fully analysed to ensure that there are no restrictions on the runway further limiting the take off run available e.g. work taking place at the far end of the runway.

2.4 Noise Abatement Departure Procedures

Flight crews have the option to carry out a Nose Abatement procedures on take off. Indeed at some airports this will be mandatory. This section details how to perform a noise abatement procedure take off.

The following regulations should be applied:

2.4.1 An engine failure must not have occurred before the procedure is started.

2.4.2 The procedures will not be used in the following conditions

- Runway contamination (snow, slush, ice).
- Cross wind component is greater than 15kts.
- A tailwind component greater than 5kts.
- Wind sheer has been forecast or is apparent.
- Thunderstorms will affect the departure.

Segment	Gear	Flap	Thrust	Speed	Minimum Altitude	Notes
1st	Down or retracting to up position.	Take Off Setting	Maximum take off thrust.	At least V_2	N/A	N/A
2nd	Up	Take Off Setting	Maximum take off thrust.	At least V_2	A minimum altitude of 400ft must be attained before the 3rd segment can begin.	Drag from gear now reduced so less drag. Nose can be slightly raised to use available excess thrust to which now has less drag to overcome to climb the aircraft to 400ft.
3rd	Up	Retracting on schedule.	Maximum take off thrust.	Increasing from V2 to climb speed.	400ft must be attained before flaps are retracted.	At a minimum height of 400ft, the nose can be lowered and excess thrust used to accelerate the aircraft through the flap retraction schedule.
4th	Up	Up	Reduced to climb (max. continuous) thrust	Accelerating to climb speed.	Minimum altitude of 1500ft obtained before climb thrust selected.	Once the flaps have been retracted and a minimum of 1500ft has been obtained the aircraft can be accelerated to climb speed at reduced thrust,

Figure 2-2 – Standard Departure Segments Table

2.4.3 The use of a noise abatement procedure overrides the standard departure procedures.

Noise Abatement Departure Procedure (NADP1).

This procedure provides noise reduction for sensitive areas near the end of the runway. Thrust is reduced and the aircraft will be climbed at V2 + 10kts from 800ft. At 3000ft the nose is lowered allowing the aircraft to accelerate towards flap retraction speed.

Noise Abatement Departure Procedure (NADP2).

This is the procedure to be used when the noise sensitive area is distant from the end of the runway. The thrust is reduced at a greater height. The idea is that the aircraft can climb steeply and accelerate towards flap retraction speed. Thrust is then reduced at the flap retraction point meaning the aircraft is higher and travelling faster when it reaches the noise sensitive area.

2.5 Climb Procedures

The company uses a standard four segment departure procedure to take the aircraft from the lift of point to a minimum of 1500ft from the ground.

2.5.1 Crews will operate the aircraft in accordance with the following departure procedures as detailed in Figure 2-2 – Standard Departure Segments Table

2.5.2 If an engine failure occurs at any time during the departure procedures, maximum thrust on the remaining engine should be applied.

2.5.3 Maximum thrust should not be used for more than 10 minutes.

Note: You will typically be operating from an airfield with QNH set which will give you an AMSL indication on your altimeter. Therefore to meet the criteria of being 1500 AGL you must fact in the airport elevation to know what the indicated altitude will be at 1500ft AGL. This applies to all heights above ground.

2.5.3.1 They will be set to 1013Mb (29.92 in/hg). From this point on the aircraft will be operating at “Flight Levels”.

2.5.3.2 On descent the altimeters should be set to the local QNH value when either descending below the transition level or when cleared to an altitude below the transition level by an air traffic controller.

2.5.3.3 The altimeter should be set to the local airfield QNH for landing.

2.5.3.4 on the aircrafts EICAS (or appropriate system).

2.6 Descent Procedures

2.6.1 The use of spoilers should be avoided where possible to increase fuel efficiency. It is far better to decelerate the aircraft before Top of Descent to then descend at the correct speed rather than attempt to decelerate and descend. The latter will probably not be possible in our aircraft fleet.

2.6.2 The pilot flying should keep the aircraft in the clean configuration for as long as possible to aid fuel efficiency. This should consider:

- Deceleration on schedule with air traffic control instructions or approach profile for the airfield.
- Flap extension on schedule
- Landing gear extension on schedule.

2.6.3 High rates of descent (possibly to recapture the glide slope) should be avoided on final approach. Especially the use of spoilers.

2.7 Approach Procedures

This section outlines approach procedures the company advises pilots to use when landing their aircraft. Note that for the purpose of Flight Simulation, these are simplified JAA Ops Guidelines.

Recommendation – These limits are recommendations that set allowed approach limits based on pilots experience.

2.7.1 Background to Procedures

The approach procedures mainly related to the visibility at the time of landing. Based on your experience you will be allow to take the aircraft lower to the ground, without the required references for landing, before you must initiate a missed approach.

2.7.2 Types of Approach

Approach Type	Description
Non-Precision Approach	An approach conducted without precision landing aids. Typically there is no glide slope so visibility of the runway is required by a certain height to ensure a safe landing. Examples include. - Visual Approach - VOR Approach - NDB Approach
Precision Approach	An approach made with landing aids that guide the aircraft in both azimuth and flight path to the touch down point. Examples include: - ILS Approach
Circling Approach	An approach made initially using precision approach aids. The approach is then broken off at an appropriate point and a visual circling manoeuvre is conducted to position the aircraft for landing.

2.7.2.1 Flight crew's must decide on the type of approach they wish to perform for an airport. If the conditions are below VMC then a precision approach should be used.

