The

VFR Club

BASIC RADIO PROCEDURE

For

CIX VFR P1 PILOTS

A SHORT PRACTICAL COURSE

NOT TO BE USED FOR REAL WORLD AVIATION

Version 6.10
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INTRODUCTION

Talking to Air Traffic Control (ATC) either on VATSIM or in the Real World, is one of the most daunting exercises the new pilot faces. However, with only a small amount of practice, it becomes almost second nature.

This document provides a simple explanation of the basic ATC dialogue required on VATSIM for VFR online operations, needed to complete the CIX (virtual) Radio Procedure course successfully. It doesn't look simple, as you scan down the document, but with the help of the Club's R/T Specialists, it will actually become simple with practice. Three or four flights out of, and back into the same aerodrome with an experienced controller online, and it will become quite familiar. Then you will have the confidence to fly further afield and talk to ATC.

The Course has been designed to help you self-study and practice radio procedures and calls.

Parts 1 and 2 are the calls you will need for your CIX P1 and P2 Flight Tests with the Club.

Note: If you wish to print this document, please ensure printer is set to landscape mode and selected to print colour.

HOW THIS MANUAL SHOULD BE USED

NOTE: The test for the full licence and the P2 RT qualification are 'non flying' desk exercises.

A table is used within the exercises to illustrate who will be talking; a column for the pilot and the controller dialogue and a column for explanatory notes.

YOUR TRANSMISSIONS	THE CONTROLLER'S TRANSMISSION	NOTES, COMMENTS, QUESTIONS Etc.

Only those calls 'essential' for your P1 flight test are included. There are many other situations which require dialogue with ATC, but these are dealt with in the P2 and higher ratings.

Abbreviations used; **IFR** = INSTRUMENT FLIGHT RULES (ALWAYS UNDER FULL ATC CONTROL)

A/C = AIRCRAFT **A/D** = AERODROME/AIRFIELD **VFR** = VISUAL FLIGHT RULES **nm** = NAUTICAL MILES

kts = KNOTS (NAUTICAL MILES PER HOUR) **ATIS** = AERODROME TRAFFIC INFORMATION SERVICE

TX = TRANSMISSION **RX** = RECIEVE(ING) **WX** = WEATHER **GND** = GROUND CONTROLLER

TWR = TOWER CONTROLLER **APP** = APPROACH CONTROLLER **DME** = DISTANCE MEASURING EQUIPEMENT

Part 1

BASIC RADIO PROCEDURE

For

CIX VFR P1 PILOTS

The included exercises/examples in Part 1 are the calls which may be required during your P1 Flight Test. irrespective of the airport where it takes place.

For your Flight Test, it is up to you to familiarise yourself beforehand with the local area, its navigational facilities and any special requirements for flight in that area.

The P1 RT test is practical, it will be part of a flight undertaken by you, on line, with the examiner acting as Tower Controller at your 'home' airport.

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1. THE BASICS OF VOICE PROCEDURE

1.1 GENERAL NOTES AND RULES Some important Dos and Don'ts.

1.1.1 EQUIPMENT

Make sure you have selected and tested your "Press-to-Talk" (PTT or Transmit) key. Select a key which does not auto-repeat. Most character keys auto-repeat, which causes a series of characters to be entered in the text box and transmitted if the return key is pressed. Recommended keys are Left or Right Control (depending on which hand you need on your Yoke or Joystick).

Prior to flying, get a voice check with a Club member or Instructor, or you may find the Controller using Text because he cannot understand you! Check that the selected key will not stick; that you are NOT using voice activation and that your microphone is NOT directly in front of your mouth. Slightly to one side and below is best, (unless you are using a headset so designed (at least £250.00).

1.1.2 CALLSIGNS

On first contact **both Pilot and Ctlr MUST use their FULL CALLSIGN.**

"**Shoreham TOWER, G-GATC, request Radio Check.**" "**G-GATC, Shoreham TOWER, readability five**."

AFTER first contact, the Controller **MAY** shorten your callsign. He will do so, if he can, unless it causes confusion with other traffic, perhaps with a very similar callsign.

NEVER SHORTEN YOUR CALLSIGN FIRST. **ALWAYS USE THE 'VERSION' OF YOUR CALLSIGN THAT THE CONTROLLER USES.**

1.1.3 EVERY TRANSMISSION

EVERY PILOT TRANSMISSION should include the 'callers' callsign. When making the **INITIAL CALL of a conversation** state the station being called, followed by your own callsign, the person **RESPONDING** does the same. **After** the initial call, **THE PILOT ends** his transmission with **his callsign,** whilst the **CONTROLLER will start** his transmission with **the pilot's callsign**. Occasionally, the pilot may start his transmission with his callsign, this usually occurs naturally in the context of the message. The examples below illustrate this, if you are confused.

Also note that an A/C engaged in a particular procedure (transiting a zone; approach to land; circuits; taxiing.) Unless either party needs to vary the expected procedure, only the A/C callsign will be used after the initial contact and response. (one controller, many A/C.)

During an extended converse with a single A/C, the controller will occasionally use his callsign.

This is a legal requirement for all radio operators.

1.1.4 Pilot's Initial Call

The Pilot's initial call **MUST INCLUDE THE TYPE OF 'SERVICE' REQUIRED, BOTH IN THE AIR AND ON THE GROUND**.

Examples; "**Biggin Tower, G-GATC, request; start/taxi for fuel/circuits** or **clearance for local flight to..** or **departure clearance to.(FIS).**

(in the air) Thames Radar, G-GATC, request; Flight Information (or other ATS) service or **join** or **zone transit** or **land/full stop**.

If the controller has the informationhe needs about your flight, he will give you your EN-ROUTE instruction, else you will hear.-

"G-GATC, Thames Radar, pass your message".

You then continue with your details (CEPHACER) and requested service.

The Controller will confirm the service provided after receiving your details.

This format applies, whatever you want to do, whether on the ground or, in the air, as explained in the following pages.

1.1.5 Shorthand Calls: - ROGER and WILCO

There are two shorthand calls which need to be carefully understood. **ROGER** and **WILCO**. Everyone has heard of **ROGER**, he features in any film which includes sequences in an aircraft. This is why its use is so often misunderstood.

ROGER means "I have heard what you say and acknowledge that I have heard you". **It means nothing more**.

It is not an appropriate reply to an instruction or clearance.

On the other hand, **WILCO** is short for "**I will comply** (with that request/instruction.)".

It **CAN BE** an appropriate reply to an instruction, **BUT NOT CLEARANCES & certain instructions**. (see list in 2.3 below)

1.1.6 Connecting to VATSIM

ALWAYS REMEMBER: - A BASIC VATSIM RULE is; NEVER CONNECT TO VATSIM WITH YOUR AIRCRAFT AT THE THRESHOLD OR ON THE ACTIVE RUNWAY of your selected airport. It is the easiest way to receive a VERY short, sharp message from the controller. "**MOVE or DISCONNECT please**". Failure to do either, quickly, could gain you an 'interview' with a VATSIM SUPERVISOR.

The FSX FLIGHT PLAN PROGRAMME WILL start up with your aircraft on the active runway if you aren't very careful in selecting the correct options during FSX start-up, so make sure you know how to connect where YOU want to be, not where FSX would like to be.

1.1.7 Keep Up-to-Date

Real World (RW) UK Air Traffic Services are being 'harmonised' to a common European-wide set of procedures/phraseology. Vatsim always tries to 'keep up' with RW procedures, so keep an eye on the Club forum and do your best to stay 'up-to-date'. BUT, as you will learn later, if you cannot remember the EXACT phrase, make sure that what you say is clear and means the same thing.

1.2 Fly the Aircraft!

One of the hundreds of aviation "Sayings" is '**AVIATE: NAVIGATE: COMMUNICATE**.'

AVIATE: - Fly the aircraft first and foremost. Maintain airspeed, heading and altitude.

NAVIGATE: -Make sure you know where you are and where you are going,

COMMUNICATE: - THEN talk to a controller.

This is especially important for the P1 student who will be still learning how to **Aviate, Navigate** and **Communicate**, at the same time!

IT IS UP TO THE VFR PILOT TO INFORM THE CONTROLLER OF ANY DEVELOPING PROBLEM AFFECTING HIS FLIGHT/FLIGHT PLAN, ESPECIALLY IF IT MEANS HE CANNOT CARRY OUT THE CONTROLLER'S INSTRUCTIONS.

1.3 Setting the Transponder ALWAYS switch to standby BRFORE changing a Squawk code.

The standard "Conspicuity Code" in the UK is 7000 and 1200(VFR) in most other parts of the world. With the Transponder set to 7000, an aircraft can be seen on a Radar screen with **NO INFORMATION**, indicating to the Controller "I am here WHOEVER or WHATEVER I am". That is all. To be 'seen' - to show your A/C and flight details, **YOU MUST**, when flying on VATSIM, also set your transponder to Mode C, which transmits your A/C information to the 'Radar receiver'. It is commonly referred to as "Mode Charlie"

ON VATSIM, squawking **Mode Charlie**, is another **BASIC VATSIM RULE**. Filing a VALID flight plan is not mandatory in UNCONTROLLED Airspace. But IS required for flight IN CONTROLLED Airspace. Because**, Unless you file a valid flight plan** and **Squawk "Mode Charlie"** the controllers cannot see any details about you, or see your flight plan on their screens. This spoils everyone's enjoyment of the hobby.

REMEMBER: If not given a squawk code, when VFR, set 7000 in the UK and Europe, 1200 almost everywhere else, AT THE HOLD, BEFORE YOU ENTER THE RUNWAY, but not before, CHECK that you are squawking Mode Charlie.

Except at a very complex airfield like Heathrow, Kennedy etc. Where a ground controller will NEED to be able to track every A/C moving around the taxiways..

If asked to “Squawk IDENT” hit the Ident key on the A/C transponder module or, **if using FSInn, CLICK the ‘C’ TWICE**,(mode Charlie indicator, top right INN control panel) – It will change to ‘I’ for a few seconds. The CONTROLLER will see your A/C displayed with a ring around it.

Another VERY important **VATSIM** rule is **NEVER ALLOW YOUR TRANSPONDER to send 7500.** More on this later

2. CONTROLLER COMMUNICATIONS

The controller will pass **CLEARANCES, INSTRUCTIONS, INFORMATION** and **ADVICE – (**ESPECIALLY ON VATSIM**)**

2.1 Valuable Tip

WRITE DOWN all Clearances and Instructions. It makes it MUCH easier to read them back! Try to develop your own 'shorthand' – it will help you to make sure you have received all of the information correctly and will make reading it back in the right order much easier. Also, once you understand the procedures you will be able to predict much of the information.

