VICTORIA FLYING CLUB

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Aerodrome Traffic Circuit

- Review Slow Flight and Take-Off
- Definition and Motivation
- **Aerodrome Traffic Circuit**
- Summary and Questions
- Pre-Flight Briefing

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Review Slow Flight and Take-Off

- Mentally perform a recovery from slow flight and state all observations and required actions.
- What actions have to be completed before initiating a take-off?
- Describe the take-off phases *line-up*, *run* and *initial climb*.
- What are the criteria for a normal take-off?
- Mentally perform a normal take-off and state all observations and actions.
- What causes wake-turbulence and how does it affect your take-off?

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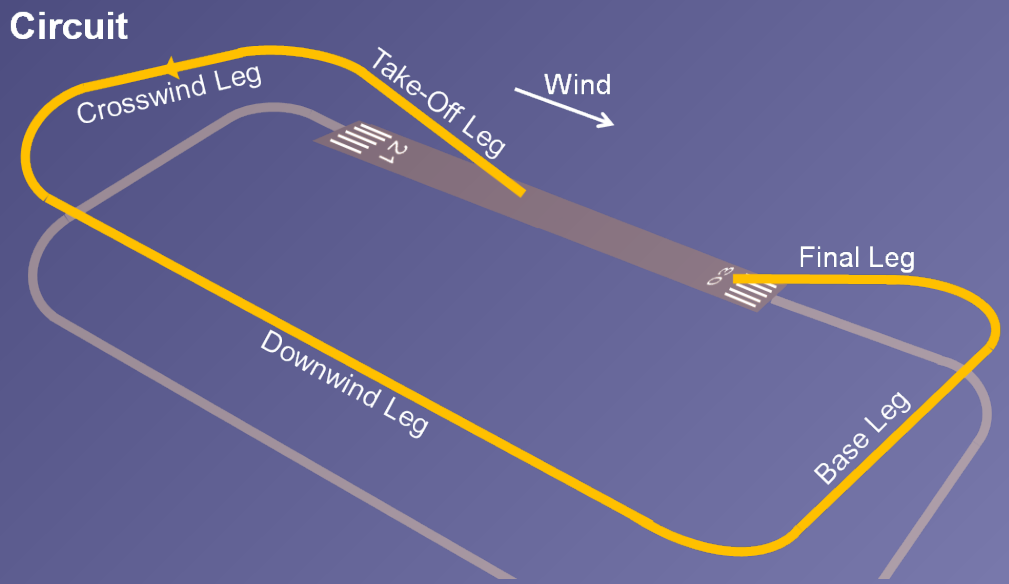
Definition and Motivation



- **Standardized** *rectangular* **traffic circuit** at **aerodromes**
- **Ordered** and **organized** flow of traffic to avoid conflicts
- Safety and **traffic separation**, **stabilized approaches**
- *Types*: **controlled** and **uncontrolled** aerodrome circuit
- *Applications*: portion of a circuit is flown in every single flight

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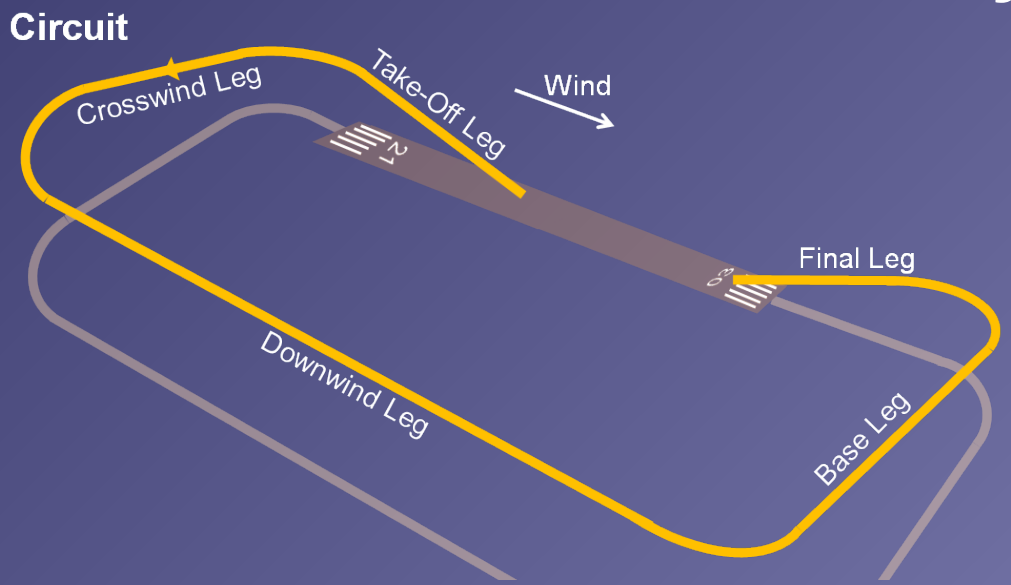
Circuit Layout