2.7.2.2 Crews are allowed to break off from an precision approach and perform a visual approach where conditions allow. This does not have to be VMC if the appropriate visual references (see below) can be obtained before MDA/H.

2.7.3 Approach Terminology

Altitude – The height of the aircraft always referenced above sea level.

Height – The height of the aircraft as referenced above the current terrain.

Visual References – references used by the pilot to make the landing. Pilots will only be allowed to descent below certain points (detailed below) when one or more visual reference is in sight.

The required visual references are as follows.

- Approach Lighting.
- Threshold, threshold markings or lights.
- PAPI or VASI
- TDZ, TDZ markings, TDZ lighting.
- Runway Edge Lights

2.7.3.1 One of more of these references must be in sight before a call of "Visual" is made when landing the aircraft.

2.7.3.2 A visual reference must be in sight before the aircraft will be allowed to descend below MDA/H or DA/H.

Pilots may under no circumstances descend below appropriate decision or minimum descent altitudes or heights unless one of the above is clearly in sight. If not, a missed approach procedure must be executed.

2.7.4 Altitude / Height Terminology

2.7.4.1 The pilot should be aware of the following relationships between approach type and altitude/height minimum type:

Approach Type	Referenced To
Non Precision	MDA/H
Precision	DA/H
Circling	MDA/H

2.7.5 Aircraft Categories

When deciding upon the decision height for an approach aircraft categories are used. These categories take into account the approach speed of the aircraft. For example, an aircraft with a fast approach speed will need a higher decision altitude as there will be more speed and inertia to go from descending into a climb out for a missed approach.

The categorisation is based on the approach speed and the Velocity At Threshold (V_{AT}). This is a range of speeds that the aircraft will fly (dependant on the days configurations) over the runway threshold.

The company aircraft fall into the following categories:

Category	Aircraft	Approach / V_{AT}
C	A320	160-240kts / 121-140kts
	A321	
	B733	
	B738	
D	B757 B767 B744 A332	141-165kts/ 185-250kts

2.7.6 Determination of Decision Altitude

Figure 2-3 - Example of Airport OCA/H shows how decision altitudes are decided. They are based on the OCA for the airfield. This is the height of the highest obstacle or the highest missed approach obstacle.

From there a margin is added based on aircraft type. Remember that the faster the aircraft the higher the margin will be.

Figure 2-5 - Diagram of Decision Heights shows the relationship between the various heights and how they are derived with the crew margins.

Example of London Heathrow Precision Approach Decision Altitude (OCA)

OCA = 300ft.

Category C Aircraft (Boeing 737) Margin: 152ft.

Final OCA : 452ft.

Figure 2-3 - Example of Airport OCA/H

2.7.7 Crew Experience Margin

The company has decided on crew experience margin which will tell the pilot **how far towards OCH/A** he or she can fly before they must carry out a missed approach.

2.7.7.1 For simulated flying the terms DA/H and MD/H only relate to the type of approach being flown and are essentially the same figure. Its just if you are using a precision approach you would use the DA/H term and when making a visual approach then MDA/H term will be used.

2.7.7.2 Crews must use the following table to determine the margin **above** OCA/H they can fly to. **This figure then constitutes the DA/H for precision approaches or the MDA/H for non precision approaches.**

Crew	OCA/H Margin
Second Officer	500ft
First Officer	300ft
Senior First Officer	100ft
Captain	0ft
Senior Captain	0ft

Crews may not descend below their MDA/H or DA/H without a visual reference.

Example of London Heathrow Precision Approach Decision Altitude (DA) with Crew Margin

OCA = 300ft.

Category C Aircraft (Boeing 737) Margin: 152ft.

Final OCA: 452ft.

Decision Altitude (First Officer) + 800ft = 752ft

Decision Altitude (Captain) + 0ft = 452ft

Note: Captains and Senior Captains may descend too decision altitude or height.

Figure 2-4 - Example of DA with crew margin

2.7.8 Determination of MDA/H

2.7.8.1 Flight crews will determine the aircraft margin for all precision approaches and apply this margin to the stated OCH/A. The airfield OCH/A can be found on the approach plate for the airfield.

Example of London Heathrow OCA/H

OCA(H) 09R

A: 128’ (78’)

B: 139’ (89’)

C: 152’ (102’)

D: 168’ (118’)

This shows the aircraft Obstacle Clearance Altitudes and Heights. These are based on the obstacle height for the 09R approach or missed approach plus an aircraft type margin.

These figures have the margin applied and show the altitude in feet for the OCA and also the height above the runway threshold (in brackets) which is the OCH.

Crews must then apply their crew margin to this figure to determine the final Decision Height or Altitude. E.g. a second officer in a category C aircraft would need to perform a missed approach at 652 feet.

2.7.9 Category I, II, III Precision Approaches

When operating under CAT I, II or III approaches the situation changes slightly. All of the CAT approaches are precision approaches using ILS.

It is highly important that an aerodrome is operating in conjunction with CAT 1, 2 or 3 requirements before you can perform an auto land. The airfield will for example space traffic to a minimum distance of 7nm in front of you. This is to allow landing traffic to get clear of the runway and the ILS localiser signals before you are at a critical altitude. Additionally, they will hold any aircraft a lot shorted or the runway than usually for the same purpose. You will have noticed the ILS holding points at various airports. If an aircraft strays into the localiser signal path it can bend the beam and cause erroneous control inputs to the auto land system.

