

Gatineau Gliding Club (GGC)



Tow Pilot Manual

May 2017

Manual Owner:
Chief Tow Pilot

Approved by [Name]

Revision 8

REVISION RECORD

REVISION NO.	AFFECTED SECTIONS	DESCRIPTION	ISSUE DATE	INITIAL
0	All	Initial draft release.	January 2005	RH
1	All	Misc. typos – formal release.	April 2005	RH
2	1	Figure 1 updated.	February 2006	RH
2	7.9	ATC reporting requirements updated	“ “	“
2	9.1	Premium MOGAS fuel requirements for Citabria added.	“ “	“
2	Annex F	Annex F removed – airspace agreement cancelled.	“ “	“
3	Annex C	Annex C updated	April 2011	RH
3	Figure 1	Figure 1 updated	“ “	“
4	9.1	Premium MOGAS for both towplanes.	April 2012	RH
4	10.1	Emergency signal changed to left.	April 2012	RH
5	Annex C	Updated airfield listing.	Sept. 2012	RH
5	Annex F	Ottawa TCA detail added	Sept. 2012	RH
6	Figure 1	Figure 1 updated	May 2014	RH
6	Table 3	Towing speeds updated	May 2014	RH
6	Annex C	Windover Field now decommissioned	May 2014	RH
7	Figure 1	Updated	Jan 2017	RH
	2.1	Reference changed to 2016 Safety Audit	“ “	“
	8.1	Additional text regarding Ottawa TCA	“ “	“
8	7.9	ATC reporting procedures updated	May 2017	RH
	8.3	Citabria cooling procedures updated	“ “	“
	Annex D	Aide memoire updated	“ “	“
	Annex F	Ottawa TCA map updated	“ “	“

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1. OVERVIEW

This document has been generated to provide tow pilots a single source reference of information, procedures, and standards that are used by GGC in its flight operations. This document should be reviewed by all flying club members.

The objectives of this handbook are:

- Identify the roles and responsibilities of tow pilots at GGC.
- Educate tow pilots members as to the specific towing procedures used at GGC.
- Define procedures for glider towing that are not addressed by the Canadian Aviation Regulations (CARs)
- Capture and document best practices that have been implemented and refined during the existence of club towing operations.
- Encourage a vibrant “Safety Culture” at GCC.

This Tow Pilot Manual forms part of the overall GGC Operational Procedures as shown in Figure 1.