- *Legs*: **Take-Off**, **Crosswind**, **Downwind**, **Base**, **Final**
- *Sides*: **Upwind** and **Downwind**
- Standard **left-hand** aerodrome circuit with ***1000' AAE*** **circuit height**
- Standard crosswind and base legs transition between ***500'*** and ***1000' AAE***
- Consult *Canadian Flight Supplement* for **specific layout** and **procedures**
- Modifications due to **obstacles**, **noise abatement** and **points of interest**

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Circuit Procedures

- **Climb** to ***500' AAE*** or as assigned on **take-off** leg
- Transition to *Vy* and perform **cockpit checks** (flaps up)
- **Climb** to ***1000' AAE*** or as assigned on **crosswind** leg
- Perform **cockpit checks** on **downwind** (switches)
- Turn **base leg** at ***45°*** or as assigned past threshold
- Configure for landing on **downwind** and **final** legs
- Establish **stabilized approach** on final leg
- Maintain *speed and spot* with stable descent rate
- **Go around** if necessary
- Maintain **lookout** and separation: situational awareness

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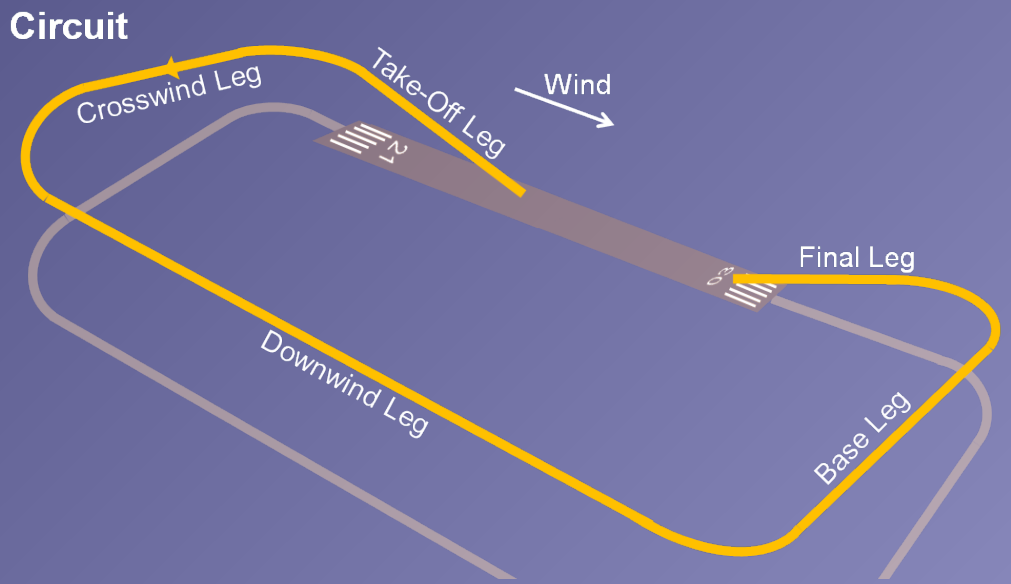
Circuit Radio Procedures and SOPs



- Report **entry** leg
- Report **downwind** leg (standard left or *right*) and **intentions**
- Perform **downwind leg** midfield **checks**
- Report **final leg** – check final items
- Assure **clearances** for **landings** and **deviations** or **exercises** if required in the environment

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Controlled Airports

- **Control zones** with traffic patterns to join circuit
- Standard control zone extends ***5 NM*** radius up to ***3000' AGL***
- Airspace requirements: **weather** **minima**, **communication**, **clearances**, **equipment**