2.2 Clearances

CLEARANCES; (**always includes the word CLEARANCE OR CLEARED**),

Requires **STRICT COMPLIANCE** and must be repeated word for word as issued (**'readback') if possible,** but always complete (**all of it**). Controllers will normally use your full callsign when giving a clearance; it is good practice for you to do the same when reading back clearances.

2.3 Instructions

INSTRUCTIONS (and **Clearances**) **MUST** be followed **UNLESS** you believe it will put your aircraft in danger.

The following instructions should **ALWAYS BE READ-BACK IN FULL**;

TAXI INSTRUCTIONS; ALTITUDES and FLIGHT LEVELS; HEADINGS; SPEED; RUNWAY-IN-USE ; ALL HOLDS; ALTIMETER (PRESSURE) SETTINGS; TYPES OF SERVICE; (TRANSITION LEVELS.).

Although not obligatory, a good idea to **always** readback the instruction following your 'downwind' call

IF YOU do not understand or agree with any clearance or instruction, ASK FOR A REPEAT or CLARIFICATION; AT ONCE.

If, for some reason, you are unable to readback immediately, or the instruction is very short and clear and not in the list above, acknowledge with 'WILCO' then clarify, with reason for delay if relevant.

REMEMBER: Incorrect read-back is not a crime. It happens. The Controller will satisfy himself that you understand what he wants you to do.

2.4 Information

INFORMATION (including TRAFFIC INFORMATION) Should **NOT** be read back, but can be acknowledged (an appropriate use of "Roger", perhaps). It is detail that the Controller needs to make sure you have because it could affect your flight IMMEDIATELY, (or later). In some cases it will be useful for the Controller to know you have heard and understand the information passed, in which case acknowledge receipt. E.g. "**G-TC, Runway 27, clear to land, surface wind 360 degrees; 12 knots**",

"**Runway 27, clear to land, have the winds, G-TC**". ("Roger the winds" never sounds quite right, though!).

[Question: Why will the controller be 'happy' with the above and what are the legal aspects?]

The controller will always welcome (brief) acknowledgment of Traffic information. Plus any relevant action by you.

E.g. "**G-TC, traffic is a fast jet in your 11 o'clock range 4 miles, reporting 5,000ft level**", "**G-TC copy the traffic, looking**" or similarly "**G-TC has the fast jet (in my 10 O'clock high)"**

2.5 Advice

Is the VATSIM controller trying to help you? It is up to you what you do about it!

Often this will be in the form of a private text message, so be alert to private messages on your Pilot Client software.

2.6 ALWAYS REMEMBER.

The most important part of aviation radio telephony, is to understand the procedures. What happens next (what do I want to do). What information is needed by whom, from whom. Anticipate, be aware of what/who is happening around you and listen. The phraseology will come with practice. Just make sure that what you say, is short, clear and means what you intended to say.

3. THE INITIAL CALL

The initial call to a new Controller should contain (**AT LEAST**) the information necessary to tell the Controller the service required/requested. It is most commonly a request.

3.1 Departure - Talking to Tower or Ground.

State the Clearance or Information required (for joining/departing/moving on the ground)

"**Shoreham Tower, G-GATC request taxi (for) local flight**" [Question; what is incorrect (RW),but informative with this call on VATSIM?]

Sometimes, unless the Ground or Tower Controller is VERY busy (or it is local practice) the minimum first call is not required, and the Ground or Tower controller will not need to say 'Pass your message.' which would require two transmissions. (for example)

NOT "**SHOREHAM-TOWER, G-GATC request clearance, for departure to Southend**", "**G-GATC, Shoreham Tower, pass your message**"
BUT "**SHOREHAM_TOWER, G-GATC, C172 at tower parking, 1 POB, with information Alpha, request clearance for departure to Southend, VFR**"
OR "**SHOREHAM_TOWER, G-GATC, C172 at tower parking, Information Alpha, request clearance instructions for local flight to the west, VFR"**

The controller will then give you your clearance instructions, and if you will be taking off into Class D airspace, your after departure clearance at the runway.
Remember, on VATSIM flights 'away' (out of the ATZ) – OBTAIN CLEARANCE BEFORE MOVING.

3.2 Airborne en Route

"**Thames Radar, G-GATC (Request) Flight Information Service** "or "**Shoreham Approach, G-GATC request Zone Transit (North to South)**"

In EACH case the Controller will reply with the **FULL CALLSIGN** and EITHER "**Pass your Message**" or the clearance requested (if handed over from another Controller).
The Controller will confirm the service provided with his en-route instruction. You will re-confirm with your read back.

3.3 Inbound to an Airfield

"**Shoreham Tower, G-GATC, request join**" NOTE: "**Request Join**" Means "I request to join/enter your ATZ **TO LAND**"

The Controller will reply with the **FULL CALLSIGN** and EITHER "**Pass your Message**" or the joining instructions for the airfield (if handed over from another Controller). **MAKE SURE YOU ALLOW ENOUGH TIME/DISTANCE FOR THIS**. NB If calling in at more than 4-5nm, you will probably be ADVISED of your PROBABLE join. You are well outside his AIRSPACE (ATZ) - He cannot give you an instruction.

DO NOT ENTER A CONTROLLED ZONE WITHOUT AUTHORITY (Except class E - see p2 RT document)

4. POSITION REPORTS - If you have, do, or are likely to fly real world, use this version and inform your Flight Instructor.

This is used for initial en route communication and is **one of the few procedures you should try to strictly follow**.

Same 'rules' apply in bothe versions.

It should almost be a learned speech, confident, clear and in the correct order with no 'ers' or 'ums'!

It comprises **5** elements, **in a set order**;

1. A/C ID (callsign and type);
2. Position (can be geographic and/or radio-nav, heading);
3. Time (departure or position or not said, whichever is more relevant);
4. Level (state Height/Altitude(+QNH)/Flight Level);
5. Next position (waypoint/feature/VRP/Navaid) and **ETA**

"**G-GATC, (is a) C172, from/out of Biggin (at 15) to Shoreham (VFR), O/H Sevenoaks, Alt. 2300' (on) 1008 QNH, (Inbound) Mayfield at 35**"

This, in a slightly different format, is the mnemonic - CARPAR. The version used by VATSIM Pilot training, now adopted by CIX VFR CLUB.

4.1 **CARPAR. C**allsign; **A**ircraft type; **R**oute - From to/passing/via - whichever is most relevant; **A**ltitude - Height/ altitude (inc QNH set)/ Flight level; service **R**equest - what service you would like.

4.1a First Call. "Shoreham Tower, G-GATC, Request Join" - Controller callsign; your callsign; the service you require; Join = 'I wish to enter your zone to land at your Airfield.'

4.1b If the controller needs to know more. "G-GATC Shoreham Tower, Pass message"
"G-GATC, C172 Inbound from Mayfield, Request straight in Runway 21. (with information B)"

VFR this should be enough, if not, the controller will ask for what he needs.
"G-TC expect straight in, report Runway 21 5DME2, Alt 2000ft."
"Expect straight in 21,to report 5DME G-TC"

4.2 **REMEMBER**. This is what **YOU** would like to do. The Controller will now tell you what **HE NEEDS you to do**, an **INSTRUCTION**.

4.3 NOTE. During your Flight Training, you will be expected to use the Full Format, as above. However, when flying normally, try NOT to tell the controller something he already knows. ALSO, If the frequency is busy, just let him know you are there " G-GGATC, inbound Biggin VFR" Then when he has time to listen to YOU, " G-GGATC, Pass Message"

4.4 A 'controller friendly' VFR flight plan will contain ONLY your main turning points(navaids/airfields/published VRPs), plus any extra bits (following M6) to describe your general route. That will mean your Flight plan is short and easy to read and check that that is what you are doing.

5. VACATING THE RUNWAY.

If Taxi instructions are not issued BEFORE you vacate the runway; VACATE, STOP & WAIT AT/AFTER THE HOLD

When you land on a runway, the Controller may have a number of situations requiring you to follow his instructions for leaving the Active runway. Below are some typical examples and the calls that should be made.

5.1 No other Traffic in the Vicinity

"G-TC vacate at Charlie (and taxi to the GA Apron via taxiway alpha.)"

"Vacate (at) Charlie (and taxi to (the) GA Apron via alpha, G-TC)"

This instruction would only be given **AFTER** the aircraft has landed and with taxiway/hold Charlie a safe distance ahead of the aircraft.
Sharp turns at speed can tip the aircraft over, and the controller will be well aware of this and so should you.
Then, after entering the taxiway: - Not required, unless instructed, but good practice, if it will help the controller.

"Runway vacated G-TC"

5.2 Another A/C Close Behind

The Controller asks you to "Land Long" because G-BAGA is on approach behind you.

"**G-TC runway 27, cleared to land, surface wind is calm, land long to vacate Bravo"**

"G-TC runway 27 cleared to land, (landing) long to vacate Bravo"

"G-GA Continue approach, expect to vacate Delta"

This **can only be done on a runway at least twice the average landing run of both A/C concerned**, with exits that enable the runway to be 'divided in two'. This would include most Regional Airports, but excludes most small G.A. Airfields.

G-BAGA will **NOT** get a landing clearance until **G-GATC** is on the runway and beyond Charlie (EGLC).
You may be asked to '**taxi best safe speed to vacate Bravo**", after you land.
The second A/C **CANNOT be given clearance to land, until you are beyond his exit**.
I would take that to mean there could be a problem behind you, so get out of the way, as requested!
–ONCE on the runway, go to best (**SAFE**) taxi speed anyway (he could miss his exit)**.**

5.3 A Request to Leave the Runway at a Specific Turn Off

There could be many reasons why the Controller needs you to vacate at a particular exit onto the taxiway. **It is an instruction.**

5.3.1 **"G-TC runway 27, Clear to land, vacate Charlie (if able)". If able** means, IF you can, I NEED you to vacate Charlie,

BUT if it isn't safe, or possible, **then clearly you do not** (If not possible, say so, and why).

"G-TC runway 27, clear to land, to vacate Charlie"

5.3.2 If you are the second aircraft in a "Land long" situation, and you go past Charlie, you will have an aircraft ahead, **on the runway**. You had warning, your problem, **but do tell ATC!**

"**G-TC, (Missed C), request B, have the traffic ahead, my separation**".

5.3.3 **Question**; You will need a conditional vacation instruction, will it be

"**G-TC. Behind the A/C ahead, vacate B, behind**" or "**G-TC. After the A/C ahead vacate B**"

5.3.4 You may get a call which means get off the runway as soon as you can.

"**G-TC Vacate runway when able**" or "**G-TC Vacate next LEFT**"

or an implied " I will be busy – I may not be watching you." type of instruction.

"**G-TC Vacate runway when able and report vacated**"

5.3.5 If NOT asked to report vacated, good practice to do so anyway WITH A SHORT report. - Unless the controller is very busy.