Gatineau Gliding Club Governance Documents

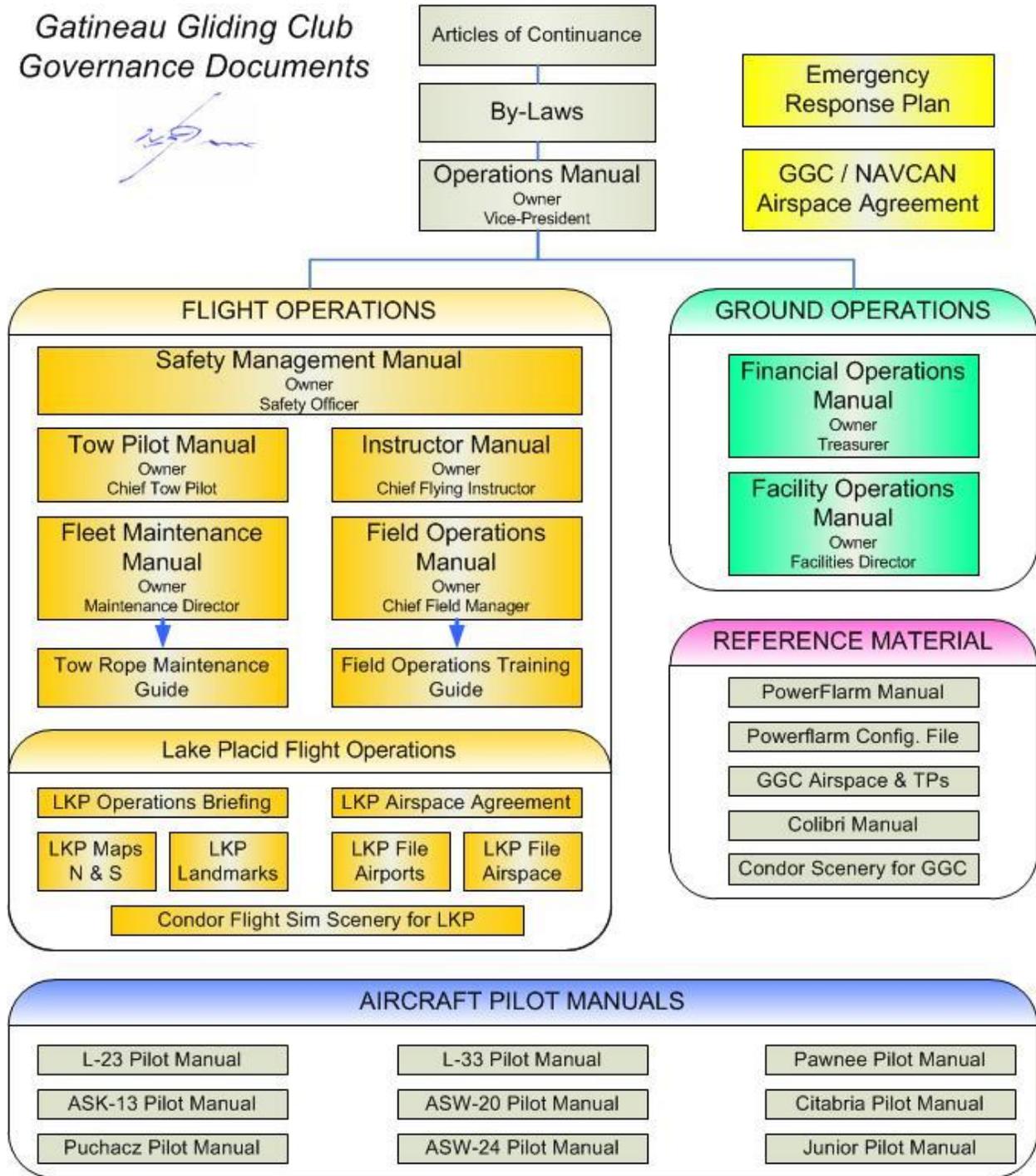


Figure 1 – GGC Operational Procedures

2. APPLICABLE STANDARDS, REFERENCES & DEFINITIONS

2.1 Standards & References

- Gatineau Gliding Club Safety Audit 2016.
- SOAR & Learn to fly Gliders – Soaring Association of Canada Flight Instruction Manual
- Bellanca Citabria Pilot Operating Manual
- PA23-235 Pawnee Pilots Operating Manual

3. DUTIES & RESPONSIBILITIES

3.1 Chief Tow Pilot (CTP) Appointment & Reporting

At GGC, the CFT is nominated and confirmed by the Board of Directors.

3.2 CTP Duties

The CTP responsible for the safe operation of the club tow planes. This responsibility includes full control of the towing operations and the appointment of qualified members as tow pilots.

3.3 Assistant Chief Tow Pilot

The assistant CTP (ACTP) is responsible to the CTP and will act on his behalf with respect to maintaining safe club towing operations.

3.4 Duty Tow Pilot

The Duty Tow Pilot is responsible to the CTP for the safe conduct of glider towing operations during his tour of duty. Pilots should be familiar with references B through E. In addition the Duty Tow Pilot will ensure these Operating Procedures for towing operations are followed unless directed otherwise by the CTP or ACTP.

3.5 Tow Pilot

Other Tow Pilots who assist in glider towing operations or replace the Duty Tow Pilot have the same responsibilities as the Duty Tow Pilot for the purpose of these Operating Procedures.

4. PILOT REQUIREMENTS

4.1 Minimum Requirements

The minimum requirements for tow pilots are 100 hrs PIC power, of which 10 hrs must be on tail wheel aircraft. A total of 25 hours PIC as a glider pilot can be credited against this 100-hour requirement. A club checkout as a tow pilot will be conducted by the CTP or ACTP in accordance with annex G. A minimum of 5 dual tows must be completed before towing solo. In addition tow pilots must have a minimum of three flights in a glider to appreciate the glider towing operation. Pilot's logbooks must be endorsed that the checkout has been completed and signed off by CTP or ACTP prior to operating club tow planes.

4.2 Currency and Medical

Each tow pilot is responsible to maintain a minimum currency level and medical category of Level 3 for his power licence. Tow pilots with less than 500 hrs. should have flown within the last 60 days, and pilots with more than 500 hrs, within the last 90 days before towing. A dual check ride will be conducted with the CTP, ACTP or a pilot designated by one of them if currency requirements have not been met or the pilot is uncomfortable about his currency.

4.3 Annual Checkouts

All club tow pilots must demonstrate proficiency annually in accordance Annex G. This checkout will be conducted by the CTP, ACTP, or designate starting with the commencement of gliding operations in the spring, or thereafter, before operating club tow planes. Dual checkouts for towing are conducted with solo gliders only.

4.4 Duty Time

Duty times for the Duty Tow Pilot are broken into two shifts, 0900 hrs to 1330 hrs and 1330 hrs to 1730 hrs. This is done to provide sufficient relief for a margin of safety. Other tow pilots may assist in the second tow plane at the request of the Duty Field Manager. Duty Pilots who cannot meet their duty times must arrange for another pilot to take their duty time.

4.5 Limitations

Pilots are responsible for their own fatigue levels and are reminded that during hot weather and/or busy periods, they may have to stop flying and find another tow pilot, or take a period of forced rest. Glider towing can be a demanding type of flying. Fatigue, dehydration, and low blood sugar have been a common factor in many gliding operation accidents or incidents. When in doubt stop! A good rule of **thumb** on hot days (depending on weather, etc) is two hours rest after two hours of towing.

5. DAILY INSPECTIONS

5.1 Areas of Special Consideration

The first tow pilot to operate each tow plane is responsible for the daily inspection and signing of the working Journey Log in that tow plane. Past experience has demonstrated that extra attention should be exercised in areas as follows:

- Landing gear strut for hairline cracks at the frame attachment U-bolt area and at the narrow bend above each axle;
- Tail wheel assembly, especially frame attachment bolts;
- Fuel sump samples including the rear fuel sump under the belly rear of the battery location;
- Seat back hinge attachment bolts to front seat (failure will result in uncontrollable full stick back deflection);
- Flap lever travel and ratchet mechanism (operate carefully in flight ensuring full depression of catch mechanism when applying the flaps. Catch has failed in flight with loss of flap deflection);
- Rigging for controls visually correct without restriction or friction;
- Mixture control functions correctly;
- Inspection covers secure (they have flown off before to the chagrin of glider pilots on tow);
- Tow release return spring secure(can cause premature glider release);
- Cleanliness of windshield;
- Engine oil and fuel levels (confirm visually in tanks); and
- Radio serviceability.

