



# **Pilot Continuation Training**

## **Takeoff and Landings**

January 2003



# **Civil Air Patrol Pilot Continuation Training**

## **Takeoff and Landings**

**PROJECT OFFICER**

# HANDBOOK

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# Civil Air Patrol Pilot Continuation Training

## Classroom and Flight Schedule

15 Minutes	<b>Introduction , Course Schedule, and Administrative Items</b>
30 minutes	<b>Takeoff and Landing Accident Briefs</b>
Break (15 minutes)	
90 minutes	<b>Takeoff and Landing video presentation and discussion (Includes a two discussion periods midway and after the video)</b>
30 minutes	<b>Local, Wing, and/or Region directed flight training items (if appropriate)</b>
15 minutes	<b>Aircraft and Instructor assignments</b>
Lunch Break	
4 hours	<b>CAP Continuation Flight Training per syllabus</b>

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## Inventory Checklist

### Video tape

**Ups and Downs of Takeoffs and Landings Video**

### Lesson Plans

**CAP Takeoff and Landing Accident Brief  
Intro for Takeoff and Landing Video**

### Project Officer Handbook

### Student Course Book

## **Recommended Critical Project Dates**

- 65 days out -** Set course date and location.  
Request approval. Approval can be gained via fax, email, or online. (See approval request form)
- 60 days out -** Send notification letter to all appropriate units/attendees. See Page 5.
- Determine class size.
- Select and brief ground and flight instructors.
- Set ground course rehearsal date.
- Start preparing for lecture presentation.
- 40 days out -** Check on facilities.
- Run ground course rehearsal.
- Check equipment (video and overhead/computer projector).
- 5 days out -** Re-check facilities and equipment.
- 1 day out -** Set up classroom.

## **Course Instructor Training Program Critical Dates**

**60 days out -** The course instructor/s should be selected and given their appropriate duties. An instructor pre-flight briefing time and place should be set.

**30 days out -** The course IP's briefed on their flight duties. A flight demonstration may be appropriate (this will not be funded).

## Classroom

The class size should be limited to allow student interaction and ensure quality instruction. The classroom portion of the training should take no more than 4 hours depending on the amount of discussion.

## Flight

The flight workshop will consist of one instructor and one pilot.

The course IP will present an instructional flight in accordance with the Pilot Continuation Training syllabus. Each pilot trainee will be taught, regardless of certificate held, to FAA Commercial Pilot Standards in accordance with the current FAA Commercial Pilot Practical Test Standards. **This is not a flight evaluation.**

If the class size is small enough a CAPF 5 flight evaluation may be completed **after the required Pilot Continuation Training is complete.** However, the purpose of this course is to provide quality Pilot Continuation Training first and foremost.

**Any unit found abusing the Pilot Continuation Training Program for monetary gain, will risk suspension of funding.**

**PLEASE RETURN THE VIDEO WITH YOUR  
FINAL REPORT TO NATIONAL  
HEADQUARTERS IN THE SELF-  
ADDRESSED STAMPED ENVELOPE TO  
ENSURE REIMBURSEMENT TO:**

**HQ CAP/DOT  
105 S. HANSELL STREET  
MAXWELL AFB, AL 36112**

# Suggested Flight Profile (Airplane Single Engine Land)

The following flight profile is only a suggested format, as Project Officer you may change the profile as necessary to meet the airport and ATC limitations at your selected airport.

1. Review and discuss the video learning points and brief the training flight.
2. Pre-flight:
  - Weight and Balance Calculation
  - Takeoff and Landing Performance Calculation
  - Pre-flight inspection in accordance with (IAW) approved checklist or POH
3. Flight Sequence:
  - Engine Start and Taxi
  - Run-up
  - Normal Takeoff
  - Normal Cruise Flight Configuration
  - Flight at Minimum Controllable Airspeed
  - Traffic Pattern Entry
  - Normal Landing
  - Short Field Takeoff and Landing
  - Soft Field Takeoff and Landing
  - Cross Wind Takeoff and Landing
  - Normal Landing to a Go-around (Balked Landing)
  - Return to Ramp, Post Flight, Debrief
4. Post Flight:
  - POH
  - Aircraft inspection IAW approved checklist or
  - Complete all forms and answer any questions.