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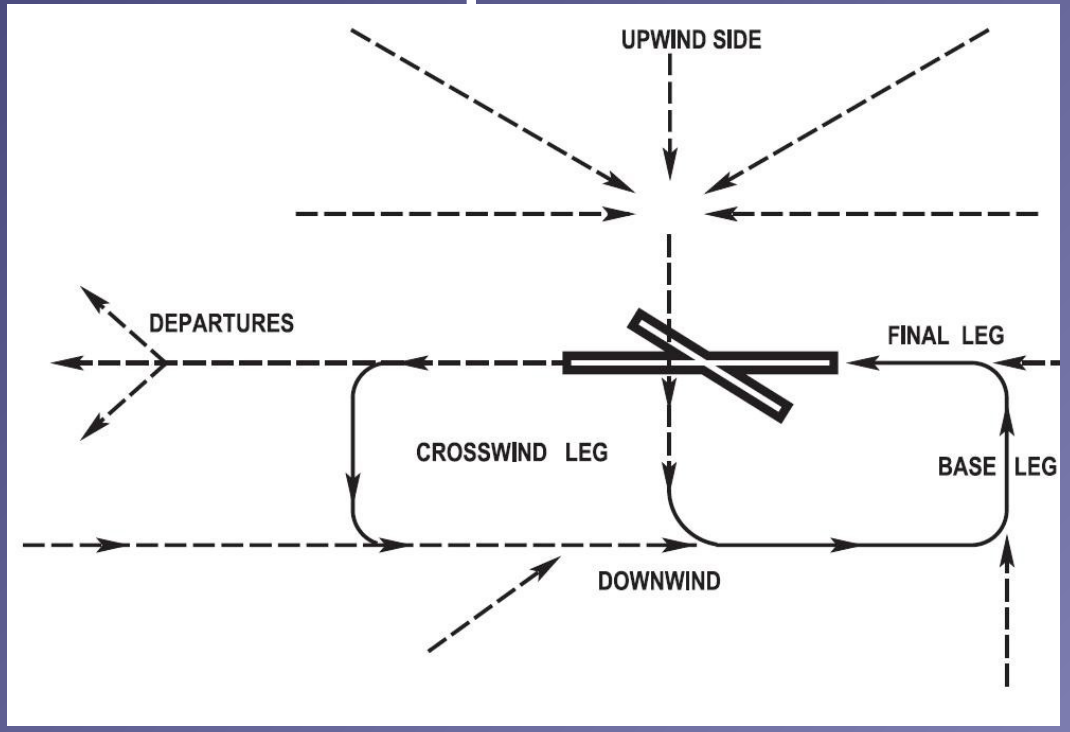
Controlled Airports Procedures



- Concrete **procedures** are described in the *CFS*
- **Instructions** are to be followed on **towered airports**
- **Advisories** help decision making on **non-towered airports**
- Maintain *constant* **lookout**, **separation** and **order**

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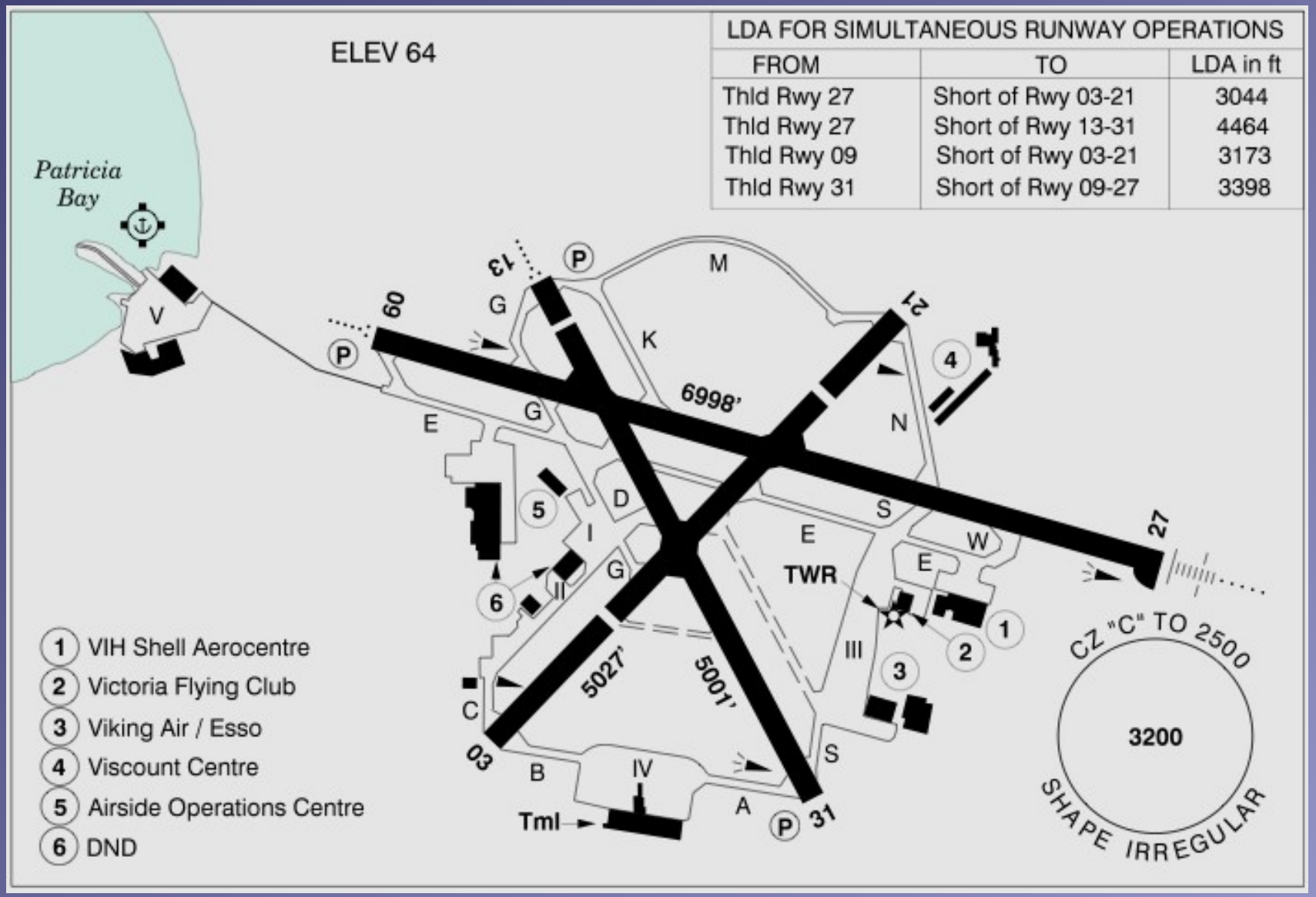
Towered Airports (CYYJ)