5.2 Fault Reporting and Tagging

All faults detected during the Daily Inspection should be entered in the daily inspection book in each tow plane. The pilot must ensure the CTP or ACTP is made aware, as soon as possible, of the problem so that corrective action can be taken (ideally before the next flying day/weekend). Should the defect be of a nature making the aircraft unairworthy a sign should be taped to the instrument panel indicating the fault and the word "GROUNDED".

5.3 Go/No Go Decisions

As Pilot-in-Command the tow pilot has the responsibility to make the go/no go decision with respect to the airworthiness of the tow plane to be flown. At any time during towing operations the tow pilot is responsible to make the airworthiness decision for each flight. This responsibility includes, as normal, checking the weather forecasts and ensuring the flight is conducted above weather minimums for an uncontrolled aerodrome.

5.4 Maintenance

Any faults that may ground a tow plane should be reported as soon as possible to the CTP or ACTP so that action can be taken that day if possible. All pilots should lend a hand at washing and cleaning the tow planes whenever possible and offer to help whenever the aircraft are being serviced.

6. DOCUMENTATION

6.1 Aircraft Documentation

Each aircraft has the required airworthiness/registration/weight and balance documentation and a daily inspection book in each the tow plane. In the port side pouch of the Citabria and under the pilots seat in the Pawnee. In addition each pilot is given a copy of the Pilot's Operating Manual for reference.

6.2 Logbooks

A Daily inspection book is kept with each tow plane for daily pilot use. Inspections are carried out at 100 hr and 50 hr intervals. Actual flight times are recorded by the duty field manager on the daily Flight Log Sheets. If no Field Manager is on duty, the tow pilot must keep track of flight times and submit a daily flight log sheet. The actual Journey Log is kept with the Maintenance Log at the clubhouse and maintained only by designated club members. Should a discrepancy occur refer to the club house Logs and notify the CTP or ACTP.

7. AIRFIELD OPERATIONS

7.1 Start up and Taxi

Refer to the Bellanca Citabria's pilots operating Handbook (POH) or the Piper Pawnee pilots operating handbook (POH). Club tow planes must be pushed away from hanger area well towards the apron so that there is no possibility of prop wash blowing dust/sand into the hangered/parked gliders. Taxing should be conducted on the paved areas of the aerodrome with due care not to ride over towropes. The new surface on runway 08/26 is soft, especially on hot days, and pivot turn must be avoided if damage to the surface is to be prevented.

7.2 Engine Warm Up Procedure

Normal Pilots Operating Manual warm up procedures are to be followed. For the first flight of the day or on cold days after extended shutdown (cold engine), a **normal circuit** should be flown before towing loads are put on the tow plane.

7.3 Recommended: Take off/Landing Procedures

Take offs are made from the grassed runways parallel to the paved runways except for runway 08/26 where the resurfaced paved area is used (see Annex A). Normal take off procedures for towing are as follows:

Citabria	
Best rate of climb	No flaps/lift off 55-60 mph Climb at 69 mph
Best angle of climb	14 Flaps (2nd notch) Lift off 50-55 mph Climb 58 until clear of obstacles;
Soft field take off	14 Flaps, keep tail low but clear of ground. Lift off, assist using elevator.

Table 1 – Citabria Speeds & Flap Settings

Pawnee	
Best rate of climb	No Flaps/ 83 mph
Best angle of climb	No flaps/ 70 mph
Soft field off	½ flap

Table 2 – Pawnee Speeds & Flap Settings

7.4 Turn Out Procedures

Citabria

The terrain north and east of the airfield can pose a serious problem for a glider if a release/rope break occurs at low altitude. It is important to turn the tow plane not too far from the field so as to give the glider pilot a chance to return to the field in the event of a rope break/early release at low level. When the glider is released below 300 ft AGL the glider pilot will land straight ahead and not attempt to return to the field. To allow the glider a reasonable area to land in, the following turn outs (diagram annex A), depending on wind strength and density altitude, should be used as soon as it is safe to turn:

Runway 31:turn left towards west;

Runways 13 & 08:turn right towards south (avoid low over flight of golf club house);

Runway 35:turn left or right; and

Runways 17 & 26:immediate turns not required (except for 26 take off path which should be adjusted right or left on hot days so as not to over fly the house in line with runway).

Pawnee:

Fly straight out on all runways to avoid crossing circuit pattern due to higher rate of climb than the Citabria.

7.5 Circuit Procedures

Normal left-hand circuit procedures are in force for all runways. Tow pilots can expect gliders in any circuit for landing on any runway if they get too low before the active down wind point. Glider circuit heights are started at 1100 ASL. Common practice at the airfield is to join the down wind for rwy 26 when active and land rwy 31 at the end of flying to be closer to the hangers (crosswinds permitting). The landing pattern should be flown as follows:

Downwind to base – 70-80 mph/ flaps as desired;

Final –60-70/ flaps full down except in high or cross winds (Add 5 mph in gusty conditions).