You can use the ILS signal at an aerodrome at any time. However you should be aware that if the aerodrome is not operating to auto land standards they will not be operating to avoid localiser signal disruption. You could be aware of this when conducting any approach using the ILS system.

If you plan to practise an auto land and the aerodrome is not operating to auto land standards be warned that your aircraft could receive erroneous signals from the ILS leading to unwanted and possibly dangerous control inputs

2.7.9.1 When the decision has been made to perform a precision approach, the flight crew should ensure the type or approaches at the arrival aerodrome are checked and the DH/A decided upon meets the criteria below.

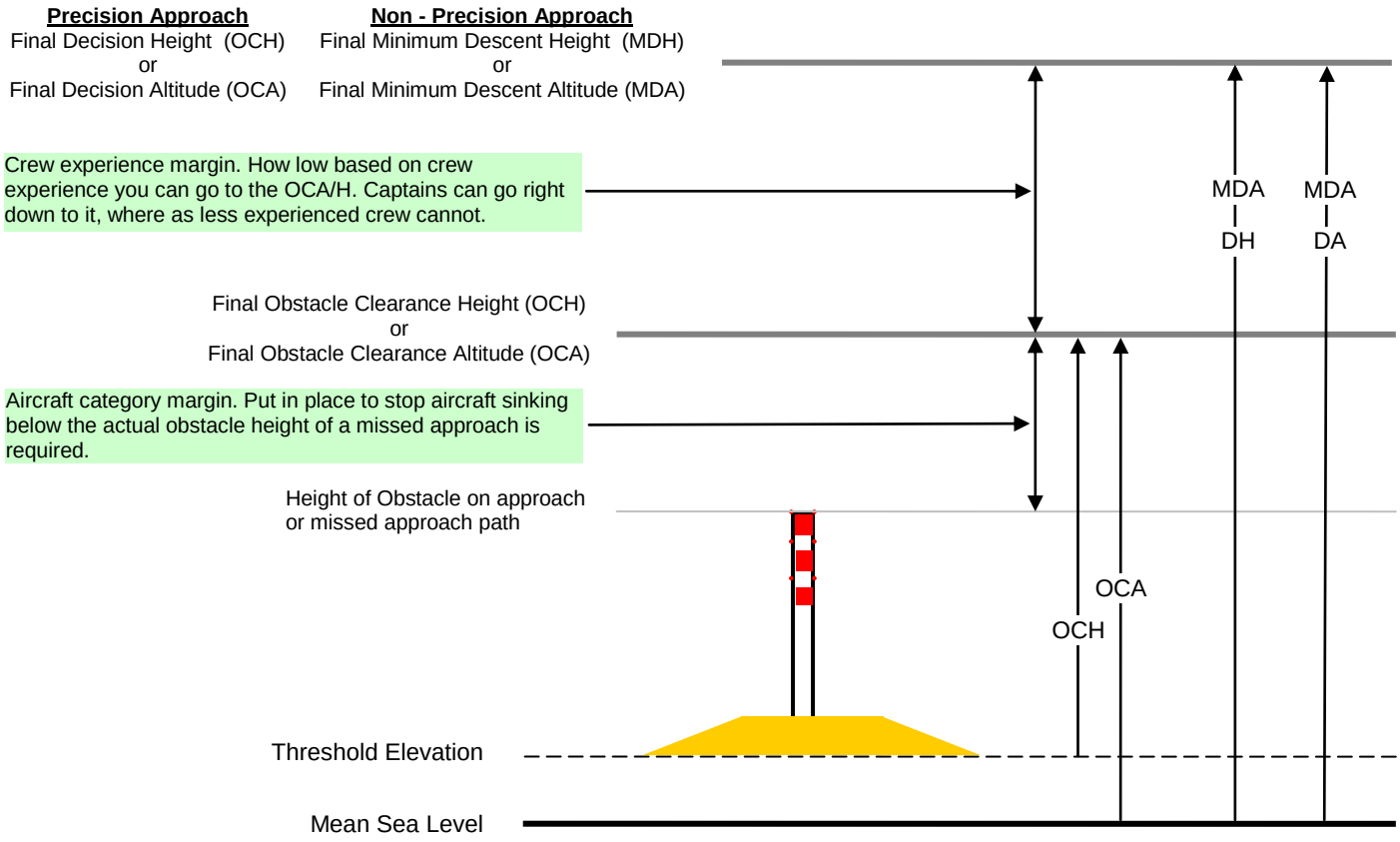

Figure 2-5 - Diagram of Decision Heights

CAT I Approach

2.7.9.2 For CAT I approaches the crew should not, without visual references, descend lower than:

- The crew derived decision height.
- The obstacle height (OCH/A).
- 200ft.

CAT II Approach.

This is a precision approach using ILS.

2.7.9.3 For CAT II approaches the crew should not, without visual references, descend lower than:

- The crew derived decision height.
- The obstacle height (OCH/A).
- 100 ft

CAT III Approach.

This is a precision approach using ILS.

- The crew derived decision height.
- The obstacle height (OCH/A).
- 100 ft (CAT III A)
- 50ft (CAT III B)
- 0ft (CAT III C) – Not yet supported.

2.7.10 Additional Constraints

2.7.10.1 Operations without decision height may be permitted when:

- -The obstacle height is not higher than the threshold elevation.
- VMC prevails.

Note: You must still have a stabilised approach by the require altitude as detailed in section 2.7.10.10.