"**G-TC vacated (the active/27)"**

5.3.6 If YOU want to vacate via a specific exit (to shorten your taxi route), make sure you are capable of doing so, and **ASK**.

"**G-TC runway 27, cleared to land"**

"G-TC runway 27, cleared to land, request vacate E"

"G-TC vacate E approved, (report vacated)" "Echo approved/(to) vacate E (report vacated) GTC"

or not, as the case may be. **"G-TC negative. Vacate at Foxtrot (and report vacated)"**
Do NOT forget, If you cannot comply with an instruction, say so ASAP, with (a short) reason why. – On the ground or in the air.

5.4 'BASHING THE CIRCUIT' / 'CIRCUITS AND BUMPS' / 'TOUCH AND GOES' (T&GS)

These are all terms used to describe a continuous flight in the circuit. Below are some notes to remember.

5.4.1 YOUR DEPARTURE CLEARANCE.

Because you are not departing from the circuit / ATZ/going away from the Airfield, you do not require one. When you report "**Ready to depart**" **AT THE RUNWAY HOLD,** You will be given any '**AFTER departure clearance**'
Note that the controller will normally pass your Circuit (after departure) clearance and then your take off clearance separately, unless he knows you can deal with them both at the same time.

5.4.2 THE DOWNWIND CALL.

For your first circuit, when you report 'Downwind', the controller will reply

"**Report final, Runway XX, touch and go**".

Once he is happy that you know what you are doing, he will reply (as normal) –especially if busy,

"**Report final runway XX**".

5.4.3 BE AWARE of the intended actions of OTHER A/C – ESPECIALLY the one(s) AHEAD of you.

If required, the controller can have a number of A/C 'doing circuits' at the same time, (I am OK with 3-4 A/C at Shoreham, as long as I do not have too many arrivals/departures). In that situation you may have a spacing of 1.5 – 2.5nm downwind, **FINE if the A/C ahead is also T&G**, but if he calls '**To land**' **CHECK YOUR SEPARATION**.
The controller **CANNOT clear you to Touch and Go UNTIL the landing A/C is off (or clearing) the runway.**

5.4.4 WHEN YOU HAVE HAD ENOUGH.

Once you have started T&Gs, **UNLESS** you requested a **SPECIFIC NUMBER** of circuits, the controller will assume your next final approach is another T&G **UNTIL YOU TELL HIM OTHERWISE**. You should call **to land**, **on your last downwind leg**,

"**GTC, Downwind request/to land/full stop**".

YOU should ONLY change your mind on final if it is VERY urgent, see 5.4.3 above.

5.4.5 APPROACHING YOUR DESTINATION, you decide you want to 'bash a few circuits' before you land.

IF THE A/F has a lot of traffic, **CALL EARLY** with your request, gives the controller more time to make room for you.

"**Shoreham Tower G-GATC 12miles inbound from the north request join and circuits**".

If not a problem he will reply,

"**G-GATC, Shoreham tower, continue inbound, expect straight in approach runway 20, report 5 dme SQWK 3763**."

This means **WHEN you report at 5dme** you should be **ON THE CENTRE-LINE, 20**. He may tell you circuits approved or not. If as above, you can assume you will be able to do circuits (or he is leaving his decision until you call in at 5dme, due current traffic).

5.4.6 The ZONE (ATZ/CTA/CTR) ENTRY CALL

When you reach 5dme (or **AS ADVISED**), Do not forget, you were asked to "**Report 5dme**", **THAT IS WHAT (and ALL)** you need to do.
"(Shoreham Tower) 5dme GTC". (unless your circuits have already 'been approved')

"**GTC Report final 20, Circuits approved**". Great, it's fun time. **BUT.**

5.4.7 The AIRBORNE CIRCUIT CLEARANCE.

If your request for circuits was made **WHILST AIRBOURNE** (inbound to land),
BE AWARE. The controller IS REQUIRED TO PASS YOUR CIRCUIT CLEARANCE AFTER YOU REPORT 'ON FINAL' –
SO ALLOW TIME and SPACE for the following (I would recommend calling final at 3-4nm)

"**GTC Final runway 20, T&G**",

"**GTC After departure, left hand circuits VFR, circuit altitude 1100ft QNH 1015. Runway 20 Clear touch and go**".
An instruction and a clearance, both **MUST be read-back**.

"**Left hand circuits VFR, 1100ft QNH/on 1015, runway 20 clear touch and go, GTC**".

NOTE that the readback is not word perfect, **BUT** the essential information is there, (If not, the controller will correct, which will probably mean a 'go-around').

The secret of good circuits is, know what is going on, keep the controller informed, fly the A/C, learn & enjoy.

6 ON THE GROUND/MOVING AROUND THE A/D

6.1 THE INITIAL CALL

If you have a new system or your equipment is temperamental it is a good idea to start with a radio check. It should NOT be regarded as your INITIAL CALL. (WHY?) – RW you would do this anyway, unless this is NOT YOUR first trip of the day in this A/C.

NOTE. On VATSIM Controllers work a "Top down" arrangement. If no Tower Controller is on line; the next controller above, e.g. Approach, will issue Tower instructions as if he were a Tower controller. **He will use his own callsign (APPROACH) not TOWER**.

	Aircraft	Controller	Notes
a	**GLOUCESTER TOWER, G-GATC RADIO CHECK - (No ground position)**	**G-GATC, GLOUCESTER TOWER, READABILITY, 5, slight echo**	5=Perfectly readable; 4=Readable; 3=readable with difficulty; 2=readable now and then; 1=unreadable. Conditional report may be added. Distorted, Hum etc
b	**G-GATC readability 5 also. Remember, this is how YOU HEAR HIM.**		
c	**G-GATC. C172 at CIX parking, with Alpha, REQUEST TAXI for local flight to the south**	**G-GATC clear to leave the zone to the south, VFR Squawk 7073, remain clear of controlled airspace**	Controller will usually use your full callsign for a departure clearance. You may be given a code assigned by your next controller. Why?
d	**Clear to leave the zone to the south, VFR Squawk 7073, remain clear of controlled airspace G-GATC**	**G-TC READBACK CORRECT, TAXI HOLD ECHO 1, RUNWAY 22, VIA Taxiways ALPHA & ECHO. REPORT (AT THE) HOLD (ECHO ONE).**	WE HAVE BEEN TOLD WHERE TO GO, AND HOW TO GET THERE; An instruction; Read it back.
e	**TAXI (and) report, (HOLD) ECHO 1, RUNWAY 22 VIA ALPHA & ECHO G-TC**	**Other possible Controller taxi instructions, below**	

Possible Controller (en-route) TAXI Instructions

HOLD	=	**STOP AT THE HOLD POINT.**
HOLD SHORT	=	**STOP BEFORE AN IDENTIFIABLE POSITION. If for another aircraft, your responsibility to leave enough space.**
HOLD POSITION	=	**STOP NOW, WHERE YOU ARE! IF NOT MOVING, DON'T!**
REPORT AT HOLD ECHO ONE	=	**TELL ME WHEN YOU ARE THERE**
STOP, STOP	=	**EMERGENCY STOP IMMEDIATE!**

Do not forget, If, during taxi you are told to stop/hold. DO NOT MOVE AGAIN WITHOUT PERMISSION.

6.2 START-UP

Before even starting the engine, you need to know; The active runway; Any route restrictions; The circuit altitude/height; in other words - **The ATIS**. NOTE; **CLEARANCE to leave the Airport Traffic Zone, Is given BEFORE YOU MOVE**;

Most light aircraft have a very short battery life, which FSX mimics, unless you enable 'everlasting battery', so, on VATSIM, you will need to start engine(s) **BEFORE** switching on your avionics & radios, unlike commercial heavy aircraft **who must request main engine start**. However, light aircraft MUST request engine start at a few, e.g. Bristol, so be prepared for that possibility. If a start request is required, switch on the battery and avionics, make your "Request Engine Start" call, then switch the avionics and radio off again until you have started the engine.

If you **HAVE TO START UP** straight away, **MAKE IT CLEAR in your FIRST call**. "**G-GATC. STARTED for departure to....**"

6.3 TAXIING OUT

When you are fully ready, move off. Take your time, don't panic, no rush.

Double check that you are fully ready for flight before moving.

	Aircraft	Controller	Notes **Wind 210/07 Q1022**
a	**SHOREHAM TOWER, G-GATC, RADIO CHECK**	**G-GATC, SHOREHAM TOWER, READABILITY 5**	IF YOU ARE NOT HAPPY WITH THIS BIT PLEASE SAY SO – YOU NEED HELP.
b	**SHOREHAM TOWER, G-GATC, (I read you) READABILITY 5 ALSO**		Why do we use full call sign again at 7.3.d? - it is good practice, but why?
c	**SHOREHAM TOWER, G-GATC, C172 AT Tower PARKING, INFORMATION ALPHA, REQUEST TAXI INSTRUCTIONS FOR LOCAL FLIGHT (to the west) (basic service).**	**G-GATC, clear to leave (the zone) to the west, to remain clear of controlled air space, Squawk 3763, basic service.**	As TWR will know we are preparing for a departure, we can pass our 'service request' straight away. (unless he is **very** busy). ATC should only pass 3 pieces of information to the pilot in any one transmission, but this recommendation (it isn't a rule) is widely ignored on VATSIM. It is recommended because it has been demonstrated that pilots can only reliably remember 3 pieces of information while writing them down. So the squawk and/or QNH MIGHT BE transmitted separately.
d	**clear to leave (the zone) to the west, remain clear of controlled airspace, Squawk 3763, (basic service) G-GATC**	**GTC (readback) Correct, TAXI (& REPORT) HOLD KILO 1, RUNWAY 20, VIA TAXIWAY KILO. QNH 1002**	
e	**TAXI TO HOLD KILO1 RUNWAY 20 QNH 1002 G-TC**		

6.3.1 NOTE: In this example (at Shoreham) to get to hold Kilo1 you need to cross the starter extension of runway 26. However, so far, you have been given NO instruction about 'crossing' runway 26. BE SAFE! So when you get there, consider a call in; "G-TC (Kilo 3) to cross /Request cross 26 (Starter)". AND/OR HAVE A GOOD LOOK! REMEMBER, YOU are responsible for the safety of YOUR flight.