7.6 Landing Areas

Landings are usually made on the grassed runways parallel to the paved runways to save tire wear and facilitate smoother turn around. (See Annex A). If required the paved runways 08/26 or 35/17 can also be used for landings. After landing the tow pilot must ensure his turnoff of the runway does not conflict with gliders landing. This is critical on runway 08/26 where the paved runway is used for takeoffs and the parallel grass runway for landings. After landing on the grass runway, hold well clear before taxiing back, rather than delay the next take off if they are ready. When in doubt use the radio to alert the other tow pilot. Airfield Hazards See Annex B for details. Primarily the areas of concern are with the treed areas on the takeoff and approach due to the 200 ft rope trailing behind the tow plane. Caution has to be exercised on approach. Rule of thumb is to maintain 200 ft AGL until trees are cleared.

7.7 Local Flying Hazards

The major flying hazards tow pilots have to contend with are the numerous small aircraft transiting the area between Montreal and Ottawa. Near the end of the day when lift dies out, increased glider traffic returning to the airfield should be anticipated.

7.8 Weather Minimums and Weather Check Flight

The airfield is in class E uncontrolled. Weather minimums are 1000 ft ceilings and 3, miles visibility (Aerodrome traffic zone). However gliding operations seldom take place below 1500-ft ceiling and 3 miles visibility, when the clouds appear ragged at the 1000 - 1500' level the tow pilot may conduct a weather check to determine the actual ceiling for the duty instructor as part of the warm up circuit. Flights to greater altitudes may be charged against the tow pilot's account if not authorized by the CTP or ACTP.

7.9 ATC Reporting Procedures

Tow pilots are to contact Ottawa terminal (127.7 MHz) during the first flight of the day and notify them that gliding operations have started at Pendleton.

All tows at GGC are flown within the Class E uncontrolled airspace immediately around the airfield. Tow pilots should be aware that the outer edge of the Ottawa terminal area is located approximately 5nm to the west of the GGC airfield. Tow pilots should also note that there are multiple E-W airways located 2nm north and south of the airfield and that "heavy" aircraft have frequently been seen transiting this airway below 4000 ft.

Tow pilots are also required to notify Nav Canada when flying operations at Pendleton have finished (1-800-633-1353).

7.10 Communications

Communications are normally conducted on the gliding frequency 123.3 MHz. Occasionally when operations are very busy at other fields the frequency 123.4 may be used. The decision to change frequencies will be made by the Duty Instructor, Duty Tow pilot and the field manager. The only radio call made is on downwind to identify circuit and runway for landing. When there are gliders in the circuit the tow pilot should identify which glider he will be following to eliminate confusion. Often a circling manoeuvre or extended down wind is announced to give several gliders in the circuit (with right of way) time to establish their touch down points and clear the landing area. All non-standard circuits and/or landing intentions should be broadcast, otherwise "minimize" is in effect due to frequency congestion with other nearby gliding clubs on the same frequency.

7.11 Change of Active Runway

The Duty Field Manager in consultation with the Duty Tow Pilot and Duty Instructor will recommend runway changes when wind conditions vary significantly. At any time the tow pilot does not feel the operation of-the tow plane is safe for the conditions, he can advise the field manager and change runways.

7.12 Parking/Hanger Storage

Tow planes are the last aircraft to be placed in the club hanger for storage and the first out in the morning. The parking brake is never set to allow ease of handling and prevent brake fluid leaks in the hanger. Tow planes are parked along the East side of the tarmac in front of the hanger or south side of the apron when not in use and hanger access is required. During towing operations, when shut down is necessary and no gliders are ready, the tow planes are parked on the grassed area adjacent to the control shack out of the way. When gliders are ready, the tow plane is parked in front of the glider to be towed. If it appears that the glider is not ready for hook up the tug is shut down. A good indication the glider is ready, is when the pilot is strapped in and the spoilers deploy and retract, indicating pre-flight checklist has been completed. This may be observed in the rear view mirror on the tow plane.

7.13 Pilot Change Overs

During the course of operations pilots are frequently changed around for rest etc. The aircraft engine will be shut down prior to pilot exchange. The new pilot should conduct his own quick walk around with particular attention to the tail wheel assembly, landing gear, and fabric tears. This should not significantly delay gliding operations.

7.14 Low Flying/Aerobatics

A minimum of 800 AGL will be maintained throughout the conduct of towing operations except for the purpose of takeoff and landing. Aerobatics are not permitted in club tow planes.

7.15 Tow Plane for Other Uses

The tow plane use for other purposes than towing, such as instruction can be authorized by the CTP or ACTP. The club will levy an hourly flat rate chargeable to the pilot for instruction. Tow planes are not insured for non-gliding related activities.