2.7.10.2 Flight crews should program, where fitted, the audible call out for “Minimums” prior to the final approach at the arrival airport. This should be set to the required DH or MDH as the system is based on the radio altimeter.

2.7.10.3 If the aircraft is not fitted with an automated audible call for minimums, this call is the responsibility of the PNF.

Note: For simulation purposes this will be your responsibility.

2.7.10.4 On receiving the call “minimums”, a challenge/response question of “Decide” should be called by the PNF. This should be responded to with “Landing” if visual references have been obtained, or “Going Around” if they have not.

Note: For flight simulation purposes the pilot should challenge himself at the “Minimums” callout.

2.7.10.5 Specifically for CAT IIIA or CAT IIIB operations, the required visual references are more stringent: The flight crew may not continue the approach below DH/A unless a segment of three consecutive lights of either the approach lighting centre line, the touch done zone lighting, or runway centreline lighting can be maintained.

2.7.10.6 For an approach to “go visual” or a visual approach to be flown the RVR must be greater than 800 meters.

2.7.10.7 For a circling approach there are set MDH and RVR minima in place. The aircraft should not go below this minima unless visual references have been established and the RVR criteria is met:

Aircraft Category	MDH	Minimum RVR
C	600ft	2400m
D	700ft	3600m

2.7.10.8 Any references using height (for either decision height in the case of precision approaches or minimum descent for non precision approaches) must use the radio altimeter to determine the height.

2.7.10.9 The aircraft should always intercept the glide slope from below.

Note: In real life, the ILS glide slope can produce false beams above the normal glide slope beam and give false indications on the instruments. This procedure stops that from affecting the instrument indications to the pilots.

2.7.10.10 The aircraft should be established in the landing configuration and on the correct (possibly visual) approach slope and horizontal position by 1000ft above the runway threshold height. If this is not achieved then a go around should be performed. Do not try to recover from a "botched" approach below 1000ft. Go around and make a safer 2nd approach.

Recommendation – We recommend that the visual aiming point approach is used for the final stage of your approach when visual with the runway in VMC conditions.

- Keep the runway touch down zone at a steady place on the windshield.
- Use pitch to control aim and power to control speed.
- At 30ft above ground level you should adopt the landing attitude and gently reduce the power to idle

2.8 Landing Procedures

Recommendation – It is preferable to make a firm but positive arrival rather than hold the aircraft for a smooth landing. You should aim to land in the touch down zone to leave adequate room available for deceleration.

2.8.1.1 It is acceptable to perform an auto land where required – typically in conditions of low visibility. However the aerodrome must agree to provide you with CAT 1, 2 or 3 auto land procedures (see note below).

2.8.2 Contaminated Runway Procedures

2.8.2.1 When landing on contaminated runways the pilot flying should make a firm landing. This will ensure that tyres of the aircraft break through the layer of contamination and engage the runway before braking action commences.

2.8.2.2 Care should be taken when using high speed runway exists on contaminated runways. The pilot flying should ensure that the speed has been reduced enough so that the aircraft can turn off the runway at high speed without risk of skidding.

2.8.3 Auto Brakes, Reverse Thrust and Spoilers

2.8.3.1 The auto brake will be set to RTO (Rejected Take Off) for all take off's.

2.8.3.2 The auto brakes where fitted will be used at all times for the purposes of arresting speed during the landing roll.

2.8.3.3 The auto brake will be cancelled by the pilot flying when it is deemed the deceleration has been sufficient.

2.8.3.4 Reverse thrust idle should be used for all normal landing decelerations (press F2 in Flight Simulator to engage from thrust idle).

Note: It is the commanders discretion of thrust reverse above idle is deemed necessary and no pilots will receive penalties for making a safe landing using full reverse thrust. We recommend that reverse idle is used where possible to reduce engine wear. Wheel brakes are cheaper to replace than engines!

2.8.3.5 Spoilers should be armed for all landings to automatically deploy at the moment of touch down.

2.8.3.6 Both spoilers and flaps will be left deployed in landing positions until the speed on the landing roll has reduced sufficiently so that the aircraft can be stopped with wheel brakes only. This is because the spoilers and flaps create more drag to help decelerate the aircraft safely.

Note: Several incidents have occurred where aircraft have run off the end of the runway as the available means of deceleration where reduced to soon meaning a heavy reliance on wheel brakes. Aircraft are very heavy so as much assistance as possible should be given to the wheel brakes to effectively slow the aircraft down as much as possible on the landing roll.

2.9 Use of checklists

The use of checklists is in the “Challenge Response” format. This is applicable even for single pilot (e.g. Flight Simulator) operations.

An example of this is as follows for an altimeter check:

Challenge: “Altimeters?”

Response: “Altimeters are #1 1013mb and #2 1013mb – set and cross checked – we are climbing through FL090.”

2.9.1.1 When using check lists you should always challenge yourself and then respond to yourself.

2.9.1.2 Never pay lip service to checks. Ensure that if the check says to look at the altimeter setting it is actually looked at and checked!

2.9.1.3 The pilot in command will ensure that all checks are carried out to his satisfaction and are fully complied with.

2.10 Aircraft Systems

2.10.1 Weather (WX) Radar

2.10.1.1 Under no circumstances (except a controlled test with authorised maintained personal) should the WX Radar be used on the ground. This is because the high frequency microwaves emitted can cause damage to people and other electrical items. The turning on of the WX radar should be a memory item used after take off when the beam is pointing skyward and will not harm anything.

2.10.2 Radios and Transponder

2.10.2.1 Your transponder may not be set to mode C (Charlie) until you enter the active runway or instructed to do so by an air traffic controller.