6.4 CROSSING AN ACTIVE RUNWAY

The Airport may have more than one runway. To get to the specified hold, you may have to cross one or more of these other runways.
AT ANY AIRPORT, ESPECIALLY DEALING WITH MIXED/GA TRAFFIC, MORE THAN ONE RUNWAY CAN BE IN USE AT THE SAME TIME.
IF GIVEN AN INSTRUCTION concerning a runway crossing, **YOU MUST NOT CROSS** the runway without specific ATC clearance to do so.
If NO SPECIFIC INSTRUCTION, take care, check and check again. (see 6.3.1 above)

6.4.1 CROSSING CLEARANCE REQUIRED:- INITIAL CALL AND CLEARANCE HAVE BEEN COMPLETED

You must stop at the hold for the runway you wish to cross and obtain clearance.

a	**G-TC, REQUEST/READY FOR TAXI.** Make it quite clear if needed	**GTC TAXI HOLD ECHO 1 VIA ALPHA AND ECHO. CALL TO CROSS (RUNWAY) 27**	CONTROLLER WANTS YOU TO **STOP** FOR PERMISSION TO CROSS RNWY 27
b	**TAXI HOLD E1 VIA A AND ECHO, CALL TO CROSS 27, G-TC**		Off we go.
c	**HOLDING (AT RUNWAY) 27 G-TC** **Or Holding Alpha 2 for (runway) 27 G-TC**	**GTC CONTINUE TAXI, CROSS (RUNWAY) 27**	**CONTINUE TAXI means continue with your (previous) taxi clearance** -that is why we write it down!
d	**CONTINUE TAXI, CROSS 27, G-TC**	If you think that 29 IS active, call vacated.	

6.4.2 STRAIGHT THROUGH CLEARANCE

If the controller has **no or no conflicting traffic**, you will be given **permission to cross in the initial taxi clearance**.

a	**G-TC, READY TO TAXI (FOR LOCAL FLIGHT to the west).** Make it quite clear if needed	**GTC TAXI HOLD ECHO 1 VIA ALPHA AND ECHO. CALL CROSSING (RUNWAY) 27**	CONTROLLER HAS NO CONFLICTING TRAFFIC AND GIVES US PERMISSION TO CROSS RNWY 27 **ON REACHING**
b	**TAXI HOLD E1 VIA A AND E, CALL CROSSING (RUNWAY) 27 G-TC .**	**(GTC correct)**	**BUT! BEFORE YOU DO! CHECK BOTH WAYS! COLLISION AVOIDANCE IS YOUR RESPONSIBILITY!**
c	**CROSSING 27 G-TC**	**GTC ROGER, (CONTINUE TAXI/call vacated)**	
d	**(continue taxi/call vacated GTC)**		

Normally your taxi instruction would be as at section 6.2.d above; This would usually mean the Controller will be waiting for you to arrive there to give you your after departure and/or takeoff clearance. **If he has other A/C to deal with, he may ask you to 'report at the hold' this means he will be getting on with something else, just paying enough attention to you to ensure you don't have/cause a problem. So in the first instance, give him time to talk to you. He will not (normally) do so whilst you are moving.**

7. DEPARTURE

"Departure" is the term used for **TAKING OFF**, **climbing away** from the airfield and **commencing the "en route**" phase of the flight.
In this situation "en route" includes flying in the circuit.

7.1 YOUR CLEARANCE AND AFTER DEPARTURE INSTRUCTIONS

BE READY TO COPY THE INSTRUCTIONS IN YOUR SHORTHAND - ACCURATELY!

Departure Clearances vary depending on the airport and current traffic situation.
If the Airport is surrounded by a Class D Control Zone, as many regional airports are, you will be given specific instructions about how to leave the control zone. It will be via a designated location, usually a **Visual Reference Point (VRP)** and a **specific altitude/height**.
ATC may also require you take a particular route whilst at low level.
NB. noise abatement routing to avoid annoying the local inhabitants is YOUR responsibility.
For departure clearances, ATC will usually use the aircraft's full callsign. Clearances should be read back exactly as given, if possible.

	Aircraft	Controller	Notes **Wind 210/07 Q1022**
a	**G-TC HOLDING K1** or **AT HOLD C, G-TC**	**G-GATC HOLD POSITION, AFTER DEPARTURE, (CLIMB STRAIGHT AHEAD, TO THE BEACH) WITH A LEFT TURNOUT, REPORT 2 DME (2 MILES)**	**THIS IS YOUR AFTER DEPARTURE CLEARANCE, ALL OF IT, SO MAKE SURE YOU READ BACK EACH BIT, EVEN IF YOU CANNOT GET IT IN THE SAME ORDER. Did you write it down? (your shorthand)**
b	**HOLD POSITION AFTER DEPARTURE, CLIMB STRAIGHT AHEAD, AFTER (PASSING) THE BEACH LEFT TURNOUT, REPORT 2 DME G-TC**	**G-GTC, READBACK CORRECT REPORT READY FOR DEPARTURE**	**IF THE CONTROLLER SEES YOU ARE NOT CONFIDENT, HE WILL PROBABLY GIVE YOU TIME TO SORT YOURSELF OUT,**
c	**…. READY FOR DEPARTURE G-GATC**	**G-GATC RUNWAY 20 CLEARED TAKEOFF, SURFACE WIND 210 DEGREES 07 KNOTS**	**THE TAKEOFF CLEARANCE IS AN INSTRUCTION, THE WIND IS INFORMATION**
d	**G-GATC (RUNWAY 20) CLEARED TAKEOFF (Copied the wind)**	**Note The phrase 'TAKE OFF' is ONLY EVER used, by ATC or PILOT as part of your takeoff clearance and read back**	**IN YOUR OWN TIME, BUT DON'T 'SPEND ALL DAY' (YOU SHOULD BE READY) - TAKE OFF.**

If you have severe (for your A/C) cross winds OR gusting, a good idea to let the Controller know you have the wind information.

NOTE '**with a left turn-out**' means, '**as instructed, turn left 90 degrees to the runway heading, and maintain that heading until advised**'

7.2 LEAVING THE AERODROME TRAFFIC ZONE

After climbing out, you turn en-route and either you or the Controller will "Sign off" the frequency. It doesn't matter which of you it is. It is simply a matter of who calls first and this probably depends mostly on the Controller's workload. If he wants to "get rid of you quickly" he will call quite soon after you turn off the runway heading as you climb. You can remain on his frequency if you wish, to monitor traffic information (often very useful in busy skies) – but not too long. Once outside his 'zone' he will only be concerned with you if you are about to cause any of his other traffic a problem. He '**HANDED YOU OFF'**, therefore you are **no longer** '**HIS' problem**.

7.2.1 Below, 4 VARIATIONS OF 'HANDOFF':-

	Aircraft	Controller	Notes **Wind 210/07 Q1022**
a	**GLOSTER TOWER G-TC DEPARTING TO THE NORTH REQUEST FREQUENCY CHANGE TO UNICOM 122.80**	**G-TC FREQUENCY CHANGE APPROVED MONITOR UNICOM 122.80 (GOODBYE)**	**YOU CALLED FIRST!**
b		**GTC, YOU ARE LEAVING MY AIRSPACE, REPORT LEAVING THE FREQUENCY**	**THE CONTROLLER CALLED FIRST, he may not give you your next frequency**
	WILCO G-TC or **(roger, going to UNICOM 122.8 GTC)**	**(GTC roger Unicom 122.8)** **Why did he read it back?**	
c	**GLOSTER TOWER G-TC REQUEST FREQUENCY CHANGE TO BIRMINGHAM RADAR 118.050**	**G-TC FREQUENCY CHANGE APPROVED CONTACT/FREECALL/GOTO BIRMINGHAM RADAR 118.050 (GOODBYE)**	**Being VATSIM, there may or may not be another Controller you can contact for an ATC service. If there is, then this is the dialogue you choose. (Real world of course there is always another service available).**
d		**G-TC YOU ARE LEAVING MY AIRSPACE FREECALL BIRMINGHAM RADAR 118.050 (GOODBYE)**	**Again, THE CONTROLLER MAY GET IN FIRST.**
	FREECALL BIRMINGHAM RADAR 118.050 G-TC (GOODBYE)	'CONTACT' / 'FREECALL' WHAT'S THE DIFFERENCE?	

Note: - Courtesies, "Goodbye; "Thank you for the service" are customary but not mandatory on VATSIM. They are rarely heard real world though. Too busy!

8. EN-ROUTE

8.1 TALKING TO A NEW CONTROLLER

If you are asked to, or need to contact another controller, you need to "pass your details" (the information the new controller needs relevant to your flight). This section is not part of the P1 requirement, but is included here for completeness of information & 'just in case...'

	Aircraft	Controller	Notes **Wind 210/07 Q1022**
a	THAMES RADAR, (STUDENT) G-GATC, FLIGHT INFOMATION SERVICE	(STUDENT) G-GATC, THAMES RADAR, PASS YOUR MESSAGE	The CEPHACER call (position report) tells the Controller. Who, what, where we are and what we are going to do, and for how long. He gives us his squawk code so that he can keep an eye on us. We got it wrong when reading it back, so he corrects that part. Having been told, we keep a look out for the traffic, and adjust where we were going, if required. If we make a major change, don't forget to tell the controller
b	G-GATC, C172 OUT OF SHOREHAM, LOCAL FLIGHT, TO THE WEST FOR GENERAL HANDLING, EXERCISE DURATION 30 MINUTES NOT ABOVE ALT 3,000',QNH 1022, 2 POB, SQUAWKING 7000	G-TC, BASIC SERVICE, DUE WORKLOAD, SQUAWK 7073, REPORT BEFORE RETURNING TO SHOREHAM	
c	G-TC BASIC SERVICE SQUAWK 7043, TO REPORT BEFORE RETURN TO SHOREHAM.	G-TC NEGATIVE, SQUAWK 7073	
d	Squawk 7073 GTC	G-TC, READBACK CORRECT, TRAFFIC INFORMATION, GLIDERS OPERATING FROM WASHINGTON VRP SOUTH TO THE DOWNS.	
e	G-TC COPY THE TRAFFIC	Having said Basic service, why this information?	

For more information see CIX_BASIC_P2_RT section, sections 7 & 8.

9. ARRIVAL

9.1 TIME TO RETURN TO SHOREHAM

First, you need to determine which controller, if any, is online. It could be Shoreham Approach. VATSIM code KA_APP, who will also cover Shoreham Tower, or just Shoreham Tower (KA_TWR who cannot give approach instructions) Ground Movement Control (GND) is done by Tower at Shoreham, but at larger airports, a separate GND controller may be online..
You will need permission to enter controlled airspace. **Let us assume only TWR is manned**.
You need to 'call for entry' if possible, **AT LEAST 10 MINUTES away**, otherwise you may not get your entry clearance before you reach the zone boundary (in which case **YOU MAY NOT ENTER**).

9.1.1 REMEMBER, UNDER 230KTS, EVERY 6 MINUTES WE TRAVEL APPROXIMATELY 1/10TH OF OUR SPEED.

E.g. at 90KTS; 9 NM every 6 MINS. (=1.5nm/minute. = 15nm in 10 minutes)

9.2 Automated Terminal Information Service (ATIS)

Approaching the airfield – you MUST tune in the ATIS frequency (130.975) – if available - and listen to the broadcast.
You will hear (and / or read as a scrolling message across the computer screen) the following: -

The METAR (5TH of the month) will look like this: **EGKA 051350Z 200/11 9999 FEW035 12/09 1009 - Available from VATSPY**

a	**(This is) Shoreham Arrival & Departure Information Hotel , Time 1350Z Runway in use 20, Surface Wind 200, 11 knots, Visibility 10 Kilometres or more, Few 3500 feet, Temperature +12, Dewpoint +9, QNH 1009, QFE 1009, IFR expect an instrument approach Runway 20, All aircraft contact Shoreham Tower frequency 123.15, Acknowledge receipt of information Hotel, on First Contact.** **You need to note down the important bits:- H 20LH 200/11 (12/9) 1009 123.15** (You did note other important things like circuit height in your planning? At Shoreham it is 1100' (above the airfield) but it may not be included in the ATIS) At Shoreham QNH and QFE are the same, not enough difference between them. If **ALL RUNWAYS** at the airfield have left hand (standard) circuits, OR, The A/F has variable circuits, the circuit direction may be omitted. NOTE Shoreham now operates Left and/or Right hand circuits (Controller discretion) so direction is unlikely to be announced.

10. JOINING THE CIRCUIT

10.1 **THERE ARE FIVE METHODS OF JOINING A VFR CIRCUIT.**

1. **THE STRAIGHT IN JOIN**
2. **THE BASE LEG JOIN - LEFT or RIGHT BASE**
3. **THE CROSSWIND JOIN - or DEAD SIDE JOIN**
4. **THE DOWNWIND JOIN**
5. **THE STANDARD OVERHEAD JOIN.** Not normally part of the P1 Flight Test, but you never know!!

10.2 At P1 level, **a straight in or an overhead join will not normally be required**, but any of the other three may be. The ATC dialogue needed is slightly different for each. You can **request a particular join**, depending on your position relative to the airfield, but in the P1 flight test this will not be necessary. The P1 examiner will position you by suitable instructions so that an ATC issued join can be accomplished with normal manoeuvring.

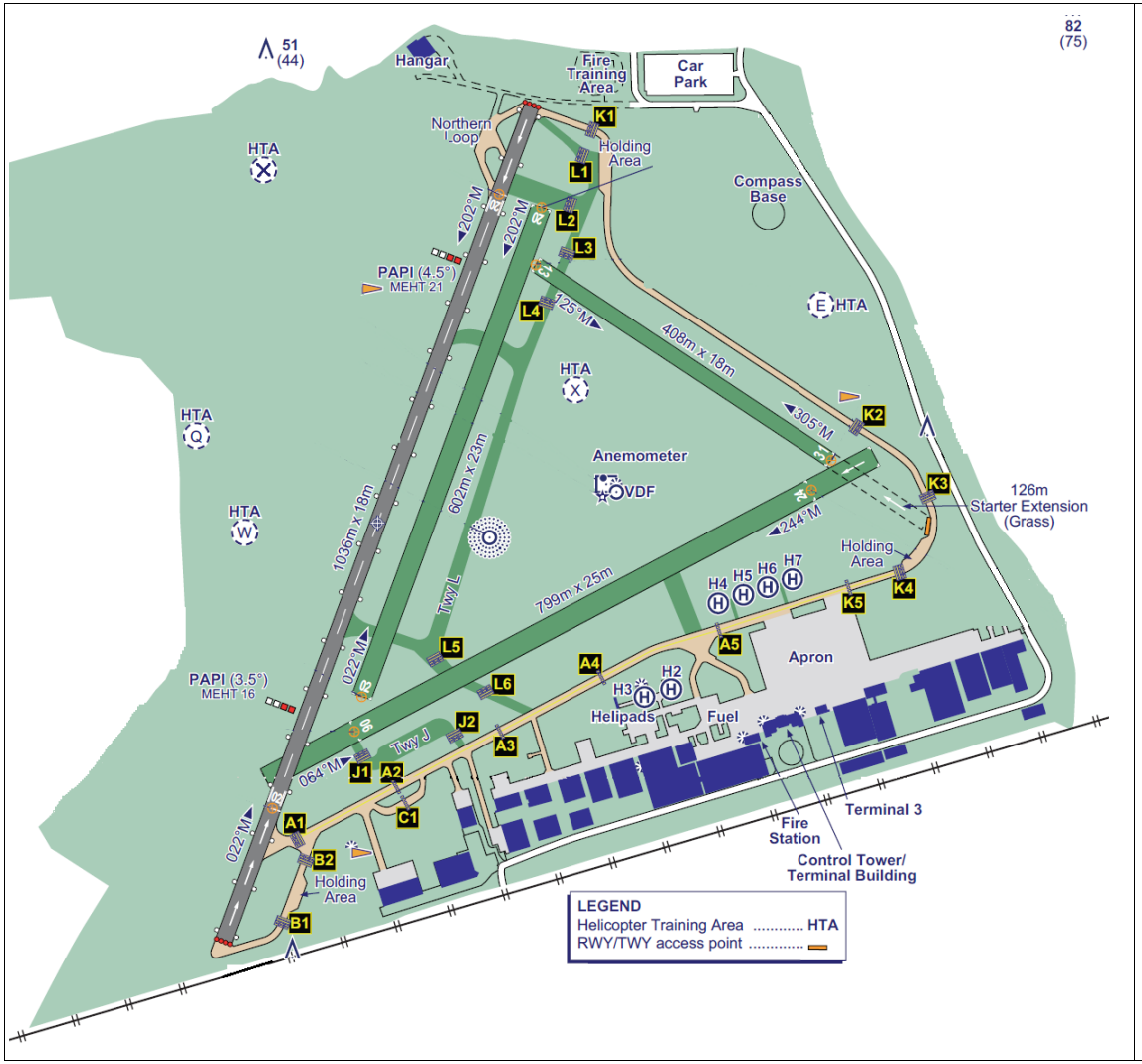
10.3 At more than 3nm (DME). The Tower Controller **CANNOT** issue control instructions to you, (Except a permission to enter the traffic zone or join the circuit) because you are outside his zone, so call in good time. Give a position report (as needed) and remember to include **the ATIS information letter** in your initial call. **If Tower is very busy just callsign and service request,**

"**SHOREHAM TOWER, G-GATC, TO JOIN**" ..... "**G-GATC, SHOREHAM TOWER, PASS YOUR MESSAGE**"

	Aircraft	Controller	Notes **Wind 210/07 Q1022**
a	**SHOREHAM TOWER, G-GATC INBOUND FROM THE WEST PASSING LITTLEHAMPTON 2000FT QNH 1022, VFR, WITH INFORMATION HOTEL, REQUEST JOIN**	**G-GATC SHOREHAM TOWER, RUNWAY 20, EXPECT CROSSWIND JOIN (FOR RUNWAY 20, LEFT HAND CIRCUIT), REPORT 4 DME**	**CROSSWIND IS GIVEN AS AN EXAMPLE. REMEMBER THAT A STRAIGHT IN, BASE LEG, DOWNWIND or STANDARD OVERHEAD JOIN MAY ALTERNATIVELY BE GIVEN.**
b	**(RUNWAY 20 LEFT HAND CIRCUIT), EXPECT CROSSWIND JOIN (FOR RUNWAY 20) 1022 REPORT 4 DME G-GATC**	**GTC READBACK CORRECT -**	**WRITE DOWN THE DETAILS e.g. "20, LH, XWIND, 4 DME.**

	Aircraft	Controller	Notes **Wind 210/07 Q1022**
c	**SHOREHAM TOWER G-TC 4 DME** **Although 'frowned upon' by some, the shortened reply in b is just OK. ALL THE RELEVANT INFORMATION HAS BEEN READ BACK.**	**- G-TC JOIN & REPORT CROSSWIND FOR RUNWAY 20 (at Altitude 1600' -** if conflicting traffic, else at circuit height**)** Note that circuits at Shoreham are now variable, at the discretion of the TOWER. Xwind join may not be used due traffic.	**A CROSSWIND JOIN AT SHOREHAM IS VERY COMMON FOR TRAFFIC INBOUND FROM THE WEST. NOTE: THE CONTROLLER HADSHORTENED THE CALLSIGN. YOU MAY NOW DO THE SAME. He could have given you, Join and report downwind Right hand circuit runway 20.**
d	**JOIN & REPORT CROSSWIND FOR RUNWAY 20 G-TC**	**JOIN AND REPORT;** requires you to report joining the CIRCUIT (Standard 'full' circuit dimensions)- 2-2.5 nm **from the runway centre line**. (Use the ATZ circle as a guide.	
e	**G-TC CROSSWIND FOR 20** **If NOT 2DME, STATE your DME**	**G-TC REPORT DOWNWIND FOR RUNWAY 20, CIRCUIT Altitude 1100FT**	**ONCE ON THE CROSSWIND LEG, MAKE THE STANDARD "DOWNWIND" "BASE" (IF REQUIRED) AND "FINAL" CIRCUIT CALLS AS DESCRIBED**
f	**DOWNWIND, GTC**	**GTC,REPORT FINAL, RUNWAY 20, TO LAND.**	
g	**REPORT FINAL RUNWAY 20, G-TC**		NOTE. If you do not declare you intentions in you 'final' call, ATC will assume you will do what you requested previously.
h	**G-TC, FINAL (runway 20), (TO LAND).**	**GTC RUNWAY 20, CLEAR TO LAND, SURFACE WIND 210 DEGREES, 07 KNOTS**	
i	**CLEAR TO LAND, RUNWAY 20 G-TC**		**NOTE: YOU DO NOT READ BACK THE WIND But can 'have/copy the wind' if relevant.**
j	**G-TC VACATED AT ALPHA, REQUEST TAXI TO (TOWER/GA) PARKING** Remember **DO NOT move/TAXI, beyond the 'off runway' hold without permission (clearance).**	**GTC TAXI TO TOWER PARKING VIA TAXIWAY ALPHA**	**REMEMBER THE CONTROLLER IS THERE TO PROVIDE A SERVICE. IF YOU DO NOT TELL HIM WHERE YOU WANT TO GO, HE WILL USE HIS OWN JUDGEMENT (SENSE OF HUMOUR?)**
k	**TAXI TO TOWER PARKING VIA TAXI A. GTC**		**You should ALWAYS state the Runway designator (number) There could be 2 runways in use at the same time.**
l	**GTC AT TOWER PARKING, SHUTTING DOWN**	**G-TC ROGER** **WELL DONE!!**	

10.4 AIRFIELD DIAGRAMS: CIX VFR CLUB TRAINING BASES



EGKA - SHOREHAM New layout.

When **TOWER** is on, **Circuits Variable**, at ATC discretion.

When **AGO** is on, **ALL CIRCUITS LEFT HAND**.

When **uncontrolled, Left Hand circuits recommended**.

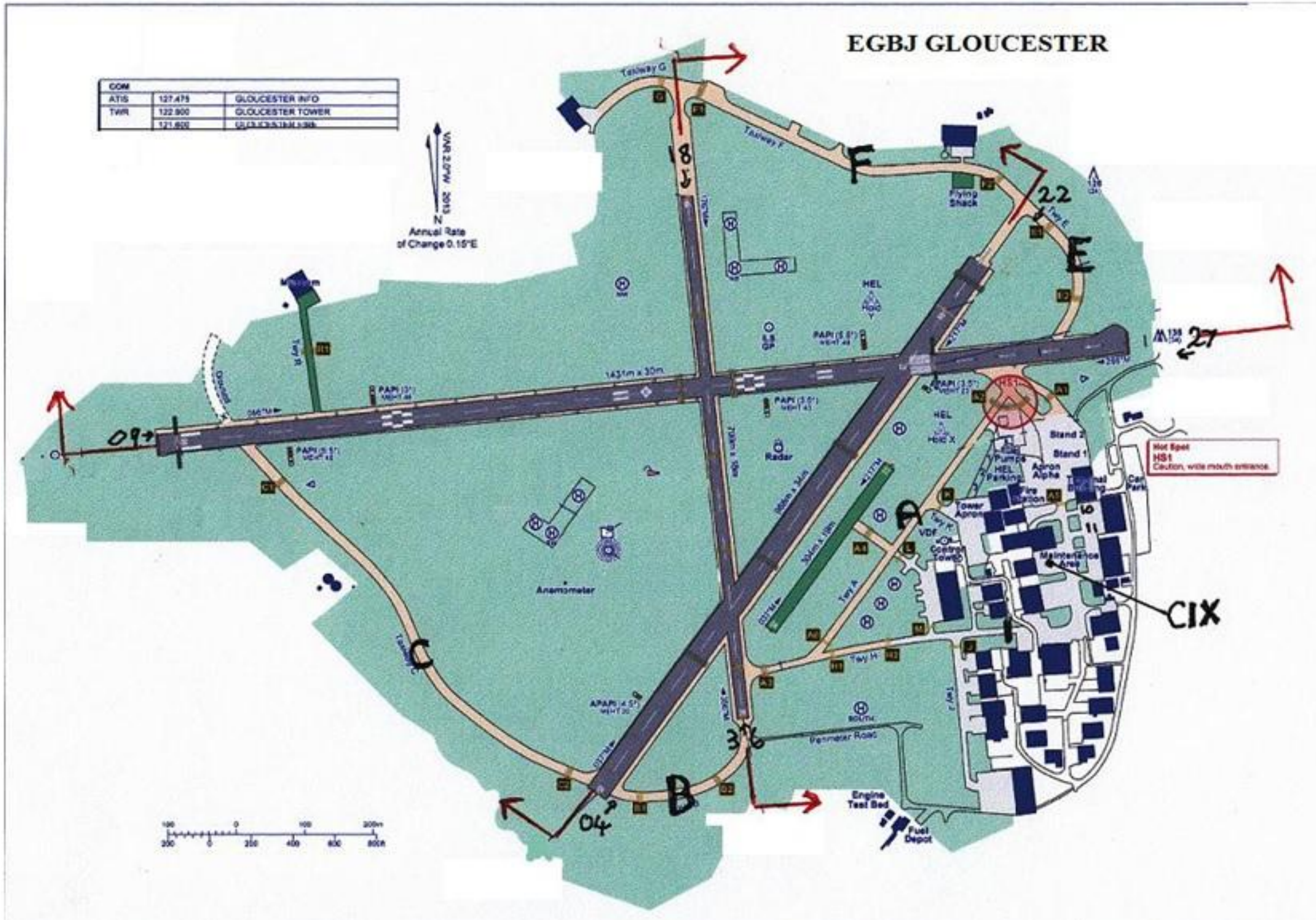
When **only Tower/AGO** - TWR on **123.150**

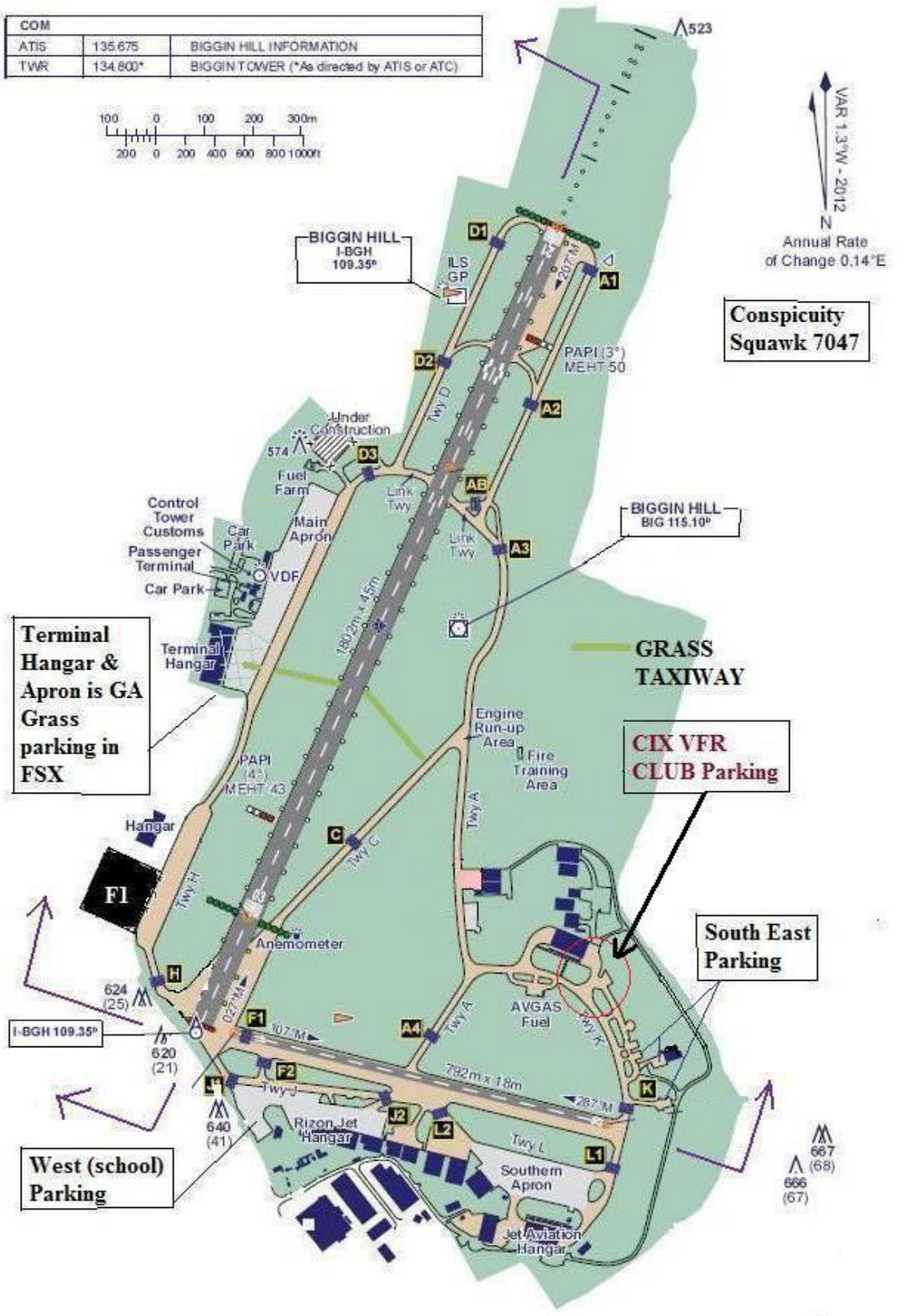
When **Approach** is on, - **APP 123.150**; **TWR - 125.400**

ATIS - 130.970.

VFR conspicuity code **- 3763**

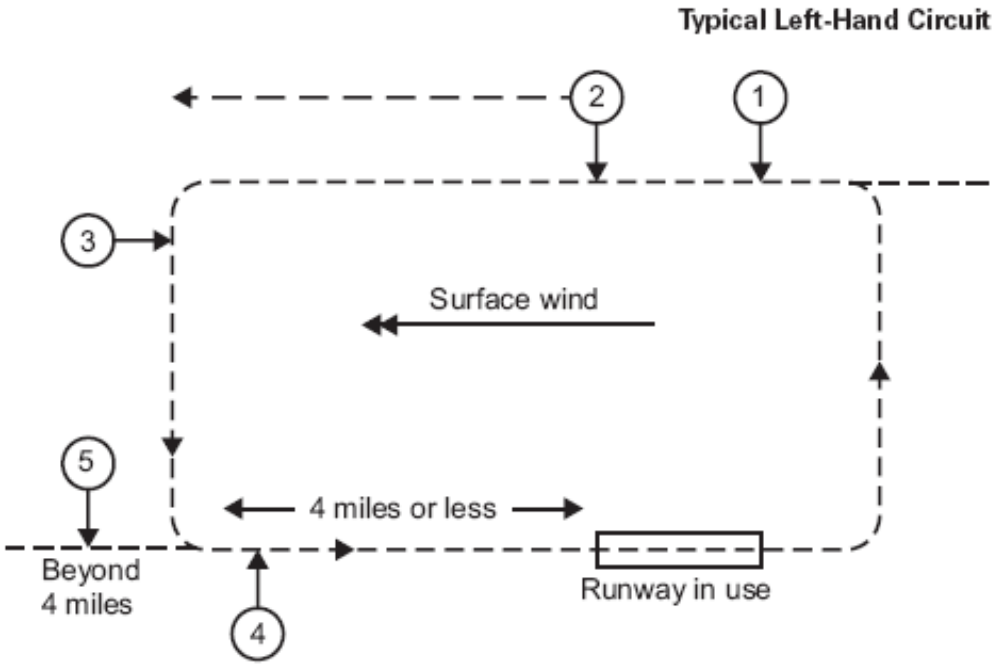
Circuit Height/Alt. 1100ft


EGBJ GLOUCESTER
COM
ATIS 127.475 GLOUCESTER INFO
TWR 122.900 GLOUCESTER TOWER
121.600
VAR 2.0°W 2013
Annual Rate of Change 0.15°E
Taxiway G
Taxiway F
Taxiway C
Twy E
Twy A
Twy H
Flying Shack
HEL
Radar
Anemometer
Tower Apron
Control Tower
Apron Alpha
Stand 1
Stand 2
Pumps
HEL Parking
Fire Station
Maintenance Area
Hot Spot
HS1
Caution, wide mouth entrance.
Perimeter Road
Engine Test Bed
Fuel Depot
1431m x 30m
799m x 18m
304m x 18m
18
36
09
27
04
22
A
B
C
E
F
CIX



EGKB
BIGIN HILL

10.5 POSITIONS IN THE TRAFFIC CIRCUIT



BEFORE 1. (**between 2DME & runway**)
you are '**coming downwind'**

1-2 **A/C In circuit, Reports "DOWNWIND" (Opposite the runway).**

>2 **A/C Beyond downwind / end of runway, calls "Late Downwind".**

3 **A/C Reports "base leg" if required.**

4 **A/C Reports "final". Clearance to land/T&G issued.**

5. **A/C Reports "Long Final", between 8 & 4 nm, when A/C on straight in approach.**

Note 1: For GA operations, circuit dimensions may be reduced but relative calls are still maintained.

Note 2: If within 1 to 1.5nm of threshold, A/C may call "**short final**", especially if a late call (due traffic/late turn/ 'fighter' approach).

Note 3: There are **only TWO MANDATORY CALLS** in the circuit; **DOWNWIND** (1-2 above) and **FINAL** (4 above-also see note 2 above).

Other calls in the circuit should be made only: -

A) If instructed by the controller or

B) As dictated by circumstance (uncontrolled Airfield/You have a problem)

10.6 THE STANDARD METHODS OF JOINING THE CIRCUIT

BUT always remember, local situations may mean a non standard approach or circuit will operate at particular airfields,
BE PREPARED! **GET THE CHARTS! READ THE AIRPORT INFORMATION! (**NATS AIS**)**
Remember, Tower cannot CONTROL us outside the ATZ, but he will give us places (VRP's) to report at.

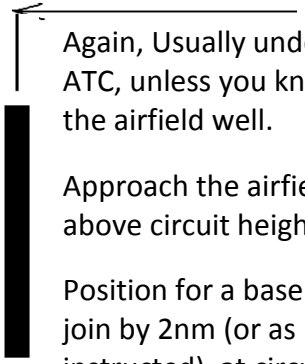
STRAIGHT IN JOIN

Usually only under App/Twr control,

UNLESS you are **ABSOLUTLEY** sure there is no other traffic and/or you know the airfield.

Approach the runway to be at circuit height at about 2nm out (airfield ATZ)

THE LEFT/RT BASE JOIN



Again, Usually under ATC, unless you know the airfield well.

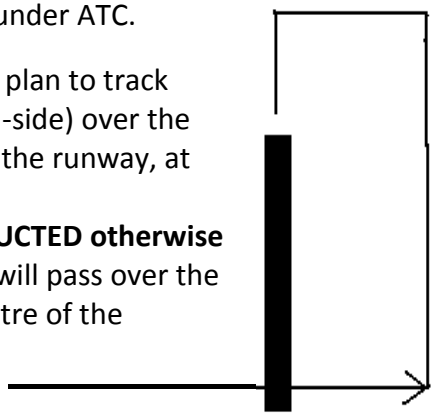
Approach the airfield above circuit height.

Position for a base join by 2nm (or as instructed), at circuit height.
At uncontrolled Airfields, **Right base unusual- Very hazardous! WHY?**

THE CROSSWIND JOIN

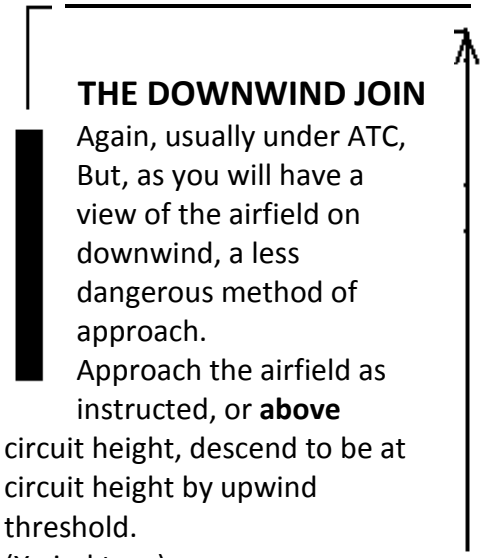
Again, usually under ATC.

Aircraft should plan to track (from the dead-side) over the upwind end of the runway, at circuit height.
UNLESS INSTRUCTED otherwise
(At Biggin you will pass over the Tower, the centre of the runway.



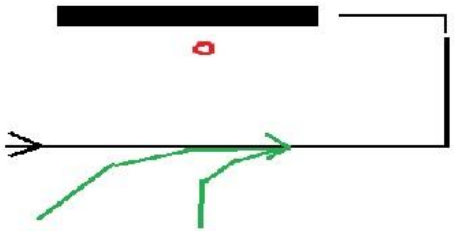
At City **ALWAYS** over the 27 numbers/NDB, due to buildings to the west)

THE DOWNWIND JOIN

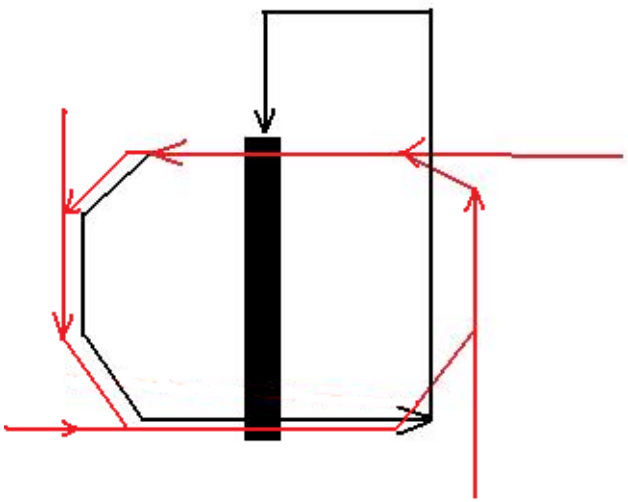


Again, usually under ATC, But, as you will have a view of the airfield on downwind, a less dangerous method of approach.
Approach the airfield as instructed, or **above** circuit height, descend to be at circuit height by upwind threshold.
(Xwind turn)

NOTE; A common method of **joining downwind** is to approach '**inbound to the airfield NDB/VOR**' – You will be heading for the centre of the runway, from the **Live side**.
You will then get an instruction "**GTC Runway XX Join and report downwind**"; continue inbound the NAVAID until you need to turn downwind, (as you approach the ATZ) do so and call "**GTC (turning) (late)downwind (XX)**" - As required.



THE STANDARD OVERHEAD JOIN



This is the method of joining the circuit which should be used at all uncontrolled airfields.

It is also the method which will be used at airfields with an 'Air Radio' or 'Aerodrome Traffic information' Ctlr.
- Full ATC not available – no radar cover (Controller might not have a view of the airfield!).
Many smaller airfields, with full ATC cover will require this approach, particularly from the dead-side. (Shoreham)- training.

Fly overhead the airfield above 2000', &/or join IN the overhead AT 2000' AGL (QFE). IF needed, HOLD at 2000', when advised/safe.

Descend on the dead side to circuit height and complete a crosswind join.

THE RADIO CALLS For more explanation see 'Pilot Help-notes 2'

REMEMBER, if TOWER does it differently, that is how it is done! Otherwise,
First call,
"**approaching/inbound for (an) overhead join at (Hgt/Alt)**" If you need to pass overhead the A/F, Do so **ABOVE 2000' and any other traffic OVERHEAD the A/F. When you descend to 2000'**
You will be IN THE OVERHEAD, report it. "**in the overhead (join) for runway xx**"; then "**descending (on the) dead side**"; "**crosswind runway xx**"; "**Downwind runway xx to land**"; "**(on) finals runway xx to land**" and don't forget "**vacated the active/runway xx**".
MOST IMPORTANT! KEEP A SHARP LOOKOUT! SQUAWK to standby!
REMEMBER; If TOWER is on, each step in the sequence above must only be done with ATC permission/instructions.

The RT CALLS

1. In each case, If you have ATC, when you call APP/TWR (say @20nm) you will be told when and where to report.

2 Otherwise, make an early call, then entering the ATZ, -
Callsign, position and intentions.
Then use standard circuit calls
UNLES INSTRUCTED OTHERWISE.

For example, Biggin app. will ask you to report M25 Junction and then report 5nm dead side.

If you intend to do a lot of flying at a particular airport (EGKK, EGKB, EGBJ ,EGLC) as well as downloading the charts and A/D plans, consider downloading a copy of the 'V-Mats'. You will then know EXACTLY how ATC is expected to operate, plus a lot more information related to on-line flying at that A/D.

Q. How do we fly the standard OH join over a SHORT runway? – shorter than the radius of our hold.
Which end of the runway is 'key' –threshold or upwind?

10.7 THE STANDARD OVERHEAD JOIN: The most complicated join. (until it makes sense) – *MIGHT* be needed for P1 Flt Test.

Unless you know the airfield, if **it is UNCONTROLLED**, you **SHOULD ALWAYS** perform a standard overhead join, to determine wind/active runway direction and possible traffic.

At Shoreham, (VATSIM and RW) and similar places, it will be used for training, but more importantly, when there is a lot of traffic or an AGO is in the Tower.

At Shoreham a Maximum of 2 AIRCRAFT can be cleared/inbound for each basic procedure. Further inbound traffic **MUST** be given an O/H join. A Maximum of 4 AIRCRAFT can be given instruction for an O/H join at any one time, (e.g. 2 in the O/H, 2 on their way). Further AIRCRAFT must hold at a VRP if required, due traffic.

If APP is on, O/H joins are handed over, over the airfield (joining the hold). The O/H join can also be used, on request, as a training exercise.

The Standard O/H join can be broken down into four basic phases:

The **approach to the overhead/overhead the A/F**; '**In the overhead'**; The **descent and circuit join**; **The landing pattern**.
We have come down to MAY VOR, THIS IS AN EXTREME EXAMPLE – Like, one of Mel's Monday night 'fun-bits'!

First let us assume the O/H is busy with TWR and APP manned		**ATIS; W 20LH 210/12 14/08 QNH 1009, QFE 1007**	
Aa	**Shoreham APP Student G-GATC**	**Student G-GATC Shoreham APP, Pass your message**	That gives us time to PLAN and LISTEN, what service will we have? why? Got a crib card/notes for local procedures?
Ab	**G-GATC, Cessna 172, with information W, 3 miles south of Mayfield VOR 3000' QNH 1009, 2POB, Request join;** (not correct but he is a student)	**GTC Roger, expect standard overhead join, report LEWES VRP 3000' on the QNH Squawk 3763**	
Ac	**Expect standard O/H join, report Lewes VRP 3000', Squawk 3763 GTC**	**GTC, Correct, break, break GOY Join from the East, standard o/h join runway 20, 2000' QNH 1009, Trfc Information is a PA28, holding in the O/H. contact tower on 123.15**	
Ad	**.... GTC Lewes VRP**	**GTC O/H is busy Hold at LEWES LH Alt 3000'**	Do you know the difference between a 'Hold' (in the air) and an Orbit?
Ae	**Hold LEWES VRP, LH, 3000'on the QNH, GTC**	**GTC Correct,**	
Af		**... GTC Leave LEWES, Report 3DME, descend to 2500' QFE 1007, expect to hold O/H the airfield.**	

Ag	**Leave LEWES VRP, Report 3DME, 2500' QFE 1007, expect to hold O/H. GTC**	**GTC correct**	We are half way round the hold.
Ai	**...App, A27 Tunnels GTC**	**GTC Roger, Continue approach, report and hold overhead Left hand at 2500' QFE.**	You are **'in the overhead'** at 2000' or below. Above 2000' you are '**overhead the airfield'**
Aj	**Continue approach, report holding overhead AT 2500' left hand, GTC**	**GTC correct**	
	Remember, the ATZ goes up to **2000' QFE**, **above 2000' we are NOT in the ATZ, TOWER CANNOT** control us, at 2500'we are '**OVERHEAD THE AIRFIELD**. We are **IN THE OVERHEAD at 2000' or less.**		When should we change frequency? – At once, completing the orbit, halfway to the O/H or when we are IN the O/H, (AT 2500' 'on the way down' or AT 2000')?
Aj	**G-TC is (holding) overhead at 2500'** Which end of the runway? 20 or 02? And why no direction of hold?	**GTC descend and report in the overhead at 2000' QFE possible hold, contact Tower 123.15**	
Ak	**Descend to report in the overhead, 2000' QFE possible hold, contact Tower 123.15 GTC**	**GTC, Correct, break, break, GAA hold at Littlehampton, 2000' QFE 1007.....**	
Al	**Change frequency to 123.15**		
Ta	**..Y vacated the active**	**GOY taxi grass parking, in front of the tower Via taxi A, vacate A, left at A4**	
Tb	**taxi grass parking, in front of the tower Via taxi A, vacate A left at A4 GOY**	**correct**	
Tc	**Shoreham tower, Student G-GATC, in the overhead, height 2000' (on/QFE)1007**	**Student G-GATC, roger, Hold in the overhead, LH 2000' QFE, caution the Cessna 150, also holding.**	Is our transmission OK, With reference to our level?
Td	**Hold in the overhead, LH 2000' QFE, copy the traffic, G-GATC**	**GER, Runway 20, Cleared to land, surface wind 210 degrees 12 kts**	
	What do we mean **copy the traffic**? Is this OK? What is good and bad practice here? (clue, C172)		
Te	**Runway 20, cleared to land GER**	**GSZ descend dead side, not below 1600' report turning crosswind.**	
Tf	**Descend on the dead side, not below 1600' report turning crosswind. GSZ**	**GSZ traffic is a Twin Comanche on a 1 mile final for 20.**	
Tg	**Have the traffic, GSZ**	**GTT behind the landing twin Comanche, line up and wait, behind**	

Th	**Behind the landing twin Comanche, line up and wait, behind, GTT**		
Ti	**GSZ turning crosswind**	**GSZ continue crosswind report downwind 1100'**	Where are we? Where is everyone else? Have you been keeping a mental picture? Who is the nearest AIRCRAFT to us?
Tj	**Continue crosswind, report downwind at 1100' GSZ**	**GER vacate left at A, taxi Tower parking via Taxi A, vacate onto apron at A5.**	
Tk	**vacating A, taxi Tower parking via Taxi A, vacate onto apron at A5 GER**	**GER, Roger.**	
Tl	**GSZ late downwind at 1100'** late deadside'? What does it tell the Twr.?	**GSZ roger, break, break GTC, After crossing the centre line, descend and report dead side, circuit height 1100'**	
Tm	**After the centre line, descend to 1100' and report dead side, GTC**	**GTT runway 20 cleared T/O surface wind 210 degrees, 12 kts**	
Tn	**Cleared T/O, GTT**	**GSZ report downwind 1100', break, break GTT contact Shoreham app. 123.15 bye**	
To	**123.15 GTT bye....Late downwind to land GSZ**	**GSZ Runway 20, report finals to land.**	
Tp	**Runway 20 report finals, GSZ ... Descending Dead side, GTC**	**GTC roger. Report downwind, circuit height 1100', No 2 to a 172 on base.**	
Tq	**Report downwind 1100', have the traffic, GTC...**	Basically, that is it! **A VERY busy day** at Shoreham, we are now in the landing pattern. Can you tell me the next 4 instructions/conversations you are likely to hear/have with tower? This will test your ability to make, 'hold' and update a mental picture of what is happening around you.	

To get more from this set of exercises, try going through them by yourself. First, by trying to 'know who is where, in your mind, then do it again, using pen and paper, make a table of positions and 'plot' each AIRCRAFT. This should help you to understand how 'knowing' where everyone else is and what they are doing, can help you to anticipate and plan your next action/transmission. Thus, helping you to avoid the unexpected. You are unlikely to have a situation this complicated for your P1 or P2 Flight Test, but, if on-line, you never know!

11. THE 'GO-AROUND'; You might need this at any time, even during your P1 Flight Test.

11.1.1. IF THERE IS A PROBLEM AFFECTING YOUR APPROACH to the runway, **EITHER YOU or THE CONTROLLER** can initiate a '**GO-AROUND'**.

11.1.2. The **GO-AROUND** is a **VFR** procedure, if **IFR** you would perform a '**MISSED APPROACH',** (similar, but follows a **published procedure**/ route), but the initial call might still be for **A GO-AROUND (on VATSIM**).

11.2 You should always have in mind a '**DECISION HEIGHT'**; - A **minimum height** below which a clearance (or controller go-around) might make it difficult to avoid hitting the problem or landing on the runway. **The standard height (ALL A/C) is 600' AGL.** (QFE)

11.3. IF YOU ARE NOT HAPPY WITH THE SAFETY OF YOUR APPROACH DO NOT WAIT FOR THE CONTROLLER TO TELL YOU, CALL IT YOURSELF (he may be busy!)

11.3.1. AS SOON AS A GO-AROUND IS INITIATED, FULL POWER, CLIMB TO CIRCUIT HEIGHT/(ALTITUDE) , FLAPS & U/C UP ,– **And UNLESS INSTRUCTED OTHERWISE;**

11.3.2. MOVE TO THE SIDE OF THE RUNWAY. Unless instructed, the choice is yours. Runway on your LEFT will give you a clear view. **Why move to the 'circuit side' of the runway? -** Two reasons.

11.3.3. If on the **LIVE SIDE** of the CIRCUIT and the problem is traffic in the circuit or to save time you may **request/be instructed** to **make an EARLY TURN into the circuit.** (commence your turn at the **upwind threshold**);

11.3.4. Under some circumstances you may be instructed **to make an IMMEDIATE TURN into/return to the circuit. DO SO. - The problem is close behind you!** Then perform a normal circuit to land/T&G. If **you want to do either**, **you MUST get approval FIRST**.

11.4. IF YOU ARE ON THE DEAD SIDE, DO NOT turn crosswind UNTIL YOU ARE AT CIRCUIT HEIGHT and your normal crosswind turn (2-2.5nm) REMEMBER, turning into the circuit YOU MUST NOT CROSS THE RUNWAY CENTRE LINE close to the runway or below circuit height.. UNLESS INSTRUCTED. Even then, check, BE SAFE, If the problem is/might depart/missed approach, call to extend upwind for vertical separation. YOU ARE responsible for your safety, be safe BUT TELL/REQUEST what you intend, to the controller.

11.4.1. You must NOT cross the runway centre line when JOINING the circuit. Or at any other time unless instructed.

11.4.2. If the problem is a departing AIRCRAFT, **he will not come up UNDERNEATH you**.

11.5 IF THE CONTROLLER INITIATES IT

a	**GTC RUNWAY 23 FINAL TO LAND**	**GTC CONTINUE APPROACH, 1 DEPARTING/ON THE RUNWAY**	AS SOON AS YOU REALISE THERE **MAY** BE A PROBLEM, **NOTHING TO STOP YOU** REDUCING TO SAFE MINIMUM SPEED AND/OR **PREPARING** FOR A GO-AROUND
b	**CONTINUE APPROACH GTC**	**… GTC GO AROUND, I SAY AGAIN GO AROUND**	
c	**GTC GOING AROUND**		

11.6 OR IF YOU INITIATE IT

a	**GTC RUNWAY 23 FINAL TO LAND**	**GTC CONTINUE APPROACH, 1 DEPARTING/ON THE RUNWAY**	
b	**CONTINUE APPROACH GTC**		KEEP IT THAT SHORT; THE CONTROLLER WILL BE BUSY SORTING SOME-ONE! YOU MAY EVEN GET, THANKYOU.
c	**GOING AROUND, GTC**	**GTC ROGER, GO AROUND**	

11.7 IF YOU DO NOT GET ONE OF THE FOLLOWING, DO A NORMAL CIRCUIT; OUT TO NORMAL XWIND; REPORT DOWNWIND.

e		**GTC (MAKE) EARLY TURN INTO THE CIRCUIT, (REPORT DOWNWIND)**	THESE ARE BOTH INSTRUCTIONS/CLEARENCES, READ BACK. BUT AS THEY ARE FAIRLY SIMPLE, THE READBACK CAN BE SHORTENED, **IF APPROPRIATE TO CIRCUMSTANCES** WITH "**WILCO GTC**" – (HE IS TRYING TO SORT A.N.OTHER)
f	**WILCO/EARLY TURN, (REPORT DOWNWIND) GTC**	Wilco should only be used if there is a lot of traffic/big problem	
g		**GTC IMMEDIATE TURN INTO THE CIRCUIT (REPORT TURNING/LATE DOWNWIND)**	
h	**IMMEDIATE TURN INTO THE CIRCUIT (REPORT TURNING/LATE DOWNWIND) GTC**		
I	**GTC REQUEST IMMEDIATE/EARLY TURN (INTO THE CIRCUIT**	**GTC IMMEDIATE/EARLY TURN APPROVED (report turning on downwind leg/late downwind)**	This is YOU requesting an early/immediate turn. This could be added to your call at 12.6.c above; Or it could be an independent call- Avoiding action on takeOFF.
j	**(IMMEDIATE/EARLY) TURN APPROVED GTC**		

That is all you will need for your P1 flight test (plus a bit more so that you can practice with confidence).

FINALLY,

1. Do not forget, in the circuit, especially if it is busy, **The DOWNWIND and FINAL calls are mandatory**.
   Other positions in the circuit should only be called **IF REQUESTED by the controller OR you see a problem**.
2. **CLIMBING AWAY = Your A/C is SAFELY established in the climb** (Flaps up, gear up, trimmed), about 200-500ft.
   IT DOES NOT MEAN your wheels have JUST left the runway.
   That should be reported as '**AIRBORNE**'

For your notes.