8. TOWING OPERATIONS

8.1 Climb out Procedures

When the tow plane is clear of the ground (or obstacle) accelerate to climb out speed **immediately**, and then climb. The glider will normally lift off before the tow plane due to its lower stall speed. The glider should remain in level flight a few feet above the runway. Should the glider climb before the tow plane, the tow plane tail will be lifted preventing rotation. This could force the tow plane to release the glider. In the climb out with the more experienced glider pilots it is customary to take advantage of lift by circling in or near the thermal, when it is safe to do so. The tow flight path should maintain separation from landing and thermalling gliders. Gentle turns of 15° are normally used for most glider pilots. Experienced glider pilots will expect to be released in lift if possible. Instructional glider flights should always be released at the upwind end of the field. At all times the towing circuit should be within gliding distance of the airfield and outside the landing circuit for the active runway. The glider will sometimes swing to the left or right of the tow plane to indicate a turn is requested in the opposite direction. The standard release height is 2000 AGL unless otherwise requested. With the Pawnee, as soon as airborne at a safe airspeed gently rotate while accelerating to 70 mph. This is done to avoid a sharp pull created by a build-up of airspeed, which may surprise some glider pilots during the initial part of the tow. This problem is most prevalent when towing high performance gliders due to their low drag characteristics. Pilots should take care not to tow gliders into or under the 4000 ft cutout (or 2500 ft surrounding floor) of the Ottawa TCA.

8.2 Glider Towing Speeds

Tow speeds to be used at the club are as follows:

Glider	Speed
All gliders – no water ballast	70 mph;
With water ballast or on request	75 mph;
Climb without tow (Best Rate)	no flaps - 69 mph Citabria no Flaps - 83 mph Pawnee
Climb without tow (Best Angle)	14 flaps - 58 mph Citabria no flaps - 70 mph Pawnee

Table 3 – Glider Towing Speeds

8.3 Cool Down/Let Down Procedures (Citabria)

Special cool down procedures must be followed after glider release. Otherwise the engine of the Citabria will be shock cooled, which can result in cylinder head cracking.

Immediately after glider release:

1. Confirm visually the glider is free of the tow rope and turn 90° left, traffic permitting (diving after the glider releases is dangerous);
2. Reduce power to 2100 RPM, deploy full flaps (max. 90 MPH);
3. Stabilize the tow plane at 80 MPH for 50 to 60 seconds;
4. Reduce power to 1600 RPM and maintain 90 MPH for 30 to 40 seconds, then;
5. Normal let down procedure.

All power reductions should be gradual including during the Landing phase. During the cool down procedure a coordinated spiral in a steep turn (out of the area of lift) may be executed or a long curved path may be used in order to get the tow plane to descend with a high power setting. A vigilant eye must be kept for traffic around and below.

8.4 Cool Down/Let Down Procedures (Pawnee)

After glider release, turn Left 90°, reduce power to 2000 RPM, deploy full flaps and accelerate to 105 mph. Maintain this configuration until reaching the circuit or circuit height which ever comes first. The rate of decent will be high enough that a spiralling descent is not required.

8.5 High Density Altitude Procedures (Citabria)

On hot summer days the density altitude can be a concern with the runway length and tree growth on the flight path. Tow plane fuel tanks are normally filled between $\frac{1}{2}$ to $\frac{3}{4}$ each refuelling. In order to minimize the drag from the grass runway, when towing two seat gliders, the soft field take off technique at article 5.3 can be used with lift off as soon as possible in ground effect. Staying in ground effect, accelerate to best angle of climb speed (58 MPH) and maintain that speed until clear of the obstacle. Once clear accelerate to towing speed.

8.6 High Density Altitude Procedures (Pawnee)

The Pawnee is relatively unaffected by density altitude operations

8.7 Tow Plane Passengers

Passengers are not permitted in tow planes during towing procedures.

8.8 Tow Rope Release Procedures

The towrope should be released on the grass before the flare for landing. It should be parallel to the runway in use with the glider end adjacent to the hook up point of the next glider on the runway. At the end of the flying day the tow plane may taxi to the pumps and release the rope on the apron. Tow pilots must ensure that the rope drops well clear of gliders lined up on the runway.

8.9 Special Procedures for Competition Towing

These basic instructions for towing are applicable with the following additions. All duty tow pilots will attend the pilot pre-flight briefings each morning before contest flying commences. The release point and altitude will be given including the inbound and outbound routes. Gliders will be given a grid sequence and time. This will include the tow planes. When tow planes return they will drop their towropes as normal, taxi back to the grid, off the runway in use, and line up with the other tow planes for the next glider. A very careful watch must be maintained due to the number of gliders in the air.

9. REFUELLING PROCEDURES

9.1 Location of Fuel/Oil and Use

The refuelling shed is located adjacent the apron and requires a minimum of two persons to refuel the tow plane, otherwise the delicate collar for the fuel tank caps can be damaged by the weight of the hose if unsupported. The fire extinguisher in the shed must be placed outside and the ground strap connected to the exhaust. After setting the counter to zero (meter indicates litres to the nearest tenth) refuel the tow plane with **PREMIUM MOGAS** then record the details in the fuel log (binder) in the shed.

Note that the operating instructions in the POH are in US gallons. Fuel capacity is 30 Imperial gallons (136 litres) total (15 Imp gal/tank) of which 29 Imperial gallons (131 litres) is useable. The tow planes are refuelled no later than when the 1/8 fuel in each tank is indicated in level flight. Pilots are reminded that the mechanical gauges can be unreliable and must be confirmed visually (a good practice during towing lulls). Oil is also stored in the fuel shed or hanger. Requirements if below 6 quarts mark for the Citabria and 10 Quarts for the Pawnee are:

Summer (+ 18° C) W100

Spring/fall (Below 18°C) W80

Tire pressure (Citabria large tires) 21 psi

Tire pressure (Pawnee large tires) 25 psi

Tail Wheels 50 psi

9.2 Field Manager Assistance

To facilitate the minimum of delay in refuelling, the Duty Field Manager should be informed that a refuelling would be required following the next flight. The Field Manager should then send help to refuel the tow plane when it lands.