2.10.2.2 In the event of a radio failure you should squawk 7600 and then

- Follow set flight plan.
- Land at the intended airport following the procedure you have outlined in your flight plan.

2.10.2.3 Recommendation – We recommend that you pre-tune your available comm radio to the next frequency before it is required to be switched. This will mean fast switching (often just by pressing C to engage the comm. stack and X to switch the radios) can be accomplished at any time.

Recommendation – Where possible aim to have your comm. frequencies set out across both comm. radios making use of switching between active frequencies on one comm. box and then onto the next comm. box as required. This means you are not turning radios at critical flight times.

Recommendation – To avoid cycling of the transponder code on the controllers screen, when asked to change transponder codes in flight firstly squawk standby and then change the code before going back to mode C.

2.10.2.4 Prior to commencement of final approach the communications panel should be configured so that audible outer, middle and inner final approach makers are audible.

2.10.3 TCAS – Traffic Collision and Avoidance System

TCAS should be used at all times (where fitted) at every stage of flight.

2.10.3.1 On receiving the audible “Traffic-Traffic” alert from a TCAS system, the flight crew should perform a systematic scan of the visible sky for the traffic that has caused the warning. ATC should also be advised that a TCAS “warning” has been received.

2.10.3.2 On receiving a “Resolution Advisory” (RA) the pilot should respond to this without delay. Of particular important is the requirement to obey the TCAS instruction as opposed to obeying instructions from Air Traffic Control. The TCAS instruction of climb, descent or reducing vertical speed should be obeyed at all times and without delay.

2.10.3.3 Recommendation – When cleared onto the runway you can set your Transponder to Mode C (as per checklists). At this time the TCAS display can be used to check the approaches for aircraft in addition to the usual visual checks.

2.10.3.4 The flight crew should be aware that TCAS will only ever give traffic avoidance instructions in the vertical sense and never issue “Turn Left/Right” instructions. Therefore the flight crew should never respond to a Resolution Advisory (RA) by turning the aircraft. Additionally,

2.10.3.5 The flight crew should never manoeuvre in response to visual symbols on the TCAS display – only to the audible instructions.

Note: The TCAS system will give you a traffic warning when the aircraft is 40 seconds from a collision and a Resolution Advisory 25 seconds from collision.

2.10.4 GPWS – Ground Proximity Warning System

2.10.4.1 A serviceable ground proximity system is a requirement for the dispatch of any Thomson Virtual flight.

2.10.4.2 Any “Pull Up” instructions should be reacted to immediately and without delay by applying full power and putting the aircraft into a max climb gradient climb.

2.10.4.3 Any instruction containing the word “Sink” (e.g. “sink rate”) should be responded to as above. This means that the aircraft has suffered a loss of barometric altitude.

2.10.4.4 Any configuration warning should be investigated immediately e.g. “Too low flaps” – the flaps should be checked for to ensure they are in the correct configuration

2.11 Wake Turbulence Categories

The following wake turbulence categories are in use by company aircraft.

Category	Aircraft Maximum Take Off Mass
H (Heavy)	>= 136,000 kg
M (Medium)	>= 7000 kg and < 136,000 kg
L (Light)	< 7000 kg

2.12 Mass and Balance

2.12.1 It is the captain’s responsibility to ensure that the aircraft is within the specified weight limitations at all times.

2.12.2 The captain should ensure that any pre-filed load sheet containing mass and balance figures pertinent to the flight is correct to the best of his/her knowledge.

2.12.3 The captain has the authority at any time to insist on reloading or reweighing of any part of the load manifest is completed again to ensure safe operation of the aircraft.

2.13 Emergency Procedures

2.13.1 All emergency procedures are to be carried out by the appropriate, type specific, abnormal procedures aircraft checklist.

3 Part C – Aircraft Route

3.1 Suitable Aerodromes

3.1.1 Aircraft should only be operating into suitable aerodromes as detailed below:

- The runway length is long enough to safely accommodate the aircraft.
- The runway is constructed from a hard tarmac or concrete surface and is not, grass, gravel, sand or any other unpaved or unmade runway.

3.2 Flight Rules

3.2.1 All revenue generating flights will be operated as IFR flights.

3.3 Pilot Familiarisation

3.3.1 Before conducting revenue generating flights to an unknown airfield the pilot should do the study charts to familiarise themselves with the following:

- Minimum descent altitudes
- Available runways ensuring that the length is sufficient to operate from or into the airfield.
- Available navigation aid.
- Airfield ground movement layouts.
- Available services such as ATIS, Clearance etc.
- Speed and altitude profiles
- Radio failure procedures

Recommendation – It is recommended that the pilot intended to fly the sector performs a number of touch and go circuits and approaches to the airfield to familiarise himself before the intended revenue flight.

Recommendation – If a night approach is to be conducted as part of the revenue generating service, a number of practise night approaches should be performed beforehand in order that the pilot familiarises themselves with the airfield at night.

3.3.2 The flight crew should also check the AIP for the state where the intended airfields of operation are based. From the AIP it is possible to get information about the airports, for example runway length. This information should have been located in the AIP and available for reference before and during operations.

3.4 Airfield Services

3.4.1 Airfield NOTAMS (where available) should be checked before commencing a flight to the designated airfield in order to:

- Be aware of any operational restrictions such as runway closures that may affect the flight. For example, the longest runway may be closed.
- Be aware of operational restrictions to taxiways in particular high speed exits.
- Be aware of any temporary restrictions to emergency equipment that may affect the total number of passengers that can be transported into the airfield.
- Be aware of any limitation in airfield services such as follow me vehicles, refuelling, customs and immigration controls, de-icing services etc which may prevent adequate an safe operations at the airfield.