**CIVIL AIR PATROL  
UNITED STATES AIR FORCE AUXILIARY**

MEMORANDUM FOR \_\_\_\_\_

FROM:

SUBJECT: CAP PILOT CONTINUATION TRAINING COURSE

1. On \_\_\_\_\_, \_\_\_\_\_ will conduct a "Take-off and Landing" CAP Pilot  
Date Unit  
Continuation Training Course. Registration will be from 0700 to 0800 on \_\_\_\_\_.  
Date
2. Attendance at this course is by reservation only. All pilots desiring to attend this course must call  
\_\_\_\_\_ for a reservation.  
Project Officer

Reservations must be made prior to \_\_\_\_\_.  
Date

3. Contact \_\_\_\_\_ at \_\_\_\_\_ for details concerning aircraft  
Project Officer Telephone/e-mail  
delivery and fueling.

**SAMPLE NOTIFICATION LETTER**

# Course Equipment Requirements

## 1. One VCR

One or two television sets, elevated above the class for easy viewing from the rear of the classroom.

Coax cables and splitter, if two TV's used.

## 2. Aircraft Required

One aircraft is required for every two (2) trainee pilots. Student load should be two trainee pilots per each Instructor Pilot ( 2 to 1 student ratio).

## 3. Meals

Although a 60 minute period is allowed for lunch, when everyone leaves for an off site eating place, the class members return late from lunch. If possible, recommend a local unit cater an on site working lunch, have attendees bring a sack lunch, or have lunch delivered.

## PRESENTER'S EVALUATION

COURSE LOCATION: \_\_\_\_\_

COURSE DATE: \_\_\_\_\_ NUMBER OF ATTENDEES: \_\_\_\_\_

PRESENTER'S NAME: \_\_\_\_\_

PRESENTER'S WING: \_\_\_\_\_

**PLEASE RETURN THIS EVALUATION SHEET WITH YOUR VIDEO.**

<b>1. How satisfied were you with the presentation material?</b>			
Very Satisfied	Satisfied		Not Satisfied

<b>2. Would you use another Pilot Continuation Training Course?</b>			
Ye s		N o	Explain:

<b>3. Overall, how well do you think your attendees perceived the seminar?</b>					
Excellent		Good		Fair	Poor

<b>4. List any comments below:</b>



# **Civil Air Patrol Pilot Continuation Training**

## **Takeoff and Landing**

### **LESSON PLAN**



**Civil Air Patrol  
Pilot Continuation Training – Take-off and Landing**

**LESSON PLAN**

**INTRODUCTION**

1. (Welcoming address by the Project Officer, host Commander or Commanders Representative.)

2. I am \_\_\_\_\_, the project officer for this program. If you have questions about attendance, lodging, transportation, etc., I'll be glad to help you.

We have a team of instructors you will be working with during the next day or so. They are:

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3. Lets start a sign in sheet so you get credit for the course. Please print your name. You must sign the sheet after your flight. Failure to sign the sheet after your flight may result in no reimbursement.

4. Everyone should have a class schedule. Let's review what we will cover during this course. (Review the Schedule)

5. An overview of the entire course follows:

Introduction, Course Schedule, and Administrative Items (15 minutes)

This is where we are now.

Take-off and Landing Accident Briefs (30 minutes)

Our past accidents provide a tremendous opportunity to learn from our mistakes. We are not laying blame, but reviewing the circumstances that led up to each accident in an attempt to avoid repeating our mistakes.

Take-off and Landing video presentation and discussion (90 minutes)

This tape provides an excellent review for the new CAP pilot as well as the seasoned veteran. We will stop the tape midway through for discussion. During the presentation make notes of points you would like to discuss.

#### Ground Rules

There is no smoking in the building. (Identify smoking area)

You must complete the ground and flight portion of the training to obtain reimbursement.

(Discuss parking areas if appropriate)

(Other items as needed)

# Take-off and Landing Accident Briefs

(Ensure each student has a copy of the handout)

## **GROUND INSTRUCTOR SCRIPT**

The most likely place to have an aircraft accident is during take-off or landing. Many years of general aviation and CAP accidents prove that statement to be correct.

We will now review a few CAP accidents, looking into the cause or suspected cause. Again we are not pointing fingers at anyone, but taking a negative experience and turning it into a positive learning experience.

### **Accident Number 1**

A CAP Cessna-182R on approach to Runway 35 with the wind from 030 degrees at 9 knots.

The crew was taking advantage of a return flight from a SAREX to accomplish some training.

The pilot flying an ILS was under the hood and the onboard CFI was acting as safety pilot.

Upon touchdown, the pilot flying, bounced, became airborne, and drifted off the left side of runway.

Pilot added power and asked CFI to take over. The CFI brought aircraft back to runway and landed.

When the CFI completed the landing the nose and main landing gear collapsed. The aircraft departed the left side of runway, damaging the left wing, gear, tail and prop.



### **IPs – How far is too far?**

We don't crash by compartments. Whether you are the pilot-in-command or not, each occupant in a CAP aircraft has an obvious stake in the success of the flight.

If your fellow pilot appears to be getting behind the power curve, speak up. Your inquiry does not have to be abrasive or threatening, but it should be direct and to the point.

We must watch each other and work as a team on every flight.

### **Trend Analysis**

We are tasked by the statement of work between the Air Force and Civil Air Patrol to gather and report the results of CAP check rides every six months. Together these reports point out trends. The trends pinpoint our biggest problems. It was no surprise that poor crosswind landing technique always surfaces as a trend.

We have been tasked by the National Commander to be at the top of our game. In other words, we need to be professionals ensuring future missions are completed to the satisfaction of our customers.

## **Accident Number 2**

A 75 year old CAP pilot with a commercial certificate with instrument privileges and 4800 flight hours along with a 73 year old observer were returning from an ELT mission in VMC conditions.

Enroute the crew decided to accomplish a short field approach and landing at an airport short of their destination.

On approach the aircraft collided with approach lighting short of the landing runway. A power application enabled the aircraft to make the runway touchdown zone.

The left horizontal stabilizer and nose wheel pant were damaged and thankfully there were no injuries.

## **Fly the aircraft**

The number one rule regardless of any situation in an aircraft is to maintain aircraft control. Your world can be crashing down around you, but if you maintain aircraft control you have won half the battle.

## **Crew coordination**

Directing a crew effectively is an art. As the pilot-in-command it is your responsibility to assign duties during the flight. The CAP investigation revealed that both pilots elected to simultaneously look into the cockpit on short, short final to find a tower frequency even though approach control had cleared them to land. While they both concentrated on finding the tower frequency, they allowed the aircraft to settle into the approach lighting.

A simple delegation of duties would have allowed the pilot flying to keep his head out of the cockpit, while the pilot not flying could search for the frequency.

Timely accomplishment of duties might have also avoided this accident. Knowing the tower frequency well before the approach and having it handy is all part of good cockpit resource management. Sometimes it's the small things that count.

## **Age**

Certainly as we age our response times may not be as good as when we were younger. Since we all age differently it is up to each of us to assess our current personal capabilities. When do you think a CAP pilot should retire from flying? Is there any way to better manage the risk of our aging pilots?

## **Ask**

The pilots were obviously worried about calling tower for a landing clearance prior to touchdown, even though they had been cleared to land by approach control.

One four-second radio call would have assured the pilot that he was indeed cleared to land without talking to the tower.

Remember there are no dumb questions in aviation, period. And even if you risk some embarrassment, you'll get over the embarrassment a lot quicker than if you damage an aircraft, yourself, or your passengers.

There are no pictures of this accident.

### **Accident 3**

During a Cadet orientation flight mission a 45 year-old pilot holding a commercial/CFI with 985 hours of flight time attempted a landing in a Cessna 182 in VMC.

The pilot had configured the airplane with full flaps and was on final approach when he noted an above average sink rate. He added power, but it was, too little, too late and the airplane landed hard approximately 40 feet short of the runway. There were no injuries, but there was extensive damage to the landing gear, prop, engine, and firewall.



**It would be hard to say that lack of landing proficiency did not play an important part in this accident. Was the cadet orientation pilot distracted from the task at hand? Allowing the airplane to develop a significant sink rate low and short of the landing runway raises serious questions. Just how proficient was this individual? What was his/her mental and physical state? Did he/she have a checkered history of unexplained mistakes or incidents?**

**If you are not proficient, a cadet orientation ride is not the place to regain your proficiency, even if it is “free” flying time. Bottom line, we can never afford to have an accident, but an accident with cadet’s on board can have a profound impact on all concerned.**

## Accident 4

During a CAPF 5 check ride a 68 year-old private pilot with 398 hours and a 47-year-old CFI (check pilot) with 971 hours attempted a practice forced landing followed by a touch & go.

There was a direct crosswind at 10-14 knots on a 2943' x 50' runway. The approach was steep and long and the examinee forced the aircraft onto the runway at approximately mid-field. From that point the planned touch and go commenced.

As the aircraft lifted off it was obvious to the pilots that the trees at the end of the runway were a problem. In an attempt to clear the trees the pilot stalled and the airplane collided with the trees.

During the crash the airplane turned 360 degrees and fell through the trees coming to rest on the forest floor. Neither pilot was seriously injured.



What does this accident say about either pilot's judgment? A Go-around / Balked Landing / or a Full Stop Landing is a great option and displays a great deal of judgment and good decision making on the part of the pilot-in-command.

We should all be familiar with our options throughout the approach to landing. If it becomes apparent that one particular option may not work, choose another.

Rules of Engagement are, simply said, a thoroughly briefed plan with each pilot knowing his responsibilities is essential during any flight, but doubly important during a flight instruction or check ride flight. Every approach should be briefed.

**Civil Air Patrol  
Pilot Continuation Training – Takeoff and Landing**

**LESSON PLAN**

**Ups and Downs of Takeoffs and  
Landings**

**(Introduce the video.)**

**The objective of this block of instruction is to provide a review of takeoff and landing basics.**

**Write down discussion notes that come to mind during the video presentation. We'll discuss your notes after the first and last half of the video.**

**(Start the tape)**





# **Civil Air Patrol Pilot Continuation Training**

## **Takeoff and Landing**

### **STUDENT COURSE BOOK**

# Takeoff and Landing Accident Briefs

## Accident Number 1



- C-182R, Runway 35, wind 030/09
- Training while returning from SAREX
- Pilot flying an ILS under the hood - CFI was safety pilot
- Everything looked good at 300' agl
- Bounced, became airborne, drifted off left side of runway
- Pilot added power and asked CFI to take over
- CFI brought aircraft back to runway and landed
- Nose and LMG collapsed – departed left side of runway
- Damaged left wing, gear, tail and prop

Notes

# Takeoff and Landing Accident Briefs

## **Accident Number 2**

NO PICTURE AVAILABLE

- C-182, ELT mission, VMC conditions
- Pilot, 75-years-old, Commercial Instrument, 4800 flight hours
- Observer, 73-years-old
- Planned a short field approach and landing
- Collided with approach lighting short of runway
- Added power and made it to the runway
- Left horizontal stabilizer and nose wheel pant damaged
- No injuries

Notes

# Take-off and Landing Accident Briefs

## Accident Number 3



- Cadet Orientation mission, C-182, VMC
- Pilot, 45-years-old, Commercial/CFI, 985 flight hours
- Full-flap approach, 60 knots, stall horn, sink rate
- Power added – Too little, too late
- Landed hard, 40' short of runway
- No injuries
- Landing gear, prop and firewall damaged

Notes



# Take-off and Landing Accident Briefs

## Accident Number 4



- CAPF5 checkride, VMC
- 68-year-old private pilot (examinee) with 398 hours
- 47-year-old CFI (check pilot) with 971 hours
- Forced landing practice to a touch & go landing
- Direct crosswind 10-14 knots on 2943' x 50' runway
- Steep approach, long landing
- Trees listed as hazards on both ends of runway
- Witnesses say aircraft stalled and collided with trees
- Aircraft substantially damaged – pilots seriously injured
- NTSB investigation continues

Notes

# Take-offs and Landings Made Easy The Video

Notes

Take notes throughout the video. Look for techniques you like and use or techniques you use that might be better than the video. Be prepared to discuss your notes with the class.