10. EMERGENCY PROCEDURES

10.1 Rope Release Towing Glider

In accordance with SAC emergency signals the procedures are as follows:

Signal for glider to release:

- Tug rocks wings;
- **Glider** must release immediately.

Signal for tug to release:

- **Glider** flies out to **left** of tug and rocks wings;
- Tug brings glider within range of field;
- **Glider** rocks wings again;
- Tug releases immediately.

If neither tug nor glider can release:

- Tug returns to the field;
- Start slow descent;
- Long flat approach;
- Brake slowly watching glider in mirror.
- If glider pulls tug into dangerous attitude:
- Tug release glider immediately. (See art 10.2)

10.2 Tow Plane Upset by Glider Pitch Up

Special mention of this type of upset is required, as it has caused several fatal crashes. Reference D highlights this problem in detail. The problem is that if the tail of the tow plane is raised above a certain point, the tow plane will pitch down in a dive and can lose 1000 ft in the recovery. This upset can occur within two seconds of the tail being raised. Most tow pilots are reluctant to release the glider and wait too long to make the release decision. Although a rare occurrence, pilots must be extra vigilant. In addition, turbulence from wind passing over the trees has given some glider pilots difficulty remaining behind the tow plane.

10.3 Ground Looping

Tail dragger aircraft are susceptible to ground loops, usually as a result of cross winds and or ineffective braking. Three point landings with full aft stick and gentle braking will reduce this risk. Any tendency to yaw must be corrected early without over controlling the rudder. Should the tow plane lose a tail wheel, land normally to minimize ground loop risk.

10.4 Forced Landing Procedure

Should an engine fail in flight and sufficient altitude remains to return to the field for landing descend at best glide speed 65 mph flaps up to a point down wind from the touch down point selected (base leg). Always turning towards the field in figure eight's work off excess altitude until you feel you can make the field (approx. 500 AGL). From this base position glide into final and set flaps when you feel you have made your landing point.

10.5 First Aid Kit Locations

First aid kits in each tow plane are located in the baggage compartment. Additional kits are in the control shack trailer and two in the clubhouse. Tow pilots should familiarize themselves with their locations and condition.

10.6 Emergency Contact Numbers

Emergency contact numbers are as follows:

- Club House 673-5386
- Ambulance (Alfred) 1 800 267-9450
- Fire Hall(Plantagenet) 673-4857
- (Bourget) 487-2222
- Hospitals:
 - General Hawksbury 632-7031
 - CHEO Ottawa 737-7600
 - Ottawa General 737-8000
 - Queensway Carleton 721-2000
 - Riverside 738-8200
 - Montfort (Montreal Rd) 746-4621
- Air Ambulance (in 613 area)1-800-267-9543
(Outside 613 area) 1-613-237-545
- TSB (accident investigation) (819) 994-3741
Regional office (Ontario) 24 hrs (905) 771-7676
- OPP632-2729
(24 hr service)1 800 267-2677
- Poison Control737-1100
- Air Search and Rescue1 800 267-7270
- Ottawa Control Tower248-3814

In the event of an accident:

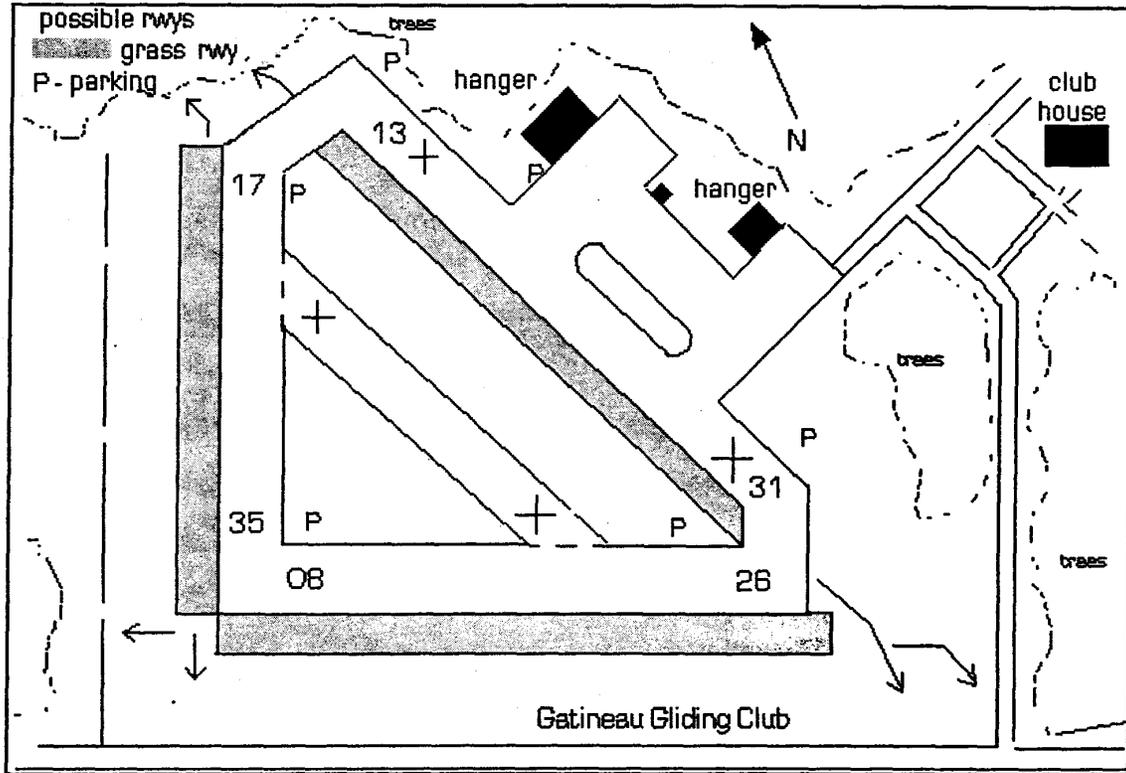
Give first aid

Call for help

Protect accident site

Call TSB

Annex A – Landing and Take-Off Diagram



The above diagram is for the Citabria only. With the Pawnee climb straight out on every runway.

Annex B – Operational Audit – Club Checklist

Requirement	Club Comment
AIRFIELD HAZARDS	
What approach hazards are there? (List for each runway)	Trees are the only obstructions on approaches (see Annex C): RWY 26 - 40 ft high 800ft from threshold. RWY 08 - 40 ft high 1200 ft from threshold and 3 ft fence 300 ft from threshold. RWY 31 - 30 ft high 800 ft from threshold. RWY 13 - 30 ft high 800 ft from threshold. RWY 17 –40 ft high 600 ft from threshold. RWY 35 – 40 ft high 600 ft from threshold.
What approach hazards could be removed?	All RWYS have approximately 300ft grass undershoot area as a minimum. Trees do not pose a problem at present but may have to be cut back in the future. Tow pilots must exercise caution for towropes. Standard towing practice is to maintain a minimum 100 - 200 ft over trees on final descent.
What is slope of runway/does it affect approach judgement/aiming point?	N/A
Do gliders tend to land close to runway threshold because the runway is short?	Not a factor as RWYS have lengths between 2550 - 2650 ft.
Is runway wide enough for size of operation?	Yes the airfield is a former Commonwealth Air Training base. Paved RWYS 100 ft wide with parallel grass RWYS 100 ft wide are available. Wide cultivated area surrounds airfield RWYS within aerodrome perimeter fence and is suitable in an emergency for landing most of the season depending on crop rotation.
What hazards exist at runway edges? eg crops	Sufficient landing area to avoid crops when a factor.
Do crosswinds cause difficult conditions, eg due to turbulence/obstructions at sides of runways?	Triangular RWY pattern allows for into wind operations during stronger crosswind conditions. Some RWYS can be affected by wind adjacent wooded areas.
On which runways?	RWY 31/13 can be affected by wind shear or turbulence with winds from the east over trees and hangers at mid point and ends of RWY. RWY 26 can expect turbulence on approach or RWY 08 on take off, if winds exceed 10 kts. RWY 17/35 is turbulent with westerly winds over trees. An escarpment immediately west of airfield can cause turbulence on low tow if winds are strong from the west.

Requirement	Club Comment
Is regular maintenance of runway evident?	Yes. Club cuts grass RWYS regularly and landing areas are well visible from the air. RWY 26/08 paved RWY was resurfaced in 1993. Parallel grass landing area is in good condition. Rwy 17/35 paved RWY is in fair condition (useable) and grass landing area in good condition. RWY 31/13 parallel paved RWYS (one to the east is actually a taxiway) are marked condemned (X's should be repainted). Parallel grass landing area is in fair condition (spring frost heaving has left bumps in middle third section). Spring run off and heavy rains can cause soft ground on outside grass landing Areas near thresholds and caution is required.
Are there any mobile hazards? eg cattle, people	Not normally though horses have strayed onto the field from barns at apex of 26/17.
What prevents their access to active runways?	Airfield perimeter is fenced off adjacent to roads and private property. A cultivated area is between road and landing areas.
Are visitors restricted from entering flight line areas? By car and on foot? How?	All access to flight line is via one road by club hanger. Duty Field manager is responsible for organizing control of access to flight line but there are no physical barriers. Active RWY is evident by Flight Line Control Trailer (red white checkers) located in parking area next to flight line. Access to active RWY is possible without crossing landing areas.

Annex C – Approved Airfields for Glider Towing Recoveries

The following airfields are approved by the Chief Tow Pilot, for tow plane glider recoveries. Special attention and or limitations to be followed are listed under hazards. Pilots should also refer to VFR Chart supplement and NOTAMs. Recoveries at airfields not listed require special approval of CTP or ACTP.