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Towered Airports (CYYJ)

PRO	PPR for non-transponder ops within Victoria Twr class "C" airspace 250-655-2866. VFR dep acft ctc clnc del unless closed by ATIS. Rgt hand circuits Rwy 09, 21 & 31 (CAR 602.96). Ngt ops Rwy 03/21 not auth exc for tkof on Rwy 03. Rwy 03/21 restricted to max 65,000 lbs for tkof and ldg. No weight restriction for taxiing acft Rwy 03/21 south of Rwy 13. **VFR ARR/DEP ROUTES** ARRIVALS: Beaver Point, Brentwood, Cordova, Cowichan, D'arcy Island, Shawnigan Lake, Stuart Island ALL ROUTES - Obtain ATIS message Contact outer twr 119.1 Squawk assigned transponder code Fly assigned routing Maintain 2000´ until cleared lower or turning final Contact 119.7 at arrival point for landing instructions NOTE: If unable contact on 119.7 at arrival point, proceed to final approach and maintain 2000´ DEPARTURES: Beaver Point, Brentwood, Cordova, Cowichan, D'arcy Island, Moresby Island, Shawnigan Lake, Stuart Island ALL ROUTES - Fly direct to assigned departure point Maintain 1500´ until cleared higher Contact 119.1 leaving 1000´

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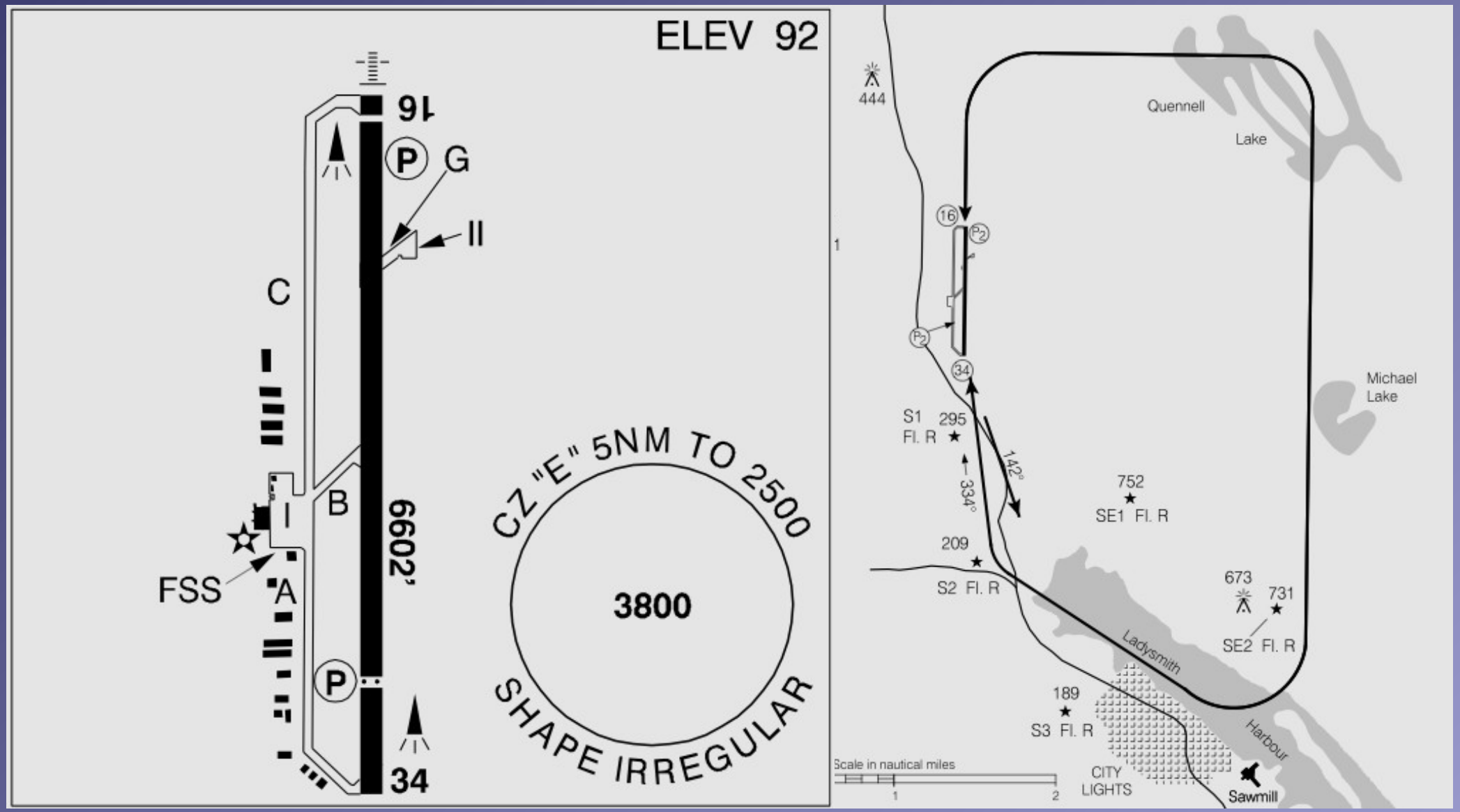
Non-Towered Airports / MF (CYCD)



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Non-Towered Airports / MF (CYCD)

PRO	AIRPORT RESTRICTION: Pursuant to CAR 602.96 (3)(d) aprt use rstd acft with a wingspan of less than 118' Circuit alt 1200 ASL. Avoid flt over built-up areas below 1000 ASL. Rwy 34:Rgt hand circuits (CAR 602.96). Maintain 1200 ASL til over Ladysmith Harbour. See VTPC. Rwy 16:Climb to safe alt. Left turn hdg 142° til over Ladysmith Harbour. Climb over Harbour to 1000 ASL BPOC. See VTPC. Gliders:Circuits to W of aprt. Procedures for crossing the southern Strait of Georgia within Tml Class C airspace refer to Vancouver Intl, VTPC for Crossing the Southern Strait of Georgia. **ATS REQUIREMENTS**: All VFR acft arriving, departing or transiting the Vancouver or Victoria Tower Class C or D airspace require a transponder code. - All acft departing Vancouver or Victoria Intl (including Water Aerodrome) call Kamloops FIC at 866-992-7433 (866-WXBRIEF) or 866-541-4101 for code assignment at least 30 min prior to flight or file a VFR Flight Plan/Flight Itinerary. - All acft arriving Vancouver, Victoria Intl (including Water Aerodrome) or transiting Vancouver or Victoria Control Zones obtain a code from one of the following ATS units: Vancouver Harbour, Nanaimo, Victoria Harbour, Boundary Bay, Langley, Abbotsford or Pitt Meadows, or call Kamloops FIC at 866-992-7433 (866-WXBRIEF) or 866-541-4101. - All acft arriving Victoria Intl from a non NAV CANADA site call Kamloops FIC at 866-992-7433 (866-WXBRIEF) or 866-541-4101 for code assignment at least 30 minutes prior to flight or file a VFR Flight Plan/ Flight Itinerary.

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Uncontrolled Aerodromes

- Located in **uncontrolled airspace** (G)
- Airspace does *not* require radio contact, clearances or special equipment

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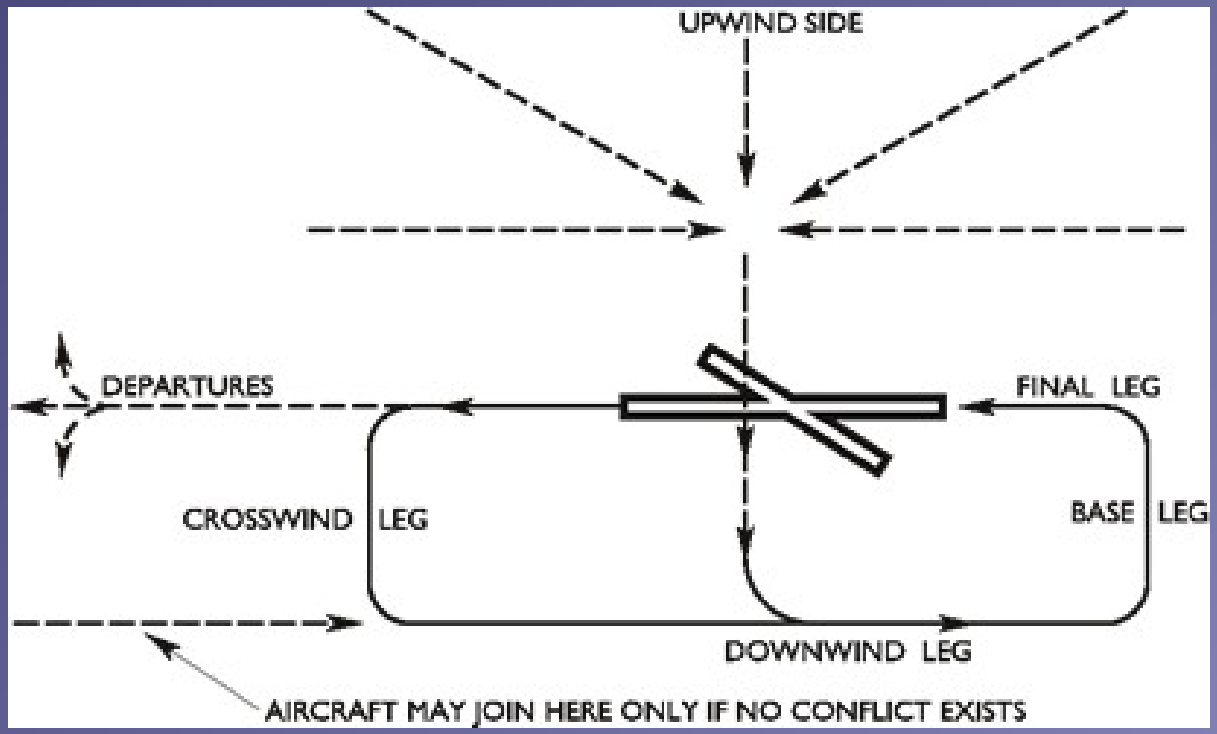
Uncontrolled Aerodromes Procedures



- Concrete **procedures** are described in the *CFS*
- Advise other aircraft of your **position** and **intentions**
- Be aware of and lookout for *potential* **NORDO traffic**
- Maintain *constant* **lookout**, **separation** and **order**

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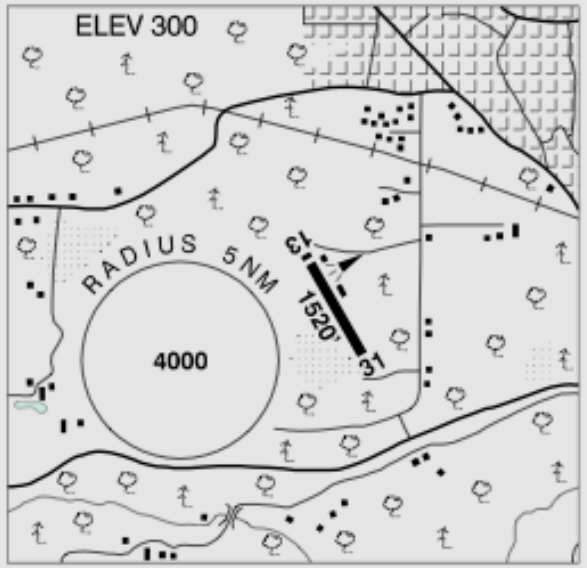
Uncontrolled Aerodromes / ATF (CAM3)

DUNCAN BC — **CAM3**



REF	N48 45 30 W123 43 00 Adj SSW 17°E (2013) UTC-8(7) Elev 300´ VTA A5004
OPR	Duncan Flying Club 250-216-8001 Reg
PF	B-1 C-2,3,4,5,6
FLT PLN / **FIC**	NOTAM FILE CYCD Kamloops 866-WXBRIEF (Toll free within Canada) or 866-541-4101 (Toll free within Canada & USA)
SERVICES / **S**	4,5
RWY DATA / **RCR**	Rwy 13/31 1520x30 asphalt. Rwy 31 up 0.5%. Thld Rwy 13 displ 70´. Opr
LIGHTING	13-(TE LO), 31-(TE LO)
COMM / **ATF**	tfc 122.8 2NM 3300 ASL
PRO / **NOISE**	Rgt hand circuits Rwy 13 (CAR 602.96). Noise Abatement Procedures: dep Rwy 31, climb rwy hdg, then climb hdg 291° when safe, til clear of subdivision. Avoid noise sensitive area to the E.
CAUTION	Ravines at both ends; gravel pit & 4´ windrow W side rwy. Downdrafts, crosswinds & windshear may be encountered. Trees on apch to Rwy 31. Strongly recommended that only pilots familiar with aprt & lcl terrain should use this aprt dur hrs of darkness.

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Crossing Control Zones

- Crossing **requirements** depend on **airspace structure**
- Radio **contact**, **transponder**, **clearance**, **routing**
- Refer to *Terminal Chart* and *CFS* procedures

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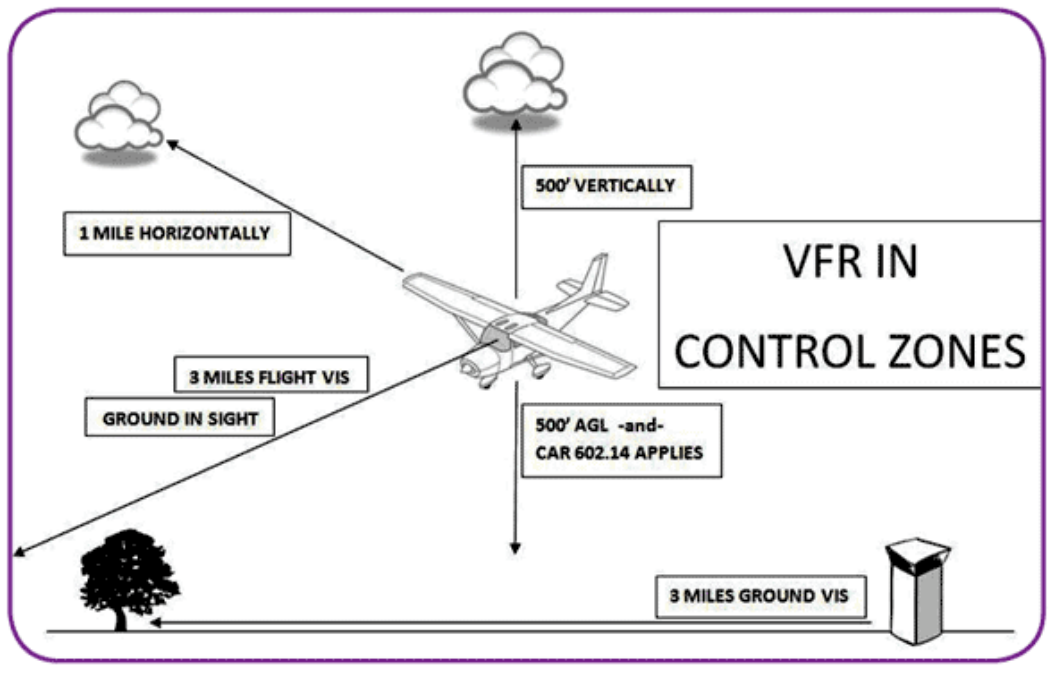
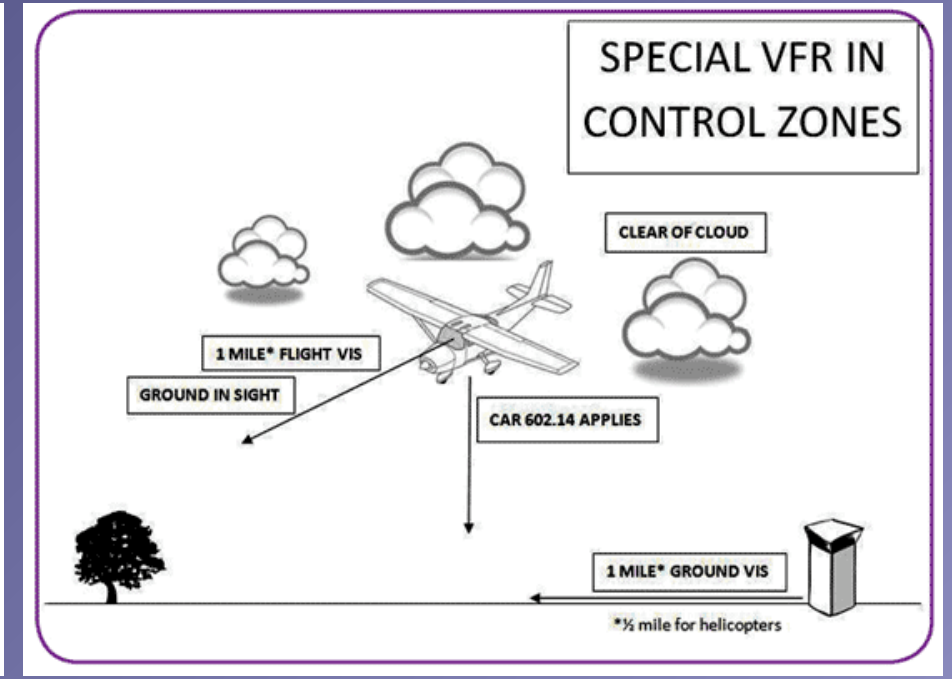
Special VFR





- Allows to enter a **control zone in IMC** under VFR
- Special VFR has to be **requested by the pilot**
- Special VFR **can be denied** due to IFR traffic

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Summary / Quiz

- What are the two main types of circuits and how do they differ?
- Describe the standard circuit with respect to legs, sides, directions and heights.
- Where do you find what particular circuit and procedure applies to an aerodrome?
- Assume you want to join the Nanaimo traffic circuit approaching from Victoria. The ATIS informs you that the weather is VFR and the active runway is 34. Mentally perform the procedure and state all observations and required actions.

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ATC Circuit Modifications

- ATC may issue **instructions** to **modify** the standard **circuit** pattern at controlled airports
- Use cases include: *conflict resolution*, *traffic separation*, *wake-turbulence* separation, *emergencies*
- Examples illustrate radio exchanges that lead to circuit pattern modifications

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Circuit Side Changes after Take-Off

- **ATC**: "*GBMO, (after touch and go) make one right-hand (left-hand) circuit*"
- **Aircraft**: "*Make one right-hand (left-hand) circuit, GBMO*"
- **ATC**: "*GBMO, (after touch and go), resume left-hand (right-hand) circuits*"
- **Aircraft**: "*Resume left-hand (right-hand) circuits, GBMO*"

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Circuit Side Changes from Downwind

- **ATC**: "*GBMO, make a left-turn, cross midfield, join right downwind runway 27*"
- **Aircraft**: "*Make a left-turn, cross midfield, join right downwind runway 27, GBMO*"
- **ATC**: "*GBMO, make a left turn, cross threshold runway 27, join right downwind runway 27*"
- **Aircraft**: "*Make a left turn, cross threshold runway 27, join right downwind runway 27, GBMO*"

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Leg Extensions after Take-Off

- **ATC**: "*GBMO, climb runway heading 1000' before turning crosswind*"
- **Aircaft**: "*Climb runway heading 1000' before turning crosswind, GBMO*"
- **ATC**: "*GBMO, maintain runway heading, I call your crosswind*"
- **Aircraft**: "*Maintain runway heading, you call my crosswind, GBMO*"

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Leg Extensions from Downwind

- **ATC**: "*GBMO, extend downwind, I call your base*"
- **Aircraft**: "*Extend downwind, you call my base, GBMO*"
- **ATC**: "*GBMO, extend downwind, you are number 4, follow traffic ahead*"
- **Aircraft**: "*Extend downwind, number 4, follow traffic ahead – in sight, GBMO*"

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Orbits

- **ATC**: "*GBMO, make one left-hand (right-hand) orbit, re-join downwind*"
- **Aircraft**: "*Make one left-hand (right-hand) orbit, re-join downwind, GBMO*"
- **Aircraft**: "*GBMO, orbit complete*"
- **ATC**: "*GBMO, enter a left-hand (right-hand) orbit*"
- **Aircraft**: "*Enter a left-hand (right-hand) orbit, GBMO*"

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Wake-Turbulence Avoidance

- **ATC**: "*GBMO, maintain 1000' and overfly runway*"
- **Aircraft**: "*Maintain 1000' and overfly runway, GBMO*"
- **ATC**: "*GBMO, due to wake-turbulence, low approach only, not below 500*'"
- **Aircraft**: "*Low approach only, not below 500', GBMO*"
- **ATC**: "*GBMO, turn early crosswind when safe*"
- **Aircraft**: "*Turn early crosswind when safe, GBMO*"
- **Aircraft**: "*GBMO, request early crosswind*"
- **ATC**: "*GBMO, early crosswind approved*"

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Runway Changes

- **ATC**: "*GBMO, runway change, join downwind runway 21*"
- **Aircraft**: "*Join downwind runway 21, GBMO*"
- **ATC**: "*GBMO, runway change, continue left turn, cross midfield, join downwind runway 09, GBMO*"
- **Aircraft**: "*Continue left-turn, cross midfield, join downwind runway 09, GBMO*"
- **ATC**: "*GBMO, runway change, make a right turn, cross threshold 09, join right downwind 27*"
- **Aircraft**: "*Make a right turn, threshold 09, join right downwind 27, GBMO*"

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VFR Minima

Figure 2.7 – VFR Weather Minima*

AIRSPACE		FLIGHT VISIBILITY	DISTANCE FROM CLOUD	DISTANCE AGL
Control Zones		not less than 3 miles**	horizontally: 1 mile vertically: 500 feet	vertically: 500 feet
Other Controlled Airspace		not less than 3 miles	horizontally: 1 mile vertically: 500 feet	–
Uncontrolled Airspace	1 000 feet AGL or above	not less than 1 mile (day) 3 miles (night)	horizontally: 2 000 feet vertically: 500 feet	–
	below 1 000 feet AGL – fixed-wing	not less than 2 miles (day) 3 miles (night) (see Note 1)	clear of cloud	–
	below 1 000 feet AGL – helicopter	not less than 1 mile (day) 3 miles (night) (see Note 2)	clear of cloud	–

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Pre-Flight Briefing

- Exercise
- Training Area
- Departure and Arrival Procedures
- Weather Briefing / NOTAMs
- Aircraft and Documents
- Time and Fuel Requirements
- Safety Considerations and Responsibilities

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Pre-Flight Briefing

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The Circuit (Ex. 17, LP. 3-10, 20)

- Objective
- Review
- Motivation
- Howto
- Summary / Questions
- Preflight Briefing

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Terminal and Transition Airspace