3.5 Operational Flight Plans

3.5.1 Every flight which goes out of visual range with the origin airport will operate with a valid flight Operational Fight Plan containing details of the following navigational facilities:

- Origin and destination airport
- Enroute navigation aids (e.g. VOR’s, NDB’s, airways etc).

- Alternate airport for both origin and destination.
- Names of flight crew members
- Type of operation
- Route and route segments
- Fuel calculations
- Meteorological information

3.5.2 If you are not operating on VATSIM (see below) then you should create a written flight plan with the above details.

3.6 VATSIM Flight Plans

3.6.1 In the event the flight is to be conducted on VATSIM, the above flight plan should be entered into the appropriate VATSIM form (e.g. in Squawkbox) and will then form your operational flight plan.

3.7 Air Traffic Control Procedures

3.7.1 The pilot, when requested to provide a position report will do so when over or as soon as possible after passing the nominated reporting point.

3.7.2 The pilot when requested to provide a “time over position”, will inform the Air Traffic Service Unit when the time supplied is in error by more than three minutes and communicate the recalculated estimated time.

3.7.3 If the flight will be operated at a TAS which is more than ±5% of the stated flight plan TAS, the Air Traffic Service Unit should be informed.

3.7.4 When a position report is required, the position report should include as a minimum the time and level of passing the reporting point.

3.8 Transatlantic Operations

The following are JAR OPS procedures that this airline adopts when performing oceanic operations.

Note: Detailed Transatlantic Procedures are contained in the OPS02 guide.

3.8.1 General Procedures

3.8.1.1 Prior to the crossing the following will be decided:

- North Atlantic Track to be flown including entry and exit points.
- Suitable and adequate aerodromes for diversion taking into account ETOPS regulations (see below).
- Cruising level and mach number taking into account RVSM levels (see below).
- The weather conditions including details of significant weather, head/tail winds including Jet Streams will be researched by the flight crew.

3.8.1.2 Your planned Mach speed and altitude will be maintained on any transatlantic crossing unless ATC have been advised and have approved a change in Mach number or altitude.

3.8.1.3 An Atlantic crossing will use the specified RVSM flight levels (as described in section 3.14).

3.8.2 ETOPS Procedures

ETOPS (Extended-range Twin-engine Operating Performance Standards) procedures are too be used on long haul services in the event that an engine fails. Routes should be planned so that if an engine was to fail during the flight, the aircraft can land within the specified distances and times that are determined by the aircraft’s performance class.

The maximum speed that can be maintained with only one operational engine must be decided by the operator. This figure is based on the assumption that the ISA conditions are present and that the aircraft is flying in level flight with maximum continuous thrust from the operational engine.

Aircraft Performance Classes

Performance Class A –aeroplanes with passenger seating of 20 or more or a Maximum Take Off Mass of 45,360kgs or more do not fly further than 60 minutes at the one-engine out speed from a suitable aerodrome. Other performance A aircraft should not fly more than 120 minutes from an adequate aerodrome or 180 minutes if approved by the authority.

This figure is known as the Threshold Time. An aircraft with an ETOPS 120 threshold time, can fly a route that takes it at all times a maximum of 120 minutes from a suitable and adequate diversion airfield. It may be that the optimum route for a given aircraft type does not take it within the threshold time. In this case the route must be *adjusted* (probably tracking further north towards Iceland and Greenland) so that the diversion airfields are within the threshold time.

The threshold time is always based on the one engine inoperative cruise speed for the aircraft type.

Company Aircraft

3.8.2.1 Flight crew should be aware of the following ETOPS threshold times for company aircraft.

Aircraft Type	Threshold Time
Boeing 737	180 minutes
Boeing 767	180 minutes
Boeing 757	180 minutes
Boeing 747	180 minutes
Airbus A330	180 minutes

Note: Aircraft types not listed above do not have ETOPS certification.

3.8.3 Transatlantic Route

3.8.3.1 When travelling from Europe to the United States a NAT will be used to enable safe and expeditious transit across the Atlantic.

3.8.3.2 If the route is not as described above, and for example does not require a NAT, then a NAT does not have to be used, however to conform with JAR OPS the pilot should ensure the following:

- The route will not cross the organised NAT system.
- The route will only enter and exit the NAT system on one of the outer tracks.
- You can cross the NAT system but only on a flight level above or below the system.

3.8.4 Minimum Navigation Performance Specification

The following operational regulations are established to ensure MNPS accuracy whilst on Transatlantic Routes.

Note: This operations manual does not specify the actual MNPS requirements. This is specified in the OPS02 Transatlantic Procedures guide.

3.8.4.1 Your onboard time piece must be synchronised to an accurate UTC source before commencing flight.

Recommendation –This is so you can give accurate position reports. We recommend you allow Windows to keep your PC clock in sync and then allow FTS to update your flight simulator time. This should mean your FMC will show accurate times for your next position reports.

3.8.4.2 Our operational procedures specify that you must ensure all of the RVSM specification is met before passing an entry point to a NAT. If the specification cannot be met then you must land at a suitable aerodrome to effect repairs to the system.

3.8.4.3 If you experience an in flight failure, once you have entered the NAT system you may proceed with the flight informing ATC that you are now “unable RVSM”.

3.8.5 Oceanic Clearance

3.8.5.1 The pilot should attempt to obtain Oceanic clearance at least 40 minutes before reaching oceanic entry point.

3.8.5.2 If the aircraft is unable to meet RVSM or MNPS due to an equipment failure the pilot should inform the OCA

3.8.5.3 Altitudes and wind speeds. You should be aware of quick conversion factors that may be required to provide conversion of flight levels and wind speeds.

3.8.6 Position Reports

3.8.6.1 Position reports shall we given as required and in the required format.

Note: The position report format is contained in the OPS02 Transatlantic Procedures guide.

3.9 Diversion Requirements

3.9.1.1 All flights should have an appointed destination diversion airport in case it is not possible to land at the planned destination aerodrome.

3.9.1.2 Where there is a reasonable chance that the origin airport has enough visibility to take off in, but not enough visibility to land in then an appointed origin alternate aerodrome should be appointed. This will be used in the event a problem occurs after take off and it is not possible, due to visibility below crew minima to return to the origin airport.

3.9.1.3 An origin alternate need not be established if it is considered the origin airport will be in VMC or has the required visibility minima to return to in the event of an emergency.

3.9.1.4 If during the conduct of a flight, engine failure(s) occur which reduce the number of available engines to 50% or less of the total engines available; a diversion should be made to a suitable diversion airfield.

3.9.1.5 If a failure occurs that means the flight cannot be conducted safely to the appointed destination airfield, a diversion should be made to a suitable diversion airfield.

3.9.1.6 When the aircraft is operating a considerable distance from a diversion airfield (e.g. in over sea operations) the flight crew should plan in advance the available diversion airfields (ensuring they are suitable) before commencement of the flight. This should include planning of maximum distances from navigation points on the flight plan.

3.9.1.7 For non transatlantic routes, en route diversion airfields need not be specified but the aircraft command should have in mind at all points along the route places where the aircraft could divert to if required.

3.9.1.8 The chosen diversion airfield should be (in priority order)

- Of a suitable length to safely to safely accommodate the aircraft.
- Have the availability of suitable emergency equipment in order to deal with any emergencies that occur. This should take into account the number of passengers on board the aircraft.

3.9.2 ETOPS Diversions

3.9.2.1 For aircraft operating under ETOPS on transatlantic routes, cruise alternates should be provide that are no more than the specified ETOPS threshold time at any point along the flight. This means at no time should the aircraft be greater than the ETOPS threshold time away from a diversion airfield.

3.9.2.2 ETOPS alternates should be both suitable in terms of runway length etc to accommodate the aircraft in addition to being adequate. These means:

- Predicted weather consummate to crew experience levels.
- Have sufficient facilities in order to process or house passengers if the flight cannot continue.
- Have adequate and available emergency services.

3.10 Aircraft Fuel

3.10.1 Fuel Requirements

3.10.1.1 Adequate fuel must be carried to meet all of the fuelling requirements defined in “Fuel Definitions”.

3.10.1.2 Excessive “Extra Fuel” should not be carried unless this action can be justified by the aircraft commander.

3.10.1.3 It is a legal requirement that the commander of a jet powered aircraft carries a Final Reserve fuel of minimum 30 minutes holding fuel calculated at 1500ft in standard conditions.

3.10.1.4 No company aircraft will land with below the minimum landing fuel in its tanks. This is specified as follows:

Aircraft	Minimum landing fuel
A320	2000kgs
A321	2000kgs
B733	2000kgs
B738	2000kgs
B752	3000kgs
B763	3000kgs
B744	11000kgs
A332	6615kgs

3.10.2 Fuel Position

3.10.2.1 Fuel should always be loaded into wing tanks first and then into centre tanks. This helps oppose wing bending loads in flight.

3.10.3 Fuel Tankering

The company permits fuel tinkering under the following regulations:

3.10.3.1 The fuel carried is for the purpose of

- Obtaining fuel at a more cost effective price at a non base airport.
- Due to FTS limitations, when performing off base training the fuel is required for the safe transit of the aircraft to the off base location to perform circuits (and/or other training) and return to the airport of origin. In this scenario FTS will count your first landing as the completion of your flight and this you may be issued a fuel penalty. It is therefore acceptable to tanker fuel to avoid this penalty.

3.10.3.2 Fuel tankering should not be performed when

- The cost of fuel at the airport of purchase is not cheaper than at a base airport.
- The cost of carriage of this fuel makes the tankering of fuel economically unviable.
- There is no operational or FTS requirement for this action.

3.10.3.3 Any fuel tankered can only be accounted for when the flight is formally dispatched using the Thomson Virtual dispatch centre and is therefore available for FTS assessment at the end of your flight.

3.10.3.4 Tankered fuel may not under any circumstances be used as part of any trip, contingency or reserve fuel. This is illegal under accordance of JAR OPS 1.

3.11 Mass and Balance Procedure

3.11.1 The commander of the aircraft should ensure that the aircraft is not dispatched above any of the pre-determined weight limits.

3.12 Charts / AIP

3.12.1.1 Charts should be studied in great detail before and during any flight. Without charts, it is very difficult to follow defined procedures such as Standard Instrument Departures and creates extra workload for Air Traffic Controllers.

3.12.1.2 Charts are available from the Thomson Virtual 'Chart Library' or from the VATSIM chartfinder.

3.13 Meteorological Conditions

Note: It is a legal requirement for the captain of any aircraft to have checked the weather before he or she leaves visual range of the departure airfield. With this in mind the Flight Operations Manual sets out recommendations for checking weather conditions at both the origin and destination airports before flight.

3.13.1 On departure consideration must be made to the following factors when determining how much fuel should be carried.

- Conditions at the destination and alternate airports that may necessitate more than one attempted approach or diversion.
- In addition to the above you should consider that if there is bad weather at the destination holding may be required before your final approach and then it may be necessary to divert or try another approach.
- En route winds. Particularly over Atlantic routes where the Jet Streams can affect operations.

3.13.2 In the en-route phase of flight, METAR / TAF information should be obtained for destination and alternate airports to gauge arrival conditions.

3.13.3 When within range of ATIS service for destination airport this should be checked for actual weather conditions.

Recommendation – It is more than acceptable to use the company frequency (e.g. private messaging in Squawk Box!) to ask company pilots about weather conditions if you are heading where they have been. The virtual airline would recommend all pilots to do this where possible. Of course, try not to bother other pilots when they are in critical phases of flight such as take off and landing!

Recommendation – Proper flight planning begins in the crew room before the flight. This is the time when consideration should be made to the en-route and destination weather conditions. If in doubt don't take the flight!

3.14 Cruising Levels

3.14.1.1 All aircraft will be operated at appropriate IFR cruising rules from the table below:

Hdg (M)	Level
Non RVSM Airspace	
000° to 179°	FL50, FL70, FL90 → FL290 then FL330 FL370 FL410
180° to 359°	FL40, FL60, FL80 … FL280 then FL310 FL350 FL390
RVSM Airspace	
000° to 179°	FL50, FL70, FL90 → FL290 then FL310 FL330 FL350 ↓ FL410 FL450 FL490
180° to 359°	FL40, FL60, FL80 → FL280 then

	FL300 FL320 FL340 ↓ FL400 FL430 FL470

Note: Most European airspace is RVSM. This stands for Reduced Vertical Separation Minima and is used to maximise the airspace available.

Note: Due to altimeter inaccuracies above FL410 converging traffic must have a clearance of 2000ft between each level.

Note: In domestic airspace, RVSM levels are FL300 to FL410. FL290 is not an RVSM level. In Oceanic airspace, the RVSM levels are FL290 to FL410. Here FL 290 is an RVSM level.

3.14.2 You can only operate in RVSM airspace with the following equipment serviceable

- Two independent pressure indicating altimeters. On company aircraft the two EFIS altimeter systems must be operational.
- A Flight Level indicating transponder. On company aircraft this is your transponder set to mode ‘C’.
- An altitude alerting system that activates when the aircraft deviates from selected altitude.
- An altitude hold system.

3.14.3 If the above criteria cannot be met due to an en-route failure, you should inform ATC that you are “RVSM unable”.

3.14.4 If any of the above specified equipment fails prior to take off, the flight can still go ahead providing the aircraft has suitable remaining equipment to safely continue the flight, but ATC must be informed that you are “RVSM unable”.

4 Part D - Training

4.1 Training Requirements

All pilots joining Thomson Virtual are required to pass a stringent entrance examination to ensure that they have the basic knowledge to operate an aircraft both offline and in VATSIM. From that point our operations differ slightly from real world airline operations.

Due to our virtual operation we do not insist that pilots have regular checks as they would in a real airline. However we require our pilots to operate at a high standard, consummate to their skill level at all times. This may mean that training is required to improve the pilots skills.

Therefore we operate various methods of training. These are described I the next sections.

4.1.1 Voluntary Training

The pilot will request training when he or she feels that it is warranted to increase there skill level. In this case the pilot can use the training system (discussed below) to book training with our training department.

4.1.2 Targeted Training

The training department will monitor pilots over time and recommend training to pilots based on what we feel are their weak areas. There is no effect on future promotions and no restrictions will be placed on the pilots operations.

4.1.3 Accreditation Training

This is training offered as part of a course to accredit the pilot with a new qualification.

4.1.4 Compulsory Training

We may request on occasion that a pilot undergoes training if a deficiency has been noted in his or her flying abilities.

If the training is not carried out within a reasonable timeframe restrictions may be placed on the pilots operations. In severe cases, HR may be notified in order to discuss the pilots future career options at the airline.

Note: This would only happen if the training department deemed the pilot was a serious safety risk and posed a threat to passengers, crew or aircraft.

4.2 Types of Training Offered

Generally, it's up to you as the pilot what kind of training you need and require for making you a better pilot. Below is a list of all the training we offer. If anything is not mentioned then you can request it as required.

- Aircraft Systems (B737, B757, B767, A320, A321,B744, A332),
- North Atlantic procedures,
- FMC's
- ATC procedures
- Vatsim
- Meteorology
- Navigation
- Human factors
- Flight planning
- Principles of flight
- Flight Tracking System (FTS)
- Aircraft general knowledge
- Emergencies

4.3 Training System

The training system is used by booking sessions on the training calendar in the available dates.

You must enter what kind of training you require along with the aircraft and training you require to undergo. On the day and time of the session you and the instructor will meet on the Thomson virtual team speak server in the training room.

Typically sessions have no time limit even though it normally says it is one hour. The session will last as long as needed provided another pilot is not waiting for training.

4.4 Training Flights

4.4.1 All training flights will be flown using a flight number with a “T” suffix to indicate training.

4.5 Contact

If you require assistance or advice please get in touch by emailing Andy Keeney (Training Manager) at andy.keeney@thomsonvirtual.co.uk