<i>APPROVED AIRPORTS FOR AEROTOW RETRIEVES</i>				
<i>Airport</i>	<i>Unicom</i>	<i>Runway</i>	<i>Coordinates</i>	<i>Comments</i>
Alexandria	123.2	Grass 2020 ft 07-25	N45°20' W74°36' Elev. 260 ft	Parachute school no longer in operation
Barry Field	N/A	Grass 2000 ft 17-35	N45° 35' 55" W74° 44' 00" Elev. 160 ft	Power lines on North end of runway
Brockville	123.0	Paved 4500 ft 04/22 16/34	N44°38'22" W75°45'01" Elev. 400 ft	
Carp	122.8	Paved 3936 ft 10/28	N45°19'21" W76°01'20" Elev. 382 ft	
Cornwall	122.775	Paved 3510 ft	N45°05'34" W74°34'04" Elev. 175	
Embrun	123.2	Grass 2260 ft 08/26	N45°14'28" W75°17'55" Elev. 230 ft	Power lines 600 ft from threshold of each end of runway
Gananoque	123.2	Paved 2530 ft 06-24 12-30 18-36	N44°24'07" W76°14'39" Elev. 395 ft	Call in 5nm out to check for parachute operations
Gatineau	122.3	Paved 5000 ft 09/27	N45°31'18" W75°33'49" Elev. 211 ft	FSS
Hawkesbury – MSC	123.3	Grass 1775 ft 09-27	N45°37' W74°39' Elev. 167 ft	
Hawkesbury - East	123.2	Grass 2600 ft 10-28	N45°34'58" W74°32'56" Elev. 200 ft	
Iroquois	122.8	Paved 2000 ft 06/24	N44° 50' W75° 19' Elev. 250 ft	Circuits always over river (south) of runway
Kars – RVSS	123.4	Grass 1800 ft 08/26	N45°06' W75°38' Elev. 286 ft	High trees on west end of runway

<i>APPROVED AIRPORTS FOR AEROTOW RETRIEVES</i>				
<i>Airport</i>	<i>Unicom</i>	<i>Runway</i>	<i>Coordinates</i>	<i>Comments</i>
Lachute	123.0	Paved 3989 ft 10/28	N45° 38' 22" W74° 22' 14" Elev. 220 ft	
La Macza (Trenblant Intl.)	122.7	Paved 5887 ft 03/21	N46° 24' 34" W74° 46' 48" Elev. 830 ft	<ul style="list-style-type: none"> • Beware of heavy turboprop traffic (Porter) • Do not overfly prison on SE side of runway
Maxville (Town)	123.2	Grass 2400 ft 06/24	N45° 17' 50" W74° 51' 01" Elev. 320 ft	<ul style="list-style-type: none"> • Beware of high corn along side of runway
Maxville (Bourdon)	123.2	Paved	N45° 15' 11" W74° 48' 25" Elev. 360 ft	
Mont Laurier	122.8	Paved 4000ft 08/26	N46° 33' 52" W75° 34' 40" Elev. 815 ft	
Morrisburg	123.2	Paved 2800 ft 07/25	N44°57' W75°05' Elev. 254 ft	
Plantagenet	None	Grass 1800 ft 16/34	N45° 30' 49" W74° 59' 08" Elev. 160 ft	
Rockcliffe	123.5	Paved 3300 ft 09/27	N45°27'37" W75°38'46" Elev. 188 ft	
St. Andre Avellin	122.75	Grass 2850 ft 03/21	N45°44'28" W75°04'20" Elev. 550 ft	<ul style="list-style-type: none"> • Trees on short final both ends of runway • Approx. 2nm west of village
Smiths Falls	122.7	Paved 4000 ft 24/06	N44°56'45" W75°56'25" Elev. 420 ft	
Vankleek Hill	None	Grass 2000ft 04/22	N45°31'47" W74°36'30" Elev. 250 ft	<ul style="list-style-type: none"> • Trees at north end • 3 km NE of Vankleek Hill

Annex D – Tow Pilot Aide Memoire

Complete the following by filling in the blanks:

Speeds

- a. Stall speed _____
- b. Best angle of climb speed _____
- c. Best rate of climb speed _____
- d. VNE - place card dive speed _____
- e. Best glide speed power off _____
- f. Gliding approach speed _____
- g. Downwind, base leg speed _____
- h. Final approach speed _____ to _____
- i. Tow speed 1-26 _____ to _____
- j. Tow speed other _____

Engine limits

- a. Maximum rpm _____
- b. Minimum static full power for run up rpm _____
- c. Minimum idle rpm _____ to _____
- d. CHT maximum _____ C.
- e. Oil temp normal range _ to _____ F.
- f. Oil pressure minimum idle _____ psi
- g. minimum cruise _____ psi
- h. maximum _____ psi
- i. Maximum mag drop at 1800 rpm _____ rpm.

Describe the cool down procedure on decent from tow

- after release reduce power to _____ rpm and;
- accelerate to _____ mph;
- maintain this rpm and speed for _____ seconds;
- then reduce rpm to _____ RPM for _____ second;
- power can be reduced gradually for approach.

Describe the SAC emergency procedures for the following:

- a. To signal glider to release, the tow plane:

- b. If the glider can't release it will:

- c. Tug action is _____

- d. If neither the tow plane or the glider can release:

Annex E – Tow Pilot Annual Currency Check List

Annual Checkouts All club tow pilots must demonstrate proficiency annually with the CTP or ACTP. The requirements will be demonstrated competency in the following:

- a. Licence current(medical);
- b. Daily inspection;
- c. Taxi/run up;
- d. Take-off/landing skills;
- e. Slow flight - steep turns;
- f. Signals - tow plane tail wag/wing wag;
- g. Engine cool down procedures; and
- h. Emergency procedures.

Pilot:

Checkout by:

Date:

